

# AMI Corpus Meeting Transcripts

## Complete Dataset for BRD Generation

<b>Total Meetings</b>	143
<b>Data Sources</b>	test, train, validation
<b>Train Meetings</b>	132
<b>Validation Meetings</b>	10
<b>Test Meetings</b>	1

*This document contains all meeting transcripts from the AMI Corpus dataset, consolidated for Business Requirements Document (BRD) generation.*

## Table of Contents (Sample)

Meeting ID	Source	Page
30	Train	3
127	Train	4
58	Train	5
0	Train	6
113	Train	7
96	Train	8
98	Train	9
65	Train	10
117	Train	11
2	Train	12
80	Train	13
68	Train	14
90	Train	15
102	Train	16
54	Train	17
115	Train	18
53	Train	19
61	Train	20
62	Train	21
101	Train	22
...	...	...

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# Meeting ID: 30

Data Source: Train

## Executive Summary

The project manager opens the meeting by stating that they will address functional design and then going over the agenda. The industrial designer gives his presentation, explaining how remote controls function and giving personal preference to a clear, simple design that upgrades the technology as well as incorporates the latest features in chip design. The interface specialist gives her presentation next, addressing the main purpose of a remote control. She pinpoints the main functions of on/off, channel-switching, numbers for choosing particular channels, and volume; and also suggests adding a menu button to change settings such as brightness on the screen. She gives preference to a remote that is small, easy to use, and follows some conventions. The group briefly discusses the possibility of using an LCD screen if cost allows it, since it is fancy and fashionable. The marketing expert presents, giving statistical information from a survey of 100 subjects. She prefers a remote that is sleek, stylish, sophisticated, cool, beautiful, functional, solar-powered, has long battery life, and has a locator. They discuss the target group, deciding it should be 15-35 year olds. After they talk about features they might include, the project manager closes the meeting by allocating tasks.

## Complete Meeting Transcript

Cool. Do you wanna give me the little cable thing? Yeah. Cool. Ah, that's why it won't meet. Okay, cool. Yep, cool. Okay, functional requirements. Alright, yeah. It's working. Cool, okay. So what I have, where I've got my information from is a survey where the usability lab um observed remote control use with um a hundred subjects and then they gave them a questionnaire. Um so it was all about, you know, how people feel about the look and feel of the remote control, you know. What's the most annoying things about remote controls and um the possibility of speech recognition and L\_C\_D\_ screens in remote control. Not that they actually gave me any answers on the L\_C\_D\_ screens, so I should have taken that bit out, but anyway. Um okay, so. What they found is that people don't like how current remote controls are, so you know, definitely you should be looking at something quite different. Um seventy five percent of users find most remote controls ugly. Uh the other twenty five percent have no fashion sense. Uh eighty percent of users would spend more to get um you know, a nice looking

remote control. Um current remote controls, they don't match the user behaviour well, as you'll see on the next slide. Um I dunno what zapping is, but Oh, right. But you have that little thing that comes up at the bottom and tells you what's on. Um okay, fifty percent of users say they only use ten percent of the buttons, so that's going back to what, you know, we were saying earlier about, you know, do you need all the buttons on the remote control, they just make it look ugly. Okay? Cool. Um so this is my little graph thing. Mm k Okay, well, I can send it to all of you. What it is is um it's cones, 'cause I thought they'd be more exciting. Um but ooh where's it go? Back. Oh. Oh yes, cool. Okay, I'm gonna stop playing with the little pointy thing. Um okay, so like what it shows is how much things are used relatively and what you can clearly see from that is the thing that's used most is the channel selection. What you can't see is volume selection, it's a little bit higher than all the others. Yeah, so what the graph shows is that, you know, power, channel selection and volume selection are important, and the rest of them, you know, nobody really uses and so that's the the numbers along the top represent their like um their importance, you know, so on a scale of one to ten, how important is that and, you know, channel selection and volume selection are absolutely essential, and the power, well it's not quite so essential, apparently, although I don't understand how it couldn't be, um and everything else, I think, you know, you can forget about having those buttons on the remote control, 'cause they're just not needed, and they're not used. Okay. This is the bit that the email messed up for me and that's what I was fiddling about with at the beginning of the thing. Okay, cool. So um okay, so this is what people find annoying about remote controls. Uh that they get lost, that the uh you know, they're not intuitive and that they're bad for repetitive strain injury. I think if you're watching enough T\_V\_ to get repetitive strain injury from um you know, watching T\_V\_, then that's the least of your problems, but you know, it's up there. Um that yeah. Okay, so um I mean the the R\_S\_I\_ thing would be that, like when you have the computer keyboards and you keep your wrists up would be something that encourages you want something with an ergonomic t design that encourages good use of the remote control and you know, not straining your wrists watching T\_V\_. Yes. Okay, cool. Right, um sorry this is pink because I was copying and pasting the table, and I didn't have time to white it out again. Um okay, but that shows how people whether they would pay more for voice recognition software. So you can see from that that, you know, younger people to the age of thirty five are quite likely to pay quite a lot more f well quite are quite likely to pay more for voice

recognition software, whereas as people get older, they're a bit more sceptical about it and they're less willing to to try it. Um so clearly voice recognition is something to think about, but um you know I d I do wonder how well that would work given that a T\_V\_, you know, tends to be people talking and um, you know, how are you going to stop it from just flipping channels whilst watching T\_V\_. Um okay? Cool. Um okay, so these are my personal preferences. So you have sleek, stylish, sophisticated, you know, so something that's, you know, a bit cool. Um you know, functional, so it's useful, but minimalist. Um there's a there's an important thing that, you know, people use when, you know, when you're filling up your home, you know, a lot of people fill up their home with bits of crap, basically, you know, and you've got all this stuff, and you're just like, what the hell is that, who is ever gonna use it? You know, so things should either be functional or beautiful or preferably both, so I think we need to aim for both. Um okay, then a long battery life, like you were talking about earlier and um, you know, I was thinking that solar power would be quite cool because, you know, your remote control just sits there, and you could just sit it in the sunshine and save the environment a bit. Um and then like a locator, so you know, kind of like you have for a mobile phone or not a mobile phone Yeah, that's it, you know. I know, it's weird. My flatmate and I were talking about this on the way into uni this morning and I was like I need to get one

for everything. So yeah, so maybe something where you clap and then it beeps, something a kind of sound that you don't often hear on the T\_V\_, you know, 'cause you don't want your remote control beeping every five minutes, 'cause you you'd then deliberately lose it by throwing it out the window or something. So okay? Cool. That's me. Cat's. Ca. Yeah, I mean that's the thing is that it didn't say in the survey, you know, whether, you know, these are the people that will pay more for a more stylish remote control, but I'm assuming, you know, yes. Well, that's when you go to uni, isn't it? So, you know Yeah. Oh, I've unplugged it. Do you want me to Yeah. Seventy six point three percent. Yeah. Yeah, I kn I mean I know what you're saying about the fifteen to twenty five year olds, but I mean it has been proven that that people of that age group have a higher disposable income because they don't have like I mean, you know, if you're at university, you're paying your rent, but you don't have a mortgage, you don't have a life insurance policy, you don't normally have a car, yeah, so. You're still learning to drive actually, so that just costs more than a car, but yeah. Um so I mean like it is an age group to target, really, I think. No, I mean that's what, that's like fifteen Pounds? You know, I think Yeah, I d I don't know many people without a T\_V\_. We didn't have a T\_V\_ last year, and everyone thought we were off our heads, you know. Yeah, I d well we've we've got quite a d decent T\_V\_. Yeah. I think I think the fact that, you know, ninety one point two percent of fifteen to twenty five year olds are saying yes, I would pay more for a voice recognition remote control, does say quite a lot really. You know, so I mean that and the disposable income and I don't think it's something to ignore, you know. Is not a massive difference, you know. No, do totally. You do have it in your mobile phone though, don't you? Because you have like I mean every mobile phone now has like call this person and it calls them. I don't know. Yeah. S so y you'd maybe need a code word. Do you know what I mean? So like when you say change, except that's being said quite a lot on T\_V\_, so maybe like, you know, remote. I mean how often do people say remote on T\_V\_? Although I only watch Charmed, so really I wouldn't know but like so you'd just say remote five, you know, remote ten, remote one two nine. I don't think there's a I

ot of uh voice recognition remote controls. Yeah, that would be another way to do it. Yeah, but then the code word would be even more important, because I mean Sky advertise on every channel, don't they, you know, so then it would be you'd be watching Charmed, and then the Sky advert would come on and it would change to Sky. Yeah, yeah, and that would be really annoying. Yeah. Do you not think that defeats the object of having voice recognition on a remote control though? Yeah, you know, so you have to have the remote control. It's more like if you lost it and it's down the sofa sometime, you can yell at it and it'll just change it, you can look for it later, yeah. Yeah, yeah, I suppose nearer to you but a b like if you have surround sound then Yeah. Yeah, 'cause it's it's quite important that you don't lose the the bit to locate the remote control. Yeah, definitely, yeah. Oh, so y you want our um PowerPoint presentations in there, hey? Okay. There you go. But is everyone's called functional requirements? Okay, so that's good. That's me done. Okay, cool. No. Mm. Um um wi on on a what? Oh project project documents, yeah, yeah, yeah, okay. Oh okay, yeah. Yes, I think so. Yeah, the last minute, yeah, yeah. Yeah. Um Okay. Hmm. Mm. Okay, yeah, afterwards, yeah, okay. Thanks. I think we need like some general discussion at the end probably. Yeah. Yeah, I think since since we were discussing some um design issues then I I I would like to continue okay, yeah. Thanks. Oh i Okay, I hope wait. Should it just There's just nothing. Oh right, right, right, um Okay. Nothin okay, something is coming up. No signal? Why? Oh. My my computer went blank now. Adjusting. But I don't see anything I don't see anything on my computer now. This is the problem, but Um. Uh now it's okay. No? No. Oh okay. Okay, that's fine, that's good. Okay, let's start from the beginning. So I'm going to speak about technical functions design uh just like some some first issues that came up. Um 'kay, so the method I was um adopting at this

point, it's not um for the for the whole um period of the um all the project but it's just at th at this very moment. Um uh my method was um to look at um other um remote controls, uh so mostly just by searching on the web and to see what um functionality they used. And then um after having got this inspiration and having compared what I found on the web um just to think about what the de what the user really needs and what um what the user might desire as additional uh functionalities. And yeah, and then just to um put the main function of the remote control in in words. Um so the findings uh were um that the main function of the remote control is is just sending messages to the television set, so this quite straightforward. And uh w some of the main functions would be switching on, switching off, uh then the user would like to switch the channel um for example just m changing to the next channel to to flip through all all of the possible channels, or then mm uh the other possibility would be that um she might just want to choose one particular channel, so we would need the numbers. And and also the volume is very important. Um um I als okay. 'Kay. Um um among the findings I found that m m most of the curr mm presently available remote controls also include other mm functionalities um in their design, like operating a V\_C\_R\_, but they don't seem to be able to deal with D\_V\_D\_ players, but then there are surely there are many other functionali functions that could possibly be added to them, but according to the last minute update um actually um we do not want to have all this complicated functions added to our design. So my personal preferences would be uh to keep the mm the whole remote control small um just like the physical size. And then it must be easy to use, so it must follow some conventions um like whereabouts you find the on off button and maybe the colour tends to be red or something. Um then yeah, the must-have buttons woul

d be on off and then the channel numbers and then um the one that allows us to go to the next or the previous channel, and then volume has to be there. But then um other functionalities um could be just uh there could be a menu button and you could change things on the screen then, um for example brightness and mm similar functions could be just um done through the menu. And yeah, the last question I had about whether we wanted to incorporate n uh more functionalities, the answer was already no because of the last minute update. So at the for the time being that's uh that's all. If you have questions Yeah, and also it's it's um other question is uh because there are so many different And there are so many different things that could possibly be included because besides video and D\_V\_D\_ there are the mm um video C\_D\_s and whatever, so it might be problematic to to choose between all these possible things. Um well, I think the buttons are still mm kind of the most um easy for the user to use, I mean um what other options would you have? A little screen or something, but this would be really kind of I think a lot of learning for the user and and I mean the user just wants to get um get a result um quickly, not to spend time in like um giving several orders um I dunno. I think I th I would I would think the put the buttons, but if if you have other mm proposals um. Yeah. Yeah. Mm-hmm. Yep. Uh am I going in the right direction? No. Wait. Okay, here it comes. Okay, here you are. Um that's very good, very interesting. Mm-hmm. Yeah. Yeah, you share a television or something that yeah. It was seventy something, yeah, yeah. Yeah this this is not unaffordable, but the problem is whether people need it, whether they do have a T\_V\_ to use its full Yeah. Common, the students yeah, yeah. The s the stu yeah, and the remote control might not yeah, it might not even function with the old T\_V\_. Yeah, we're still yeah. Or w maybe we can just kind of uh uh Yeah, but at the same time I think maybe we can we can just decide to to have both of these groups as our target, because actually I mean they're all still re young people. Yeah. Yeah. Yeah. Yeah. An Yeah. Yeah. Yeah but uh um Yeah, yeah sure, yeah, yeah. Yeah. Yeah, w well now the v the voice recognition if if it works wonderfully w we could possibly do away with all buttons, but I think this is not really the right moment yet, because people are just so

used to buttons and um, yeah it's it's kind of safer, so we we need both, so the voice recognition would be just an extra, it wouldn't really reduce the size of the remote. Yeah but m but on the other hand, remote control isn't as close to you you probably might just just uh speak into it and and the T\_V\_ would be already further away, so it might not pick up the other things coming from there. Yeah, but then the remote control I think I mean um the idea is kind of it's it's not that it's sitting there on on top of the television, because then you could already yell at the television and you wouldn't you you wouldn't need the remote control, so the remote control is still something you keep n near yourself. Yeah, yeah, yeah. No, but I I I was just defending the the fact why why we want to keep the remote control close to us, a and uh not to yell at it from the distance. Okay. Oh yeah, yeah. Okay, yeah, mm-hmm. The major ones, yeah. Mm-hmm. Mm-hmm. Yeah. Did you find it? It's just yeah, yeah. Oh so so we'll just put them i there, we we yeah, w we won't even okay. Yeah. Yeah. Uh something conceptual, yeah. Hmm. Sorry, but um the next meeting um are we going to have it um right after lunch or shall we prepare our To prepare, okay, yeah, that's good. Okay. Cool. Okay, see you. Mm. You said uh targ target groups, what does that mean? Uh okay, 'kay. So are Okay. Alright. I can go first, yeah. Right. Um so f from the Right sure. Uh okay. So n uh with uh with regard to the uh working design of this uh uh remote control uh I've identified um a few basic

uh components of the remote and uh se uh from the design, functional design perspective um w l c we can now uh know wha what exactly the components are and how how they work together with each other. So this is the method that uh I'll mostly be following in my um in my uh role. Um the identification of the components, uh and uh since since I'm dealing only with the technical aspects, I would need feedback from the marketing person uh and uh from the user interface person. Uh we'll then integrate this into the product design at a technical level and uh basically update and come up with a new design, so it's a cyclical process. Okay, so these were the basic findings from today. The last three bullets have been integrated from uh the last minute uh email. Uh I just quickly jotted them down. Um so basically uh the as I told you the identification of how the remote control works and what are the various parts to it uh and what are the different processes um and how the parts uh communicate with each other. Um okay, so e the mee email said that teletext is now outdated, so we need to do away with that functionality of the remote control. Um also uh the remote control should be used only for television, because incorporating other features um makes it more comp complex. And the reason why teletext is outdated because uh of internet and uh the availability of internet over television. How however, our our remote control would only be dealing uh with the the use for television, in order to keep things simple. Um also the management wants that um our design should be unique uh it so it should incorporate um colour and the slogan uh that our company um has it as its standard. Okay, so he he here is a functional overview of the remote control. Um there's basically an energy source at the heart uh which feeds into the chip and the user interface. The user interf interface communicates with the chip, so I'll basic go over to the Okay. So if uh if this is our energy source and this is a cell, uh it communicates uh it feeds energy into the into the chip, which basically finds out h uh how how to do everything. There is a user interface here. So whe when the user presses a button, it feeds into the chip and the chip then generates a response and takes the response to an infrared terminal, um which then so the output of the chip is an infrared bit code, which is then communicated to the remote site, which h has an infrared receiver. Um the there can be uh a bulb here or something to indicate whether the remote is on or communicating. Um so these are the essent so a all the functionality of the remote control, whatever new functions that we need to do, um make the chip more complicated uh and bigger, basically. Okay. Um so i in my personal preferences um I'm hoping that we can ke keep the design as simple and clear

as possible. This would uh help us uh to upgrade our technology at a future point of time. And uh also if we can incorporate uh the latest features in our chip design, so that our um uh remote control does not become outdated soon and it's compatible with most uh televisions. That's about it. So anything that you would like to know or No, I don't have any idea about what each component costs. Um yeah. Anything else? Yeah. Certainly, yeah. So so tha yeah, we definitely need to operate within our constraints, but um unfortunately I I do not have any data, so uh I just identified the functional components for that. Yeah, okay. Yeah. Mm 'kay. I it'll take some time. Oh, there it is, yeah. It'll come up, it um uh no signal. Yeah yeah, it says something now, adjusting Okay. Oh, that's strange. Okay. And one more time. Mm. Sorry, cou could you go back for a second? Uh switching on off channel, uh volume, okay, that's great. So in the u user interface requirements uh uh uh we we have been able to identify what are the basic buttons that we do want. Um but um so so at this stage, uh how we go about implementing those button we will not id

entify or I mean in we can completely do away with buttons and uh have some kind of a fancy user interface or something like that. But uh is is there any uh uh any thoughts on that? Right. Yeah, and it'll make the costs yeah. Right. Uh I think the co costs will also play a big role when we come to know about them. So well we can probably wait until t we have more knowledge on that. Uh i if the if the costs allow, we can have like an L\_C\_D\_ display and uh with um because we do want something fancy and fashionable as well. So yeah? Cool. try to press oh, okay, yep. Mm. Right. Mm-hmm. Mm. Right. Mm-hmm. Hmm. Right. Mm. Mm. Mm. Some kind of a ring, some Right. Hmm. Okay, that's great, thanks. Mm. I think one of the very interesting things that came up in um uh Ka Kate Cat Cat's uh presentation was um uh this this issue of uh uh like voice recognition being more popular with uh younger people. So if we need to have a target group um then uh I think as far as the m motto of our company is concerned, if we want to have something sleek and uh you know, good looking uh we are better off targeting a younger audience then um you know, people who are comparatively elderly. Um. Right. Right. Bu but but the survey did say that f things like voice recognition are more popular with them, so if you want to put in something stylish, then uh th it'll certainly be more popular with this i ye with the younger people as compared to older people, yeah. Right, and Right. Mm. Right. But uh still, if if you can go back to that slide and uh, how popular was it? Oh, oh, okay. That's alright, if you can just look it up on your computer, wh uh um people between twenty five to thirty five, uh how popular was so it was sti still still quite popular amongst them. So even they are seventy six percent, is that high amount? Alright. Yeah. So you're more likely to b Yeah. Yeah. Mm. Bu but even even in the case of twenty five to thirty five it's quite popular, right? So mm uh are are are Mm. Mm. Um I was having a a general outlook on um m most like sophisticated features, but voice recognition itself I'm not very sure about, because one of the p uh things that Cat pointed out was uh uh how do we go about implementing it? Uh and uh Yeah. But how frequently do we use it anyway and um uh h ho how good is it, you know uh voice recognition softwares are still quite uh Yeah. Right. Right. Okay. O Right. Mm. Right. Yeah. Okay, so it seems like a feasible thing to implement uh for for a limited yeah. Mm. W What uh Mm. What wh uh what I was thinking is that there is this uh separation between what the channels are on T\_V\_ and how they are numbered on the remote control. If we can do with away with that, our product can be really popular uh in the sense that uh a person can say, I want to watch uh I\_T\_V\_ one instead of saying that I want to go onto channel number forty five. Yeah, so if uh if something like that can be incorporated, some kind of Mm-hmm. Alright. Yeah, that's Right. Mm. Mm yeah and it might become very difficult from a distance for the television to understand what you're saying because of the noise factor for the remote control being cl I mean it'll it'll mm. Yeah. Mm. So uh wh another thing uh



that can be used is that uh there can be a beeper button on the T\_V\_, so you can go and press that button and um and the remote control, wherever it is, it'll beep, so we we can probably come to know where it is. Right, yeah, yeah, yeah. Alright, yeah. Right. Okay. So where exactly is this i Ah, okay. Yeah. Yeah, yeah in that one, right yeah. No. Right. I guess I'll find out. Wha what was it again that I was supposed to look into? Con components, oh. All hooked up. Okay, so now we are here at the functional design meeting. Um hopefully this meeting I'll be doing a little bit less talking than I did last time 'cause this is when you get to show us what you've been doing individually. The agenda for the meeting, I put it in the sh shared documents folder. I don't know

if that meant that you could see it or not. Did anyone? No. Oh well. Um I'll try and do that for the next meeting as well so if you check in there, there's a shared project documents folder. Um and it should be in there. Project documents, yeah. So I'll put it in there. Is it best if I send you an email maybe, to let you know it's there? Yep. I'll do that next time. Um I'll act as secretary for this meeting and just take minutes as we go through, and then I'll send them to you after the meeting. The main the main focus of this meeting is your presentations that you've been preparing during the time, so we'll go through each of you one by one. Um then we need to briefly discuss the new project requirements that were sent to us. I just sent at the last minute, I'm sorry about that, but we can see how that affects what you were you were doing. Um and then we need to, by the end of the meeting come to some kind of decision on who our target group's going to be and what the functions of the remote control that's the the main goal is to come up with those two things, target group and functions of the remote control. And we've got forty minutes to do that in. So I would say yeah? As uh who it is that we're going to be trying to sell this thing to, yeah. So we need to yeah, we need to have a fairly defined group that that we want to focus on and then look at the functions um of the dem remote control itself. So with that I think it's best if I hand over to you. Does anyone have a preference for going first? You wanna go first? Okay, so we need to unplug my laptop and plug in yours. I assume we just pull it out? Just before you start, to make it easier, would you three mind emailing me your presentations? Once we you don't have to do it now but when once you go back, just so that I don't have to scribble everything down. Hmm. Mm-hmm. Okay. Do you have any um i idea about costs at this point? Br Okay. 'Cause that's something to consider, I guess, if we're if we're using more advanced technology, it might increase the price. Yeah. That's fine. Are there any more questions, or shall we just skip straight to the next one and then we can discuss all of them together at the end? Yeah, I think that will do. Okay, so do you want to Yes, shall shall we pull this up? I think that has to come out of there. Yeah. Yeah, I thought those last minute things, they're gonna hit you the worst. It ta takes a little Oh, and have you you need to then also press on yours, function F\_ eight, so the blue function key at the bottom and F\_ eight. Now it's coming, computer no signal. Maybe again? Okay, adjusting. There we go, there we go. Oh, if you press if you press function and that again there's there's usually three modes, one where it's only here, one where it's only there, and one where it's both. Okay, so one more time. Should yeah just wait for a moment, adjusting. Okay. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Yeah. If I mean that was the the directive that came through from management, but if we had a a decent case for that we really think it's important to include video and D\_V\_D\_, I could get back to them and see. It's w it's just whether it's worth arguing about. Mm-hmm. Yeah. Mm-hmm. Okay. Are there any questions for clarification of Maarika before we go on to the next one? Mm-hmm. Mm. Mm. Mm-hmm. Sure, we can discuss that maybe after the next one. Do you want to yeah. Oh, I'm getting hungry. You set? Uh we need to do the function key thing so that it comes up on here. Hello. Is it plugged in prop it's working? Okay. Excellent. It's um switching between channels, sort of randomly going through. Mm. Ooh, that's a bit difficult to see. If you explain it to us it'll be fine.

Yeah. I liked the, I liked the litt ooh come back. No. Okay. Mm-hmm, that's the next one along, yeah? Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. The remote control. Mm-hmm. That's alright. Mm. Keys and things like that, yeah. Whistle and it screams at you, yeah. Mm-hmm. That's you, excellent. Um. I'm

just gonna tick yes. So, we've got about ten, fifteen minutes to discuss Mm-hmm. Yeah. Mm-hmm. Yeah. Then again I guess the th where it was most popular was the fifteen to twenty five bracket and the I don't know how often they're buying televisions. Yeah, but you don't have much money, generally. I would've thought it's it's more that twenty five to thirty five, when people are really moving out and they've got their first job and they want their nice toys and O oh it's on sorry, we unplugged it. Here, let me Yeah. Mm-hmm. Yeah. Yeah, they've got no commitments and usually not a car and all of those things. Kids. Yeah. Yeah, and if we're if we're talking twenty five Euros as a price, that's not unaffordable, even for young people. Yeah. Yeah. But do they But the T\_V\_s are often kind of someone's old T\_V\_ that's blah blah and be a bit strange to have a fancy rome remote. Mm. Yeah. Yeah. Yeah. Yeah, if we ta if we take fifteen to thirty five, but that then does imply that we should try and incorporate voice recognition. Is that gonna have a an implication for the technical specs? Mm-hmm. Yeah. Yeah. With um but with a T\_V\_ remote it's gonna be quite limited if we're t saying the main things people want to do is on off channel five, louder, tha that should be relatively simple. Mm. Yeah. Mm-hmm. Yeah, but maybe if you wanna look into that just to just to check. Um, so if we go for the the fifteen to thirty five age group and then of course we're going to get th anyone who's older than thirty five who wants to look young and hip and trendy and has the money, then they'll they'll still go for the same advertising. Yeah, I think we need both. Yeah. Mm. Uh-huh. Uh-huh. So that if that was in the the voice recognition, that would be great. Yeah. Yeah. Watch Sky and yeah. Mm-hmm. But that's definitely a possibility. Yeah. So that you can yell at it, yeah. Yeah. Alright. Mm. Yeah. Yeah. Yeah. Yeah. Mm-hmm. That's but then if you're buying the remote separately, but y you could have something, but i if it was something that you could like stick onto the T\_V\_ or something, some like a two p if you bought it in a two part pack, so one part attaches to the T\_V\_. The I Well that's right, but it solves the problem of having different noises. Yeah. Okay, I think we're gonna have to wrap this up um. But if we go away with that that kind of general um specification in mind that we're looking at fifteen to thirty five year olds, we want it to look simple, but still have the buttons so it's easy to use, but only those key buttons, the major buttons and then one sort of menu one, and then voice recognition included as an option um but that obviously needs a little bit more working out as to whether it's really feasible and some of those problems we were mentioning um. What we have to do now is to go back to our little places, complete our questionnaire and some sort of summarisation, which y you'll get immediately by email. Send me your presentations so that I can use them to make the minutes, and then we've got a lunch break and after lunch we go back to our own little stations and have thirty minutes more work. Um I'll put the minutes in that project documents folder, but I'll send you an email when I do it, so that you know. It should be on your desktop, so on the yeah. So I'll put it I'll put them there as soon as I've written them. Yeah, and email them round. Yeah, that would be great. Oh yeah, put them in there. Yeah, then you don't have to email them. No, they're all called something slightly different. Technical requirements and something something, yeah. So, if you put them in there, we'll all be able to see them and refer to them if we need to. Um as to where we're going from here, you're going to look at the components concept. Yeah? Whatever that means. Yeah. You'll be looking you'll be looking at the user interface concept, on something conceptual and you're watching trends to see how we go and surely voice recognition'll fall

off the map or something that um we'll keep keep our options open hmm? Components, yeah. No, we have we have after lunch we have thirty minutes to ourselves to prepare, so that's fine, well before lunch we just have to complete the questionnaire and some sort of summary. Okay? Right on time. Okay, so you can I guess we'll see you for lunch in a sec?

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# Meeting ID: 127

Data Source: Train

## Executive Summary

In the detailed design meeting the team created a prototype. Along with buttons for numbers, channel selector, volume, mute, on-off, teletext, and subtitles, the prototype included an LCD screen and a help button for functional information. One rechargeable battery, single-curve form and plastic case, brought the total cost to 17 Euros. To reduce this cost, it was decided to replace most buttons with a scrollwheel. The remaining buttons were one for channel selection, one for volume (both assisted by the scrollwheel), teletext, on-off and the help button. A suggestion to target the product to a younger or perhaps more general group was met with approval. All these components were re-arranged in a revised prototype. It was evaluated on a scale from 1 to 7 on the basis of the following criteria: fancy design (6), technological innovation (4), functionality (7), consideration of the target group (3). The remote was also recognisable as a fashionable Real Reaction product. The project process was deemed well-structured, although everyone thought it would have been better had they known the component prices at an earlier stage. Teamwork and leadership were good, but room for creativity impeded by budget constraints.

## Complete Meeting Transcript

Okay. Well this is what me and Richard came up with. The default spot for the on-off button. The mute button just below that. Then there's the volume and channel selectors. Simple plus-minus button. Uh we thought of a help button. If you hold it and you press another button, uh the help goes to the L\_C\_D\_ screen. Then there's the zero to one to zero buttons. A button for teletext. A button for the subtitles. And the company logo. So it's rather simple prototype. And uh we'll have to see from testing uh how the users take it. Sure uh just pop in at any time. I think if you look at most controls, they've got more buttons than this. And well the on-off button, it's it's a necessity. You can't drop that one. The volume and channel buttons, you need you obviously need those those. The mute button could be replaced uh by pressing the volume-down button twice. So we could cancel that one. I think the help button really is necessary because there's no other way to know when someone wants to know what a button does. Well, you can't leave out the number buttons I guess. And Yeah. So it's rather basic

already. Yeah, they're It's rather hard to draw on the white-board. But they're supposed to be equal sized, round, with a with a little logo on it for the for the volume, the the triangle and stuff. Just for recognition. So and for the materials we've just chosen for rubber buttons. With a a different colour than the case. So they jump out. And uh that's about it. Yep. Yes. Yep. Yep. Yeah. Yeah. Yes. Uh that's that's a big cost. If we leave out the display we can also save money on the chip. Which isn't the the docking station isn't even in this c s schematic. So it's not even taken into the price. We we could save money on it. But would it make the remote more usable for elderly people? My mother can't even send an S\_M\_S\_ message. So Yeah. The margin will get too small. Yeah. Ten. No remote. That's We're getting closer. Yeah. You could just not scroll for a half a second. So you won't need a button. If you want to use an L\_C\_D\_ screen you need an advanced chip, yes. Yep. Yeah if you v could just leave out one more button. Yeah. I think so. Yeah. What if you have to scroll to page eighty eight? Eight hundred eighty eight. Yeah. Okay. No. We could make two buttons out of that. And just um If you press the volume button you can control the volume with the scroll-wheel. So that would save two buttons. If you do the same for the channel. More obvious. So if we Yeah. So If we leave out all those buttons, perhaps you can go with the flat flat case. And make it smaller overall. So if you put the the volume and channel buttons on the same height as the on-off button, the screen right behi under that, than the scroll button you get a a much smaller remote. And it sh Yeah? Yeah. Richard's argument was very good. Yeah. Yep. Yeah. Six. Yeah. Four or five. Yes. No. Mm, we haven't thought of that one. I think that's a three. I still I think it's too m too fancy. Too too flashy. Twendag sieven an twendag. Yeah. Yes. Yeah. That's true. Yeah, there w there was enough room, but the finance uh Yes. Yes, was okay. The tasks are very structured, so you can just do step by step and it's very easy. Well, the smart-board, the d d drawing is just a pain in the ass, but The digital the digital pen is very nice. Yes. Yeah. A flip-over or a more precise uh digit Yes. No. Didn't work. Yes. Yeah. Considering we are not going to make a docking station. Perhaps. Mm-hmm. Okay. Okay. Good afternoon. So Hello. No problem. Okay. That's possible on uh this time of day. Starts at three o'clock. Uh Uh, let me see. Our fourth and last meeting. There he is. Yes. Okay this our last meeting. In this meeting we will discuss our final design. And we will do some evaluation about the, not only the product, but also the project. And then we're going to close the project today as well. So after this you will be uh free to go and uh spend all your money. And this uh design, detai

led design meeting uh we will discuss uh the look-and-feel of the design, the usability interface design, and we will do the product evaluation. Um, in order to do that we have this agenda. We'll have the prototype presentation first. Then we will set up some evaluation cri um criteria. Then we will look at the finance. Uh we will have to see if everything we wanna do is also possible within our budget. Because everything costs money, and the more functions you wanna have the more money it will cost. So we have to see if it fits within the twelve and a half Euro per remote. But we will see that later. Then we will do the project uh evaluation, and the closing after that. We've got forty minutes. So we will be finished at half past three. But first um we will do the this is prototype presentation. So, if some yeah if somebody wants step forward. Okay. Okay. Uh but um I thought in a few meetings earlier we uh uh tried to keep it uh simple. Uh just a few buttons and large buttons. But uh I think these are altogether quite a quite a few buttons. So I'm wondering if we if we neely really need all of those buttons. That's right. Yeah. Yeah. Mm. Long time. Yeah. If you put Yeah. Okay. Yeah. Uh teletext and subtitles are yeah necessary. Okay. Yep. Okay. So we had somebody about th interfa Something about the design of the buttons there? Just n normal plain buttons. Yeah. 'Kay. No. No. Yeah. Okay. Yep. Okay. That's nice. Then because we only have thirty minutes left, I will move on to the finance part, which is pretty

exciting, to see if it's all possible what we wanna do. And I can tell you that we're going to have a pretty hard time producing this for twelve and a half Euros. If we see I don't know if I've filled in correctly, so just correct me if you see uh something wrong. I counted two batteries. But maybe we can also use one. I don't know if it's possible. It's rechargeable. That's right. Okay. That's two Euros off. We need the advanced chip. So there's not much to uh to save there. Here we have the single curves. Uh we can see that the difference between uncurved and the single curved is one Euro. Um, I don't know, but I think the single curved is good for design, and also for the display to have a prominent place on the remote control. I think we have to keep that. Then we have the case material supplements. It's plastic. It's the cheapest one we need. So that's uh not much to save either. But then the biggest costs are the buttons. So maybe we really should try to discard some buttons to uh keep our costs low. Because you have to we will have to get the twelve and a half Euros at the end. Um, so if we Let's fir first count the buttons we have now. Because I Sixteen. Nah, that will be even more then. Eighteen Euros. So, seventeen. Okay, including the help? Yeah. Uh seventeen. I think we can uh discard the help and the mute button uh by pressing down volume long, or pressing down a a number long. That saves us uh one Euro already. 'Cause then we have got fifteen I think? Fifteen buttons. And this is No those are one, I think. Yeah but th it's not stated in this files. So maybe we can we can even make one button with the volume and the channel in one, by pressing That's possibility as well. So And it's good for the design as well. So you can make Uh let's see. If you make this Looks a bit like uh a cross. Plus. Min. Uh s yeah channel. Yeah w Yeah th I think they count uh the materials. Yeah on the chip there. Yeah. That's right. That's right. But I think because we have the advanced chip we can just count this as one button. But No but I think Yeah. Maybe it is, but then it seems to me that it's impossible to get the twelve and a half Euros. Also the L\_C\_ display, I think it's, I think it's too expensive for the display we use. I think they uh try t That's right, but what's the big advantage of our remote then? Yeah. No. That's extra. That's extra. That's right. That's an option. Poland. Something. Polish supplier. Don't you thi

nk we can, if we can count this as v as one button, and integrate th uh these buttons in three, then we save a lot of money as well. Yeah. That's a point. Yep. No. Yeah but uh we have to stick to the twelve and a half Euros. We don't have any more budget to develop it. Yeah. So It is. If you leave out the L\_C\_ display. And if you use less buttons. Say Or you can take the single chip. There it is. But then w Good looking. Yeah. I think it's uh difficult as well, but Or we can leave out the ten buttons and take one scroll wheel for the programme numbers. Then w Because then we save ten buttons. Then we have five and one. And and see. If we have this one and we've got the advanced W uh, we're getting close. Then you will Or maybe you can um scroll. If you scroll you will see the numbers on the L\_C\_D\_ display. Until you've got the right number, then you push it. Alright. It's gotta scroll and push. Okay but then you you can push uh some other button as well. Yeah. That's right. So if you scroll to a number and then you wait a half second, then it g turns to that channel. But it would definitely crop cost, a lot. And we need the battery. And the regular chip is not possible? It has to be advanced? It has to be advanced. Yeah. Okay. And we can save a Euro by a flat design. That's an option we can Then we're almost there. Yeah. So if we Yeah but I think that's That is a big advantage, if we're But Can we use can't we integrate the teletext and the subtitles in one button? If you push it three times? Yeah. Ah that's not really that No. I think if you make a good advertisement uh on television and in the in the guide, you can explain to the people how to use the scroll wheel. If you just make it real simple. Because it saves it saves a lot of money. And we can keep our L\_C\_D\_ screen, which can provide extra information. How to use the scroll wheel. How to use the other bu buttons as subtitles. And it's good for the innovative design as well. If you would erase these. Mm eraser? And we put uh Looks a bit odd maybe. That is

Something like that. Then, yeah. We've got the scroll-wheel. One, two, three, four, five buttons, if we erase this one. And these are two buttons then. Yeah. Yeah. That's really a good good idea, I think. And it will make the use of the scroll wheel uh more obvious indeed. So we make one for the volume, one for the channel. Plus scroll. That's right. So we've got one, two, three. Yeah, we can leave the teletext in if we want. That's m that's better. Y yeah. Mm yeah. Uh yeah, and then you can That's right. So we can decrease this one to four buttons. Yeah. That's no problem. Yeah. Yeah. It's uh it's more the moulds in which they are being made, I think. Single curved is really easy to just fill in. And cases come right out of the machine. And single curved you have to have a different uh different machine, than a flat one. I think this is a really easy one. Um, what does everybody think about a flat or a single curved design? Freek, what do you think? Yeah. Yep. We have to cut costs. Yeah. Yeah I'm ag Ask for more money. Yeah. Yeah. I am agreeing with the usability. Yeah. Yeah. But th um I think we can then keep the single curved one. Just to express our L\_C\_D\_ screen a bit more. So people will use it more, and especially for the help functions, it will be good if we have scroll bar, scroll button. It will be necessary to have good help function, as well. So this is scroll. I think it was better to have this price list a bit earlier. Before we went on to the to the whole design. But I'm glad we could make a bit. It's pretty different, if you saw the last one than this one. Yeah. It will. Yeah. No, but I think I think the most That's right. We can let I We can stick it out, a bit. Like a old old buttons. Maybe that's recognisable for them as well. Yeah. That's a good one. So, I'm afraid we have to move on. And it's uh it's b uh less frightening, I think. If they see this design they think oh, there are only five buttons

, and uh But we will see. Yeah. That's definitely right. Yeah. I would buy it. That's right. I would buy it if I was six. No I don't know. What it costs under twelve and a half Euros? No? Uh, yes they are. No. But we can go on with the project evaluation. Let's see. I can sit down I think. We still have fifteen minutes left, so we're nice on schedule. Um, the project process. Evaluation criteria. That's right. That was the point I forgot. I should There we are. Evaluation criteria. Go ahead. We've got five minutes I think for those criteria. No we've got fifteen minutes but Uh yes. What? Uh yeah. Okay. Yeah, that's because my pen failed to upload his data. I tried to but it's uh it's giving errors by downloading the software. I think it's fancy. Yeah. Six. Very. Subtitles, buttons. Yeah. Seven. Yeah. So we've got twenty cents for our docking station, huh? Yeah. That's right. That's a bit dodgy. I would say four. Four or five between. Between four or five. Yeah. Is it functional? Yes. No. Think it's uh seven. It was. I had them worked out. Mm. They are ugly, not very functional, and getting lost. Yeah. No I think with our new radio button, I think it's uh I think it's better. I think it Yeah. I would give it a four. Then we have to do the three. It's the Yes it is. Yeah. And they wanna put fashion in their products. Uh in the slogan of the company. And we have the removable front cases. So, I think it's very recognisable. Yep. We've got a calculate it. Mm? N We've gonna We're going to evaluate it. Forty nine. Forty one. That's Around eighty percent. What is it? That's eighty four percent. I think that's a pretty nice score. Okay. Thank you. So, that brings us to the project evaluation. Yep. Thank you. Project process. Did we move through the right phases, you think? Along the process? That's right. So lack of information about prices. Okay. Uh Okay. Satisfaction. Was there room for creativity? No? It's because of the finance sheet. Yeah. The room was Yeah. Restrictions. Internet access. 'Kay. Leadership. Was it clear what everybody had to do uh according to their roles and functions? Yeah? Teamwork? Did it work out? Working together? Also, you two of you with the uh last phase? Nice. tasks. Okay. Were the means sufficient for the tasks uh we had to do? Or were they too much? Smart-board. If it wants to download its uh data. Failed download. Smart-board was irritating. So you rather wanted to have a flip-over? Or something else? Faster as well, I think. Yeah. Flip-over. Yeah. Uh you need a smart board uh application I think. But I think you can Yeah.

Should be possible. Yeah you can export it as image. Must Yeah must be So the sharing of the information was uh was okay? Uh, network. Yeah, pen is here on the table. Yeah. It's possible. Okay. That's nice. Have we found new ideas for having this kind of meetings? Or Yeah. Yeah. So Yeah. So everybody puts his own score. And then it mediates the score, and you can get one Yeah. That's better. So that's uh How do we call? Evaluation criteria. Okay. Mm, any more ideas? Or questions about the project? Or about the product? Because I think then that we get to our last sheet. Are the costs within the budget? Yeah. Do we Docking station. That's a good point. But maybe because of the docking station the price of the remote can also be a little bit higher? Uh and I think you can compensate that as well. So I think that shouldn't be the biggest problem, because it's very cheap to make as well. Do we think we gonna get the twelve and a half million? Or what was it? Fifteen fifteen million. I think we will. If we gonna export this product. It's innovative. Especially in America. People are pretty decadent. Sometimes. You can do more. Yeah. Just put it on the market for everybody. You can you can change markets where by changing the front covers. That's one thing you can change it with. So you can also try to uh reach the younger people by uh putting fancy covers on on the market. Just as a

test. See how it works. That's I think a good advantage. Yeah. Uh, uh then I think we can have our little celebration, right now. That's it. Yeah. I think we still have to fit in one more questionnaire. I think. I don't know. I didn't get a message from the from ending of the Oh I think I have one now. Five more minutes? Oh that's nice. Then we still have some questions. If somebody has some questions they can ask them now. Or we can put these in the project folder as well. Maybe that's Export as picture, I think. Hmm. This is another network, I guess. Does somebody see the project folder? I don't. Hmm. My Documents. Yeah, I'll just put it in My Documents and uh That's okay. Okay. I think I'm going to make our final presentation now. And then I will be back in about ten minutes to show you the final presentation. Summary of the project. Yeah. Questionnaire. I think you all get a questionnaire in in your room. And then I'll meet you in I think about ten minutes, or something. Okay. Thank you. Hopefully my pen will download its software. Oh. Or data. So Yeah. Yeah. Uh, that's just uh the normal uh as th as the normal uh remote controls uh So um You put it uh you um came in uh page uh one hundred. Now you can use the normal uh one to zero buttons. And you But you can also uh use the um button th for uh changing the the channel. S so uh the shifting uh button. Uh for uh yeah shif shifting up in uh on t on t uh teletext, and shifting uh down. So Oh yeah? Yeah. Yeah. Yeah yeah. Uh, or you can build in uh when you press uh one button uh uh Yeah. But m Yeah. We disc discuss that already. But uh we think uh old people uh don't know that uh option. So uh they just put in uh put press uh the button and uh And uh Oh. Yeah. Yeah. Yeah, it Yeah yeah. Just to recognise it, so uh Uh yeah and now we don't need uh LEDs or um Y uh s some uh remote controls uh do it also, but um uh because we use the little display we don't uh have to use it. Uh so Nay. Mm. Yeah we can u just uh 'Kay. Mm. Yeah. Yeah. Okay. Yeah. Uh Sixteen, I believe so. Uh seventeen. Uh with the help button. Yeah.. Yeah. Where did uh Uh, it's just one button. But, um Yeah. There were uh two uh for one big button. But they are uh more expensive than the small ones. Uh, yeah. So It's just a. But I don't don't know if if it's cheaper. So uh, we've still got four buttons, but just um So You got uh not not a butt button itself, but uh on the um Yeah. On the chip you've got still uh four uh four buttons. So Yeah, but. Are we gonna buy a um a remote control uh when you can uh use it? So um Yeah. We m uh we must um stay below the um below um twelve uh fifty or Can't uh go um Nay. Is it impossible to But it is possible to make one uh for uh twelve fifty. I don't think so. S Yeah. But, you can't use uh Yeah. But we want to make a uh so uh uh fancy and a good uh Yeah. Uh, wi with n Oh, with uh attractive uh o options. So uh, you can stay uh below uh twelve fifty. So Scroll-wheel's one. No, it Yeah. Yeah. Mm. D yeah. Hmm. Ja ja. Yeah, or we have to uh skip the subtitle uh button. So



Yeah Yeah it's a big advantage. But um, it's Uh, yeah. Yeah. Yeah. But if you push the teletext button twice It's uh One m uh one b uh, a few buttons. Yeah. Hmm. Yeah. Uh yeah. But uh, you can make a f quite a big uh remote remote control for uh just the same price as a small one. Just uh you only have to pay for the double curved or single curved. It uh it's a bit uh.. Yeah. Yeah. Yeah. The th No. But um But they know the scroll-buttons from uh old radios. Uh they cal also uh buttons like that for uh changing uh channels. So maybe it's uh Yeah. Yeah. Yeah. Yeah. Mm-hmm. But very special, so uh No. Mm. Yeah? Mm. 'Kay. Uh six. Yeah. Mm. Sh Yeah. Mm. Not really. For old people I I W Yeah. Four. Yeah. N Yeah. No. Mm m Yeah. Mm, th yeah. Yeah. Uh We have to test it s But Uh, yeah, true. I go for three. So Yeah yeah. Yeah. Hmm. Yeah. Yeah. But it Yeah. Yeah. Yeah. Yeah.. Mm. Yeah. So Yeah. Mm-hmm. Mm. Yeah. But Uh Ye

ah. A flipper's uh easier, so Yeah. But if you want to share uh of uh when you make um a picture like this uh on the presentation, it's easier to uh share it with uh other people. Uh so uh you can sh save it uh and uh put it on the internet, or uh uh in shared f uh folder or uh sh uh shared directory. So So Yeah? No? T can uh can you export it uh like a Yeah.. Uh. Uh, yeah. So you can Uh It's possible. Okay. Um, yeah maybe um uh when we n uh just uh give the numbers of of uh Uh uh o one of uh out of s uh sev Um it's uh easier to uh to do the th things that are like that on a computer. Uh, so uh just I uh like uh at u university uh So Yeah. Yeah. Mm. Mm yeah.. Mm. Yeah. Yeah. Mm. Yeah. Ah. Ah. Ah. Hmm. Where's the champagne? Uh, I believe y uh Okay. Yeah. Yeah. Uh maybe uh they will save it. So uh Okay. Uh maybe we have to fill uh another questionnaire. So uh Yeah. Yeah. Okay. Good afternoon. Sorry I'm a little late. Got stuck in the traffic. Yeah. Um, is this the moment where we ask or can ask questions about the functionality? Um, when you're in teletext there usually are buttons where you just you just press it and you g go to the next teletext page. Mm-hmm. Okay. Okay. Um Yeah. Yeah. Yeah. Think so. That's what I pointed out earlier. If you just make a control for just the T\_V\_ there's just not much to gain here. Since it rechargeable. Um Damn. Wouldn't Yeah. No. That wouldn't be an option. Uh, d I assume you'd count the volume and channel thingies for two buttons each, right? Well, think actually there're two buttons, aren't they? Well I was thinking, maybe you could just integrate three of those numbers to one button. That would cut the cost. Mm-hmm. Yeah. But, I think this really is four buttons anyhow. Yes. Only the docking station, I guess. Maybe we should to a different supplier. Yeah. Yeah, that's what I'm wondering. Um Well, since the market research indicated that older people spend their money easier, more easy, maybe it's feasible to just put the price of the remote up a little. Especially since we have those nice features. It would be a be a pretty rigid one. Or b Basically becoming a choice between like either a good remote and a higher production cost, or just any other remote control. But how does scroll-wheel work here? That would bring up the price of the scroll-wheel also. Integrated scroll-wheel push-button. But Yeah. I think that would be like the end of our usability. Yeah, but Well, think it's pretty much the teletext subtitles are right now you just push the teletext button, go to page eight eight eight, and teletext disappears. But the subtitles stay there. I think that's the case on most Well, that could be just uh like the scroll to eight, click, scroll to eight, click, scroll to eight, click. But then again that would be d j just pretty much not an option for older people, who don't even know what a scroll-wheel is. Holding a remote with which they expect to have like ten buttons for the numbers one to zero. With only five buttons on it. And a scroll-wheel. True. True. That's a pretty big scroll wheel. So this is five buttons. Right now we have five. Mm. Well, I still think we should go for the single curve design. But then again, all these changes are not really okay with me. But since we just have to. I'd rather just go to the board and get us to spend eighteen dollars a a remote. Or do some market research and see what the options are. Yeah. Yes. Definitely. Yeah. It's pretty different. But this

is not really like for the group we were making our remote. This will really require a lot of marketing to get this to sell. 'Cause if older people like familiar forms and familiar stuff. This is not familiar for them. So we're gonna have to do a lotta convincing them. Yeah. That's true. Might uh might be confusing too. They'd be like, what? Only five buttons? Yeah. But you're not sixty. Mm-hmm. So um, I like set up all these criteria. And evaluation of the thingy. Thank you. Five more minutes? Okay. 'K

ay so I did some literature study study, and analysis of the requirements we set up earlier. Translated it into criteria, which would be these. Um, is the remote fancy? The shape, look and feel. Innovative? What new functions are there? Uh, easy to use? Uh, learnability is a very important factor here. Uh, is it functional? Are there not too many functions uh among the functions? And are the those functions that are there, are they useful? And the cost. The target group. Is the remote really for the group we're making it for? And recognability. If our company is If it is easily recognisable that our company made it? And So we're supposed to evaluate it right now. Let's see. Oh I have to say this was a little hard, because the minutes of our last meeting were not here. Okay. Interesting. So Is the design fancy, on a scale of one to seven? We all go for six? Good. Um, is the design innovative? I think so, with our L\_C\_D\_ screen, docking station, scroll-buttons. Seven? Should be do-able. Is the design easy to use? Well Would be for us. But I'd go for four, too. Is the design functional? Um, do we have all functions that we want to include? I think we do. Do we have too many functions? I don't think so. It's pretty slim. Seven. Oh, and do we um take care of the biggest frustrations of the remote control? Like it getting lost and R\_S\_I\_ influences? Think we do. Are the production costs within the preset limits? Well they are now. Does the design fit the group of focus? Yeah. I think it doesn't. I don't know. I think I think a radio button is not exactly what older people expect to have a remote control. I'm not sure. I think I'd go for two. 'Kay. Is the company company recognisable? Well, we have the logo there. So Yeah. So that will be this. I was also supposed to calculate the score, but thought we would have another private thingy after this. Is this Like after this, are we done? Or We're gonna go to our other room again. Well, anyhow. These are seven factors times seven is forty something. Two? No. Nine? Uh, minus one. Minus three, minus four. Minus four. So that would be minus eight. Forty one out of forty nine. Okay. Guess I'll just type that in on the bottom here. Hmm. 'Kay. So that will be the evaluation. Think we should have a should have had the finance thingy a lot earlier. In the design phase. Yeah. Definitely. No. Not too much. No. Yeah, true. But And I would've liked to go for the younger users also. And just to be able to access internet and get something of your own. Yeah. Mm-hmm. Yeah. Yeah. Yeah. Yeah, I tried to open the file on my laptop, but not possible. Yeah. no. Should've done that then. Pen is here. Mm. Yeah. Mm-hmm. Yeah. They are. Yeah. Fifty grand. Yeah. Yeah, still I think I mean if we're n gonna make a scroll-button anyway it'd be more for the younger people than for the older people. So maybe we should just re-focus. Or specifically for younger people. That's true. Yeah, I think then it would be way more uh popular with younger people than it is, than would be with older people. Even if it were their covers. But Party party. 'Kay. Oh you did. Mm-hmm. Yeah. Yeah, it probably will. Oh yeah, you're supposed to make a final Are we supposed to go into our own rooms again? Yeah. Yeah. That'd be nice.

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# Meeting ID: 58

Data Source: Train

## Executive Summary

. I did get a bit more done than the last time , 'cause I knew that I didn't have time so I just copy and paste everything into the Sometimes I have these pop-ups or these sounds and there's nothing there , and also with I don't know how to use PowerPoint , so it takes me forever to get something done with it . Uh we have again three presentations and then we have to decide on what concepts the mobile phone has to uh f the remote control has to support . So welcome to the marketing presentation once again . Um fashion watch watchers uh have detected the trends for young public , because that's our public . fruit and vegetables will be will be the most important theme for clothing , uh shoes and furniture . And the feel of the material is expected to be spongy . oh yeah well this is the fruit and vegetables looks of fresh bright colours . most important aspect for remote control happens to be a fancy look-and-feel . Instead of the current uh functional look-and-feel . And the second most important aspect is that a remote control should be technological uh innovative . I think we pretty much covered that with our screen and um and speech recognition , And the third development um is that the remote control should be easy to use . Well the first aspect uh was twice as important as the second aspect, which was twice as important as the third aspect . Uh nothing about the buttons but just sponge kind of thing , and and some fruit and colours Just made a quick design . I'm dealing with the components design . I uh used some design examples we had uh from similar products . Uh for example the energy source . we have four types . The basic battery . Uh we have a hand dynamo , Uh the kinetic provision of energy which means if you move the thing , if you shake it . And uh of course solar cells . for the uh a case , there's uh the traditional uncurved flat hard case . Single curved , which means that it has uh curves in one dimension . Or the double curved . but well you know that we will have to go for the double curved 'cause it's daring and different from what we have now . Well we have all kinds of hard uh materials like the the hard plastic , the wood and the titanium . I would definitely go for rubber We have yeah several uh interface designs . Uh we can use a scroll buttons for the menus , but we already kind of decided to go for the f for the pushbuttons , for the the arrow buttons . the advanced chip I think is easiest to implement uh for the production , 'cause they they can print it better . I first uh chose for the battery , 'cause yeah I'm traditional and that's the most obvious , easiest choice to go to . But I really think that we should maybe uh think about the kinetic energy , I can imagine that the kinetic uh type energy source would be more expensive to make . But it is more longlasting , that the people don't have to ever buy

batteries again . and especially when the material's rubber . It can be done , I mean , you can't harm it , So double curved is like this , this , this , or No it means curved in two dimensions . So uh w single curved ? Uh let's say would be a b square box , but then with curves on one dimension . One one uh very important thing I was uh yeah thinking about is the speech uh option . I think you can just uh match the speech commands with the functions that are already present . But do uh j do we uh do the speech just for the basic options , for the simple buttons ? For for everything , in the in the last uh meeting we uh we were yeah putting the the simple and the advanced options separated . Pressing the the menu option uh will disable uh all other options on your uh remote control . And only the the L\_C\_D\_ panel will uh light up and then you can only uh change the yeah the options . but this is the the the simple uh layout . Uh display on the upper side with the the menu button and maybe a some sort of cancel button or save button . And uh if there are older people they wanted more uh yeah more uh luxurious so that's an a also an option . So we only , we already decided that kinetic would be the choice for energy . Uh the case would be doubly curved . So Rubber material . Advanced chip . Okay . I'm just thinking , this is not my department , but I I'm not sure what this is gonna cost , I didn't get any information about that so Uh do you have a picture of doubly curved case ? This is the the menu I was uh looking uh at . S see this is the the the standard traditional type , where the form uh yeah serves the function , you know . But this m is more appealing to old people and we don't want that . And th that means curved in both dire dire uh dimensions . where your thumbs would be laying in the instrument and it has to be nice to hold . And Th this looks a little bit like like for only for children . So Yeah but that's that's the the problem uh yeah the dilemma actually , 'cause we wanna appeal to the to the young public with fancy with flashy colours , and with a lot of shape . Yeah , and the and the rubber , it it will look cheap always , Okay but the the colours , you you can make it uh make the colours with LEDs uh beneath the the buttons . If you press a button and you can disable the the colour LEDs for for people that don't like it . And this is , this is with the curved that I mean . Well we could make a compromise between that . Uh instead of doubly curved we take a single curved . So to appeal a little more to the all the public . Yeah so we keep it singly c single curved then ? I would go for the double curved . I mean our aim is to make something different right ? And I I'm I'm thinking uh you know uh a drawing palette , where you have the shape for your thumb . but if you if you make it more curved we we can make more and more options for buttons . You can make a trigger button or something like that . and we need something that well that that you can able to use in one hand I think . But from the side you you can have it also in a kind of shape . A little upwards . So that the screen is more So then you have double double curved in some way . How about we do a uh a pop-up screen , like the laptop . If you can uh flip . But I dunno if that's too expensive . Okay so the buttons are on top here , and you flip it over that way . and you can maybe even drop the menu button because maybe if you flip it open it will auto activate amauto uh uh automatically . So okay b but you have t you need some button to flip this open . Well yeah the the idea of it was , is that because you close it , you cover the L\_C\_D\_ screen and it won't be vulnerable to scratches or whatever . We just have to make sure that the closing mechanism won't break . or do we wanna make its shape look like a banana or something ? I think that uh it's a nice design . Yeah so okay we should better choose one sh one shape . So the keywords are primary co colours , spongey ? And ergonomical shape . Yeah . I would give it a female shape I don't know what what colours should the basic print be like ? Like some soft green or something ? Orange or something .

and then and then very bright , uh a yellow banana , an orange , uh a green apple , stuff like that , Yeah w we need very primary colours , like bright red , bright yellow . Yeah but the primary colours w we can uh create with the with the LEDs on the on the remote control . If you make it uh just a yeah bl give it a blue colour , then it's just a neutral colour , That doesn't really work . To draw , I guess . So that's that's a dark blue basic colour I guess . Yeah with some some yellow banana So it not not only in in the colours of the LEDs , that we want something to keep it visible at all times , 'cause I remember from one of our first meetings that uh people lose their uh remote controls often . I mean , the the colour of the background of the display ? So just just a a blue blue backlight or something like that . maybe a maybe a white a white backlight ? But don't we wanna make the background the the bright colo colours ? So th the total of the thing is very bright ? But then then again , which colour should the buttons be ? But maybe the buttons , all buttons in red is maybe a bad contrast for colourblind people . Red and green are actually the b the easiest to discriminate . Even for colourblind . So red buttons are okay ? You better bet better better keep the LED and the button itself in the same colour I guess . what we should do I think is is make kind of a see-through plastic button , with uh one coloured LED behind it . but uh basically you two are going to work on the smartboard . Next thirty minutes to design something so You will do the evaluation . You probably get a mail . Yeah but maybe you can do the evaluation you don't have to evaluate yet but you can make a procedure which to follow . So we're gonna work here ? On this sketchboard ? But we have to do it at this moment , after th this meeting ? Yeah you have uh thirty minutes .

## Complete Meeting Transcript

Hello. Yes, I made it. English from now on. Drawing or Yeah. Ooh it works. Spicy. Where are all the other presentations? The conceptual or Ah. Because I see only my own presentation yeah. This? I'll just put it in there. Or not. Ah, I can't cut and paste it into the other folder but Move to meeting room. Yeah. Yeah me too,. Yeah. Yes. Me first again or yeah. Alright. Did you open it already or no. Ah. Ah. Yes. So welcome to the marketing presentation once again. Um this time about trendwatching. Uh well there has been inv investigation again, in the in the remote control market. Uh it shows a number of developments. Uh I will address them uh in a moment. Um fashion watch watchers uh have detected the trends for young public, because that's our public. Um well fruit and vegetables will be will be the most important theme for clothing, uh shoes and furniture. And the feel of the material is expected to be spongey. So um the developments I will address them oh yeah well this is the fruit and vegetables looks of fresh bright colours. So to give you an idea. Um well the developments? Uh development one. Uh well most important aspect for remote control happens to be a fancy look-and-feel. Instead of the current uh functional look-and-feel. Um well fancy stands for an original look-and-feel of the case and the interface. And the second most important aspect is that a remote control should be technological uh innovative. Um well it stands for the use of technical features that do not exist in current remote controls. I think we pretty much covered that with our screen and um and speech recognition, so I don't expect that to be a problem. And the third development um is that the remote control should be easy to use. Um Well the first aspect uh was twice as important as the second aspect, w which was twice as important as the third aspect. So um that kind of gets you this ratios. So fancy look-and-feel uh is the

most important uh point of attention. Uh so the fruits and vegetables in combination with the spongey material. Um well technolog technological innovation, we've covered that pretty much I guess. Um and easy to use, I don't think that will be problem. So my point of attention is especially this part. That this will be a crux. So that was the marketing uh presentation. I had only one document left. So kind of this So a k a small example. Kind of this this look. Uh nothing about the buttons but just sponge kind of thing, and and some fruit and colours I dunno. Just made a quick design. Alright. Yeah. It's okay. F\_ five. Yeah. Wi an indoors. Oh. Yeah. Yeah. Yeah. Yeah. Yeah. I guess we can only choose one. Yeah. And it's more fun. Yeah, just playing with it and especially when the material's rubber. It can be done, I mean, you can't harm it, so it's a perfect combination I guess. Yeah. So So double curved is like this, this, this, or Mm. Yeah. Also in in height? Yeah okay. Yeah with the programme. And and the and the buttons that you need to control it, I guess. Yeah. Back and okay. No. Rubber material. So that's uh is that is that the advanced chip? Wow. Yeah. Alright. Kinetic. Double curved.. The cost of making it should be twelve and a half? Yeah, so it's cheap. Um well the interface type supplements. If you go to your homepage or something, you should get your own information. I got my fresh and fyoo fruity uh picture uh also uh over there, so No. Too less time. Yeah, also the menu. Yeah that that w Yeah. Yeah I was thinking of that also, with with a with a uh arrow. So that indicates that there's an menu under that menu. So Oh yeah. Yeah. Mm. Yeah. Cool. S underwater uh yeah. Yeah. Yeah.. Yeah. Also a kind of rubber uh Yeah. That should be nice. So s Yeah there's only in in this dimension. Like this. So curvy or not. Yeah so we keep it singly c single curved then? Yeah. Yeah. Yeah. So from top view it looks kinda like this. But from the side you you can have it also in a kind of shape. Maybe because the the screen is on top

you can have Maybe you can c have this kind of shape. A little upwards. So that the screen is more towards yourself, so you can easily see your screen. Well well you have it in your hand so it's a kind of an angle from your eyes to the screen. So then you have double double curved in some way. So this this is so the screen is positioned over here. Oh. Something like that. And the buttons are more, well it's very thick now but That's uh that's Yeah? That that you can press it and then it comes up? Or But then the side view can be straight. If you have a pop-up screen. But I dunno if that's too expensive. I mean maybe it's too much Oh the advanced buttons. Right. Yeah. Yeah. Yeah. Yeah. Yeah. So okay b but you have t you need some button to flip this open. Yeah. Yeah and it says menu and it flips open and then you have the buttons to control it, in combination with your True. It uh c it can go open. An adv an adv and it will be covered in some kind of uh thin rubber layer or something like that. Yeah, uh It's very no it's very strong. Yeah. Yeah the lower part doesn't work I guess, so maybe you should try it over there. Yeah. Yeah. Yeah. Yeah. Yeah. Yeah but but that's optional for later I guess. I mean, we have to make Yeah we we better so choose one Yeah so okay we should better choose one sh one shape. But that's the kind of the idea, so it lays good in the hand, and then on on the side with with your thumb, you you can you can use, yeah, you can use the button option Spongey. Spongey can be reached by means of Yeah. And and the and the control thngs in the middle? The the the arrows? Yeah and then numbers. Yeah. Alright. Uh pretty nice design. Yeah. Yeah it looks uh pretty fancy.. Uh bananas wierd shape and other fruits also, so it's better to have um some sort of basic print and then a fruit print in some primary uh colours. I don't know what what colours should the basic print be like? Like some soft green or something? Or and then Oh yeah yeah, dark blue and then and then very bright, uh a yellow banana, an orange, uh a green apple, stuff like that, with very uh bright tones I guess. So you have something like Yeah. Mm. That doesn't really work. To draw, I guess. Oh. What's this? Right. Hm. Yeah. Two hours further. thickness. Oh. Oh. Wh why not go for the twenty? Yeah. That's what I call

painting. So that's that's a dark blue basic colour I guess. It's pretty nice. And then uh Oh Yeah with some some yellow banana Like. Yeah? How do you mean? Some some Yeah an orange. Well alright well this is more like purple I guess, but it's should be more real dark blue, so the contrast with the with the fruit objects is uh pretty high. So uh yeah. That would be a nice uh nice device I guess. I mean, the the colour of the background of the display? Ah well I don't guess it s has to be a sixty uh sixty six five thousand uh colour, so yeah too expensive. So just just a a blue blue backlight or something like that. Green is too old-fashioned. But blue, blue's okay. J White backlight, and dark. Yeah. Whatever which is visible. I know you sh you should test it under uh under a light conditions. I mean it's hard to tell uh I dunno. Yeah. True. Which which uh colour should the buttons be? Why adjustable? No uh But maybe I mean they have to they have to have some colour right? And if the background is very dark blue Yeah? So more like Doesn't work very well. Uh. More like this colour. And then then yellow and orange and red objects on it or something. But then then again, which colour should the buttons be? The the press buttons. Should they be white or black or Uh Yeah but it's pretty fresh, on the other side. Yeah. My couch is in that colour. Yeah. Well it works pretty well. And then time was up. Uh. That you have five minutes left or So something like this. That should be pretty nice colour. But maybe the buttons, all buttons in red is maybe a bad contrast for colourblind people. Because the of the green. Yeah. Yeah? Yeah. Okay. So red but

tons are okay? How do you mean? Yeah. No that's that's too busy I guess. You better bet better better keep the LED and the button itself in the same colour I guess. So just an extra bit of light and attention. Yeah. Yeah. Alright. Of the product? Which we don't have yet. So wh how should I do that? Oh okay. Or you you or you send it to me. Or just because you are going to design it on this board right? Yeah. I I probably get instruction on that, how to do that, so I make another presentation I guess. I kn I know what's gonna happen in in yeah so I've a basic idea. Yeah. Yeah. Alright so that's uh Yeah. Yeah. Yeah.. Yeah. On the left. S so, yeah. Yeah. This? Uh pretty accurate. Oh we skip this I guess. Sound button press. Light only button user ca user interaction. Yeah. Yeah. So the pl the plastic plastic buttons also help uh because of um they are only lit during interaction. So Well it's a good thing that the buttons aren't um, well that they are plastic, because then you can light up the light on when when they are usable. Maybe you should draw it very large like this. Oh right. Erase? Yeah. Much easier, yeah. I don't see a sign that the meeting is over yet but Yeah. Oh. Wrong one. Alright. But we we I is it if this is from the side woah. Steady. Because there the screen goes up like that right? So then it's like this, or that's not convenient because then you have the screen like this and look like the it's better to have it somewhat like this. Or does it flip all the way? It's better to to have this like this I guess, and then flip it like this. Yeah. So w yeah. But we still keep the flipping mechanism. Yeah. Yeah but maybe Yeah but maybe we we should then Yeah there the middle Sh sh shouldn't we integrate it? And then like i oh th doh. Come on. So this is the shape. Oh. It hasn't Okay but the screen is a bit lower because if it falls on the other side, it doesn't fall on the screen. So there's a layer of rubber on the side. So no flipping but just no. Throwing and the kinetics. Oh. We better make we better make it like this. Eventually. Yeah. Uh they are responsible enough to have a mobile phone, so also to to deal with their uh remote uh control. Yes. Yeah? Ooh. Yeah. Alright. Good. Yeah. We should work in our own room right? Or not? Yeah. Yes. See you two in half an hour uh Okay. I I've got the same problem as well. Oh. No. Yeah. No problem Yeah. No. I I don't mi I don't mind. That's Do you want to go first? Okay. Yeah. Yeah. It's better than than my uh drawing. Yeah okay but I have to design the Yeah. Yeah. Yeah. Pushbuttons. Yeah. Yeah. Yeah. As an optional uh feature. Or combine uh both with a with one uh Okay. And throw it. Okay. Yeah. Yeah. One one uh very important thing I was uh yeah thinking about is the speech uh

option. We were going to use that. Yeah. So um Yeah um yeah that's one thing uh which I'm not sure uh of how to implement it uh into the remote control. No okay but it has to be combined with with the menu uh for functions and So okay. Yeah. Okay. But do uh j do we uh do the speech just for the basic options, for the simple buttons? For for everything, also for the advanced options? Okay. Uh we have this very uh basic uh trendy design. Everybody says it so that's what's uh yeah um Yeah in the in the last uh meeting we uh we were yeah putting the the simple and the advanced options separated. That's yeah obvious. Um yeah. Pressing the the menu option uh will disable uh all other options on your uh remote control. And only the the L\_C\_D\_ panel will uh light up and then you can only uh change the yeah the options. Yeah. Um yeah design has to be very attractive but that's your your op your yeah. you have to uh delete this but this is the the the simple uh layout. Uh display on the upper side with the the menu button and maybe a some sort of cancel button or save button. I'm The back. Back and okay yeah. Uh What? A little bit I think but not not everything w Okay. Oh I uh didn't read that. But But this

is the the basic uh design uh for the for the m yeah for the buttons. Um I wanted to to categorise everything. Uh with a speech display uh yeah, sound, everything you you noted in your uh minutes. Um every pushbutton has uh has its own uh LED light. So you can uh yeah change uh m make it more trendy for for younger people. And uh if there are older people they wanted more uh yeah more uh luxurious so that's an a also an option. Um that was it. Yeah. Yeah.. We're going to produce it in uh China so it's no problem. Uh it's it's quite difficult because we we haven't got all the options uh yeah. Yeah. This is the the menu I was uh looking uh at. Yeah. Arrow yeah. Yeah. S yeah. Yeah. But it has also to it it has also to be uh luxurious uh for for yeah rich people. Th this looks a little bit like like for only for children. So Yeah. The colour Yeah. Okay but the the colours, you you can make it uh make the colours with LEDs uh beneath the the buttons. If you press a button and you can disable the the colour LEDs for for people that don't like it. Yeah. Yeah. Yeah. Very cheap uh cheap look. Yeah but if you if you make it more curved we we can make more and more options for buttons. If you have uh it have it in your hand, you you you are not only um yeah you don't need one dimension but you can use other dimensions for pressing the the buttons. Yeah. Something to shoot at your television Yeah. That's yeah. Okay. Yeah. That's the the more advanced options were uh for the for the menu. But you you want okay. You just want to hide them all? The oh. Yeah yeah yeah. That's but it's it's not it's not very uh very strong uh yeah if you drop it one time. Okay. But when you are left-handed, that's that's a problem. But that's that's very expensive uh Yeah. We we could make some some rubber uh some rubber uh yeah mouse, with which you can change uh and so if you Yeah. Okay. Some yeah. No no no no. Okay.. Yeah. No the arrow's over here. Yeah. Or blue? Dark blue or Yeah. Yeah but the primary colours w we can uh create with the with the LEDs on the on the remote control. If you we uh yeah. If you make it uh just a yeah bl give it a blue colour, then it's just a neutral colour, also for the for the more uh yeah for the people. So that's So that's blue. Mm. Yeah. Yeah. Maybe a Yeah. And which which colour should uh should I give the the display? Uh Or Yeah. Yeah. Yeah. Mm. Yeah. Yeah maybe a maybe a white a white backlight? Dark uh letters, yeah. Yeah. Yeah. That's adjustable. Yeah? Or not. That's how we are going to make it uh more trendy. Or is it uh too expensive? Mm. And it it looks quite cheap, that colour I think. It's it's not Yeah. I dunno. It's it's trendy okay. But Mm. Yeah. Yeah. But the but the buttons have their own LEDs or not? Okay. Okay. That that's a default uh setting. The the red buttons. Okay. Yeah I I was think about a red uh red LEDs and blue LEDs and Yeah. Yeah. Okay. Okay. Yeah. Yeah. But we have to do it at this moment, after th this meeting? Okay. Yeah. Ah so this is basically the what what we are thinking about? Yeah I let's just uh delete all these uh or Oh, next. Okay. Uh Yeah. And then after that we can make the user uh inter interface. Yeah. Yep. Oh no it's it's okay.



Yeah. Yeah. Yeah but this part isn't uh functioning properly. It's a bit uh large.. L let's make first the the all the views. The the front view, side view and the back view. Yeah. The middle has to be very small so you can have it in your hand. Yeah the display, we yeah we can put a display. Yeah. The the arrow functions. Yeah. Yeah. No it's it's uh it's okay. You can make it m larger. Maybe it's easier to to draw uh Yeah that's that's the basic idea. Yeah. Yeah only if you are going to put buttons on the side of the unit. That's the question. Yeah. From the Yeah I'm I'm May maybe it's it's easier to to integrate the the the L\_C\_D\_ screen just into this this bubble. Because it do doesn't have to flip then. Because we have en enough space for for making

a an L\_C\_D. Because here But why why do we need uh the flipping uh Okay. Yeah. Yeah. Yeah. Uh the the shape is okay but yeah? I don't see the the yeah why why we should use the the flipping uh mechanism. Because we Okay yeah. It's it's for for for more trendy uh Because we have enough space. H here we got uh the basic functions, the the arrow uh yeah button. Yeah and then h we sh mm. Yeah, then it's No flipping or you wanted the flipping so But if you if you If you drop it it it just breaks. And it has to be very strong because of the. Yeah kind of And it's also for the for the children, it's yeah for people not sixteen years. But there are more Yeah okay. That's true. Okay. Yeah? Okay wi Yeah. The Real Remote. I think uh it's the sensors. Okay. Yep. Okay that's the side. Ah it's it's okay. But do we want uh options on the on the side with the with the buttons? Or just leave it? Uh could make an uh a volume button uh scroll, volume button. For menu. Or Yeah. No, yeah. Yeah. Mm. Yeah you are going to design it so .. Yeah just testing. Mm? English.. Break is over. Whoo. Spicy. So, he's coming. Oh okay. Ah. She. You can look at the final report, 'cause I have to record everything we are deciding and such, so I'm trying to write it down between everything else. Oh. Yeah. Here we go again. Welcome. Uh we have again three presentations and then we have to decide on what concepts the mobile phone has to uh f the remote control has to support. So who wants go. Yes? Yeah sure. Doesn't matter. No. Mm-hmm.. Yeah yeah sure. No. Cool. Yeah you're just the user interface hmm? Yeah layout. Yeah okay. You probably opened it. F\_ five. Yeah. Yeah okay. Calculator's can do it. Mm-hmm. Yeah. Uh I think you can only fit one uh source of energy on the Yeah I didn't receive any info uh. Yeah. S yeah it's safe. 'Kay next. Uh Okay. Can we uh Yeah. Well the visual representation is not there with speech but you can Yeah. Just yeah. I think you can just uh match the speech commands with the functions that are already present. So I don't think you have to design anything else for that. Both. Yeah. Yeah. Yeah. That would be the back. Back and okay. You did read the minutes I wrote? You did read the minutes I wrote? Oh okay 'cause I pretty much summed up all the buttons there were. So I hate doing work for nothing. Mm-hmm. That was it? Okay. Uh again. Ugh. Okay so what we have to decide is what kind of components do we use? Uh energy source, chip type, case type. And user interface. But I didn't see a clear distinction between these so I think what we have is okay. So we only, we already decided that kinetic would be the choice for energy. Uh the case would be doubly curved. So Rubber material. And that's the only thing we have left. Oh okay. No it's easy. Advanced chip. Okay. Too. Uh I didn't get any info on this. So Yeah. I have total here. Yeah I don't know. I didn't get any information about that so Yeah. Who doesn't. Uh let's see. Is there a new thing? Yeah the interface, maybe can Ooh. No. Uh do you have a picture of doubly curved case? And could you put that in the group folder? Of the project folder. Ah you didn't draw it yourself. Ah. Arrow. Yeah.. 'S the target group. Yeah sure. Yeah. Oh okay. I see. Yeah also like this. So you can hold it.. The children's story. Yeah I've got it. Distinction. Yeah. Mm-hmm. Mm-hmm. Different. Mm-hmm. Camera. Yeah submarine. Well Yeah but this this the is for the. Okay. Uh Ah yeah bright colours. That's singly curved. Okay. Well we could make a compromise between that. But I don't know if it's worth the effort. Uh instead of doubly curved we take a single

curved. So to appeal a little more to the all the public. Mm-hmm. Yeah. Also. Yeah that would be an option. I don't know what you think. Mm-hmm. Okay. Yeah I'd agree. Mm-hmm. Mm-hmm. Mm-hmm. Different. Stands out. Or Oh yeah a one hand uh solution. can turn it maybe. To switch from buttons to interface hmm. If you turn it a little.. Oh yeah. Least you can easily

see it. If you can uh flip. Uh so you have a the the side view. So and you want to be able to make this. Okay so the buttons are on top here, and you flip it over that way. Yeah. Oh yeah. Yeah yeah yeah yeah. Right. Yeah that's good idea. Yeah. No not all because you need most of them, the arrow buttons. But you can hide the okay and the back uh button. And the menu button also because when you flip it open and you can maybe even drop the menu button because maybe if you flip it open it will auto activate amauto uh uh automatically. Why? You could just make it mechanical. If you cover it with rubber. Mm. Yeah. So it can bounce. Yeah okay so that that may work. Okay but then we still have the the the thing of the the the shape. Yeah. What kind of Harder.. Maybe can design two versions. Mm-hmm. And ergonomical shape. Yeah. The female shape yeah. With two uh Oh yeah. Some uh k esk uh yeah. Yeah. Yeah yeah. Yeah. So the keywords are primary co colours, spongey? Yeah. Yeah. Buttons. Okay. I think that uh it's a nice design. It's cool. Yeah. Yeah that's Orange or something. Mm. Yeah. Huh cool. No it's. Yeah it's text. N no you have to exit. You could also make line with uh Yeah. Mm. Yeah. Y Yeah and then on top of that. Some yellow. Banana colour. Yeah if you if flashing colour so you can't lose it, basically. Well I think it's a bit too much but Yeah. Yeah. Who? And then you can use yellow or smething. Why not? Aye. Like this. Colourblind yeah. No so that's mostly red and green I believe. Woah. All all buttons? Okay. It's difficult. Blue. Maybe green. Yeah you can Mm-hmm flashy. Mm bzz. Red maybe. Black. Why? Yeah. So Ooh.. Uh not yet. Yeah within five minutes yeah. Y left yeah left and then uh I have to kick you out. Yeah yeah. They have LEDs but they have a colour. You can make them red. Yeah. But I think you need to keep in mind that the LEDs are just extra light. Uh they they don't determine the colour that much, I think. 'Cause you have to print on them you have a background. Each number is transparent. Uh partly but you have to print on the number. Or the the sign. So you can't change the colour so Yeah. Bit of light. Bit of feedback. Yeah. Yeah. Mm-hmm. Mm-hmm. Okay with Uh Don't mean to discourage you but uh basically you two are going to work on the smartboard. Next thirty minutes to design something so And the You will do the evaluation. Yeah. Yeah uh about Yeah I don't know. You probably get a mail. Yeah. Once they are finished. Yeah. Yeah but maybe you can do the evaluation you don't have to evaluate yet but you can make a procedure which to follow. I don't know. Yeah. Yeah. About. Yeah. You have the basic idea. And you two uh are going to do this. Look-and-feel and Yeah. Good luck. So I uh make new page and uh be creative. Yeah you have uh thirty minutes. Then we have to uh see something which we can uh show to the management. I would yeah. Yeah. Next. Oh and save this uh board. Just save it. Yeah okay but just press save and uh It'll be fine. You can also include clip-art. So if you'll rather draw in paint or something then look. Yeah. Yeah. You can also include it. It's not much work. That's included. Yeah okay. Yeah. Sensitive. I dunno. Maybe just start typing. You also do the other sides. Not only on the front si uh the top side but also the the side view. Uh. Jesus. What do I write down? Why can't I work here? This is much easier. Yeah. Mm. No so I just work here a few minutes. Five minutes left before the meeting ends. Yeah we keep the flip? Keep the flip live. No flipping? It's shaking. Yeah just light on top. Safer. Mm. Yeah okay that the target group. Well. I just uh ended the meeting. You two go design. Oh. By the way. Um I uh thought up a name for our product. Yeah. It's called uh the Real Remote. With a copyright sign after Real. So maybe you can include that somewhere. Yeah. I don't see any power cables here so 'Kay. Good luck. . Just kidding. So annoying. I just put it in the in the shared folder so it

should be yeah I think so. Yeah, conceptual design. What or whatever does it No no no, can you go back one? Uh 'cause it has to be PowerPoint pre yeah components design, that's it.. I did get a bit more done than the last time, 'cause I knew that I didn't have time so I just copy and paste everything into the Sometimes I have these pop-ups or these sounds and there's nothing there, and also with I don't know how to use PowerPoint, so it takes me forever to get something done with it. Yeah. Thi Mm-hmm. Who wants to start? Sound. Yeah yeah uh uh. Yeah. And shall I go first? So I Yeah? Alright. Uh components. Oh no. Yeah true. Um Alright. So I'm dealing with the components design. Um let's see. I uh used some design examples we had uh from similar products. And I used uh possibilities from our manufacturing department about current components which will have to be implemented in the design. That's why I had to, wanted to go first. Well they gave me um an idea about what people want. We're f mainly focusing on this group, but I want to make the distinction clear. Uh I could not drag the pictures into the the slides so s so I don't have examples of how it looks like. But it comes down to what you uh what you think we should do with the spongey and the fruity looking uh type. If you, the young dynamic people want soft primary colours uh, which looks like fruits you know, you can and shapes that are curved and not uh solid straight lines anymore. So this basically um yeah goes on to what you were mentioning earlier. There is a lot of um factors involved in choosing the components. There's a lot of options that we have to discuss. Uh for example the energy source. we have four types. The basic battery. Uh we have a hand dynamo, which we yeah we Dutch refer to it as the kneipgatt. Uh the kinetic provision of energy which means if you move the thing, if you shake it. Which will be fun for toddlers right, if they wanna use the And uh of course solar cells. But I dunno how we would use that into the design of the actual product. So uh my yeah also also in you know countries where there's n isn't much light like in Scandinavia, they wouldn't be y able to use it half of the year you know. So that's not cool either. So um for the uh a case, there's uh the traditional uncurved flat hard case. Single curved, which means that it has uh curves in one dimension. Or the double curved. Um I wasn't able to finish my uh personal preferences sheet, but well you know that we will have to go for the double curved 'cause it's daring and different from what we have now. Uh the case materials. Well we have all kinds of hard uh materials like the the hard plastic, the wood and the titanium. I would definitely go for rubber 'cause it fits most in what people wanna see nowadays. Um poo, this is a lot of text. I wasn't able to organise this yet. We have yeah several uh interface designs. Uh we can use a scroll buttons for the menus, but we already kind of decided to go for the f for the pushbuttons, for the the arrow buttons. So that's not really interesting. Electronics? Yeah, maybe we wanna decide on what electronics to use the advanced chip I think is easiest to implement uh for the production, 'cause they they can print it better. Um Yeah. I think this is about it. Yeah I was working on some per personal preferences. I first uh chose for the battery, 'cause yeah I'm traditional and that's the most obvious, easiest choice to go to. But I really think that we should maybe uh think about the kinetic energy, where you have to move the thing to be able to use it. Yeah maybe we I can imagine that the kinetic uh type energy source would be more expensive to make. But it is more longlasting, that the people don't have to ever buy batteries again. And it's also more fun yeah. I always chuck my uh remote control around, so Yeah y exactly. You don't have to be scared about bouncing it off the g floor and breaking it or whatever. So that's the end of it. Uh go ahead.

No it means curved in two dimensions. So uh w single curved? Uh let's say would be a b square box, but then with curves on one dimension. And double curved would means that it would have curves curves in every direction. Like three D\_. Yeah. Design? I And rubber. Rubber material. Yeah we need the the chip on print to be able to support the the screen and uh and f audio function. Yeah. Yeah. Otherwise you would have a simple chip, just for pressing buttons. But we need more. I'm just thinking,

this is not my department, but I I'm not sure what this is gonna cost, to be able to m So 'cause we need to sell it for twenty five Euro a piece. That's gonna be difficult huh? Yeah. Yeah yeah yeah. Child labour man, we love it. Um let me see. Wait a sec. Yeah I'm going there now. Inspiration. Well Um yeah maybe it's Maybe it's easier Yeah. Yeah perfect. Maybe it's easier if you guys come over here. S see this is the the the standard traditional type, where the form uh yeah serves the function, you know. It's like really basic. But this m is more appealing to old people and we don't want that. This is what we're looking for. And th that means curved in both dire dire uh dimensions. Not only like this but it has to be exactly. It has to be kind of instead of the PlayStation, the module. It has to be like the the Game Cube, you know, where your thumbs would be laying in the instrument and it has to be nice to hold. And It ha Yeah but that's that's the the problem uh yeah the dilemma actually, 'cause we wanna appeal to the to the young public with fancy with flashy colours, and with a lot of shape. And Yeah, and the and the rubber, it it will look cheap always, you know, with the There is mobile phones, in which you can change the colour also of the lights. Maybe we should consider this function. To customise it and so I mean kids can make it look more flashy with different kinds of colours and people who want something, you know, different, or more uh design, they can go for one colour like uh for example this uh photo th camera. Personally I think it's really ugly. Just give me the thing that it's inside there maybe I'm too old for this stuff. Yeah. So those I think are all my oh. And this is, this is with the curved that I mean. Yeah. Yeah? A compromise between what? This, this would be uh single curved uh? Yeah. Yeah. Exactly. Exactly. I think the I mean our aim is to make something different right? To make something new. I would go for the double curved. And I I'm I'm thinking uh you know uh a drawing palette, where you have the shape for your thumb. So it kind of holds nicely, something like that. Well this is really your decision but Yeah. As well. You can make a trigger button or something like that. Yeah or that that is the confirmation button or something, that you scroll with your thumb, with the arrows, and then confirm. That would be a nice way to use it but I mean, yeah, I'm thinking big already, and we need something that well that that you can able to use in one hand I think. Yeah.. How about Mm-hmm. Yeah I understand what you mean. How about we do a uh a pop-up screen, like the laptop. So that the only the simple functions will be visible at first. And then if you want Yeah. Something like that. Yeah. No uh like I would draw it like this. Let's say this is the side view. That you have a a screen that will come up here, and can go down that way. If you know what I mean. So that it would come up like that. Yeah or preferably even keep the simple buttons here, and then under the screen even you could put more more advanced buttons. F for the L\_C\_D\_ menu right? So w w Oh Activate and th the yeah. True. True. But you can make a, yeah, you can make a trigger here. You know a simple uh with a Yeah. Exactly. Well yeah the the idea of it was, is that because you close it, you cover the L\_C\_D\_ screen and it won't be vulnerable to scratches or whatever. And Exactly. Exactly. We just have to make sure that the closing mechanism won't br

eak. Th it's very solid yeah. That actually will offer some extra protection for the Yeah. Yeah I was thinking, if if you have your hand, it this is your th Okay. If this is your thumb, and this is your hand like that. With your uh wrist. That you, that it would be kind of shape like this, you know. So it's easier to hold in your hand, to y f Uh yeah. Yeah of course. Yeah then w then you would have to to make it like this. Like like you drew here. And maybe th then make this thicker also than the centre. Give it I would give it a female shape but uh yeah. Anyway. Obviously. Make it more appealing to guys. I mean Yeah but we have hardware inside, which is so it has to have some sort of basic shape. And also the screen, you cannot mould it. You know kind of thing. Yeah. And then you can You can place the screen here, which can come. And but then I w I would I would do the arrows here, kind of thing. Those buttons? And the simple buttons here, so that I Uh y eah that's what I mean. The arrows over here, and here the

s simple uh or do we wanna make its shape look like a banana or something? I dunno. Yeah. Yeah we could make We should use Yeah w we need very primary colours, like bright red, bright yellow. Yeah. Yeah okay yeah. And how about some uh some flashing standby lights? Like you have on the Samsung, well I don't like to call brands phones, the you know that 'cause I remember from one of our first meetings that uh people lose their uh remote controls often. So it not not only in in the colours of the LEDs, that we want something to keep it visible at all times, or Um Yeah. Exactly. Yeah. Yeah. As long as you loo use uh high contrast between the the background and the foreground colour. So that people with uh with And also for people who are a bit colourblind. But don't we wanna make the background the the bright colo colours? So th the total of the thing is very bright? Like the pictures I showed you guys. Those things were all like like bright red, bright red, flashy. Yeah something like that, something that stands out more. Yeah. The green? It's actually a pretty trendy colour at the moment. Do you get a pop-up if we Alright. No that's actu Red and green are actually the b the easiest to discriminate. Even for colourblind. They will see one of each as grey. But if you use uh green on blue, those kind of colours will look the same. I think. I think so. You can what we should do I think is is make kind of a see-through plastic button, with uh one coloured LED behind it. So that the whole button will shine as the colour the And if you think about easy to use buttons, we have to, well we have to make it the shape so that it's easy to hold f for both hands, but also that you can reach the buttons with your thumb, if you hold the machine. Ah, right. So we're gonna work here? On this sketchboard? Alright. Thanks. Alright. Thirty minutes. Alright. Yeah. Shall we uh make a new uh Yeah, I just make a new one. Alright. Huh? Yeah I'll just I'll just keep it there. Yeah. Uh sorry. Okay. Current colour? So um Shall we make some outline sketches of the basic shape first? Because I I Yeah 'cause I have to uh focus on the on the basic look-and-feel design. So how it's gonna look. And you have to think uh how we're gonna put the screen in it and those kind of things. So if I'm drawing and you think okay I'm not gonna be able to put a screen in there, you have to correct. Uh do you mind if I draw in black then? For normal sketches. so we kind of want the girlish figure. I'm not so good at drawing. Excuse me? No uh uh. How do we uh uh or insert text? Oh that's a bit big. Yeah. Yeah. Ex exactly. Uh Uh I thought for the side view, that the w the basic section would be rather uh a bit thicker than the middle, where you're holding it with your 'cause your fingers have to fit underneath and Exactly but the uh but the upper side has to be a bit more like that I think. Uh don't you think? So the display we will put in here, the basic uh functions i

n here, where it's most reachable. The The th Exactly. Oh. This is hard. What do don't have to draw it exactly do we? Wait. Let me try it one more time. Maybe I've uh it's easier if I draw it in once. Okay, of course it will become way more ugly. Yeah. This'll take forever. It's fun to work with this pen. Um so, larger. And yeah. So side. 'Kay. Um other views? Uh Yeah. Let's fill i fill in the buttons later. So this is gonna be from the uh from yeah yeah. Sorry. Yeah. Yeah? The the idea is that it has to flip up to here. Okay. Yeah. Yeah yeah yeah. True. you can adjust the angle to which it flips. So it can also from this angle, it can flip all the way up to there. You can flip it up to there if you want. Think so. Yeah because I think it will feel weird if you would make this smaller and this bigger or something that I dunno. I thought it would be cool.. It doesn't aim so well. Yeah yeah yeah. Definitely. Yeah I guess but uh I mean most votes count right? Yeah. Yeah true true. Yeah. Yeah if you if you're going for the kinetics Yeah. I'm just thinking totally different designs also. Remember that the weird pocketphone thingy which looked like kind of a Gameboy. Maybe we should try something like that. But yeah. Oh right. Alright. Yeah. I like it. Okay. This can go. Oh yeah we have to f uh include that in our design as well. Let's see. What the hell's that? Uh Yeah. I think we do. Yeah or j or also scrolling for the m yeah. Yeah? I dunno. We w kind of

wanted to stick with the Yeah I'm just thinking, if we i we wanna make something different right? So the with the scroll is is more futuristic than the standard arrow buttons. I think.

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# Meeting ID: 0

Data Source: Train

## Executive Summary

like before we uh I have to redo the meetings from n th the minutes from the last meeting It should have nine channel buttons , a next button , volume buttons , subtitle buttons , switch to control features , colour contrast , sharpness etcetera . Uh speech recognition is one of her very f favourite personal uh features she would like see d d to be integrated in this um in this new remote . The industrial designer um presented her uh thoughts on the issue . She would like a special case made out of plastic that is very strong , not using any harmful materials , should be recyclable and should be colourful . uh scrolling method is more expensive and not that practical anymore . The marketing expert uh who has to finally come up with to to to market this product has been watching the competition , has done some research on the internet and also has used h her personal observations to come up with the fact that such a remote sh should be small , easy to use and it should be eye catching . And the decision that we took last time was that uh the special feature we would like to see is a speech recogniser , should be trendy design , compact and strong , This is a model of the remote control which we are going to build . Uh this is us in a snail shape so uh it is attractive it's blue in colour Uh and also compact in shape . Um the material is plastic and uh for the buttons it is uh s soft rubber Now we have included another feature that is the mute button Now uh we have included the switch on and off button . Then we have included one to nine buttons We have also included two buttons for increasing or decreasing the volume . Now our our model also contains a button which is called as the menu button . We have also included a button which is called as the swapping button . And then um uh for the for the led , for the light emitting diode it is a fluorescent green And at the end , it this remote has inbuilt voice recogniser which c which will recognise the user's voice and then it'll act accordingly . what I really like a lot about it is that you can reach the whole thing with one thumb , I like the idea that the on-off button is in a really prominent place . The colour's very attractive . Yes , it will have uh these buttons will have the numbers and all the rest of the buttons will have symbols . and one more feature is we we have a holder for this remote which is an oyster shape . A shell shape . I think voice recognition is our big selling point I think we have to , we have to dwell on on on the appearance . I'm supposed to make a little presentation , aren't I ? No , now this was our evaluation criteria which we uh just have done . Ah , but in my instructions I think it said I was supposed to go to the board and do something . Well , there is a production evaluation . But that's after the financing . Okay now on the financing we bring up the Um kinetic source so

that's in the energy source that's all we need . Uh electronics , simple chip on print ? I guess it's double curved . And then we have to interface push buttons . Eight , eight point two . looks like we are well within budget . Now we would like to have a presentation by the marketing expert on production evaluation . And I think we should show this prototype to people from various age and socio-economic groups And show the the prototype to consumer research groups , Okay , now the things that I was thinking and th my wish list has really been realised in this prototype . And functionality I put last on my list because people aren't going to use it before they buy it . Okay , so um the shape um I think is a a one . And our colour I think is great . so I would say that we got to a five out of seven on on functionality . Um I just realised one thing . In the financing there was no room for our voice recogniser . I mean maximum we have another four point three euros I mean four thirty . So we're just gonna have to settle for whatever quality that will buy us . Um and we're supposed to talk about those things as a team now , uh one being good and seven being the worst . Yes I think uh shape is one . And how about on size ? I think I would give it at least a two . Colour , I gave it a one . One , one , one , okay . And how about the feel ? I'll give three . Uh maybe two , And the next is functionality I'll give it a three . It looks like we've got got ourselves a pretty good product . Here is what we looking at uh satisfaction on for example room for creativity . Is there more room for creativity or are we absolutely happy ? We can always improve , yes . so I think I I mean we can just have small buttons and more buttons in that case . If we want to have more features than that . Well then again if we're gonna um do the speech recognition thing we're gon there gonna be some buttons that are gonna have to be added for that for the recording of the the speech . maybe we can eliminate one of the mute buttons , instead of having two mute buttons . Uh , um are we happy with the creativity that has passed here personally I think uh I'm pretty happy . and then the next question is are we happy with the leadership of this project ? I think you've done a good job , Miss leader . Yeah I d I do too I think we worked well together as a team , yeah . Mm-hmm . Yeah maybe we could've used the whiteboard a little bit more , yeah , I think we we did , uh in more than one respect and uh so I think we did very well here . So I I thank you all very much .

## Complete Meeting Transcript

Hello. Designer. Yes. Yeah. Just the look like, the button part I'll explain. Okay. Now the um we decided upon including certain features on our remote. Now these features includes the s um signal emitting uh signal it's the led or L\_E\_D\_ the infrared. Now uh we have included the switch on and off button. Now we have included another feature that is the mute button on the side of the model. Then we have included one to nine buttons for controlling the programmes the different channels. We have also included two buttons for increasing or decreasing the volume. And we have also included two buttons for scrolling up and scrolling down the programme channels. Now our our model also contains a button which is called as the menu button. Menu button. Yes, menu At the centre we have included a button which is fluorescent green colour and this is the menu button which will control the colour, sharpness, brightness of this uh picture. We have also included a button which is called as the swapping button. Now this is uh a special, special feature which we have included. Now this button is an elongated



shaped button and this is slightly flexible so if it is turned towards the right it will take to the previous channel, if it is turned towards the right it will take to the next channel. It will take the user to the previous and the next channel so this is a swapping button. No, swapping is if if example you're you're watching the second channel and then you go to the tenth channel and if you want to go back to the second channel you can swap, this button. Yes. And at the end, it this remote has inbuilt voice recogniser which c which will recognise the user's voice and then it'll act accordingly. So this is our proposed model. Now the marketing expert has to give her suggestion whether it'll be sellable or it'll be cost effective. Yes, yes. Yes. Mm. Abs okay. No, these the front buttons which are here, are the mute buttons. Yes, yes. Yes. Pardon me? This is the menu yes, yes. A the the these these two are th to increase or decrease the volumes, and these two are to uh scroll the programme channels. Scroll up or scroll down the channels. Yes, it will have uh these buttons will have the numbers and all the rest of the buttons will have symbols. Yes, which can be easily recognised. Yes. Yes. Yes. Yes. Yes. Yes. And and one more feature is we we have a holder for this remote which is an oyster shape. A shell shape. Yes, yes. Yes, snail shell. Yes. Mm-hmm. Y Yes Yes. Yes. Yes. Single curve? Mm. Plastic. Is this for the case? Yes. Yes. Yes. No. Speci Yes Yes d we do have special form. One two three four five six seven eight nine Nine points, okay, yes. Okay. On the desktop. Okay. Fee selling. Yes. Okay. Okay. Yes. Yes, yes. Yeah mm. Worse, okay. One. One. One. Yes. I'll give three. Two. We can always improve, yes. Yes, features. Yes. Voices. Yes. Yes. And maybe Yes. Yes, yes you've done a good job. Whiteboard more, yes, yes. Yes. No. Yes. Cel celebration yes, yes. Thank you. Okay. They say it's forty minutes. Okay. Hello. Yeah. Yeah. Uh so this is our what uh we have made. This is a model of the remote control which we are going to build. Uh this is us in a snail shape so uh it is attractive um and it's it's blue in colour uh bright and uh it has yellow buttons and all the different colour buttons so it is a uh uh a looks-wise it is beautiful. Uh and also compact in shape. Uh um and also i it will be easily fit into into the hands and you can access all the buttons easily. Yeah, oops, sorry. Um yeah and um uh the material which we are going to use for the case is uh plastic and uh w which which is s strong um uh and also uh for the Um the material is plastic and uh for the buttons it is uh s soft rubber um and als yeah. Yeah because uh uh you'll be touching the buttons more so it is soft when you touch it. And then um uh for the for the led, for the light emitting diode it is a fluorescent green and it's a a it is a bulb like an ordinary in

frated. And and the button button's part uh will be explained by F Francina. Tell, yeah. Mm-hmm. Mm-hmm. Hmm. Mm-hmm. Ah. Yeah, definitely. Yeah. Yeah. Yeah. Yeah. Yeah of course, and also Hmm. Yeah. Yeah we can Text. Text that we can have on the case itself, we can it will be printed on the case and symbols as well as the buttons. Yeah. Yeah. So it is yeah, yeah shell. Mm-hmm. Mm. Yeah, of course, yeah. Mm. Mm-hmm. Mm. Mm. Mm-hmm. Mm. Yeah. Yeah. Mm-hmm. Yeah, yeah. No. Yeah. This is a Yeah. Yeah. I think uh that is uh f for rubbers that is uh yeah case material. Mm-hmm. Yeah. Yeah. Uh, I think that's the price. Maybe it is it just n Yeah. AMI. AMI should for Yeah. Mm-hmm. Yeah. Mm-hmm. Mm. Mm-hmm. Mm-hmm. Yeah. Yeah. Mm-hmm. Yeah. Yeah. Eight twenty so We have um four euros, yeah Yeah. Yeah. Yeah. Yeah, yeah. Yeah, still. Yeah. Included, yeah. Hmm, hmm Yeah, even my yeah, shape is one. Yeah, even I think it is one. It's quite small. Yeah, one. Uh maybe two, yeah. Uh three, mm-hmm. Yeah. Maybe we can yeah, include some more buttons and uh um yeah features. We can make the buttons few buttons smaller. Uh I think they are quite big, so I think I I mean we can just have small buttons and more buttons in that case. If we want to have more features than that. Yeah. Yeah, definitely. Mm-hmm. Yeah, definitely, yeah, two mu mute buttons. Hmm. Mm-hmm. Yeah. Mm-hmm. Even I'm happy. Yeah. Yeah, yeah, definitely. Mm-hmm. Yeah.

Yeah. Yeah, probably. Yeah. Hmm. Yeah, many. Yeah. Ah. Yeah. Yeah. Thank you very much. Do we do we have some time left? Uh you have Oh, alright. Hello Mm-hmm. And she was challenged on that point Okay. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Good. You used to have all the buttons Oh that's good, no, that's nice and friendly. Mm-hmm. Mm. Mm-hmm. Mm-hmm. Mm-hmm. Okay. Yeah, okay, mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm. Menu button. Mm-hmm. Mm-hmm. Of the screen. Mm, mm-hmm. The next channel in the numeric pattern, or Yeah, mm-hmm. Mm. Okay, okay. Okay. Mm-hmm. Okay, well um what what I really like a lot about it is that you can reach the whole thing with one thumb, that you can really hold it in one h you don't need two hands and it's easily reachable even for somebody with a small hand, yeah? The buttons are all raised and if you hold it in the centre of your hand you can even reach it over here so you don't have to turn it around, turn it upside down, move it up, up and down, I really like that. You really did a good job on that, my little designers. Um and um I like the idea that the on-off button is in a really prominent place. That's that's a really good good thing. Yeah, that's great. Mm-hmm. The colour's very attractive. Um the um these buttons uh around here are the mute and these mm-hmm On both sides they're mute? So you can push either one? Okay. And this brings the menu up on the screen? This brings the menu up on the screen and the orange ones are Okay. F f okay. Right, very good. Uh it looks mm looks like something I can sell. Okay and now I'm supposed to yeah. Yeah. Good point because we need the symbols 'cause we're going into an international market we can't have anything that's language dependent. Symbols on it. Mm-hmm, mm-hmm. Mm-hmm. Mm, 'kay, mm. Mm-hmm. For the snail, yeah, mm-hmm, we have the snail shell. He goes right back into his shell. Well you know I think we could do something really funny with this too because the snail is known to be slow and we could have some sort of little comic effect on our marketing about how this is a rapid snail or something like that you know that would, that would really work. So I think voice recognition is our big selling point 'cause nobody else seems to have that in in this price range. Yep uh well I think that everybody's gonna say their remote control is practical. I think we have to, we have to dwell on on on the appearance. We're really gonna have the be the cutest remote control on the block. So I think we have to play with

the image, play with the snail image um play with the visual and then the voice recognition. I think those are the two things to push. The look and the voice recognition. They're gonna be our two selling points. I'm supposed to make a little presentation, aren't I? Okay. Ah, but in my instructions I think it said I was supposed to go to the board and do something. No? Yeah, that's me. Oh, okay. Sorry, sorry. Mm-mm. That's right. Can you just fill it in in the yellow boxes? Or Well. I guess it's double curved. Mm-hmm. Rubber, because we're gonna have the soft buttons. Oh okay, the mm-hmm, mm' kay. Mm-hmm. Mm-hmm. No, 'cause we didn't put the clock in it after all, right? Mm-hmm. Yes. Mm-hmm. Yeah. Mm-hmm. Mm-hmm. Okay, I'll take my file down so you can bring it up. 'Kay should be able to get it now. 'Kay, why don't you move just to the next slide right away. Yeah right away. Okay, well uh obviously my method for uh s m the marketing of this thing is first to ask the big question, will it sell? And I think we should show this prototype to people from various age and socio-economic groups and see about any fine tuning that maybe little things we haven't thought of. We can't accept every suggestion of course, but maybe we just need to get a few. And show the the prototype to consumer research groups, we don't s want somebody to suddenly come to us and tell us that this button is toxic and you know some child will swallow it and then we won't sell any. So we have to get some input from those people. And then after that we just have to go with our best intuition and you know we like it, we think it's good, we're gonna get behind it and sell it. Um, next slide please. Okay, now the things that I

was thinking and th my wish list has really been realised in this prototype. I wanted the shape to be biomorphic, I didn't want anything with angles and all square, I wanted it to be comfy and roundy so we've got that. The size is small, the colour's bright and warm which is what we wanted. We wanted the feel to be as soft as possible, we'll have the soft buttons and the way this is shaped, even though it's gonna be hard plastic, it feels good in your hand so that's nice. And functionality I put last on my list because people aren't going to use it before they buy it. So paradoxically the other features, in other words, the look, the feel um and the shape, that's what people are gonna get in the store. They don't have a television in the store, they can't play with it. Um so they'll be our main selling points. So um th those have been fulfilled by your prototype and go ahead to the next slide please. Okay, so um the shape um I think is a a one. That's really, really excellent shape. The size is small um and th these points are in the importance for the, for the marketing, these aren't i in how I feel. I think that it's I think that it's plenty small enough to sell but I think we're sort of right the scale is one to seven. I think we're sort of right in the middle as far as c other competitors. And our colour I think is great. The colours are bright and warm and we really do great job there. And given um the constraints that we had I think we got it as soft as possible. And then functionality um I think you did a really good job on functionality, obviously we could have ad added different functions but then we'd disturb something else so I would say that we got to a five out of seven on on functionality. So I think that basically we've got a great product and we can get off and running with it. Yes. Ah. Well, um we had what, eight eight euros twenty as our cost? And so we've got we've still got four euros to go to spend. Mm-hmm. Well um that's Mm-hmm. Well as we know in today's technic technological world you can do just about anything at any price, the the the problem is quality. So we're just gonna have to settle for whatever quality that will buy us. And um it may not be the greatest quality but it may sell anyway. As we've seen with so

many of these kinds of products. Uh, well I isn't this my last slide? Maybe. Go ahead. I think that was my last slide, yeah. Um. Mm okay. And I'm supposed to present this scale on the whiteboard. Um and we're supposed to talk about those things as a team now, so if you put my last slide back up there. I'm sorry I've um forgot to do that, um. Hmm? Well because I can't remember what I put on there. Okay. Now I'm supposed to see how long my leash is here. Mm 'kay. You ready. So now we're all supposed to say what we think. Um okay so on shape I gave it a one. Wait what would you ra uh one being good and seven being the worst. Um what do you think the shape is? One, okay, and Be Betsy? Okay, uh-huh one, okay. And how about on size? On size I gave it a four, yeah, I feel it's just average. Okay. Mm-hmm. Okay. Okay you're the designer, of course you wanna give it a one. Um and then how about how we doing on colour? Colour, I gave it a one. I really like all those nice bright, warm colours. One. One, one, one, okay. And how about the feel? Taking into um consideration texture and comfort in the hand. Okay, I gave it a three, two, yeah? Three. Two, okay. And the next is functionality where I I admit I was a little hard on our team here, but Yeah. Mm-hmm. Okay. Two, okay. Three? Okay. Well, um. It looks like we've got got ourselves a pretty good product. Um the functionality's the only place where maybe we have to think about m m maybe, heaven forbid, having another meeting. But um otherwise I think we're we're ready to go to go with this product. Anybody else have any other comments or any other things that we feel we should evaluate? Mm-hmm. Well then again if we're gonna um do the speech recognition thing we're gon there gonna be some buttons that are gonna have to be added for that for the recording of the the speech. So that that's where we're gonna have to do maybe we can eliminate one of the mute buttons, instead of having two mute buttons. And um then maybe we can do something with the um the volume control. Maybe we can put that all on one button. Um and a couple of other th maybe comp uh consolidate some of the usage an and see what we can do with that.

Mm-hmm. No. Mm-hmm. Mm-hmm. I'm pretty happy with it too, yeah um, it's something I think I can market. Yeah. I think you've done a good job, Miss leader. Yeah I d I do too I think we worked well together as a team, yeah. Mm-hmm. Yeah maybe we could've used the whiteboard a little bit more, yeah, we didn't use that enough. Mm-hmm. And we used the slide because it was better positioned. Mm I think that's true mm-hmm. Mm-hmm. I think we were we were very good, yeah, mm. Mm-hmm. Okay. Yes, yes. Celebration. Today we have apple juice and after we sell m million of 'em we have champagne. Mm-hmm. Mm-hmm. Mm-hmm. Okay. Okay. Watch I I have my cord behind you here. Okay. But we we were told we could end the final meeting at any time, whenever we felt we were finished. It'll take me the rest of the time to get my microphone out from my necklace. Oh, there we go. Well hi everyone again. Um like before we uh I have to redo the meetings from n th the minutes from the last meeting and so here we go. Uh it was discussed in the last meeting uh which was opened by the presentation from the interface um designer that uh looks would be very important on this new remote and um it is to send messages of course to the T\_V\_. It should have nine channel buttons, a next button, volume buttons, subtitle buttons, switch to control features, colour contrast, sharpness etcetera. It should have a memory switch, a mute button in case the telephone rings or something. Uh speech recognition is one of her very f favourite personal uh features she would like see d d to be integrated in this um in this new remote. Um. Should be child friendly design with few buttons, colourful maybe with s star shaped or other shaped buttons. Um she uh presented also an oversized remote which she guarantees nobody will ever be

able to lose. Um that's right. But uh her very f personal favourite really she, she would very much like to see a speech recogniser integrated in this remote. The industrial designer um presented her uh thoughts on the issue. She would like a special case made out of plastic that is very strong, not using any harmful materials, should be recyclable and should be colourful. Should have an integrated circuit board that's highly sophisticated and temperature resistant. She would like to see a timer and or alarm facility integrated. Uh technically this thing would also have a resistor and a capacitor, diode transistor, resonator, and if possible a rechargeable battery. Uh and of course a circuit board. And how it would work, you press the button, the chip is morse morse code related relays the uh to the generat to the generator amplification and uh the circuit board is very inexpensive to build and so she thinks this is a great feature uh to to to consider. She would like uh this whole thing should be push buttons with a simple chip uh scrolling method is more expensive and not that practical anymore. Should be battery operated and of course she would have the special cases. The marketing expert uh who has to finally come up with to to to market this product has been watching the competition, has done some research on the internet and also has used h her personal observations to come up with the fact that such a remote sh should be small, easy to use and it should be eye catching. From her point of view of course one of the most important facts is that we should get to market before our competition does. To do that uh maybe one or two features should be developed on which we could dwell on or in other words on which our campaign could be built on. Too many new features or too many points would only confuse matter. So we prefer to have one or two features that can be really uh driven home. Um it should have a fruit and vegetable design and should have a soft feel. She feels that's really what people want today. And the decision that we took last time was that uh the special feature we would like to see is a speech recogniser, the energy should be battery uh should be on a chip, should be trendy design, compact and strong, and should have buttons. And that concludes the presentation from the last minutes from the last meeting. Now uh we are ready for the presentation of the prototype. Mm-hmm. Mm-hmm, mm-hmm. Mm-hmm, mm-hmm. What kind of button? Menu? Uh menu th menu, uh one one. Okay.

Mm-hmm. Mm-hmm. Yes the buttons are all raised, right? Are raised, mm-hmm. Right. Or have two hands to operate it, yeah. Yes, and it sort of sticks up so that you really you don't have to go first go like oh yeah here it's on and yeah, mm-hmm. So if you're left-handed or right-handed it doesn't matter. Well, I have one question uh will there be anything written on the buttons, like that people know, or they have to learn that from a piece of paper which button does what? Will have symbols so that that the user really knows you know and doesn't have to first learn it Yeah. But anyway it would have to have some kind of symbols, text or something so that people know That's right. Okay, yeah just wanted make sure of that mm-hmm. Right, mm-hmm. Mm-hmm. Right. Now what, what are our special features for the marketing? That's really the voice recognition that's really unusual And then, and then the other thing would basically be shape or practicality of use. You know. Colours. Mm-hmm. Cutest. Yeah. Okay, now uh having said that No, now this was our evaluation criteria which we uh just have done. Now we're gonna talk about financing. Well, there is a production evaluation. Is that you? But that's after the financing. See? Fi see? Um. Okay, we had looks and voice recognition. Okay now on the financing we bring up the mm there it is. Okay uh energy source we say that's battery, right? Okay, now. So we I guess we use one. What? T cell or chart

you are trying to change is protected. Well, that's nice. She told me I could just change it here and then it would It doesn't work. Hmm. Oh, okay yeah, okay, let's see. Okay, one, okay. Oh go away. Um kinetic source so that's in the energy source that's all we need. Uh electronics, simple chip on print? Is that's what we're using? One of those? Come on. Okay, one. Uh regular chip on print. No. That's all we need, the one case, uncurved flat, single curved, double curved. Double curved? One of those? Case materials supplements. Plastic we said, right? Uh wood, rubber? Uh but, yes but That's just for the case material, so special colours though, we having that, right? And then we have to interface push buttons. Scroll wheel, no. Integrated scroll wheel, L\_C\_ display? Button. No. Uh, button supplement special colour? Special form? And special material, rubber, wood, yes. Okay. Total seven point six whatever that means. That's the price. Mm? Eight, eight point two. That's hmm? Eight point two, right? So, we looks like we are well within budget. Okay. I guess I should save this I suppose, huh? Oops. Uh-huh huh huh. I just tried that. My documents, computer. My compu Ah oh here it is, yes. Okay, fine. Save. Okay good, so that's the good news. We gonna be popular. Um. So that uh I think financing was pretty simple. Now we would like to have a presentation by the marketing expert on production evaluation. You wanna go to the next slide? Okay. Um I just realised one thing. In the financing there was no room for our voice recogniser. And uh I don't know how we can evaluate that or how we can include that, too. Eight, eight twenty, yes. I mean maximum we have another four point three euros I mean four thirty. But I mean we have no way of presenting that to management as you know as a finished, as a finished product and saying okay with the voice recogniser that costs so much. So um we just have to beware of that. I mean and know whether the four thirty will really cover that. Yeah. I'm sorry to interrupt then but I just uh recog I just remembered that there was no that that was not um included uh that there was no room for any special features, okay? So to beware of that. You wanna go to this next slide, marketing expert? I dunno. Yes it is. Mm-hmm. Oh. Why? Why you need that up? I think you can make it there. Yes I think uh shape is one. You you gave it a four. Um, I dunno. I think I would give it at least a two. Colour uh I One. I like the colours. One. Uh, I think I would give it a two. Well it's also you can't really try it out uh the other things you have have more is are more tangible so from that point of view but um I'll give it a three. Uh. Here is what we looking at uh satisfaction on for example room for creativity. Um. Is there more room for creativity or are we absolutely happy? Y um al always bearing in mind that right now we are of course well within the budget and that we still you know we probably

can't, with this particular item, we probably can't just uh add a whole lot of more things. Uh um we need uh you know we need to leave space money-wise for the voice recogniser. Um. So th the question really is how do we feel with the project process? Uh, um are we happy with the creativity that has passed here or we're not happy with the new product we created or that was created? Uh I think personally I think uh I'm pretty happy. Um an and then the next question is are we happy with the leadership of this project? Uh And I think team work I think was very very good, I think we really yeah. Mm-hmm. And uh I think we are we happy with the means we used? We used whiteboard, we didn't use digital p well digital pens I guess are these things. Yes, we could. Uh, it's maybe not in the best position in the room um you know like sometimes it's positioned so that it's much better visible for everybody and I think from that point of view we sort of ignored it a little bit. Yes, I think so, I think absolutely, and fortunately

we all had slides presentation which made it a little easier. Um did we new did we find new ideas? I think we did. I think we we did, uh in more than one respect and uh so I think we did very well here. Are the costs within budget? Yes, yes. Uh is the project evaluated? Yes. Um then celebration. So I I thank you all very much. Um, I think this was very good and um I think we did come up with a new product that's uh feasible. Feasible from the production point of view and feasible from a marketing point of view. So, thank you. I always get it on here, but getting it off is Ah yes we have time later but we don't

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# Meeting ID: 113

Data Source: Train

## Executive Summary

Um first of all , um if you make minutes yourself as well , uh like Sebastian does , um could you put them on the shared folder ? Ease of use is important , but uh innovation is more important , and a fancy look and feel is uh even more important . And uh some fashion watchers have found out that the young target group likes fruit and vegetables in their uh clothes , shoes and furniture , and that they want spongy material . I assume they just want something colourful . Not uh specifically uh an apple as a remote control or something . the corporate colours are grey and yellow . Maybe soft material or something . But not a real sponge . maybe it rubber or uh like cell phones , exch exchangeable covers . You could make a few v very colourful ones , and uh a very traditional co cover . a few interface I uh I found on the internet are are these . but they're very advanced and very high-tech and just um , well , a weird um shape . But we could make uh a round uh an oval uh um remote control . Uh yellow . And what I'm thinking about , maybe um we should make very light but um uh a grip um I mean this is how you hold a remote control . There are there are also remote controls who have uh a little shape underneath where you can put your fingers in , in this um interface we can have uh high-tech with the voice recognition and uh , well , the the fancy colours and uh and so on , and still have the ease of use , We have the uncurved or flat case . Uh that's the most common uh remote con control form uh We have uh a curved one . Uh and we have an even more advanced uh shape , which is curved in three dimension . We can use plastic , uh which is the same for rubber , We can use wood and titanium . we cannot use the titanium on the double curve cases . And these latex cases , there's there's just the plastic ones uh won't allow the use of solar cells as an energy source source . we even seem to have uh hand dyn dynamos for uh powering our uh remote controls . Uh there's there's also a kinetic energy supply . I think um , if if I can hook on to that , um the kinetic thing is very funny . But if you're watching a movie , how many times uh you take the the remote control and and But uh the problem here is that it it supplies a a very little amount of kinetic energy . but maybe maybe there's a possibility com to combine it with m uh traditional batteries , because I guess the voice recognition feature u consumes quite a f uh a lot of power . And we of course have the traditional uh solar power , um of course we have the push-buttons and uh we also have scroll-wheels . And these scroll-wheels can also be integrated with buttons . Um uh in the indicators we have the L\_C\_D\_ displays , we can just make four push-buttons in a form of a round . Yes . That is possible too . Yes . I can't see uh any uh scenario where you would use a

scroll-wheel with a button on it . Um with uh maybe a channel selector . What about integrating a scroll-bar on this side ? Yeah , uh that's a possibility , There's no scenario where you use uh the button in the scroll-wheel . this is my volume button . And I can either on this side or this side um And click it to muten the device . So it might attract uh the young customers . it's it's been done years ago and I don't see it anywhere now . So in that case uh the volume button on the side uh of the remote control would be perfect . Yeah , yeah . Okay . Uh we have a simple , regular and advanced chip . And there is something like a sample sensor and sample speaker , Uh in the voice recognition you say a word you can programme words like uh v uh volume up . Of mute , let's say mute . and uh when you speak in the the remote control , it repeats uh your saying . It performs the action . d did we already decide on the display ? Especially when when we have to look at a cost , I don't think uh No . I don't think you need it . I thought um the market would like uh a sort m sort of titanium casing , but they seem to like natural uh stuff . Um I've chosen the more battery with solar cell uh solution for the energy . The kinetic thing it it's it's a possibility . but I'm I think you should combine it with batteries . it's maybe a bit too too flashy , So it it needs to be rubber . the younger people liked soft material . But they really need the regular chip , if you if you stick with the the simple uh straight-forward uh not curve design , i uh it's too dull . And um if you uh take the double-curved , uh then you cannot um you can only use the rubber buttons and you cannot use the scroll-wheels . But but do we want the curved uh uh design , So I think this is the best of two worlds . what about um the issue I um addressed at the beginning of the meeting ? Um the voice function w with the infrared uh issue . It's it's uh I uh I can imagine it's very dull to talk to a device w if you have to point to another device . But most infrared uh remote controls don't have to be pointed at all . it depends on your walls actually . Um I suggest we use the the sensor sample . Uh the sample sensor and sample speaker . Um with a with a regular chip . And and the scroll uh scroll-wheels . Yes , yes . And uh skip and skip the L\_C\_D\_ part . Yeah . according to Ruud , the the the market likes um new flashy technology , Because if we do have enough um space in in our finance , I would say do integrate it , But we already have the scroll-wheels , the sp uh the speaker uh the speak recognition , the rubber , the fancy colours . Yeah . Okay , I I agree . Um then the corporate identity should be uh in the product . I guess that is something for Roo and Sebastian . Uh you talked about it before , the colours , grey and yellow . The next phase , um Sebastian , um is um the design of the look and feel . The user interface design . And for you , the product evaluation . Um and uh the I\_D\_ and the U\_I\_D\_ need to work together on the prototype drawing on the SMARTboard . can you uh give us a summary of all uh decisions we've made ? The casing is curved , single-curved . Traditional batteries uh and solar . Yeah , with colourful rubber . What about uh the finishing of the case ? Uh if it's possible with uh different um covers , and I think we should use the company colours . Something like black and red . uh black and yellow . Yeah , although I don't think that's very colourful . Except for the yellow of course , It's quite modern actually . I was more thinking about the fruit colours that the Ruud showed us before . um you must have a red uh on and off button . Um so maybe it shouldn't even be two colours , it should be a full colour cover with such an image but uh I'm afraid it's not possible to print a picture on uh the device . The scroll-heel . Yes , the voice recognition we already decided . But there will be some additional buttons , I guess . because they're they're rubber too . Uh didn't did we inc uh include the digi digits or uh leave them to the speech recognition ? What I said in the in the first uh discussion , uh the digit six on the button , it will disappear when it's from rubber . 'Cause things like uh volume could be



uh placed next to the button . So still then , if you feel uh li uh if you feel your remote control , you just rub on the cover , so you rub on the painting . What about um making this rubber and making this plastic ? we should have it the other way around , I guess . A plastic cover with rubber finishing . I'm I'm not so sure , I have to ask with manufacturing , Um I guess you two have to figure that out . We use the regular chip ? Regular . Uh I think our customers will go insane . So if you want the spongy feel , you need uh to make these buttons all all of rubber .

## Complete Meeting Transcript

Hello hello Mister P\_M\_. Well, that's where the thinking goes on. I think you should punish him. You're the P\_M\_. Possibilities, yeah? Yes. So Not at all. Okay. Just press the okay button, it works. How surprising. Oh wait uh wait up. Uh so do you think um when fruit and vegetables are important for clothing and shoes that they are in remote controls also? Not something dull. Okay. But can you can you go back to that slide? The uh just one slide back, no no no. Yes. Okay, and the feel of the material has to be spongy. Has it something to do with that uh natural feeling also, do you think? Okay. It's quite interesting. Yes. I don't know the phone, but I can imagine it. Oh, that one, yes. Now I kn uh oh, I know, I know. Yes, I I've seen it. I've seen it. So So ease of use is important, but technology is twice as important. And what was even more important? Okay. So that's the most important thing for our customers. Mm-hmm. But it's it's kind of uh it's kind of o organic, so that's very good. Yes. Slippery. You have to grab it. Yes. There are there are also remote controls who have uh a little shape underneath where you can put your fingers in, so you can get a really good grip on it. So you you don't have to um attain much pressure to it. It's it's a lot easier. So m Yes. But I'll I'll go into that deeper in my presentation. Okay, but I'll I'll go into that, because there are are some possibilities and some impossibilities. Um I had a talk with uh our manufacturing uh division, and uh we had a talk about all the different components um who are in this design. Uh these are the things we've looked at. And of course I used the web to uh find my information. About the casing, we have three different casing possibilities. We have the uncurved or flat case. Uh that's the most common uh remote con control form uh we're used to is just a it ju it's just a box. I'm sorry I I don't have any pictures of uh of this thing. We have uh a curved one. It's uh curved in two dimensions. You have to imagine it's a bit like a wave form. So it's uh a little more advanced in its in its shape. Uh and we have an even more advanced uh shape, which is curved in three dimension. I c I think you can compare it a little bit with the uh big grey image uh you had in your presentation. The the big remote control, something like that. But it's quite uh advanced and it's it's quite daring to to use I think. Um for these casings we have uh different types of finishing. We can use plastic, which is uh very slippery and maybe not so nice, but you can give it any colour, uh which is the same for rubber, but it's not slippery. We can use wood and titanium. Well, um we cannot use the titanium on the double curve cases. And these latex cases, there's there's just the plastic ones uh won't allow the use of solar cells as an energy source source. Which brings me to the different energy sources. Um well, we even seem to have uh hand dyn dynamos for uh powering our uh remote controls. You really have to imagine like winding up your uh I d It would be very new, but it's a kind of a retro uh style, I think. Uh Well, this is quite interesting. Uh there's there's also a kinetic energy supply. So um when you're watching T\_V\_ uh or when you're you you have to um make some kind of energy kinetic energy by shaking the remote or throwing it against the wall, whatever you wish. It have it it has

to move, that's the the sense of it. And you can store the energy in the in the thing. Mm-hmm. It's very funny indeed. Mm-hmm. Indeed. Mm-hmm. Yes. But you know you know from your own watch your watch uses uh a minimal con it consumes a minimal amount of energy. the the shaking of your body, which is almost uh every activity makes your uh body shake, uh it charges it. But uh the problem here is that it it supplies a a very little amount of kinetic energy. So I think uh you have a problem when you're watching a movie and uh you haven't moved the remote uh i remote control in a in an amount of

time, and you want t to switch uh the channel or something, well, m it might not work. So that's something you have to keep in mind. So, but maybe maybe there's a possibility com to combine it with m uh traditional batteries, so we can save on the batteries and um when there's enough kinet kinetic energy, use the kinetic energy, and otherwise use the batteries. Uh yes, it does. I'll come to that later. And we of course have the traditional uh solar power, which is just uh uh uh uh uh a piece of material on the remote control which transfers light energy into electricity. The user interface controls, um of course we have the push-buttons and uh we also have scroll-wheels. And these scroll-wheels can also be integrated with buttons. So it's just like a mouse. You can scroll 'em, you can also push it. Um uh in the indicators we have the L\_C\_D\_ displays, which means uh you can watch uh in a display w which channel you have chosen or something like that of the li amount of volume which is uh currently uh and we also have double scroll-buttons, which are just two of these things. So we don't really have the the kind of button we had in mind in our uh uh in our last meeting, the the thing with the the round with the four Yes. That is possible too. Yes. Mm-hmm. Well, mayb uh well, m me neither. Maybe when you integrate some functions. Uh it's do it's done before. Yes. It's quite quite good, yes. Well, it's it well, i what he means is there's an button integrated in the scroll-wheel. There's no scenario where you use uh the button in the scroll-wheel. You just use the wheel. About mute. Well, yes. Okay. Yes. Well, okay. Well, that that that's one possibility, okay. Well, okay. It's quite goods. Mm-hmm. Yes. Hmm. But it's done before, uh there are many other devices um like uh telephones and our uh radio, pocket radios. We use this. And Well, it's it's been done years ago and I don't see it anywhere now. So maybe it's not no. Hmm. Yes, but it uses two separate buttons. It doesn't use a. Well. Uh something for uh Roo here. Wi within reach. Yes, you have to. Yes. yes. Yeah, yeah. Okay. Okay, um we have to know, if you want to use uh these rubber double-curved c uh case, um you must use these push uh push-buttons. There's no way you can integrate L\_C\_D\_ displays. There's no way you can integrate scroll-wheels, because it's all curved. There's there are no uh flat areas where you can incorporate these things. So that's a limitation. About um the components, uh just the hardware. We basically have uh three types of chips we can use and uh these chips incorporate all the Logica and um um uh hardware that is needed to send uh to send a signal. Uh we have a simple, regular and advanced chip. And there is something like a sample sensor and sample speaker, which is a little cryptic uh to me. But I think that's the the voice recognition thing that we are uh thinking about. Mm-hmm. Okay. Okay. So so okay. Mm-hmm. Yeah. Okay. Mm-hmm. Okay. Okay. Okay, so that's basically the the voice recognition item we were searching for. Okay. This sample sensor uh requires an regular chip, I thought. Um no op I'm not very sure. No, it's not in here. If we want to use the L\_C\_D\_ display, we really need the advanced version, which is a bit l little bit more costly. If we want to use the scroll-wheels we need the regular version. And if we don't want to use uh any of these uh more advanced functions we can keep with the simple uh chip, which is a bit cheaper. Okay. Um no, but I think that's something for uh Roo here to think about. I I don't think either. No. I don't think you need it. Okay. Okay, well my conclusion, um unfortunately the market has decided the a little uh other than I thought. I thought um the market would like uh a sort m sort of titanium casing, but they seem to like natural uh stuff. So maybe we should think about uh wood

finish. Um I've chosen the more battery with solar cell uh solution for the energy. It's more reliable, it's cheaper. So I do

n't think we should use the dynamo thing. The kinetic thing it's it's a possibility. It's it's more advanced, but I'm I think you should combine it with batteries. Otherwise it will not too advanced, uh well. It's in in some way it can give us an advance, because you will save on your batteries. But Yes. And I think it's more robust. It's more uh Uh it's more functional. The titanium thing uh we have to skip it. So I think we should skip the titanium uh stuff, and we should uh use wood or something like that. Oh okay, sorry. So it it needs to be rubber. Okay. Okay, spongy materials. Okay, um well um these scroll-wheels, I think uh they they can be they can be handy. So Yes, they can. But they really need the regular chip, you cannot use the sa simple Well, I'm not very sure. Maybe that's an uh a different I think so, if you if you stick with the the simple uh straight-forward uh not curve design, i uh it's too dull. I don't think c our customers will like it. And um if you uh take the double-curved, uh then you cannot um you can only use the rubber buttons and you cannot use the scroll-wheels. So I think this is the best of two worlds. Yes. It's it's uh I uh I can imagine it's very dull to talk to a device w if you have to point to another device. It's very unlogical. Well the there has to be some pointing at. But All lights get absorbed, yeah. Yes, because the walls they they reflect the infrared light. So it has an it's easier. Um I suggest we use the the sensor sample. Uh the sample sensor and sample speaker. Um with a with a regular chip. I think uh it gives us the advantage of Yes, yes. And uh skip and skip the L\_C\_D\_ part. I don't think it it's any uh value added thing. So Okay. Technology. Yes. It's not very flashy and new. Mm-hmm. Mm-hmm. Yes. Uh I think our customers will go insane. It's it's too much. Okay. Uh the n the next phase will be um the um not the what is the next phase f Flores? Okay. So i Okay. Okay. Okay, okay. Yes, they can work. They cannot work with double-curved. That's that's problem. I'll check it for you. Yes. Mm-hmm. Okay. Okay. So you will be on the Bahamas. Uh Okay. So can you uh give us a summary of all uh decisions we've made? I'll do. Okay. W start with the casing. Okay, single-curved case. Okay. What about the energy source? I I think they can. Yes. Well, uh It it should be. There should be really no problem. They can be supplementary. That's no problem. So So uh uh just uh the energy source is um the batteries and the solar. Okay. What about uh the finishing of the case? We have decided we wanted to use the rubber? Okay, and I think we should use the company colours. Something like black and red. uh black and yellow. Grey yellow, okay. Oh, I think it's uh it's not very dull. It's quite modern actually. Don't you think? Hmm. Okay. Okay, but uh I'm afraid it's not possible to print a picture on uh the device. Because uh I agree it would be nice to have have something like that on the device itself. But Oh, I've read. Yes. Yes, but our manufacturing department is not so advanced in its uh techniques. They're actually very slow in its techniques. So So I'm afraid it's not possible. Okay, so scroll-wheel. But there will be some additional buttons, I guess. And th the they should be spongy also, because they're they're rubber too. Well uh you can use well, when you use the buttons, they'll they'll be made of rubber too. So it has th the spongy uh feel also. So I I think that's okay. Yes. That's okay. Yes, the signs. Uh I see what you mean. Well, maybe that's possible, because um uh our manufacturing division also offers plastic finishing. So maybe they can combine these two. Yeah. Mm-hmm. Well, I'm I'm not so sure, I think it c should be Well, I'm not sure, I have to ask with manufacturing, but I'm I'm not sure that's what you want, because our customers specifically ask for the spongy feel, and that's what you get with rubber. So if you want the spongy feel, you need uh to make these butto

ns all all of rubber. I think both. I do. I think Okay. Um not quite. Um what about uh the chips? We use the regular chip? Okay. And Well no, I think that's about it. Yes. The only difference between the advanced and the regular version is that the advanced uh version of the chip supports L\_C\_D\_. That's

all. And we've decided not to use L\_C\_D\_. So Okay. Okay. I'll put it online. Do you need to change anything on it? Because otherwise I will already open it. Okay. Is it much changes? Uh I didn't No no. I do not have Only the same information. Hello, Sebastian. I believe uh Miss uh Tentel is with us as well, in the control room. Oh, it's that Roo again, always late. Bongiorno. Hmm. I see some interesting okay. People, welcome back. The third meeting. Um I have some points I would like to uh some some issues I would like to point out. Um first of all, um if you make minutes yourself as well, uh like Sebastian does, um could you put them on the shared folder? If you do not make minutes, no problem, but it's easy for me to see what you uh wrote down, so I could uh can uh um use that in the in the report. Um the second thing, um I was th uh s thinking to myself, I have this little remote control, and I'm talking to it, but I still need to point to the television, because it works with infrared. That's quite strange. Okay. We'll come to that later, I g I think. Um the agenda for now uh uh are there any pre-discussion questions? Okay. Um we wi we will have your individual presentations, uh then the decision on the remote control concept, um and uh the closing. Forty minutes in total for this. So um I think we we can immediis immediately start with the individual presentations, um the progress you've made. Um I think it might be smart to look at uh Ruud's um information first, because I understood there are some uh significant changes in the market situation. Um yeah. Uh w wait a sec wait a se uh could you go to the previous slide? Um because I'm taking minutes and it Um were the important themes enclose. Yeah okay. The feel of to be spongy Okay, so so, yeah, it might not be t uh it it shouldn't be too hard. It it maybe it rubber or or yeah. Okay. Yeah. Well, that's interesting. You could make a few v very colourful ones, and uh a very traditional co cover. Yeah, yeah. Yeah, it is, it is i yeah. Yeah. Do you know the phone? It's the Siemens uh C\_ twenty five, I believe it's it's the one the Post-bank uh gave away, the very You kn you know, Ruud, as well? About th Okay. Okay. Um uh okay. Do you have uh thit that was Okay. Okay, so the the m uh important findings are uh innovation is more important than ease of use for the our target group. And um colouring is important and and uh soft materials. Okay. Okay, Roo, could you do your presentation? Okay, well it's good to to sum up uh the things we already thought about. Shape. Yeah. And what I'm thinking about, maybe um we should make very light but um uh a grip um I mean this is how you hold a remote control. Um it shouldn't be too uh glatt, too slippery, s because um Yeah. Yeah, exactly. Yeah. Yeah, ex for your fingers, yeah. Yeah. It grips automatically. Yeah, okay. Okay, good. Yeah. Way too much I think for our goal, yeah. Okay, b but I think we'll yeah. Okay. Well, it would be very new to the market, but Yeah. I think um, if if I can hook on to that, um the kinetic thing is very funny. I mean solar is of course it's nice, but it's, well, your uh your calculator has a solar panel. Um hand dynamo Well, maybe m Yeah, I know. Yeah. Yeah. And wha Okay. Yeah. Okay, because I guess the voice recognition feature u consumes quite a f uh a lot of power. Yeah. Okay. Well This will be the remote, right? Um with uh maybe a channel selector. What about integrating a scroll-bar on this side? Because this is how you keep it Volume? Well, what about mute? Thi i i m I guess uh th this is my volume button. And I can either on this side or this side um And click it to muten the device. And and it makes it

different from the traditional uh devices on this market. So I'm looking for a way to uh make it a little different than the traditional ones. So maybe um I guess that that's something you two uh need to think about. Uh Ruud, wha what do you thing about uh a scroll-bar? Uh scroll-wheel. Okay. Yeah. Well, all the Sony telephones use it, for example, for volume. Nokia has a well, okay, it's not really a scroll-wheel, but on their side th the the volume button is on the side, because you gri grab it like this. Yeah. I know, it's not really a scroll-wheel. No. Yeah. For you too, yeah. Okay. Sebastian. Um Yeah. It performs the action. Yeah. Yeah. Okay. Uh well uh d did we already decide on the display? To No. On

screen display. Yeah. Okay th Okay. Good. Kineti okay. Okay, it's maybe a bit too too flashy, too yeah. Yeah, but that that's the same with the solar cell. That's no different. Yeah. Okay. No no, but the uh um that's what Sebastian said. He said uh this is what uh this is my personal preference. But but yet, I understood that the market is different. So um No, r rubber with colours. Colourful and Yeah. But but do we want the curved uh uh design, or I it's too dull. Yeah. Yeah. Okay. Okay. Okay, what about um the issue I um addressed at the beginning of the meeting? Um the voice function w with the infrared uh issue. Because it it's of cour Yeah. Well It depends also on your on your Well, it depends on your walls actually. If you have uh have um smooth walls, it it it probably you're probably right. But if you have carpets on the wall, which our natural loving friends probably do have, then um yeah, th th it might be a bit more of a issue. So Yeah. I like the scroll wheels uh idea. Yeah. Well, it looks uh yeah, well um according to Ruud, the the the market likes um new flashy technology, and I mean L\_C\_D\_ is well, ok I know, but it's m it's less um s standard than than Well, we are not very w we do not know uh much about the the f the financial part. That's the problem. Because if we do have enough um space in in our finance, I would say do integrate it, because it it adds a little ext extra high-tech feeling to it. Mm yeah. Okay, okay. Yeah. Okay, I I agree. I think i Ruud, do you have any um anything you would like to um add or or maybe thoughts or No? Sebast uh nee, Roo? Roo, do you have any other Nothing more. Um Sebas Well, we we need to describe uh decisions now. So um on the energy, well, we decided. Chip. The case uh rubber with uh c one one uh one curve. User interface um Um then the corporate identity should be uh in the product. I guess that is something for Roo and Sebastian. Uh you talked about it before, the colours, grey and yellow. Keep it in mind. And um the buttons, well we talked about it now. The next phase, um Sebastian, um is um the design of the look and feel. The user interface design. And for you, the product evaluation. Um I'm sure your personal coach will give you more information on that. Um and uh the I\_D\_ and the U\_I\_D\_ need to work together on the prototype drawing on the SMARTboard. And I'm going uh to plan my holidays. Yeah, it's it's uh when we come back in thirty minutes, uh you will have a uh prototype ready. Yeah? I can. Um maybe one of you could write it down. Great. Um Uh you you need to help me. Um The casing is curved, single-curved. Traditional batteries uh and solar. No, they can be complementary. Uh al al I uh Every device Yeah. Okay, um th Battery and solar, yeah. Yeah, with colourful rubber. Uh if it's possible with uh different um covers, but I'm not sure if our suppliers can uh can help us with uh with such uh uh a wish. Uh grey and yellow or black and yellow. Yeah. Yeah, although I don't think that's very colourful. Except for the yellow of course, but um I could think of a more uh attractive uh c uh set of colours. Well, I was more thinking about the fruit colours that the Ruud showed us before. Well, it it doesn't have to be red. Uh I mean th uh I think these colours are rea

lly what our young people are looking for. Um so maybe it shouldn't even be two colours, it should be a full colour cover with such an image or or I mean thinking in two colours is is too black and white for our m uh c uh market group, I guess. Black and yellow, yeah. Okay, so we have to deal with wh what's possible here. Yeah. Okay. Um more f more more decisions we made. Um Um The scroll-heel. Yes, the voice recognition we already decided. Yeah. Uh I'm going to leave that up to you two. Yeah. I think rubber is nice. Because it uh i I mean what do you touch the button, and what do they want spongy uh uh devices, or or i. Uh is that uh does our our supplier say so? Yeah. You could place a um uh this this would be the button. The scroll-wheel, I mean. And you could place the indica th th the signals the No no, there's no painting, only uh yellow or But it's into the rubber. Yeah, but this is on the pla yeah, I know. Um I think uh I know which you understand af uh I know what you mean. What about um making this rubber and making this plastic? Yeah. Well actually, we should have it the other way around, I

guess. A plastic cover with rubber finishing. I mean, this is this is the finishing. This is um what's on the edge. What you feel. But the front, on which the the buttons are doesn't have to be rubber. I mean I know, but do you touch this or do you touch this? I mean, I I never touch between the buttons. Yeah, the side, exactly, the sideways. The side, but do you touch between the the these buttons? Okay. Well, we do not have very much time uh left. Um I guess you two have to figure that out. I'm going to leave the decision to you, um because you have to make its prototype, and um yeah y you have the most knowledge about the suppliers, the possibilities and uh so I'm going to leave it the decision with you. Um Sebastian, did you write enough decisions down? Yeah. Okay. With those regular chips we can still uh control advanced functions. The chip is is not really Okay, well. Yeah. Okay. Um okay, then I think we are uh quite finished. Um I'll see you guys in thirty minutes and um Yeah? Yeah, um if you write wrote anything down, uh could you put it on the shared folder? Yeah. I know, but well Great. Right. Um Mm, don't think so. Unless uh things have suddenly change again. Uh don't know. Maybe uh you've got new information, like uh last time. Okay. Oop. No. 'Kay. Hmm? Oh.. Yeah, Okay. Yeah. Yeah. My method? Well, findings. Uh Ease of use is important, but uh innovation is more important, and a fancy look and feel is uh even more important. And uh some fashion watchers have found out that the young target group likes fruit and vegetables in their uh clothes, shoes and furniture, and that they want spongy material. Probably watch too much Sponge Bob. Uh the older group uh still prefers dark colours. Simple shapes uh m material. But we since we are concentrating on uh the younger group 'Kay. Well, uh one example given was this, so um I assume they just want something colourful. Not uh specifically uh an apple as a remote control or something. No, uh the younger group likes uh more colourful uh objects. But Which one? This? Yes. Uh well, it might. But personally I wouldn't like a sponge as a remote control. But Maybe soft material or something. But not a real sponge. Yeah, exactly. Yeah, and like uh the older group likes familiar materials, but that doesn't mean we should use wood, So Well, this this is an example of what they would like. But since we're conten concentrating on uh the younger group, I think we should use soft materials and uh make it colourful or uh like cell phones, exch exchangeable covers. So we could provide both for the young and the old what they like. I've seen it, but 'Kay. Uh that's about it. Yes. Uh soft material. Uh the fancy look and feel. Yes. Apparently. Yeah. Um Uh well, it's obvious obviously new. So it might attract uh the young customers. Hmm. And yeah, the yeah, the older people liked wood. No the Yea

h, the younger people liked soft material. Yeah. Yeah. Standard? Nah, um n no, I don't think so. M Hmm. Or black and yellow. Yeah. Uh didn't did we inc uh include the digi digits or uh leave them to the speech recognition? 'Cause things like uh volume could be uh placed next to the button. There the icons. So you don't touch the icons that much. Bongiorno. Punish. You wish. Welcome. Uh Yeah. No. Alright. But they like dark colours, you said in the p Okay. Well then I suggest that the corporate colours are grey and yellow. I had Or we could make oh. Yeah, o o I'm thinking about uh the Bananarama telephone uh telephone from uh Siemens. The yellow uh rubber telephone. It's the it's the rubber uh cover. And it's uh colourful. It looks likes a banana. We have the fruit, we have the colours. We have the simple design. Um thirty five. And the b the light blue and it's also in yellow. Yeah. Mm-hmm. Well, I don't ha really have much to add, um because most of things we already said in uh the previous uh discussion. Um Uh the previous ideas were voice recognition and uh the round button for uh the p channel programming and uh volume. Well, a few interface I uh I found on the internet are are these. These are both with uh with voice recognition, but they're very advanced and very high-tech and just um, well, a weird um shape. So I suggest I couldn't uh I had a small uh mock-up uh sign on the on paper. But it didn't work. My pen didn't load um the information. So I made a really simple f uh a shape

on uh in um PowerPoint. But we could make uh a round uh an oval uh um remote control. Uh yellow. But if you have something like uh the Siemens phone, it's rubber. So it's easy in your hand Uh indeed. Yeah. Great. Oh and um to add on um Ruud's information, in this um interface we can have uh high-tech with the voice recognition and uh, well, the the fancy colours and uh and so on, and still have the ease of use, because we have an easy interface. And all the other remote controls are high-tech in buttons and uh and so on. Yeah. So if you have the voice recognition, you can you can programme like thirty uh um thirty c uh controls on it. Yeah. Right. Great. Like the watch. But if you're watching a movie, how many times uh you take the the remote control and and if uh if you have a watch, you have the kinetic uh idea in a watch also. You you walk and uh but uh you you're sitting on a couch. Mm-hmm. Mm-hmm. Oh, we can just make four push-buttons in a form of a round. But I th I don't think uh the scroll-wheels I had some I had some information about it too. I don't think there's any possibility for us to use scroll-wheels. I d I can't see uh any uh scenario where you would use a scroll-wheel with a button on it. Yeah. Yeah, uh that's a possibility, but But Flores, think about a scenario where y where you would use the scroll-button for A volume, okay. Yeah. Wheel. Yeah, I believe uh if you have uh what we've earlier said, um the grip uh places in in the remote control. You have your hand on one place on the remote control, so you have to place all the buttons in a range of your thumb. So in that case uh the volume button on the side uh of the remote control would be perfect. Yeah yeah, you can um I have some information about it. Uh in the voice recognition you say a word you can programme words like uh v uh volume up. Of mute, let's say mute. Um you programme it, you m mute and you g you give um an uh an action to it that that's really the mute function and uh when you speak in the the remote control, it repeats uh your saying. So that's the sample sensor. So if you say mute, it says mute again, and then it's um well, I believe it's uh Yeah, and then uh he he repeats its action what which he believes it is. So you say mute, he repeats mute and you makes a computer sound mute, and then goes to the mute function. Yeah. Well, I don't have um I haven't looked for uh for information about it, but I don't think information uh y I don't think you need it

on a display. Especially when when we have to look at a cost, I don't think uh 'cause uh uh all any T\_V\_ can uh can uh view a digit on uh on screen, yeah. But what about um the markets uh wants colourful designs? So if you use titanium Okay. Oh, sorry. Yeah. Yeah. And I would think And they can be implemented with a regular chip? Okay, but we also uh we already need the regular chip for the sample uh sensor speaker oh, evalu But most infrared uh remote controls don't have to be pointed at all. Well, if you if you take your hand before it, okay, it won't work, but you can point it just to the other wall. Yeah. And the regular chip. And and the scroll uh scroll-wheels. Yeah. No. Think so too. But we already have the scroll-wheels, the sp uh the speaker uh the speak recognition, the rubber, the fancy colours. Um no. Nothing more. Uh but uh can't scroll-wheels uh work with one uh one-curved case? Yeah, okay. Sorry, yeah. Oh, sorry. Yeah. Yeah. The project drawing is for the next Yeah, right. Single-curved. But can there be uh wor can they work together? Or do we have to choose between them? 'Cause if we have to choose yeah? Okay. What if not? Okay. Yeah. Grey and yellow. Yellow case and grey buttons, I think. I believe the But you have already um you must have a red uh on and off button. And um Well well Well, there is. Just a week ago, a keyboard manufacturer would print, with and uh No. A scroll-wheel. Voice recognition, of course. What what did you say? Yeah. Yeah, or you could use plastic buttons. In the rubber. Yeah, b But then you just have the the fact that um the drawings on the buttons will disappear eventually. What I said in the in the first uh discussion, uh the digit six on the button, it will disappear when it's from rubber. It is not uh something uh it's no information I read about it or so, but it's just from No, but but uh it Yeah, b yeah. Yeah, that's possible, but then you have still the images on the rubber of

the case. So still then, if you feel uh li uh if you feel your remote control, you just rub on the cover, so you rub on the painting. Yeah. Yeah, but but the the plus or the minus. You have to draw the Yeah, it's on the cover. So if you uh You just move the problem. Y uh can you separate these uh these I do. Or the s uh the sideways. Or the the back. Or the back. I think Yes, especially when there are I a few buttons on it, you have uh a lot of space to touch. So you just have it in your hand completely or or i you play with it. Yeah. Yeah. Regular. Use with.. For the finishing touch. Uh yeah. But um Sebastian has everything.



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# Meeting ID: 96

Data Source: Train

## Executive Summary

So today is um our third meeting . It will be about the conceptual design uh . um . We decided not to go for speech recognition technologies because of some reasons and we are not decided about u the use of L\_C\_D\_ screen on on the remote control because of costs . Uh at the end of the meeting we should take decision on that point . So each of you have some presentatio presentation to perform I investigate deeper the preference of the users . What I found in order of importance from less to more important is that people want an easy to use device . After they they want something new technologic technologically speaking , what they what they find more more interesting , more or more important it's uh a fancy look and feel instead of uh instead of the current the current trend which was f the functional look and feel . So now more more cool aspect , ma more a cooler aspect uh rather than a device with many functions and many buttons with instead of i instead of ha of a device which can do many things , a device which is pleasant to to watch , to see . all this fashion it's it's fruit and the the theme is fruit and vegetables . And also in the in the U\_S\_A\_ the the current the mor the most popular feeling it's it's a spongy . What what do you mean by fruit and vegetables and spongy ? I didn't miss and I saw that the fruit , there are many fr pictures of fruits and vegetables in the clothes . So we're not gonna have a remote control in the shape of of a banana , Vegetable textures and all this kind . So I ha I haven't thought of any particular fruit , but the general aspect of the of the remote control may may could remind some kind of vegetable , instead of vegetable , some natur mm uh natural object or something . or you want just some kind of like fruit logo on the No , not n not not too much focus , not too much focu not n not too s not too similar to a fruit because next year the ten the trend the trend will be different . I'm not , I'm not really sure if uh that would really appeal to everyone though , like maybe just like a little bit n a little fruit picture somewhere in the corner , Is fruit cool ? Okay , but it has to be easy to uh to use though and to hold you know , Well , probably the only thing is a banana that I can think of , a cucumber . Maybe too long . and you you you will not have pla enough a lot of place to put a L\_C\_D\_ on a banana also . and also it's I'm not convinced about this L\_C\_D\_ Uh do you want a an L\_C\_D\_ with twenty five Euros ? you're simply looking s to a remote control that looks like a banana with few buttons with only a few buttons . Okay . So I received an email um around lunchtime letting me know that the brilliant minds at our technology division had developed an integrated programmable sample sensor sample speaker unit , So you are User Interface guy . It means that it can recognize , it can do like a

match on a on a certain phrase that you speak and then can play back a phrase in response to that . I guess you could build that in , you could you could link the the recognition of a certain phrase to some function on on the remote control . but it basically means we c we can kind of consider this from uh you know uh a theoretical or usability kind of viewpoint without worrying too much about you know how to develop it because we have this already done . Is this a technology that recognize keywords speech keywords ? it's it'll recognize uh I guess keywords , but you know keywords in a certain order like a phrase . So this is not s really to do to do control . It's designed it's designed as a fun kind of thing , yeah comp completely pointless for the inter for from the interaction point of v point of view . So this is out of discussion . I think it doesn't really add much to the functional design and it's it's it's not mature enough to use as a speech recognition engine , so I've just done a quick mock-up of uh uh some of the features of our potential funky-looking uh remote control But um , I've just indicated here , we could have actually two scroll wheels , But I think it's important , you know , to have two scroll wheels because , you know , you want one for for the channel , but you also want one for for the volume , I've also included this turbo button because I think , you know , every design should have a turbo button , so with this turbo button you can , say , skip over t channels if uh , you know , if I'm if I'm going if I'm scrolling past them but I mean we can discuss about what other kind of buttons we need , um . it's just you know a couple of scroll wheels and a button cause it's hard to get so many buttons on a banana well , I guess you need an on and off switch , but you could you could o you could turn it turn it on by taking the top off the banana maybe , you know , So i it looks like we're going completely to forget about the L\_C\_D\_ thing . I I think we could use somehow the s coffee machine dialogue interface or so . No we can we can't use that . Well , I f I think it's probably more than , than our can handle because it's designed for a coffee machine , you know , to say hello in the morning . I don't I don't know if that speech recognition is , you know , even if we can do it , I think it's not really appropriate for uh television environment . It might be useful to have some kind of base station , even if it's just you press on a button on it and uh and the remote control starts beeping , you know , this is a way of finding the remote . So this is going to be about the component design . So first thing is we need power source for the remote control . So I was of the idea that we can have two kind of power supplies , one is the usual batteries which are there , they could be chargeable batteries if there's a basis station kind of thing and on top of that we can have solar cells , when the lighting conditions are good they can be used so it'll be pretty uh innovative kind . Then uh we need plastic with some elasticity so that if your if the remote control falls it's not broken directly into pieces , I guess that fits in with the spongy kind of design philosophy . and then it should be double curve . The s science for the ease of handling and there are some other issues why we need double curve . with plastic you can have double curve but with uh certain other materials we cannot have double curve . but plastic is I think is the most appropriate one , it'll bring the cost down Yeah but it's more easier to do a banana in plastic than uh in wood . but are we set on the banana idea ? the shape of a banana is not it's not really handy . Yes it is . Yeah , okay , so capsicum or pepper . Yeah . I don't know , it seems a little bit kind of bulky to me , like But like a banana you can you can be holding like this and have the scroll wheel kind of on top Okay , so push buttons for the traditional users so that they don't feel they are alienated , Then uh there are different kind of chips , one one is the basic chip and the regular chip and one an adva advanced chip . Pricing is a factor for us , that's why we'll go for the regular chip . So are there any issues where we place this this chip

to make sure you can actually hear the the speaker from the outside of the banana ? Uh , so we can have it at one of the boundaries so that things are slightly better . or as hearing is concerned , we can have some gap at some place , so our T\_V\_ remote can have little extra things to support additional devices like V\_C\_R\_ D\_V\_D\_ players which are usually attached with the T\_V\_ , It depends , if we like , if we are concentrating on like a fruit design , then maybe maybe we wanna sell a collection of fruit , you know , like a different fruit for each device . So you're having the basis station and there is a button , if you press that button wherever the remote it'll start beeping so you know where the remote is . Uh I think that's a pretty handy feature . Yeah but I'm a bit worried about the budget . basis station is nothing more , just it's a wire which is coming from the main cable and uh you're having one socket on which the thing sits . L\_C\_D\_ has already been ruled out , A\_S\_R\_ has been ruled out . I'm just wondering actually , 'cause , you know , I this whole fruit thing with the banana , it's um it seemed like it first seems a bit kind of uh niche , like only a few people would really want a banana , but what if it was kind of uh a stylised banana ? You know , rather than having it kind of you know yellow and really looking exactly like a banana , you could make it kind of silver . If you make something that looks like a banana it should have the colour of a banana . maybe like still in the shape of a banana . Um , but you know , just maybe maybe not exactly the same texture as a banana Before before st before ending the meeting I'd like to to draw some sketch about the pro future prot prototype . So we need to take some de decisions about um about what we're going to do . so we're going for a stylish banana shape . We'll have a base station extra uh on the side . Uh , we have a R\_F\_ for um for beeping for beeping . So we that means we need a button on th on the on the basis . and your tur turbo turbo uh button . Yeah , which I think it's it's probably best actually on the on the underneath of the the device , And and you have two wheels . Oh we need a we need a power um on off switch as well . Well , I dunno if the traditional user is gonna buy a a banana remote But you know our targets are very high , means fifty million Euros is the profit which we want make . You have to uh work on the look and feel uh design and you have to work on the user interface , in fact you two you have to work together to model the first uh f first prototype . Uh Marketing Expert uh have to go to product evaluation .

## Complete Meeting Transcript

Afternoon. Yeah, we had falafel. Mm-hmm. Spongy means it it's like sp But what's your suggestion how we can have some shape like that on the remote? Mm-hmm. Means buttons are in the shape of fruits, buttons are in the frape shape of fruits or something, apple, banana, something like that. Mm-hmm. Mm-hmm. That we can discuss afterwards. Banana. Mm-hmm. I don't th it will be rolling a lot. But it's just a speaker right? It's not a microphone. Mm-hmm. Actually I'm not reading microphone there, so that's why you can all have conversation, it just to speak to you. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm, mm-hmm. Okay. Mm-hmm, mm-hmm, mm-hmm. In-house. Mm-hmm. Mm-hmm, mm-hmm. Mm-hmm, mm-hmm. Mm-hmm. Yeah okay, let's go ahead. Stable thing, that's right. To have, mm-hmm, mm-hmm. Mm-hmm, mm-hmm. Mm-hmm. Mm-hmm. Communicate. It's one way. Mm-hmm. Mm-hmm. Yeah, that's right, yeah. So it's a speech synthesis kind of thing, something has been uh

stored and it's just uh spoken out. Mm-hmm. Yeah. That's right. That's right. So this is going to be about the component design. So first thing is we need power source for the remote control. So I was of the idea that we can have two kind of power supplies, one is the usual batteries which are there, they could be chargeable batteries if there's a basis station kind of thing and on top of that we can have solar cells, when the lighting conditions are good they can be used so it'll be pretty uh innovative kind. Then uh we need plastic with some elasticity so that if your if the remote control falls it's not broken directly into pieces, there should be some flexibility in t Yeah. So there should we should think of something like that and then it should be double curve. The s science for the ease of handling and there are some other issues why we need double curve. Then controls for the traditional u traditional users we can have the push buttons so that they don't feel that it's an alien thing for them. Double curve is, you have curves on both the sides if I'm right. So it's symmetrical kind of thing, whatever it is. So, it could be curve, so it could be convex, conve concave, depending on what what we want. So there are flats, there are single curve and there are double curves. These are the three things, and there are different materials, with plastic you can have double curve but with uh certain other materials we cannot have double curve. So there there was uh there were many other materials like wood, titanium and all those things, but plastic is I think is the most appropriate one, it'll bring the cost down and anyway it's Wooden cases Mm-hmm. Mm-hmm. Is it an e apple which has Banana is more handier as compared to this I think, and to capsicum. Okay, so push buttons for the traditional users so that they don't feel they are alienated, just and a scroll button with push technology for channel selection, volume control and teletext browsing. These are the three scroll buttons which are already available with us in the company and we we can go ahead with that. Yeah, we can go to the next slide. Then uh there are different kind of chips, one one is the basic chip and the regular chip and one an adva advanced chip. So we can have regular chip for control. Pricing is a factor for us, that's why we'll go for the regular chip. And uh regular chip supports speaker support, so this functionality could be used for tracing the mobile phone which has been misplaced. It could be a beep kind of thing. Yes, yes, that's right, it's it's onto the chip, most most probably, not not hundred per cent sure about that. That will be the volume control I think which which a user shou it it should be already pre-defined. It should be whatever will be the case, the chip is always going to be sitting inside. Mm-hmm. Uh, so we can have it at one of the boundaries so that things are slightly better. As or as hearing is concerned, we can have some gap at some place, so that That's right. Okay. Yeah. So these these were the componen

t selection and these things. We can go to the next slide. And uh these were the findings which I I saw with the web web, that user wants to have control more than one device wants to control more than one device from the same remote control, so our T\_V\_ remote can have little extra things to support additional devices like V\_C\_R\_ D\_V\_D\_ players which are usually attached with the T\_V\_, because users are like this and they don't want to have one remote control for everything, so with this additional little, we might be having slightly better market for us. Mm. Of fruits. Mm-hmm. Remotes objects, okay. And uh as well as I could see on the web the scroll button is becoming really uh hot thing s and we should have it on the remote. So you're having a basis station. Okay. Your usually your remote sits on that. So you and it's that's why it can have chargeable batteries. Now let's say Basis station is with the thing. It's like a telephone handset is there and the basis station for the telephone hand set is there. So now what user gets additionally he doesn't have to buy batteries, they're rechargeable batteries, so over the period of cor time he'll recover the cost. So you're having the basis station and there is a button, if you press that button wherever the remote it'll start beeping so you know where the remote is. Uh Mm-hmm, mm-hmm, mm-hmm, mm-hmm. Uh this is basis station is nothing more, just it's a wire

which is coming from the main cable and uh you're having one socket on which the thing sits. That's right. But all these things are usually in-house so we don't have much problems. So component cost is going to be the least. Anyway, we are not using really advanced technology, L\_C\_D\_ has already been ruled out, A\_S\_R\_ has been ruled out. So it's the basic thing but very trendy and very user-friendly. And Mm-hmm. A yeah, otherwise it'll be mis means you don't get b any feeling then. It's neither a banana nor a And uh going to the last slide. Okay. Okay. Okay, so. Anyway, users'll be so the findings is users'll be very interested in our locator device to find their misplaced remotes. So that was very I thought it's a very good suggestion by everybody. That's it. Yep. Mm-hmm. That's right. The basis station. That's right. There's less space on this to put with the buttons. Uh what about a The base station. Right. Mm-hmm. Yeah. That's right, yeah, we need that, yeah. Basis station. Yeah, yeah. Turbo button. Okay. Uh for the remote? Remotes don't have power on off switch. Okay. S no, that'll be controlled by the those buttons'll be there already, yeah. Means on the remote. Because remote is going to have both the interfaces, scroll as well as buttons. They are not going to cost you much, everything is in-house and now you don't want the traditional users to be apprehensive of this. Oh, yeah. That's that's another issue which I didn't think of. But you know our targets are very high, means fifty million Euros is the profit which we want make. Twenty five. Twelve point five is the profit on one. Uh forty th four. Point point four million? Point four million. In the market. Mm-hmm. For the future prototypes. So meeting's over? Okay. Okay. Okay. Thank you. The problem is after all this meeting there is Okay? Good afternoon. Hope you have good lunch. Oh. Nice. And you? Okay. So today is um our third meeting. It will be about the conceptual design uh. If I come back to uh the minutes of the last meetings um. We decided not to go for speech recognition technologies because of some reasons and we are not decided about u the use of L\_C\_D\_ screen on on the remote control because of costs. So maybe we cou wi will be able to clarify this this question to today. Uh at the end of the meeting we should take decision on that point. So I hope uh that your respective pr presentations uh will help us. So each of you have some presentatio presentation to perform um who starts? So marketing. So you are you saved your y your presentation somewhere? So

you're four? Which is trend watch. Okay. Mr Marketing Experts. So Mm-hmm. Next slide? Yeah. Okay. Mm. Drawings of bananas. Uh-huh. Well so this is in the next slide certainly. It's not? So maybe you maybe you can display a banana on the L\_C\_D\_. Apple for channel one. Okay. That's a question. Maybe too long. A banana. Okay. Yeah and you you you will not have pla enough a lot of place to put a L\_C\_D\_ on a banana also. Well, you're the Marketing Expert you should tell us if it is too much or not. So So you you you suggest to go f Okay. S so you're simply you're simply looking s to a remote control that looks like a banana with few buttons with only a few buttons. Okay good. So maybe you can go ahead? Okay. Thanks. Um. Okay, I'll give the floor. So you are User Interface guy. So you're three? And it's this one. Go for it. I there's something that I unclear really understanding. Is this a technology that recognize keywords speech keywords? And it's just to, it's just to playback something? Yeah yeah. So this is not s really to do to to do control. Yeah. This is just more like a poi pois yeah. Yeah yeah. So it it's c uh it it is a uh uh easy uh a fancy thing that you you can bring to we can bring to the remote control that will not have any uh yeah comp completely pointless for the inter for from the interaction point of v point of view. Okay. Yeah yeah. So this is so this is this is much more than tak taking this technology, bringing it to the remote control and using it. So this is out of discussion. So if if it is something that you can we can bring easily and to put it into the banana remote control No this is mm banana-bando, yeah. Uh then it could be cool yeah. Okay. Okay. It doesn't look like a banana at all. Yeah. But you you can fit i you're saying now you can fit it to Yeah. Mm. It's enough. Switch on. Yeah.

Okay. So it looks like we're going completely to forget about the L\_C\_D\_ thing. I think that No we can we can't use that. We can't use that to to comman co communicate, it's just a thing No. Yeah. Yeah. A good good good thing. You want to go to move to your slides? You're finished? Yeah I think so. Mm-hmm. Mm. Exactly yeah. Oh, good idea. Very good. Okay, let's move on. So you're two? Okay. Mm-hmm. Yeah. Yeah. Mm but i but there is no elasticity which could be Yeah but the components inside. Yeah. Very too expensive to do. And also uh Yeah but it's more easier to do a banana in plastic than uh in wood. Well it look like it looks like you are all targeting that yeah? Yes it is. Yeah? Pumpkin. Green. Um um um, yes I see. Pep pepperoni. Poivron. Uh pepper. But um they do d Yeah. Yeah. It's not re it you you think it's really fancy and fun? You think that young people that are Yeah. More than a banana? Yeah. It's kind it's kind of it's more uh it's really ergonomic, it's fit in the hand and you've a lot of surface to to put the controls. Okay let's move on. So time is running, let's move on. Okay. S objects. Crazy objects. Okay. Okay, good. Bu it's it's. You s you you thing. Yeah. Mm-hmm. You think that yellow it's kitsch. If you make something that looks like a banana it should have the colour of a banana. O otherwise Roughly. Yeah. Okay. Let's move on. Uh uh yeah. Before before st before ending the meeting I'd like to to draw some sketch about the pro future prot prototype. Go for it. Well no, not not you, you can finish your slides before Mm okay. Okay. That's all? Okay, so mm so well done for the presentations. So we need to take some de decisions about um about what we're going to do. So I I propose that you go to the whiteboard and we're going to report all the ideas we had we had during this these presentations just to draw some sketch about what will be the prod final product and uh where Superman go banana and uh uh extra func functionalities such as wheels, um the speaker unit um well not in order not to lost the um the device, I do I don't remember you call it? Basis station, yeah. Uh so um so we're goin

g for a stylish banana shape. Yeah, right. We I if it i if it has really the model shape of a bana you could the the starting is good but it could it should have more the shape of a banana if you want to point really a at the thing. If you don't want to to to do that movement which is which is difficult if you don't have to do it in fact, it's better. So ti time is running, we have to we have to we have to to move forward. So let's skip to uh this uh this this this idea. Yeah. So we have this. We have a a basis um, how do you call it? A base station. We'll have a base station extra uh on the side. Yeah. Uh, we have a R\_F\_ for um for beeping for beeping. We need b R\_F\_ to beep. So we that means we need a button on th on the on the basis. Basis station, thank you. Can you go quickly please? Okay. So we are going to add uh also um you as you suggested the whee some wheels to control the volumes and channels and your turbo turbo button. Yeah, on the th yeah, maybe here. And the and the wheel a a at the level of the thumb for instance. And and you have two wheels. Okay right. Good. So no L\_C\_D\_. Okay great. Um. Very good. Yeah. Oh, just the switch, no f not for the T\_V\_ for the T\_V\_. Uh so you On the side. Twenty five. Yeah. So. Well. No. Time is running, we have to close the meeting in a few minutes. So, okay, the next step, you can come back to your seat. The next step is to go for to f is to go to uh to building a prototype, based on this, okay? So next meeting you guys have to prepare the followi things. You have to uh work on the look and feel uh design and you have to work on the user interface, in fact you two you have to work together to model the first uh f first prototype. Uh Marketing Expert uh have to go to product evaluation. Okay? It's too difficult. It's not a possi it will not be possible to implement it for the next prototype, so t it's in the next prototype so let's skip it. Yeah, maybe, for the n if if it works well, we'll go for uh an orange one. Yeah yeah, honour the fruit. Okay. Thanks very much. We'll see n next meeting. Bye. Thank you. Okay,. Yep. Four, yeah. Yeah that's me. Uh. Well I investigate the preference more d I investigate deeper the preference of the users. Uh so the the current investigation th uh th uh

sorry the current the n current trends? Yeah? Okay. Okay. Well wha what I found um can you Yeah. Thank you. What I found in order of importance from less to more important is that people want an easy to use device. After they they want something new technologic technologically speaking, but the most what they what they find more more interesting, more or more important it's uh a fancy look and feel instead of uh instead of the current the current trend which was f the functional look and feel. So now more more cool aspect, ma more a cooler aspect uh rather than a device with many functions and many buttons with instead of i instead of ha of a device which can do many things, a device which is pleasant to to watch, to see. Uh also Well in in Euro in in Paris and and Milan the in Paris and in Paris and Milan the the current trend of uh of clothes, furniture and all this all this fashion it's it's fruit and the the the theme is fruit and vegetables. And also in the in the U\_S\_A\_ the the current the mor the most popular feeling it's it's a spongy. Spongy means eponge? So maybe we should we should think in in this direction, so Fruit vegetables is the the new have you seen the last exposition of clothes in Milan? Yeah, I I didn't miss an I didn't miss and I saw that the fruit, there are many fr pictures of fruits and vegetables in the clothes. No no, not not yet, not yet. Yeah, yeah. So te textu textures, yeah. Yeah. Vegetable textures and all this kind. Uh yeah, yeah. Uh no no, it's not. It's And Um. I ha I haven't thought of any particular fruit, but the general aspect of the of the remote control may may could remind some kind of vegetable, some kind of instead of vegetable, some natur

mm uh natural object or something. But yeah it it depends on the Yeah maybe the shape the shape No, not n not not too much focus, not too much focu not n not too s not too similar to a fruit because next year the ten the trend the trend will be different. So we shouldn't be at re really attached to to the trend but For instance, yeah. African or as an elephant? Well ma maybe we we should further specify what target are we focusing. I think in my opinion we should focus on on young people because they are more open to new devi new devices and also yeah according to the marketing report ninety p ninety five percent of young people was was was able to to buy a a n a cooler remote control. What? What? Yeah? Uh Is the new trend of the No I think we we should think about a a shape with it a device with a shape of some Yeah. Don don't you think we can find uh the shape of a fruit which is handy to use? Or m Maybe. Um Yeah. Yeah but I li I like your idea that we shouldn't have a lot of buttons b buttons so Uh do you want a an L\_C\_D\_ with twenty five Euros? I think Well, according to the to the report people are more interested in in a fa fancy look and feel and in a technological inno in innovation, so, I will give more importance to the look and feel than rather than the new inputs and also it's I'm not convinced about this L\_C\_D\_ because you need uh internet connection, you need more things, it's not just buying a new control re remote, you need buying control remote, buying uh more things. It's not so simple. For instance, yeah. Yeah for for for given an an example yeah. Yeah no, it's what I already said. Yeah but you can u Yeah but the can we use it for saying okay, channel fifty, channel twenty? M Mando. Banana-mando yeah. Looks like a tr look likes a a tro a tropical fruit. Yeah. What's a turbo button? It con it controls the speed? Yeah. So sounds crazy. I like crazy ideas. Yeah, of course. I I think we could use somehow the s coffee machine dialogue interface or so. You we can? We can't. Yeah, but we can say channel twenty five. No? It's not a lot one hundred templates, it's not Ah, it's designed for a cof okay. Is it design for a coffee machine? Okay. Yeah. Maybe you could ask your the you could ask the engineering department if we can Yeah. Yeah. Actually I was thinking that the the shape of a banana is not it's not really handy. Uh I don't know the name o o in English uh This it's not a fruit it's a vegetable. Green. And you put in the salad. Um Oui c'est ca Pepper. And it's al it also suits with the double curve for easy of No, I mean in a I'm sure it's fun. But banana is not so handy, I think that's handier. Yeah you're right. I think that would be funny at the beginning but after one month you will be tired of be

surrounded of fruits. No but I think just one fruit to control everything. A power fr a power M a Mando, a Supermando fruit. Actually I I didn't understand very well this trace speaker lost control. So you you have to buy two things, the banana and the basis station. Yeah. Yeah but I'm a bit worried about the budget. Yeah. No, I I Maybe li like that. What about what about this shape? More or less. Yeah, but how many buttons do we need? What a What about Four millions? What about a I wo what about adding the this word spotting, keyword spotting recognition saying volume up volume down? It's too difficult but people like innovation and that's really uh innovative and I don't know if it would cost a lot, just a few five words. Okay. Plus plus, okay. Maybe objective banana? Thank you. Hi. Uh, yes, I had something similar but non-vegetarian. Yeah. What what do you mean by fruit and vegetables and spongy? What you mean clothe No, I missed that one. Oh, they're okay so they're not like dressed as a carrot they just have like pictures of fruit on, okay. So we're not gonna have a remote control in the shape of of a banana, just maybe Okay and So which fruit are you thinking of? Oh, so you want the remote control to be the

shape of a fruit, or you want just some kind of like fruit logo on the So something that looks half like a fruit and half like an elephant. But okay, I'm not, I'm not really sure if uh that would really appeal to everyone though, maybe just to fashion gurus, like maybe just like a little bit n a little fruit picture somewhere in the corner, but I don't know about uh I dunno how ergonomic a, an orange is. To fruit? But is it uh is fruit cool? Is fruit cool? Well I guess, you know, Apple has the iPod so, imagi just 'cause they have an apple on their on their product, doesn't mean fruit is cool. Okay, but it has to be easy to uh to use though and to hold you know, you don't wanna pear or a watermelon. Well, probably the only thing is a banana that I can think of, a cucumber. I dunno. Maybe. Too green. So, but I mean you also have to you have to also have, fit r all the buttons and you know. It's, it The thing is you have t normally with um with buttons, they have to be at some point attached to a circuit board so if you're gonna have things like on a cylindrical kind of device it may be difficult to kind of to build. Yeah. Well, this is Okay. Yeah. Yep. Yep. Okay. So. S next uh slide. Okay. So I received an email um around lunchtime letting me know that the brilliant minds at our technology division had developed an integrated programmable sample sensor sample speaker unit, um which is a way for you to have a conversation with your coffee machine and or remote control. It's no, what it is, it's it's very It has a has a microphone, has a speaker, it's got a little chip and it allows you t Well, it's a sample sensor sample speaker. Sample sensor sample speaker. It means that it can recognize, it can do like a match on a on a certain phrase that you speak and then can play back a phrase in response to that. But uh there's no kind of um understanding of the phrase. So, I mean, you know, I guess you could build that in, you could you could link the the recognition of a certain phrase to some function on on the remote control. But basically the thing is, we have this technology available in-house. So, um but the thing is obviously there's still gonna be a cost if you decided to integrate that because you still have to pay for the c production of the components, so um it it but it basically means we c we can kind of consider this from uh you know uh a theoretical or usability kind of viewpoint without worrying too much about you know how to develop it because we have this already done. Whilst you know, some people might get annoyed if we uh if we just dump it, It's it's no, well, it's it'll recognize uh I guess keywords, but you know keywords in a certain order like a phrase. You train it for a certain uh, for a certain phrase, you say the the example they said that they have uh up and running with their prototype is um well they've actually integrated into the into the the coffee machine that uh that we're producing is, you can say good morning to the coffee machine and it can recognize that phrase and it'll playback good morning, how would you like your coffee? Yeah. So actually that was a bad example, 'cause it doesn't actually ask how do you want your coffee because it



can't really understand the response, so. Only, like, only in the sense that it it can recognize a set a set target kind of word an It's designed it's designed as a fun kind of thing, but I guess you could use it as uh as a way to implement uh Completely pointless yeah. Yeah. Yeah, unless you know, you like having conversation with your remote control. Well yeah, that's the thing, if you can but you have to pro though I think it's a fairly simple design so you would have to record into the device every possible combination, you have to s tr train it to l to learn channel fifteen, that whole thing, not just the word channel and the word fifteen, it doesn't have that kind of logic in it. So Yeah, that would be some development work. Yeah. Banana-mando. Banana-man I

uh I I I don't think it's worth it though, I think it doesn't really add much to the functional design and it's it's not mature enough to use as a speech recognition engine, so Um, yeah. So if we can just move on to the next slide, I've just done a quick mock-up of uh uh some of the features of our potential funky-looking uh remote control Well, you see, I was I was unaware at this point of th of the fruit focus, um, so at the moment it's more of a box focus. Yeah, well, this is actu this could be a genetically engineered fruit that's designed to be you know square so that it packs tighter in the boxes. But um, I've just indicated here, we could have actually two scroll wheels, 'cause I think the scroll wheel is a fairly um key part of, you know, I think everyone has has agreed that it's that it could be quite a useful um thing, so. But I think it's important, you know, to have two scroll wheels because, you know, you want one for for the channel, but you also want one for for the volume, because it's it's the volume i it's, you know it's very handy for it to have uh instant kind of uh feedback uh and response, so. But um, I've also included this turbo button because I think, you know, every design should have a turbo button, and well so this is you know, a unique problem with with televisions is that if you have this scro this scroll wheel for the television, the uh the tuner on the T\_V\_ is not gonna be able to to switch between stations as fast as you can scroll, so you know, the th the person might want to have a uh Might want to be able to scroll past television stations without seeing what's on them, in which case it just waits until you stop scrolling and then, you know, displays that station. Or they might want to scroll and and have a quick glimpse of it, even if it lags behind what they're doing. Yeah, so with this turbo button you can, say, skip over t channels if uh, you know, if I'm if I'm going if I'm scrolling past them and you know, it's um, you could have a little red light that comes up when they press it so they feel you know it's really going fast or whatever. So yeah, that's um, those are the two important uh features I think we need on the remote, but I mean we can discuss about what other kind of buttons we need, um. You know, i it could be, you know, if we if we wanna have like a very cheap kind of device, I mean, we could either consider that maybe we want to sell this as a very, if it's gonna be a banana, you know that's a pretty gimmicky kind of thing that doesn't have that much functionality, it's just you know a couple of scroll wheels and a button cause it's hard to get so many buttons on a banana and it's still very it may even be for most for some people more functional than their current remote, but if they have these scroll wheels, so, um you know, what other buttons do we want? I mean we could have well, I guess you need an on and off switch, but you could you could o you could turn it turn it on by taking the top off the banana maybe, you know, it's kind of like a spy kind of flick thing. That's why you're a marketing guru. Well, that's the thing, as have we decided that we can only spend, uh, twenty five Euro? Well not spend, but you know, charge twenty five Euro. But then you have to have a template for every channel, for a hundred channels, you have to be able to to recognize Mm. Well, I f I think it's probably more than, than our can handle because it's designed for a coffee machine, you know, to say hello in the morning. Well that's its current application, I would presume that it's kind of, they wouldn't design it to handle a hundred things th so. But uh Well I just I just made the point, I don't I don't know if that speech recognition is, you know,

even if we can do it, I think it's not really appropriate for uh television environment. But um I did have one thing from a previous meeting, you were talking about um being able to find the remote control and I was talking about extend

in being able to extend the remote control by having you know, a base station that can control other things as well. It might be useful to have some kind of base station, even if it's just you press on a button on it and uh and the remote control starts beeping, you know, this is a way of finding the remote. Y in that case maybe the maybe the speech recognition the speech thing could be useful just to say I'm here but uh it's probably a bit of overkill if you could just have a a beeping It's speech It's it's speech synthesis and s it's speech kind of, not really speech recognition, but kind of pattern matching, yeah yeah. I guess that fits in with the spongy kind of design philosophy. So, just one second, when you say double curve, what do you actually mean? You reckon you could like draw us a thing on the, on the whiteboard 'cause I'm not sure Okay, but like, kind of convex or concave? Mm-hmm. Okay. Okay. Although, you know, wood could be uh quite a stylish uh option, if you take like, nice quality kind of wood that's got a nice grain and you kind of put some, some varnish on. Well it depends, I mean, you have the outs the wood itself is not gonna break so you don't have to worry too much about the case being broken, it's the inside. Yeah but inside you know you could have you can still have some kind of cushioning that's not visible to the to the user. And I mean you could also, you can have just a very thin veneer of wood as well. That's true, but are we set on the banana idea? It's like a pumpkin or Green. What does it taste like? Ah yeah, is it what's it in French? Yeah, okay, so capsicum or pepper. Yeah. I don't know, it seems a little bit kind of bulky to me, like like with a banana you can have Well But like a banana you can you can be holding like this and have the scroll wheel kind of on top and just roll it back and forth like that, but with uh I don't know how you would hold a capsicum and So is that, when you say speaker support, you mean it just has some output pinned which which which kind of Okay, but the speaker is actually attached to the to the chip in some way, or is just the the signal? Okay. Okay. So are there any issues where we place this this chip to make sure you can actually hear the the speaker from the outside of the banana? Okay. Yeah, but the speaker, if the speaker is actually on the chip, then if it's too far away from the the casing, or if the casing is too thick, then you may not hear the the speaker. Yeah. Yeah. So that's something we have to keep in mind with the actual physical design is to keep the the speaker close enough to the outside. Although, if It depends, if we like, if we are concentrating on like a fruit design, then maybe maybe we wanna sell a collection of fruit, you know, like a different fruit for each device. Cause that, you know, that sometimes people like to collect um you know things that of a similar type. Well, you're the one who wanted to do fruit in the first place. Like a power fruit. Yeah. Well I think that's a pretty handy feature. I think it's kind of people would find that worth it even if it wasn't uh a recharging station, even if they didn't have to buy extra batteries, you know. So Although you do need to include R\_F\_ kind of circuitry in the remote. Okay. I'm just wondering actually, 'cause, you know, I this whole fruit thing with the banana, it's um it seemed like it first seems a bit kind of uh niche, like only a few people would really want a banana, but what if it was kind of uh a stylised banana? You know, rather than having it kind of you know yellow and really looking exactly like a banana, you could make it kind of silver. And um, you know to give you kind of the idea of a banana but without it looking you know completely kitsch. For better want of a better word you know? Well, you know, I don't know how many peop Well they Yeah, like this colour this colour Maybe, you know, maybe like still in the shape of a banana. No, exactly. Exactly. Um, b

ut you know, just maybe maybe not exactly the same texture as a banana and just kind of, you know because the thing is it's gonna be a little bit difficult to make um to give like the texture of a banana

anyway and to k to have the exact shape. I think if you're gonna not be able to do it properly you may as well do it in a stylised way that just looks a bit more kind of, you know, twenty first century rather than sixties or seventies. Okay. Yeah. Okay. Yeah, so, I guess you wanna hold like the way the end of the banana you wanna kind of hold as ma you maybe wanna kinda hold like a gun rather than 'cause you don't want it to point kind of towards the floor. So you know, so if you have like Okay, so So okay, so I guess we need, you know, something that can fit a banana shaped object. Okay, so it's uh Yeah. Alright, so we need uh okay. Yeah. Yeah. Yeah, which I think it's it's probably best actually on the on the underneath of the the device, so you have Yes. Yeah, so you have the thumb kind of here. So yeah, you need one one here and one on on the other side, so you got volume an and channel. And, uh No L\_C\_D\_. Oh we need a we need a power um on off switch as well. Yeah. Yeah. Where? Okay. Well, I dunno if the traditional user is gonna buy a a banana remote in the first place, you know. Y I mean you need to kind of keep it um Yeah, how many of these did we wanna sell? I can't remember, what was Yeah, but how many units did we need to to sell? Four point four million. That's a lot of fruit. Okay. Okay. Okay. Uh. That can be the t That can be like the turbo banana plus plus commando. Okay. Yep. We have to go design the prototype.

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# Meeting ID: 98

Data Source: Train

## Executive Summary

The project manager Sebastian opens the meeting. The rest introduce themselves, including Michael the interface designer, Guillermo the marketing expert, and Hemant the industrial designer. The project manager states the goal of the project, which is to develop a new remote control. It should be original, trendy, and user-friendly. He also mentions the three-step project- functional design, conceptual design, and detailed design. Then they take turns drawing their favorite animal on the white board. After that they briefly discuss finances. The remote control's target selling price of twenty-five Euro dollars and will be for the international market. They need to generate a profit of fifty million Euros. The question of whether the remote control should be for a specific device was brought up but not answered. The project manager closes the meeting, telling each group member what he is responsible for and reminding them that they will receive more information by email.

## Complete Meeting Transcript

Okay. Good morning everybody. Oh, everybody is not ready. Alright. Okay, let's go. So, we're here today to to have our first kick-off meeting about uh this new project we're going to tak to talk about in a few minutes. Um so I will be uh Sebastian the Project Manager. Um you are the Okay. Okay, very good. Thanks for being here. Um so let's have a look to the the agenda. So, we are going to go through this agenda uh and mainly first to uh to make to to be used to the tools uh available in this nice and smart meeting room we have here. Um then we'll go to uh the plans for project and have general discussions about it. So, the goal of this project is to uh developed a new remote control. Um it should be original, trendy, and also user friendly. As usual we will follow the the project method um that we are using in the in our company. It is in three step as you know. First the functional design. The second's a conceptual design, and then the detailed design. During each step uh of each design we wi you will work uh s separately, individually on uh your specific tasks and will m we will meet to um to discuss and take decisions about uh what you've you've you did and what uh we will do next. So first, we have to to train ourself with all the um the tools availables in the in this nice meeting room and uh particularly the the white board so uh we are going to go through the white board and take some um s some notes or

do some drawings. So who want to start? Mister. You have one in mind? Okay. Th thank you. Very interesting. Guillermo you want to? It would be very funny for us. Oh. Okay. Thank you. Hemant. Poor elephant. Yes. We have to I have to catch you, sorry. We have to to go through the meeting. Thank you. Yeah we'll discuss a f a fly or do we'll do another meeting abo on elephants. So so another important part of the project is about money, uh and about so about finances. So we should target selling price of twenty-five Euro for this remote control and uh we have um which which would generate a profit of of um fifty million Euros, okay. And we should target the inter an international market. O this is the next topic we have to discuss exactly, so let's go to it. So um we should decide which kind of remote control we want to uh we want to uh we want to go. Should be should should it be um specific remote control to some specific device? Should it be a universal one? And uh etcetera. So um so I'm waiting for your for your inputs very quickly because we have only three three minutes to go. Okay. Okay I think this is more a job to our market person yeah. So it should be the topic of maybe of the next meeting just to to have an overview of this and uh in which direction we should go. So we need to close the meeting. Uh we'll have a new meeting soon and uh so the work every every of you ha have t d to do. So um you have to work on the on the working design, you have to uh work on the technical functions, and uh you have to work on us user requirements specs, alright? Um you will receive some information by emails, i as usual. Thanks for coming today. Thanks. Uh almost. Ready. I'm uh Michael. I'm the user interface designer. Ah well if no one else wants to, yeah. Okay so, want me to draw my favourite animal. Let's see. Well, I don't really have a favourite animal, but um uh I think I have one in mind, so uh I'm gonna about the uh spider because you can actually draw it pretty well in the corner of a white board. The spider has a spider lives in a web and uh it has eight legs, and uh it can move all about the web in two dimensions. Unless it's a three dimensional web which y they have sometimes. There are some spiders that live in like that have like uh kind of a a big ball of a of a web. And uh the other thing is some spiders can actually uh fly like uh they have uh they let out like uh a stream of like the web building material but it's it acts like a parachute so they can actually kind of go and find new uh build a new web somewhere

else. So I think they did this in uh in Charlotte's Web that movie that little uh well it's actually a book first but uh um at the end all the the spiders kinda flew away. So, that's my animal. Maybe it's happy 'cause it just ate someone. So you don't like pink panthers? So is this uh an Indian or an African elephant, 'cause you haven't drawn the ears? Okay. We can discuss that off-line. So could I just ask one question, um is this a stand-alone unit that we're gonna be selling? So it's gonna be you already have a T\_V\_ but you're buying an extra remote control for it or something? Okay, alright. Okay well, so, it seems the the first thing that they've kinda specified is the price like based on how much profit we wanna make, which seems to a kind of a little strange if we don't know what the the product is yet, but I guess if that's if that's the requirement that we need to to design the the product to actually fit that that price bracket so, I guess we're gonna need to find out what's actually you know, what people ar are willing to pay for um what kind of product they're expecting for twenty-five Euro because it seems quite a lot for a remote control, so it's Yeah. Okay. Alright. Hi I'm Guillermo. I'm the Marketing Expert. 'kay I dunno why, but when I was a child I I wanted to be a a panther not a pink panther, or maybe yes. Uh yeah yeah. Okay it's a friendly panther. Yeah maybe. Um. Actually, honestly I I I dunno what's what's his it's be behaviour, I dunno if it's the male who who hunts or it's the female uh, I I I have watched that lions di didn't hunt it's the the female lions who who hunt, so but I like it because it's fast, and it's black as well, so it can he it can hide itself very easily and it's it's it looks like um powerful, strong, uh I dunno. I I watch a a film about a black panther when I was a child and I was in that age when

everything was shocking me a lot. Okay. I like it. Yeah. Good morning. And I am Hemant, the industrial designer. But don't you think it's very difficult to draw a panther? So bad I don't like it. Um sure. Oh yeah. Thanks. This label is coming out once in a while. It's not very strong. Okay. So, not the favourite animal, but I think I'll draw elephant. I'll try to draw elephant. It's a problem. Okay, thanks. Okay so, elephant goes like this, and then it has four feet. I don't know whether there's any dist there should be any distance or not, but I think this is the easiest. And then we have it's trunk. And yep something like this. An eye, cute. Yeah, so and sometimes they have a hump. It seems that uh elephants are pretty friendly and they they have one very important way a different way of walking. So when they walk, wherever they are going to put their first feet, the second feet will always be. When they'll come to that position the second, the third feet will be there. That's the way they walk. And that's very peculiar about them. None of the other animals walk like this. And they are very useful to human beings. At least few hundred years ago when there was no means of transportations or something, or when they had to carry huge um loads from one place to another, elephants were very useful. And they are found in um usually the warm countries. And um they are the biggest terrestrial animal. That's what I know about them. So, that's what I wanted to tell about elephants. There are two kind of uh yeah, they are very different, Indian and African elephants. So Indian elephant is having one bump, I think, and the African have two. And then there's a difference in the trunk of the animals, these elephants who are Indian and So at some for some elephants it's the trunk is having one Do we have some message there? Wind up? Okay, some other time. Thank you. Thanks. Marketing person. Mm-hmm. Thanks.

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# Meeting ID: 65

Data Source: Train

## Executive Summary

Um it's our conceptual design meeting our agenda , I'm gonna review the minutes of the last meeting , then we'll have your three presentations um and then we'll have to make a decision on the remote control concepts , Um these are our minutes from r the functional design . We decided our target group is the focus on who can afford it , and we said it's for all age groups , different um functions of it . Our main objectives were simplicity and fashion . specific functions are something to keep the remote from getting lost , large buttons for the essential functions , a possibility for extra functions , like a sliding a sliding piece and a long-life battery or a charging station . I'd like to do it in this order , first do the conceptual specification of components , properties and materials um and then the conceptual specification of user interface and finally trend watching . Components design . The main elements of remote controls in general , and therefore ours as well , are the case , the buttons , the circuit board with the chip and the battery . uh the options that I've gotten from headquarters about what we can do , um there's there's the shape of a case , we could do a flat sh a flat case , a curved case or maybe even a double double-curved case . I haven't seen any pictures of what this exactly looks like yet , and we can make our case out of plastic , the m the main base will be plastic , but we have all these sort of fashion and technological elements we can add in , wood , latex , titanium , rubber or other coloured types of plastic . for buttons we have um pushbuttons , but we also have scror scroll wheels , which can have integrated pushbuttons , and have an L\_ L\_C\_D\_ screen . or we could go all high-tech Um circuit board and chip we can have a simple one , a regular one or an advanced one , And then battery I think is where things get most exciting . Um we can we can have your sort of basic double A\_ batteries , but we also have these options of um using a kinetic battery , Um so simple movements like pushing buttons would recharge the battery . Or a solar battery , although there are slight um complications with solar batteries as in we can't use a latex case if we have a solar battery . Or um something they only described as the type of battery you find in torches from about fifty years ago , flashlights . Um personal preferences that I was thinking through here's what we've been talking about all through , fashion and simplicity . So if we're going for fashion in our cases , I think that what we're gonna wanna look at is a curved or a double-curved case , probably with a variety of design elements . Maybe titanium , maybe some wood . We're gonna have to investigate that better when I get specifics of the actual materials , And we wanna go for simplicity . Probably pushbuttons , but I'm sort of intrigued by the idea of a scroll

scroll wheel , if anyone has anything And I'm really intrigued by the idea of a kinetic battery . But I think we'd also wanna go for a simple chip or regular chip to keep our costs down . Uh we really only need a regular or advanced chip if we're gonna start using an L\_C\_D\_ . Solar I don't think would be such a good idea , Is double-curved like would be like two hands kind of thing ? I'm not sure . but I'll let you know as soon as I get any pictures . I know if we do have a double-curved case , it can't have any titanium in it . um the weight of these different elements , have you no idea , no idea . Um I'm assuming that a kinetic battery isn't gonna take up that much weight , but if anyone has any specific questions , don't hesitate to email me or something . I'm gonna describe the the concept of the user interface of this device . so we need to determine what the essential functions of the device are We have a number of different choices for a design concept um Uh once we've chosen a concept for it , we can then design the features around the concept , M we don't want lots of buttons , uh complicated features . Here's a fairly simple device . This is an iPod from Apple . Uh you use these four buttons to move around a range of settings on the small L\_C\_D\_ screen . So I think that's that's a good kind of model that we could have . Um here's another example . and I think it looks pretty cool . Uh it's nice and colourful , it's nice and bright . if you're watching T\_V\_ in the dark or whatever , you can work out which button's which I like I like this idea of just having buttons for the features that you use most often . we'd either have a small L\_C\_D\_ display on the device itself , or uh have a menu display that comes up on your television there's no point having a television that you can't tune or that you can't set the contrast , so we need to find a way of including these somehow . So you'd be advocating an L\_C\_D\_ then ? I think that's that's one way to go , Um I mean there are advantages and disadvantages if you have an L\_C\_D\_ display , an L\_C\_D\_ display would have to be quite small , Um it would also have to have uh a kind of backlighting in it , The alternative is to have an on-screen display on your television that you control through your remote control . Uh but I think that you do need to have some kind of function where it's um you have to you can see the title of the show or possibly a description of it . I think I think we're talking menu like contrast and tuning the V\_C\_R\_ or something if I've understood you correctly , rather than menu as what's on . we're gonna look a little bit at trend watching . that was a market investigation on remote controls that was recently conducted , and then also some fashion watchers in Paris and Milan commented on some things that are gonna be going on this year . and right now i d they're saying that currently there's a functional look and feel preference , but that really , over the next year it it that's gonna be switching to fancy look and feel remotes , they're sort of wanting us to remember that the number one thing for everyone is that it's fancy look and feel . And as these are ranked , the top one is doubly important to the second one , which is doubly important to the third one , The second thing that was mentioned as important was the technological innovations . And then ease of use was the third most important , And then the fashion watch talks about that this year's top trend for clothes , shoes and furniture is fruits and vegetables and that there's a preference for spongy , tight material . And so that brings us to my personal preferences . Who wants a spongy remote or one with fruit and vegetable padding . Personally , I don't really think that I want one that's gonna go out of style or go stale , excuse the pun , um in a year , so and if necessarily this whole fashion to technology y edas ease of use is necessarily the right ranking . Also , considering that the research has been carried out by Real Reaction , I'm a little hesitant as to like , how these questions may have been worded , but if we're working for



this company then I guess no matter what , we have to stress fashion the most . Um do you have any ideas how to possibly use these ? Um how to how to use a fruit or vegetable or um or the spongy material at all ? could we make a s like could we make a spongy remote ? If it's latex if it's latexy my understanding of a latex case is that it's in fact hard to protect stuff inside , there's something to be said , I mean we we got that thing earlier from you about um not wanting it to R\_ R\_ repetitive stress injuries and things I'm envisioning more like , you know , the material that you have when you sit on like a bicycle , could we go in fruit and vegetable colours ? um couple main ones being like , I dunno , lemons or strawberries or something . I Is it supposed to be shaped like a vegetable ? Uh like uh I dunno , like uh carrots or something . Or maybe the buttons could be shaped like different fruits . What about the idea of like a round remote ? Instead of like a vertical up and down one . Like in terms of holding it . Like that's a f shape of a fruit . would you think you you do you think you'd be able to hold it ? I love the idea of the wheel like the iPod . or is it li more like a scroll thing ? and you press the centre button , that's that's your all-purpose select button right there . I think why it would be good for us is 'cause like you could have the same wheel sort of effect for like channel flipping and then the other one could be like for volume . I think an L\_C\_D\_ screen might be good in theory , but not as useful in practice . Um I've one more slide before we close , but in that slide is when we need to make decisions about this these kinds of things , Could Could we uh could we have changeable covers like for your mobile ? In different fruit and vegetable colours , and then like the the covers could be spongy latex components concept . Energy , chip on print . can you just explain what that is real quick ? what do people think about this kinetic battery idea ? I think it's awesome . I think it's really cool . as as long as we consider the the cost and the uh how reliable it is , I got a whole bunch of information on how circuit boards are produced . which is chip on print is where the machine prints on the wires and solders it all together for us . Al all circuit boards are pretty much the same , I think . I don't really know what to tell you as far as decisions . I guess maybe if we decided on like a simple , a regular , or an advanced chip , maybe . if we're gonna have pushbuttons , they require a simple chip , but a scroll wheel requires a regular chip , Do we want a scroll wheel , Um I don't think we ne really need the scroll whe wheel . It would be nice for changing the volume , but I don't know how useful it'd be for changing the channel . you really need buttons for changing a channel . We have five minutes left for the meeting , so . and the volume would just be like the same way , forward and backward as I'm just thinking like it would make it much like sleeker sort of looking . When you get on the on-screen menu of all your functions that your remote could do for you without the buttons and you could have a scroll wheel to go through those menus . I think yeah , I think a scroll wheel would be nice , but it's not necessary . Um Uh I'm kinda liking the idea of latex , if if spongy is the in thing . could it be hard , and then something around it ? I would be more okay with like a titanium actual thing and then maybe like a mobile phone kind of thing . what I've seen , just not related to this , but of latex cases before , is that there's uh like a hard plastic inside , and it's just covered with the latex . Um and probably in colours , maybe fruity , vegetable colours . and we want a curved case , Or a double-curved ? Um And I think if we wanna keep our costs down , we should just go for pushbuttons , For channel surfing I think a scroll an actual like an iPod's kind of scroll thing would be too fast , I think it might be better to put our money into the stuff like the kinetic battery and the cool case I mean I'm not like hard-sold on the scroll wheel , it's more just to give it a different kind of look , we're gonna go with um type pushbuttons , and then supplements , So we're gonna have like a menu button ,

we're doing an on-screen menu that we can scroll through . uh volume , favourite channels , uh and menu . Pre-set channels I think maybe numbers seems is kind of old-fashioned . finishing the meeting now . Um our next meeting starts in thirty minutes , um you each have things to do , look and feel design , user interface design , product evaluation , and you two are going to work together on a prototype using modelling clay . You'll get specific instructions from your personal coach . Let's go with a simple chip ? Um did we decide on a chip ? but if it's gonna be in a latex type thing and that's gonna look cool , then that's probably gonna have a bigger impact than the scroll wheel .

## Complete Meeting Transcript

Yep. Uh-huh. Don't think so. Jess. Alright, so I'm gonna describe the the concept of the user interface of this des device. Um we've talked about uh the two essential properties of the user interface. We want it to be simple and we want it to be fashionable. Um other we've also got to remember that this is a device that serves as a useful purpose. Uh we want people to be able to use it s as a remote control, so we need to determine what the essential functions of the d of the device are and make sure that we include that we've included all of those and that we actually end up with a device that is going to be useful to people. We have a number of different choices for a design concept um and s that's that's something that that I'll show you some examples of um, but essentially we need to choose how how is this device going to work, how how what kind of model is there going to be for user interaction with this device. Uh once we've chosen a a concept for it, we can then design the features around the concept, making sure that we get all the essential functions in the device and uh the extra functions and the more advanced features. And of course we also have to make it look cool. So basically, that's what we don't want. M we don't want lots of buttons, uh complicated features. We want something that looks nice and simple. Here's a a fairly simple device. This is an an iPod from Apple. Um I think the main thing to notice about it is it just has four buttons. It's very minimalistic in its design. Uh you use these four buttons to m to move around a range of settings on the small L\_C\_D\_ screen. Um the thing I like about this is that it's very very quick to access the main features. Uh you can just about make out uh that the button three buttons are uh previous track, next track and play pause. They're the main the main features of the iPod, the things you will use a all the time. Um then if you want to do anything more advanced, you go into the little menu on the L\_C\_D\_ screen and you use the buttons just to scroll around and and find the more advanced features that you want. So I think that's that's a good a good kind of model that we could have. Um here's a another example. This is uh it's an interesting idea and I think i it looks pretty cool. Um it's certainly got novelty value. Uh it's nice and colourful, it's nice and bright. Uh it's also something that you can kind of feel your way around. The buttons are are different shapes and and you can sort of yeah if you're watching T\_V\_ in the dark or whatever, you can work out which button's which and basically, yeah it's ith it's fun. So I I like I like this idea of just having buttons for the features that you use most often. So you'd need a few buttons to select your favourite channels. I mean most people, when they watch T\_V\_, they have two hundred and fifty channels on their T\_V\_ and they watch of 'bout four of them at the most. So, you have buttons for your favourite channel, changing the volume, which is something you do all the time when you're watching T\_V\_, and the button to switch it off, in case you get bored. Um other features, things like adjusting the brightness,

tuning the T\_V\_, uh I don't know what else you do with a T\_V\_. Um but these are these are all necessary functions. Uh you can't have a t there's no point having a television that you can't tune or that you can't set the contrast, so we need to find a way of including these somehow. Um and one other suggestions I'd make is to in is to include in a menu system, a bit like on the iPod. So we'd either have a small L\_C\_D\_ display on the device itself, or uh have a dis a menu display that comes up on your television and can b be controlled through the device. And that would allow you to access access the advanced features uh whilst keeping a very small and simple set of buttons for the features that you use most often. I think that's that's one way to go, yes. Um I mean there are there are advantages and disadvantages

ges if you if you have an L\_C\_D\_ display, it's it's nice, because it's it lets you just sort of sit there and sit and control your television from your armchair. There are disadvantages, an an L\_C\_D\_ display would have to be quite small, 'cause we're we're I well we're I assume we're gonna be making quite a small device. Um it would also have to have uh a kind of backlighting in it, 'cause you ten you tend to watch T\_V\_ in the dark, but you need to be able to see your L\_D\_D\_ L\_C\_D\_ display. The alternative is to have a an on-screen display on your television that you control through your remote control. Uh a bit like a bit like how they have these um digital boxes where you you press the buttons and it comes up with your this thing of watch lo what's on each channel. I mean that that's also a good idea. It's it can it does have it's problems as well, if you've got a small T\_V\_ and you're sitting on the other side of a room, it's hard to read the little text that comes up. Uh but that's a that's a design decision that we can make. Yeah. Yeah. Yeah, that that would be one of the features, yes. But it's it's it's something to bear in mind is that if we put a display on the remote control the c uh communication is one way, so you can't have the televisions and information back to the remote control, at least I don't think you can. Um I'm not sure. Is that going on? Okay. Uh that should be alright, actually. A kind of thing that Yeah. Yeah. Yeah. I Is it supposed to be shaped like a vegetable? Uh like uh I dunno, like uh carrots or something. Maybe, or Kind of like a potato. Yeah. Depends. When you when you use a remote, do you press the buttons with your thumb, usually? Or your fingers? Or maybe you want something that's shaped like a mobile phone, so you you hold it in one hand, and you press the buttons with your thumb. Yeah. Maybe. But if you've only got like four or five buttons anyway, then it's it's not so much a problem, perhaps. So you hold it in one hand and you press you press the buttons with your thumb and And you find that works quite well? Is that The button on an iPod, is it what is it, is it just four buttons or is it li more like a scroll thing? Right. Oh, I see, right, yeah. Oh, okay. Yeah, that's quite a good design. Yeah. I think it could be difficult in practice, yeah. Also z yeah, 'cause you would be z looking down at the L\_C\_D\_ screen, than back up at your T\_V\_ and people don't wanna do that. Like, to make it different fruits. Yeah, it's possible. I think maybe th the packaging, it should be like a lemon and the the packaging is like the peel. So instead of opening the box you just kind of peel it, and the remote control's inside. Don't know. Yeah, um I think it's good, as as long as we consider the the cost and the uh how reliable it is, but as far as I know, the technology is good. Al all circuit boards are pretty much the same, I think. Uh it's fairly fairly standard. Um I don't think we ne really need the scroll whe wheel. I mean it might be nice for changing the volume. Uh but I don't think it would really work. Yeah, you really need buttons for changing a channel. Yeah. Yeah. Yeah. I think yeah, I think a scroll wheel would be nice, but it's not necessary. Um Yeah. 'Kay. Yeah. Yeah. Yeah. Um Yep. Um And I think if we wanna keep our costs down, we should just go for pushbuttons, 'cause then we can have a a simple chip and it's simpler, it's it's cheaper to make pushbuttons than it is a scroll button. So in terms of uh in terms of uh economics it's probably better to have pushbuttons. Yeah, yeah, it's uh it's it's fairly simple. Yeah.

Yeah. Interesting. Yep. Uh what do you mean by supplements, exactly? Um Yep. Yeah. Um in Yeah. On off, uh volume, favourite channels, uh and menu. Yeah, yeah about yeah like yeah, a bit like radio presets. Um Uh we wouldn't even need the numbers. I think maybe numbers seems is kind of old-fashioned. Yeah, yeah, you can just and you need some kind of, I dunno, sort of up d

own kind of button, but the volume control could double for that, for example. Cool. Yep. Clay. I wasn't expecting that. Mm yeah. Okay. That would be me. Alright. Well. Alright. Um I'm very excited by this one actually guys I uh had a lot of fun doing it. Components design. This is where you look at what does it take to make a remote control and what should we make our specific remote control out of. Um. So, we need to examine each element separately, but we're designing a full thing, so you wanna keep it integrated as a whole. The main elements of remote controls in general, and therefore ours as well, are the case, the buttons, the circuit board with the chip and the battery. These are all things that we had sort of addressed before, but I'm gonna take each one a little bit separately here as we figure out what they should be made of and what they should look like. The case, uh the options that I've gotten from headquarters about what we can do, um there's there's the shape of a case, we could do a flat sh a flat case, a curved case or maybe even a double double-curved case. I haven't seen any pictures of what this exactly looks like yet, just keep that in mind, but these are the options that we have from manufacturing and we can make our case out of plastic, the m the main base will be plastic, but we have all these sort of fashion and technological elements we can add in, wood, latex, titanium, rubber or other coloured types of plastic. That would be our case. Um buttons, for buttons we have um pushbuttons, which is what Real Reaction uses the most often, but we also have scror scroll wheels, which can have integrated pushbuttons, or we could go all high-tech and have an L\_C\_D\_ screen. Um circuit board and chip we can have a simple one, a regular one or an advanced one, depending on what our other needs are. And then battery I think is where things get most exciting. We're talking about long-life batteries here. Um we can we can have your sort of basic double A\_ batteries, but we also have these options of um using a kinetic battery, like are used in high-tech watches, where you just have to move it a little bit to get it to power up. Um so simple movements like pushing buttons would recharge the battery. Or a solar battery, although there are slight um complications with solar batteries as in we can't use a latex case if we have a solar battery. Or um something they only described as the type of battery you find in torches from about fifty years ago, flashlights. Not quite sure what that is, but that's the description that I received, so that's what I'm passing on to you. So those are our options. Um personal preferences that I was thinking through here's what we've been talking about all through, fashion and simplicity. So if we're going for fashion in our cases, I think that what we're gonna wanna look at is a curved or a double-curved case, probably with a variety of design elements. Maybe titanium, maybe some wood. We're gonna have to investigate that better when I get specifics of the actual materials, but that's sort of what I have in mind. And we wanna go for simplicity. Probably pushbuttons, but I'm sort of intrigued by the idea of a scroll scroll wheel, if anyone has anything any ideas on that? I mean I know the iPods and things right now have touch scroll um buttons which are exactly like what they're describing, so that might be something we wanna look into. And I'm really intrigued by the idea of a kinetic battery. Solar I don't think would be such a good idea, because how often are you sure that your remote control will get a certain amount of light. But this idea of the kinetic, that you don't have to replace, and that a simple just shaking it around will make it work, I think that that m would be a very interesting thing. But I think we'd also wanna go for e a simple chip or regular chip to keep our costs down. Uh we really only need a regular or advanced chip t if we're gonna start using an L\_C\_D\_. So I

think we want to be aware of not making things overly technological if they don't need to be, 'cause that'll keep our manufacturing price way down. That's what I have for options. Um I'd appreciate anyone's input, but that's what I'm seeing for the future of the the look of this thing. I'm not sure. I haven't received any specific visuals of this yet. This is what I'm sort of Yeah. I'm not sure, but I'll let you know as soon as I get any pictures. I know if we do have a double-curved case, it can't have any titanium in it. But the titanium, they were quite they're marketing quite hard to us as being used in the space programme, so that could be quite interesting. Space-age remote. Just all things to keep in mind. Yeah. That's about all I have to do, guys. I hope I didn't go through that too quickly. Yeah, n no idea, no idea. Um I'm assuming that a kinetic battery isn't gonna take up that much weight, and that a titanium is very light, I know, um but other than that's really basic, I mean, that's all I have gotten so far. Alright? Any other questions? No? Okay. I have save this in the uh shared projects, if anyone wants to look and I have c considerable notes on the topic as well, if anyone needs any more information. Uh Just in my notebook, but if anyone has any specific questions, don't hesitate to email me or something. Alright? Uh I guess I can I know. G oh, geez. Hmm. Hmm. So you'd be advocating an L\_C\_D\_ then? Okay. Mm-hmm. Right. Right. Okay. Mm-hmm. 'Kay. Well Are you are you tak Yeah. No, I think I think we're talking menu like contrast and tuning the V\_C\_R\_ or something if I've understood you correctly, rather than menu as what's on. Oh, good point. Yeah. No signal. Oop, there we go. Okay. Mm. That there's all kinds of scope for imagination in that one though. If it's latex if it's latexy Um, mean An uh I if th my understanding of a latex case is that it's in fact hard to protect stuff inside, but that it's covered with the latex, which is spongier and softer on your hands. It's there's something to be said, I mean we we got that thing earlier from you about um not wanting it to R\_ R\_ repetitive stress injuries and things and and Yeah, something grippable, I mean we don't we don't we don't wanna go spongy, maybe. Yeah. Mm-hmm. Yeah, I think that given the list of materials I w I was forwarded it's that seems doable. could we go in fruit and vegetable colours? We could colour-co-ordinate them, li The buttons could be fruit-shaped. Oh well it's quite easy to s shape thing like carrot isn't it? Or maybe the buttons could be shaped like different fruits. be yeah. It'd be harder to f bu uh buttons I think. It'd be harder to press button. Um I Yeah, that's ts how I tend to do it. No just thumb-sized. Jus Yeah. That's true. Right. I When I'm when I'm pressing buttons on my iPod, that's how I do it, hold it and press the four. Yeah. Yeah, or in and use my thumb or my pointer finger on the touch scroll wheel. Yeah It wel well yeah, it would I mean each version of it has been a little bit different, but Oh yeah, you had one of the in-between ones, when they weren't doing that anymore. Ts and you press the centre button, that's that's your all-purpose select button right there. Since it's the one in the centre that's not marked, yeah. Yeah. Uh uh t Yeah. Hmm. Yeah. Yeah, I think an L\_C\_D\_ screen might be good in theory, but not as useful in practice. Yeah. Right. Um Oh we probably have to get going, don't we? 'Kay. Could Could we uh could we have changeable covers like for your mobile? In different fruit and vegetable colours, yeah. Exactly. And you could co-ordinate with your house or whatever. All these options. Ooh. Oh. Yeah. Mm. Options. Uh-hu oh, oh yes. Right, I had sort of skipped over that hoping it wouldn't get be necessary but um Alright, so um decisions, what the okay deci decisions on energy I'm thinking is based on the battery. Um I dunno, what do people think about this kinetic battery idea? Am I Yeah. Yeah

. Right, I haven't gotten any yeah, any more information on cost other than it's more expensive than a regular battery, but um but if we're using a an i a cheaper chip, then it'll even out, I think. Um circuit boards. Um yeah, I got a whole bunch of information on how circuit boards are produced. They're they're thin fibreglass with copper wires etched on to them, and di I think they're quite easily printed on by machine, which is chip on print is where the machine prints on the wires and solders it all together

for us. I don't really know what to tell you as far as decisions. I wasn't really given any options, I was just given that this is how they're done. Um yeah, I can't really tell you. I can I can tell you a whole lot about how it works. But I don't know any decisions on Yeah. I'm sorry, I did f Yeah. Right. Well okay, here's the here's the thing on the chips that I that I got. Um simple, regular, advanced chip on print. The chip on print includes an infrared sensor, so we don't have to worry about that. Um, 'kay, the pushbutton if we're gonna have pushbuttons, they require a simple chip, but a scroll wheel requires a regular chip, and an L\_C\_D\_ requires advanced. Do we want a scroll wheel, or do we just want pushbuttons? Oh. Yeah, th it'd be it'd be handy for going through if there was an on-screen menu of your channel choices, than you can scroll down on the scroll. Yeah. Yeah. Yeah. Hmm. F or for all those secret functions? When you get on the on-screen menu of all your functions that your remote could do for you without the buttons and you could have a scroll wheel to go through those menus. Right. So we could either go with a simple or a regular chip, depending and maybe we could table that decision for later. I don't know. Okay. Well, let's think about that while we talk about the case. Uh I'm kinda liking the idea of latex, if if spongy is the in thing. Okay. Uh yeah, everything I've N oh wha what I've what I've seen, just not related to this, but of latex cases before, is that there's uh like a hard plastic inside, and it's just covered with the latex. Not too thick a layer of latex, just enough to be grippable, like bike handles or or anything that you've seen like that. The inside is hard. I don't think we need to worry about protecting the circuit board, I think that that's done for us. Yeah. Yeah. Oh and we want a curved case, yeah? Or a double-curved? Yeah, okay. We don't really know what the difference Good point. Yeah. I say pushbuttons at least unless we get any information but I have no idea how much more expensive a scroll wheel is than than a pushbutton, but it's gotta be some more expensive, so I think it might be better to put our money into the stuff like the kinetic battery and the cool case because Yeah. Oh. Alright. So what are what are our buttons gonna be? On off So like one through five, or No. Mm. Yeah, up down. Ooh. Simple chip. Okay, cool. Clay. Mm-hmm. Okay. I g yeah. Time is it? Okay. Lovely to see you all again. Um it's our conceptual design meeting and it's starting at approximately fourteen twenty five and so we have forty minutes for this one again and so we'll go just after three o'clock. Um okay our agenda, we're gonna do an opening, I'm gonna review the minutes of the last meeting, then we'll have your three presentations um and then we'll have to make a decision on the remote control concepts, and finally we'll close. So opening. Um these are our minutes from r the functional design. We decided our target group is the focus on who can afford it, because we have international appeal and we said it's for all age groups, different um functions of it. Our main objectives were simplicity and fashion. And s um in specific functions are something to keep the remote from getting lost, large buttons for the essential functions, a possibility for extra functions, like a sliding a sliding piece and a long-life battery or a charging station. Okay, now three presentations. I'd like to do

it in this order, first do the conceptual specification of components, properties and materials um and then the conceptual specification of user interface and finally trend watching. Mm. 'kay. Function F\_ eight it. There we go. Mm. Hmm. Mm. Yeah, I wonder Mm-hmm. Just an interesting marketing kind of element. Uh just a real quick question um the weight of these different elements, have you no idea, okay. Mm-hmm. Mm-hmm. Okay. Mm 'kay. Thank you, perfect. Um if you made notes yourself you can put those on our um underneath our oh, uh in your book, then don't worry about that. 'Kay now we're um concepts concepts of user interface. Yeah, um. This one's so much tighter than the other one. Okay. Nope. There we go. Here you are. Mm. Okay. Mm-hmm. Mm-hmm. Mm. I do think that um one of the important features for a remote is seeing a menu and seeing what's on. Um and so like favourite channels is is applicable, but I think th that you do need to have some kind of function where it's um you

have t you can see the title of the show or possibly a description of it. Like I I know I use that often enough. Well if it if it was a L\_ L\_C\_D\_ on th on the remote, I don't know that you could f that you'd be able to see a Okay. Okay. 'Cause that would be more specifically a digital box, mm-hmm. Mm. Okay, now we're moving on to market. Marketing. Eight. Oops, it's not plugged in, quite in well enough. There we are. Mm 'kay. S sweet. Okay, do we have any s some questions for this, let's see um. Um do you have any ideas how to possibly use these? Um how to how to use a fruit or vegetable or um or the spongy material at all? Like could we make a s like could we make a spongy remote? It would be easier on the hands. It's kind of and then it we would have to find a way to protect like the chip and all that, I dunno. But Mm-hmm. Mm-hmm. Mm-hmm. F for sure, or maybe like um couple main ones being like, I dunno, lemons or strawberries or something. Could they be smelly? I don't know. Or carrot shaped, mm. Like large button, that's what I was thinking of, yeah. Might would you think you you do you think you'd be able to hold it? 'Cause I think the reason they're long is yeah. Harder to push. I usually hold it in one hand. Maybe But then the buttons would have to be very small. Don't you think? But I mean in order to get to all of them, you know. They would have to be within a certain amount of space with each other. Mm-hmm. Mm-hmm. Mm-hmm. It's a scroll, yeah, it's a wheel. The one I have doesn't have the four on i like around it, I don't think. Mm. Okay um we have we've about fifteen minutes left, so I'm I'm gonna continue with my pres presentation. Um I've one more slide before we close, but in that slide is when we need to make decisions about this these kinds of things, so I'll just bring that up and show you all before we move on. Um Yeah, and then like the the covers could be spongy latex wherea but the actual model could be titanium. Ah hmm hmm hmm. Okay, um components concept. Energy, chip on print. G That's th th this is the agenda they gave me. So can you just explain what that is real quick? Mm-hmm. I think it's awesome. I think it's really cool. Okay. If they're if they're really options. Okay. Um okay, then we'll move on to the case. Um oh bu I guess maybe if we decided on like a simple, a regular, or an advanced chip, maybe. It would be nice for changing the volume, but I don't know how useful it'd be for changing the channel. 'Cause you don't have control over numbers or We have five minutes left for the meeting, so. So, have a scroll for volume? F Um. I think w well I think when we go on to the une userface, we're gonna have to decide the interface we're gonna have to decide um whether we're gonna have a scroll or not. Okay, let's do case. I'm a little um I'm a little hesitant about it, because I'm worried about protecting the stuff on the inside. Um Yeah, I would be more okay with like a titanium actual thing and then maybe like a mobile p

hone kind of thing. Mm-hmm. Okay. Mm-hmm. Okay. Ge o Okay. So we uh we do want latex. Okay. Latex. Um and probably in colours, maybe fruity, vegetable colours. Fruity colours. Okay um let's go to the ufe user interface then we'll come back to the chip I suppose. Well, we don't really know what the difference is, right? Yeah. Um okay, interface, the type and the supplements. So push or scroll, right? Or both? Mm-hmm. And if we had a sc an on-screen um kind of thing that you could scroll through, like you can use your buttons to scroll through things. I think that yeah. For channel surfing I think a scroll an actual like an iPod's kind of scroll thing would be too fast, I dunno. Mm-hmm. Is that okay with you? How you feeling? Mm-hmm. It might be cool enough. Okay, so we're gonna go with um type pushbuttons, and then supplements, how are we gonna do that? Um I assume that's what else we're gonna like h ha the um the additional buttons we can use. So we're gonna have like a menu button, so that we can access on-screen things then? Okay, um so we're doing an on-screen menu that we can scroll through. Pre-set channels and then we're gonna need um numbers one through zero, right? Well, but in order to pre-set a cha oh I guess you can just hold it down when you get to one when you're scrolling through. Mm-hmm. Okay, um finishing the meeting now. Um our next meeting starts in thirty

minutes, um you each have things to do, look and feel design, user interface design, product evaluation, and you two are going to work together on a prototype using modelling clay. You'll get specific instructions from your personal coach. Um did we decide on a chip? Let's go with a simple chip? Okay. We are done. Thank you everyone. Oh I di these are already in our shared folder, so. Fourteen twenty six. Is double-curved like would be like two hands kind of thing? Okay. 'Cause I'm imagining like double-curved is like, you know, like two sides that curve and then like one curve would just be like a single vertical-ish kind of looking thing, but I've no idea. Sounds good. Thanks. Wait, but is that separate from what he was saying? Should I plug that in? Maybe it's just not Is it on? Ri What F\_ do you have to press, five? I just keep pressing lots of 'em. Well, I don't know how relevant all of this gonna be. If anything, the that they gave me. Alright. Oh yeah. Okay, so we're gonna look a little bit at trend watching. Basically, I was given um an executive summary that was a market investigation on remote controls that was recently conducted, and then also some fashion watchers in Paris and Milan commented on some things that are gonna be going on this year. So first um they had people they ranked um the important aspects of r remote controls, and right now i d they're saying that currently there's a functional look and feel preference, but that really, over the next year it it that's gonna be switching to fancy look and feel remotes, so that just goes back to the whole desire of our c Real Reaction company wanting to focus on fashion and so, even though we're stressing, when we're talking, we've all been talking about this like simplicity and easy to use idea, they're sort of wanting us to remember that the number one thing for everyone is that it's fancy look and feel. And as these are ranked, the top one is doubly important to the second one, which is doubly important to the third one, so just to take that weight into account. The second thing that was mentioned as important was the technological innovations. That would be like if we use something like the space material or the L\_C\_D\_ screen, things like that. And then ease of use was the third most important, whi so really, no matter what, we need to focus the most on fancy look and feel, according to this. I don't know how much we agree with that. And then the fashion watch talks about that this year's top trend for clothes, shoes and furniture is fruits and vegetables and tha that there's a preference f

or spongy, tight material. And so that brings us to my personal preferences. Who wants a spongy remote or one with fruit and vegetable padding. Personally, I don't really think that I want one that's gonna go out of style or go stale, excuse the pun, um in a year, so even though this is coming from us as, you know, trend watch, market research, I don't know how much of it we necessarily wanna take away. Also, considering that the d research b has been carried out by Real Reaction, I'm a little hesitant as to like, how these questions may have been worded, and if necessarily this whole fashion to technology y edas ease of use is necessarily the right ranking. Personally, like I might reverse it, but if we're working for this company then I guess no matter what, we have to stress fashion the most. But it doesn't necessarily need to be a spongy material. Yeah. I don't have a lot of notes to share if you want them, that pretty much sums it up. So yeah. Yeah, what can I possibly enlighten on? Mm-hmm. Yeah, so something, m m instead of a necess yeah, grip, I'm thinking grip more than like sinking into your hands, you know, i and I think I'm envisioning more like, you know, the material that you have when you sit on like a bicycle, so that it doesn't hurt when you're sitting down for a long time, like I'm imagining that sort of thing, I don't know what th that material's called. Oh God. What about the idea of like a round remote? Instead of like a vertical up and down one. Like in terms of holding it. Like that's a f shape of a fruit. Just to tie it in a little. Yeah. Yeah, 'cause otherwise your fingers can't move around. But I like i I love the idea of the wheel like the iPod. 'Cause th It's like five, 'cause there's one in the middle. I think why it would be good for us is 'cause like you could have the same wheel sort of effect



for like channel flipping and then the other one could be like for volume. Like just the idea of like those so few buttons for main things, but then how you could go back to the menu and like, I dunno if we would want it on the screen there or on the actual T\_V\_. I kind of am wanting to say on the T\_V\_, 'cause if you're changing the brightness, don't you wanna see it happening, kind of? And then you could still have that available. Mm-hmm. Mm-hmm. Uh-huh. If I get any more information of fruits and vegetables, I'll let you know. Well, there we go. The iPod packaging is me like was so that was like half the fun. It's like the way it all comes all cute. Lemons? Yeah, I mean, it would t totally take care of our problem of not wanting to change batteries. Costs. But over time Yeah, it's a But if you c if you could scroll through the channels, and then the volume would just be and the volume would just be like the same way, forward and backward as I'm just thinking like it would make it much like sleeker sort of looking. And otherwise, no matter how may buttons we have, we're gonna have like, you know, black with red sticking out and th no it's gonna inevitably sort of start looking like those group of sort of ugly ones that we saw stacked up. Oh could it be hard, and then something around it? I'm thinking curved of some sort. Yeah. And let's like see if we get anything else. I mean I'm not like hard-sold on the scroll wheel, it's more just to give it a different kind of look, but if it's gonna be in a latex type thing and that's gonna look cool, then that's probably gonna have a bigger impact than the scroll wheel. Like a radio type sorta situation? Wow.

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# Meeting ID: 117

Data Source: Train

## Executive Summary

this is the beginning of the third meeting , the conceptual design meeting . Um our agenda should be um that we're opening the meeting , the minutes from the previous meeting are on the shared f drive at this point . Um and we should each have a presentation to make . Um we have certain decisions to make Um there are the decisions we have to turn to , but we'll come back to them in a minute after I take us to the minutes of the previous meeting . Um Sarah , you presented a marketing research report um which pretty much rep represented that fifteen to thirty five year olds uh it has to be hand-held , power , channel , volume , number keys , possibly a speech recognition . And then Steph did a second presentation um that those functions plus streamlining them with big user-friendly keys that were easy to use . Kate presented a working design of going after going over the basics on the whiteboard um that it should be a simple mass-produced device , because of the twelve and a half Pence cost . Um but we did talk about possibly using rechargeable batteries and having a docking place as a selling point . we agreed that the target market would be fifteen to thirty five with more money than sense , that were decision makers . Alternatively it would be a manufacturer to enclose it with the T\_V\_ , Um and that the function we agreed was volume , power , numbers , enter , channels , a way to move between channels , easy to use and hand-held . Um at that point we agreed that Sarah would look at the current cost of competition , what what do the current ones sell for . Um and Steph was gonna look at ec ergonomics . Kate was gonna look at cost and feasibility of the various possibilities that we discussed . first thing I want to address is um one of the points that Florence brought up , which was uh current cost of the competition devices , and and they're uh twenty to sixty Euros , depending on uh branding . But I think that with the current um price that we're searching for , we're well within , even on the lower end , of the uh of the market . I investigated the remote control market in greater detail , What's hot , fruit and veg . Spongy . And this is all over the catwalks , Paris , Milan , and I'm talking about clothing , furniture , shoes . This is really interesting change from past years , because it is much more organic , And I think if we're to refashion our view of what we want in a remote control , we should perhaps think about incorporating technologically interesting fabrics and some of the bold colours into a simple handset . on um what again are the most important priorities in uh decision making about uh purchasing . Functional is out . Fancy . And f the fancy , and that's exactly the term , I'm I'm thinking polished , elegant , you know , kind of innovative , but a cut above . This is twice as important as the next finding , which is

technologically innovative . This is interesting , 'cause I think in the last meeting we were talking about technology as being so important , but maybe what's innovative is having it simple with um with uh technologically superior fabrics or uh , you know , designed in interesting substances . Ease of use . Again , pretty low , I mean it's the top three , but each of the uh fancy and technologically innovative are far more important . I think we should cloak the streamlined remote control device in a series of fruit fruit themed sleeves . It sounds like the the uh covers that they use for the remote , you know , your t your cell phone . I was thinking though that instead of having something uh like patterned , you know , so , you know , something similar to a summer dress . you know , it would have like fruit and veg , is that we actually make these spongy . initially I thought we could start with kind of um fruit that would suit kind of uh a long uh hand-held , so banana , pineapple and pear . They could be interchangeable , they're spongy , So what we're talking about is changing . this concept . Everyone has a T\_V\_ remote , but the person who is really perhaps active in personalising , I'm thinking the teenager , the someone fifteen to thirty five would go out and get this additional thing the same way as you mentioned that people would get the cell phone covers . So I really open this up to uh any other feedback . This spongy fruit and veg . I I think we're gonna have some trouble when we get down to the component design on this . And as for as for um well budgeting as well , if we're gonna have lots of different interchangeable components . we can make these things out of wood , titanium , plastic or rubber . I suppose rubber is the closest to spongy , I was thinking titanium myself . I have been influenced by pictures of iPods , I think many of us would associate those with fancy . it would be uh a a very simple product that would have a spongy sleeve that would be interchangeable . So Perhaps perhaps that desi that particular suggestion needs to go back to management W w would it be helpful if um I described the components a bit , I think possibly it might be more useful if Kate went next . I was really thinking a lot about the I\_ uh the iMac kind of gel gem tone . you're gonna be a little disappointed with some of the things I have to tell you , I've been looking at the the basics of how these devices actually have to work in order to operate , and I've had some discussions with the ma manufacturing division , who have told me what's actually available , you know , what the current state of the art in components is , and some of the exciting new things they've got , this is the innards of a remote control um . and that's the the back of the interface . And this is a push-button one , so you see these little little buttons here , they're little rubber rubber buttons that go through onto the the board at the back and they push these buttons here . that's the basic construction that we've got to got to accommodate . We got to have something that pushes the little buttons that um talk to the chip that encodes the message that sends the the message to the receiver . So first of all um I wanna talk about what possibilities we've got for the energy source . Um we can have your bog standard double double A\_ batteries in a replaceable um little compartment . We can have a hand a wind-up , yeah , but i it maybe is doesn't quite go with the um the fruit and veg . Um one that one that I think is quite interesting is the kinetic energy source , where um you you actually get the energy by moving the device , Or we we had talked about solar power , but I thing that we agreed that that's not so good in the dark . I'm afraid this is the options we've got on on the case . It can be made of plastic , rubber , wood o if you like , or titanium . Um and the nearest we've got to st to spongy there I guess is rubber , and basically it can have a flat surface , a curved surface or a double curved surface , but I think if we wanna use standard components , we're gonna have difficulty with anything much beyond that . push button , that's that's the one

we're all familiar with . what does the interface look like ? Um we can have scroll buttons and the the scroll button can incorporate a push , so you can have it like on a mouse where you can use it to go up and down , change volume or channel or something like that and push to select something . Um you can have multiple scroll buttons , And we can also incorporate an L\_C\_D\_ display in the remote , but this will increase the cost . Um the electronics that actually makes the device work , we've basically got three , simple , regular , advanced , If we want the nice cheap one , the simple , then we can only have push buttons . Um pay a little bit more for a regular chip and you can have scroll buttons . And the manufacturing division tell me that they have recently developed um sample sensor sample speaker devices . I don't know what that is , but I think they think it's quite important I I think we've got two options . We can either go for a really cheap model , keep all of the costs down , Or we can have something that looks a bit nicer , I think it , um won't necessarily I uh look like a pineapple , Um but it could have an L\_C\_D\_ screen and it could have multiple scroll buttons , Um do you have any idea if if this could if the fancy model could be done in twelve Euros fifty ? and it could have the the company's new development of the um sample sensor and speaker . I'm afraid I don't have that information available . Um manufacturing didn't actually give attach any prices to any of this , I'm afraid . so what I had been thinking was something chunky and yellow and plastic with black buttons with a logo on it . I I don't know how important that is to keep it exactly the colours of the Real Reaction company . That's before I heard about all this hot tips about the future , fruit-wise . We we could we could do um a double curved rubber one , which would allow um say a banana , but um unfortunately I see from my notes that if we do that , we have to have a push button as the interface , I don't actually have a huge amount of different information then what Kate says , just that my method was to look at the , well , my my inspirations , which was a big collection of lots of different models of remote controls and other things that use a similar sort of thing , including M\_P\_ three players , uh like you know , hi-fi remotes , not just television and these things . Uh having a think about the feature of ea the features of each ones , Uh I've been especially interested in the iPod style scroll wheel , um what functions we actually need , It has uh scroll wheels without without a display , but it had a similar thing to this thing on the right . So I was thinking that uh um a really simple a really simple interface with just a couple of scroll things on it um and then instead of a display the display could appear on the television screen . and it comes up with what's showing on that channel at the moment , you can scroll along and you can see what's on the other channels while you're watching the same channel on the screen . Uh but I'm also equally taken with this chunky plastic kiddie remote , um which is really nice and fun and good to hold and nice , big , easy buttons to press , but still quite simple and quite cost effective . what seems kind of ideal for me would be to just have a fairly simple , uh not fancy but not totally minimalist , I mean just pretty simple plastic , probably , I was thinking , yellow and black , just because that's the company's colours , with very very few buttons , but that would correspond to a screen that would appear on the television screen , like , you know , just small along the bottom Yeah , I'd I'd certainly support that idea . And uh and I definitely support uh the use of plastic and or rubber . I mean titanium would be great , but I think it might be a bit too expensive and too kinda spacey . we can't for example have a double curved case in titanium unfortunately . But as for actually arranging them let me go back to the to the picture of the kiddie one . And I quite like it , 'cause it's just smooth and hand-held and it's got these easily reachable buttons so something a bit like that with buttons arranged in a kind of circle . Up , down , left , right . Do

you want scroll buttons in that as well ? I I was thinking not actually scroll , like a like mouse scroll , like this s style thing where you c have up , down , left and right . And enter in the middle , and when when you click on each one , it you can go into a new menu for that . It seems that that uh you guys are quite keen on the plastic , Uh just something else I need to bring to your attention Um we need to come up with some specifics of the components , um the materials , things like making the decision on the energy um and the case and the interface type things . If we're k trying to keep it colourful and slightly organic , then I think titanium's too futuristic . Whereas a plastic's so cheap and easy and mouldable and everything else . And the the having the the the screen on the television screen I think is a good idea , I think I think that's a g nice clean design , But they all have this this feature of this uh It's not quite a scroll wheel , but it's a kind of selection in this circle , But we can implement it with simple push buttons , either a channel up and down , volume up and down , next appearing programmes up and down , uh and then also when you get into the different menus on the screen , it's got your things like settings and contrast up and down . So all you really need is these four buttons with the enter in the middle . Do you think we could put it in a in a fruit colour ? And have it abstract . we could call like a fruit name , Mm . We we could actually do it in rubber instead of plastic if you'd rather if you feel if you like the spongy I'm thinking maybe we need to be a little bit more abstract if the design constraints are so This is actually the volume up and down , but they both say V\_ on them , so uh we do need to avoid little ambiguities like these . But we wouldn't have a specific volume up and down . If we're having the scroll wheel , then it's gonna double up as all the other up and down functions . They want us to decide what form of energy are we going to use , which the choices that we've discussed were pretty much battery , kinetic or solar . You were saying that the kinetic would be useful , um as opposed to a battery that you have to either put it in a recharger or um keep replacing the batteries . Um or solar that you'd have difficulty with it if it's a dark day , that it'll die on you , and no way to do it . unfortunately I don't have costing information . I i in terms of workability , I I think the the two front-runners are the standard battery or the kinetic , What's the uh feelings of the group on the kinetic ? I've used kinetic in terms of watches you don't even notice um that it's there . I've never come across it before , but it sounds fantastic . it would make the whole thing a lot lighter , more convenient . a good selling point . So the consensus seems to be use the kinetic if it's at all possible . But it does depend how much I mean how much it costs and how much more development and research it needs . Mm . Um the next thing that they wanted us to do was look at chip on print as a decision . Um chip on print is just a manufacturing technique um and I would certainly recommend it , I think , Um what about the case ? I think they're talking there about do we want wood , plastic , titanium or rubber , Do you not think it might need like a kind of a hard plastic inner shell with the actual delicate workings inside , and then a kind of spongy Yeah , s thick spongy cover , and I think we've discussed not having titanium . Um we've sort of eliminated wood . We said plastic or rubber . I'd I'd need to talk to manufacturing again about whether that's actually possible , but I agree , it's uh sounds like a nice idea if it is . Um the next part they want is the user interface concept . Then I'll just say I support either from a marketing point of view I support either decision that the designers make on that . like four buttons , up , down , left and right with enter in the middle , that will correspond to a menu on the screen . I'd like push buttons with but the next meeting starts in thirty minutes . Um this is gonna sound weird , And they actually want a look and feel design , user interface design , Marketing they want product evaluation . Um the look

and feel design is for Kate , uh Steph gets the user interface design , Um the two of you get to play with a Pla modelling clay um to do a prototype . you get product evaluation . Uh and everybody gets individual instructions in the usual way . And that's the end of this meeting .

## Complete Meeting Transcript

I respond to either. No worries. Okay, first thing I want to address is um one of the points that Florence brought up, which was uh current cost of the competition devices, similar to the ones that Stephanie uh showed us and and they're uh twenty to sixty Euros, depending on uh branding. Some of them that have a higher brand recognition are on the more expensive end. But I think that with the current um price that we're searching for, we're well within, even on the lower end, of the uh of the market. But I'm going to move on to more interesting um more vibrant things. So, I investigated the remote control market in greater detail, and my uh the theme of what I was to work on was uh trend watch. And I know that you all are a distance from cutting edge marketing research, so you know, I'm just gonna try to cloak it in really professional terms here. What's hot, fruit and veg. Spongy. And this is all over the catwalks, Paris, Milan, and I'm talking about clothing, furniture, shoes. This is really interesting change from past years, because it is much more organic, um some would say approachable. And I think if we're to refashion our view of what we want in a remote control, we should perhaps think about incorporating technologically interesting fabrics and some of the bold colours into a simple handset. So. I also did a little research on um what again are the most important priorities in uh decision making about uh purchasing. Fancy. Functional is out. And f the fancy, and that's exactly the term, I'm I'm thinking polished, elegant, you know, kind of innovative, but a cut above. This is twice as important as the next finding, which is technologically innovative. This is interesting, 'cause I think in the last meeting we were talking about technology as being so important, but maybe what's innovative is having it simple with um with uh technologically superior fabrics or uh, you know, designed in interesting substances. Ease of use. Again, pretty low, I mean it's the top three, but each of the uh fancy and technologically innovative are far more important. So I think we should cloak the streamlined remote control device in a series of fruit fruit themed sleeves. Y yeah, you know Exactly. Exactly. I was thinking though that instead of having something uh like patterned, you know, so, you know, something similar to a summer dress. you know, it would have like fruit and veg, is that we actually make these spongy. They could be ini initially I thought we could start with kind of um fruit that would suit kind of uh a long uh hand-held, so banana, pineapple and pear. Um it could actually the sleeve could take up a lot of the development and the remote control, we'd just need to get reductionist on it. They could be interchangeable, they're spongy, that goes back to ergonomic, and the youngsters love 'em, fun for the whole family, everyone can have their own. So what we're talking about is changing. this concept. Everyone has a T\_V\_ remote, but then we add in the fact that they could each have their own individual fruit. That's what's hot on the catwalks. So, this is my This is what I'm thinking. Y yeah, but I think I think what this would allow is perhaps a person in the family who had the most opinion about it we all need a remote, but the person who is really perhaps active in personalising, I'm thinking the teenager, the someone fifteen to thirty five would go out and get this additional thing the same way as you mentioned that people would get the cell phone covers. Yeah. W and plus I think Uh yeah. Yeah. Yeah. So this is an idea and I I you know, this is exactly what the research has uh has shown. So I really open this up to

uh any other feedback. This spongy fruit and veg. Thanks. Alright. I I just have my ear to the market, guys. Is spongiest, yeah. That would add Mm-hmm. They are and they they would fulfil the uh first um priority, which is fancy. I think many of us would associate those with fancy. Something else we could do i

s uh call it something that's fruit and veg oriented. We could call it uh The name. Well it would be uh a a very simple product that would have a spongy sleeve that would be interchangeable. So That, you know, that might be And then we could keep it titanium. Yeah. Or s or smelly. Scratchy Uh well I was really thinking a lot about the I\_ uh the iMac kind of gel gem tone. It's hot on the streets, guys. Mm. Hmm. Hmm. Hmm. Mm. That sounds good. Any idea you you mentioned that there would be a cost difference. Um do you have any idea if if this could if the fancy model could be done in twelve Euros fifty? Hmm. Because, you know what, I'm being quite serious when I say that that um the things I mentioned are hot. But I think the important thing might be to choose one. You know, if if what you're telling me is is um some of these things aren't just f aren't feasible, maybe we could something about naming, we could call it, you know, Blackberry. That's uh Alright, well let's see then. Yeah. Yeah. But yeah, I'm trying to streamline mine a little bit. Yeah. Hmm. Yeah. Mm. Thank you, Kate. Mm. Oh I think um Florence resolved it by F\_ eight again. Maybe. Mm. Hmm. It's a duplication. Mm-hmm. Mm-hmm. To uh m make it. Oh nice. Um Hmm. Mm. Wow. Do you think with um It seems that that uh you guys are quite keen on the plastic, perhaps the something reminiscent of the child's remote. Do you think we could put it in a in a fruit colour? And have it abstract. You know, we could call like a fruit name, but it would be a little more abstract. Mm-hmm. I'm just just throwing out ideas. Yeah. I'm thinking maybe we need to be a little bit more abstract if the design constraints are so Mm-hmm. Mm-hmm. Nice. Good point. I've used kinetic in terms of watches and it's very very uh handy, you don't even notice um that it's there. It's Mm-hmm. It could tie in with the fanciful design as uh, you know, throw the banana, you know, just gotta keep it moving. Be Yeah. Yeah. Mm-hmm. But I could market that as a um as a a I was thinking actually a a cost saver down the road, in terms of battery, you know. Mm-hmm. You know, kind of the That's exactly what I was thinking. I'm sold. Mm. Kind of like an internal egg. Yeah. And with sports on television. You know. I su Then I'll just say I support either from a marketing point of view I support either decision that the designers make on that. No we can't, actually. That's why I was looking over your shoulder Mm. Sounds good. That's really all I got, guys. Just just carry on. Mm-hmm. Mm-hmm. Sorry. I'm glad to see the marketing budget is being so well spent on. I think that's a good idea. Don't you? Yeah, I I think we're gonna have some trouble when we get down to the component design on this. Spongy is gonna be difficult, I'm afraid. Yeah, I mean basically we can make these things out of wood, titanium, plastic or rubber. I suppose rubber is the closest to spongy, yeah. I was thinking titanium myself. Yeah. W w would it be helpful if um I described the components a bit, because I think it would give you um maybe bring this discussion back to Earth of what we can actually physically do. Right, well I I I think some of this um you're gonna be a little disappointed with some of the things I have to tell you, but I'm afraid this is the real world. So um I've been looking at the the basics of how these devices actually have to work in order to operate, and I've had some discussions with the ma manufacturing division, who have told me what's actually available, you know, what the current state of the art in components is, and some of the exciting new things they've got, but I'm not sure that it's quite what you want um. Now this isn't a very good overhead, but this is just to show you, this is the innards of a remote control um. I really need a pen or something but uh does my mouse work? No. Um oh yeah, can you see my little mouse pointer? Right. This is this is the a a a remote that's been opened up and that's the the

back of the interface. And this is a push-button one, so you see these little little buttons here, they're little rubber rubber buttons that go through onto the the board at the back and they push these buttons here. Um and we that's the basic construction that we've got to got to accommodate. We got to have something that pushes the little buttons that um talk to the chip that encodes the message that sends the the message to the receiver. So um I wan I wanna go through not not just addressing the um uh the the points that you made, Sarah, but um doing my presentation in the order I wrote it. So first of all um I wanna talk about what possibilities we've got for the energy source. Um we can have your bog standard double double A\_ batteries in a replaceable um little compartment. We can have a hand sorry a wind-up, yeah, which I think is quite an interesting concept for a sorry for a remote control, but i it maybe is doesn't quite go with the um the fruit and veg. Um one that one that I think is quite interesting is the kinetic energy source, where um you you actually get the energy by moving the device, which is quite a ni a nice and neat one. You have to it means that if it's sitting there for a long time it probably won't work, but you have to sort of throw it between your hands every now and then, it'll work. Or we we had talked about solar power, but I thing that we agreed that that's not so good in the dark. Now I'm afraid this is the options we've got on on the case. It can be made of plastic, rubber, wood o if you like, or titanium. Um and the nearest we've got to st to spongy there I guess is rubber, but um I'm gonna come back to the advantages of titanium, and basically it can have a flat surface, a curved surface or a double curved surface, but I think if we wanna use standard components, we're gonna have difficulty with anything much beyond that. Okay, what does the interface look like? Um well push button, that's that's the one we're all familiar with. Um we can have scroll buttons and the the scroll button can incorporate a push, so you can have it like on a mouse where you can use it to go up and down, change volume or channel or something like that and push to select something. Um you can have multiple scroll buttons, um this is maybe getting a little bit complicated, but um it's it the technology is there. And we can also incorporate an L\_C\_D\_ display in the remote, but this will increase the cost. Um the electronics that actually makes the device work, we've basically got three, simple, regular, advanced, and the price goes up as we choose each of this. If we want the nice cheap one, the simple, then we can only have push buttons. All the other fancy interface designs go out the window, I'm afraid. Um pay a little bit more for a regular chip and you can have scroll buttons. If you want the advanced chip it obviously costs more, but it that's what you need if you want the L\_C\_D\_ display. And the manufacturing devision tell me that they have recently developed um sample sensor sample speaker devices. Now I don't know what that is, but I think they think it's quite important and we might want to incorporate it somewhere. Um ou our real expertise is in push buttons, I have to say, but maybe you think that's old technology. And well I I think we've got two options. We can either go for a really cheap model, keep all of the costs down, um which means a flat plastic case with an ordinary battery and simple push buttons. Or we can have something that looks a bit nicer, I think it, um won't necessarily I uh look like a pineapple, but um that may or may not be a good thing. Sorry. Um but it could have an L\_C\_D\_ screen and it could have multiple scroll buttons, and it could have the the company's new development of the um sample sensor and speaker. So, thank you. Yeah, I'm afraid I don't have that information available. Um manufacturing didn't actually give attach any prices to any of this, I'm afraid. Yeah mm-hmm. Bana

na? We we could we could do um a double curved rubber one, which would allow um say a banana, but um unfortunately I see from my notes that if we do that, we have to have a push button as the interface, we can't do anything fancier. Yep. I If you do F\_ uh F\_N\_ F\_ eight again, it's it'll I think it yeah, you you will do an Hmm. Hmm. Yeah. Yeah, I'd I'd certainly support that idea. It's difficult to make fancy



shapes in it as well, we can't for example have a double curved case in titanium unfortunately. And the the having the the the screen on the television screen I think is a good idea, 'cause um otherwise we're we're putting up the price not only for putting building the L\_C\_D\_ in, but for the electronics as well. There is that. Do you want scroll buttons in that as well? Mm-hmm. Right. Yeah. I think I think that's a g nice clean design, it's playing to our strengths which are in push button technology. Yeah. But we can implement it with simple push buttons, which is much cheaper. In fact Oh that's really nice. Hmm. Mm. We we could actually do it in rubber instead of plastic if you'd rather if you feel if you like the spongy Hmm. Yeah. Yeah. Yeah. Mm. Oh unfortunately I don't have costing information. I i in terms of workability, I I think the the two front-runners are the standard battery or the kinetic, but I'm sorry I don't figures on the difference in cost. And and how much you do have to keep it moving, 'cause I'm conscious that watching T\_V\_ can be quite a sed sedentary activity. Yeah. True, yeah, m more more environmentally friendly. Oh right, okay, I'd that that's something I maybe should have covered. Um chip on print is just a manufacturing technique um and I would certainly recommend it, I think, because I'm not sure I have an alternative. I i it's just the way that the the the uh th the way it's ac it's actually built and you you print onto the circuit board like you might print onto paper. Well if if Sarah's keen on a spongy feel, the the rubber that we're talking about is the same as you have in those little stress balls, so it's yeah. Yeah. I'd I'd need to talk to manufacturing again about whether that's actually possible, but I agree, it's uh sounds like a nice idea if it is. I should I should r Which I think technically is just push button and uh I'd certainly support that that that brings the cost down quite a lot and it's something that we're an ex the company's an expert on. You know, I think the the company's s next project should to design a better overhead device that switches immediately. Yeah. Yes. Yep. Yeah, Right. Yes. So when your dad's sitting there, overriding your decision, going no we're gonna watch this, you can bring out your own remote and be like zap, no we're gonna watch this. Yep. And as for as for um well budgeting as well, if we're gonna have lots of different interchangeable components. Is this to the market? I was thinking titanium, I was thinking it's just I have been influenced by pictures of iPods, and they're also minimalist and shiny. Yeah, but it's kind of pointless, isn't it? Yeah. Let's delegate. Yeah, maybe. Or I think possibly it might be more useful if Kate went next. Um You can even have them in different flavours as well. So that if you just wanna sit there and chew on the remote, it could be like pear flavour, yeah. Scratch and sniff. A wind-up. Bear bear in mind it has to be the colours and styles of the company, so what I had been thinking was something chunky and yellow and plastic with black buttons with a logo on it. But um I I don't know how important that is to keep it exactly the colours of the Real Reaction company. It's just what I'd understood we'd be doing. That's before I heard about all this hot tips about the future, fruit-wise. Shall we wait 'til I've 'til I've showed you what well, my extensive presentation on what sort of interfaces are available. You did seem to include just in more detail what I've got though. So so mine's a bit pointless. Right.

F\_N\_ and F\_ eight, did you say? I don't have it on mine though. Should I do it again? Right then. I don't actually have a huge amount of different information then what Kate says, just that my method was to look at the, well, my my inspirations, which was a big collection of lots of different models of remote controls and other things that use a similar sort of thing, including M\_P\_ three players, uh like you know, hi-fi remotes, not just television and these things. Uh having a think about the feature of ea the features of each ones, um what functions we actually need, and then how to group and arrange these on the actual the actual plastic or rubber hand-held piece. Uh I've been especially interested in the iPod style scroll wheel, which Well, I couldn't find a the picture of the iPod w only linked to a web browser, so I couldn't copy and paste it, but it had a similar thing to this thing on the right. It has uh scroll wheels

without without a display, but they they scroll like a computer mouse. So I was thinking that uh um a really simple a really simple interface with just a couple of scroll things on it um and then instead of a display the display could appear on the television screen. Like I guess an existing Sky or cable one does. Like, you know, you press enter and it comes up with what's showing on that channel at the moment, and you can do you can scroll along and it'll show you what's on in the next half hour, and you scroll up and you can see what's on the other channels while you're watching the same channel on the screen. Uh but I'm also equally taken with this chunky plastic kiddie remote, um which is really nice and fun and good to hold and nice, big, easy buttons to press, but still quite simple and quite cost effective. So what seems kind of ideal for me would be to just have a fairly simple, uh not fancy but not totally minimalist, I mean just pretty simple plastic, probably, I was thinking, yellow and black, just because that's the company's colours, with very very few buttons, but that would correspond to a screen that would appear on the television screen, like, you know, just small along the bottom instead of instead of having the iPod style display screen on the actual remotes, which is far too expensive. And when you've got a screen sitting there in front of you, you might as well have it appearing uh on the screen in front of you, it doesn't obscure much of the actual picture you're watching. And so on that you can, just much in the same way as an existing Sky remote, scroll along, scroll up and down. And uh and I definitely support uh the use of plastic and or rubber. I mean titanium would be great, but I think it might be a bit too expensive and too kinda spacey. If we're k trying to keep it colourful and slightly organic, then I think titanium's too futuristic. Yeah. Whereas a plastic's so cheap and easy and mouldable and everything else. Uh then And it's a little bit pointless as well I think. Like when when when you've got when you've got the screen there, it doesn't have to be anything fancy, just a little menu showing yeah, a menu, you go into one menu and then it can have your different options, whether you wanna change the settings or the you know, your information about programme that's on at the moment. I don't think that's to taxing to uh s engineer. Um. But as for actually arranging them let me go back to the to the picture of the kiddie one. And I quite like it, 'cause it's just smooth and hand-held and it's got these easily reachable buttons that quite nicely uh spaced out, so something a bit like that with buttons arranged in a kind of circle. Up, down, left, right. I I was thinking not actually scroll, like a like mouse scroll, but you know, a I can't quite d uh describe it. you see on the one on the right, down at the bottom, is the mouse. Yeah, see where the mouse is, like this s style thing where you c have up, down, left and right. And enter in the middle, so you pick your menu an

d then your different options and when when you click on each one, it you can go into a new menu for that. I'm getting a bit uh specific here. Really we'd have to use something to show you, but If I don't think I can get it up on the screen. Ah here we go. Right. Well, the iPod spinning wheel is uh really complicated. It does scroll, but it is hugely complicated. What else have we got? Them, they're terrible. But they all have this this feature of this uh It's not quite a scroll wheel, but it's a kind of selection in this circle, which I think is a really good idea. Yeah, like up, down, left and right. Which is good. And then and then Yeah, so I mean either a channel up and down, volume up and down, next appearing programmes up and down, uh and then also when you get into the different menus on the screen, it's got your things like settings and contrast up and down. So all you really need is these four buttons with the enter in the middle. And that's it. Look at look at this one. Almost impossible to misplace or I or lose. Might take up your whole living room. Possibly. Yeah. That also is possible. Just Uh just something else I need to bring to your attention is have you have you seen these on a remote? This is actually the volume up and down, but they both say V\_ on them, which, when you first look at it, you expect that to be the down, because it looks like a downward pointing arrow, but it's actually the V\_ to indicate that it's

the volume, so uh we do need to avoid little ambiguities like these. But we wouldn't have a specific volume up and down. If we're having the scroll wheel, then it's gonna double up as all the other up and down functions. But then, that's complicated. It sounds great. I've never come across it before, but it sounds fantastic. Sounds like it could be a really good economical it would make the whole thing a lot lighter, more convenient. Yeah. 'Cause it's really a quite attractive thought, isn't it? It's like yeah, a good selling point. But it does depend how much I mean how much it costs and how much more development and research it needs. Do your exercises while you're watching the T\_V\_. Yeah, that's what I was thinking as well. Do you not think it might need like a kind of a hard plastic inner shell with the actual delicate workings inside, and then a kind of spongy Yeah, a thick spongy cover, so it feels like the whole thing's spongy, but actually you're not damaging anything by squeezing it. Because I mean you could just get carried away with the with the tact Yeah. Well you do get a bit carried away with things that are tactile, you just wanna stroke them and squeeze them, and Just copy the one on the left. No um a scroll Well, like four buttons, up, down, left and right with enter in the middle, that will correspond to a menu on the screen. Yeah, I'd like push buttons with So push buttons No, it's still it's still plugged in on mine actually. Now it's gone again. Oh yes. Great. I don't think so. Play-Doh. Hi Kate. Okay, carry on. Alright um this is the beginning of the third meeting, the conceptual design meeting. Um our agenda should be um that we're opening the meeting, I have the minutes from the previous meeting are on the shared f drive at this point. Um and we should each have a presentation to make. Um we have certain decisions to make and we have forty minutes total. It's twenty five after two at the moment, so forty minutes is five after three, um which I'll be keeping an eye on the clock for us. Okay. Um there are the decisions we have to turn to, but we'll come back to them in a minute after I take us to the minutes of the previous meeting. Right um as we remember, I opened the meeting, the four of us were present, the meeting the first meeting's minutes were reviewed and approved. Um Sarah, you presented a marketing research report um which pretty much represented that fifteen to thirty five year olds uh it has to be hand-held, power, channel, volume, number keys, possibly a speed

ch recognition. And then Steph did a second presentation um that those functions plus streamlining them with big user-friendly keys that were easy to use. I think all of us agreed with those things. Kate presented a working design of going after going over the basics on the whiteboard um that it should be a simple mass-produced device, because of the twelve and a half Pence cost. Um but we did talk about possibly using rechargeable batteries and having a docking place as a selling point. Um and the new requirements that it for be for T\_V\_ only um and that it include the logo slogan and colour of the uh corporate design be included. Um the corporate image. So we agreed that the target market would be fifteen to thirty five with more money than sense, that were decision makers. Alternatively it would be a manufacturer to enclose it with the T\_V\_, but it still should meet those parameters. Um and that the function we agreed was volume, power, numbers, enter, channels, a way to move between channels, easy to use and hand-held. Um at that point we agreed that Sarah would look at the current cost of competition, what what do the current ones sell for. Um and Steph was gonna look at ergonomics. Kate was gonna look at cost and feasibility of the various possibilities that we discussed. And I was to type up these minutes and work on the final report. Is this a fair presentation of what our last meeting was? Okay. Right. So we're ready to close that and go back to our That one. Right. We're up to the point of the Go back. Um the three presentations. So we're going to pull the plug on me and turn to Sarah. Is that okay? Is that alright with everybody else? Especially since Kate asked to be last. Sarah, I'm sorry if I misspelled your name, I didn't know whether it was S\_A\_R\_A\_ or S\_A\_R\_H\_. You respond to whatever you get, huh? Okay. Um, did you do your Hit Ah, there it is. Ta-da. Mm 'kay. 'Kay. Mm. It

sounds like the the uh covers that they use for the remote, you know, your t your cell phone. Mm. Hmm. Uh-huh mm. In most families, don't isn't the remote is a remote. Mm. Mm. Well actually some households do have three and four T\_V\_s and they would have a remote for each one, so. Hmm. Hmm. Are we talking about the device itself or the c or a cover for the device that would be an interchangeable cov cover as a separate product? Perhaps perhaps that desi that particular suggestion needs to go back to management and perhaps go to another group to actually design as a separate product. Wo would that be agreeable? Do you wanna be next or you want Kate to go next? Okay, we'll move the Mm. Mm. Alright. Remember, we only have forty minutes Hmm. Mm. Hmm. Thank you, Kate. Yes. There we go. Do it again. Keep doing it until you get it in both you get it there, you get it yours without that one, and then you get it with both. Yeah. This time it should come up both. Okay. Mm-hmm. Mm. Hmm. Mm. Huh. It's a selection wheel. Okay. Okay. Or call it a or call it a banana and have it in yellow. Okay. Mm-hmm. Mm-hmm. Hmm. Hmm. Mm 'kay. I wanna thank you all for all your presentations. We have about ten minutes left, in which time we have to make some decisions on the remote control concepts. Um and I think you all have been self-stimulating of working together. Um we need to come up with some specifics of the components, um the materials, things like making the decision on the energy um and the case and the interface type things. So let's Mm. Right. They want us to decide what form of energy are we going to use, which the choices that we've discussed were pretty much battery, kinetic or solar. Um this is where Kate's expertise comes in, and our decision making will be a little bit guided by Kate at this point. The You were saying that the kinetic would be useful, that is you just have to move it some and you'd be able to use it um as opposed to a battery that you have to either put it in a recharger or um keep replacing the batteries. Um or solar that yo

u'd have difficulty with it if it's a dark day, that it'll die on you, and no way to do it. That's the day you wanna use the T\_V\_. Um so what's our pleasure here, what would be the cost consequences of each of the three? Okay. Mm 'kay. What's the uh feelings of the group on the kinetic? Hmm. Hmm. So the consensus seems to be use the kinetic if it's at all possible. It costs. Mm. Mm. Mm. Hmm. Yeah. Thanks for the reminder for five minutes to finish, thanks. Um the next thing that they wanted us to do was look at chip on print as a decision. Oh. Okay. What about the ca yeah. Oh, the way we uh-huh. Oh, okay. Um what about the case? I think they're talking there about do we want wood, plastic, titanium or rubber, and I think we've discussed not having titanium. One, it's too expensive, um and second, it won't do this double um curves. Um we've sort of eliminated wood. We said plastic or rubber. What's the pleasure? What about you? Cover. Uh-huh. Plastic inside. Hmm. Okay. Um the next part they want is the user interface concept. I'm sorry to push you, but we only have a couple minutes to finish with. Okay, and it says interface. What type and what supplements? Okay, um that's that. Um this is gonna sound weird, but the next meeting starts in thirty minutes. Whew. And they actually want a look and feel design, user interface design, you can look and see this as well as I can. Marketing they want product evaluation. Oh. Oh my, I'm sorry. Oh, okay. Sorry about that. missed that one. This ought to be fun trying to get this thing to work. Ah, ta-da. Ah. Yes, because I can't even see mine. Next meeting starts in thirty minutes, these are the individual actions. Yeah, right. Um the look and feel design is for Kate, uh Steph gets the user interface design, you get product evaluation. Um the two of you get to play with a Pla modelling clay um to do a prototype. Uh and everybody gets individual instructions in the usual way. Anything else we need to do? Go to it. And that's the end of this meeting. That's for her benefit.

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# Meeting ID: 2

Data Source: Train

## Executive Summary

well w what I didn't actually realise it was that the uh this is for a specific television . So the all in one idea goes out the window . now , it was function F\_ eight . f oh sorry F\_ eight . and if you just click that it'll go ahead , one at a time . Uh , yes , I have to look at the uh market potential for this product , Uh then uh the methodology I adopted to find out all this was market survey . Seventy five percent of users they do find it that the remote controls available in the market are ugly . uh we have to take care of this fact also like our design , uh should be appropriate , should be good looking for the consumers . Uh and even uh the good thing about this is that eighty percent of users they are willing to pay high uh pay more for this uh good looking remote controls also . but rather than those having more functions in the remote controls we should emphasise what actually consumer want , what they operate , rather than making it too complicated . Because mostly it has been found that fifty percent of the users they use only ten percent of the buttons , Oh you wanna go back ? Just escape . If we look at the costs whether the consumers they are willing to uh pay more for speech recognition in a remote control or not , we can find that they up to a thirty five years age group we have a very good disliking for this uh this uh point , like for speech recognition in a remote control . because it will definitely enhance our sales in this ag in this particular age group from uh fifteen to thirty five , They find that thirt uh thirty five percent uh thirty four percent of the consumers they find too difficult to operate a remote control . Yeah . No signal . Computer adjusting , yeah . Um , F\_ five and escape'll bring it back and just uh the left button for advancing . uh I'm concerned with um w what effect the apparatus should have on the user I want to point out that our motto , put the fashion in electronics , the basic that was the basic function to send messages to the television set . but I've got some pictures here of some leading ones . These are two leading um remote controls at the moment . I mean this one's got loads of buttons , Um , personally I prefer this one just because it's looks easier use , it's a bit more sleek with more of this silver stuff , Um , well I think we need to I I think the ergonomics is quite um important , um And um I thought not too edgy and like a box , so I think what we can miss out on the buttons we can make up for in design and and how nice it looks . was maybe a bit of a gimmick to set us apart from other people , like glow-in-the-dark Easy finder with the a whistle function or something , or rechargeable station because it's a pain when you run out of batteries . and uh I was just curious to know , have we done any research into how many people can whistle ? is that a function we want in the remote ? you

could have the basically um instead of a whistle if it's got the voice recognition you could have it just , you know , where are you ? . Um a much easier thing is just any loud noise like clapping um , shouting , you know , uh and then , what would the response be ? It beeps back at you or something ? Oh you need to twiddle the thingamibobsy thing . So I plug it in , press F\_ five ? and I jotted down some notes as to what are the b needs and uh what kind of novel features we can add to differentiate our product from the others . And uh a novel feature which uh we just brought up was this this automatic speech recognition feature or noise detection feature for when you lose the remote , there could be a little microphone on it , and any noise over a certain threshold um it'll pick up as a a distress signal um from you and it'll beep back and say you know oh here I am or something of this sort . But sure surely that would have to be um sort of specific rather than above a threshold 'cause if you had a loud movie on you're likely to get it beeping back at you . and then as for the user interface it should be trendy , right , so more low tech and not too many buttons . So I think I missed the budget thing , it was fifty million Euros ? so we're making that at twelve and a half Euros a time . Well I guess more realistically then , we need a product that's got some kinda nifty outer casing , An energy source which'd probably just be uh your regular batteries cheap plastic uh , you know , Would it be possible to have the rechargeable idea ? Yeah , yeah , we could do that too . Or a little base station or something , . uh the canonical user interface for these would be just a bunch of buttons , but since we're a cutting edge company , we uh of course will have alternatives like uh speech recognition , whistling recognition and rocket power Um and lastly the transmission interface is uh , just some engineering thing you don't have to worry about . Um so here's you know , a great schematic that my uh apprentice designer gave me . uh personal preferences , I think uh programmable options which um just require a small amount of memory , just um so the user can put in their favourite channels and maybe their preferred volume settings so that when they turn it on it's not blasting . And the uh , the bells and whistles that we mentioned you know , they take more budgeting , um more technical uh expenditure of effort and it's also much more likely to not work if if we add these bells and whistles . Right , also so um a notice I got not very long before the meeting , We had that um to dis-include teletext um because it's become outdated , and everybody uses the internet anyway . Um it's only for the television , and um instead of colours and sorta colour options , they want corporate colour and slogan somehow implemented in the new design . Um , everything , all their sort of uh you know the uh corporate website and everything's yellow . And the logo uh the sort of slogan we put the fa fashion in electronics uh Okay , so , we have to decide on which functions we're going to actually have . speech recognition potentially , flat screen interface , L\_C\_D\_ interface um we also want to limit the number of buttons Um so I mean a a the sort of inkling I'm getting from little bits of um web chatter that I'm getting sent is that they're quite interested in a T\_F\_T\_ display , interactive display . Um glow in the dark , is that sort of with a light inside it or is it sort of glow in the dark material ? But if we add speech recognition as well as glow in the dark then both these factors will help their locating the remote control , I know of no products um that use speech recognition well . but what about um something that's built into the T\_V\_ um that you can press and it'll send out a little signal um that that will activate the remote control starts to beep . You just say you know , um whatever you whatever you want the remote for , you just shout your command to it and it would do it for you if it's within you know , within hearing range . I like the whole sort of remote feedback thing . we can still use the glow in the dark as a gimmick essentially , and we can have sort of a a a trimming as well , of the glow in the dark

material , just as gimmickyness . there's a good chance the the T\_F\_T\_ screen would break or uh get damaged . So we'll stick with sort of programmability um for the buttons that we do have . Uh maybe Raj you could find out what people would think about that , Um I think we're gonna scratch the speech recognition as a bit of a Oh no it's it's much cheaper than the T\_F\_T\_ , it's just a microphone and some some integrated circuits . so we'll go with speech recognition , yeah ? Um , speech recognition , limited buttons , organic design . Glow in dark . if it's not too expensive s I think it's a good gimmick . And also , integrating the , remember to integrate the logo and the s slogan . getting strings of um information , I'll try and forward any specific to anybody in particular , What I thought as well about the material is um maybe not this kind of material , but maybe more like um this kind of rubbery material , Um , a bit more durable and that can also be ergonomic So we have to safety point of view also , we have to take care . And I'll see if I can argue with boss about putting the We put the fashion in electronics Okay , that felt a bit more like a something with order and and reason to it than the last one . Oh , everybody needs k questionnaire .

## Complete Meeting Transcript

Okay. Okay. Mm-hmm. Wow. So, sorry I was just gonna say, what was the question for this? Or is are you coming on to that? Okay. So these percentages are are what? Hmm. Mm, mm. Mm-hmm. Mm-hmm. Yep, sure, that's cool, um Yeah. I can turn my computer quickly if that's okay. Um, yep. Okay, and then what do I press, F\_ eight? Oh right. Okay, cool. Oh. Yeah. No signal. Okay. Cool. Okay and then how do I press the the big one, to get it on to the big F\_ five and I press that again to get it off as well do I? Okay, so um I'm the interface design designer, User Interface Designer sorry, uh I'm concerned with um w what effect the apparatus should have on the user and um I'm I'm also I want to point out that our motto, put the fashion in electronics, so obviously we as a company we want to make our products trendy and fashionable, it's a big concern of ours. Okay, and how do I press n just the next button? The arrow? Okay. So um I looked at existing designs and also um the information that Raj gave us was very useful about what people like, what people dislike. Um and what people fashionable, because we said people between twenty five and thirty five were the main um buyers of of our T\_V\_ I think. So um what they like and what they find fashionable. And ergonomics, we said um, I don't know I haven't actually been able to do any of this myself, but um maybe that comes up, I don't know. And the findings, well the basic that was the basic function to send messages to the television set. That's what people want to do. Um, so they need to be included, um, but I've got some pictures here of some leading ones. I don't know how to get to them, do I press F\_ five is it? escape? Oh okay, cool. I haven't got my glasses on so I hope it's this one. These are two leading um remote controls at the moment. You know they're grey, they've I mean this one's got loads of buttons, it's hard to tell from here what they actually do, and they don't look very exciting at all. Um, personally I prefer this one just because it's looks easier use, it's a bit more sleek with more of this silver stuff, um, but there you go, that's what we're up against, and I think we can do much better than that. Um hang on. F\_ five, okay, sorry. Personal preferences. Um, well I think we need to I I think the ergonomics is quite um important, um Uh-huh. And um I thought not too edgy and like a box, more kind of hand-held more um not as uh computery and or organic, yeah, more organic shape I think. Um simple designs, like the last one we

just saw, not too many buttons and as Raj pointed out, only ten percent fifty percent of people only use ten percent of the buttons, so I think what we can miss out on the buttons we can make up for in design and and how nice it looks. Um, hand-held and portable I think is portamint is important because T\_F\_T\_ have just um released um I think is it a a remote control for presentations or uh and a big seven inch big screen, anyway, so um Yeah, no seven inches isn't that big but um anyway um so hand-held and portable and uh m I thought about other functions for T\_V\_ but as you pointed out people don't actually want that, so maybe we forget about that. It's for one T\_V\_ oh right okay, sure. And so the last thing I thought w which I quickly mentioned in the other one was maybe a bit of a gimmick to set us apart from other people, like glow-in-the-dark um which does already e exist but it's not very widely used I don't think. Easy finder with the a whistle function or something, or rechargeable station because it's a pain when you run out of batteries. And I think that, yep, that's it. Okay? Mm-hmm. Um, I haven't been able to Mm-hmm, yeah or some sort of voice Yeah. Mm-hmm. Yeah, something. Oh you need to twiddle the thingamibobsy thing. Okay. Mm-hmm. Mm-hmm. Mm-hmm. Yeah sure. Well I like that design. Yeah, not a problem. Mm-hmm. Or a little base station or something,. That might cost more though, 'cause obviously with batteries we don't need to provide,

well we provide the first batteries, but it's more, it's that's cheaper to just provide batteries. A battery in it, kinda. Okay. Okay. Mm. Mm that's a good idea actually I like the programmable options. Mm 'kay. Mm-hmm. Okay. Corporate colour. Okay. Mm-hmm. Yeah. Okay. 'Kay. Mm-hmm. Mm-hmm. Although the the danger with that is, it could look a bit cheap. Yeah. Well Mm. On the number of buttons, kind of functions and stuff. Mm-hmm, okay. Okay, cool. Mm-hmm, mm-hmm. Mm-hmm. Yeah. Yeah. Okay. Um Glow in the dark material I was thinking. Um, so I I guess that would be cheaper than a light I think. Often lost s was that, yeah. Mm-hmm. Mm-hmm. Mm-hmm, mm-hmm. Mm. Mm-hmm. 'Kay. Well what about this might get a bit too expensive actually, but what about um something that's built into the T\_V\_ um that you can press and it'll send out a little signal you know like the ones that we can't hear or something um that that will activate the remote control starts to beep. If you find if y Yeah. Mm. Yeah, that's the only thing, yeah. That comes with our remote control. Yeah. Mm-hmm. That could also be built into the T\_V\_ though, which might make our remote control a bit obsolete. Yeah, okay. Mm. And the expense. Mm-hmm. Mm. Maybe not even all of it 'cause we said um colours and fashion w were important so maybe um just like a little I line that's kind of around the outside and then you can make the rest a different colour. Mm-hmm. Mm-hmm. Yeah, 'cause what I thought, main Slogan, yeah. Right. Mm-hmm. 'Cause yeah, that w more than finding it, that was more like you know if you're watching a film in the dark, you can um still see the remote control. That was more of a a gimmick. Mm. Yeah, unnecessary. Yeah. Mm. So is that one of our definite requirements that they wa that it needs a T\_F\_T\_ screen? Yeah you think so? Okay. Mm-hmm, that's cool. Um if it's not too expensive s I think it's a good gimmick. Mm-hmm. And where is it sorry? Oh. Okay, cool. Okay. Okay. What I thought as well about the material is um maybe not this kind of material, but maybe more like um this kind of rubbery material, it's a bit more bouncy, like you said they get chucked around a lot. Um, a bit more durable and that can also be ergonomic and it kind of feels a bit different from all the other remote controls. The rubber rather than Mm-hmm, mm-hmm. Oh I think wi with the more organic shape of it it won't be as it won't as have many sharp corners as that, so that's something good, um I dunno, I mean That's a good idea. Interesting. Yeah, d with the colour, um does it have to be all yellow, do you know? No. Yeah. Having a little bit. Okay cool. Mm mm. Mm-hmm, okay. Cool. Oh yeah, that's a good one that. Yeah so. Wow. Has anybo oh. Has anybody pressed okay, it vibrates. It's pretty cool. Yeah, got small writing. I don't wanna waste it. Yeah. Yeah. Um. So how S Sh do you want me to hold it? So, after



that? F\_ eight. f oh sorry F\_ eight. Okay. Yeah. Yeah. Uh, me again, Rajan the Marketing Expert. Uh, as we have decided in the last meeting that I have to find out, sorry, yeah sure. Yeah, yeah. Uh actually, sorry I have to see the other, sorry. Yeah, thank you. Uh, yes, I have to look at the uh market potential for this product, uh, like consumer likings and everything, what is the potential for this product and are we able to achieve our a net profit or our aims or not? Then Sorry. Okay. Yeah, I can, okay. Uh then uh the methodology I adopted to find out all this was market survey. A a detailed market survey on consumers was done to find out their likings and dislikings, what they prefer what they not prefer, w what problems they do encounter in all this type of things. And what we got was, we found that if you uh, what they th what problems they are having with different uh remote controls available in the market. Seventy five percent of users they do find it that the remote controls available in the market are ugly. They are not so good looking. So, we have to put stress on th

is, uh we have to take care of this fact also like our design, uh should be appropriate, should be good looking for the consumers. And yes that's wi uh this will definitely, this can definitely put uh uh enhance our sales. Uh and even uh the good thing about this is that eighty percent of users they are willing to pay high uh pay more for this uh good looking remote controls also. So even if the available market goes for the available uh even if the market goes for the available remote control is less even then we can sell it at twenty five Euros, which maybe which may seem quite high but if our looks are are if the re remote control we design have a good better uh better look uh designs, then we can hope that consumers will prefer these g remote controls. Then And the second thing, some some companies they think that they should have more and more functions of the users uh or in their remote controls, but rather than those having more functions in the remote controls we should emphasise what actually consumer want, what they operate, rather than making it too complicated. Because mostly it has been found that fifty percent of the users they use only ten percent of the buttons, so there is no point of having ninety percent buttons making the remote controls too bulky, too complicated too expensive a because I think I believe that technology is useful only if uh the consumers they want to use it. Otherwise there is no point of having all this type of things. So this will not only reduce the cost of our remote controls but it will increase our profit also. So we have to take care of this fact also. Then. Uh it was function I want to go to. Uh, escape, okay thank you. Then if we look at this slide, uh these are in your shared documents, you can see, like Uh, sorry. Ah t look all the market potential, what uh how we should design consu our remote controls, what they should be there so as to en enhance our profit, enhance our sales. Yeah, these are different age group persons like uh sorry, I can open it in another way. Uh, yes. If we look at the costs whether the consumers they are willing to uh pay more for speech recognition in a remote control or not, we can find that they up to a thirty five years age group we have a very good disliking for this uh this uh point, like for speech recognition in a remote control. So we can emphasise on this point also like, because it will definitely enhance our sales in this ag in this particular age group from uh fifteen to thirty five, and I uh and I think that most of the users of the rem uh T\_V\_ are belong to this age group. So we should look Yeah. We can look at that that factor also, so yes. Yeah. So, and And then Yes. I think so. Uh if we look at this data how how uh h how what are the problems the consumers are facing with the existing remote controls in the market. They find that thirt uh thirty five percent uh thirty four percent of the consumers they find too difficult to operate a remote control. So it should be in such a way that it should be easy to learn how to operate these remote controls and we should provide pl uh spe uh proper manuals for its use also so as that people consumers could easily learn. They need not to have any, much technical knowledge to see uh to know how to operate these remote controls. So this is also a very goo uh major factor to loo uh take into

consideration to enhance our profits and sales. So um this is all about uh market potential by me. Uh, yes, th thank you. Yeah we have to take that out. Sorry. Sorry. Uh sorry, I have. Brian, this one also I. Yeah. Thank you very much Brian. If you want me to help, yeah. Yeah. Uh F\_ eight. Function F\_ eight. Mm s. It's not coming. Function F\_ eight, okay. Yeah. Computer. Computer adjusting, yeah. Yeah. Escape. Yeah. Yeah. Exactly. Yeah. Yeah. Yeah. Hmm. Fifty million was uh prof As a profit. Yeah, me too. Yeah. About cost. Okay. Uh. I Uh may I say something about? Uh actually I think it's really really very impor

tant point uh as if we look at the market because people mor fifty percent people they find that the remote controls are often lost somewhere in the remote, in the room. But yeah are lost and means they forget where they have kept the remote control last time. But if we add speech recognition as well as glow in the dark then both these factors will help their locating the remote control, like if they come and speak something at the remote control uh replies to something something and it glows in the dark. Both these factors uh both these points will help them to locate the where they have kept this remote control, and this will definitely enhance our uh market sales, so we should take it into consideration also. Yeah. Totally, it takes cheap speech recognition, she they wi Yeah. Glow in dark. Here? Sure. Uh it is in shared documents? Project uh projector. Hmm. It is not giving anything. Shared documents. Um but we have to take care like But we have to take care of our children also if they means if children catch hold of your or if they chew it it shouldn't be too harmful. So, whatever material we use it should be yeah. So we have to safety point of view also, we have to take care. Yeah. Small logo with the like a small yellow strip or y yellow with the logo in it. Yeah. Hmm. That's good. Check here. Um minutes from the last meeting which were essentially that we uh had decided on roles for each of you, however, um there are some changes that I've got from on high that um are a bit uh well w what I didn't actually realise it was that the uh this is for a specific television. So the all in one idea goes out the window. And they require that the uh actually I'll get to that at the end point number four, um we'll get what you've got and then we can see what we can adapt from it. So um, presentations, were you anybody got, raring to go? Raring to go? Okay. Good stuff. Mm. Oh I need to plug you in. Just about. Uh there we go, just screw 'em on in. Gonna have to swap them round so now, it was function F\_ eight. That's the wee blue one. Blue one F\_ eight. Should do it, good one. Hold on, sorry. and if you just click that it'll go ahead, one at a time. Sorry, uh. P press F\_ five to start it first. Jesus. Excellent. Oh you wanna go back? Just escape. Okay. Okay. Okay. Speech recognition. Hmm. We're als we we're looking at who buys it as well. Uh, which I think the twenty five to thirty five is uh usual, sort of. Fifteen to twe Okay. Okay, thank you. Um, follow on with Helen? Yeah please. Oh, so we do yeah. Fun and games. Don't know if the cable's gonna be long enough. I think I just kicked over whatever it runs on underneath as well. Okay. Function F\_ eight. Hmm. There you go. Uh F\_ five. Um, F\_ five and escape'll bring it back and just uh the left button for advancing. Uh just a left uh left mouse button. Mm-hmm. Okay. 'Kay. That can come under Arlo as well. Uh. Uh if you if you escape then you can see your bar. Uh okay. 'Kay. Mm-hmm. We hope so. Yeah, particularly if we've uh there was a bit in Raj's about R\_S\_I\_ and things as well. Organic. Mm-hmm. Sales,. Okay. Yeah it's like a, yeah. It's. Right. And also the company want to keep it stuck to the T\_V\_ for uh to keep down the production time. Mm-hmm. Yeah. Okay. Yeah. That's cool. Um, do you have trouble whistling? Really? Ooh. Yeah, I suppose that's true. Well I suppo uh you could y you could have the you could have the basically um instead of a whistle if it's got the voice recognition you could have it just, you know, where are you?. Hmm. Sounds good. Function F\_ eight for the um the uh Yeah. Alright. Let's remember that. Mm-hmm. But sure surely that would have to be um sort of specific rather than above a threshold 'cause if you had a loud movie on you're likely to get it beeping back at you. Sorry I

didn't mean to derail you there. Ah is that what that is? Well that's cool. If you if you can build space craft you'll have no problem with a remote control, yeah. Right okay. Is th

at just switches on the speech recognition and it's entirely speech operated, is it? Yeah. Yeah. Ah now it's fifty million Euros we've gotta uh we've gotta make profit, so we're making that at twelve and a half Euros a time. Okay. Would it be possible to have the rechargeable idea? Is that gonna mark up a lot? Yeah. Yeah, yeah. I mean if you think about these base stations now it's essentially just a lead with a sort of self connecting brake in it, so I don't think it'd up up the price that much. Okay. Okay. Right. Yeah. 'Kay, thank you very much, um I'll take that back. Right, also so um a notice I got not very long before the meeting, so didn't manage to forward it on to you, it is let's see, I'll find it myself, um Ta nah. We had that um to dis-include teletext um because it's become outdated, and everybody uses the internet anyway. Um, dunno what Oracle would have to say with that but never mind. Um it's only for the television, which I'm presuming means it's for a specific television, and um instead of colours and sorta colour options, they want corporate colour and slogan somehow implemented in the new design. Yellow. I presume. Um, everything, all their sort of uh you know the uh corporate website and everything's yellow. And the logo uh the sort of slogan we put the fa fashion in electronics uh I don't know exactly how sort of incorpor I mean, I guess if you're going for a sort of globular shape you could kind of have it working its way round it or something. Uh, where am I? Okay, so, we have to decide on which functions we're going to actually have. Uh, now, we had as listed options we had speech recognition potentially, flat screen interface, L\_C\_D\_ interface um we also want to limit the number of buttons so we'll pretty much take that one as read. We'll use the the basic functions for a television. No teletext. Um okay hold on. Not enough buttons you mean? So sorta strike a balance between a a few and a or it looks like we're just cutting on the um I do however have this from over my head, that they don't want teletext on it. Uh maybe Raj you could find out what people would think about that, or maybe they'll send some information about that, about um what people, whether people would require um teletext in a remote teletext option in a remote control. Okay um. So uh I take it your position Arlo is that the bells and whistles we've gotta come up with the a gimmick but not too complicated a gimmick. Um so I mean a a the sort of inkling I'm getting from little bits of um web chatter that I'm getting sent is that they're quite interested in a T\_F\_T\_ display, interactive display. However that does sound a bit like the more complicated design that rav uh sorry Raj um said people didn't like. Although I guess if there's a sort of If you think about standard interfaces that people use already, sort of Windows-style drop down menus or whatever, I think maybe that's a bit, going a bit far but you know like in a basic sense that you could have your basic selection of buttons, and if you hit a sort of menu at the top you have um it goes to a different selection of buttons, so it sorta keeps it simple. Um glow in the dark, is that sort of with a light inside it or is it sort of glow in the dark material? Okay. So Yeah. Yeah. Lost, yeah. That's cool. That's cool. Okay, cool. Um speech recognition I take it I don't, I've I know of no products um that use speech recognition well. Really? Mm-hmm. Yeah, or a yeah an advert an advert for B\_B\_C\_ two on B\_B\_C\_ one'll switch the channel for you kinda thing. Mm. Uh-huh. Ah, that's a good idea. So like a kind of backwards remote from the telly. Right. That we should just stick on, yeah. Yeah. And that's a sort of basic R\_F\_ kind of frequency so it'll be cheap. Uh-huh. Yeah. It might do us out of a job. Um Okay. I like the whole sort of remote feedback thing. Um so I think rather than and that also kind of takes out the speech recognition in terms of the interference of it

not working very well and things like that, so I th yeah and expense and the time. So I think if we're going to go well I mean like the thing about the there's the problem with the T\_F\_T\_ or the L\_C\_D\_ kind of thing is if you're also wanting the the kind of uh organic globby sort of feeling to it then you might

have trouble incorporating the screen. Um, but I guess not I thin we'll just we'll just pretend that's not a problem. Um uh and how are you about the glow in the dark material? Is that Contrast contra well. Yeah, okay. So if it's dow it's d uh yeah. Or if it's down under the couch cushions um which is where I usually find mine. Um Okay, well we can use we can still use the glow in the dark as a gimmick essentially, um if we're gonna have to if we're gonna have the logo on as well, bright yellow logo in our our um slogan. Uh then you know they're gonna be fairly brightly coloured anyway, and we can have sort of a a a trimming as well, of the glow in the dark material, just as gimmickyness. Mm-hmm. Alright, so n sorta if if we're gon if we're gonna go with the idea of um uh of feedback, sort of remote finder, then that kinda stuffs that one out then. Do you think? Uh it makes it fairly unnecessary then. Okay. Um, okay so scratch that. Uh so we've got do we want to go with the T\_F\_T\_ idea or the is that far too expensive? Well I mean I think I think the sort of find the finder things I mean it's uh I could probably write the circuit diagram for that myself. Um Mm-hmm. Okay. Um no, I mean that was going on ravs uh Raj's sort of um marketing research I guess. Um Uh So we'll stick with sort of programmability um for the buttons that we do have. Um. So that's sort of included in your sub-module kind of stuff, um Uh you were finding out about teletext. If you could find out that uh Um I think we're gonna scratch the speech recognition as a bit of a um expensive, no? Oh right, okay. Is it not the circuits that cost Oh right, okay. Uh well that kind of takes back the R\_F\_ the R\_F\_ remote sort of idea as well. Um. Five minutes. Okay. Decisions. Uh, votes, let's vote. Who wants T\_F\_T\_? No-one does. Excellent, so we'll go with speech recognition, yeah? Um, speech recognition, limited buttons, organic design. And what else was I thinking of that I haven't written down and therefore fallen out my head, programmability. Uh Uh o okay. And also, integrating the, remember to integrate the logo and the s slogan. Okay, so. Um can you put all these reports in the project documents folder if they're not already in there as well. So, it just helps me summarize them. And um I'll put any I'm I'm putting anything I do in there anyway, so uh Uh pro uh project documents. On A\_M\_I\_ scenario controller. Where am I? Project documents, yeah, it's on your desktop as well. And I will tr getting strings of um information, I'll try and forward any specific to anybody in particular, as soon as I get them now, rather than I was about to sort of tell you about the changes before the meeting, and then the meeting turned up, so I did. So Okay. Yeah. More sort of um flesh-like than plasticky sort of. Oh no, ethics, that's gonna cost us money. Okay, safety. Yeah. It sme smells good for children. That sounds, yeah it's gonna have to be it's gonna be have a big yellow foam ball, yeah, sorry. Please God no. Um. Well, I wouldn't th I mean, my reaction to an all-yellow remote control wouldn't be anything other than horror, so I think just having it surrounding the logo. Yeah. And I'll see if I can argue with boss about putting the what was it? We put we put fashion into Whoops, it's not working. Can't believe I've forgotten it. We put the fashion in electronics. I bet that'll catch on well. Okay, any last worries, queries? Okay. S s I know what you're thinking. Okay then, lunchtime, yay. Okay, that felt a bit more like a something with order and and reason to it than the last one. This is quite fun actually. I really don't Yeah, yeah. Wow you've your first page. I

was just writing really big. I've finished the meeting now. Oh, everybody needs k questionnaire. It's a inspired design. Hmm. Of course. So uh, I noticed your talk about speech recognition and whistling, and uh I was just curious to know, have we done any research into how many people can whistle? Um, or if is that a function we want in the remote? I don't, but I I know a lot of people do right. Yeah it just I mean it has to be a certain kind of whistle too, right? That's costly though. Um a much easier thing is just any loud noise like clapping um, shouting, you know, uh and then, what would the response be? It beeps back at you or something? Okay. Well, uh let me set this up. So I plug it in, press F\_ five? Function F\_ five? Or function F\_ eight? Okay. Okay. I think it's uh just to lock it in. It's got it. Okay. Um.

So as the Industrial Designer my job is to take an input from you guys, um so it's good you went first, and I jotted down some notes as to what are the b needs and uh what kind of novel features we can add to differentiate our product from the others. Um so Raj told us that uh consumers are willing to spend more for fancy products, and um he also mentioned that uh the current products don't always match users' operating behaviour. Um, a lot of the buttons aren't used, and uh he mentioned that they're not fun to use. And uh a novel feature which uh we just brought up was this this automatic speech recognition feature or noise detection feature for when you lose the remote, there could be a little microphone on it, and any noise over a certain threshold um it'll pick up as a a distress signal um from you and it'll beep back and say you know oh here I am or something of this sort. Oh yeah, yeah, that's true. Well maybe you could have a um hmm tha that would be a consideration to take into account yes. Um. Yeah well tha that's uh for later down the road um, and then as for the user interface it should be trendy, um and not computery, right, so more low tech and not too many buttons. So I took these all into consideration and also I have some limitations from the boss. Right um, and practical limitations which I kinda threw out the window. And so I did a little research and unfortunately all I had to work on was our uh our corporate archives of the great products we've made before, which include, you know, um space craft, coffee makers, and bullet trains Or uh or a high speed train. Right and having personally worked with all these products uh I have a great deal of experience with uh with industrial design of these. Right. So, I figured, just put 'em all together. You got a a caffeine powered space shuttle train transport to your T\_V\_, and um as for the user interface problem, you know, too many buttons. Give it one button and and it's a you know, for the the cowboy in all of us I I'm not quite sure what the the function is there but Yeah it's a g I mean you could have a you know a Right. So I think I I missed the budget thing, it was fifty million Euros? And we gotta sell twenty five of them? Right. Okay. Oh okay, so I I mixed those numbers. Okay. Well I guess more realistically then, we need a product that's got some kinda nifty outer casing, cheap plastic uh, you know, um that should be just like uh a tenth of the price maybe or less. An energy source which'd probably just be uh your regular batteries um, we don't wanna have it Uh. Yeah, yeah, we could do that too. Um, I hadn't thought of that. Yeah. Right. Right, so so the unirs the user interface uh the canonical user interface for these would be just a bunch of buttons, but since we're a cutting edge company, we uh of course will have alternatives like uh speech recognition, whistling recognition and rocket power behind our product. Um and lastly the transmission interface is uh, just some engineering thing you don't have to worry about. Um so here's you know, a great schematic that my uh apprentice designer gave me. Um as you can see the the remote control hav

e parts and those parts look like that and um you know it's got a little operating procedure that looks something like that. And I suppose you all know how it works because we've all used it and we wouldn't be in a company designing remote controls if we didn't know what they were so uh personal preferences, I think uh programmable options which um just require a small amount of memory, uh non volatile memory, just um so the user can put in their favourite channels and maybe their preferred volume settings so that when they turn it on it's not blasting. Oh okay. And the uh, the bells and whistles that we mentioned you know, they take more budgeting, um more technical uh expenditure of effort and it's also much more likely to not work if if we add these bells and whistles. That's all I got. Ooh that's tight. Okay, I don't think we need to screw it in. Just push it. Yellow. Yeah yeah. Well hmm. Oh it's They're act there there was a remote control that came out two years ago that had a some basic speech recognition on it. You could programme it with your channels and then you say you know like uh B\_B\_C\_ one and it goes to that channel. Yeah, it didn't work very well though because of this noise

interference problem. They mentioned you know if the television says you are listening to B\_B\_C\_ one. Right, right, and so there was a lot of this, you'd be watching the T\_V\_ and then all of a sudden it'd it'd pick up a noise and turn it off or you know or turn the volume off or something, but if you can work around that that noise problem Right. Right and then it would do just you know, uh subtractive kind of cancellation of the noise. What you could do then would be you have uh a remote controlled by the T\_V\_ speaker, or not a remo I'm sorry, a microphone by the T\_V\_ speaker and a transmitter there that sends back to your remote, 'cause you can't um expect uh the the television manufacturers to to put that feature into their T\_V\_s. But yeah, then you have like the little se separate module by the T\_V\_ speaker which Right, and then the remote control would know um what's being produced by the television. Right, right. Right, right. Um. Yeah that's certainly possible then an another thing was about this losing the remote and trying to find it again. If you do have this sorta speech interface to it, you don't even need to find it. You just say you know, um whatever you whatever you want the remote for, you know to change the channel or to uh turn the T\_V\_ on and off, you just shout your command to it and it would do it for you if it's within you know, within hearing range. And uh you know it could be somewhere in the room y that you've no idea where it is and it would still do its job. Well, hopefully we're uh we're ahead of the curve. Hmm. Um. Mm. Yeah, no th the material's cheap but it's just uh the the glow in the dark material needs some light to charge it you know, and then uh if you're, if you're sitting in the dark for too long it uh it won't glow any more. Right. Right. Mm-hmm. Um yeah we're getting a lot of features now, I I think Yeah. Well, I think a consideration too is that these uh remotes get abused a lot, you know they get thrown around, there's a good chance the the T\_F\_T\_ screen would break or uh get damaged. They're pretty fragile. Yeah mm. Oh. Oh no it's it's much cheaper than the T\_F\_T\_, it's just a microphone and some some integrated circuits. And it'd it'd be a small vocabulary speech recognition system, like a Okay. Yeah. Yeah yeah. So it should be when you save on your desktop, so it goes save as, or And then uh hit that little folder up thing again. Again. All the way to the top, yeah that's up to desktop. Right and then project documents. Mm. Did you get my email? Okay. Just making sure. Yeah. Wow. We could go comp yeah. We could go completely out of the box and make the thing a big red ball foam ball. And it's got the thing on the inside. And there's no buttons at all, it's always on, and just yell at it, and it

works. And then ch children will love it. Oh yellow, yellow ball. Right. Twelve thirty. Mm. Yep. Yeah I've been using up the pages. Another questionnaire.

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# Meeting ID: 80

Data Source: Train

## Executive Summary

The Project Manager reviewed new requirements for the project with the group and discussed their implementation. The Industrial Designer presented the basic components of a remote control device and how they work together. He showed that the size of the chip they will use is dependent on how many complicated functions are included. The User Interface Designer stressed that the project should focus on a simple design for the device. The group discussed not being able to include a teletext component, and that the product design would have to be the main selling point of the device. The Marketing Expert discussed his marketing strategy for the project, again stressing the attractiveness of the product design. The Industrial Designer proposed including a battery charging stand with the device but it was decided that it was not a useful feature. The group continued to discuss the marketing strategy for the device as it would not include many advanced technological functions; they discussed including a guarantee for the remote and using a unique form factor.

## Complete Meeting Transcript

Yeah. Well uh what comes up for me is that if we're gonna if we're gonna be marketing a product that is going to be uh having no teletext, people are very comfortable with the idea of having teletext and using teletext, and so we're not we're gonna be a new product without something that people are very comfortable having right now. So that's, from a marketing perspective I I see I see a lack. And so we have to go, I think, in the other direction. What are we gonna have that makes this thing better than Right. Yeah. No, I I agree with you. So what I'm talking about is I see that one side we're eliminating something so we have to come up with another side which is, what are we gonna be targeting our market uh that identifies our product as better than because it doesn't have teletext it has ta-ta-ta-ta. So that's that's that was my reactions. Yeah yeah. Yep. Okay. Yeah. 'Kay. That's right. I think we take with you. That's what I'm that's what I'm talking about is is that we have to find something that is gonna be very attractive about this product 'cause somebody, some people are gonna be hap unhappy 'cause it took they can't ac access their teletext. Okay. 'Cause we're talking about eighty percent or ninety percent or ninety-five percent of the televisions out there are are teletext. So so it's it's not that I'm

criticizing the product at all. It's just when we eliminate that then what do we bring? What are we bringing in to take the place of this, and we have to do in my opinion we have to double up. If we lose one we need to bring two or three. So you have this? Now is would this be considered just a standard uh um This is not this is not cutting edge technology we're talking here. We're talking about existing technology. Nothing is being modified or upgraded or new discoveries. Okay. Okay. N okay. Mm. Mm the shell? Okay. I have maybe a silly question. I in the very beginning it said with the with the advent of computers there's gonna be the it's gonna be out-moded teletext. I I don't understand how those two things are connected. How does how does computers and teletext h how why is one eliminating the need of the other? I don't understand that. Okay. Yeah 'cause, yeah, I just I don't see the cross-over between computers and television. I mean I do see the cross-over in some sense, but but but but with the the remote is is used for television, okay. So so if we make the cross-over and we're gonna view television on computers then we're then we're losing the the necessity of the remote. S Okay. Okay. Yeah I don't I don't see the logic. I I don't see the logic in elimination of teletext, I just I I but I'm not a tech-mind either. I just don't see the cross-over between computers and and 'Cause we are designing something for a television, okay. We are selling it to an existing market. That's Yeah, and and, yeah, and and we're also marketing a product. It's what I'm seeing is a is a mid-range cost product. So so w we can't go and pump a whole bunch of technology into this thing because all of a sudden we are gonna have cost overruns. So if we drop if we are gonna choose to drop teletext, again what are we adding to the product that makes it marketable? I don't I don't see it, and to me if I'm gonna market a product for b for beauty for for design I'm gonna I'm gonna try to market it at a much higher price. I need to make it special with a high price tag. I don't want to make it economically uh g uh competitive. I want I want to market it as exclusive. So I would market this product it at eighty-nine Euros and come up with some really beautiful exterior design or something th but but I don't think we have that flexibility. No I no I I understand what you say, but what I'm what I'm, okay we probably need to move along, but my my concern is trying to find a marketing niche for this product, and if I'm coming in with a with with twenty-five Euros, which is mid-market price, um then what am I going to give these people for thi

s? So that's just my question, but we can keep talking. Yeah. Oh P Pedro, I just want to say quickly I I would really like it when you can come up with some more bells and whistles, eh. You know sell uh things come to my mind is uh uh something that's uh um voice-activated. I know we're getting into some, I hope, some big money on this thing, but Is that for over here? Okay, alright. That's 'Cause uh and I think of voice-activated I think of of how many times I've I've lost my my remote and I can't find it. So some way that I can I can find my remote by clapping my hands or something uh and and so so um But this 's just something. I'm trying to find some bells and whistles 'cause when they talk about tel taking out teletext, it's like, what are we gonna put in? What makes this thing attractive? And it's only for televisions. So we everyth our our competition out there has got these these multiple adaptors where they can use 'em for their V\_C\_R\_s, their D\_V\_D\_s, their their televisions and we're coming out with one remote for television only. And so to me we have to make this a really special product I I I don't s I really have to say I don't see the market niche for this product. At this price I don't see it yet. I'm I I go along with this, because this is what we're given to try to market, but I I don't see the market niche for this product without without some really sort of something really special to identify it as as unique in the market. Yeah. Okay. Have to do you have to do it in the box? Okay well, so so that's up to you then to to make this box in something that's absolutely extraordinary. Maybe make it in the form of a gun. We can sell it in United States. Well you know for marketing f marketing for me is uh and uh how do I go



here? Okay. Go go. Is that right? Ah-ha. Yeah, what for me is it um I d I don't know what I'm marketing right now, okay, 'til you spoke and when I wrote this, I don't know what I'm marketing. I just know that I I was identified as a a we identified ourselves as a as a developer, as a manufacturer, and as a as a um distributor t to other wholesalers. And so the th the twenty-five Euros that we've identified as the sale price is a wholesale price rather than a retail price. That's what we decided here. Um so what I did is I I decided that that this this needs to be a product in a in a sense can market itself. So what we've identified here as our main marketing stratagem is is in design. We're making the most beautiful attractive uh whatever we decide it is. So that means we have about seven more minutes or ten minutes left. Um so I would like to have a product that that we can sell easily. So I say inspiration, so having something beauty, something attractive, uh something that in a sense will sell itself. Uh innovation I think fits into what we're talking about here with design. Uh cutting edge technology, I don't think we're gonna have that, these were ideas I was putting together, um unless we come up with some New Age product a as far as the casing is concerned. I I wanna make this thing something that I can identify as special in some way, so maybe we can have some I I talked about environmentally sensitive, uh maybe we have a product that can be identified in some way as advantageous in a home. I don't know. These are just thoughts. Uh I wanted to talk about uh who we are as a as a corporation, that we're new, we're aggressive, we're competitive, we're we're trying to provide a product from a new perspective rather than from an old corporate line. So to me it's about selling d uh our identity our corporate identity along with the product. Um what I found is that the projected costs are competitive. Uh we're kind of in the middle of the market, but what I'm seeing is that the market is ready for I I identified new technology, but again, because what I see is budget restrictions and limitations, I don't know that we can bring any new technology into this thing. If if we could have a technolog

ical something Mm p please. Solar. But solar Blah, I like it. I like the idea, but we're talking about in cost is gonna probably double. But boy, we can sell this thing, because there's no batteries, it's environmentally sensitive, i we can identify it as a safer product in some form. Yep, that's right. I really see But the cost i No no. No no, we have t we have to change the end cost. There's uh I mean I don't see it anyway. Yeah, that's gonna be up to these guys. I my reaction is no, but Well, see I I see I I'm an advocate to make this an exclusive product. You know, let's let's sell this wholesale for for fifty Euros, sixty Euros. Let's make this thing really exclusive, environmentally sensitive, uh high-tech design, uh ergonomics, all of this. Just make this thing uh, yeah, the the the Rolls Royce of of remote controls. Every home's got to have it. If you don't have one, hey what kind of remote do you have? Oh you've got one of those, oh fantastic, I want one of those too. I just don't have enough money right now. Yep, one one thing I don't understand is h they've they've given us this package, okay. Now uh in my opinion we need to give them a package back, okay. They say they say okay here you go. They gave us a fundament a foundation of of what they want, and and w it's our place to kinda analyse and evaluate. I don't think it's our place to create their product for them, maybe it is. I don't know what kind of role we have in this in the corporate ladder uh, but to me it's like, okay, you have got your here's our ideas, okay. And then let them look at those ideas and they say, yeah well, we can we can raise the price twenty percent, you know we like this idea, this idea no, but to me it's it's about a choice, do we follow their directives or do we make uh presentations back and and then and then discuss? beca I I do not I do not see the market niche for the product that they're handing f handing us right now. I don't see it. Right. No I understand that. Nope, they've identified the product as not working for anything but televisions. They've identified this product limita That's why I say I don't I don't see the market niche for this. If we if w if we were going to have a product that worked for D\_V\_D\_s, V\_C\_R\_s and everything,

then I can see the market niche, but we we're only identified as going for televisions without teletext. And it's like whoa we ha in my opinion we have to go with something that's extremely exclusive to make this thing marketable, because who wants just a television remote? I don't. That's right. I I I have a tendency to agree with you. I really do. That's why I say I quest I q I question the marketability of the product. I really question where we create the demand. W okay if you if you drop the cost, now if you make if you make go to the other side of the cost scale, and you make it less expensive, then all of a sudden now we're going into an a a new market area. So we can say low-cost uh uh um uh good design, beautiful, wa-da-da-da-da. But what I'm saying is right now we're middle market. Yeah for for multi for a multi-function remote, that's a mid-market price. In a discount right now you can buy 'em on sale sometimes for about about uh eighteen, nineteen Euro, and that's for the multi-functions, uh D\_V\_D\_, V\_C\_R\_, uh catch-alls. And and they have 'em in a little box in the middle, and and this is the consciousness that most people have about replacement remote controls. So to me, to market this a t only a television remote control we have to change consciousness. We have to have something that will change people's thinking to identify this as advantageous, and I don't know what that is. It's gotta be low-cost or high-cost with with special design features. Or my d I mean I I well we g we're talking about the other end now. I like it. I like the idea, but we have t we have to find out Well. Mm. Well, I think again it's it we have a cost issue here. You know if we're gonna go in this directi

on, to me we're going to the other side of the cost range. Are we gonna make this selling selling the cost as a high high-tech uh um environmentally sensitive whatever, or are we gonna go to the lower side of the range? Again I don't see our market niche in the middle for our product yet. I don't see it yet. W a question I have in in a 'cause I I I think I agree with you on, we gotta make it a box. The box is gonna sell it I think, the outside, the casing. Can can can we have multiple designs? Have a modern, have a traditional, have a you know, and so so instead of them all looking the same, people can have maybe four or five different designs they can choose from. I don't know what that creates cost, or Yep one over another. Yeah, okay, I hear that. What ab what ab what about a a remote that's that doesn't maybe look like a remote? Just an idea. Just just okay 'cause I mean we all know what a remote looks like on the outside. They're selling these things everywhere. Maybe that could be part of our design exclusivity, is we make a remote that doesn't even look like a remote it it opens like a telephone. Doesn't matter, yeah. I'm just jus I talking about some something to make this thing unique. It That's the thing, I'm gonna keep thumping on. I'll sell whatever you guys design. I don't have a problem selling a product, that's not the issue. I give you ideas, you guys create the product. Once you have the finished product I'll find a way to sell it. Don't worry about it. I just give you these things now, because these are my thoughts and feelings. No no. One thing I just thought about when you were saying that, is that the p our target market is gonna be someone who has lost or broken We gotta stop? Who's lost or broken their their remote. So how many remotes do they wanna buy? Can we p can we sell them a remote that can maybe guarantee they will not need to buy another one? And so with with with this kind of system or locator or something, to to think about, how have people been been losing or breaking their remote? How does this happen? And and then and then design the product, maybe some component of the product that can identify this as the last one you'll ever need to buy. uh we can make it in the shape of a coffee pot. It's uh just it's that I think it's telling us to stop our meeting. So we have the c we probably have have on-line in our in our system, we have the ability to create this, we're talking about. A charging system. If if we can create this we have probably five or six or seven really strong marketing characteristics. No that's not what I want, I want Oh look it here. Yeah bu but we we're designing only the remote, we not design the T\_V\_. So uh we're gonna be removing the teletext out of any T\_V\_ that

we people use our remote with. So it's kind of a stupid decision. So then the double R\_ will be our our I tho I tho I thou I think Rol Ro Rolls-Royce might mind, but don't worry. Yes. I Hey mouse. Open. When we're fighting over it's also more lot more fun. Uh. This doesn't work. So yeah function design. Um you guys know me, Pedro, and um what I found is we want to do fashion and I think, honestly, we should keep technology low and just simple basically and try to aim for design. If basically a case will will cost the same if it looks good or bad so we ma we have to make it look good. Um something cute and small. The big chunky remotes are died in the eighties. So we should just go for something that people will like to actually look at. And um although mo most people will buy s televisions and everything for uh that have loads of loads of little functions and everything and they mostly end up using simple functions and little things and most the people won't won't get too mad of actually having to go the to the s to the television to, for instance, tune in their the stations. There's no need to have that in the remote. So um um as for what I would recommend for uh the the interface design, and uh I will change th

e colours on the on the logo, but um we should go for the user-oriented device, so simple controls and good ergonomics. Um and uh although I th I th I'm still here recommending the teletext so I'll remove that, I guess, but um we should go for the Yeah. Yeah the they're basically aiming at saying that you would use you know a couple of years ago teletext to be the easiest way to check like for uh uh the scheduling and the next programme and stuff like that and now Yeah and now you can c look it over Internet. But I still think teletext is way more convenient until until we have the same commodities. Yeah, but it's not happen yet. Yeah. Yeah but we we don't we're not aiming a command for that. That's the thing. And all of those require the other commands with more complexity and more software and Yeah but we would increase the price to try to make it a trainable one, so Well I dunno. One way the other teletext was there but I guess we can remove it or, you know, make two separate interface designs. Yeah. Yeah. Yeah. Yeah. Yeah but we're not putting some there's no no putting anything in in the place of teletext. That's the problem. Yeah. No just I I would I would advocate for continuing teletext and those would be the basic commands. Um as for, you know, the the case design uh maybe I'll come up with more concrete ideas. Right now it's just the idea of simplicity and slickness, cute and small um Yeah. Yeah mm. Mm-hmm. But we th that should be design. That should be the design basically. I think technology we'd we we're not in the price range to do it. We don't have the money to do it towards t f technology so we should we should aim at design. Yeah. Yeah. Mm-hmm. Mm-hmm. Mm-hmm. Yeah y y you you wouldn't The interface will be different. Good design. Uh we should keep it simple, mm medium-low cost mar um cost area and uh make it look good. Yeah, complicated but Yeah. Okay. Okay. Yeah. Yeah they are not simple. Yeah. Yep. Yep. Right. I think one of I think w, yeah, one of the things that we should also keep in mind um when we're doing this I mean our company's slogan is we put the fashion in electronics, right. So I think our kind of our target here is to have some kind of very like sleek nice look remote and we want it to be functional as well, but I think one of the main selling points is that we don't want it to be clunky like like this thing here. You know we don't wanna a big clunker. We want something that looks nice and it's fashionable and so That's fine. Okay so so you all know me, I'm the Industrial Designer. And we've some basic components that um our remote is gonna need, just basically every remote'll need 'em. We need some kinda of power d power source. Um we have to decide on our our user interface, which is his department, but the in user interface is also a major component. Um we need a programmable digital signal processor to um to take the input from the user and translate that into uh into electronic signal, which we pass to the infra-red L\_E\_D\_, which you aim at the television uh which and it receives that signal. You need a on-off switch um I don't know how that got in there. And uh we also need to um have the if we want a universal remote we need to

have encryption codes for the different makes of T\_V\_s. So we need to know all the different you know all the different signals and so that'll require some memory as well. Um so here's just a basic layout of how how the remote would work. You ha the v the power source is in the upper right-hand corner there, and you can see that uh we have the user interface here which is connected to the chip which does all our signal processing, and then passes that signal on to the infra-red L\_E\_D\_ and that signal is then emitted and received by the television at the photo-transistor. So those are the basic components that need to go into this and everything else is pretty much uh open to move around. I think any des No. Right I think Yeah this is just this is just a basic la

yout of ev of all the components that w w are gonna be absolutely necessary f to have a working remote. We can add things in like if we wanted some voice recognition, I mean that I mean that you can kinda say would would fall under the user interface and the digital signal processing chip. But Um well the most the most costly components are gonna be the chip and the uh th it could als basically the user interface and the casing are gonna be expensive as well. Um the L\_E\_D\_ and the the transistors and everything else are you know they're they're pretty cheap. So depending on what we want our functionality to be, um the chip could be expensive or it could be cheap. Um depending on the n amount of memory we need in there and stuff like that and h and h you know how much power. Uh I don't have any figures right now. We uh we have to wait until we get to a more specific design phase for that. Um but and I think a significant part of the cost could be the actual the actual casing itself and and you know the the b the buttons and things like that, I think. Yeah. Basically yeah. So yeah. That's all I have really. Click, don't Yeah. Mm-hmm. Right as far as i it's just uh the cost of an extra button. I mean software-wise there's really no difference. I think. Scheduling. Um to find out what what you're watching even if there's commercials you know. I think I ha I agree. Well for me Yeah. Unless you have a Yeah. Mm-hmm. I think a lot of that's proprietary anyways. You're not gonna be able to, you, like command a TiVo with our remote. I don't think. I think if it's possible you should try to you know have a talk with management about that. Just you know Right it's just not Yeah. Well Right. I'm just thinking you know with all these universal remotes that are out there, how many people how many people actually use every feature that ar you know i like these trainable remotes and things like that, where, you know, it's just so confusing to do to use all these functions. Where I think the largest portion of the market is just gonna you know they lost their T\_V\_ remote, they need another one that'll work with their T\_V\_. They want something that looks nice, that that that isn't gonna break when they drop it, that you know that maybe it's it's ergonomic, it feels good in your hand, something like that. I think that's gonna be where you're gonna find the biggest, you know, market share. I think the more bells and whistles we add, it's just gonna cut into our into our profits. Because I think as we as we add costs for things like uh for like if we add the voice recognition and things like that, I think you know what percentage of the of the um of the market is actually gonna use that? Maybe five percent, you know, and how much Right. Yeah okay. I'm sorry. Sorry boss. Yeah. Well it's kinda both of us. Us us user interface. Mm-hmm. I was thinking about that. Then your lights would go off, though. Yeah. Right. I don't I think all these things are pretty standard. I think we'll be okay. Mm you can just click. No no no you just get off that. You just click anywhere. I have an idea. And it's kind of along the s lines of environmentally sensitive, and it may even fit into ergonomics, and even kind of address the issue of losing losing the remote, what we were saying it's a common issue. Um what we can do is, well you know that batteries throwing a aw remotes run through batteries like crazy. Right? And s for some people Yeah. Well maybe not a solar remote but instead what about if we had like a power cradle? Like a a cradle that is is there to hold the remote when you're not using it, so you'll always know where the remote is 'cause you have to put it back there

to charge the remote, and we can, instead of having instead of having, you know, replaceable batteries we'll just have a power cell that stays there for the life of the remote. You never have to get go through the go through uh all these different batteries. And also you can I I think it's a go

od opportunity for the user design or for not just for the user design, but also for the just for the look and feel of the remote as as a whole. You know you could have some kind of neat little, you know, a sexy design for d a cradle and the remote itself. It w it would increase the cost. And you could page the remote if you lose it. Maybe there's a button on the cradle. Well what I can do is I can d look into ho well Pedro and I can look into how much this might increase our our costs and you can look into what kind of effect an increased cost is gonna have on our on our final numbers. I I Yeah. I just don't know about that, because in order to do that in order to price it at that kind of level I think we'd need to have every functionality that all the other competitors are offering like being able to operate, you know, the D\_V\_D\_ player and, you know, the stereo system and all that. Which is a pretty basic function that w we've opted out of. And additionally we're m maybe not supporting teletext um But I do think there are some basic features that we don't have that a lot of other remotes are going to have. Mm-hmm. I don't I d I have to disagree though. I think our market niche is basically people who need who have lost their remote or uh who've broken their remote and don't wanna send back to the manufacturer, they just wanna run out to the store and get a remote, and then they're gonna look on the shelf and they're gonna see ours is the nicest looking remote. It does what they need. These aren't I I think that it Right. Right. Mm-hmm. Right. Well here's Right. We he well here's my thing about that. If you're in the market for this ultimate remote, you're not gonna go for just a television remote. If it can't control if it can't control your your D\_V\_D\_ player and a al if y if you can't get that all-in-one ultimate remote, that just you can throw all your other remotes away. I'm not gonna buy a d seventy-five Euro remote. So I think what we So that's what I'm saying Mm-hmm. I think that's big. I think so, yeah. Yeah. What about um the idea that I had with the cradle? How do you feel about that? Or how does everybody feel? No, but I that's the thing I I don't think it's necessarily the other end. Mm-hmm. Right. Well it lasts it would last for several hours on its own power, but when you're done with it you put it back in the cradle. Yeah well it Mm-hmm. Mm-hmm. Well the the problem with that is we may end up with a whole bunch of inventory of a of a poor design you know. So Um but what we could do is some kind of well I mean Yeah we we need to, I mean, have a few designs to look at and then come up with something that I think we all agree is, you know, the best fit. I think w what's really important is it has to look good, it has to feel it has to feel good in your hand, it has to be durable, it has to a and I think it's really important that it doesn't look cheap. I think I think we have to make sure people look at it an and feel like it its like a quality remote. Even though the cost may be low. Mm-hmm. Or what if it looks like a pen? Yeah. A pointer? Yeah. Yeah. So just to touch on m my point one last time that I had brought up. Um I really un unless you guys are die-hard against the fact that um it's possible like it reduces the usability of the remote b and the fact that you can't lose it on your own, I think it still might be a good idea to investigate having like a power cradle. Because I really think i in a certain sense it almost like for me I would want to have that just, because I know at the end of when I'm done watching T\_V\_ that when I'm done, oh I better go find the remote and put it back where it belongs. Maybe th th th that's just some people that like that. A lot of people As a watch? Mm 'kay. Mm-hmm. That's what I was saying. Exactly. Mm-hmm. Mm-hmm. And also presumably they've Exactly. Yeah. True. Right. Yeah. The locator'll definitely be more expensive. Mm-hmm. Right. Right. I think one of the things tha

t we can put right on the box is, never buy another battery. You know, something like that. So we are here to talk about functional design. Now hopefully we've all got a better idea from than we did f leaving

the last meeting as to what it is we are up to now. So here's an agenda. Uh I'll open. Um you should know that I'll be taking minutes during all the meetings, as I was struggling to our last time uh and that'll be easier for me now because I'm not actually giving the whole presentation. Uh the additional points are just the stuff that we sent and that I forwarded on from upper management having a few bright ideas to make our lives painful. Um now you can all give your presentations. We can talk about the requirements and hopefully come to some decisions. Right, forty minutes for this meeting, so a bit more time than the last one. Here's the additional points I just wanted to put those in there to see if you guys had any comments on them. Uh did you all receive that email? So does anyone have any overall Mm. Mm. Yep. Mm. Well that first point could uh also be an opportunity because in seeing that teletext is becoming outdated, some sort remote control that can work with the Internet there is the opportunity that's presented, I guess. Okay. Okay. Yeah. but but we are sort of being dictated that this should only be for the television. So we're quite fixed. So we're really probably, in terms of marketing, are looking for that's uh that's a cost winner rather than a fantastic new feature product. Yeah. Hmm. Hmm. But there's also the potential for mark there's a market here for our lost teletext. For example someone that just goes to the shop that wants a replacement wants it as cheap as possible. Twenty-five Euros is the selling price, we really have to innovate here I guess. Mm. K yeah. Mm 'kay. Okay. Okay I think that the last point is probably quite uh straightforward. Obviously the the w it has to be branded. 'Kay. On the product yeah. Can you handle that black and yellow? Mm. Nah. So we have three presentations, and I think we'll go in order of participant number here. So we can have a look at the working design first from participant two. That's Okay. Mm it's enough. But uh click it on off? Do we have an idea of costs of different components? 'Kay. Mm 'kay. Do we have any ballpark figures for that yet? No. 'Kay. Yeah. Okay. Okay. Thanks. And we have participant three, which I believe is Pedro. I can give you that to click on. And you wanna get View a slide show, that's what you wanna do, yeah? Just go up to view. Mm 'kay But I t I think what the the management recommendation was less that there's a worry that teletext will become outdated rather than we shouldn't have it. So I I still think if it's cheap enough functionality-wise to include, it really should be in there. Because otherwise we're just going to I mean even if it's necessary or not, if you if you're given the choice between a t a remote with teletext or without uh when it really if it i if it isn't more expensive for us to k make because as far as I understand it, it can be operated with the same set of buttons, yeah? So it should be in there. Yeah. Okay. Isn't Well maybe what we're getting into here is the the idea of uh Internet through the T\_V\_ for example. So that might play on what we can do. Well you have digital T\_V\_ still already. Well there there is a for example on digital T\_V\_ systems you have you can press a button and you can buy things in adverts, and you can uh you can view through a catalogue for example. A a family member of mine has got a system where you just um you can Yeah, and there's other features for example on other systems where you can pause live T\_V\_ and things like that. They're just features from the Internet uh from computers are are coming into the T\_V\_ sort of under the covers, but you still use it through a teletext. So now the things to think here are that that there's gonna be more functionality, potentially that w

e can handle. Mm. But still there there's an opportunity. If if it's, for example, a trainable one then we're just simply having like an up, down, left, right, an okay button or something like that might might do as well in future proofing it. Mm. Okay. Yeah, and neither do I in fact. Bu uh. I'll communicate that back to those guys there a a and th the message really we wanna be sending to them is that, although teletext may become outdated w there's no I logic in not having it in there anyway i if it doesn't affect the price. Um but I I think what they're pushing us towards here is in terms of thinking of ways to future-proof our

system for future systems that have something else other than teletext maybe. I dunno I'm Mm 'kay. Mm. Yeah. Hmm. So if we're keeping it basic we're loo loo what we're looking to sell it basically is it's uh just being very easy to use, looking exceptionally good, that sort of thing. 'Cause we really don't have anything else there, do we? Mm-hmm. But i if design if design is cheap and functionality is basic, then twenty-five Euros is probably a high price for a commoner garden stan standard T\_V\_ so the place uh remote the then the place we're going to justify that cost is through through design through making it a sleek elegant high-priced basic remote. Does that make sense, huh? Mm. Yeah we probably should. We we're doing alright for time. Yeah. Okay. Sorry that kinda cut into you there. Mm. So we are looking for something that looks good and just works, rather than looking for any special features. Is that Mm. But we can talk a little bit more potentially in the marketing marketing presentation about this. Be a good idea. Uh sorry, I didn't mean to cut in. I'm not the boss. Okay. I think that's probably a question more for for this guy here, yeah. Is it? Okay. Mm. Hmm. Okay. I have a question uh for you. Does any of the um the features that Pedro's spoken about here have any implications we might not have thought about on in terms of just pure functionality? In terms of making it work or the cost of that or Okay. 'Kay. Cheers. Onto participant four. Mm-hmm. Mm. Yeah. Now the the question is can we make this for less than twelve-fifty per? We we well do we necessarily have to change the end cost because uh Can we dl can we do that without uh changing it twelve-fifty per product, if we basically can sell more based on this? Mm-hmm. Yeah we we can certainly push for a more expensive product if that's gonna be Nah, I think we can say with certainty now that we are supporting teletext. Mm-hmm. Mm-hmm. Mm. Mm. And and th to get to back to another point, sorry uh uh for cutting in but, I th I think it's important to remember that that this remote has to work with multiple T\_V\_s, yeah, 'cause it's selling on its own. It's not going to be specifically for Hitachi T\_V\_s or or whatever. So technologically, if I understand it, uh T\_V\_s T\_V\_ remote's working exactly the same way as video remotes and D\_V\_D\_ remotes. All you need to do is train them to the individual one, all you need to do is is know the the f like some four-digit code. So saying that it works with all T\_V\_s is equivalent to saying that it'll work with D\_V\_D\_s and other things. Oh okay okay. We have done this. I see. Mm-hmm. And I I'd Mm sorry. So we really can't chase that. We're really looking for something basic. The the one thing that that that you said really struck a chord with me here in that we're we're carrying the corporate identity with the product, but we're actually looking for a large profit at the same time where I'd be inclined to go back to upper-level management and say like let's just cut down our profit expected on this product because we are actually branding our company here. We're selling more than just the product. We're trying to get mind-share about uh Real Reaction to to the people who are gonna buy consumer electronics. We want people to eventually say, oh that's that's Real Reaction that's a good m make. It's relia

ble. And and we're gonna make it we're gonna win mind-share by uh either being a fantastic product or for it working, it just being good, reasonable-priced, and solid. So if we can make if we can put an emphasis here on it not breaking I think that's in itself an extremely big thing. We only have a few minutes left. Is twenty-five Euros a mid-market price for a remote? Okay. Okay. Well I'd be inclined to say, if we can make the design better than any comparable remote while reducing the cost, then that's the way we really should play it. If we can take it down to you know fifteen rather than twenty-five and make a low profit-margin on it, but we're really doing that to sell the brand. Yep we have five minutes left. Uh rather th uh to to to sell for Real Reactions. And I can communicate this to to the more senior uh mm people within the company here to to get a reaction. Well how does everybody feel? I I think The other the o the problem with that in my mind I just think off-hand as a as a consumer, would I wanna buy that? And I think maybe not because I've got a remote and I'll take it to different chairs, I'll take it to

different I w I don't wanna go over somewhere and put it down. It i if it is gonna be somewhere that you put it down then it needs to be at the side of your armchair, and that implies that there's only one T\_V\_ user. So it's very good for some people but it's not a like But it takes away the ease of use of the remote to a certain extent. You have to I sort of remember. You have to d shift down the side of the couch to find it and put it back and Yeah. I d I d I d I think it it in my mind it doesn't seem like something that oh I'd really want uh because of that fact. But I I don't know, that's just my opinion. Mm. 'Kay. So what do we think maybe we should Pedro, do you have any opinion on it? Really need to wrap up now. Yeah. Mm. Yeah. I mean there's al there's also remote controls I remember that that worked uh, this hasn't been done in a while I think, but th as a as a watch. Yeah, there is remote control watches um, but I think they're a sorta eighties thing, so it might not be easy to market in it uh but the the technologies came along and it might be cheaper to make now. Those things may have been inexpensive for all I know. Gotta cut up. Mm. The last remote you'll ever buy. Well if if we're going down that then we can we don't need to go the it it strikes me that the locator feature might actually be uh quite expensive to make. Whereas actually just putting it in a power cradle might not be too expensive at all because that's just done with mobile phones you can just n we we have said we have actually similar products that we can take from and potentially cut costs there. Um need to look into whether we can do that but uh I think we we have some m mobile phone-based products uh checking quickly our Internet. We really need to finish up here. But uh Yeah we have the the power-adaptor products. We sell power-adaptor products. So for example there's nothing stopping us using that technology. Yeah. Yeah I think so, without it being too In fact we can cut costs through using the manufacturing that's already gonna be in place here. Okay. Yep. 'Kay. Thanks guys.



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# Meeting ID: 68

Data Source: Train

## Executive Summary

So in last meeting we have discussed the conceptual design and we asked you to prepare a prototype for the for the remote control . So let's see the what did you prepare . S so so I discussed with Guillaume . and we we are both agreed on some two versions of the prototypes , because we were no not decided whether we wanted to have an L\_C\_D\_ or not because it's too expensive . One with and one without L\_C\_D\_s . Um but both comes with a charger and then detachable and uh or control module . And detachable big buttons for all people um . Here we have the first one with the beautiful uh L\_C\_D\_ um display . S okay so I'll show you the the two prototypes . And you can uh just um browse into the the navigation menu by uh joystick joystick-like uh button . You can uh choose the direction You have on the mm on the side here the microphone for the for the speech recognition system here . And here the the switch that control if you want The the microphone picks up the speeches from anywhere . Is it an only a single mic or a microphone array ? Well so it's a microphone array . Oh it's very costly , microphone array . it's just a single microphone , I I think uh we we put it here because I think when you when you are browsing your L\_C\_D\_ you will be close to well it's better to to to place it here th than here , for instance . And here is a little switch that control if you want the the speaker uh recognition system to um to be on or off . And uh so this remote control comes up with its charger . How much does it cost this one ? Well this this prototype is um made for about uh well fi fi fifteen fifteen dollars Ah it's above it's above the budget . but uh it's just a prototype the and the the production costs we we can achieve uh about ten dollars . How many b battery is there ? Is it n the two A\_A\_s batteries in it . A\_A\_ rechargeable batteries . Is that two or one ? Actually uh it's a flexible thing . So and if you want to charge the battery you just put the remote control like that to plug in the the charger and uh leave it uh alone , it's alright . I forgot to tell you there is only a single button there , This button is like the mouse is like a joystick , you can move in three hundred and sixty degrees of direction and it the additi functions associated to all the actions you ma you have a click you have a double click all in a single button . You can move up , down , left , right , or you can do a swing . Here I present another version without the L\_C\_D\_ . So we have the the second version also with the different uh button configuration . The second version is also simpler , we d uh we had just uh I have to put the microphone also . Uh-huh and also the switch . Basically it's the same uh things uh uh as uh I presented before . But here we have uh we have uh four buttons for navigation . Press one button uh acting as a a enter button . So um yeah according to what

you said it's more robust to the user . And uh it's also cheaper to produce . We can produce uh such remote control for about uh four dollars . And I think you forgot a point here to have an button to find the charger , and if you disable speech recognition system then ? W w I'll I'll come to that point later on . in either versions you they they ha they use the same charger yeah . It's that same charger that you can use for the hand-phone but uh again depends on the types . I think we have to investigate more on that , but The price should be below twelve and a half Euro . but as the Marketing Manager says , people is willing to people are willing to pay more for good design . but the company is not willing to invest more at the moment . The price of selling is twenty five Euros . the the the thing that makes this the controller cheap is that it is modular If you want less function i i if you want a reasonable price you pay for the functions that you add on to the system , Something like customised . Yeah for example the L\_C\_D\_ , you can take it you can put it put it back in , or you can use the other one , or the speech recogniser with the microphone yeah yeah . You want a microphone to put in the speech recogniser you don't wan you pay less for the system you see . It's pretty flexible in the yeah price . You also have the the the two other modules for the parental control that that you ca you can add up to the to your remote control i i if you uh if you want to to have more more power on what you do , and uh which channel you want to choose and so on . H here is just the the the module for the kids and th if the parents want to watch T\_V\_ , up they come up with their modules , We also have this module for uh old people with big buttons , clearly labelled , and it acts like the previous one , you just plug in and it works . the i the idea the the conceptual idea is that simplicity and powerful . Simplicity meaning that we have few buttons , powerful is that all the controls with the one you saw we saw earlier in the meetings with lots of buttons n that's our uh an innovation um uh i in this uh design here . Okay now we come to other important features that I did not tell you . The first one is the speech recogniser , again it's detachable or add-on . And then we also have security feature it's very robust , and the material , what's the material again ? The titanium Again uh and the battery life is uh is an is an endureable one , again because this is A\_A\_ batteries you can choose the types of battery you want . Lithium-ion may be a good one , again you pay for what you get , and then um y the other p points are robust and misplacement reminder . So when you finish watching your T\_V\_ and you the you t you turn off the T\_V\_ , uh and then there's this message coming out that uh please put that back to the charger , And it also use a programmable channel and vocabulary , so we didn't define the vocabulary so it's up to the user to define And then uh because of the chil because children are using the device so we have also a a of T\_V\_ programmes by genre , and this can be used by the adult or by the children . What's the price to p to produce ? Well so the price to produce For uh the simplest one , say we start from four dollars to produce such a device . The without without the charger it's about uh well two dollars to produce uh the microphone and speech recognition systems . Two dollars for the uh for the add-on modules , and finally three dollars for the charger . So if you uh sum up uh everything wi with the L\_C\_D\_ , which costs two dollar , you have two plus four plus four plus two plus two . We don't have all the options . so the total cost if you if you want all the fuct functionalities will be about uh fifteen dollars . so you want more function you pay more . it's below the the the budget . I think we will just have a rough look and then we can make our statements , and we can finalise the product based on this discu So the marketing made an evaluation criteria and these were some of the findings , and uh in the market the people are not really interested with L\_C\_D\_ , without L\_C\_D\_ , with speech recognition interface , or without speech recognition

interface , but most of the people what they are interested is first thing is , they want to have an fancy look and feel , it should be very fancy with colourful and uh very handy to hold . And the second thing is it should be much more technologically innovative . Of course in that we could put L\_C\_D\_ or recognition to be more technologically innovative . And the third one is easy to use . since we haven't yet a remote who are allowing to to choose interactively with the T\_V\_ screen uh uh with just four buttons . Well I think that the technical in innovation is in the product itself here you can find these are the latest fashion updates , and so this in Paris and Milan they have detected this trends that the this year it's going to be an year of fruit and vegetable , so people are really interested to see if they have an remote in the shape of the fruit or a vegetable , or whatever they like . So I think it should be much more customised to make a different uh shapes . And the second thing is , and if the material , they really do not want it to be very hard , as in the case of very pl plastic or titanium , it should be somewhat spongy . you should find a material that is robust at the same time spongy . Yeah so uh so finally we have these three criterias . One is fancy look , second is innovative , and third is easy to use . So and we have an evaluation criteria for each one of these , say that we have a seven point scale , from one to seven , and for each of the product you could just give me the scale according to this . so on this scale , if it is true , if it is if it has a fancy look you could just tell me one , So now you have with L\_C\_D\_ and without L\_C\_D\_ , or if it is false , it doesn't it looks uh it doesn't look much fancy , then you could just tell me seven . But who will give the scoring uh we ourself or or a third party ? according to you designers , On on this scale the L\_C\_D\_ remote control . How do you look how does it look ? D is it very fancy or doesn't look much fancy ? I'll I'll say three or four . I think we can improve on the design . Som someone um commented this is like a the stone age uh design . Um we have been focused all all this time on the on the technical aspect , functional aspect , but also the simplicity . So I take three on with L\_C\_D\_ ? So without L\_C\_D\_ how would you rate it ? Uh four . I think it's it's uh more easy to make f fancy things when it's not complicated so removing the L\_C\_D\_ um gives us a li more liberty to to have a fancy look . And in the sense of innovativeness , with L\_C\_D\_ . Well it's it's the same for both so I will give a five , six . from the innovation aspect I feel that uh what is most innovative of our prototype compared to the existing prototypes that we saw I in the last meeting is that um the retrieval of T\_V\_ programmes by content , and for now and another innovation we have is simplicity and simplicity , few buttons , we've uh A lot of functionalities . So without L\_C\_D\_ ? Mm for both it's the the same innovations . So maybe I can put six to seven . actually uh to make it with L\_C\_D\_ you make more efforts . then when it is without L\_C\_D\_ there is not much innovativeness . Uh uh uh there w there was a there was a issue here is that what are what is the display on the L\_C\_D\_ ? but you have the same programme on the T\_V\_ screen . We haven't really uh determined what are actually actually I mean on the L\_C\_D\_ , according to what I understand from your model is , you have a joystick here , and you have L\_C\_D\_ , you just press your joystick , you get here a programme . on the T\_V\_ you don't it doesn't display on the T\_V\_ now . If you have the L\_C\_D\_ , Then uh there is no meaning in having it on the T\_V\_ . But you cannot display all on a L\_C\_D\_ . Anyway for for the users who who who opt for L\_C\_D\_ we'll give them the give them the L\_C\_D\_ , So without L\_C\_D\_ you want to put it fi the same level of innovativeness ? Well I think both are really easy to use and uh well t p the menu are clear , well-organised , so so I will give a six for the easy to use . No it's just if I I see the the f the rate I think it's better to do it without L\_C\_D\_ . Because that's with L\_C\_D\_ just will increase the price , So I mean in the product design you

could just amend it to make some few changes according to fruit and vegetable or a spongy touch without L\_C\_D\_ and without speech recognition . I have another thing to say about the easy to use aspect . I think the easy to use uh aspect is different for different people . For the young generation easy to use may be very complicated because uh they w they wants lot of controls with lots of buttons . For kids they want simply the s similarit for the old people they want simplicity , but but uh what I'm trying to say here is that the um we have different sets of buttons for different kinds of people . So without L\_C\_D\_ I just take it five ? Um six . and it's going to be much simpler to use . so let's go back to our laboratory and To improve on the design . what about the integration of speech recognition ? The speech recogniser is a add-on module . That's going to be an optional . S s oh I think it's better to have this without L\_C\_D\_ . As our Programme Manager s Pro Project Manager says that without L\_C\_D\_ it is going to reduce the cost also , I think it will be better if we have all these modules in the same remote control , because maybe parents will lose these uh but I mean if you have an add-ons , the kids may just uh hide the parental module Or maybe parents they can for forget where they put it or , The problem is if i we are bla if a customer wants a certain component , and doesn't want the parental control because it's a couple who do not have children when you sell the product in the market you could meet any kind of people , and not all people will need all the functionalities we propose to them . So you mean that even if these modules will be will be functional uh will be optional . But the the question is n does those modularity increase the production cost or decrease the production cost ? I think it inc increase . because it's three different pieces uh to to build but it's I think it's cheaper if you if you already built the all the functionalities um on the same module , but uh Well well the other aspect is that if in the when they have the ar existing product you you gonna maintain the the you're gonna keep the same customer , because the same customer will come back to buy other add-ons . i i so if don't buy now they can buy i in the future . attracting them to come back in again and again . Yeah well if the buyers can be up the th would be can be upgraded , it would be a good thing right ? And uh what's the idea about uh the shape of the remote controls ? Uh can they be made into a fruit and vegetable types ? but we are also the um well the components will have to change because uh we have to deal with the shape Or uh it could be like this the P\_C\_B\_ would be the same for all , but only the exterior uh shape is different o for all . What we can change is to propose the customers with skins . For example the i the mobile phones nowadays , they sell different kinds of skin and then people just feel that oh I have a new skin and looks better . we can have the same global shape and then uh add on skins and with with this uh tex spongy texture uh things like that . I think you need to look into the material . I think the Project Manager would be interested to look about the financial issues in making these models . Project evaluation project satisfaction , for example . I don't know , we have to ask these question . Room for creativity . This room is a bit small , but but I think it's okay for us to work with . This is fine for making a presentat for project presentations . And the leadership was excellent . Yeah I think so . Uh the teamwork was very very good . And new ideas found . Come up with new product . Yeah and also more well uh more seriously I think it's it's a good idea to have uh clear clear points whenever we do a meeting uh prior to the meeting to have uh well a list with the points who will be discussed or things like that , We achieved uh project goal I think . that is within the budget . yes , more or less . Without without L\_C\_D\_ , without speech recognition , it will be simple . Yeah thank you for your work and

## Complete Meeting Transcript

Mm. Yeah. So okay so I'll show you the the two prototypes. Here we have the first one with the beautiful uh L\_C\_D\_ um display. You you can s here. And you can uh just um browse into the the navigation menu by uh joystick joystick-like uh button. You can uh choose the direction and if you just push on it it's considered like a enter function. You have on the mm on the side here the microphone for the for the speech recognition system here. And here the the switch that control if you want Well I I think uh it's the Yeah but Yeah. Well so it's a microphone array. No it's just a single microphone, and you I I think uh we we put it here because I think when you when you are browsing your L\_C\_D\_ you will be close to well it's better to to place it here th than here, for instance. And here is a little switch that control if you want the the speaker uh recognition system to um to be on or off. And uh so this remote control comes up with its charger. Well this this prototype is um made for about uh well fi fi fifteen fifteen dollars fifteen dollars, but uh well it's not it's not uh yeah, but uh it's just a prototype and if we uh if we optimises the um the uh voila. Yeah the and the the production costs we we can achieve uh about ten dollars. How many, excuse me? Well uh f battery, we use uh about uh Yeah. Rechargeable of course, because we have the charger. Yeah and you just On uh yeah one battery. The excuse me? Oh yeah it's just a r uh simple battery a rechargeable uh if you uh like it's exist. Yeah. So and if you want to charge the battery you just put the remote control like that to plug in the the charger and uh leave it uh alone, it's alright. Then the next time you pick it, oh it works. Yeah just explain the button uh Norman. Yep. Yeah it's So we have the the second version also with the different uh button configuration. The second version is also simpler, we d uh we had just uh I have to put the microphone also. So basically th it's the same uh yeah. Basically it's the same uh things uh uh as uh I presented before. But here we have uh we have uh four buttons for navigation. Press one button uh acting as a a enter button. So um yeah according to what you said it's more robust to the user. And uh it's also cheaper to produce. We can produce uh such remote control for about uh four dollars. Yeah it's it's it's embed in the uh speech recognition system. So so Norman will explain to you. Yeah yeah of course mm. Thank thank you. And so mm-hmm. Alright please uh go on Norman with the special features. You also have the the the two other modules for the parental control that that you ca you can add up to the to your remote control i i if you uh if you want to to have more more power on what you do, and uh which channel you want to choose and so on. H here is just the the the module for the kids and th if the parents want to watch T\_V\_, up they come up with their modules, they just plug in it and they can have all the control they want here. We also have this module for uh old people with big buttons, clearly labelled, and it acts like the previous one, you just plug in and it works. The titanium and so it's very uh Well so the price to produce For uh the simplest one, say we start from four dollars to produce such a device. Uh it's about it The without without the charger it's about uh well two dollars to produce uh the microphone and speech recognition systems. Two dollars for the uh for the add-on modules, and finally three dollars for the charger. So if you uh sum up uh everything wi with the L\_C\_D\_, which costs two dollar, you have two plus four plus four plus two plus two. It's about so the total cost if you if you want all the fuct functionalities will be about uh fifteen dollars. But it's just if you want all functionalities. Excuse me? Yeah. Well I think that the technical in innovation is is in the product itself since we haven't yet a remote who are allowing to to choose interactively with the T\_V\_ screen uh uh with just

four buttons. Okay. A sponge. Hmm. Yeah. Well it doesn't look much fancy I'll I'll say three or four. Yeah. It's it's Technical aspects. Yeah a three. Uh four. I think it's it's uh more easy to make f fancy things when it's not complicated so removing the L\_C\_D\_ um gives us a li more liberty to to have a fancy look. Well it's it's the same for both so I will give a five, six. Well five also uh Norman please. With lot of functionalities. Mm for both it's the the same innovations. six, let's go for six. Yeah. Talk about Yeah but you have the same programme on the T\_V\_ screen. If you have the L\_C\_D\_, but if n Yeah. Yeah. Well I think both are really easy to use because there are few button buttons, and uh well t p the menu are clear, well-organised, so Well with little knowing of the technology you can you can easily use the product so I will give a six for the easy to use. Yeah, it's cheaper to produce. And uh if the the well if we have less technology we have more liberty to uh for the shape and uh things like that so Yep. Yeah. Six. Um six. Yes as you say, with better uh yeah. And to improve the the look. Yes and to give us more liberty to have a fancy look so so let's go back to our laboratory and Yeah. It's optional yeah, since well according to this study uh people more likes more to have a spongy uh remote control than Yeah. Well it's about the same because if Well you can if you had uh something li Oh no, because if you if you add uh something well yeah maybe because it's three different pieces uh to to to build but Yeah yeah yeah it's I think it's cheaper if you if you already built the all the functionalities um on the same module, but uh Yeah. Yeah. Well so Yeah yeah I think we are yeah but we are also the um well the components will have to change because uh we have to deal with the shape and um but I don't think it will uh increase the cost too much so Uh well but it's a bit complicated to if if you need machines to different machines to um ah well Yeah yeah we can have the same global shape and then uh add on skins and with with this uh tex spongy texture uh things like that. Sponge. Okay. So we finished the prototype uh presentation if you have uh something else to say. That was good. Yeah. Fine yes uh. Very democratic. Thank you. Alright. Come up with new product. Yeah and also more well uh more seriously I think it's it's a good idea to have uh clear clear points whenever we do a meeting uh prior to the meeting to have uh well a list with the points who will be discussed or things like that, but I think it's alright. We achieved uh project goal I think. It's w yes, more or less. Yeah but Alright. So. So uh coffee machine. Okay. Is it an only a single mic or a microphone array? Mm-hmm. Yeah. Okay. The cost would be le reduced. Is that two or one? Now what is the whole day rating for that? Whole day's rating. What type of battery? Something like a two A\_, A\_ three size batteries? Mm-hmm. And the L\_C\_D\_ is this one, on the remote? Yeah. Uh-huh and also the switch. Okay. Mm-hmm. And I think you forgot a point here to have an button to find the charger, because that's a major that's a Okay and if you disable speech recognition system then? Mm hmm hmm hmm hmm hmm. Okay. Yeah people are willing to pay more, but the company is not willing to invest more at the moment. Or uh Something like customised. Yeah. Mm hmm hmm hmm. Hmm okay. And this is other one? Mm hmm hmm hmm. Mm-hmm. Yeah that's fine. Okay. Mm hmm hmm hmm. With the charger? I think we can use Excel. Yeah it's a nice input but we have an other inputs from the I public demands. I think we will just have a rough look and then we can make our statements, and we can finalise the product based on this discu I think we can just go to my presentation then. We can wind up. Or we could uh come to some f uh final conclusions. So the marketing made an evaluation criteria and these were some of the findings, and uh in the market the people are not really interested wi

th L\_C\_D\_, without L\_C\_D\_, with speech recognition interface, or without speech recognition interface, but most of the people what they are interested is first thing is, they want to have an fancy look and feel, it should be very fancy with colourful and uh very handy to hold. And the second thing is it should be much more technologically innovative. Of course in that we could put L\_C\_D\_ or recognition to be more

technologically innovative. And the third one is easy to use. Okay and if we go to the next slide, here you can find these are the latest fashion updates, and so this in Paris and Milan they have detected this trends that the this year it's going to be an year of fruit and vegetable, so people are really interested to see if they have an remote in the shape of the fruit or a vegetable, or whatever they like. So I think it should be much more customised to make a different uh shapes. And the second thing is, and if the material, they really do not want it to be very hard, as in the case of very pl plastic or titanium, it should be somewhat spongy. Um. Yeah so uh so finally we have these three criterias. One is fancy look, second is innovative, and third is easy to use. So these are the f uh three criteria on which we are going to build our remote. So and we have an evaluation criteria for each one of these, say that we have a seven point scale, from one to seven, and for each of the product you could just give me the scale according to this. So now you have with L\_C\_D\_ and without L\_C\_D\_, so on this scale, if it is true, if it is if it has a fancy look you could just tell me one, or if it is false, it doesn't it looks uh it doesn't look much fancy, then you could just tell me seven. So We can make our study on this and No no we have you have designed two products now, one is with L\_C\_D\_ and without L\_C\_D\_. According to you, no according to you designers, how will feel does it uh with L\_C\_D\_ and without L\_C\_D\_? Okay let us make this L\_ and without L\_C\_D\_. On on this scale the L\_C\_D\_ remote control. How do you look how does it look? D is it very fancy or doesn't look much fancy? And you both agree for that? So I take three on with L\_C\_D\_? So without L\_C\_D\_ how would you rate it? Four. And in the sense of innovativeness, with L\_C\_D\_. Five with L\_C\_D\_ and So without L\_C\_D\_? No no according to design aspect we want to know how would you feel the innovativeness? With L\_C\_D\_. And without L\_C\_D\_? Okay. No actually uh to make it with L\_C\_D\_ you make more efforts. So I there is high innovativeness included if you make it with L\_C\_D\_ y then when it is without L\_C\_D\_ there is not much innovativeness. So we can't go I mean that what you are sayin that's what the design No it's like this, I mean on the L\_C\_D\_, according to what I understand from your model is, you have a joystick here, and you have L\_C\_D\_, you just press your joystick, you get here a programme. Uh then No on the T\_V\_ you don't it doesn't display on the T\_V\_ now. L\_C\_D\_? Then uh there is no meaning in having it on the T\_V\_. Or then again you have a channels, volume and all the stuff and what a I mean that depends upon your design, so I mean So without L\_C\_D\_ you want to put it fi the same level of innovativeness? And which do you recommend e easy to use, with L\_C\_D\_ or without L\_C\_D\_? Yeah. Or we can just go back to the previous slide uh where we ha we have a few updates. So I mean in the product design you could just amend it to make some few changes according to fruit and vegetable or a spongy touch without L\_C\_D\_ and without speech recognition. Even then our product is going to be very good. Yeah. Yeah that's right. Yeah yeah that's right. So without L\_C\_D\_ I just take it five? Or you want it to be six? S s oh I think it's better to have this without L\_C\_D\_. As our Programme Manager s Pro Project Manager says that without L\_C\_D\_ it is going to reduce the cost also, and it's going to be much simpler to use. So. That's going to be an optional. If somebody wants to b

uy it they can have it, otherwise no. It's an optional. Yeah. Yeah, but I mean if you have an add-ons, the kids may just uh hide the parental module and so that their parents can't use it. In the same set, yeah, and and individual buttons to make them work. I mean how to how to how to make a marketing survey that uh how many married couple or how many couples have a T\_V\_ or to the number or singles who have a television. So based on that I think But you can make it on a single P\_C\_ with three different options. On the same P\_C\_B\_ yeah yeah. Yeah that's right. I mean you could just provide with an optional. So it's something like a Microsoft product update. Updates and we sell it. We make updates and sell it. And uh what's the idea about uh the shape of the remote controls? Uh can they be made into

a fruit and vegetable types? Do you require different types of P\_C\_B\_s and Or uh it could be like this the P\_C\_B\_ would be the same for all, but only the exterior uh shape is different o for all. Yeah, yeah that's right. Yeah that's right. I think you need to look into the material. Yeah yeah. I think the Project Manager would be interested to look about the financial issues in making these models. I feel it's fine, we know we don't need uh I think it's okay. This is fine for making a presentat for project presentations. And the leadership was excellent. Yeah that's right. Yeah that's right. And new ideas found. Any new ideas to make these presentations more interactive and more interesting? I mean uh what type of product would you think could we make this more interesting? Yeah that is within the budget. And the evaluation was Yeah that's right. And the next is celebration. So Yeah thank you, thank you very much. So in last meeting we have discussed the conceptual design and we asked you to prepare a prototype for the for the remote control. So. So let's see the what did you prepare. Sh share folder for th your presentation? Because I have here Okay just one. Why you why you you put it in the the side? It's not a good place maybe. Oh it's very costly, microphone array. How much does it cost this one? Fifteen dollars? Ah it's above it's above the budget. How many b battery is there? Battery. So one one battery? It's kinetic reserve. Mm. I think it's not a good idea because after maybe one or two months of function is getting destroyed. If you Mm-hmm. No four dollars, it's good. And we will we will serve the charger with this? With the remote control. Okay so the price of the charger included in the Mm-hmm. The price should be below twelve and a half Euro. Well that's so We have we have just The price of selling is twenty five Euros. And the price of production That's for this basis function and if you want more you pay more. Yeah. Okay. But Mm-hmm. Titanium. What what's Maybe yeah. What's the price to p to produce? With with with the charge? Okay. We don't have charger. We don't have all the options. Charger we don't have charger here either. No it's it's below the the the budget. It's below the bu the budget. We Yeah. You. And you? Mm-hmm. Uh For L\_C\_D\_. Without L\_C\_D\_. Uh no innovative yeah. So let's remove it. But This is the problem. No it's just if I I see the the f the rate I think it's better to do it without L\_C\_D\_. Because that's with L\_C\_D\_ just will increase the price, and I thi i they have the same rate so without L\_C\_D\_ it will be Mm-hmm. Mm-hmm. Without L\_C\_D\_. Yeah. What a what what about the sys speech recognition? what about the integration of speech recognition? Ah so it's optional with the okay. I think it will be I think i I think it will be better if we have all these modules in the same remote control, because maybe parents will lose these uh Yeah. Or ma yeah. Or maybe parents they can for forget where they put it or, so mayb better if you have all this in the same Yeah. So you mean that even if these modules will be will be functional uh will be optional. Uh I think it inc increase. I think it i increases. Hmm.

And and we we we we we we don't want that. So Project evaluation project satisfaction, for example. I don't know, we have to ask these question. We have to give answers so Project evaluation. Mm-hmm. Yeah I think so. He gave you the liberty to talk as you wants. Uh the teamwork was very very good. I was really I am very satisfying to work with with you. Oh. Less fancy. De Without without L\_C\_D\_, without speech recognition, it will be simple. Yeah free free coffee. Yeah thank you for your work and Okay. Yeah, so can you go out to the shared folder? Mm the shared folder. Yes. We have a presentation. Uh So I got the participant uh three. W uh. Three. It's the final design, yeah. S so so I discussed with Guillaume. Right. And uh so we have and we we are both agreed on some two versions of the prototypes, because we were no not decided whether we wanted to have an L\_C\_D\_ or not because it's too expensive. So we come up with two versions. One with and one without L\_C\_D\_s. Um but both comes with a charger and then detachable and uh or control module. And detachable big buttons for all people um. So. Mm. Mm. Mm-hmm. No i i it's the all around camer uh microphone isn't it.



The the microphone picks up the speeches from anywhere. Yeah Mm. Yeah yeah. For the Yeah. Mm. Hmm. Is it n the two A\_A\_s batteries in it. A\_A\_ rechargeable batteries. Yeah rechargeable batteries. We have the charger so it's no problem. Actually uh it's a flexible thing. You just n uh Yeah yeah. Yeah. Yeah. Yeah. Mm. At uh yeah. I forgot to tell you there is only a single button there, b this button yeah alright. This button is like the mouse is like a joystick, you can move in three hundred and sixty degrees of direction so you can make a turn and it the additi functions associated to all the actions you ma you have a click you have a double click all in a single button. You can move up, down, left, right, or you can do a swing. So a swing to the left, a swing to the right defines other functions. So even though it's a single button, but it is pretty s flexible because of the three hundred and sixty degree movement. Yeah. This is the version y that comes with L\_C\_D\_. Here I present another version without the L\_C\_D\_. Mm. Uh okay this is new prototype uh. Yeah yeah. Mm. Oh no th actually th we'll come to that point in our Yeah. W w I'll I'll come to that point later on. Yeah. Th they either these with the uh the the charger any in either versions you they they ha they use the same charger yeah. Uh it's a standard module so you should get it for a cheap price uh. It's that same charger that you can use for the hand-phone but uh again depends on the types. I think we have to investigate more on that, but Yeah. Yeah but as the Marketing Manager says, people is willing to people are willing to pay more for good design. Yeah. Yeah. Mm-hmm. Yeah we'll we'll come up to that, the the the thing that makes this the controller cheap is that it is modular so you want more function you pay more. If you want less function i i if you want a reasonable price you pay for the functions that you add on to the system, so is uh modular. Yeah yeah, for example the L\_C\_D\_, you can take it you can put it put it back in, or you can use the other one, or the speech recogniser with the microphone yeah yeah. You want a microphone to put in the speech recogniser you don't wan you pay less for the system you see. So It's pretty flexible in the yeah price. Uh yeah yeah you should present that. Yeah. Yeah Mm. Hmm. Yeah. Yeah the i the idea the the conceptual idea is that simplicity and powerful. Simplicity meaning that we have few buttons, powerful is that all the controls with the one you saw we saw earlier in the meetings with lots of buttons n but here you only have few buttons but you retain the mm the same powerful functionalities. But in addition with simplicity. So that's the best idea, the cond that that's our uh an innovation um uh i in this uh design here. Okay now we come to other import

ant features that I did not tell you. The first one is the speech recogniser, again it's detachable or add-on. And then we also have security feature for example this here oop it's very robust, it doesn't break and the material, what's the material again? Titanium material. Again uh and the battery life is uh is an is an enduring one, again because this is A\_A\_ batteries you can choose the types of battery you want. Lithium-ion may be a good one, but you can replace it with cheaper one, again you pay for what you get, and then um y the other p points are robust and misplacement reminder. So when you finish watching your T\_V\_ and you the you t you turn off the T\_V\_, uh and then there's this message coming out that uh please put that back to the charger, so so that's the or is it that's the reminder part. Yeah and um And it also use a programmable channel and vocabulary, so we didn't define the vocabulary so it's up to the user to define so sorry? And then uh because of the chil because children are using the device so we have also a a of T\_V\_ programmes by genre, and this can be used by the adult or by the children. So instead of choosing the channel you are choosing the T\_V\_ contents of the night. So it's pretty powerful, and that's that's why the num buttons are reduced, because of this feature. Yeah. And and for the materials that is cheap to produce I think uh it's quite clear from yeah. And also like the and the fancy designs yeah. Maybe we can improve more on the design but uh this is the Yeah. Yeah. Yeah. Yeah. Yeah. Mm. Mm. Spongy spongy. Mm mm. Mm mm. But the the problem is that uh is it

robust to mishandling? We have you should find a material that is robust at the same time spongy. Spongy. Mm-hmm. Mm-hmm. Mm. Mm. So so is the evaluation depending on us or other users? Yeah. But who will give the scoring uh we ourselves or or a third party? Mm. Mm. Mm. I think we can improve on the design. Som someone um commented this is like a the stone age uh design. Um we have been focused all all this time on the on the technical aspect, functional aspect, but also the simplicity. As for the design maybe we should hire a designer to help. Yeah. Yeah. Yeah. Mm. Yeah from the innovation aspect I feel that uh what is most innovative of our prototype compared to the existing prototypes that we saw in the last meeting is that um the retrieval of T\_V\_ programmes by content, because uh that is really innovative, and for now and another innovation we have is simplicity and simplicity, few buttons, we've uh A lot of functionalities. So that is uh that is uh for both th Our gi I think that the our our product is uh has the best in all well this is a biased judgement because we designed them. Yeah. Uh the innovation is v is very high I think. Both. For both. It's the same innovation. So maybe I can put six to seven. Both. Mm. Uh uh uh there w there was a there was a issue here is that what are what is the display on the L\_C\_D\_? We haven't really uh determined what are actually actually it's good to have a L\_C\_D\_ but what are we gonna display on a L\_C\_D\_? Yeah? Yeah. Yeah but Yes exactly. But you cannot display all on a L\_C\_D\_. Anyway for for the users who who who opt for L\_C\_D\_ we'll give them the give them the L\_C\_D\_, we give what the customer uh wants, right. Yeah. Yeah. Yeah. Yeah I think sorry. Yeah. Yeah. Yeah. Yeah. Mm. S Yeah. I have another thing to say about the easy to use aspect. I think the easy to use uh aspect is different for different people. For the young generation easy to use may be very complicated because uh they w they wants lot of controls with lots of buttons. For kids they want simply the s similarit for the old people they want simplicity, so that's why we have the parental module. Uh we can ha have build a more complex design if if they want it, but but uh what I'm trying to say here is that the um we have different sets of buttons for different kinds of people. So in terms of easy to use I think it's very us

er customisable. User customisation is very important yeah. Yeah so W uh I think it's the same. Yeah. Yeah. Mm. Yeah. To improve on the design. Huh? The speech recogniser is a add-on module. Right? Yeah. Oh. The problem is if i we are bla if a customer wants a certain component, and doesn't want the parental control because it's a couple who do not have children when you sell the product in the market you could meet any kind of people, and not all people will need all the functionalities we propose to them. So we might lose the customer because of this. I don't know, what do you think uh? Yes exa what do you think, I don't know. You are Marketing Manag. Yeah. Yeah. But the the question is n does those modularity increase the production cost or decrease the production cost? Mm. Mm. Yeah. Well well the other aspect is that if in the when they have the ar existing product you you gonna maintain the the you're gonna keep the same customer, because the same customer will come back to buy other add-ons. So so Yeah i i so if don't don't buy now they can buy i in the future. So in in that way you're actually keeping the cus the same customer, attracting them to come back in again and again. We're not trying to follow the Microsoft and we don't want to the m Yeah well if the buyers can be up the th would be can be upgraded, it would be a good thing right? Yeah, it depends on the v production. Mm. Mm. Yeah. What we can change is to propose the customers with skins. For example the i the mobile phones nowadays, they sell different kinds of skin and then people just feel that oh I have a new skin and looks better. Yeah. Yeah. Yeah. Yeah you can pl in what material would that be in uh? Yeah or furry like a pet dog kind of thing. I suppose that you this criteria, is it? Room for creativity. This room is a bit small, but but I think it's okay for us to work with. Yeah mm. Mm. Yeah anyway we have the laboratory nearby to build our modules so it's okay. Good job good job. Thank you. Alright. Mm. Mm we

I I know something, we need more cakes, more biscuits on the table while we have meetings. Mm. Mm.  
Alright then, we finished? Thank you very much.

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# Meeting ID: 90

Data Source: Train

## Executive Summary

I hope you're ready for this uh functional design meeting . I will take the minutes we need uh to know the the user uh needs we want to know how it going to work third part uh I don't remember let's go for the three presentations , so first um Marketing Expert . So as you know , you I think you already know me , Sammy Benjo . I am the expert in marketing and I want to tell you about what people uh s want and uh like and dislike in remote controls , what I suggest is that uh instead of deciding ourself what what could be and what should be a good uh remote control , let's ask people who are users of remote controls what they like , what they don't like So we've we've conducted a a survey on on the use of uh remote controls what we found was that uh there are several things that the user don't like in remote controls . First of all , they find it very ugly . uh they're not nice colour , not nice shape , I mean they're all the same , Um what is interesting is that in fact it seems that they were people are ready to pay for nice and look and fancy looking uh remote control , so I think we should probably spend lots of time in and effort in that um . and it it the the current uh facilities that they offer do not match what people really want to use their remote controls . And the other thing is that uh the the current remote controls are not so easy to use For instance uh we see that uh they zap very often so I think this is a very uh important uh functionality And most of the buttons uh on uh current remote controls are not used , so I think we should design something where some of the buttons which are those that are used should be easier to see and use than others that only a couple of people are using . people are very frustrated w with their remote controls and they for instance uh they don't even find it it's it's often lost somewhere in the in the in your home Maybe if we have something where we could ask the remote control please , where are you ? Like uh something to to like t I think phones . Some of the phones have some of this kind of s functionality . And because of the fact that there are so many buttons in these remote controls that nobody use , so most of the the people say they they don't know how to they to use properly their r remote controls . And uh they are bad for R\_S\_I\_ but uh I don't remember what is R\_S\_I\_ . Yeah , it's electromagnetic waves or something kind of maybe uh effect . but we have to take this into account . now I remember what is R\_S\_I\_ it's repetitivity stress injury . So we've listed a couple of uh Functions . that may be uh used by u the user in the current uh available uh remote controls but what is important is to understand that the power button is not used often because in general you use it only once per session , but it is very relevant . People want to have a power button . Channel selection is uh o often used very often used Volume is

not often used but people uh want to have control on volume And All of them . they're not often used and they are s more or less relevant . It seems that people find teletext teletext uh relevant , but seems that it's average relevant at least , so . I have been told that we uh don't consider teletext , that it's out of date now because of internet . if if there are good reason not to put teletext it's okay One of the thing the trend uh that uh you are probably aware of is the possibility the eventual possibility of having speech recognition in your remote control , so you wouldn't have to tap tap in your buttons but just tell your remote control or whatever you need you have what you want . So we've conducted a survey about uh whether people would like or not to have uh this kind of uh functionality in their remote control and as we can see it really depends on the age . Young people , probably because it's a buzz word , find it very relevant . And uh as the age goes up the the relevance goes down . So now it really depends on the kind of uh targeting uh wha who are we targeting with this remote control ? I think if we are targeting young people then uh it's probably something we have to consider . If we are targeting you very old people this is something they really don't know why they this should be so that's basically my findings . should we aim at the young people or not ? I think we should aim at the young people . But uh I think they are they are those uh who might be more interested in a in a new device . In general the the early adopters of a new device are young people , Then teletext is useless for them I think , Because they they have other means of finding their information . Yeah . my name is Mark Dwight , and um I am responsible for User Interface Design . However , uh mm Project Manager asked me to give you some presentation about technical functions design . that's gonna be less technical functions but more User Interface and current intentions and everything which is linked with this . And uh a general method which is seems to be very useful for our task We should never complicate things too much . We should only make a remote control , nothing more . Nothing more than this , just a remote control . 'Cause current remote controls they are never easy enough to use . So here is this remote control . It's quite a standard one , but it's not from a T\_V\_ , it's from a much easier device like air conditioning or something . But you know , we can use it for a T\_V\_ easily . Only buttons we need is on off , volume , channels and maybe some options or something else , I would say the simplest one as long as there are the uh I find the buttons that I need every time I need a button . Maybe it can be yeah middle of like , between those two compared to this one Our question of the style , we should remember that our company puts fashion into electronics For personal preferences I think that to make a baby-proof remote control it got to be a titanium . It is unbreakable and it is very universal . W we'll have a screen with a back light which can change colours , and we can put all the options into this screen . We'll need only few buttons . All the other things can be controlled through the screen . And all these buttons should be easy to find and to click , I would propose this concept for design , just few buttons , a screen with a back light which can change colours , titanium We need power and volume . And let us include two nice features into this device , first , power on and off can be made fully automatic . When you go to the sofa , take your control and point it to the T\_V\_ , the T\_V\_ turns on . And when does it turn off ? When you don't touch the control For for enough time And another nice feature that I would like to implement is uh volume control . Suppose you set u you set up some volume and then you move out or you move to the other corner of the room and take your control with you . Like , you want to to change the chair or you want to move to the armchair from the sofa or something , and then the volume changes . Uh I'm not sure about the screen , According to your distance to and the angle

maybe , if you have a stereo system . wha what is the use usefulness of the screen ? Uh is it a touch screen by the way ? I think it can be just a menu which can be controlled with a left , right , up , down and enter . but uh it has to be with an back light somehow . So basically that's it . Um I see that you target uh several s application not only T\_V\_ but i like we talk about um universal uh remote control . Can be easily done , Since we were targeting a really soon uh uh date for the the the um i issuing of this uh remote control I think we will only concentrate on T\_V\_ for the moment and then maybe m make it more generalised yeah . but it's quite universal you know . We can just extend it to any device . for instance if I want to go to directly to channel twenty five , how would I do can I do that with this ? You know these days we have hundreds of channels , In fact I would propose another solution . Basically you use just four or five channels , set up your T\_V\_ set like channels that you use they're one , two , three and five , and you will never have to go to a twenty fives channel . But even we can have some uh L\_C\_D\_ display , like you can uh de you can just button the number One thing is that as I said in my presentation people really do like to z zap . So even if they are only watching four or five channels , I think they want to zap out of the one hundred channels , on zap it's only next next next next next , yeah . But otherwise like we can put some display on numbers Mm . We got these buttons here . Next next . Maybe we can make uh different modes for each button and you can change mode zapping mode or uh if you want to go for a universal then we ought to limit for functions for each of our devices . but since we are focusing only on T\_V\_ remote controls so we can have more functions for T\_V\_ Could we carry out some research if we w really need this , like how many people really need to go to channel number twenty five and then to sixty four ? I'll check in my department if there's someone specialist in that . Uh as you know , I am mister Ramaro . I am an expert in uh industrial design of all electronic devices So now I'll briefly describe the working design of our remote control . as you know the basic function of remote control is sending some message to the the device , like T\_V\_ or V\_C\_R\_ or D\_V\_D\_ player etcetera . So we need to have some energy source to do what to do the functions , what we want on this portable device . so to do these functions we need an interface , which basically some kind of pressing buttons or keys or like moving jack or something like that . And then these messages these key buttons can be transferred into some kind of message and then it will process by the chip and then it will generate some information to the main device . uh since we are focusing on our interface device remote control mainly the energy source like the battery and then we have user interface like uh the keypad and you know buttons we want , we ought to have some kind of processor And then we'll have the infrared L\_E\_D\_ source Then we'll have switch in our main uh um device to do particular operations , and we ought to do different codes for different T\_V\_s , To make it quite uh an universal uh device uh . because the people don't use one particular brand so So we need to check their specifications So we need to have particular encryption codes . so I'll input the connections to all this components . so if you want to add some more components we can incorporate them . Mm-hmm . And from from the discussion we had do you can you make it on the whiteboard , or mm . and also Marketing Expert for the speech recognition is really handy , we can have another , like uh s simple speech recogniser on our D\_S\_B\_ chip . and we can have some speech recognition and in our g generally small digital signal processing chip so that and we will put uh the small uh simple speech recogniser you can find even simple mobile device like any mobile brand you can have these voice dialers or these things , yeah . Think of a all these young people who would love to say that this remote control only works for them ,

And what about the price of this component ? Uh maybe we can make uh it in five Euros and even less than that , The user uh will just be able to say uh please can you uh pump up the volume or it will be something like volume , up , down . And then we can have channel they can say , okay I want eight , we don't want like B\_B\_C\_ or C\_N\_N\_ or something else it will be complicated First of all I think this is not uh functionality that it is going to be instead of using the buttons . actually we we can have one switch to like uh switch on , on and off , this processor Did you consider the r gest uh gesture recognition ? Like , if I want to put volume up I like do mm I take my remote control do like something like roll 'em up or roll 'em down . Very expensive , what about the idea of automatic on off on the button , yeah . even automatic on off is also a bit problematic , like so suppose people are really uh they just uh they don't touch the remote and mm y you don't know how much time you need to switch on or switch off So in in a given room there might be more than one remote control . We would uh have each one and uh with our own personal uh settings . Yeah that can be possible , especially for power settings , so user can say okay , suppose they're watching a tennis match or something then they can say okay uh after one hour I we're now going to I have the lunch break . Then we will work again for thirty minutes individual work , and um we will uh meet again for the next meeting , and uh in this one want to to be more focused on the individual actions the um on the components you will focus on the component concept um uh of course the U\_I\_D\_ Mark will be uh focused on the user interface concept and uh our m Market Expert Sammy Benjo uh on the trend watching . of course like before specific instruction will be sent to you by your personal personal coach . And we have um maybe we have to we say , only for T\_V\_ , not teletext ? Uh I think automatic on off control uh it's not possible . But speech recogniser can be possible . Uh , should it be equipped with the uh , with uh speakers ? Like , you want to find it , you shout and it answers is I'm here ? Or But that's ex that's expensive . Uh . Just beeps ? I I heard of devices where you just uh whistle them because of the the frequency they they just answer to that . You can clap . Can you ? But it's a good feature I guess yeah we're done ? let's go to lunch . because we have only very few words like like power , switch on or some like so we try to only recognise those words and and because we can't really say user to say same wording

## Complete Meeting Transcript

So Of course. Nice stuff Who starts? Oh. Ha. okay. So I dunno if I can do that like this? Yeah? So it's being modified. Do you want yeah, open. Read only. I hope I saved it. So, um yeah, this is my name. So as you know, you I think you already know me, Sammy Benjo. I am the expert in marketing and I want to tell you about what people uh s want and uh like and dislike in remote controls, and I hope this is going to help you to to design it correctly. So next please. Uh-oh. Hmm. Yeah maybe in the full page because i I spent lots of time doing this presentation, so. Uh-huh hmm okay. So basically uh what I suggest is that uh instead of deciding ourself what what could be and what should be a good uh remote control, let's ask people who are users of remote controls how they feel about w the current remote controls, what they like, what they don't like and um and what they do with them by the way because they are supposed to be useful. Don't forget about that. So we've we've conducted a a survey on on the

use of uh remote controls and I'd like to show you some of the results we found on this survey. And next please. Yeah, so basically what we found was that uh there are several things that the user don't like in remote controls. First of all, they find it very ugly. Current remote controls as you know they're the same as this one uh they're not nice colour, not nice shape, I mean they're all the same, and they're not I good looking. Um what is interesting is that in fact it seems that they were people are ready to pay for nice and look and fancy looking uh remote control, so I think we should probably spend lots of time in and effort in that um. And the other thing is that uh the the current remote controls are not so easy to use and it it the the current uh facilities that they offer do not match what people really want to use their remote controls. For instance uh we see that uh they zap very often so I think this is a very uh important uh functionality that it should be easy for them to to zap uh in one way or another. And most of the buttons uh on uh current remote controls are not used, so I think we should design something where some of the buttons which are those that are used should be easier to see and use than others that only a couple of people are using. Um next please. Now people are very frustrated w with their remote controls and they for instance uh they don't even find it it's it's often lost somewhere in the in the in your home and nobody knows where it is. Maybe if we have something where we could ask the remote control please, where are you? Like uh something to to like t I think phones. Some of the phones have some of this kind of s functionality. Uh of course phone you can always phone your phone but you can't phone your your remote control. But why not? Yeah. And because of the fact that there are so many buttons in these remote controls that nobody use, in fact they don't even know how to use them, so most of the the people say they they don't know how to they to use properly their r remote controls. And uh they are bad for R\_S\_I\_ but uh I don't remember what is R\_S\_I\_. So I think they are bad. Mm-hmm. Mm nobody has any idea about that? Well I'll check uh with my Oh, okay, I think it's a technical thing which our Okay. So, it seems that it's a lot of people for a concept that we don't know but we have to take this into account. So anyway that's for what the biggest frustration uh of the user and um what else do I have? Next slide? Ah yeah. So we've listed a couple of uh s uh functions that may be uh used by u the user in the current uh available uh remote controls and uh well the tables look very nice to read but what is important is to understand that the power button is not used often because in general you use it only once per session, but it is very relevant. People want to have a power button. Channel selection is uh o often used very often used and indeed uh very relevant. Ah now I remember what is R\_S\_

I\_ it's repetitiveness stress injury. We have to be careful with that word but uh anyway I continue my presentation so yeah, channel selection is um very important, very often used. Volume is not often used but people uh want to have control on volume and that makes sense of course. And n then you have things which are very much less often used like the settings. Audio settings, screen settings, even teletext and channel settings. All of them. they're not often used and they are s more or less relevant. It seems that people find teletext teletext uh relevant, even if I personally never use it but seems that it's average relevant at least, so. I can tell you that uh in a l in a scale between one and ten relevant uh not relevant to relevant people scored a six on this, which is not as uh these these two one were had I think ten I think. But but if you compare with these ones, uh I think they scored a one or two. Not very relevant, so if if there are good reason not to put teletext it's okay but just know that people find it somehow relevant. That's for the main functions I think and uh then we can ask uh ourself uh what people don't have that may be useful. For instance I think net next slide. One of the thing the trend uh that uh you are probably aware of is the possibility the eventual possibility of having speech recognition in your remote control, so you wouldn't have to tap tap in your buttons but just tell your remote control or whatever you need you have what you want. So we've conducted a survey about uh whether people



would like or not to have uh this kind of uh functionality in their remote control and as we can see it really depends on the age. Young people, probably because it's a buzz word, find it very relevant. And uh as the age goes up the the relevance goes down. So now it really depends on the kind of uh targeting uh wha who are we targeting with this remote control? I think if we are targeting young people then uh it's probably something we have to consider. If we are targeting you very old people this is something they really don't know why they this should be so now this is of course, depends on that. And um I don't have any conclusion, I didn't have time the meeting was very tight, so that's basically my findings. And uh, if you have any question? I can go back. Yeah one question, yeah? I am. I think we should aim at the young people. But uh I think they are they are those uh who might be more interested in a in a new device. In general the the early adopters of a new device are young people, less than more than Then teletext is useless for them I think, yeah. Because they they have other means of finding their information. Yeah. But yeah. Nope. 'Kay? So I think it's you, huh? No? No, user requiremen Makes sense. I would say the simplest one as long as there are the uh I find the buttons that I need every time I need a button. Nice. Nice sentence. Mm. Mm-hmm. Hmm. And when does it turn off? Oh so you have a sensing sensor machine that uh knows Tech Mm-hmm. According to your distance to and the angle maybe, if you have a stereo system. Uh I'm not sure about the screen, wha what is the use usefulness of the screen? Uh is it a touch screen by the way? So it gives instructions but uh it has to be with an back light somehow. Okay. Okay. So for instance if I want to go to directly to channel twenty five, how would I do can I do that with this? Yeah mm let's say I am uh on channel eight now. You know these days we have hundreds of channels, that's not so easy to go just next next next when you have hundreds of channels. Or is it? Most people yeah. In fact in in one uh remote control that I've seen, instead of doing that d you could just say these are the cha ch channel three, twenty eight, forty eight and uh sixty four are those that I want to by cycled with my next button. I uh B yeah. Go to channel twenty five. One thing is that as I said in my presentation people really do like to z zap. So even if they are only

watching four or five channels, I think they want to zap out of the one hundred channels, just because this is one kind of thing they do, zapping. And it's only next. Yeah so but you have to Okay. So it would be Okay. Mm-hmm. Alright. Listening more. Mm-hmm. Okay. Well I could could uh have a look at that maybe. I'll check in my department if there's someone specialist in that. Although I don't know. Mm-hmm. Mm-hmm. But uh very very good to sell. Think of a all these young people who would love to say that this remote control only works for them, and ha ha you cannot use my remote control, because it's targeted to me. Whatever. Hmm. Cheap. Millions. Cheap. The user uh will just be able to say uh please can you uh pump up the vo pump up the volume or or it will be something like volume, up, down. Okay. Okay. Couple of words. Okay. Of course uh it has to be Okay. But then I think you you First of all I I think this is not uh functionality that it is going to be instead of using the buttons. It's on top of using the button. Well, I dunno. T\_V\_. Very expensive, no? And volume control. So but uh Sh should we target a a user personalised uh uh remote control? So in in a given room there might be more than one remote control. We would uh have each one and uh with our own personal uh settings. Hmm. Yeah, of course. That's no problem, we will sell more. Yeah exactly. Okay. Thanks. Mm great. Difficult. Mm-hmm. No. Speakers in the remote cont Oh yeah. It just beeps. That would be enough. Something very cheap. But that's ex that's expensive. Uh. Well I I heard of devices where you just uh whistle them and and they because of the the frequency they they just answer to that. You can't whistle. Uh-huh. Or a clap. You can clap. Can you? Clap is good. Tak Just a suggestion. With only one hand? These are not our target people. Mm-hmm. Oh that's e that already exists okay okay. Oh yeah, you do have.

Wow. You're trendy. Think about it. Yeah, okay. Okay. Good we're done? Right, thanks. Yeah, it is put F\_ five. The full page presentation, yep. Yeah. Yep. Yeah. Yeah. Yeah. Yeah. You can you are. Hmm. Yeah, it's electromagnetic waves or something kind of maybe uh effect. Yeah, because infrared uses some electromagnetic technology, and those waves have high Uh. Uh. Yeah it's People really Yeah. Yeah. Uh. Hmm. Yeah. 'Cause Thank you. Mm. Mm. Mm, yep. Thank you. Uh it's techni function of Yeah. I have to do working design so uh. Mm. It's Yeah, yeah. Yeah. Maybe it can be yeah middle of like, between those two li S you should yeah. Mm. Distance. Yeah. Mm-hmm. Mm. Mm. Yeah and it mm. Mm. Mm. Yeah. But even we can have some uh L\_C\_D\_ display, like you can uh de you can just button the number and then it go t because Yeah. But still Yeah. Yeah. Yeah. Yeah.. Yeah. But otherwise like we can put some display on numbers and then they can just press suppose two five they just press two and five and then Yeah. Yeah. Yeah, yeah. Yeah, yeah. Yeah but since we are focusing only on T\_V\_ remote controls so we can have more functions for T\_V\_ uh if you want to go for a universal then we ought to limit for functions for each of our devices. Yeah. Yeah. Two. Yeah, if Sorry. Yeah. Uh as you know, I am mister Ramaro. I am an expert in uh industrial design of all electronic devices and I previously devised many uh like digital calculators and electronic calculators. So now I'll briefly describe the working design of our remote control. Well, as you know the basic function of remote control is sending some message to the the device, like T\_V\_ or V\_C\_R\_ or D\_V\_D\_ player etcetera. So we will have a p portable device which will send message to the the main device like T\_V\_. So we need to have some energy source to do what to do the functions, what we want on this portable device. And usually this so to do these functions we need an interface, which basically some kind of pressing buttons or keys or like moving jack or something like that. And then these messages these key butto

ns can be transferred into some kind of message and then it will process by the chip and then it will generate some information to the main device. It's generally in the form of infrared or some kind of s sensor information. Then we will have the main control in the main device to do the particular action what we want. So, basically we need uh since we are focusing on our interface device remote control we need few components, mainly the energy source like the battery and then we have user interface like uh the keypad and you know buttons we want, and then we have some chip, it's mainly digital signal processing chip because since we are I am one doing mostly digital uh devices we ought to have some kind of processor which take care of all these functions and put it in some digital format. And then we'll have the infrared L\_E\_D\_ source which sends the information to the main device. Then we'll have switch in our main uh um device to do particular operations, and we ought to do different codes for different T\_V\_s, so some T\_V\_s will have different encryption codes for doing s s uh channel changing and these things. Yeah yeah, because the people don't use one particular brand so or at least we have more more than five brands, which are really good. So we need to check their specifications and do their uh encryption that's passing information to the T\_V\_ device. So we need to have particular encryption codes. Then, components, so we have the main uh energy source and then we will have some buttons and then we will have infrared uh source and then we have some inside some chip in in the device. Uh since I don't have much time so I'll input the connections to all this components. And since I also want to know feedback from our Marketing Expert and User Interface, so if you want to add some more components we can incorporate them. Yeah. Yeah, I'm sure, because since our User Interface speech recognition and also Marketing Expert for the speech recognition is really handy, so we can have another, like uh s simple speech recogniser on our D\_S\_B\_ chip. Since we have some kind of uh energy this is our this normal battery, so this battery, once you s switch on it will take power

and we can have some speech recognition and in our g generally small digital signal processing chip so that and we will put uh the small uh simple speech recogniser and we can also train the speech recogniser for particular user so you just yeah, so that we just use simple recog no but but Yeah. No, even in you can find even simple mobile device like any mobile brand you can have these voice dialers or these things, yeah. Yeah. Yeah. So Uh maybe we can make uh it in five Euros and even less than that, because we want to have uh millions and in bulk, so we can make really simp and we want to make really simple device because we have only very few words like like power, switch on or some like then we'll have something like this um we'll have volume and then we will have s particular channel, so users can listen. Ye No, yeah, a user can use any kind of sender but they should have this prompt volume and then yeah volume and decrease or increase, so we try to only recognise those words and and because we can't really say user to say same wording then it become more mechanical and yeah. And then we can have channel they can say, okay I want eight, because we don't know like users have different programmes, I mean they don't really follow same channels strict uh so we just want channel number, we don't want like B\_B\_C\_ or C\_N\_N\_ or something else because it will be complicated so we'll have only these three uh main basic uh anyway volume is not really speech recognition problem, it's it it will be take care of our main mm. Yeah actually we we can have one switch to like uh switch on, on and off, this processor and This really, suppose like here we have our main chip which controls power, volume and this part and this D\_S\_P\_s. Again, this to have some interaction like su

ppose people use D\_S\_P\_ then it particularly sends some information to the chip like in some form, like volume and like this key. So it may not be like very expensive, because since we are only focusing on T\_V\_ remote control so and we have only few things here Yeah. Um uh uh this point we didn't consider because it's it's very expensive because v our target is only like twelve point five Euros and Yeah, even automatic on off is also a bit problematic, because it different criteria for different people like so suppose people are really uh they just uh they don't touch the remote and mm y you don't know how much time you need to switch on or switch off and Yay yeah. Yeah that can be possible, especially for power settings, so user can say okay, suppose they're watching a tennis match or something then they can say okay uh after one hour I They can make Yeah we can have Yeah. Uh, not very much, like yeah. Thank you. Yep. Thank you. Can you just yeah. Yeah yeah. Mark will Uh it's in current price, yeah. Yeah. But speech recogniser can be possible. Yeah yeah yeah. Yeah, especially the power, it really consumes because it should be all the time on and Yeah. Yeah. Yeah. Yeah. Yeah I think it's good. But it's a good feature I guess yeah we need to think about more how to incorporate it. Oh. Ah it's Yeah. Yeah. Thank you, thank you very much. So I hope you're ready for this uh functional design meeting. Um so I will take the minutes you mm you three are going to do presentation. Um uh we want to know to at the end to know the new project's requirement so we need uh to know the the user uh needs that we want to fulfil to fulfil the from the technical part we want to know how it going to work and um third part uh I don't remember which is not very good. Ah of course, how to to design this uh this yeah. So um let's go for the three presentations, so first um Marketing Expert. So wait a minute. Mm. Sounds uh Mm uh. Hmm. Okay. F\_ five. Mm-hmm. Mm. Why not? Okay uh tha that's look great. Mm-hmm. Okay. Or something we don't know. Mm-hmm. Okay. I have been told that we uh don't consider teletext, that it's out of date now because of internet. Mm-hmm. Mm-hmm Mm-mm. Okay. Mm I think it's good, okay. You done a good review. Mm-hmm. Mm-hmm mm mm. Okay. That's good point. Okay. So um now I think it's the turn of the the I'm not sure um Of the technical function, so uh what effect Okay. Wait a second. Argh. So you're Okay. Let's go. Oh sorry. Okay. Oh sorry. It's off. It's on. Or you want to go to the kitchen. Mm. Um I see that you target uh several s application not only T\_V\_ but i

like we talk about um universal uh remote control. Yeah. Hmm. Mm-hmm. Hmm. S Mm. Since we were targeting a really soon uh uh date for the the the um i issuing of this uh remote control I think we will only concentrate on T\_V\_ for the moment and then maybe m make it more generalised yeah. Yeah it's it's the same solution, I think. Hmm. Yeah uh on zap it's only next next next next next, yeah. Mm-hmm. Maybe we can make uh different modes for each button and you can change mode zapping mode or uh current chan Yeah. Mm-hmm. Okay. Uh you're finish? Okay. So now the technical aspects of this new device. Mm. You prefer it. Mm-hmm. Okay. To make it quite uh an universal uh device uh. Mm. Okay. Okay. Mm-hmm. Mm-hmm. And from from the discussion we had do you can you make it on the whiteboard, or mm. Mm-hmm. Mm-hmm. Mm. On Uh train it, okay. Mm-hmm. Mm. And what about the price of this component? It mm okay. Mm. Okay. Mm-hmm. Mm-hmm. With a keywords and yeah. Mm-hmm mm. Mm-hmm. Okay. Okay. No, in no not only speech, yeah. I it's an option. Okay. Sho to to train, okay. Mm. And well, what about the idea of automatic on off on the button, yeah. Wouldn't that make uh arguments? I want uh And we can increase this the strength y you can buy one with Mm-hmm. Okay. You have mm something else to say? Uh. No. Okay, thanks. So mm mm I think, okay, we're just on time. Um mm mm. So, we're now

going to I have the lunch break. Then we will work again for thirty minutes individual work, and um we will uh meet again for the next meeting, and uh in this one want to to be more focused on the individual actions the um on the components so uh you will focus on the component concept um uh of course the U\_I\_D\_ Mark will be uh focused on the user interface concept and uh our m Market Expert Sammy Benjo uh on the trend watching. So um of course like before specific instruction will be sent to you by your personal personal coach. Well I think that's all. And we have um maybe we have to we say, only for T\_V\_, not teletext? Uh I think automatic on off control uh it's not possible. Yeah, maybe in the next uh step if we make it work um. Yeah, implemented. O okay, we can think about that. And um do you see something else? Uh yeah that's Or maybe you want to phone him. Since now all yeah? Think Uh-huh. And uh And it's answered. Clap clap clap it's a good I I think it's universal. What about people without hand? Yeah. Mm uh okay. Mm-hmm. Okay. Mm-hmm. Mm-hmm, so let's to think s so that yeah. I think that could be in the component uh concept uh. It yes. Okay. So, yeah, let's go to lunch. Sammy Benjo. I know this name uh. We met before. F\_F\_ five. Agree. R\_S\_I\_ mm-hmm. No, I don't think so. Okay. But twenty six percent, do you know Twenty five. Every fourth, you know. Every four some of us knows. One of us Mm-hmm. Functions. Mm-hmm. I got one question, uh you are a Market Expert so should we aim at the young people or not? Okay, then teletext is used less. Okay. Mm-hmm. Mm-hmm. Mm. Okay. That's me. That's but this but number three, yes. Mm-hmm. So, my name is Mark Dwight, and um I am responsible for User Interface Design. However, uh mm Project Manager asked me to give you some presentation about technical functions design. Uh, as I'm a more an artist that's gonna be less technical functions but more User Interface and current intentions and everything which is linked with this. So next slide please. And uh a general method which is seems to be very useful for our task is not to forget about uh Occam razor. We should never complicate things too much. We should only make a remote control, nothing more. Nothing more than this, just a remote control. 'Cause current remote controls they are never easy enough to use. So, make a click, please. So here is this remote control. It's quite a standard one, but it's not from a T\_V\_, it's from a much easier device like air conditioning or something. But you know, we can use it for a T\_V\_ easily. Only buttons we need is on off, volume, channels and maybe some options or something else, and please make a click, compared to this one which one would you prefer? I guess this. Sure, sure. Yeah, and our method is going to be, provide simple simple desires into simple actions. Findings. Our question of the style, we should

remember that our company puts fashion into electronics and we should never forget about it. Concept. Be simple. Be simple and you'll lean on this market. Market is a of remote controls you know it better, it's very well, it's it's not an easy field to to play, you know? So be simple. For personal preferences I think that to make a baby-proof remote control it got to be a titanium. It's a really good style, it going to be look like like this. It is unbreakable and it is very universal. W we'll have a screen with a back light which can change colours, and we can put all the options into this screen. We'll need only few buttons. All the other things can be controlled through the screen. And all these buttons should be easy to find and to click, 'cause when you watch a movie and you want to change something, you always try to find a good button and click it, but you should do it by touching it and finding it easily just by touch. So Press I would propose this concept for design, just few buttons, a screen with a back light which can change colours, titanium I think, and uh what else? I got

just very few and good ideas. We need power and volume. And let us include two nice features into this device, first, power on and off can be made fully automatic. When you go to the sofa, take your control and point it to the T\_V\_, the T\_V\_ turns on. When you don't touch the control but you go out of the For for enough time like uh you It's a question to our technical design, our two engineers. And another nice feature that I would like to implement is uh volume control. Suppose you set u you set up some volume and then you move out or you move to the other corner of the room and take your control with you. Like, you want to to change the chair or you want to move to the armchair from the sofa or something, and then the volume changes. It's easy to do, you just control the According to the distance. Yeah yeah yeah. So I think it can be just a menu which can be controlled with a left, right, up, down and enter. So, its main purpose in fact is a back light, which change colours, which makes it easier to find, and each can it can respond for your voice, like it can turn on the light for you just to f find it easily, yeah? So basically that's it. Can be easily done, 'cause you got simple designs, y we should put it to simple actions. Let it be universal, so you want to use it for your hi-fi system. You want to change tracks and you want to adjust volume. Just few actions, a few actions for everything. All the rest, we sh we'll put it into this menu on the screen. Okay, okay. Okay, but it's quite universal you know. We can just extend it to any device. Uh twenty five. Mm-hmm. In fact I would propose another solution. Basically you use just four or five channels, right? Yeah. So uh set up your T\_V\_ set like channels that you use they're one, two, three and five, and you will never have to go to a twenty fives channel. Mm-hmm. Mm. We got these buttons here. Next next. Or say this can be back. Could we carry out some research if we w really need this, like how many people really need to go to channel number twenty five and then to sixty four? Okay. Okay. Alright? Thanks for your attention. Too complex. Okay. Okay. Um. Okay. No you know it's a conceptual question, 'cause now I see th this the picture in front of my eyes like a user taking his remote control and shouting into it, volume up, volume up, and and he's coming you know, he's really annoyed with this, down, up, down. Okay, for this budget like twelve Euros. Mm-hmm. Okay.. Mm-hmm, mm-hmm. Did you consider the r gest uh gesture recognition? Like, if I want to put volume up I like do mm I take my remote control do like something like roll 'em up or roll 'em down. Mm why? That's just We got a really good Market Expert. Let's send more, let's sell more. Okay. Uh, should it be equipped with the uh, with uh speakers? Like, you want to find it, you shout control, and it answers is I'm here? Or Just beeps? I can't whistle. No, no, I can't. Mm. Okay. Just don't interfere with other devices like 'cause like all these people do that their lights are turning on with clapping. Yeah, I got it at my home, like. Oops.

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# Meeting ID: 102

Data Source: Train

## Executive Summary

This last meeting started with the presentation of a remote control prototype. It has on-off and volume buttons, an LCD screen (it can be active or switched off) in various colours, which largely replaces the use of push buttons, and a jog-wheel for navigation and option selection in the menus presented on the LCD. It also includes speech recognition as an alternative interface, which also serves as mechanism for locating the device. It was designed to be powered by a single battery. The casing will be made of titanium with rubber strawberries following the fruit and veg fashion. The prototype was evaluated on a scale of 1(excellent)-7(very bad) in terms of fancifulness, technology, robustness, usefulness, size, colour and shape and customizability: the average mark was 2.17; the team were satisfied with their prototype, although after costs were calculated it proved very expensive. Finally, the team evaluated the whole process: they deemed themselves a good team, they found there was plenty of room for creativity and they liked the project manager's leadership.

## Complete Meeting Transcript

Yes. And chocolate? Mm-hmm. Yes, and place some slides. Uh, participant three. Prototype. Uh, so this is our remote control. It's a r working prototype. You can use it now by switching all these buttons. So first, I present as we came to this perfect model, and then we'll give some technical specifications. That's well, so that's that. Please, next slide. We analysed all the fruits and contacted NASA, and uh made some real good Yeah. If you can see this, and the stars are showing that. And um, s society will accept that. For sure. And making some analysis of different fruits, we choose the ultimate form, ultimate colours, and uh ultimate smell of it. S please, next slide. But we still didn't want to go far from our titanium idea, 'cause it's the most of the moder the m the modern material we can p select. And it's practical. And it's still say it's for our needs, so please press something. And as I said, it's perfect. Please press it. Everyone is f really uh really glad to obtain an s such a r such a device. So you can touch it with your hands. Sure. Yes. N You must say it. Yeah. Okay. Y and we got the answer. Uh, it is, yes, of course., please next slide. Um, this is a prototype. You can have a look at it, and That's all I wanted to say. Now it's technical specification by our colleague. We are still working on titanium. So, r

we'll start with L\_C\_D\_. You can ask Bob. It's Tuesday. That's location sensors. Yeah, and we can just some strawberry first. Um Oops. Let's make a party first maybe. Feel the weight. Really. Okay. Two. Two. Yeah, yeah, yeah. Yeah. Uh No. No. How can I say this. It's still it's still working, and your daughter got a bonus. A strawberry. You can. You go you So, the basic mode Yeah. So that's simple. The basic mode is uh you got just two buttons and a jog dial. With two buttons, you do this like uh volume up, volume down. Or if you go to the site, it's channel up channel down. And if you want to make to s twenty-five, you push on this. You select twenty, you select five. That's it. No. Yeah. Yeah. It's a jog dial for controlling the cursor on the L\_C\_D\_ screen. Like, selecting the menus. Sure, without titanium alloy, it's going to be light. Of course. Okay. Okay. And Moreover, moreover it covers it covers all the end goals. Even if it is, you know, it's very rounded, but still you got some rubber fruit here, and it's completely uh completely secure to leave it uh with children and that. Okay. Okay. Sure, sure, just look at it. It's full adaptable. Yeah, you can fit it into your palm, you know. Mm, It's two point one seven. No, uh you just Number. Yeah. How What what's the limit? Uh, it's it's okay that I don't know, 'cause uh it's not my field. Twelve bucks. Okay, now Mm-hmm. Check that number also. It's it's flat. It's flat. But it is flat, you Look. It's curvable, but it's not curved. Oh, okay. Mm. Mm. Well, n Why three? Why three? For buttons. No, buttons just normal. That's for buttons. But buttons are standard. Well, as you may know there's some research done in the field of producing energy from mechanical eng, I mean, producing electricity from mechanical energy. So, the point is that when you take device and push the button, you produce enough energy to make electricity. Yeah, that you don't need a battery. So, it's something like hand dynamo robot. A real high-tech version of it. Okay, but I Why not. Let's do that. And I propose to So uh, about chips. Advanced chip on print, right? So, put minus one there, please. Why not? And? So, was there result? Let's have a look. Why? Oops. Yeah. Why not. Minus. Good. And a battery and a battery, yeah. Now it's fancy, let's add one instead of two. Well, I don't know. I don't know. I am not sure who was programming this calculator, you know. 'Cause uh I wonder if we put A\_ or B\_ somewhere instead of a number. Next slide. Okay. Yeah, yeah. Yeah. M maybe not, huh? What was the Oh yeah, what was good? Everything. What was bad? Yeah. A good leader, you know, a go

od leader is somewhere in the shade and Of course. Uh Not to waste time, that's important. We need time f New materials. Budget. Alright.. Okay. Yeah, it is. So, we see, we can even forecast. they propose us like celebration, everything, we could forecast it, right? You? It was you. Okay. Okay. Mm. So, uh now it's the Hi Sammy. It's the detail design meeting, so we're going last meeting. So um, first uh Mark and Rama are going to present uh the prototype. Uh then uh Sammy will propose some uh crite cr criteria to evaluate this prototype. Then, w we And then we going to do some finance to see if uh it is uh feasible and uh at the end we will we will um evaluate ourself as a team. And that's all. Okay. So first, let's uh see the prototype. Okay. And you have some slides then? Yeah. Mm. Okay. Uh so in which uh Mm okay. Mm. Mm-hmm. MASA? Okay. What do you say? One day. He Hmm. Mm-hmm. Mm-hmm. Bobby. Mm-hmm. Hmm. 'Kay. Are colourful. Yeah. Ho-ho. That's for the L\_C\_D\_ or for the titanium? Mm-mm. Hey, you know you're theme today. Hmm. And w wait, wh what are the strawberries for? Wh wh Mm-hmm. Okay. Strawberries. Ah. Okay. Mm-hmm. Uh we'll see in the financial part if uh all gets into W Who is the five uh fifty millions we first make a party in? Mm-hmm. Okay. Uh, so Let's uh, yeah, let's see if uh th it's meet the evaluation criterium. Oops. Okay. Mm-hmm. Uh, I think that fancy, we can say it is fancy. Oh. I am not the d the only one choosing, yeah. Uh what do you think? Uh-huh. Yeah. Yeah. It's in the other. Yeah. Mm. Two. Let's say two, yeah. Change colour of t Yeah, I think it's a Yeah. Yeah. Mm-mm. Um The strawberries Oh. Mm-mm. Yeah. But it's too. It's um robust, yeah. Oh, yeah, lets me try. Yeah. What is uh next, please? And you can uh do di two sites? Yeah. Okay, also. You can,

by using the You c push here the the yeah. Let me understand well, because I'm not sure that's for that this one are b d uh two dir directional button. Yeah, two Yeah. Yeah. And which what is that? Okay, okay. It's a kind Oh, okay okay. Oh oh okay, great. Now it's looks us useful. Yeah. Yeah. Mm-mm. Mm-hmm. Mm-mm. Uh-oh. Yeah. Yeah. Yeah, it's. Let's imagine. And what about the strawberries on the top? I'm not convince. But maybe I'm not trendy. But, uh Yeah, but uh uh they're not useful. I I mean it that's uh Mm-hmm. Yep. Hmm. I would have m uh i found more fancy that the fruits are useful. Yeah. Mm-hmm. But the n Yeah. Mm. No, I'm not sure uh why uh if it was like this I It's n no, it's not fancy any more. Okay. Uh-huh. And different routes. Okay, I see what Okay, so you you you feel like it's something uh a protection for the remote control. Also. Okay. Okay. Okay. Wow, that's a Yea Yeah, it's fudge titanium. You know. Right, yeah. And uh Okay. Let's go for one. Yeah. So it's a good evaluation. Yeah. Mm. Mm-mm. Okay. So now, it has to fulfil the financial criterium? So, I have an Here. Um. Okay, so two. Uh-huh. Oh. Yeah yeah, but the price is two. Oh, number. Sorry sorry sorry. I'm sorry. Yeah. Yeah. Oh. No, never. H Okay. And for the One also. I thought you can curve somebody. Mm-hmm. Oh see, I I think that the the price is this one. Yeah, yeah. Don't chip on me. Mm-hmm. Mm-mm. Yeah. But she wanted u the fudge titanium. I think it's five, but you don't say. Mm. Oh, sorry. Again, I'm See it. Special colour, or it's only on the Yeah, but there is no colour here. So I put it here. How many push-button? Three or two? Is there The scroll-wheel, okay. Okay. Um That's that's not We choose this one, and not this one. Or only a scroll-wheel. You try to s No, no, no. Because how do you do to y select? Yeah, I mean you you go on the location with your scroll wheel and then you Stay longer. Okay. Oops. Okay, okay. Um Mm-hmm. You you have all of these, no? Mm maybe n not this one but Yeah, so Not special colours an interest in? And buttons are not colourised? They are m Boo-hoo. It's already too expensive. Apparently. Yeah. Mm. Mm-hmm. Mm. So think of what we c

an cut uh here. Apparently, we have to choose one or the other. But you don't need a battery? Mm. But um it's like the hand dynamo, no? Uh it's a it's a beginning. Okay. So One here and here. 'Kay. Mm-hmm. Mm. That's right. M maybe minus uh three, no? Mm-hmm. Mm. So Oh, sorry. Mm-hmm. Mm. Okay. Oh, we can put uh a hand dynamo and a battery if you want. Oh. Both its it's cool. Mm. Yeah, yeah y Yeah. Mm. It's maximum and don't have to Yeah, yeah. Uh Uh, mm-mm. Yeah. Mm. Okay. Mm. So target reached. It's um English uh Yeah. Yeah, but uh is uh English. So Mm. Mm, let's try. Okay. I save it uh Okay, so next mm No, that's yours. Sorry. 'Kay. Okay. So now We have to make um Yeah. Yeah. Mm. See mm how Are we a good team? Mm. Mm-hmm. Mm. Is there enough room for creativity? Mm. And you. Mm. Oh. Okay. Well, project evaluation. So, you say, is there sheep? Luck. Okay. So luck, but good. Which imply good uh team performance. Mm-hmm. Okay. Mm. Okay. A lot of uh Yeah, uh new ways of doing financial Mm. Mm. They're working on um pink titanium. Mm yeah. Yeah, we're really nice. Yeah. Mm. Okay. I think it's Yeah. Uh How Yeah. Mm. I'm the one, proposing the celebration. Of course, you know I'm the program manager. Mm-hmm. Ah um, I think it's finish. Yeah. Mm. Mm-mm. And we go to the party. thank you to you. Mm. So, Hi Christa. Yes. Mm.. Yeah. Mm-hmm. Such a nice thing. Can I? Ho-ho. It says I will uh I'll buy it. If I if I need so. Hopefully my daughter will like it. Yes, of course. Of c course. Ah. Oh, there is a button missing. Okay. It's in option. Hmm. Mm-hmm. Hey, babe. Bob. Hey Bob. Okay, that's good. Oh, these are strawberries. Fruit smelling spongy titanium. I didn't know it exist, but that's great. Ha. You mean we can change the colour uh of th Yeah. Yeah okay, for the L\_C\_D\_. Tit titanium is Uh, okay. Yeah, Bob, please. Tuesday colour. Okay. Mm-hmm. Black for Sunday. On the L\_C\_D\_? Oh. Of course. What do you think? Strawberry sensors. Very useful. Lounge meeting. Alright. Good. So, huh. Interesting. In interesting. Mm mm. It makes sense. So uh, this is What a design. It's my turn. Mm-hmm. Let's see if this Yeah, if



you meet the evaluation criterion. Yeah. So, evaluation please. So. You made a very nice prototype, and um, I think, we now need altogether to try to evaluate it to see if it makes sense to do it, if it fulfils our what we want to do, and things like that. So mm Uh, next slide, please. As you know, before going and uh creating and producing these strawberry uh remote control, it's very important to first verify if it makes sense, if we have a chance to sell it. Uh, so we need to evaluate it um, try to do it in a constative way, and as much as we can. To so what I propose is that we are going to have this scale from one to seven. One meaning that, ye yes uh it fulfils uh the the criterion, whatever it is. And seven meaning, no it doesn't fulfil at all. And we're all I going to list all the criterion. I'm going to go to that next slide, and together try to evaluate this according to this criterion and from one to seven. And then we are just going to have an average, which will give us the value of our uh remote control. So, maybe we can have a look at the criteria? So these are the criterion uh I'm I thought were important. Of course, this can be discussed, but let's let's see, so let's vote. So we have fancy here and we have the scale from one to seven with four in the middle. So, what do you think, is it fancy? It is very very fancy. Or have you ever seen something like that? Yeah, of course. What do you think? Is it The weight is later. Now we're We're on the fanciness now. I think it's quite fancy. It's uh Yeah, so No it's it's one. Yeah, o one means it's, yes, a very fancy and seven mean no at all. So it's one or two. What do you think? Two? Okay. So here, two. Up. Then we have uh technology. So, what about technology? We have uh we have speech recognition, we have location based, we have L\_C\_D\_. Change colour, I mean

that's very Quite d I think it's a one for that, at least. At least a one, yeah. Robustness, uh-huh. So let's suppose my daughter take it and um and through it away. Do you think it makes sense that it's going to live again? Uh, maybe not the prototype. Let's try. Oh my god. Okay, we just lost one strawberry. So Not at all? It is Yeah. Yeah. So it's not so bad. I um uh I would say three. Yeah, that does make sense, yeah? Useful. Well, so the question is does it have uh the minimum requirement of re remote control? So I don't know. These buttons are uh It not clear. But you have at least uh next produce. Uh, it depends on the Okay. So but, for instance, because the L\_C\_D\_ is not uh touch control, touch screen, you cannot go to channel twenty five directly. Directly. Yeah. Oh, it's a jog dial, okay. Uh-huh. Okay. Yeah. Okay. It's much longer than that that being two two five, no? Don't you think so? May not okay, we can go. That's uh You're right. That's it's less uh Yeah. But it's it's nice, because people anyway don't go there. But So what do you think for it, usefulness? Seems to be useful. Both. Yeah. Yeah. Up down or left right. Yeah. That Cool. I would say then uh Two or three? Two or three? Two. Okay, two. So size and weight. Is it the the the effective size and weight that the Is it uh real size, real weight? Or Because it Size is going to be that, yeah? Uh, and and It's going to be lighter, because this seems to be very heavy f I mean, for my daughter, for instance. Not sure if uh she can use it. So, should be okay. Up to three for that, because I'm haven't seen the weight so I must not uh Colour and shape. Well, so colour, it seems that we have the several colours for the L\_C\_D\_. But um, it's not very clear what is the colour of the sh the sh the case. It's a it's going to be titanium. Okay, okay. That's nice. I think it's good. Okay. Yahoo. Well y you know, it's this uh fruit and vegetable year. So Uh, I think usefulness is m as as I rem um just have to remind you that usefulness is much less important than fanciness. Whether it's fancy or not now, it we have to decide. But this If it's Uh-huh. So, that they will that maybe the fruit may be here instead.. So, it seems we are not so clear on the shape uh I suggested three. Because uh, everybody s doesn't seem to be convince, although it's quite You have good arguments. But And uh the last one is adaptive. This is not r maybe not as important as the other one, but uh can we adapt it to each each personal use? Great. Fully adaptable. That's Yeah. So you can fit into your palm, okay. That What else can we need? You Do you think you are gonna be able to do that with ti titanium as well? It's

fudge, yeah, yeah. Yeah, fruit titanium, yeah. Well, I if if this is if you are ready to do that, then I think it deserves a one. Okay. Now we have to do the average. Who is good in math? Okay. Two point one seven. That's nice. Two point one seven out of seven. I think we have a good good thing. Well, that's all I had to say about the evaluation. So It seems to be good, yeah. We have uh Yeah. Yeah. Okay. Thanks. Ah-ha. So so how many batteries do we need? One battery? Good. Why two? Say no. No, ne never install. Two batteries or one? Only one. No, no. But no, no. No, no way. Yeah. You never use uh Excel? Good. It's twelve bucks. Twelve bucks. Twelve and a half, I think. Okay. Okay, electronics. So It's a simple chip? Simple chip, okay. One. Okay. One or two? One? Okay. So the case, which one uh is it in the end? Let's do a single curve. It's flat, and curved. It's curvable. Maybe there is a supplement for that, no? It's only curve? Okay, let's go. This Okay, you d We tried, we tried. So, what is it? T titanium? Mm, that's expensive. Mm-hmm. Okay. Let's stick to s titan. Special colour? No because uh Yeah. Oh. So the L\_C\_D\_ Two. Yeah. It's going to be expensive. That's all? No. Oh, I think, no it's Uh, is it a scroll wheel and pe push button, th this centre one? Or only only scroll whe

el, okay. You are trying to make make up make us up. No, but you select with the two d the other two buttons, no? That's true. Yeah. Yeah. It should stay. Yeah. She's very hard on this. Special colour? Yeah. No. Special material? Yeah, buttons are the standard buttons. Yeah. It's only buttons, these. Nothing special. Okay. So we are at seventeen dot eight. No, the colour is in the L\_C\_D\_. I no. We can just use this red. It's So what is Are we supposed to cut things out now? Uh, until we get twelve fifty. Well, if I look at what is the most expensive things, uh it's the L\_C\_D\_ and the speaker. Yeah. Yeah. Mm-hmm. So that would So, but if we select the hand dynamo it's okay, we only We we win one. That's already that. Okay, let's do that. I'm not sure if this is legal. And? No. Okay, let's see. Yeah, yeah, yeah, if Click somewhere, you'll see features. Yes, it does. Maybe put minus two, so it looks uh more reasonable. Yeah, anyway No, minus two. Nobody will know. It's not recorded, is it? Okay, we're on time. Good. No, now we are exp exceeding I think. It Is it? I think we're exceeding now. We have to remove the Uh, it's better. I think they are counting uh We would prefer, yeah. Maximum is maximum. So, remove one of them. Yeah. Okay. Okay, we're uh on target. I'm just curious to see this uh my address chip on print. Trick. Uh, I would say it's the Russian trick, but Anyway No, they may have some their origins, strange origins No, no, no. Let's finish this meeting instead. What else? No. This is right. Okay, so finance, that's done. Are the cost under twelve? Yes. Project evaluation, good. Project process. Safe uh asse uh safe assessment. Yeah, I think we've listened to everybody. Everybody could say what they thought. And uh Yeah. When we see the results, there is no doubt there Maybe a lack of leadership? Team-work, very strong, I would say. Team-work, no problem. Means. Whiteboard, digital pens. Yeah, I think white-board is useful. Digital pens, useful. New ideas found? Yeah. But uh Yeah, but uh then I I mus That's true. And there's uh one very important point. We're on time. Meetings finish when they have to or even before. The for meeting it's uh one of the most important thing. Yeah. Yeah, we have other uh remote controls to create. Mm.. Mm, yeah. Hey, just wondering if my uh what about the the pink the pinkness of that uh. They are working on a Okay, good. I think we are great. There's no no other words for that. We are probably the best. Real Reaction is uh Yeah. Yeah. Finished? Ah, celebration. Are the costs within the budget? Of course they are. Yeah. Is the project evaluated? Yes, it is. To whom? To the whole our company? So, let's celebrate. Uh I think the meeting The meeting is over at least. So, we have to go out. Yeah, yeah, yeah. Yeah. Uh, here we have our prototype model. Yeah. Yeah, we have also some slides. In Yeah. Five. Him.. Experience. Explanat See this. You can Spongy. Hmm. So Yeah. This this is really flexible. You can add your buttons. Yeah. So function, mm So, as we discussed, we have to switch on switch off whenever we want. And so, we have buttons and

using L\_C\_D\_, or like you can use this jog wheel and select which ever option on the L\_C\_D\_, and then do on and off. Then you ha you'll have volume control. So, you you can press these buttons to increase or decrease the volume. And we have some L\_C\_D\_ controls. Like, m switching the L\_C\_D\_ display if you want to use L\_C\_D\_, or you don't want you can just use normal button. And we have speech recognition. Here you have microphone, and then it date records your voice, and then it try to recognise. And it can also do the action. And location finder. And we want to do the location basically using speech recogniser. You can just say, where is my remote control. Or uh, you can just give some nickname to your remote control, like Bobby. And then, it will say hi. Yeah, hi, and then you can use it. So, um our team is now fruits. Mainly strawberry. So, you can h

ave And then you can see the look L\_C\_D\_ and all the switches. Material, we want to stick to titanium. We will send, we want to Yeah, or s So, we want to have simple and perfect shapes, like I shown in these phones. You can have your own designs and and you can feel simple designs. And you can choose colours on your day for each day, or even many colours. For the L\_C\_D\_. With titanium it's it is silver. Yeah. Mm, yeah. Yeah. Yeah. Even you can configure your colours for its the depending on your mood, or s And you can have many colours on weekends. Or Huh? Ah, these are like sensors. So, after this meeting we'll propose a party for our success for So, if you are vegetarian or you have any options, please let us know. Yeah. S So, any specific questions for Yeah. Yeah. Then we can discuss We can Yeah, then we can have how much for how money is left. Yeah. Fudge. Yeah. Fancy. Huh. Yeah, what's is really Uh, it's really Yeah. Oh. Yeah, yeah. We can give at least five or six, seven. Oh, Oh. So Oh, okay. Yeah, okay. Oh, okay. So M maybe two. Technology. Yeah. Um And we have L\_C\_D\_. So you change colours. Useful. Yeah, yeah. It's silly. Uh, still we need to cha Yeah, it Maybe strawberry. Oh. Yeah, we can easily plug it. Yeah, yeah. Yeah. Useful? Yeah, Yeah. Yeah, channel. I this is volume control and channel changes. These are the main You Yeah. Yeah, and you can do on L\_C\_D\_ using these going to scrolling all the option. So if you don't want Yeah, um yeah. Yeah. And channel. You can select. Yeah mm. Yeah, yeah, yeah. Y you need to like press two and five and Yeah. Yeah, yeah. Yeah mm. So, d Yeah, we need to address we want we only address two main functions here and the other functions will be on L\_C\_D\_. So so Yeah. Yeah. Up. This is jog wheel. Yeah. Um, see in L\_C\_D\_, like you will have blocks and you select which one. Yeah. Yeah. Two, maybe. Yeah, yeah. Yeah, it's size al almost Yeah, because it is The weight will be bit lighter. We will s We use titanium. Yeah. Yeah. Yeah. Heavy. Yeah. Yeah. But sides uh, the sides should be okay.. Yeah mm. Oh. Yeah. The case is silver titanium, no? Yeah. Oh. Yeah, yeah. Yeah. So maybe, I think Yeah. Yeah, well Yeah. Um Yeah, well then it's bit difficult to use. Not like this d We're just giving the fruit for more fanciness and more attraction, too. So, maybe think we can have rubber or some sponges, stuff for strawberries and different colours. So it's Even These buttons But it looks really not really good. I mean, the f Yeah. So these are kind of rubber things. Even if you lose one you can just put whatever. Even we can provide many different colours or different fruits, and Yeah. Yeah. Yeah. Yeah. Yeah. Yeah, we've yeah we have sensors here and so here and here, so we just Yeah, so even if you don't put, it works. But this is really fancy. Yeah. Yeah. Yeah. Yeah. You can Yeah. Yeah. Yeah. Three, three, six, eight, eleven. Hmm.. Yeah mm. Yeah, two one one seven, we have. So Financi Energy. Uh, we use bat One battery. Yep. Oh, we just need one, I guess. No, number is one. We need only one battery. Number, number. So we We have sample chip. Uh, like simple chip, yeah. So, yeah. Yeah. Four buttons at least. And then we have the t sample speaker sensor for speech recognition. Yeah, one to one. Yeah, one. Yeah, I think we will go for a single curve, no? Oh, is Oh. Oh, okay. Yeah. Oh. Titanium. Yeah, well No, only one, no? Um Interface. Yes, in L\_C\_D\_ display. Ok Yeah, an Yeah. Push-button. Scro Uh, two. Yeah.

One scroll wheel. One L\_C\_D\_ displayed. Yeah. Yeah, it's cheaper. Yeah. Only scroll wheel. Yeah mm. So It's already Ah. Y ye Yeah. Then it automatically we can just do like you feel, it goes. And it will activate Um, plus, yeah, it's price is really Special colours, yeah. Okay. Yeah, buttons and strawberries. Yeah. Special form. Uh, we have titan Yeah. Mm, hmm, I think uh because you can just go for a good colours. Yeah, and uh Yeah. Oh. Sample speaker. Yeah. Yeah. Maybe the jog wheel can be li

ke kind of hand is Yeah. Yeah. Yeah, just remo S Yeah. Uh, no. Yeah. No, no. It's not It's not changing, no? It you don't So now on, we can increase our Still you have two more. Maybe we can use it for our party. Yeah. Yeah, yeah. Yeah, that No, but point five point three. Okay. Is really strict? Oh. Oh yeah. Ho Oh. Uh And we can discuss all these things in our party. Mm yeah, very much. Yeah, yeah. Yeah, it's really Yeah. Yeah, our team-work is really strong. Oh, we still, I guess. Hmm. Don't really. Yeah. And we also Mm. We made Mm. Hmm. Ah, we got new idea, speech recognition, location finding. New materials, new s uh this fancy strawberry design. And new tricks. Ah, very. Yeah. Yeah. Yeah, yeah, it's We got two Good score. Oh, okay. So where we will go now? Uh, ye Will go to Italian restaurant, or Ah, okay. We can decide. Yeah. Yeah. Thank you.

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# Meeting ID: 54

Data Source: Train

## Executive Summary

Um , once again I'm uh gonna take minutes . Uh , first we have a prototype presentation by G\_ and G\_ . Uh evaluation crit criteria . Uh , in combination with the finance I um uh I received uh a an uh an Excel uh file which we have to fill in later on . Uh , and then we must see uh if we uh stay under the twelve and a half Euro . And after that , uh uh an evaluation of uh the process how we uh how we have done it here with the SMARTboard , with the with our laptops , with the all uh all this . Once again , forty minutes , I would g give the word to um G\_ and G\_ for the prototype presentation . Shall Yeah , well sure . Um , this was our first concept . We decided to use a single touch-screen . And um , well , we began with uh with a form of shape , that is uh is easy to hold w in one hand , left or right handed . Um well , during the meeting I showed you the concept of uh placing the buttons on top , usable with your thumb , and uh the menu structure , uh if necessary , with your other hand , Yeah , uh well , and as you saw , we would just have the basic remote with the panel L\_C\_D\_ uh screen . Well , these would be the main buttons , h you could uh change them later on in your own profile if you want to . We have the more advanced menu uh setting right here . We have the sub-menus and stu stuff . As you can see , this uh there , there are uh two uh weird bumps in it . This is for uh the added uh effect of uh well uh y youth and dynamic . And so when you put it on the table , it will just lay down . The s panel we g you would hide with some more uh rubber layers , But the overlaying layer is uh a little bit uh curved and stuff . you can make a more thinner uh design , So , you have room here for your battery S and you can just be the the layer of the touchscreen and some have some wires underneath it to make it as uh thin as possible in the middle for good grip . Uh , you can see there's a v a very uh youthful uh dynamic uh exterior . it's like an uh Easter egg . Yeah , it's like an e but this is for children . We we want a more adult version . So this actually basic the idea . We we just want to build a more uh adult vers adult version of of this . And and for colours , we we figured starting with basic colours like uh white or metallic grey . Those are the technological colours actually , It would be best to to appeal to a broad public and make the covers exchangeable , so the young people will buy an orange and a red and blue and a purple , but when the o older people uh go in the shop and they see uh an orange um remote control , it would be less appealing than a white one . And young people , we think , are a little bit more flexible , they think , ah I'll buy for a couple of Euros some noi nice hip uh Maybe it's an idea to sell it without a cover , so that you can pick a cover in the in the shop . um I think a cover is necessary , So , there must be some cheap standard

cover , Yeah , but uh you d you mustn't forget that uh our target aim is younger people . So I think uh it will be a better idea to have some uh flashy fruity colours as as a standard , and for the people who uh really want uh a more sophisticated , more traditional look , they're willing to pay uh that . Yeah . Yeah , maybe yeah , perhaps you're right . Uh , maybe we could uh develop a cover uh with wood style . a wood style , a white c and uh a couple of h hip uh fruity colours . And lea uh I delivered standard with a fruity colour , but not too not too much . But , the mai I think th uh the standard must be some kind of uh uh attractive flashy colours . Not too , but w a little , Um , now is the time to uh evaluate our prototype concept to uh to the past requirements . Um , we're going to do that with a seven point scale . We have to uh be consensive about about things . We're going to vote . The remote control is designed for people with age below forty . Yeah , it's not just uh designed for people under the age of forty . It's also designed for people above forty . Yeah , two or three , The remote control is beautiful . acco according to us , it's one ? Or Of c of course you have to be uh very positive and uh enthusiastic about your own product . Uh , the remote control looks fancy . One ? The remote control has big , clear channel switching buttons . Yeah yeah , Uh , teletext buttons and volume buttons ? Teletext is in the menu . Volume is true . Yeah , the they are big and clear . . I would give it a more a five or a six . The remote control is easy to be found . Uh well , when we put in fancy colours , yeah Yeah , it has these all these fruity colours and it has a strange shape . If you put uh your normal uh remote control under your bed , or you throw this remote control under your bed , is it better findable ? It'll make a difference . Well , we p we can do it glow in the dark . Because uh four is between three and uh uh also between between true and false . uh , w uh according to uh the the other uh remote controls , there may uh uh be there in your uh T\_V\_ room , this one will stand out , I think . if this lying on your couch , you're you're you think what's that for kinda orange uh thing . If your uh fifteen remotes in a drawer , uh you find it , yeah ? But but the survey under users was that they uh really lost it . Yeah , that's stupid . Most of times when you lose it you're sitting on it . Uh the remote control has fresh , fruity colours . Um I would call uh choose two , 'cause we decided not to make two f uh fresh colours , as it would not . Yeah , yeah , not too flashy . The remote control is made of soft material . Yeah , rubber , is kind of soft . Yeah , but not too soft we have decided . Three , yeah . Easy to use . One . It's it's not the most easy to use Jus just with ten buttons , that's the easiest . Yeah , but the most uh easy to use is just with one button It is r it is rather easy to use , because you have the primary buttons always visible . Okay , two . Yeah , two . The remote control is innovative . The remote control has m remova removable from Multilux . The remote control has built-in games ? But uh , maybe make it two , because the games are in a sub-menu and not uh it's not an entire game . Yeah , but they are built in , so it's one . The remote control , i it has speech recognition . False . And the last , paren parental advisory function . Okay , we have now to c uh to calculate the production cost . Yeah , if the costs are under twelve and a half Euro , uh then we uh can uh ra uh move on to the project evaluation , as we have uh experienced it . Otherwise , we have uh do uh have to do a little uh redesign uh thingy . So Kinetic , one . Battery , yes . One . Advanced chip . So it's only uh once double-curved . We're now in a problem , 'cause uh we have uh reached eleven Euro yet . Then we'll see uh we'll we'll see uh wha how much we are over budget . Special uh is the special colour ? Yeah , but we want to make uh the wood colours , uh that uh No , this is a standard colour . Yes , this is a special colour . Yeah , if if you're honest , we'll uh type one , special colour . Yeah , but but D but Daniel , tha that's that's another brand . That's another

article Well , we're only four Euro over budget . Well , other case , we can make it single-curved or uncurved . Mm , single-curves . The kinetic thing , can we just skip it , because uh you have to shake it , but that's not really innovative . What do you think about uh putting a battery in it , but also selling like uh the covers , a docking station But you can use rechargeable batteries anyway , just you s you have to recharge them manual . well you you can go from double-curved to single-curved . so we have to bake the ba back flat , and then No , it's it's just one curve and not a back uh curved I think . Or but uh it's its' well it's its' r it is the main point of the the the the look . No advanced chip , uh that's a little bit of problem . So , if we do this , uh we're on uh twelve and a half Euro . If you make it double-curved , it costs one Euro more . Uh , there's an a a athe aesthetic value , but not functionality . But I don't know if twelve and a half is uh a fixed uh fixed price . Yeah , well let's assume it is . But I I figured that the kinetic would be a marketing promotion . No , well , y I mean uh , y you can go into your neighbour and tell him , ha , my k uh remote control is kinetic . Yeah , but it doesn't fit in our co cost profile . So because if you want to go to kinetic , you're uh you're on thirteen and a half and you must go to flat , and I think now it's it's more of uh a compromise Well , we were above , so we did a little redesign now uh it's about time to uh talk about uh this project . was there room for creativity in our meetings or in your individual meetings ? But , that's mainly because uh of the information that was delivered to us . I I didn't think so . That there was a lot of room for it . and I couldn't go on on i on the internet and search my own stuff . Bu Well , I th I think you two , uh especially you and uh and uh Daniel , you d you you both had uh the less creative uh roles in the project . I think Jeroen and I , we had a more design we could have more we had more room for creativity than than you two . Uh how about the leadership ? I thought uh the first meeting was a little bit of unstructured meeting . but you could have uh structure it a l little bit more . So like , I I was talking most of the time the first meeting meeting , and I was a I was also very uh unhappy , uh very unsatisfied uh about the and uh I think the the last two meetings uh also we we reached uh some good decisions about uh talk Yeah , more more consensus . No , it you did better . Uh , teamwork ? Well , we work together on a project , but everybody has his own task . and it's wo more like presentation and some points were discussed . Nah . Yeah , we we had some trouble with the pen , but D uh just write your name right now . Uh he he knows how it works , yeah . The idea is great , but it doesn't work properly . Uh It's it's not real real use for me . I it's the same concept as the pen , where you f have to download the software or s uh very uh slow . Be it it takes a lot of time to draw things and to write things , And the eraser was another problem . M Abo What kind of new ideas ? Well , the the idea of the touch-screen is uh New ideas about uh the working of this software , about about the project , about the remote controls or I don't know what what I mean . the mm the mean uh number is uh one point eight one point eight six . So that's fairly uh fairly good , I think . all the requirements uh are true or very true , right . Yep . People will still feel the need to to write it quickly on uh a page and not download it and save it , and You had expected it to be uh more more uh More user-friendly . And now you have to um keep constantly in mind that you're drawing on this screen . And writing text uh , yeah , you've gotta really do your best to write some Just t t type text , and that that would be uh excellent . Here . Picture from scanner , clip-art . But not the the the the predefined uh squares I think uh So there the the the functionality is there , but it's not it's not ideal , it costs a lot of time to uh To use , yeah . Uh , the costs are within the budget . Uh , the project is evaluated . because uh there must be some kind of end report . Uh about all the meetings , what we have decided , here is uh

standing uh whoa , we can celebrate now , but the end report is You have now ten minutes left to finish up the end report . Maybe we can do it uh together . So I I s I will uh put it on a story-board . Um , this is about the functional design , but you can save it u the under another name . It's a read-only version . about the three functions where uh which are most used and uh which must uh immediately be visible on our uh remote control . Um , it must be uh simple to use , very clear what to do , and at the younger people . No , you have to put uh , switch channels uh at the top , because that's the most used function and teletext at the second a volume changing , second . S switch , yes . then the conceptual design . Well , okay , maybe you can add it later that we decided in the end because of the cost . Uh , he here it is still double-curve , the rubber , the flashy , the fruity , the removable . It's not double . Nay but that this is what um Was initial , the plan . The initial plan . And the the added functions like Tetris snake , the added functions . Uh , was it included in the cost ? I don't think so , eh ? Okay , so uh anybody uh misses something here about uh Yeah , the end conclusion . that's that's what I'm gonna write b between now . Yeah , but but the the decisions are put in the uh conclusion , I think . well I gonna redesign uh something now . Oh , before you change anything maybe you um save it first . Finish meeting now . I'm going to finish my end report .

## Complete Meeting Transcript

Evaluation. Mm-hmm. That's gonna be t problem. Yeah, well sure. Hi. Yeah, uh well, and as you saw, we would just have the basic remote with the panel L\_C\_D\_ uh screen. Well, these would be the main buttons, h you could uh change them later on in your own profile if you want to. But, well it's standard they will be delivered with this kind of uh set-up. We have the more advanced menu uh setting right here. We have the sub-menus and stu stuff. We made a top oh, or a front view. Just so like you wanna uh back view. As you can see, this uh there, there are uh two uh weird bumps in it. This is for uh the added uh effect of uh well uh y youth and dynamic. And uh this is for the artistic effect. Well, what we figured is uh we'll show you a picture later on you have more b a better idea after that. But, idea is for to stay in balance with these two uh with these two. And so when you put it on the table, it will just lay down. It won't uh roll around or stuff. But it will lie more in your hand like an old telephone maybe, or like these old uh phones. Y you you may get the idea. So thi this is about uh how we figured it should be. The s panel we g you would hide with some more uh rubber layers, like we discussed early on. Uh, you would s you wouldn't see the uh straight panel, but more fluidly and round. Yeah. And uh, in these bumps you could actually uh put some electronics uh that would you can make a more thinner uh design, and that would actually look very nice, yeah. And uh, about the colour, what have Yeah, f uh, as colours, do you do you have the picture in uh Oh yeah. Now, well this is the idea about uh the bumps. Uh, you can see there's a v a very uh youthful uh dynamic uh exterior. It uh you just want to hold it you uh you are young and uh dynamic like us. Yeah, it's like an e but this is for children. We we want a more adult version. But, this is like a remote control for children.. A weemote. Yeah. Hey, that's actually a brilliant uh marketing stand. Uh, but So this actually basic the idea. We we just want to build a more uh adult vers adult version of of this. And and for colours, we we figured starting with basic colours like uh white or metallic grey. Those are the technological colours actually, so it d Or blue or whatever. Oh yeah. Yeah. Yeah. Yeah, maybe yeah, perhaps you're right. Uh, I I would I would actually agree with



this sounds logical. Nah. Yeah. Yeah, I like like this like this. This isn't this isn't too much, is it? I f Yeah. The buttons, I Yeah, uh something like this would be nice. Okay, that's that's it from us. Uh-oh. Why? Yeah, it's not just uh designed for people under the age of forty. It's also designed for people above forty. So I have I've Yeah, two or three, because it's not just uh the question is aimed at is it designed for people with age below forty. But it's also designed for people of age above forty. So, I'll say it's about three. Yeah, I I think Yeah. Yes. Yes. Yeah. Leads to user face, yeah. Yeah, false. Uh, hmm. Yeah, the they are big and clear.. Yeah, but but the teletext button. Yeah, you can ch That's in a menu. So, it's w yeah, it it it isn't entirely unclear, but So, I wouldn't give it a seven. I would give it a more a five or a six. Uh, I don't know. What do you think, uh Mister Project Manager? Hmm. Yeah. Yeah, it has these all these fruity colours and it has a strange shape. So, if you so if you have trouble finding it Well, then uh then I'll go for four. Because uh four is between three and uh uh also between between true and false. Uh, so I'll I'll go for four. Wha Yeah, that that's a better question actually. Well, if i if you see a strange shape lying somewhere, uh then you'd uh recognise it as, whoa, that is strange. Yeah. Yeah, what is that. Uh, so it's Yeah. Yeah, rubber, is kind of soft. Well, I don't yeah, it is kind of It No. Uh It could yeah. Functional ability.. No, it's it I'll go for two. My vote's on two. Yes. Yes, it Yeah, they are built in. Not down.

You really like the parental advisory. Bu Yeah, he made it. No. Me, too. Yes. Yeah. Yeah. Yeah. Yeah. Uh, n no. No. Yes. No. Uh, we have one. We have one. No, sev zero. Well, that's um yeah, speech recognition and s A zero. No. No. Yeah. Just go on. Then we'll see uh we'll we'll see uh wha how much we are over budget. Zero. I don't think so. No, this is a standard colour. Yes, this is a special colour. That's an add-on. No. These three. Well, we're only four Euro over budget. But Well, other case, we can make it single-curved or uncurved. Yeah. Okay, sure. Yeah, sure. Okay, well you you can go from double-curved to single-curved. And that would solve the budget problem. Yeah. It's just yeah well, the single-curve that Yeah. Exactly, yeah. We going to cut Yeah, we just make it flat. But, you do I Function. Worth, does it have added worth? No, um Yeah, well let's assume it is. We we should assume it i that it is. But I I figured that the kinetic would be a marketing promotion. R if you uh promote a kinetic um I kinetic remote control, I mean, that would b sell better than an a normal remote control. No, well, y I mean uh, y you can go into your neighbour and tell him, ha, my k uh remote control is kinetic. You have standard old battery control uh remote con True. It is possible, but you can't use double uh curves for titanium. That's one of the functionability uh Well, I th I think you two, uh especially you and uh and uh Daniel, you d you you both had uh the less creative uh roles in the project. 'Cause I think m I think Jeroen and I, we had a more design we could have more we had more room for creativity than than you two. Ha. Nah, the leadership wasn't crappy, it was the leader that was crappy. Nah. No, the leadership was okay. Yeah, it was good. Try to learn from your mistake. And we will never do it again. Yeah, that went w it went well. It's it's just uh Nah. Yeah, we we had some trouble with the pen, but Yeah, but us Yeah. Oh. No, I have it working. But, uh yeah, well uh No, it doesn't have that much added value to the Yeah. Know what I mean. Or text function. Just t t type text, and that that would be uh excellent. Mean Oh. But uh, problem is, well you can't discuss anything well you you ca uh you can, but you will discuss a lot less than I like we did now. We I mean uh w w w one one person s maybe said three. But, well uh I we said uh, no I w th think two, because this and this, and then you can react uh on it. But if you you put a three on it, uh just figure well, everybody knows what I'm knowing, so they'll all just put a two on. Yeah, but it would yeah. Yeah okay, the for processing part. But then uh, I think the idea of one person entering it and the rest uh discussing it, that uh isn't that bad idea, actually. Not that your opinion isn't valued, but but still. Yeah, sure. Y yikes. Seventy five pages. So you you finished it actually, and so we

just have to read it and say yes or no? It's not double. Uh, it's not double anymore, eh? Yeah, okay. Yeah. On thing uh One small thing uh, the added functions. Uh, was it included in the cost? I don't think so, eh? It's very cheap. Okay, um hereby is the meeting is finished. J\_ and J\_. Evaluation. Hmm. Hmm. Interesting. Ah, okay. Cool. J\_ and J\_. Jane and Jane. 'Kay guys, take it away. Hmm. Okay. Yeah. Okay. Hmm. 'S I it's like an uh Easter egg. Weemote. Wait what I w got in mind. Mm-hmm. Hmm. Hmm. Maybe it's an idea to sell it without a cover, so that you can pick a cover in the in the shop. Yeah, okay. Yeah, okay. Hmm. Mm. Oui okay. Yeah. An another idea. Uh, maybe we could uh develop a cover uh with wood style. They'll please the elder users as well. Yes. Not not too uh yeah. Yeah, exactly. Yeah. Or blue or. Well I I I think so. Yeah, except for the buttons it's it could be a standard model. 'Kay, it's my time now. Okay. During the Oh. During the design uh design life-cycle we uh we made lot of requirements and trend analysis and stuff. Um, now is the time to uh evaluate o

ur prototype concept to uh to the past requirements. So we are going to evaluate the design according to the past user requirements and trends analysis. Um, we're going to do that with a seven point scale. Opening a Word document now. Okay. One oh, okay, uh I have to expla explain something. We have to uh be consensive about about things. So, it has to be a group uh group decision. Okay? Uh We're going to vote. We yeah? The prototype. Yeah. Okay, one. The remote control is designed for people with age below forty. Seven is false. Yeah, b one or Most true? Yeah, so so a o one is appropriate? Or, more like a four. Three. Ah, exactly. Exactly. Three. Yeah. But also for yeah, okay. Uh, second. The remote control is beautiful. Yeah, acco according to us, it's one? Or Yeah, p s Of c of course you have to be uh very positive and uh enthusiastic about your own product. Three. Uh, the remote control looks fancy. One? Good. Four. The remote control has big, clear channel switching buttons. Daniel. Uh, teletext buttons and volume buttons? False? And volume? True. Big and clear? Hey. Hey. Hide. It's it's not yeah, it J Five? Okay. Yeah, it's it's yeah. Red. Okay. Volume. The remote control is easy to be found. Oh, okay, but 'kay, look. If you put uh your normal uh remote control under your bed, or you throw this remote control under your bed, is it better findable? A li little bit maybe? Four? Fi I Ah, I I I think five. It's it's it doesn't really make a lot of Four? Yes, but five is between four and six. B\_. Yeah, it it's Yeah, yeah. But but the survey under users was that they uh really lost it. Like, no not uh not seeing it, but lost it in the house or something. But, okay. Yeah, okay. Yeah, I I agree, I agree. Okay. Eight, the remote control has fresh, fruity colours. Yeah, yeah, not too flashy. The remote control is made of soft material. Three? Easy to use? Top easy to use? It's it's not the most easy to use It can be easier. Jus just with ten buttons, that's the easiest. Yeah, but the most uh easy to use is just with one button on t Yeah, okay, but easy n not not the most easy to use, I think. Two? We also have to compare it to the uh to the remote controls on the market nowadays. So Yeah yeah, I'm uh hurrying. Okay, eleven. The remote control is innovative. A very of course. The remote control has m remova removable from Multilux. The remote control, i it has speech recognition. False. The remote control has built-in games? Yeah. And the last, paren parental advisory function. Yes, I do. Save as. Okay, I will uh do the the math. Now it's your turn. No. Advanced chip. Advanced chip is three. Three Euros, yep. Okay, one piece, yeah. No. Speech recognition, I think. No. No. Thingy. Yes, three. Eight. Okay, go on. Just go on. Two. Two. No. S Yeah, but but D but Daniel, tha that's that's another brand. That's another article to sell. That doesn't account for this. Producing this. No. Yeah. Yeah, of course. Yeah. Daniel. Daniel, what do you think about Here. What do you think about uh putting a battery in it, but also selling like uh the covers, a docking station just apart from the from the thing, so that you can uh put uh rechargeable batteries in it and just Yeah, yeah, okay. Just an idea. Yeah. Yeah, of course. Yeah. Yeah, Yeah. Hey, those ar arcs, why are there for? The blue blue uh Okay. No, no no. Yeah. But, wha 'Kay, look, what is

the uh If you make it double-curved, it costs one Euro more. But No, but does it have a lot of extra uh fun function more like Yeah. Yeah, uh aesthetic. I mean, uh you make like eleven and a half Euros profit instead of twelve and a half. But I don't know if twelve and a half is uh a fixed uh fixed price. No, we can't go above that. Yeah? Yeah, okay. Then it's okay. Yeah. Yeah, I think so. Yeah. What a what about all the m the environment freaks? Not freaks, the envi No. I I think it's it's It look like this one. Yeah. Yeah. This is it. Ah no, we have to do all those hours again. Go back. One back? Cos

ts on uh No redesign. Yeah. Yeah, okay, yeah. Hmm. I I didn't think so. That there was a lot of room for it. But, that's mainly because uh of the information that was delivered to us. It was just fixed information and get your stuff from there, and I couldn't go on on i on the internet and search my own stuff. Bu Yeah. Yeah. Yeah. Yeah, that's true. Leadership was uh crappy. Okay. No, leadership was uh Okay, I thought uh the first meeting was a little bit of unstructured meeting. Uh, you could have but uh, it was your first, no uh no disrespect or something, but you could have uh structure it a little bit more. So like, I I was talking most of the time the first meeting meeting, and Yeah. But About me. Yeah, you made up. No, it you did better. Yeah. Much more constructive. Two guys. Okay. Means. Digital pen, I thought uh th the first time I did individual work, I used it. But, a and the first two meetings I brought it with me, but I didn't use it at all after the first the first meeting. It's it's not real real use for me. Not really, no. Yeah, like when you do this. Smaller? Oh. Sorry. Okay. New ideas? Do you? Go on. Yeah. Mm, yeah, I think so. Did you heard what he said? I don't I don't know what I mean. Oh, I have some figure. Here. The eva the evaluation, the mm the mean uh number is uh one point eight one point eight six. So that's fairly uh fairly good, I think. Uh, that uh all the requirements uh are true or very true, right. Yep. Yeah. May maybe the idea you proposed is uh a screen here. And draw it, and it's it's placed over there. Hmm? No. Ah, very bad. But I think this is better than regular flip-overs, but Yeah. Yeah. Yeah. Yeah, but insert image isn't available? Here. Picture from scanner, clip-art. Hyperlink? Hey, what if you do like hyperlink? Type type it? Re Real Reaction dot N\_L\_. Yes, is now is okay. Okay? Huh. 'Kay, double-click it. You're erasing. Double-click it. Yeah. Yep. What I really miss also is uh is a d is a turtle is a decision uh decision system like um With the evaluation, you have to Polls like, what do you want, a one, a two, maybe a a l a little application like uh uh give your own number and click one two three four five six seven. Yeah, j ju ju yeah, v voting application. Just a little group group decision application. Yeah. Yeah, okay. Yeah, of course. But, uh you can still discuss about it, but but click it in an application, that's a lot easier to process. The digit. Yeah. Yeah. Yeah. Okay. That's it? Celebration. Yeah. Yeah. What is an end report? Yeah. Yeah, yeah. Oh, you ha you have ten minutes left, I uh read. You have now ten minutes left to finish up the end report. Yeah. Um You you already made a beta version, or Pages. Okay, Daniel. Do you want a chair maybe? Hey? Oh, okay. Five minutes for finishing. Management Expert, you have to change that. Marketing. Yeah, but you can save it u the under another name. Maybe um the The Yeah. You Yeah. No, you have to put uh, switch channels uh at the top, because that's the most used function and teletext at the second Oh nay, a volume changing, second. S switch, yes. Yeah. Okay, go on. Yes, very good. Yeah. Yeah. The order. Single-curves. No, okay. Was initial, the plan. The initial plan. No, it's it's not very cheap, but that no, but it's a development inside corporation. Like, uh w we don't have to buy parental control. Our own people can make that, I think. Yeah, it it has some cost, but Yeah. Real Reaction. Okay. Still the end conclusion. That's all, I think. Yeah, but but the the decisions are put in the uh conclusion, I think. Why we decided to use a flat uh L\_C\_D\_. Yeah. Um Save it. Hmm. Yeah, but then you had the same thing. Example of children remote. Oh wait. Wait. Hmm. That's a pity. You declare. Wouldn't wanna be Project Manager. Uh, what we going to do. Um, once again I'm uh gonna take minutes. So, um no

presentation for me. Uh, first we have a prototype presentation by G\_ and G\_. Afterwards some uh eval eval evalu evaluation

s sorry. Uh evaluation crit criteria. Uh, in combination with the finance I um uh I received uh a an uh an Excel uh file which we have to fill in later on. Um, you see. Uh, and then we must see uh if we uh stay under the twelve and a half Euro. So, that's uh that's a big I so let's uh wait it uh um we have we have must uh, we must have uh some time for that uh because it will be uh yeah, quite a lot of mathematics. And after that, uh uh an evaluation of uh the process how we uh how we have done it here with the SMARTboard, with the with our laptops, with the all uh all this. And uh afterwards, uh we closing. Once again, forty minutes, so uh let's start. I would g give the word to um G\_ and G\_ for the prototype presentation. J\_ and J\_. Mm. No, okay. It's called a weemote Weemote. Yeah, I can imagine that. Yeah, but uh you d you mustn't forget that uh our target aim is younger people. Uh, we had decided to uh put uh some flashy fruity colours in it, uh and uh in the survey from uh Milan and Paris uh it uh it came out that uh uh the d the older people are uh more willing to uh to spend money on extra features. So I think uh it will be a better idea to have some uh flashy fruity colours as as a standard, and for the people who uh really want uh a more sophisticated, more traditional look, they're willing to pay uh that. They want uh they want more luxury stuff, but they have the money to do it and they want to b to buy that. So, maybe it's an idea to put that as an extra and not as a standard. Yeah. Yeah. Yeah. Yeah. But, the mai I think th uh the standard must be some kind of uh uh attractive flashy colours. Not too, but w a little, because that's our aim. Yeah. Well, the buttons don't have to be uh all uh all of yeah. It Yeah. Okay. Thank you. The Marketing Expert. Sorry. Okay, so we gon we gonna evaluate the Yeah, the the thing we saw. Okay, just saw. Yeah. Seven? Uh, true. Sorry. Yeah, one I think. Yeah. Okay. Okay. Yeah. Yeah. Yep. Yes. No teletext buttons. Teletext is in the menu. Volume is true. Yeah, big and clear. Oh, okay. Well, I agree. I was thinking very black and white. Thank you J\_. Fruity. Yeah. Well, we p we can do it glow in the dark. So, if it's in the dark place, you still see it glowing. I think Ah, you must see it as uh, w uh according to uh the the other uh remote controls, there may uh uh be there in your uh T\_V\_ room, this one will stand out, I think. Exa I think that that's what it's about. If it if this lying on your couch, you're you're you think what's that for kinda orange uh thing. So Yeah. Okay. That's our remote control. True. Yeah, but not too soft we have decided. Three, yeah. Easy to use. One. Yeah, can it be zero? Yeah. Okay, two. Yeah, two. What's the time? We also have uh to do the evaluation, uh the production costs and uh stuff. Yeah. You're agree, Tim? You haven't seen a more innovative uh thing in uh Paris? False. Yeah, but they are built in, so it's one. Okay. Freak. Okay, thank you. We'll see. Mm. Okay, we have now to c uh to calculate the production cost. If it's under uh twelve and half Euro, then it's uh ok uh okay. But i is it if it is b Huh? No, this isn't right. Okay so,. Redesign. Oh yeah, if they under Yeah. No. Oh yeah. Yeah, it's sorry. Yeah, if the costs are under twelve and a half Euro, uh then we uh can uh ra uh move on to the project evaluation, as we have uh experienced it. Otherwise, we have uh do uh have to do a little uh redesign uh thingy. So Uh, we have to fill in the numbers of the component uh components. We have to uh fil uh, want to uh do it in and uh see uh if we stay under the twelve and a half Euro. So, do we have uh a hand dynamo? No. That's zero. Battery, one? Okay. Kinetic, one? Okay, solar cells, zero. Okay, uh simple chip on print? No? No, advanced chip. Sample sensor sample speaker? Three? Yeah uh, but it it's one one thing, it's three Euro. Uh, what's the sample sensor? Okay. Zero. Uh, uncurved flat. No. But is it s it's not made from a single uncurved

thingy and then uh and then uh no? Okay. So it's only uh once double-curved. Okay. We're now in a problem, 'cause uh we have uh reached eleven Euro yet. Okay, but uh we have Okay. Uh, rubber. You. Titanium, no? Special colour? Yeah, but we want to make uh the wood colours, uh that uh Yeah, one.

Yeah, but we we going to yeah yeah, that's true. But yeah, it's it's it Okay, the push-button, no. Scroll-wheel, no. No. Oh, no. Yes, one. Uh, button, no. No, the the we don't have a s no. Okay. Oh, okay. So, um what's the thing we can change? Uh, can I uh I say something? No, can I say something uh as Project Manager? The kinetic thing, can we just skip it, because uh you have to shake it, but that's not really innovative. Yeah. Yo. Sorry, yeah, yes. Yeah. Mm-hmm. Okay. Yeah, and not really. But we if you forget about the kinetic, well if we do that, we shall. So um Uh, b but i but the single-curved is just oh Oh, okay, okay. So that's wh tha that's one option. And then w yeah, and then we could have it, but uh it's its' well it's it's r it is the main point of the the the the look. No, tho uh that that can be done. So uh, okay, a little less uh conversation. Sorry? Fill in Just a explanation. I can delete it for you if you want. So, if we do this, uh we're on uh twelve and a half Euro. And we're done. Uh well, the only uh thing that don't Yeah, single-curved, but there's a curve in it. So Yeah, it's really a static value. Yeah. Yeah, it is. Oh. Yeah, okay. Yeah. Do you think? Well, now you can shake your remote control. Kinetic. Yeah? Who because if you want to go to kinetic, you're uh you're on thirteen and a half and you must go to flat, and I think now it's it's more of uh a compromise thing. And if you make the single curve ha just a big curve, then it's uh then it's uh yeah, one big good curve. I was going to uh say nasty words, but I don't. This is strange by the way. Wood is m is is is cheaper than rubber. We thought that wood would be more expensive. Yeah, maybe. But uh that this is this is it? Yeah. Okay, this is it. I'm gonna save it. Yeah. Okay, well, considering we have Well, we were above, so we did a little redesign Okay, um now uh it's about time to uh talk about uh this project. Uh, some uh things. Were there uh room for uh was there room for creativity in our meetings or in your individual meetings? Yeah. Yeah. Yeah, yeah, yeah. That's true. I agree with that. Yeah. That's true. Yeah. Yeah, that's true. Yeah. Okay. Uh how about the leadership? Okay, thank you very much. Now we're done. Yeah, that's true. Yeah. Yeah. Yeah. I notice it too. I was a I was also very uh unhappy, uh very unsatisfied uh about the about the first meeting. So, uh I hope uh uh the the the other meetings uh get better and uh I think the the last two meetings uh also we we reached uh some good decisions about uh talk yeah. Okay, so uh that's cool. Uh, teamwork? Well, maybe that's uh only Yeah well, it's for us, because uh Yeah. Yeah and it's wo more like presentation and some points were discussed. But, really teamwork were you two uh The Yeah? No hard feelings. Yeah. Now you you must push a little while. Okay. O Just uh okay. You can be you can go quicker, 'cause then it it won't notice it. I follow the Master class for the SMARTboard, so I think that's the that's the main issue. Um, so uh about this one you were uh you're dealing with, um the the the the digital pen. Okay. Yeah. Yeah. No. Huh. Well Yeah. M yeah. Yeah. And it is still your own handwriting uh popping up in uh Word. No, uh that's true. No. And uh the SMARTboard is uh useful, but the the pen is I uh not user-friendly, I think. Be it it takes a lot of time to draw things and to write things, and that's the Yeah, but that's not th the the you when you at a foreign audience, you b don't gonna wr uh write uh small. Yeah. But maybe there's some function with no, it isn't. With uh Yeah. Well, I'm gonna erase my uh name. Yeah, it's a big uh big eraser. Um Well, the the idea of the touch-s

creen is uh I'm just uh I don't know what what I mean. No. Oh. Oh yeah. That's interesting. Okay, because what does it mean? All the mo yeah, are between one and two. Yeah. Oh, okay. Yeah, okay. Thank you, expert. But the new ideas found for uh wi with working with this uh software? Not really, yeah? Yeah, I think Yeah. Yeah. You had expected it to to be uh more more uh Yeah. Yeah. Yeah. Yeah. Yep, yep. Yeah, that's true. Yeah, and and maybe some uh functions for uh uh uh circle or uh a square. You have to draw it yourself now. Yeah. Yeah. Yeah, that that can be done already. But not the the the predefined uh squares I think uh Hmm? Sorry? Well, that's nice. Is it Here. oh. Oh, sorry.

Select. Yeah. Here, that. So you have as you saw, you have a little uh Oh, you can Yeah, thank you. You can go uh there. So there the the the functionality is there, but it's not it's not ideal, and it's it's very it costs a lot of time to uh to use. And that's a pity, if you uh if you have uh thirty, forty minutes uh for this kind of things, and we are now with four people, but it well, imagine you are here you're with the ten people and everyone uh Yeah. Two minutes of drawing, yeah. Yeah. Yeah. Yeah yeah. Yeah, just like he said with the with the a screen which you can write, also uh a kind of voting uh mechanism. Yeah. Yeah. Yeah. Okay, so Uh well, just about, because uh Yeah, tomorrow? Uh, the costs are within the budget. Uh, the project is evaluated. But, before we going to celebrate, uh I have uh a little question which you can't answer, because uh there must be some kind of end report. I am busy with the end report right now. You might thinking what the hell was he doing uh Uh about all the meetings, what we have decided, a r r a report of this day. Uh, that must be made, but I don't know, here is uh standing uh whoa, we can celebrate now, but the end report is Okay well, that uh that can be done. Maybe we can do it uh together. You can see what I've uh yeah? So I I s I will uh put it on a story-board. You can see it. Because I think it will uh it must be uh Yeah, it's a three uh with seventy five uh Yeah, just about. Well, just a moment. End report. No no no, I'm just uh you can s you can read it and uh here here it is. End report. Well, this not nit it read-only. But it's not uh fully finished yet. Um, this is about the functional design, the things yeah yeah. Oh yeah. I'm uh when I said it, I remember I had it here. Marketing Expert, okay. Um about the three functions where uh which are most used and uh which must uh immediately be visible on our uh remote control. Um, it must be uh simple to use, very clear what to do, and at the younger people. So, this is really about wh uh what kind things uh must be in it and uh yeah. Yeah, I understand you, I can talk a little bit Dutch. Oka okay, okay, I I really didn't knew that. So, this one's first. You go there and you go there. So, okay. Well, maybe I can then do it one two three. If the order is in uh is is uh important, that's the word for. Uh, then the conceptual design. Uh, well all the things we have uh discussed, uh the energy, which uh turn out to be uh batteries, so that's Yeah, because yeah. Uh, he here it is still double-curve, the rubber, the flashy, the fruity, the removable. Uh, the buttons Hmm? Not double anymore. Nay but that this is what um Yeah. And the the added functions like Tetris snake, it's under the parental control, the touch-screen. So, it's uh just a summary of what uh we had discussed uh Uh, it's very cheap, you you maybe you you you you come at uh It's very necessary. Yeah, but it still has some yeah. Okay, but so we can discuss that uh we can discuss that kind of things I think with the with the the board of uh What's it what's the company called? I just keep forgetting it. Real Real Reaction. Real Reaction, yeah. Okay, so uh anybody uh misses something here about uh Yeah, okay, that's that's what I'm gonna write b between now. But, i in here nothing uh Mm-

hmm. Yes. Yeah, touch-screen I've mentioned. Yeah, okay, well I gonna redesign uh something now. No. Because I think it will Oh, five minutes from to finish meeting. Oh, that's cool, Tim. Finish meeting now. Well, I'm I'm I'm going to finish my end report. I am the one who can say that. Yeah? Hereby the meeting is finished. Yeah. Yo. Evaluation criteria. Oops. Some creative uh Oh. Yeah. Ok okay. Shall I give a short introduction and then uh Okay. J\_ and J\_, okay. Take it away. Um, this was our first concept. We decided to use a single touch-screen. So, we've worked out this concepts, how to how to hold it, where to put the buttons and and stuff. And um, well, we began with uh with a form of shape, that is uh is easy to hold w in one hand, left or right handed. So, we made i it a little bit less thick and uh it has some ar artistic meaning. No? This uh isn't nothing. Idea maybe uh is better. Um well, during the meeting I showed you the concept of uh placing the buttons on top, usable with your thumb, and uh the menu structure, uh if necessary, with your other hand, so it's just gonna hold it easily. And it has to be

acce accessible with your uh other hand too, of course. So we began uh working out a concept. Yeah, the panel just uh of course goes like this. But the overlaying layer is uh a little bit uh curved and stuff. Yeah. Yeah. Oh, we added that this um can be held with your hands for this maximum is om yeah, one and a half centimetres. So, you have room here for your battery and maybe even other um electronic chips. S and you can just be the the layer of the touchscreen and some have some wires underneath it to make it as uh thin as possible in the middle for good grip. Yeah. Yeah. Yeah. Yeah. It would be best to to appeal to a broad public and make the covers exchangeable, so the young people will buy an orange and a red and blue and a purple, but when the o older people uh go in the shop and they see uh an orange um remote control, it would be less appealing than a white one. And young people, we think, are a little bit more flexible, they think, ah I'll buy for a couple of Euros some noi nice hip uh Well, um I think a cover is necessary, 'cause als otherwise you'll just have the L\_C\_D\_ screen. So, there must be some cheap standard cover, um maybe white or something, that's could comes with it and you can buy, so we can make extra money. Okay. The other way around, you mean. Uh-huh. Mm-hmm. Okay. Okay, yeah. Well yeah, a colour of a wood style, a white c and uh a couple of h hip uh fruity colours. And lea uh I delivered standard with a fruity colour, but not too not too much. This is banana and mango, not not purple or p orange and yellow. Ah. Mm-hmm. Yeah. Yeah, okay. No. Yeah. Okay. Okay. It's my turn. Mm. Yeah. No no, a little more in the middle. No, uh three or yeah. Yeah, it will be primary appealing to to m minus forty, but also appealing to Yeah. It's Wow. Yeah, it's the marketing uh angle on television. We have a wonderful Yeah. Well, it's also fancy then. Yeah. Of course. We have a perfect remote. Yes. Yeah yeah, oh they have to agree but I'm the User Interface uh Expert. Um, uh no. You you've different menu. And volume is impo yeah. Yeah yeah, big and clear. But you could make a teletext button uh six. Otherwise, the people who read this uh are gonna think we have no teletext button. No. Yeah. Black and red. Okay, don't forget to save it. Uh Uh well, when we put in fancy colours, yeah and Yeah. But, um it it's not making any sound uh, have we deciding? So It'll make a difference. We have the better re I don't know. Yeah, I think so. My remote control's black. A little bit, but yeah. Uh K yeah. Fo fo yeah fo five is. Yeah, okay, you're right. Yeah. Yeah. Yeah. Yeah. If your uh fifteen remotes in a drawer, uh you find it, yeah? Yeah, that's stupid. Uh, but when you lost it you're just not Yeah, mostly when you lose your remote control, it it's under your Most of times when you lose it you're sitting on it. Uh Um

I would call uh choose two, 'cause we decided not to make two f uh fresh colours, as it would not. Um, kinda soft, but but not this. Yeah. Yeah. Yeah yeah, easy to use, very afford. No, you can do two, because um it can be easier. But then you're I yeah, but then you'll lose function f yeah, functionality and our fancy uh look, so. But It is r it is rather easy to use, because you have the primary buttons always visible. No. Yeah, m mine too. Yeah, but waits just a minutes. Inspiration. These are the m regular remotes. Yes, true, one. Yes, one. Very multifunctional. No. This is used with speech recognition, this. Yes. But uh, maybe make it two, because the games are in a sub-menu and not uh it's not an entire game. Yeah, okay. Yes. Th did you make this or the Yeah, It changes it maybe. Oh yay. Oh dear. Hmm? If they're under twelve fifty. Yeah? Cau 'cause so it's okay. Battery, yes. One. One, yeah. Kinetic, one. Yeah. No. No, the advanced chip is uh Yeah. Yeah, you give it a sample, uh one. No. You no. Yeah, 'cause um the layer around it fits around the bubbles on the o on the uh the back of the Uh, we don't have anything else. So Could you step a little to the right ma Yeah. Oh, sorry. Or And zero. Special uh is the special colour? Mm. Yeah. Yeah, if if you're honest, we'll uh type one, special colour. Yeah. Uh, j maybe we'll finish uh the the list first and then look back, aye? No. Scroll wheel, no. No. One, yeah. No. Mm, is it No. No. So No. No. Mm, single-curves. Yeah. Just cut off the kine yeah. Or yeah. Yeah, we just put a good battery it it. Mobile phones nowadays. But you can use rechargeable

batteries anyway, just you s you have to recharge them manual. Yeah, that's a cost reduc Ah. Yeah, so we have to bake the ba back flat, and then No, it's it's just one curve and not a back uh curved I think. Or Or are these two curves? Uh Yeah, but what else uh do we have to cut out? No advanced chip, uh that's a little bit of problem. Although, can we make it with a regular chip? Curvy. Explanation. Twelve fifty. Well Yeah, but does it fit with our design? Do we have to u adapt it? It's single-curves. W Could we just make the bubbles uh cut off the back, and then we're uh has Okay. More. Yeah. You make it optional. Functional. Uh, there's an a a athe aesthetic value, but not functionality. Yeah. Yeah. Yeah. Yeah, but it doesn't fit in our co cost profile. So You ma can make an an specialised extra gold version. Yeah. Yeah, just one big curve. Uh, this uh American figures. You just cut down some trees. Whoever makes uh a remote control out of titanium. Yes. No. We sue. We Yeah, we'll start her all o all over again. Um For us, there was a lot of creativity. We could just sign up an uh remote if we liked. Uh Crappy. Cra Yeah. Yeah, example of crappy leadershi Okay, yeah. You could of said, shut up you fool. Yeah, more more consensus. Ev everybody w was agreeing every Yeah. Well, we work together on a project, but everybody has his own task. So, it is a little bit Yeah. No Well, it went okay. Stupid stupid pen, but uh Yeah, but but draw something uh difficult. D uh just write your name right now. Try to write your name, in in writing letters, of course, yeah? Yeah, normally, uh this uh the w Block letter sign it, yeah? Just just write your name in in one line. If it's a little bit too small bit quicker now. It didn't Uh he he knows how it works, yeah. Y well, yeah. Th the i The idea is great, but it doesn't work properly. Uh Yeah. Nee. As uh as I said a m a c few moments ago, it I would like, myself, to write with a normal pen, because must um Yeah, it's almost the same concept, but you can just sim more simply put it on our scanner. I it's the same concept as the pen, where you f have to download the software or s uh very uh slow. Yes. No, and it doesn't give any added value. Yeah, not user-friendly. Yeah, and it's it's not very precise. We're trying to m to Yeah, it may um Yeah, and tr try to wri write your name uh in a in a norma

I uh size, yeah. Smaller. Yeah, smaller. Just like when you're writing on a letter. No, a as you saw on on this drawing, just open open this one or that one. It's uh th it it Yeah, uh we had more problems even here when we trying to draw these buttons, it's almost impossible to get clear uh when you're uh And the eraser was another problem. It w t is is this large. And when you try to erase this line, y I'm gonna erase my name there. M Abo What kind of new ideas? Yeah, uh New ideas about uh the working of this software, about about the project, about the remote controls or Hello. Yeah. So true. Not really, just they have to improve it. Uh, the concept is okay, but it has to be quicker. Uh, it is still opening my programme, n almo almost uh my entire computer is locked up during the process and it, yeah, just takes too many time. People will still feel the need to to write it quickly on uh a page and not download it and save it, and More user-friendly. 'Cause when you use a pen, you can just draw like you d draw normally, and you do Yeah. Yeah, that I Would be easier. Or at least when you you don't have to adapt to the technology, just you can write in the way you normally write. And now you have to um keep constantly in mind that you're drawing on this screen. And that's a very bad concept. Nah, okay, I I it's my opinion that I Yeah, it's can be saved easier. But if you're in normal flip-over you a lot of people write text. There's no text option. And writing text uh, yeah, you've gotta really do your best to write some Yeah. Or maybe even insert picture. If you have uh some presentation, and you have some f Yeah. 'Cause then you could Oh, okay. So you can With uh W\_W\_ dot Google dot com. Oh yeah. Maybe. You'll just make a link in Yeah. There's one way to uh Maybe if if you're not using the eraser Something else th Yeah, arrow. Okay. Well, it's Yeah, okay. But. To use, yeah. Yeah. And that's m That's mostly the case, from the over here with the managements you get two minutes to make your case, and if you have to do all this kind You'll rather use PowerPoint and work it out in advance. And th the one or two



things you have to draw when you're there, just use a flip-board. Yeah. Okay. Yo, manager. When are w When are we going to produce it? Oh. A chairman. Yes. It's a read-only version. Oh, okay. Uh One two three. Yeah. Well, okay, maybe you can add it later that we decided in the end because of the cost. A single-curved. Ah, it's very cheap. Yeah. He'll do it in his free time. So uh Of directur or directors. Yeah. You can ask your personal Yeah, the end conclusion. But uh Um, the decision to make um the buttons on the top, and the menu on the on the bottom. And clearly Yeah, touch-screen you've mentioned. Okay. Okay, this n yeah. Party party. Oh, before you change anything maybe you um save it first. You can't you can select file and export and then those J\_ PEG files. Well, eight. And we have uh, another blank one. Did we change anything? Wow. Yeah. It's a new uh commercial logo. Don't save it, aye? Uh, why are only the first five SMARTboard files saved?

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# Meeting ID: 115

Data Source: Train

## Executive Summary

The User Interface Designer presented the prototype of the product to the group. The product featured an LCD display, a flip panel, and a customizable case back. The Project Manager displayed the cost of all of the components, and the group decided that the current budget would not allow the addition of the LCD display. The Project Manager decided to negotiate the cost of production to allow the addition of the display. The Marketing Expert gave a presentation on sales projection and showed that the current projected sales point would probably not allow the project to reach its profit aim. The group also discussed the distribution and promotion of the product on the internet. The User Interface Designer expressed concern that there would not be time under the current plan to make changes to the product resulting from consumer testing; the Project Manager decided that no additional changes would be made. The group then discussed other means of promoting the product: launching the remote at the same time as a large sporting event or DVD release.

## Complete Meeting Transcript

Yeah. Thanks. Mm, okay. I've done a presentation, but it pretty much covers work that we've both done, so if I'm missing anything, Christine can just correct me. It's not the biggest PowerPoint presentation in the world, but Three. Um. No it's think it's the last one. No, then this is the la yeah, that one, final design. It is named appropriately, you just couldn't see the name. Um okay, can I have the mouse? Thanks. Alright, so from when we were discussing specifying the case in the last meeting, we decided that we wanted an ergonomic shape, the material that we chose was wood, and uh the colour would be customisable, 'cause you can stain the wood whatever colour. Um, so in terms of function, you have to be able to turn the T\_V\_ on and off, volume and channel control, menu control, voice recognition control, and we've incorporated the L\_C\_D\_ screen on the flip panel as part of the design, if we figure out it's too expensive, well then you just take it off. Um, so to unveil our lovely product. This is our remote control, with the flip panel as you can see. So if you lift up the panel, you can see the lovely yellow L\_C\_D\_ display. Um, this is actually hard to do. The yellow button you have is the on off button, so it's really big, hard to miss. You have the the red um triangles are the toggles for changing the

volume. So up volume up, down volume down. The green are the channel changing. S And it's one of those very light, very touchable displays. And then you have the numeric pad in the dark blue at the bottom, and on the right-hand side you have the access to the menu on the T\_V\_, and on the left-hand side you have the the the ability to turn off the voice recognition. So this is pretty much what we had on the white board the last time. So. Oh yes. Additional feature on the back is that you can have your own customised backing and I suppose you could do the same thing on the flip case on the front. So that you can really make this a highly highly customisable remote control. Yeah. But it shouldn't be under the flip either, because you can have the remote control closed, but you still might want to activate it by voice. But if you've already got the remote control in your hand you need to open the flip to use the voice, why use the voice, why not just use your hand? I mean the whole point of the voice is that if the remote control is sitting there and I'm too lazy to reach over and pick it up, I can just use my voice. Yeah. And you don't wanna let go of either one. I mean it doesn't have to be on the flip, it can be on the side somewhere. Yeah. So, I mean I can pass this around if anyone wants to Yeah. Yeah, exactly. Yes. And maybe the shape of the buttons, the little egg shapes aren't the most economical, but Yeah. I mean this is plasticene. There's only so much you can do. We could have possibly made it a lot thinner as well. But And part of the thing is m a lot of people say that they don't like something that's too light, because they don't feel like they have enough control over it. So I mean maybe this is excessively heavy, but I think it needs to have some weight, it needs to feel like you're still holding something. So that's pretty much it for our presentation actually. Yeah. No we do, but it's not filled in. It's number thirty. Oh, yeah, yeah, you're right, sorry, yes. Um-hmm. Yes. That's no, I think it's the same one. Functional. It looks like it, there's S Yeah. Um-hmm. Mm. I was thinking the same thing, yeah. Directly. Um-hmm. Yeah. Yeah. You can do a shipping centre somewhere, or strategically place shipping centres to minimise distance costs. Yeah. That actually makes more sense if we're gonna make it so highly customisable, 'cause on the web people can look at the different options they have, see maybe what other people have done, what the range of possibility as, whereas if you're in a store, you can't unless you're a highly imaginative person, you may not really know what it is you want, whereas on the web, i f you have a bunch of pictures, it can sort of trigger ideas and Yeah. The weight and feel. Yeah. Yeah. Yeah. Mm-hmm. Yes. Mm-hmm. What turnaround time do we have? 'Cause I mean production evaluation can be very very quick or very very long. Yeah. Mm-hmm. Think minimum two weeks if we're gonna develop prototypes and then try to take them to different places and see how people use it's not a trivial task. No no. We definitely shouldn't do it in our factory. What ab Well I was just wondering about if we're gonna do a product evaluation then what about time for redesign if the users come back and tell us no this is bad, this is bad, we want this done differently. The problem is there might not be a second generation if the first generation flops for some silly reason that we haven't thought of. No, but there's a difference between releasing a product that has been minimally tested and fine-tuned to suit a general range of requirements versus releasing a product that we think will work but we don't really have anything to back it up. Yes, but I'm not everybody. I mean the whole point of user evaluation is to see what real people need. We have our own motivations in mind, we have our own ideas in mind, but that doesn't mean that that's what's gonna sell. Yeah, of course. I'm just trying to point out that I think that your evaluation and redesign turnaround time is too short well you have no redesign not you personally, but in the project we have no redesign time and Yeah. Yeah, that's a good idea. Yeah. Mm-hmm. That's actually good place to advertise it too. Yeah. Mm-hmm. It's just something to keep in mind, 'cause it's really really important. A lot of products have gone out there without being properly user-tested and completely flopped, when in fact it gets re-released a few years down the line with proper testing and it

takes off like crazy. Really? That I didn't know. Mm-hmm. Yeah. Yeah. Yep. Exactly. Okay. Thanks. Bye. Welcome back. Welcome back everybody. So this meeting agenda will be the detailed design meeting. And uh opening and uh P\_M\_s of the meet minutes, uh prototype presentation from uh Christine and uh Agnes. Yes and uh evaluation criteria. The finance, it's uh from my side, from the management, and uh production evaluation. Then uh closing. So we have forty minutes to discuss and uh finalise and close the product and project and to move further, okay, so Okay, let's talk about uh maybe first uh for the prototype. So I handle to So shall I go to sorry. Yep. S Okay, let's go to A\_M\_I\_. So in two or three or Yeah. Yes. Mm-hmm. I think the microphone is on on the top, uh on the middle, the under the flip. So that will be the safe, so p any the chip it's not on the chip because you need to have microphone to Yes. Uh it's it's Yeah, but uh uh my opinion I think it's better under the flip because whenever you want to uh the talk, okay, so then you can speak then you can close it. But if you put it on the on the flip, okay, then uh technical I don't think it's uh feasible, 'cause most of the time you speak then it will be recognised. Yeah, the sides maybe is good. So That's good idea. Yes. So it's maybe good idea. Yes. Yeah. So it's maybe good idea. S s Okay. S I'm fine, I'm satisfi I'm satisfied. Of course it's it's it's looks more heo heavy, but I think when it's completely maybe it's a less weight. Yes. Yep. That's your uh prototype model? Okay, that's good, thank you very much. So any comments or uh Okay. Yes, that uh So I'll come back to the So evaluation criteria, I think uh that will be good, so then let's come to the finance uh, I have some uh calculations which I made uh as for uh the budget. So here you can uh look like uh the energy and uh dynamo and uh kinetic and solar cells. Uh it's optional, somewhat optional and Ed wants the chip on print, that's what uh we were talking about that. So then we have sample sensor and sample speaker, then uh we have the wood material, then special colour and push button. S

o it's uh actually, our budget was uh twelve point five Euro, but uh it's coming to nine point nine five Euro, so we are under uh below the budget, okay, so still we are saving some money. I think it's a good figure. Than thank you. So maybe it's for some money we can utilise for our uh marketing, for the sales, okay, and uh It's not. Yeah. Yeah. Yeah. Yeah. Yes, so still uh we have twelve point five Euro. Yes. Yeah, but Yes. Yep. Yes. This we are talking about one unit, okay, so when it go into the quantity, okay, and the cost will come down. Yeah. Yep. Yeah. But anyhow, still we are under control, okay, so what uh I will do is I will try to negotiate with the vendors, okay, to get uh the production cost less, okay, so then we can save some money, okay, to put into th our marketing or uh you know the promotions, whatever, okay, so that uh I will look after. I will speak to the management and how to get uh you know some more uh cost down. Yes. You're in four? TrendWatch. Okay. Yep. Mm-hmm. Yes. Mm-hmm. Yep. Yes. Yep. Of course. Yep. Yep. Yes. Yes. To the agents. Yes. Or eBay, or Yes. Yeah, that's a good idea. To impro more profit and uh Yeah, yes. Yeah. We can. I don't think that's uh not possible, it's uh okay then, I uh let's wait for the production, okay, then uh you can evaluate the product, so how it looks like technically and uh how it look like uh the real. T Oh but Yes it's it's very quick, of course. It will uh come back in two weeks, okay, it will be ready in two weeks. For evaluation, okay. Yes, the prototype uh prototype product evaluation. Yes. Yes. Yes. Yeah. So you can take a minimum two weeks to a maximum four weeks. Yeah. Yeah, because we we are not going to do it in uh our factory, okay, so we can give it a product evalua Yes, yes. So we'll do it in the other place, and I don't think it's take more than four weeks time. Or uh Okay, so then the real production we will start once we product evaluation, okay, then uh it's approve from uh the technical team and uh your team, okay, uh from the management, then we can launch in the market. Hm? S Any any other uh questions or uh comments to be discuss? Okay, so then uh Okay uh, let's take like this. Let's proceed with this model, okay, for the

for the marketing direction, okay. So no more changes will be made, okay, in this the basic design. Okay? So we will introduce m this model and uh let's introduce in the market and let's take the feedback from the customers, then we can uh go for the second generation. Okay. There's no end, there's not limit. Every every custom Okay. Well, every customer, okay, they have their own ideas, they have their own test, okay, so there's no end, there's no limit. Yeah, so that's the reason you are here for uh the design, okay, I hope you made a good design. Yeah, but uh see, we ought to take a few considerations, okay, one is the price consideration, one is future consideration, okay, like uh you can eat uh you can all eat more chi I can eat more chilli, okay, so i it's a depends on the individual taste, you know, so we have we have to balance somewhere. Yes. Yeah. The sports time. Football. Football. Yes. Yes. Yes. Research. Yep. Yes. Yes, the that of course uh I will convince the management to do that, okay. Sure, sure, yes.. Yeah. That's the reason Ed is here. I think he can promote the the brand value and the product value. Yes. We are behind the scene and he is the front screen, so. He's on the big screen. Okay, so then uh let's come to the closing and uh are the costs within the budget and uh is the product evaluated, okay, so that will uh come soon. Okay for uh but our time being, so thanks for all your efforts and great work and uh great design and uh let's leave it to the Ed for later for once production is over and the meantime let's celebrate. So let's meet up uh this evening to hang up for some party. 'S good. Thank you. Thank you again for all. And see you in the evening for drinks. Probably. Technical pa I would think. H

a. I don't wanna say. Louder. Yeah. Can also be on the side. No, because y you can easily put a microphone on the side that would have no problem would haven't been not be damaged or anything, and it'd be accessible all the time to voice. Yeah. Compliments to the artist. Uh. Well, the prototype is is very well within the design and ideas that we've we've talked about on the previous meetings. Now it goes into this next phase as the financial uh marketing uh Well we haven't come to mine yet, so we're gonna have a bit of difference of opinion, yes. Well, it just depends on if we're gonna add a o on this pr provisionary cost analysis, we do not have a L\_C\_ display. L\_C\_ display is gonna be very expensive, it's gonna be It's not it doesn't say. We don't have the price up there, okay, so if we add approximately two to three Euro per remote, now we're up around about twelve, twelve and a half as to what uh the company had initially uh requested. Um Display in. But as far as production um I'm putting up a question because we're talking about profit also, and in mine you'll see uh the problem with uh our survey, the p the possibility that how many units can be sold, what percentage of the market, etcetera etcetera because that has to be taken in into consideration. Uh this is just production cost, it is not uh advertising cost, it's not transportation cost uh And that will inflate quite a bit the cost of the uh the cost of the unit for the company. So to come up with what the company wants is a fifty million Pound profit, we're gonna have to go a long ways. Yes. Slightly. It's gonna be very hard to reduce. That's not bad. If we can go to to my display. And we'll come back to yours just to give everybody an idea of the market. So now I'm gonna scare everybody out of this project. If I'm still here. Yep. The four gives me it's gotta be uh TrendWatch. No. It shouldn't be if it's not it's not the right one. No, no we g no, that's the same one. You have to go back and find another one. Whatever name it popped up under. Uh functional, try functional, it might not be it either, but we'll see. Yep, that's it. So we'll go screen by screen. Although since uh we need to have some type of idea on a market uh we had independent study that says it this this market has an availability to absorb eight mi eight million units per year. Okay? Our internal company evaluation puts it between eight to nine million which is approximately the same as the independent study. So if we continue, we'll look at the findings. Next screen. Which means that uh if we have a target of two million would the company has to take twenty five percent of the market in the first

year, which is actually a tremendous amount. No kidding, yeah. So, if we put an inflated price of fifty Euro at a production cost that cannot exceed twenty-five Euro, okay, we're already in that that price, okay, with transport, promotion, labour, because we have included the promotion in the cost, transport for the material to the stores or whatever how however we're gonna break this down between our our retailers. Twenty-five percent of the market to get to two million units. At two million units, we have to have a profit of twenty-five Euro per unit to get to the fifty million unit Euro profit. Okay? So, obviously we will just did a run down the evaluation of the form, the fan uh the fancy stylishness of the of the unit, the ease of use, speech recognition, cost, we've gone through these. Now, the company must evaluate the feasibility of being able to take enough of the market to justify in production. Or we project this over two years, but being that the market changes very very quickly, maybe there's no more interest in buying this thing in eighteen months from now. So, now we have to come up with a decision. Can the company sell two million units? Can it sell it for fifty Euros? S Upscale technology. Well. There are several companies that have gone that way. Weight, the feel of the product

, but There are several that have gone through with the watches, too. You can customise a watch, you can see how it is at the end of the production, you can change it uh There's a lot of online that's that is doing this now. And when you're rotating, you'll look behind and look this way uh it's possible to do with this, maybe there's a possibility of selling more than two million units in one year, which could you know, feasibility uh lower the price of the unit. Well, obviously. Mm that'd have to be thrown out on the market for people to get an idea, to see get get their I think we pretty much covered everything. Well, then it may not be. Like people don't like wood. very specific. Hmm. Right before the Euro the World Cup. World soccer. World Cup soccer, they need those things that they have their hands occupied and they need to be able to talk to the con remote control. Or any major sports. Yeah, I'm the one who takes the heat. If it's a flop, it's the marketer. Yes. Yes. Stress. Celebration. Very good. Thank you very much. Bye-bye. Yep, okay, see you later on. I'm sorry to be late. Agnes, yes. Uh thank you, so you did a PowerPoint presentation, good for you. Um and uh I could Yeah the design We haven't um uh specified where the speaker or the microphone will be placed. That depends on the uh s design of the circuit board inside and uh what room is left um Yes, okay. Uh-huh. No, I mean it depends on the design of the circuit board. Maybe I've got my hand in the popcorn bowl and I'm holding my cup of Coca-Cola in the other hand. Mm-hmm. Yeah, y better you pass it around with a napkin. It's um It's um You need to work on the weight a little bit. We're glad you're satisfied. Mm-hmm. Yes, great I I'm surprised. Congratulations. Oh, okay. It's gonna cost a long way to c you know, cost a lot of money to market it, is it? Thirty. Yeah. So that means we can put the uh the L\_C\_D\_ in, yeah. Although customisation, because this is being done, you know, the on on-order basis, it might be uh the the quantity won't m won't uh the circuit board will b you're right, would be in producing quantity, but the cost of the case would uh be fixed at the Uh you got some pretty cheap labour that can do this case for one Euro. That's really that's the cost of the material and lab wow, that's really outstanding. Is this the same one you did before? Okay. Yeah, no kidding. Maybe maybe they already expected something. Could could I go to findings? Uh uh um I would uh like to explore the possibility of using um alternative um delivery and sales channel which would be um to use the internet for promotion and ordering and then to drop-ship the p product to the customer's residence. That way you have no storage, you have no um you do have transportation, still have the labour cost, but you don't have the transport to the uh point of sale. The point of sale is online. Right, like Amazon. In fact, we should sell through Amazon, don't you think? Or eBay, yeah. There's an idea. Going with um Ah, we we're do you know, selling a unique product uh. Mm. Mm. Mm-hmm. And you can even have an a movie that you can rotate the

object and look at the di the only thing that you're missing really is the weight. Mm. We're getting used to that. It's not quite like trying on a shoe, but people are getting used to buying things online that they can't touch before buying. Uh-huh. Great. Works for me. Prototypes, you mean. In um We probably should do some market tests uh once we have the prototypes and do some orders and things like that and test-market it. Any outstanding? No, I'm go ahead. Did you have something? Second generation. Our project doesn't um Ed, d do you know what season of the year or time of the year is the most important for T\_V\_ remote control sales? Would it be the Christmas season by any chance? Sports season. Which sport season? So so maybe what So I think what we need to do is perhaps to synchronise the final the the launch of a user-tested de

vice with some special event. And and then um so that gives us a little more time perhaps then we anticipated, because I don't know when the World Cup is, but I'm sure there's gonna be one. Or another m major sports event. Probably not the um the football games coming up the end of January. I think that might be a little too aggressive um, but, so, I'm just ig uh pointing out a uh a strategy to uh do some additional user testing pri and then to launch um at a a major sports event or uh perhaps to uh also And to work with motion pictures. There might be some motion pictures that are coming out um that are coming out on D\_V\_D\_ that uh they need to have a m special remote control to work with it, so we could maybe work out a campaign with uh with Sony Pictures for example. Maybe some management has got uh relationships there we can leverage. That's great. Disposable diapers is an example of that in fact. Yes, it is one of the first consumer products that was launched about thirty years that was a disposable consumer product, and uh people the market hadn't really gotten on to the concept that you could use something and then throw it away, 'cause it wasn't uh but then when they re-launched them thirty years later, they were virtually the same design, but people had gotten the throw-away, you know, paper cups and napki y all kinds of things that they hadn't um so, you're right, timing is very important, but I think we've got a good product. That's right. It's gonna be very important to the company. Good luck, Ed. You look very relaxed, considering h you know, the uh the weight on your shoulders, yeah. Sounds good. Thank you. Nice working with you.

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# Meeting ID: 53

Data Source: Train

## Executive Summary

So welcome back . first . I want to say I'm the secretary , I wanna hear from you , what you've done . And after that I have some new product requirements . So And after that we have to make decisions , what we will do . We have forty minutes for this meeting . After that we'll have lunch . So first I wanna ask the Industrial Designer to tell what he did . So Where have I put it ? I've save it on my computer , my presentation . But now I don't know where it is . Okay here it is . It's a little difficult what I'm gonna tell you . It's about the working of the remote control . I just had an half an hour j to study it and I don't get it . First uh I will tell you something about the findings , what I discovered about the remote control . Uh then I'll have uh some kind of map , and it's the top of the remote control . The remote control is a very difficult uh thing to uh to explain to just all of you wh who haven't seen a remote control uh inside . Uh there's a lot of uh plastic on it , um because its uh not so expensive . And there are uh a lot of uh wires , uh which um connect the components in it , and there are um switches and things like that . There's a lot of small uh electronics . So it won't be um uh too expensive to build it . Only twelve Euro fifty I think uh we will make it . And here I have the top of the remote control . Uh here's some kind of chip . Uh on top of this , there are uh the numbers . Uh you have all on your remote control . And uh the teletext uh button . And uh here's the battery . And when you push the button , it will uh will be sent to the chip . And the chip will um send it to all kind of sub-components . My preferences ? We shouldn't make it too big . Uh also for the cost , uh we should only put one battery on it . A long-lasting battery . Uh also for the cost , uh use only plastic . Also because of the cost , uh not too much buttons on it . We can also make uh a button uh with a menu uh button . And then um that that you will see it on the T\_V\_ . And the bleep signal , y uh you told us . Uh but we can also use it uh a bleep like something , when the battery's empty , then there is a bleep . And also the bleep , when what I told you about uh when you lost it , and you push a button , and then you hear bleep bleep , and we will find it . The battery . If we w if we use only just one uh small pen-light , then it will be cheaper than when we use two . when you use two , you can use it two times longer . then we'll have to make the um remote control uh long lasting . Okay and the buttons . When you use it on the television , you've you need the television , wh which can use it . But uh I think this our remote control is for the televisions we uh we sell in our company ? Or is it also for other company uh for other televisions ? I think we have to use it also on other televisions though . Maybe just a menu button to use it on our televisions . They are two different things though . We have to



choose one . It has to work on o uh all televisions . Then I think uh the menu button uh will only work on the newer televisions . And I just uh have one more idea . But Uh , to have a trendy remote control , we can also um make something like the Nokia um mobile phones . To change covers . So if you have uh a trendy half with all red , uh yellow and something . And then you can put a red cover on it . Will this will this add to the cost ? Uh then it won't be uh will have just one cover on the uh original one . And then you can buy the covers . but you have to m uh be able to change it . D does it make it more difficult to design ? I think it will be a little more difficult , but not too much . Just like with the Nokia uh mobile phones . Yeah but there are much more Nokia telephones than um these ones . If it won't works then we'll get something else . Then we uh won't g uh go further with it . Yeah but are their profits bigger than their cost ? Uh a p a a cover made in uh in China , it it won't be I guess so expensive I think . Yeah but there are also design cost . Would you change the cover ? I wi I won't . But maybe I think trendy people or like children where you can paint on it , I think that too less people would change it for good profit . So I'm not sure if it will make profit enough to uh But it's uh yeah it's uh original idea . but I don't think we have to do it . Yes well uh uh I shall give a short talk about the the technical function design . Um I thought the the the technical function design was uh to uh for a remote control to to to have some influence on the T\_V\_ set . And uh well , it all by pushing a button on the remote . Uh I find some uh some interesting quotes on the web . Uh message to the television . And uh and and and well basic uh operations like on and off , and uh switching channels , and uh and maybe uh teletext or something like that . well these are two uh remotes , and that's our uh our dilemma I think . Uh But uh shall we make a basic remote control , uh just uh swapping channels and volume and uh power button and well nothing much more . Um any ideas about that ? Basic or multifunctional ? We'll got back on that later . So uh I didn't know what uh what way we would go . Then it's your turn , the marketing expert . So I'm uh gonna have a presentation about um the market , Uh we did a usability lab-test with a hundred persons . uh what frustrations they had while using remote controls . Uh our users , they disliked the look and feel of current remote controls . Um uh they especially found found them very ugly . And um th they also found them hard to to learn how to use it . Uh well they also zap a lot . And uh fifty percent of the users only use ten percent of the buttons . So a lot of unused buttons . Well uh the most used button is the channel selection . The power , volume and channel selections are very relevant . Uh teletext is uh less relevant but also important . Uh not important they found the audio , uh that's not the volume but uh specific the the pitch , or the left or right . Uh the screen and the brightness . And uh channel settings . Uh th and they also are not used very often . Uh here we can see what the market share is of uh several groups . Then we have a few um graphs about the market . Um as you can see , most users are uh between thirty six and forty five . Um the the the younger group between sixteen and twenty five is not very big . And to come back on the the swapping uh things , uh I don't think uh , I I think the younger will be most interest in it . Um in the we asked them , uh how would you like a s a new feature . If you have an L\_C\_D\_ on the remote control , what would you think of it . Now you can clearly see young users say . I will that would very nice . And older user think uh they will be scared of change I think . And another thing , how would you like to have a speech recognition on it . Young users uh think that's an interesting idea . And old users not . Uh well we uh found out that there are two several markets at which we can aim . Uh the first are the younger , the age between sixteen and forty five . Uh they are highly interested in the features , as you can see uh here . Uh the second group is the older

group . Aged between forty six and sixty five . They are less interested in uh new features . But uh they spend their money more easily . Well then I come to my uh personal preferences . Uh yeah the first question is uh also we have to ask is at the which market do we aim at . Uh of course n uh saying we aim at the young group doesn't say that old people won't buy it . What I thought , um even young people say it's hard to use , remote control . So if you make a remote control that is uh very easy to use , that's especially aimed at this group , even uh the young group will also be more interested . But when use it , uh I don't know what's uh good thing of speech recognition . Uh less important functions should be discarded from the remote control . You can find most functions on a T\_V\_ set . So uh you don't have to have a lot of audio options , or screen options to change the brightness . And such things . One thing I did not say I think , is that a lot of users also said then I would uh buy a good looking uh remote control if there will be one . So the design of our remote control is very important . If we aim for the younger people , um and there will be uh a lot of features like L\_C\_D\_ or the the the speech uh f recognising , uh the cost will be a lot of h uh a lot higher . Uh I think we don't have that in our budget . And I don't uh I don't think twenty five Euros for a remote is really cheap or something . So it's Yeah , it's hard to uh get the younger group . I think uh the L\_C\_D\_ is cheaper than speech recognition . Uh we go back on the decisions later . Now we have a few new product requirements . So I think that can be an d good option . L\_C\_D\_ . First , teletext . We have internet now so we don't need the teletext anymore . So not necessary . Only for the television . So we don't look at the other things like the radio or something . We look at the age group of forty plus . Uh no , younger than forty . Our corporate colour and slogan must be used . So you can see it on our site . Now we have to decide what controls do we need . Yeah maybe we can first have a discussion uh on the the product requirements you just uh said . I uh personally think uh teletext is a good option . It's a new requirement . Yeah but we don't use it . No discussion about it . Well a power button ? Uh the well um I think separate channels . So So so uh zero to nine or something . To move up , move down . Do we make a menu ? Uh yes I think it will be um q quite easy to use , to have uh uh four arrows . Up-down for channel selection , and left-right uh for volume . And if you press the menu button you get into the menu , On the L\_C\_D\_ screen , you mean ? Uh well yeah that depends on if you have uh the menu on the T\_V\_ . Or you get the menu on the L\_C\_D\_ screen on the remote control . Think it's better to have it on the remote control , But then we come to the costs . But well if you aim at the younger market , um a as they as uh s uh as we seen in the usability uh lab , uh they will buy a nice looking um remote control . So if we have a L\_C\_D\_ sh uh screen , and uh not too many buttons , I think that will incre uh uh even when it's a bit more cost , it will still sell . Is this enough ? Mute . I think that's enough for the next phase . And uh we don't yet have to decide what the remote control would look like ? Or that's for the next phase . Phase two is the conceptual design . And you can find the minutes in the Project Documents folder inclusive the uh buttons . Your individual action , you can find them in the email .

## Complete Meeting Transcript

. Desktop. Yeah. Okay. Well. Make it. Hmm. Hmm. Will this will this add to the cost? Yes but you have to m uh be able to change it. D does it make it more difficult to design? Not much. 'Kay. Um Mm. Yeah. Yes. Okay. Uh um m Yeah. Um yeah okay. This bit too far. So So I'm uh gonna have a presentation about um the market, about um yeah what people think. Uh we did a usability lab-test with a hundred persons. And we looked at uh several um things. Uh among them design, uh d d how d did they like the use of it, uh what frustrations they had while using remote controls. Uh well what what will be our market. And uh we asked them if we had some new featu features. If um that would be a good idea or not. Well our findings. Uh our users, they disliked the look and feel of current remote controls. Um uh they especially found found them very ugly. And um th they also found them hard to to learn how to use it. Uh well they also zap a lot. So uh zapping uh should be very easy. And uh fifty percent of the users only use ten percent of the buttons. So a lot of unused buttons. There is more findings. Uh on the buttons. Which uh buttons find users uh very important and which which not? And how much would they use them? Well uh the most used button is the channel selection. And uh we asked them how uh relevant they think uh the buttons are. The power, volume and channel selections are very relevant. Uh teletext is uh less relevant but also important. Uh not important they found the audio, uh that's not the volume but uh specific the the pitch, or the left or right. Uh the screen and the brightness. And uh channel settings. Uh th and they also are not used very often. Then we have a few um graphs about the market. Uh here we can see what the market share is of uh several groups. Um as you can see, most users are uh between thirty six and forty five. Um the the the younger group between sixteen and twenty five is not very big. And to come back on the the swapping uh things, uh I don't think uh, I I think the younger will be most interest in it. But uh they are not a very big group. Um in the we asked them, uh how would you like a s a new feature. If you have an L\_C\_D\_ on the remote control, what would you think of it. Now you can clearly see young users say. I will that would very nice. And older user think uh they will be scared of change I think. And they won't like it. And another thing, how would you like to have a speech recognition on it. Well here we see the same. Young users uh think that's an interesting idea. And old users not. Uh well we uh found out that there are two several markets at which we can aim. Uh the first are the younger, the age between sixteen and forty five. Uh they are highly interested in the features, as you can see uh here. And um they are more critical on their money spending. Uh the second group is the older group. Aged between forty six and sixty five. They are less interested in uh new features. But uh they spend their money more easily. Now if we look back at this graph, we can see that among the first group is about um sixty percent. And the second group about forty percent. So the the first group is bigger. Well then I come to my uh personal preferences. Uh yeah the first question is uh also we have to ask is at the which market do we aim at. Uh of course n uh saying we aim at the young group doesn't say that old people won't buy it. But less of them will buy it. Um well I uh Okay. What I thought, um even young people say it's hard to use, remote control. So if you make a remote control that is uh very easy to use, that's especially aimed at this group, even uh the young group will also be more interested. And um we can make special features. But uh I think it looks nice in the first time. But when use it, uh I don't know what's uh good thing of speech recognition. Um well th uh that's my second point. Uh less important functions should be discarded from the remote control. It's about discussion we had earlie

r. Um You can find most functions on a T\_V\_ set. So uh you don't have to have a lot of audio options, or screen options to change the brightness. And such things. Um well the design is very important. One thing I did not say I think, is that a lot of users also said then I would uh buy a good looking uh remote control if there will be one. But they found most remote controls very ugly. So the design of our remote

control is very important. And uh yeah it should be very zap friendly, as most users use it for that. That were my findings. Yes. No. Okay. Yeah maybe we can first have a discussion uh on the the product requirements you just uh said. The the requirements you just said, maybe we should first have a discussion about that. I uh personally think uh teletext is a good option. Uh not everyone um who is looking T\_V\_ can go to internet when they want to see the latest news. Okay. Okay sorry. Then uh Mine? It's the functional requirements. D Yeah. Do we make a menu? Uh I think it will be um q quite easy to use, to have uh uh four arrows. Up-down for channel selection, and left-right uh for volume. And uh a menu uh button. And if you press the menu button you get into the menu, and you can use the same buttons. But the then to scroll through the menu and to change the options. Uh well yeah that depends on if you have uh the menu on the T\_V\_. Or you get the menu on the L\_C\_D\_ screen on the remote control. Yes. 'Kay. But well if you aim at the younger market, um a as they as uh s uh as we seen in the usability uh lab, uh they will buy a nice looking um remote control. And also to find the easy to use uh part very important. So if we have a L\_C\_D\_ sh uh screen, and uh not too many buttons, I think that will incre uh uh even when it's a bit more cost, it will still sell. Mm. Yeah. Okay. Good idea. Mm-hmm. Mm. Yeah it's a good idea. But If if it Yeah, I don't I'm not sure if it will make profit enough to uh But it's uh yeah it's uh original idea. No. Oh. That's me. Uh Come on.. Ah. Yes well uh uh I shall give a short talk about the the technical function design. Um I thought the the the technical function design was uh to uh for a remote control to to to have some influence on the T\_V\_ set. Uh both audio and vide video uh in a cordless way. No cords attached. And uh well, it all by pushing a button on the remote. That was from my own experience and uh and uh the previous meeting. Uh I find some uh some interesting quotes on the web. Uh well the same idea here. Uh message to the television. And uh and and and well basic uh operations like on and off, and uh switching channels, and uh and maybe uh teletext or something like that. Uh well these are two uh remotes, and that's our uh our dilemma I think. Uh We just heard from the Industrial Designer how uh difficult it is. But uh shall we make a basic remote control, uh just uh swapping channels and volume and uh power button and well nothing much more. Or uh uh more functions on the remote. Uh maybe more devices you can influence. Uh a radio or a v a video recorder, uh V\_C\_R\_. Yeah well that's our dilemma. Um any ideas about that? Basic or multifunctional? Okay yeah. Yeah well the that was just on my mind. So uh I didn't know what uh what way we would go. Mm yeah well that was my uh functional uh talk. Mm-hmm. Mm-hmm. No. And I don't uh I don't think twenty five Euros for a remote is really cheap or something. So it's Yeah, it's hard to uh get the younger group. Mm-hmm. Just the L\_C\_D\_? Mm-hmm. Well a power button? Uh the well um I think separate channels. So But then both the the separate channels. So so uh zero to nine or something. Uh volume. Oh mine. Technical. Mm yes. Mute. Um Yeah but then it's always uh more than one uh thing to do. Okay. So welcome back. What do do we have to do? So first. I want to say I'm the secretary, so I make the minutes. You find them in your in the map in the From the group. There's the minutes from the first meeting. You'll find the next minutes also t

here. Then I wanna hear from you, what you've done. And after that I have some new product requirements. So And after that we have to make decisions, what we will do. And then we're ready. We have forty minutes for this meeting. After that we'll have lunch. So first I wanna ask the Industrial Designer to tell what he did. So Yeah on your computer, or the What's the name? What's the name of it? It's the technical function or the functional requirements. Working design. Working design. What is this? Product documents. On the desktop. Up. up. Up. Up. Up. Yes. My Documents. Nope. Gone. Well you Um Nah. Nah, nah, nah. PowerPoint. Working design. And Presentation of working design. Save as. Uh it's Project. Save. Very good. Okay. So Now have ten minutes to tell it. Okay. Oh oh. Two

questions. The battery. You say one battery is cheaper. Why? Yeah but when you use two, you can use it two times longer. Okay so it's the size of the remote control. Okay and the buttons. When you use it on the television, you've you need the television, wh which can use it. S Okay. I think we have to use it also on other televisions though. So Yeah but I don't I think it They are two different things though. We have to choose one. It has to work on o uh all televisions. Okay. Yeah. Good idea. Mm-hmm. Yeah but there are much more Nokia telephones than um these ones. Yeah but are their profits bigger than their cost? Yeah but there are also design cost. I don't think When you have a remote control, do you change the cover? Would you change the cover? No. N yeah but I think that too less people would change it for good profit. So Yes it is but I don't think we have to do it. Okay. That's clear. Okay thank you. So now the User Interface Designer. We'll got back on that later. 'Kay, thank you. Then it's your turn, the marketing expert. Okay thank you. Yes. I think uh the L\_C\_D\_ is cheaper than speech recognition. So I think that can be an d good option. L\_C\_D\_. Yes. Only the L\_C\_D\_. So But we'll come back on that. Now Oh, go on. What d d d um Um Uh we go back on the decisions later. Now we have a few new product requirements. First, teletext. We have internet now so we don't need the teletext anymore. So not necessary. Next. Only for the television. So we don't look at the other things like the radio or something. Only the television. Third. We look at the age group of forty plus. Uh no, younger than forty. Is a g big group, and like you showed, n not very much people buy our stuff. Fourth point. Our corporate colour and slogan must be used. Very important for the design. So you can see it on our site. Next. Um no. We have to make our decisions, what we want to do. So like you said, we need the. Maybe it's good to put it in a document. Now we have to decide what controls do we need. So maybe you can tell us. Sorry? Yes. Yes, it's okay. Yeah but we don't use it. It's a new requirement. So, it's not my requirement. We have to do this. No. So what controls do we need? Who first? Okay. Uh power. Uh mm channel. Channel Zero to nine. Volume. Maybe it's easy to pick. What was w your one? Techno Okay. We had w uh no no no no. Where was that example of the Johan. That was the the the the the technical Hallo. Okay. What do we need? On-off. Zero to nine. Yeah that's the channel. Menu? Uh yes the n newer televisions ha do have menus. Uh M Menu. I think um the only one or two numbers. And Hello? That's ch Yes. On the L\_C\_D\_ screen, you mean? Think it's better to have it on the remote control, 'cause it it has to work on all televisions. So we need N Yes. But if we have this So now we don't have a lot of buttons. Is this enough? Mute. Maybe in the menu? Mute. Mm-hmm. Okay. Maybe more? No. Well. Then that's all. This will be the buttons. And I think that's enough for the next phase. So we can go on to Yes. No that's for the next phase. Um Phase two is the conceptual design. So then we'll have the concepts. That's for the So uh next point. Now we have lunch-break. After that

we have t thirty minutes for work. And you can find the minutes in the Project Documents folder inclusive the uh buttons. No. Your individual action, you can find them in the email. So now it's time for lunch. Thanks for coming. That's my task. Okay. Uh I've Where have I put it? My Documents or not? Hmm. I've save it on my computer, my presentation. But where? Uh uh uh It was about the working of the remote control. Nope. Not a of Wait. The working design. But I've saved it. But now I don't know where it is. Hmm. Yeah. And I import this until One more. What the fuck is this? Yeah that's the empty one. I had one. Uh-huh. Open it. Okay here it is. Project. Okay. A little later but here it is. So okay. It's a little difficult what I'm gonna tell you. It's about the working of the remote control. I just had an half an hour j to study it and I don't get it. Ten minutes to tell it. Okay. I think it will be a few minutes and First uh I will tell you something about the findings, what I discovered about the remote control. The working bout it uh of it. Uh then I'll have uh some kind of map, and it's the top of the remote control. With a little bit of science, uh you I will show that uh in in a few minutes. And then uh what I'll think about it. First,

the findings. The remote control is a very difficult uh thing to uh to explain to just all of you wh who haven't seen a remote control uh inside. Uh there's a lot of uh plastic on it, um because its uh not so expensive. And there are uh a lot of uh wires, uh which um connect the components in it, the battery, and there are um switches and things like that. There's a lot of small uh electronics. So it won't be um uh too expensive to build it. Only twelve Euro fifty I think uh we will make it. Now And here I have the top of the remote control. Uh here's some kind of chip. Uh on top of this, there are uh the numbers. Uh you have all on your remote control. And uh the teletext uh button. And uh here's the battery. And when you push the button, it will uh will be sent to the chip. And the chip will um send it to all kind of sub-components. That's what I said, it's very difficult. And after that it will be sent to the infrared. And that will send it to your television. That's a short h uh how it works. Uh I think I can uh make it uh difficult, but we all we all don't get it. My preferences? It's uh it won't be uh We shouldn't make it too big. Uh also for the cost, uh we should only put one battery on it. A long-lasting battery. Uh also for the cost, uh use only plastic. Not other materials. Also because of the cost, uh not too much buttons on it. We can also make uh a button uh with a menu uh button. And then um that that you will see it on the T\_V\_. And on the T\_V\_ you can uh switch into the menu. That's I think it's easier. And the bleep signal, y uh you told us. Uh but we can also use it uh a bleep like something, when the battery's empty, then there is a bleep. Then you'll have to change it in a in a week or something. And also the bleep, when what I told you about uh when you lost it, and you push a button, and then you hear bleep bleep, and we will find it. This is uh just uh Yeah. Yeah. If we w if we use only just one uh small pen-light, then it will be cheaper than when we use two. Yeah but then we'll have to make the um remote control uh long lasting. Just Yeah. Yeah. But uh I think this our remote control is for the televisions we uh we sell in our company? Or is it also for other company uh for other televisions? Then this is an option. Maybe just a menu button to use it on our televisions. And then we make it easier uh for our televisions. And on the other tele televisions, you can also use it, but then we won't use the Yeah? Okay. Then I think uh the menu button uh will only work on the newer televisions. And we will uh look forward and don't make a remote control which for the older televisions. And I just uh have one more idea. Uh maybe it's one of your tasks. But Uh, to have a

trendy remote control, we can also um make something like the Nokia um mobile phones. To change covers. So if you have uh a trendy half with all red, uh yellow and something. And then you can put a red cover on it. And also different things. Yes. Uh then it won't be uh will have just one cover on the uh original one. And then you can buy the covers. I think it will be a little more difficult, but not too much. Just like with the Nokia uh mobile phones. Just one. Yeah but then we'll have to to just um put five covers on it, and see if it works. If it won't works then we'll get something else. Then we uh won't g uh go further with it. Uh a p a a cover made in uh in China, it it won't be I guess so expensive I think. Maybe. I wi I won't. But maybe I think trendy people or like children where you can paint on it, and uh the the children think, oh this is my remote control, uh I made a picture on it. Uh Yeah. Okay. And the other people? What do you think about it? Okay. Okay. You're the Project Manager. Yes. That's it. 'Kay. Yeah. I have uh one question. If we aim for the younger people, um and there will be uh a lot of features like L\_C\_D\_ or the the the speech uh f recognising, uh the cost will be a lot of h uh a lot higher. Uh I think we don't have that in our budget. Do you think? Like No. No. Uh-huh. 'Kay, we'll just have to do that. Okay. No discussion about it. Okay. Unfortunately. To change to the next channel, just one button. To move up, move down. But then we come to the costs. But now we have only the buttons. And uh we don't yet have to decide what the remote control would look like? Or Okay. Okay. Okay. Okay.

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# Meeting ID: 61

Data Source: Train

## Executive Summary

The Project Manager introduced the project to the group and gave a timeline for the project. The group trained themselves to use the meeting room tools by drawing on the whiteboard. The Project Manager presented the project budget and the projected price point and profit goals. The group discussed several of their initial ideas for the features of the product. They discussed making the remote able to control multiple devices, protection from water or from dropping the remote, and a locator function. The Project Manager then instructed the User Interface Designer to research users' requirements, and instructed the Industrial and User Interface Designers to research the functions and usability features that were discussed in the meeting.

## Complete Meeting Transcript

No no n You should write y the name I think. Me Ah yeah. Yeah. Caramel. And you I think I'm too short for the cables. Quite squarey. He also. Mm. Mm-hmm. I think we shouldn't have too many b for my part. I think If we don't have so many buttons could be nice. Yeah. Something which is not squarey maybe uh, not a box. Yeah. Mm-hmm. And I think we should have a device Sorry. Yeah. directly. Yeah. And I I think we should have something, most of the time I I lose my remote control. We should have s uh special bu button on the T\_V\_ to make the remote control beeping. Ah yeah. Yeah. Barks. Yeah. Yeah whistle. Whistle tracking. Yeah. yeah Okay. Don't panic. Mm-hmm. Mm-hmm. Ah. Hmm. Mm mm mm. Is recorded? Okay? Okay so welcome everyone. So we are here for the kickoff meeting of uh the process of designing a new remote control. So I will first start with a warm welcome opening stuff, then uh we will uh see what will be uh our product and what will be the different step we will have to design it. And uh then we will uh discuss if we have few ideas and we will uh end uh by uh dispatching the different task you will be you will have to fulfil to complete this process. So sorry? You have another meeting soon? So you have to be quick. Okay. So the the goal is to have a remote control so to have an advantage over our competitors we have to be original, we have to be trendy and we have to also try to be user-friendly. So uh the design step will be divided in three uh main points. First it will be the functional design. Third is the conceptual design and then is the desired design. So the functional

design is to identify the main user needs, the technical function the remote control should fulfil. And then we will move to conceptual design where we'll specify the different component involved, what kind of user interface we want and what are the different uh trend in user interface and stuff like that. And then the desired design will consist in uh specifically implementing and detailing the choice we've uh made in the second point. So I will now ask you which is very important for the design of a new remote control for to uh each of us to to draw uh your favourite animal on the white board. Do you have any idea of which animal you want to show us? Okay that's good. n n You should If you want to react uh about this wonderful drawing uh I'll let you uh comment. Okay it's an abstract drawing. I think it's nice and original. Okay. You want to draw something Christine? Of course your animal is recorded so it's not lost. Is this uh Ah okay it's pretty. Okay it's your cat. Okay. Olivier, do you want to Okay I go, but next time you'll do something I'm sure. I'm a bit short on cable. Okay. So what could I draw? Maybe I can draw like a very simplified cow. I don't know if it looks like a cow Like a what? I dunno it it looks more like a donkey in fact I would say. Okay so I hope that it helps you uh in the process of designing a remote control. Okay. Let's move on. So Here the uh financial objective of our project. That is to say to have a production cost lower than twelve point five Euros and have a selling price of twice that price t in order to target a profit of uh fifty uh million Euros. Yeah if it's trendy, original I d fulfil the user needs. We have to discuss that point. On yeah you you can suggest points like this. So what what so we have to decide for example if it can control one device or multiple. So what's what are your ideas about that? Maybe I can have the your opinion from the marketing side? Okay, so if it sold uh by its own i it it would rather be for multiple device. Do you agree? Yeah. So maybe it should be for multiple devices. And uh do you have any ideas um of uh design ideas or any uh uh technical requirement we we should uh fulfil? Few buttons. Okay. And do you have it also to be to be lighted in order to be used in the dark? Might be a good idea. Okay. And do you have any um any uh idea of the trend the

trend in domain, what it shouldn't it should look like, or things like that? With rou okay. Like for okay. Okay. So. Fit in your hand, yeah. And also it have, i it may be it may be important for the remote control to be uh To, to resist to various shocks that can happen if it fall. Water-proof as well. Maybe it is original because you can uh use it in your uh in your bath whereas the others can't. Maybe water-proof would be very original. Havin having a water-proof remote control so that the people can uh use it in their bath. That could be uh Yeah but, it is still something uh you have to buy and that is um not maybe very Yeah, mayb B But maybe we can bulk it with uh already this plastic thing and uh the waterproof uh stuff as well. Yeah. Maybe we can sell uh all that together, so so plastic protection and uh and a waterproof box as well. That might be good uh track to follow. Optional or sold with it? Yeah. Maybe we can have uh But we don't design the T\_V\_. Maybe we can have uh something you whistle and uh the remote control uh beep. Yeah, barks, yeah. So we can uh have a whistle uh remote control? I don't know, whistle-able? Th Whistle tracking yeah. Whistle tracking remote control. That's a good idea, that's very original and that's can uh improve. Yeah d d uh. Yeah but s still we have to mm we have to have an advantage over our competitors. I think this is a good advantage. Yeah. We have to ask Yeah. We have to ask the quest of that's uh design to the uh Industrial um Designer. Which is you. Okay so try to find that for next meeting. Okay. So next meeting is in thirty minutes or so uh. Don't pani. So so I will ask the Industrial Designer to find out more about this industrial design so any working any working function we have discussed. So then I will ask the User Interf Interface Designer to to think about the point we discussed like the number of buttons, the the fact that is lighted or not, things like that, and what would be convenient for the user. And also um I will ask the Market Expert to uh try to find out



what are the absolute requirements, what is absolutely needed in a remote control uh for the user. So. And then uh I will uh just ask you to think about that and uh look at your mail because you will receive uh some good advice soon. So. Thank you I think that's all for this point. Anyway you will receive some messages. Be careful. You eat it? Does it move uh? Okay, but I don't know if it uh is still correctly uh We'll see. How do you wear this thing? Not too many cables and stuff. Original. Uh. Just one thing. Uh, you said twenty-five minutes, but I have something else to do uh, so gotta have another meeting uh soon, so maybe you could hurry up a bit It's true. I have another meeting so if you could uh Yeah. Yeah, for the lawnmower project. Okay. What an original idea. Orangutan. Can I give you the no? But I don't have to say anything. When I'm drawing the orangutan. It's an abstract drawing of an orangutan. Yes. I don't have a red colour. Usually orangutans have red hair so this is a very important but I don't have red pen, so Yes. Yes. I know. Wha what is this strange beast? Is it a monster? It's a cat? I thought these things did not exist. Ah yeah Does have a name? Caramel. Ah-ha. Next time I concentrate. He looks like a bong. Okay. Sorry. No. Scary? I I think we will be finished this uh Is it for uh for putting a for logos, no. That's I is there a matter for a new remote control? Is it uh a single device remote control or is it a multi-device remote control? Ah this is not defined at all? Ah, okay. Well uh do we sell other stuff? Uh if we bundle the remote control with something uh to sell then it could be a single device, otherwise it could be programmable one otherwise who would buy a remote control from us. Yeah. No, I couldn't I cannot think of any requirements right now. Mm. Something like that, least fits in your hand. Yeah. The basic requirement. Only a buck. Waterproof. Mm. B it seems uh so,

but uh if you don't have an waterproof remote control it means you can just cover it with some plastic and you can sort of f And, and that's one of the that's one of the shock I mean there are people that have a remote control and they are worried that it's going to break and they put some extra plastic around it. That's people they actually do it themselves. I it will look a bulky in that case. Like as an optional thing. Barks. That's that's quite cool, but uh of course we you don't normally need uh any audio uh recording stuff on your remote control right? So i it's just going to add t to the cost. It's cool. I think I like the idea, but I'm not sure about the what you, who is giving who's giving who's giving our budget. Who's Yeah. Yeah. 'Kay. Mm-hmm. Mm. Good. Uh, so we come back in five minutes? Half an hour. Okay uh sorry. You have to imagine a little bit um. This Sorry too uh. Is it beautiful? Do you know? It's a cat. Isn't it? Yes yes is it like that. Is it better? Okay. It's my cat. Yeah. The name is Caramel. Yeah. Thank you

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# Meeting ID: 62

Data Source: Train

## Executive Summary

Okay , we've got half an hour for this one um to uh discuss the um functional design . and I've put the minutes of the last meeting in the project folder . Um so I guess just to to recap on uh what we did last time . Um kind of uh got to know each other a little bit and uh got familiar with all the equipment and started to discuss um a bit about the project , you know , cost-wise how much how much money we had to s Um just want to tell you that you have three new requirements , which is the The first one is that um uh the company's decided that teletext is outdated uh because of how popular the internet is . so we don't really need to consider that in the functionality of the of the remote control . Um they've also suggested that we um we only use the remote control to control the television , not the V\_C\_R\_ , D\_V\_D\_ or anything else . I think the worry is that if the project becomes too complex then it'll affect um how long it takes us to get it into into production , the time to market . So um , we're just gonna keep it simple and it'll just control the T\_V\_ . And the other thing was that the company want the corporate colour and slogan to be implemented in the new design . Um I'm not entirely sure what the corporate colour is . It might be yellow , because there seems to be a lot of yellow everywhere . And the slogan , like the actual written slogan , or just to embody the idea of the slogan ? uh th because on the the company website , uh what does it say 'Bout putting the fashion in electronics . I mean do they Is that something they want actually written on it , 'cause it's quite long . So those are the three things , just not to worry about teletext , uh only control the T\_V\_ , and um and uh incorporate the uh colour and slogan of the company . time for presentations then . so this is the technical functions design . to do the um the design I have I've had a look online , I've had a look at the homepage , Um I've had a look at the previous products to see what they offer Um , having a look at the existing products , I found out that um it tends to come in sort of two extremes , there's either um a very complicated one that's got lots of buttons , lots of colours , very confusing , you don't know what you're doing . Um in that case the the labelling tends to be very bad . here um the button there and there . That one's perg and that one's prog , and it doesn't really tell you what it does . Um , not sure if you had a look at the other um control in that example . Um it's a very simple one . It's got only the basic functions mm but um it's the same size as the the hard to use one . Uh it looked a bit clunky . They're very big and not very much use for buttons . and it's just very hard to access the advanced functions . Um , my own preferences , I prefer the the clunky one . Um so I believe the the advanced functions should maybe be hidden in a drawer , So , now I'd like to ask for

your preferences . Which which is the clunky one , the one on left or on the right? . Um , the clunky one is the one on the right . Um I think it's supposed to be the same size , but um it's got much fewer buttons . Well I think it's a valid point . I mean like the one on the left looks quite um quite complicated , Um so I see I see why yo you know you might prefer the simpler design , you know you get a lot of remote controls where you kind of flip the thing open , Um , do we have any functions that um we'd want on it ? I mean so far I've got um on and off , um switch the channel up and down , and put the volume up and down . and then actual numbers for channels as well , yeah . Um , you say that's a h a required one or a requested one ? God , I wou I would say that's required , I mean there's no way anybody's gonna buy a remote control these days when if you can't actually individually select channels , uh any kind of like display controls at all do you think we need to worry about , Well I think I think es essentially what we're doing right now is we're categorising . We're saying well we want this to be a product that offers all the sort of more tricky features but we want them to be in another area ? um we need to find out exactly what we have to have um and after that we can add things if they're possible . Um , so so far , just to recap you've got volume and channel control and There's um on and off , um volume and channel , and skip to certain channels with the numbers . Well , one one way I would look at this um would be that we a approach the different controls in terms of um like control types , so that for the user it's very clear what they want to do where they go . Uh and also think maybe a little bit about sorta w w what would just wanna be acc easily accessible . For example if we had audio controls , those could be something people set up very rarely . Maybe they're un they're they're they're in a little area but covered up um , things like channel and volume um are used all the time , so we just have them right out on top , Um so maybe we need to think about having three or more groupings of controls , you know like one which are just the the habitual ones that should be right within your natural grip . and then others that are concealed . and then maybe just things that would be nice if it could do would be things like audio set up and display set up and things like that , maybe like a mute button , I dunno whether this is for good or for bad but there'll be a lot of kind of uh redundancy in the in the the issues and the the uh the things . what I've already started doing is cr I created a slide in in my presentation here so that we kind of think well what's the cumulative effect of what we've taken from your ideas and and mine , Obviously obviously what you've just told me what you've just told me impacts a lot on what um like market research mm that that I've been Mm hard to know what where your role ends , yeah . Before I bring this up what I'll just say is um what I've what I've done is tried to collect some information so that I can then relay this to to you guys so that it's now becomes a collective thing . And then kind of lead us in the direction of deciding , 'kay what what are our options , what should we decide So what I basically got is I just looked into some information and sort of th tried to think about how how we could review it and what kind of decisions we could take away from it So um I'm thinking here about uh primarily about customer needs , and what are issues with with um existing products . and also about try and connect that as you see with the company vision So this is what I've found here , Um , users dislike the look and feel of current remote controls . Most people find them ugly . Um the vast majority would spend more money for it to look fancy as well , we'll see later , the vast majority would spend more money for um slightly more intuitive control , such as voice recognition . Um most people use only a f a very slim portion of all the controls . they tend to use the most simple controls if for me this is sorta like three different different um inspirations , you know , one is that we want uh something

that's high-tech but we want it to seem easy . And in spite of the primitive side of it and the very high-tech side , we want it to just be an appealing piece of equipment in people's hands . They get lost a lot , Um , takes time to learn how to use them . and I will admit I don't know what R\_S\_I\_ stands for . uh adults at least would pay more for voice recognition . Now apparently we do have access to all the tech cutting edge technology in remote control . if that's possible we might consider getting into it . I think a recurring theme here is the company wants it to be wants us to make something that's fashionable and sleek and trendy . You know , they like the aesthetics and the ergonomics . So if you wanna group all the different kind of types of functions together , you know . my hope here is that I'm putting out this information so that we can then say okay , well how do we collectively move on with it . Um I I haven't brought out one specific marketing idea , Well , um one of the things that we have to decide on by the end of the meeting is who we're gonna be um who's our our target audience , our target market . Um , so if we want something that that looks good and is easy to use , but has y is fairly powerful product , whatever , who do we really want to aim that at ? Where's the money , maybe . Yeah , who wou who would have the money to spend . it's somebody who's not gonna just use the remote that comes with their telly , I suppose , Um , I think it'll be the mid range to the high end market , in terms of people . Um 'Cause twenty five Euros for a remote , how much is that lo locally in pounds ? is that a lot of money to buy an extra remote or a replacement remote ? Mostly focused around the twenty five age group . Um do you think then uh voice recognition is something we should really seriously consider ? It does it does fit with the market that we're sort of identifying , I think we are gonna have to narrow it down , and 'cause you know , there needs to be some kind of selling point to it . if we are going to include speech recognition , it's kind of between fifteen and thirty five seems to be like a really high response to that . I I think twenty five to thirty five is is fair to add that in as a group as well Okay , so fifteen to thirty five , look fairly young . So these are people who are gadgety , right ? So they'll not sh not shy away from something quite high-tech . so shall we make the decision uh to include speech recognition I I think one thing we should try not to avoid is not to say we have to use speech recognition right now , because um , based on what you've go y everybody's saying , right , you want something simple . Speech recognition might not be the simplest thing for somebody to use . Could it be an on off thing ? but what I'm saying is that we're we're trying to lock ourselves into a s particular kind of technology , rather than focusing on on exactly what are the features that we're gonna say , and then , you know , say speech recognition is good for this , speech recognition is not good for this . but at end of the day we don't look at the technology , but we look at the function first . um might have been a good idea to all deliver our presentations and then discuss , well it's good to get ideas out while they're fresh in mind . is if we make it um speech reco if we incorporate speech recognition , that's appealing to people um maybe with a physical disability as well . And also it helps in terms of people not losing this , I reckon one problem with speech recognition is um I've actually seen one of them used and uh the technology that was in that one wasn't particularly amazing , so you end up yelling at the control for hours . Do you think maybe we need like further advances in that kind of area until it's worthwhile incorporating it though ? I think it'd probably quite expensive to put in . Well this is just the working design um . Um I guess I try to define like what we're doing now , but we're we can't n we haven't narrowed down um exactly what the things we're trying to fulfil , like I think back in the back of our minds we know what the basics are . Has to change channels , has to change volume , but in like specifics , right ,

which one of the basics are you trying to target . so I'll go into the diagram first . It just explains how the process goes through , from the basic technology point of view , the basic steps that you need 'Kay , a battery or something , to keep it going . you need some power source . Um and that power source is important because it ties you down to um how long the device will last . Like for example , voice recognition , right . That might be constrained because that you might need to power a microphone , so that's one perhaps constraint there . Th Okay , the basic thing is there's a user interface You know , and that um picks up an input from a user , a series of logic has to decide what the user is telling the device , Um and then it needs to be able to send the signal out to the device itself like um voice recognition , right , if it's something which is important then we just add more power rather than having a thing that we don't have enough power . maybe you you wanna go back to what the functions are ? Well , do you want do you wanna finish up your your whole presentation then ? Yeah , w I'm done . Um you have a transmitter , an input device , logic chip , Since we're on the topic of the technology , uh are there any like what are our options ? Is this the only way that we go about it , or are there other thin Um , these these aren't technology options in that sense . a basic principles and basic components that are needed . So each component represents one function , but I think the basic functions are the logic , the transmitter , um and the receiver , okay , and the power are things that you won't have to care about . Um there might be one other consideration which would be that the the transmission between the remote control and the T\_V\_ for example . Okay , um are we gonna restrict ourselves to using the traditional technologies of infra-red thing ? Because that's something you need to actually be physically be pointing to . Right . Well well a worry that was was expressed in the new requirements was that if we made this too complex it would e it would effect um how long how long it took us to get this to market , so I th suspect it might be a good idea just to restrict our kind of our creative influence on this on the user interface um because I mean it's tried and tested intra-red , so we could stay with tha Um if somebody's gonna h talk to the device , you ideally want them to hold it to them . so because if you're using infra-red , the line of sight um say the T\_V\_'s at that chair , and I'm standing in front of here and the transmitter is here , it blocks it . Uh does c is our controller is it have the option of being um on a standard uh frequency as all of the other equipment , There's there's not much specific specific information , In the new requirement spec they said just to focus on the T\_V\_ , Um , is it worth considering like having like a charging unit as opposed to just regular batteries ? or should we just consider running on regular batteries ? Okay , from from a from a component point of view there's added complexity , and you add cost to it , You need a docking cradle , for example , for you to put it in to charge . Or you need to get the user to plug it in . Um and most users are very f use already used to the idea of buying batteries and putting it into the controller . then I don't think rechargeable is something we should you know , we really need to care about . Okay , so just stick to to regular was that um the the whole point of this meeting was to f absolutely finalise who we're gonna aim this at , I'm just gonna just recap uh what I said at the start , Are we all happy about the idea of um aiming the product at um the fifteen to thirty five bracket ? Yeah , that's good . I think we just say that it was gonna be the the most basic stuff possible . Um on off , up and down channels , up and down volume and uh skip to a channel . Um and also the funct the the actual functions of what it's gonna do . And is it going to include any of the uh the more advanced features , I think we include mute , but apart from that um I think we just we'll go for the simpleness . is it not an option still that we include some things just as a sort of under like sort of under a door or some

Yeah , it's as optional functions . 'Cause what what I'm I'd be a bit worried about is if someone was h had previously developed habits of expecting to control surround sound or this and that with their controller and then and then they , you know , w they get ours and w it's doesn't have that . Another thing that you were saying about categorising the controls ? Um maybe I could suggest we we break them down into three simple categories . One would be audio controls , one would be video controls , and the other one would be a device . um it's something they do other things to like turn it on and turn it off . I mean like so what we could have is like three buckets , right , where we could throw things into , and then from there decide whether it's basic , or it's non-basic . Mm okay , great . um for uh our Industrial Designer , you're gonna be thinking about the components concept . Um User Interface Designer gonna be thinking about our user interface , Um so uh I guess just to just to confirm that we know what we're doing in the next well in the thirty minutes after lunch anyway , Um and then we're gonna have thirty minutes of working on the next stage . and marketing you're gonna be thinking about trend watching . Um and you'll all get specific instructions as well . shall we agree for sake of um sort of clarity and when we when we r resume that we'll u use this idea David's proposed , where we think of these three sort of buckets and anything anything we discuss about them is sort of , okay , we're talking about this . Yeah , yeah I think that's definitely a good idea . Device is basically anything which we can't categorise , right . so you're gonna have um audio which is gonna be like you know your bass settings and actual volume hi And then video is anything that you can see . Okay , so brightness , contrast , things like that , And then k I suppose quite likely what would happen is in the d device category there might be some which are just like the habitual standard Um so yeah , I guess just things to think about are you know like the fact it's gotta look good , Um something maybe kind of quirky in design maybe . Make it kind of ergonomic kind of to hold ,

## Complete Meeting Transcript

I'll go first. Alright um, can I st steal this from the back of your laptop? Uh so this is the technical functions design. Um Right to do the um the design I have I've had a look online, I've had a look at the homepage, which has given us um some insp inspiration from previous products. Um I've had a look at the previous products to see what they offer and um I would like to ask you guys for um your ideas about the design at the end of the meeting. Um unfortunately we're not allowed to talk outside the meeting room, so Um, having a look at the existing products, I found out that um it tends to come in sort of two extremes, there's either um a very complicated one that's got lots of buttons, lots of colours, very confusing, you don't know what you're doing. Um in that case the the labelling tends to be very bad. Um there's an example I'll show you at the end, um sh show you now. Uh here um the button there and there. This one's prog. Sorry. That one's perg and that one's prog, and it doesn't really tell you what it does. Um, not sure if you had a a look at the other um control in that example. Um it's a very simple one. It's got only the basic functions mm but um it's the same size as the the hard to use one. Uh it looked a bit clunky. They're very big and not very much use for buttons. Um, and it's just very hard to access the advanced functions. There's there's nothing for instance for a slow motion button. Um, my own preferences, I prefer the the clunky one. Um it's very easy to use. Um but unfortunately it does lack

the advanced functions which I quite like having on the controls. Um so I believe the the advanced functions should maybe be hidden in a drawer, or something like that from the bottom of it. So, now I'd like to ask for your preferences. Um not sure of how long we've got, uh Um, the clunky one is the one on the right. Um I think it's supposed to be the same size, but um it's got much fewer buttons. It's, you know, it's very spread out and kind of you know, I get the idea it'd be sort of about this size. got very few buttons on it and Um, do we have any functions that um we'd want on it? I mean so far I've got um on and off, um switch the channel up and down, and put the volume up and down. Um they're just the the very basics you could use for a T\_V\_. Okay. Um, you say that's a h a required one or a requested one? Would you like um the channels like the the numbers on thing, um Um, yeah. Um Uh, to start with um sort of a bit both, um we need to find out exactly what we have to have um and after that we can add things if they're possible. There's um on and off, um volume and channel, and skip to certain channels with the numbers. Do you want to switch places? Just just switch them. Think maybe the the wire in the back might be loose. Um Well, did you not say it was the the adults that were going for the the voice recognition? Sort of the the older group. Uh f Yeah. I reckon one problem with speech recognition is um I've actually seen one of them used and uh the technology that was in that one wasn't particularly amazing, so you end up yelling at the control for hours. Channel up. Um I think it'd probably quite expensive to put in. Um. I think we just say that it was gonna be the the most basic stuff possible. Um on off, up and down channels, up and down volume and uh skip to a channel. Ta. Um I think we include mute, but apart from that um I think we just we'll go for the simpleness. Yeah. Um just about the three buckets, um what would go in the the device functions one? Um Is that alright now? Okay. Sorry? Okay, everybody all set to start the meeting? Okay, we've got half an hour for this one um to uh discuss the um functional design. All ready to go? Okay. Um so hopefully you've all been working away, and I've put the minutes of the last meeting in the project folder. Um so I guess just to to recap on uh what we did last time. Um kind of uh got to know each other a little bit and uh got familiar with all the equ

ipment and started to discuss um a bit about the project, you know, cost-wise how much how much money we had to s Um just want to tell you that you have three new requirements, um which is the The first one is that um uh the company's decided that teletext is outdated uh because of how popular the internet is. Nobody uses teletext very much anymore, so we don't really need to consider that in the functionality of the of the remote control. Um they've also suggested that we um we only use the remote control to control the television, not the V\_C\_R\_, D\_V\_D\_ or anything else. I think the worry is that if the project becomes too complex then it'll affect um how long it takes us to get it into into production, the time to market. So um, we're just gonna keep it simple and it'll just control the T\_V\_. And the other thing was that the company want the corporate colour and slogan to be implemented in the new design. Um I'm not entirely sure what the corporate colour is. It might be yellow, because there seems to be a lot of yellow everywhere. Well that's the thing, I'm I'm not sure um uh th because on the the company website, uh what does it say Uh something Yeah, I mean do they Is that something they want actually written on it, 'cause it's quite long. Um or yeah, just the idea, but I'm not sure. So that's something we can discuss as well. So those are the three things, just not to worry about teletext, uh only control the T\_V\_, and um and uh incorporate the uh colour and slogan of the company. Um so is everybody okay with any of that, or do you want me to recap at all? Right um, time for presentations then. Who would like to go first? Okay, cool. Oh yeah, of course, yeah. G go on ahead. Mm-hmm. Okay. Alright. Oop. Um. Well we can chat away for uh for five minutes or so I think at at most. Just a couple of minutes anyway. Mm-hmm. Shall we sh well we'll stick to kind of your area for now. Yeah. Looks kind of Yeah. Well I think it's a valid point. I mean like the one on the left looks quite um quite complicated, and that

P\_R\_T\_ p P\_R\_O\_T\_ thing is incredibly confusing. Um so I see I see why you know you might prefer the simpler design, but yeah you don't want to lose out on, you know, what it does, so maybe you know you know you get a lot of remote controls where you kind of flip the thing open, I think that's a good idea. I think it's a good idea. Mm-hmm. Uh-huh. Uh-huh, and then actual numbers for channels as well, yeah. God, I would say that's required, I mean there's no way anybody's gonna buy a remote control these days when if you can't actually individually select channels, I mean would anybody disagree with that? Um, what else, uh So don't need to worry about teletext, don't need to worry about V\_C\_R\_, uh any kind of like display controls at all do you think we need to worry about, you know like brightness and contrast? Mm. Yeah. I think are you are you maybe kind of thinking what we absolutely have to have and what would be nice? Mm-hmm. Okay, right. Well, do you wanna maybe just, at this point decide on what we absolutely must have as a p as a function of this. Um, so so far, just to recap you've got volume and channel control and Right okay. Um Mm-hmm yeah. Oka Mm-hmm. Okay. Uh well, just to to wrap up quickly on this this little section Have I just lost Oh no. Um, uh do you think maybe that's the only kind of uh essential requirements, and then maybe just things that would be nice if it could do would be things like audio set up and display set up and things like that, maybe like a mute button, that sort of thing. Any of you anything to add to that at all? No. Okay, right. Um okay, if we can move on to next presentation then please. Um Do you wanna Probably not, actually. Yeah. bit complicated. It'd be nice if everything was wireless, wouldn't it? Right. Oh, like overlap between what you said? Oh well, for all you know that that'll happen. Mm hard to know what where your role ends, yeah. Okay. Uh pr yeah, press fun

ction and F\_ eight, yeah. Mm. Yeah, you wanna Oh oh here we go. There you go. Um Okay. Right. Can you um Right, okay. Yeah. Mm-hmm. Mm-hmm. Repetitive strain injury. Mm-hmm. Okay. So want something that looks good and is easy to use, big priorities. Okay. Mm. So if you wanna group all the different kind of types of functions together, you know. That's I think it's a good idea. Mm-hmm. Okay. Mm-hmm. Okay. Right. Well, um one of the things that we have to decide on by the end of the meeting is who we're gonna be um who's our our target audience, our target market. Um, so if we want something that that looks good and is easy to use, but has y is fairly powerful product, whatever, who do we really want to aim that at? I mean Yeah, who wou who would have the money to spend. Well i if if like twenty five Euro is our is our selling price then you can imagine, well I don't I'm not really sure how much that will retail at. But you want it's somebody who's not gonna just use the remote that comes with their telly, I suppose, they're gonna actually go out and buy one. So, who do you think we're aiming this at? It's about sixteen, seventeen pounds, I think. Yeah, okay. Okay. Okay. Yeah. Yeah, yeah. Okay Okay. Yeah, so do you think we're we're aiming at a fairly young market then? Yeah, okay. Um do you think then uh voice recognition is something we should really seriously consider? What what do you think, Craig? N yeah. I think we are gonna have to narrow it down, to say let's target these people and give them what they want and 'cause you know, there needs to be some kind of selling point to it. So um anybody anything there to add Just kind of young professionals, uh th like if we are going to include speech recognition, it's kind of between fifteen and thirty five seems to be like a really high response to that. So we could say that was our target. Yeah. Mm-hmm. Okay, so fifteen to thirty five, look fairly young. You know, they have bit of expendable income to spend on this sort of thing. Yeah. Yeah. So Yeah. Yeah. So they'll not sh not shy away from something quite high-tech. That that's that's a good point. Um okay, so um so shall we make the decision uh to include speech recognition if we can. Okay. Why is that? Okay. Where you can activate it and deactivate it? Yeah. Okay. Okay. Uh-huh. Okay. Uh okay, well do you wanna um give us your presentation and then then we can I don't know um might



have been a good idea to all deliver our presentations and then discuss, but this is this is how we're Yeah, exactly, yeah. Oh it's something that's just occurred to me as well is if we make it um speech reco if we incorporate speech recognition, that's appealing to people um maybe with a physical disability as well. Um. Yeah. Yeah. Mm-hmm. Really? Do you think maybe we need like further advances in that kind of area until it's worthwhile incorporating it though? Mm. Course not. There you go. Right. Mm-hmm. Mm-hmm. Mm-hmm. Uh-huh. Hmm. Mm-hmm. Mm-hmm. Okay. Okay. Uh. Well, do you want to finish up your whole presentation then? Are you all done? Mm. Okay. Okay. Right. Okay. Mm-hmm. Mm-hmm. Oh. So this just show how we're kind of modularising the whole thing. Okay. Mm-hmm. Yeah. Mm-hmm. Okay. Okay. Okay. Well well a worry that was expressed in the new requirements was that if we made this too complex it would effect um how long how long it took us to get this to market, so I th suspect it might be a good idea just to restrict our kind of our creative influence on this on the user interface and not worry so much about uh how we transmit it um because I mean it it's tried and tested intra-red, so we could stay with tha Mm-hmm Oh, yeah. Yeah, mm-hmm. Okay. Mm. Mm. Yeah. Okay. Okay. W Yeah. W Well well we've um In the new requirement spec they said just to focus on the T\_V\_, so that's what we should do for now I think. Something I was wondering about was the power. Um, is it worth considering like having like a

charging unit as opposed to just regular batteries? I mean is that something we really want to go into, do you think, or should we just consider running on regular batteries? Uh-huh. Uh-huh. Yeah. Okay. Okay, so Yeah. Yeah. Okay, so just stick to to regular Okay. Um, right. So basically the um I'm just gonna just recap uh what I said at the start, was that um the the whole point of this meeting was to f absolutely finalise who we're gonna aim this at, and what exactly the product's gonna do. So um just to recap on Are we all happy about the idea of um aiming the product at um the fifteen to thirty five bracket? Um and also the funct the the actual functions of what it's gonna do. Do you wanna recap on that, Craig? Okay, right. Okay. Yeah, it's as optional functions. Okay. Mm-hmm. Mm-hmm. Mm-hmm. Yeah. Okay, right. Um, okay well I gotta kind of got five minutes to wrap up now. Um next thing we're doing is having lunch. Whoohoo. Um and then we're gonna have thirty minutes of working on the next stage. Um so I'll be putting the minutes of this uh this meeting into the project documents folder. Um so uh I guess just to just to confirm that we know what we're doing in the next well in the thirty minutes after lunch anyway, um for uh our Industrial Designer, you're gonna be thinking about the components concept. Um User Interface Designer gonna be thinking about our user interface, and marketing you're gonna be thinking about trend watching. Um and you'll all get specific instructions as well. So um I dunno, just just to to ask now if you've got anything else you've thought about while we've been talking. Um, do you wanna start with David. Anything else to say at all? No, okay. Andrew? Yeah, yeah I think that's definitely a good idea. Uh-huh. Yeah. Yeah. Okay. Yeah. Okay. Okay. Okay, so you're gonna have um audio which is gonna be like you know your bass settings and actual volume hi Okay. Okay, and then visual Okay, so brightness, contrast, things like that, and then just actual device things, like what channel you're watching, turning on an off, stuff like that. Okay, um Mm-hmm. Yeah. Okay. Okay. Okay. Um so yeah, I guess just things to think about are you know like the fact it's gotta look good, because of who we're we're, you know, targeting this at. Um something maybe kind of quirky in design maybe. Make it kind of ergonomic kind of to hold, you know, things like that. Um, so I guess I guess that's it. That's the meeting over. Whoohoo. Mm yeah. Nope, we're all set. Which which is the clunky one, the one on left or on the right?.. Okay. No. I'll add it later, I guess the presentation. No. No. Um function F\_ eight. Function, the blue button. Next to the control on the left. Yeah. You have to push it

together. Yep. Nope. Try that again. Wait. Yep, there we go. Increase that 'cause we can't see the That's much better. There you go. Bouncing on top. Is installing a new remote control something that people Um, I think it'll be the mid range to the high end market, in terms of people. 'Cause twenty five Euros for a remote, how much is that locally in pounds? Is that too is that a lot of money to buy an extra remote or a replacement remote? Right. Um so maybe not the high end range, but maybe middle, middle up-ish. Kind of. You know how much? I dunno I guess you pay, what, ten ten quid for a remote? Like a simple replacement, right. I mean if you lost your remote and the first thing you just wanna go out and get, would you how much would you pay? Yeah. Yep. I I think twenty five to thirty five is is is fair to add that in as a group as well because that's more than half your group of people who are willing to at least try and use your technology. Yeah. I think perhaps that age group is significant as well because those are people who use the computer, who are familiar with their with computers in in their everyday work. I think people who are maybe about I wouldn't say thirty five, but people who are about forty-ish and above now w

ould not be so dependent and reliant on a computer or a mobile phone or something like that. So these are people who are gadgety, right? People who are u growing up used to, you know in schools and in universities, when you go on to their working lives, people who would you know regular Yeah. Yeah. Mm. I I think one thing we should try not to avoid is not to say we have to use speech recognition right now, because um, based on what you've go y everybody's saying, right, you want something simple. You want basic stuff and you want something that's easy to use. Speech recognition might not be the simplest thing for somebody to use. Um, but what I'm saying is that we're we're trying to lock ourselves into a s particular kind of technology, rather than focusing on on exactly what are the features that we're gonna say, and then, you know, say speech recognition is good for this, speech recognition is not good for this. So maybe we should I suggest that we think about speech recognition, anyway it's a it's something that can be used to fulfil a function, but at end of the day we don't look at the technology, but we look at the function first. Okay, sure. Sorry, do you mind passing me my notepad. Thanks. Cool, um. Okay. Um. Well this is just the working design um. Well this is just what how I would go about it. Um I guess I try to define like what we're doing now, try to define what we're trying to get done. Um I think in a practical way, we kind of know what it is. We've used it, we're familiar with it, but we're we can't n we haven't narrowed down um exactly what the things we're trying to fulfil, like Besides the basics, I think back in the back of our minds we know what the basics are. Has to change channels, has to change volume, but in like specifics, right, which one of the basics are you trying to target. Um are there certain parts of the basics that are more important or less important than the basics? Um and I just the idea is just to get everybody to um I usually have a have have a design that's there as a basic, so, you know, things that to start everything going. But I guess everybody does have some idea, so I don't think um there's a need for that. Um okay this finding things is a little bit confusing, so I'll go into the diagram first. It just explains how the process goes through, from a from the basic technology point of view, the basic steps that you need um in the diagram and in this slide probably works better. Um okay, you need some power source. 'Kay, a battery or something, to keep it going. Um and that power source is important because it ties you down to um how long the device will last. Um it ties you down perhaps a bit later on in terms of the technologies um how far you can transmit the signal or the complexity of the functions that you want. Like for example, voice recognition, right. That might be constrained because that you might need to power a microphone, you might need to power other things, so that's one perhaps constraint there. Um Th Okay, the basic thing is there's a user interface where people punch a button or talk into it or smile to it or blink their eyes, whatever. You know, and that um picks up an input

from a user, um uh a logic a series of logic has to decide what the user is telling the device, and the device has to r you know, based on you push button A\_, so I will do something with button A\_. So maybe button A\_ is the power button, okay. Um and then it needs to be able to send the signal out to the device itself which is the receiver here. Um and I think that's about it in terms of my design um. It's fairly general, um and I guess the purpose of this is also not to restrict you in in the way you're thinking, like um voice recognition, right, um, if it's something which is important then we just add more power rather than having a thing that we don't have enough power. So it's not really a constraint in that sense, but I mean these are functionally, you know, the base, what the technol

ogy has to do. Um so I guess the rest of it I think we should maybe you you wanna go back to what the functions are? I think that's more relevant to a discussion? Yeah, w I'm done. More or less. Yeah. Ps Oh, it's just putting the rest of it into words, but it's essentially the same thing. Um you have a transmitter, an input device, logic chip, you know, stuff like that. Um I guess this would be Yep. Um, these these aren't technology options in that sense. This is just um a basic principles and basic components that are needed. For example, if you needed um if you needed to add uh a voice recognition, right, then your user interface would be split, broken down into more components, right, which you have a microphone, the V\_R\_ and stuff like that. Uh Yep. Yep. So each component represents one function, but I think the basic functions are the logic, the transmitter, um and the receiver, okay, and the power are things that you won't have to care about. Um and those are things that based on what your user interface requires then we'll add more functionality to it. Um there might be one other consideration which would be that the the transmission between the remote control and the T\_V\_ for example. Okay, um are we gonna restrict ourselves to using the traditional technologies of infra-red thing? Because that's something you need to actually be physically be pointing to. Right. Yep. There might be one other problem with the transmission, um in particular right now, since we're talking about voice recognition. Um if somebody's gonna h talk to the device, you ideally want them to hold it to them. I it you may not require that, but you know, um it's it's it's something very natural, I guess, you know, to hold it, to signal to the user, and push a button maybe to start s talking about it. Then you need to send the signal out, so because if you're using infra-red, the line of sight um say the T\_V\_'s at that chair, and I'm standing in front of here and the transmitter is here, it blocks it. So in that sense, there's not really a restriction but it's something which you may have to think about later on in the process. Not so much further down. There's there's not much specific specific information, but I think that um one indication of infra-red mean that you're just targeting traditional devices. Because infra-red is something which everybody has. There's a there's Okay, from from a from a component point of view there's added complexity, and you add cost to it, um and then there's probably the fact that you need another physical component. You need a docking cradle, for example, for you to put it in to charge. Or you need to get the user to plug it in. Um and most users are very f use already used to the idea of buying batteries and putting it into the controller. But unless the controller's gonna consume a lot of batteries, like he's gonna run through like twenty batteries a month, then I don't think rechargeable is something we should you know, we really need to care about. Um. Okay, I think Another thing that you were saying about categorising the controls? Um maybe I could suggest we we break them down into three simple categories. One would be audio controls, one would be video controls, and the other one would be a device. Um this may not map very well to advanced functionality especially, but I think that um from a manufacturer's point of view, from a person designing the device, but I think from a point of view of a person using the device, you know a T\_V\_ is something they see and something they hear, um it's something they do other things to like turn it on and turn it off. I mean like so what we could have is like

three buckets, right, where we could throw things into, like if we want this feature, let's throw it into there, and then from there decide whether it's basic, or it's non-basic. I mean it might help with the visualisation. And it would actually help with the component build as well. Mm no, not really. Mm. Um things I

like on off. Because they don't have anything to do with what you see. I mean in terms of picture and the entertainment value, you know, um so um And channel. Because the on off also goes, you know, like on off like power, not on off sound. Not on off video. Although you don't turn off the video on your T\_V\_, but um you might wanna you know turn off the sound, say you wanna pick up the phone, there's a mute button, right, so you you have you have a choice of putting it on to um others or a device. Device is basically anything which we can't categorise, right. We put it out. Yeah, anything to do with what you hear, right. You you put that into audio. And then video is anything that you can see. Um. Yep. Yep. Yep. Like random which we have no other place to put, but we need it somewhere there. Um even even if it doesn't map very clearly what happens is that people at least have some in their mind. It's easy to use, I think that's one thing that um and I guess from the component point of view it's easy to build as well 'cause things are like fixed. Could you plug me in? Okay. Thanks. Okay. 'Kay. Okay. And the slogan, like the actual written slogan, or just to embody the idea of the slogan? 'Bout putting the fashion in electronics. Sure. Right. Mm-hmm. M yeah, like a lot of a lot of what I've um read and prepared for this meeting fits in really closely with what with what Craig's just gone over. So in part I could I could give you some of my personal preferences but I could also th add some to this which is just about sort of um sort of market research. But anyway, um we might come to that later. Um clunky in what sense, like um h heavier? Larger? I see, so it's more just basic. Right, okay. Yeah. Yeah. Sure. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Which was that? Up the numbers, or the up down? Yeah. Yeah. We don't? No? Yeah. Well I think I think es essentially what we're doing right now is we're categorising. We're saying well we want this to be a product that offers all the sort of more tricky features but we want them to be in another area? Is that right? Is that what we're we're doing? We're kind of like sorting them an Or are we actually eliminating things we just don't want the product to have? Yeah. Yep. Well, one one way I would look at this um would be that we a approach the different controls in terms of um like control types, so that for the user it's very clear what they want to do where they go. Uh and also think maybe a little bit about sorta w w what would just wanna be acc easily accessible. For example if we had audio controls, those could be something people set up very rarely. Maybe they're un they're they're they're in a little area but covered up um, things like channel and volume um are used all the time, so we just have them right out on top, um very just very sort of self-explanatory. Um so maybe we need to think about having three or more groupings of controls, you know like one which are just the the habitual ones that should be right within your natural grip. And others that are uh also available and then others that are concealed. Something like that. Yeah. Mm-hmm. Yeah. Sure. Can this can this pl reach? Can this plug come across? No. So why don't I just pick up and move then. Here, I'll just Why don't I just Mm er, can you go up behind me? Kinda This is so This I'm all in a knot now. Okay. Um. So I can I can say already, I dunno whether this is for good or for bad but there'll be a lot of kind of uh redundancy in the in the the issues and the the uh the things. Yeah, yeah. Which is ma not necessarily a bad thing, but may what I've already started doing is cr I created a slide in in my presentation here so um so that we kind of think well what's the cumulative effect of what we've taken from your ideas and and mine, because certainly I I have a hard time separating separating things completely. Obviously obviously what you've just told me what you've just told me impacts a lot on what um like market research

mm that that I've been So how do I how do I get this up? Okay. Okay. Alright. So F\_ eight? Oh, and F\_ eight. Okay. Mm-hmm. Okay, I think that that's doing it now. Uh, again? Okay. Um, okay great. Okay. Just um Before I bring this up what I'll just say is um what I've what I've done is tried to collect some information so that I can then relay this to to you guys so that it's now becomes a collective thing. And then kind of lead us in the direction of deciding, 'kay what what are our options, what should we decide and do you know what I mean, so. Okay. Okay. Alright. That would be Okay. So um does that make sense? So what I basically got is I just looked into some information and sort of th tried to think about how how we could review it and how we could and what kind of decisions we could take away from it and then maybe by the end of just looking at some of these things we can think about what are our priorities. 'Cause certainly there's lots of different information to go through. So um I'm thinking here about uh primarily about customer needs, that we start with the customer, and w you know, what they want and what are issues with with um existing products. Uh to think about trends and also about try and connect that as you see with the company vision which is about fashion in electronics. Um and then, as I say uh w we'd like to prioritise our design features from this and um Dunno. Okay. Um. So this is what I've found here, um a lot of this is new to me, so we'll just read through together. Um, users dislike the look and feel of current remote controls. So they find them ugly. Most people find them ugly. Um the vast majority would spend more money for it to look fancy as well, we'll see later, the vast majority would spend more money for um slightly more intuitive control, such as voice recognition. Okay I'm gonna we'll look at that in a second. Um most people use only a f a very slim portion of all the controls. So I guess what we're looking at here is people want this h technology, they tend to use the most simple controls and overall they find remote controls to be something they don't doesn't really appeal to them. So I think what we're doing is we're trying to take like if for me this is sorta like three different different um inspirations, you know, one is that we want uh something that's high-tech but we want it to seem easy. And in spite of the primitive side of it and the very high-tech side, we want it to just be an appealing piece of equipment in people's hands. Um, frustrations. They get lost a lot, s as it came up in our last meeting. Um, takes time to learn how to use them. This is uh why I mention when Craig was uh showing us some ideas that we actually try and group controls, so d it doesn't just look like a big panel, kinda like when you you look at, you know, a new computer keyboard, or something that is quite explanatory. If you want audio, if you want visual, then you have those. Um and I will admit I don't know what R\_S\_I\_ stands for. Uh, no, that did not come up at all. Um so here here is another um sort of a review here of the main things. I also found that most people would uh adults at least would pay more for voice recognition. Now apparently we do have access to all the tech cutting edge technology in remote control. So I dunno if that's possible we might consider getting into it. Um. And and again here as we sort of move m sort of thin start thinking about how we wanna sell and market this, I think a recurring theme here is the company wants it to be wants us to make something that's fashionable and sleek and trendy. Um people uh additionally aren't aren't liking the appearance of their products, so we wanna think about as we take all the sort of the techie features how we can um put that into a unit which is which people like. You know, they like the aesthetics and the ergonomics. Yeah. Yeah, so you know just c looking at what what Craig um Craig's i uh ideas are s sorta tell me that maybe w

hat we wanna do is try and um separate the different things that we wanna include in this. So if we do say well we want there to be all the technology will we try and make that almost be like optional technology. You know, it's like like I find a lot of T\_V\_s these days, something really like about 'em is if you wanna just turn 'em on and off you can, but they have little panels where you click and there's just like tons of features you go through. Yeah. Yeah. That's s that's sort of the um But I I'm my hope here is

that I'm putting out this information so that we can then say okay, well how do we collectively move on with it. Um I I haven't brought out one specific marketing idea, although my sense is that what we should try and think about is what are the current trends in materials and shapes and styles, and then use that. But not let that confine us technologically. So Alright? Any um comments on all of that? That's uh Yeah. Okay. Where's the money, maybe. Yeah. And who watches T\_V\_. Mm-hmm. Mm. Mm-hmm. Yeah. Mm-hmm. Yeah. This this kinda touches on your comments there, David. These are the age groups which we have information on and these are this is a table of h what people would pay more for a certain feature. Just gives us a rough idea of where the w the will to spend money on T\_V\_ equipment is. Mostly focused around the twenty five age group. Sort of young professional, kind of. Mm-hmm Uh, yeah, it's the Yep. It does it does fit with the market that we're sort of identifying, in terms of Okay. Yeah. Sure. Sure. Yeah. Mm-hmm. Mm-hmm. Yeah. Yeah, yeah. Yeah. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. But yeah. Yeah, sure. Mm-hmm. Yeah. If we can. Yeah. Right. Could it be an on off thing? Like if you want it on Yeah. Yeah. Yeah. Sure. Sure. Yeah. Sure. Yeah. Sure. Yep. Yep. Yeah, it's good well it's good to get ideas out while they're fresh in mind. Um Not Yeah. And not losing. And also it helps in terms of people not losing this, you know they they're saying oh it's I lose it in the couch. like we're kind of what we're b sort of getting in into here is mating different uh design features together that they Right. Oh really, you've seen one before. Right. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Okay. Mm-hmm. 'Kay. Sure. Sure. Yep. Right. And like on the means b Since we're on the topic of the technology, uh are there any like what are our options? Alright, what's what i in Is this the only way that we go about it, or are there other thin Right. The basic principle of 'Kay. Right. Okay. Okay. Mm-hmm. Mm-hmm. Okay. Right. Right. Right. Right. Okay. And um just a clarification before we finish this. Uh does c is our controller is it have the option of being um on a standard uh frequency as all of the other equipment, so that the one controller can control several pieces of equipment? Okay. Just to T\_V\_, okay. Okay. Mm-hmm. Mm-hmm. Yeah. Okay. Okay. Yeah, that's good. And is it going to include any of the uh the more advanced features, or are we gonna eliminate those? Okay. R is it is it is it s is it not an option still that we include some things just as a sort of under like sort of under a door or some 'Cause what what I'm I'd be a bit worried about is if someone was h had previously developed habits of expecting to control surround sound or this and that with their controller and then and then they, you know, w they get ours and w it's doesn't have that. I dunno if that'd be a problem. Yeah. Okay. Okay. Yeah. Right. Yeah. 'Kay, okay. Like that. Okay. Mm-hmm. Mm okay, great. Mm-hmm. Mm-hmm. Um yeah, just I just wanted to ask then before we wrap up, shall we agree for sake of um sort of clarity and when we when we r resume that we'll u use this idea David's proposed, where we think of these three sort of buckets and anything anything we discuss about them is sort of, okay, we're talking about this. Shall we do that, then? Okay, great. And and channel. Right. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Colour, yeah. Sure. Sure. Ok

ay. And then k I suppose quite likely what would happen is in the d device category there might be some which are just like the habitual standard and then others which are maybe a bit more Yeah. Sure, okay. Okay. Okay. Mm-hmm. Mm-hmm. Great. Then we get to go find out what was picked up for lunch for us.

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# Meeting ID: 101

Data Source: Train

## Executive Summary

This Then we'll go through the finance and see if we fall within the budget . Um then we'll do the evaluation , and then we can finish up after that with um any changes that we'll need to make , We had uh the fashion trends that people want a fancy look-and-feel . Um they liked fruit and vegetables in the new styles . Um and a spongy feel . Um they wanted limited buttons and simplicity . Um the iPod , we really liked the look of that . the materials for the case , the different energy sources , the different types of chips , um and made a decision on what we were going to use to make our remote . basically we we st went with the colour yellow . Um working on the principle of a fruit which was mentioned , it's basically designed around a banana . These would be like the rubber , the rubber grips . Um but all the controlling would be done with this scroll wheel . And the the simplest functions would be um almost identical to an iPod , And then to access the more complicated functions you'd you sorta go , you press that and go through the menus . we could use the voice . It's as simple as you , we could make it really . Plastic covered with rubber . T the actual thing might be smaller . It's a quick on-off button . You guys are gonna help me do an evaluation of the criteria . we're gonna be doing it based on a seven point scale . And one is going to mean true , that we did actually achieve that . With seven being false , we did not achieve that . So for the first one , we need to decide , did we solved the problem of the users who complained about an ugly remote ? I think it's definitely different than anything else out there . I'd say , when it comes to the ergonomics , the form and stuff , yes that's definitely more beautiful than your average . So uh to answer that honestly I would rather say like uh , we have not solved the problem completely with the ugly remote because the colour is ugly , definitely . I mean I much prefer something like brushed chrome with that form . Four is fair . Did we make it simple for new users ? It's very intuitive , I think yeah . Um , do the controls now match the operating behaviour of the users ? 'Cause we've we've brought it down to basically four controls most common , which are channel and volume . So that's a one . How about the problem of a remote being easily lost ? Something that big and that yellow you just don't lose anymore . But um if we were to , if we were , that , the speech recognition . That , we could maybe just use that solely for the the finding thing . Y you could add an extra feature actually . Which makes this thing raise hell when you remove it too far from the television . That can't cost much . Let's add one of those features and say yes . Two . Are we technologically innovative ? It's all just stolen technology when it comes down to I don't know that we are that innovative , to tell you the truth . Um I would say we're probably

at four . Um spongy material ? We have some spongy , yeah . It's not a one though . Probably a four at most . did we put the fashion in electronics ? I'd say we did . Well the recent fashion is rather displayed in the in the L\_C\_D\_ and the way you operate it than the form and the colour , Now we just gotta calculate . Okay we'll say two point four two . Now we get to do the budget numbers . We want a fifty percent profit on this . Um and how many batteries do we think this will probably take ? Two . That's the advanced chip-on-print , yeah . 'Kay then the case is a Probably it's double curved . Case materials are Plastic . That's not a special colour . It's a specially ugly colour , but it's not special . Well we only have one button so really we shouldn't be charged , we shouldn't be charged anything for the the button supplements . So our total is fifteen point five . by three Euros over . What if we completely took out the the one single button we've got on . I suppose the L\_C\_D\_ C\_ display's the one that's pushing it up a bit though . you could maybe take out the L\_C\_D\_ dis display even , Right . We may not need it . I think that perhaps the project evaluation's just supposed to be completed by me . But I'd like to hear your thoughts . Uh h what did you think of our project process ? yeah I think we did quite well . Um Our leadership was quite weak in the beginning . But as the day went along we had more idea of what we were doing . and um I think it was um interesting as you guys brought up more um information and studies that we were right on with a lot of those things . Super super . I had some problem with the pen I think , Minus your PowerPoint fiasco . Um complete the final questionnaire and meeting summary . And I still have to do my minutes for the last meeting . Um so there will probably be another questionnaire coming up . And then we'll have to check with the main boss whether we can , what goes on after that .

## Complete Meeting Transcript

Yep. Soon as I get this. Okay. This is our last meeting. Um I'll go ahead and go through the minutes from the previous meeting. Uh and then we'll have a, the prototype presentation. Um then we will um do an evaluation. Uh or we'll see what, what we need to have under the criteria for the evaluation. Then we'll go through the finance and see if we fall within the budget. Um then we'll do the evaluation, and then we can finish up after that with um any changes that we'll need to make, or hopefully everything will fall right in line. Um let's see, minutes from the last meeting. Um we looked at uh the the trends. We had uh the fashion trends that people want a fancy look-and-feel. It was twice as important as anything else. Um they liked fruit and vegetables in the new styles. Um and a spongy feel. So we were talking about trying to incorporate those into our prototype. Um they wanted limited buttons and simplicity. Um then we looked at the uh the method for coming up with our own remote. Um looking at other other devices. Um the iPod, we really liked the look of that. Um we also had uh the kid's remote for a simple idea. Um a two part remote, which was what were were originally looking at. Uh and then um there was talk of spee uh speech recognition um becoming more uh predominant and easier to use. But I think we've still decided not to go with that. Then we looked at the components um the materials for the case, the different energy sources, the different types of chips, um and made a decision on what we were going to use to make our remote. Um and basically how, what were making for the prototype. So I'm going to leave it at that and let you guys take over. The prototype yeah. Do you need a this? Okay. Very nice. Mm-hmm. What but what's that button? Uh, 'kay. 'Kay. Would you like to uh Well done. Well



luckily we are going to find out. Or not luckily. Um do you have a marketing presentation for us. I think it's definitely different than anything else out there. So if they think that what is out there is ugly, then yes I would say, I would say most definitely. It's bright. It still has your traditional black. Yep, not angular. Mm. Yep. Yeah something more modern to go a a modern colour to go with the modern form. Yeah. I would say four. Very non-committal, four. Yeah. Mm-hmm. S scrolling through and selecting a few. I think that's a one. So if we incorporate speech recognition into it then it could And it is quite bright and Uh Yeah. But if we do go with the, with the speech recognition, then it, then our scale goes up quite a bit I think. Probably two. You know. If we eliminate the fact that you know it's impossible to guarantee that it's not gonna be lost then I'd say two. With the speech recognition, which of course may be changed depending on budget. Which, which may be cheaper than speech recognition if it were just a Some sort of proximity Pray that you don't accidentally lose that piece. Okay. Two. It's But there's not a lot of yellow, there's not a lotta yellow. Course that wasn't really we were kinda forced to take that colour. I don't know that we are that innovative, to tell you the truth. If we added the screaming factor then we go up. Um I would say we're probably at four. We have some spongy, yeah. No. Yeah. Because it's only got what, these parts are the grips and perhaps the back side the bottom the underneath on the back. Probably a four at most. Possibly even a five. If your fashion is b is Carmen Miranda, you betcha. It's true. Seven is Two point two point four? Something. And what what is the acceptable criteria? Is there like a scale that we have to hit? Alright then. Okay. Well, let's see. Now we get to do the budget numbers. You didn't know that you were gonna have a budget. But we do. Okay. So I have here an Yeah. We want a fifty percent profit on this. Oh you can't really see that very well. Twelve and a half Euros is what supposed to cost us. Okay, so Well let's see. The f the Wonder if I can make this W

hat the Oh it won't let me do that. Okay. Alright so at top, I don't know if you guys can read that or not. I can't 'cause I don't have my glasses on, but so we've got the energy source. There's uh four, five, six categories. We have energy source, electronics, case. Then we have case material supplements, interface type, and then button supplements. Okay so Uh first of all energy source, we picked battery. Um and how many batteries do we think this will probably take? Probably some e either two or four. Two? Like it. Excellent. This is consumerism. Alright so for the electronics our choices are simpl simple chip-on-print, regular chip-on-print, advanced chip-on-print, sample sensor, sample speaker. 'Kay, we have one of those. 'Kay then the case is a Probably it's double curved. Case materials are plastic. Um I guess it's two, since one for the top, one for the bottom. Is that right or is it just one? Maybe it's one because of the 'Kay. I guess it doesn't matter 'cause the price on that one is zero, which is nice. Special colour? Interface type. We have pushbutton, scroll-wheel interface, integrated scroll-wheel pushbutton, and an L\_C\_D\_ display. So we actually have the L\_C\_D\_ display and then is it the integrated or is it Yeah. 'Kay. Button supplement? Special colour? Um special form? Special material. Or titanium. They cost us all the same. Well we only have one button so really we shouldn't be charged, we shouldn't be charged anything for the the button supplements. Um Okay. We're gonna leave that one blank because we run on a L\_C\_D\_ and scroll. So our total is fifteen point five. Which I believe is by three Euros over. So the only thing better than um a banana-shaped remote is one that you shake. Yeah 'cause the Well 'cause we have to have both right? Mm-hmm. So we may not need the L\_C\_D\_ display? Well there we go. Twelve point five. Okay. So we just remove our screen here. Besides look at what the L\_C\_D\_ does to our lovely remote. Back to the design room boys. Okay so the costs under twelve point five Euro. Was no. We redesigned it. Now it's yes. Next slide. Project evaluation. Uh project process, satisfaction with, for example, room for creativity, leadership, teamwork, means, new ideas found. Um

So I guess that Let's see here. I think that perhaps the project evaluation's just supposed to be completed by me. But I'd like to hear your thoughts. Uh h what did you think of our project process? Good. Yeah I think we st we started off a little little weak. Our leadership was quite weak in the beginning. Um um But as the day went along we had more idea of what we were doing. Um room for creativity? There was that. Um I think we tried a lotta different things and um I think it was um interesting as you guys brought up more um information and studies that we were right on with a lot of those things. Um you guys worked together well as a team. And um the means? Which was the whiteboard and the pens. I had some problem with the pen I think, but minus your p Well Have a we have a list of employees that you would like fired. Okay. N new ideas found? Um Yes for the remote. Maybe no not f for technology. Alright. Closing. Costs are within the budget. Project is evaluated. Um complete the final questionnaire and meeting summary. That's it. And I still have to do my minutes for the last meeting. Actually. Um so there will probably be another questionnaire coming up. And then we'll have to check with the main boss whether we can, what goes on after that. But that's the end of our meeting. Can try to plug that in there but Right. That's what we have there. That's plastic. Plastic covered with rubber. We might uh add some more underneath here. Maybe give it, give it a form. I mean you're supposed to hold it like that, but um just if you grab it, take it from somewhere, so yeah, you have some rub yeah. Exactly, use both. Might as well think about Th think about the button as well. Like either put either one one on either side or not do it

at all. It's a quick on-off button. That's um yeah I think it's pretty important. So you don't have to fiddle with that. Right? Um that's not um I'd say a bit smaller would probably be nice. You wanna play with that over there. There you go. Right.. I'd say, when it comes to the ergonomics, the form and stuff, yes that's definitely more beautiful than your average. However the colour, we don't have a say in that. That has been, that has been dictated pretty much by the company. So uh to answer that honestly I would rather say like uh, we have not solved the problem completely with the ugly remote because the colour is ugly, definitely. 'S nothing you can say about that. I mean I much prefer something like brushed chrome with that form. But Right. Right. It's different. You don't want your uh three feet huge L\_C\_D\_ display in your living room that's hanging from the wall to be controlled with something like that. Yeah. Yeah. It's very intuitive, I think yeah. S give it a one. Right. Right. So that's a one. Something that big and that yellow you just don't lose anymore. Oops. Hmm. Well what S Mm. Oh yeah. You probably Mm. Y you could add an extra feature actually. Which makes this thing raise hell when you remove it too far from the television. We could add that but that's nothing we have thought of so far. Yes. It's it's Um the it's based on this anti anti-theft technology for suitcases and stuff, where you have one piece that's attached to your luggage, another piece that starts beeping. That can't cost much. So that can also easily be integrated because these things are small enough to to hide, so you have one piece, you have to glue somewhere behind your stick it behind your T\_V\_ and the other Right. That'd be tough then. Well also your remote would uh alarm you if somebody stole you t your television, yeah. Ran off with it without taking the beautiful remote control. Let's add one of those features and say yes. Two. Uh It's all just It's all just stolen technology when it comes down to right right right right. Yeah not really. Right. Yeah well you have that, kind of, sort of. It's not a one though. One would be the whole thing to fold and stuff. Yeah. So that's a four at most. Y yes. More Well the recent fashion is rather displayed in the in the L\_C\_D\_ and the way you operate it than the form and the colour, but it definitely is. I'm impressed. I can't do that without a calculator. Fifty percent, you're kidding. P It's too much. Um Uh Battery. Two. At four it's gonna be too heavy, so that that's not our problem. People can change it every month. They won't know until after they bought it.. That's the advanced chip-on-print, yeah. Double

curved, yes. Plastic. N no. No that's just one. It's just one mo single mould, we can do that. Exactly, right. That's not a special colour. It's a specially ugly colour, but it's not special. S Yes unfortunately. We could of course make the buttons wood. Say mahogany or so Mm-hmm or titanium. Uh just Yeah that's too much. It's hard to believe. So we'll go for the hand dynamo huh? I mean let's let's face it, it also depends on the software on the on the television. You can have the the information that this thing transmits be being displayed on the on the screen. So s yeah let's take away the Yeah. Yeah. Right. Right. We may not need it. There you go. Perfect. Okay, the So we can just take away a heck of a lot of the there you go. central? Oh that's just yeah. There you go. Oops. There you go. One more criteria. Fair enough. Great. Yeah. Just half a day, you have a remote. There you go. Super super. Well that's not my fault. That's obviously the people I work for uh that work for me, uh they've just you know Heads are gonna roll, believe me. Yes yes.. Pretty impressive. Kind of a banana. I do. Okay. You guys are gonna help me do an evaluation of the criteria. Um. Okay. So first I'll just discuss some of the criteria that I found. Just based on the past trend reports that I was looking at

earlier. And then we'll do a group evaluation of the prototype. And then we will calculate the average score to see how we did. Um so the criteria we're gonna be looking at are the complaints um that we heard from the users who were interviewed earlier. So we're gonna be doing it based on a seven point scale. And one is going to mean true, that we did actually achieve that. With seven being false, we did not achieve that.. Okay. So for the first one, we need to decide, did we solved the problem of the users who complained about an ugly remote? Mm. Mm. Yeah I think the colours detract a little bit. That's true. Yeah. Um okay so, do you think, since we This was a a sign criteria, do you think maybe we should put it somewhere in the middle then? Does that sound good? What do you think? Three? Four? Five? Four is fair. Okay. Okay, the second one. Did we make it simple for new users? One, 'kay. Okay. Um, do the controls now match the operating behaviour of the users? I'd say that So one? Yeah? Okay. Okay um the fourth one. How about the problem of a remote being easily lost? One of the number one complaints. Whether you want to or not, you're not gonna lose it. Okay. That's true. Mm. Annoying alarm or something? Yeah. So. Are we adding one of these two features? gonna say okay. So we're back to a one? Or a two? Two, 'kay. Okay. Are we technologically innovative? From iPod yeah. But for remotes yeah. Two? Three? But how many remotes do you see like this? Not so many. Really? Okay. That's gonna hurt us. Okay. Um spongy material? 'Kay. And lastly, did we put the fashion in electronics? I'd say we did. 'Kay. Alright. Now we just gotta calculate. Six eight twelve sixteen. Seventeen divided by s Eight. Well I haven't done math in years. What two I dunno. Okay we'll say two point four two. Right? How does that look? It's been a while. Oh no. They just told me to pick my own criteria and have you guys evaluate it basically. So that's that. Oh my god. Okay. Yeah we'll go with that. Not too shabby. Right. Oh. Bright yellow. It'd look really lovely. Yeah. Leave it blank. Perfect.. What's the blue part? Oh that's the batteries. Okay. Looks more like a banana. Trying to fill in some time there. Good teamwork. Minus your PowerPoint fiasco. No I know. I'm yeah. Incom Mm. Kinda. We might have a while though. The prototype discussion. No. There is our remo the banana. Um yeah basically we we st went with the colour yellow. Um working on the principle of a fruit which was mentioned, it's basically designed around a banana. Um but it would be held in such a fashion, where it is, obviously it wouldn't be that floppy 'cause this would be hard plastic. These would be like the rubber, the rubber grips. So that's so that would hopefully help with grip, or like the ergonomics of it. Um but all the controlling would be done with this scroll wheel. You have to use your imagination a little bit. And this here represents the screen, where you, where you'd go through. And the the simplest functions would be um almost identical to an iPod, where that one way ch through channels, that way th other

way through channels. Volume up and down. And then to access the more complicated functions you'd you sorta go, you press that and go through the menus. It's that that simple. That just represents the infrared uh beam. That's a simple on and off switch. Um I don't know, we could use the voice. T that blue bits should be yellow, d that that'd be where the batteries would be I suppose. And um that's about it. It's as simple as you, we could make it really. Is there anything you want to add? Yeah. Doesn't make much make much difference. You could work left-handed or right-handed I suppose. T the actual thing might be smaller. Yeah. Just the on and off. Yeah. It's you know it's flimsy 'cause it's made out of heavy Play-Doh, but And whether or not it would fall into the cost everything I suppose. With the scroll and the L\_C\_D\_. Yeah. I would. It's bright. It's It's curved. I

t's not there's no sharp angles to it. Some people might say it. Yeah. Yeah. Yeah. Yeah. Yeah. I think that was the main aim, one of the main aims that we had. Uh yeah. 'Cause we've we've brought it down to basically four controls most common, which are channel and volume. And then the other ones are just a matter of just going, just scrolling further. Yeah. Yeah. It's bright yellow. Bright yellow's hard to lose. But um if we were to, if we were, that, the speech recognition. That, we could maybe just use that solely for the the finding thing. That was what we'd we'd mentioned. Just just to use, to find it when it was lost. But like I said, like I don't think you'd lose something so yellow so easily. And it's not gonna fall, like a rectangle would slip down behind things. That's gonna be a difficult shape to Yeah. Maybe in the middle again, three or four or something? I mean you know loo losing things is one of those things that people can lose, I mean a million ways. You can pick it up and walk away with it and then you've lost it. Yeah. Yeah. Yeah. Yeah. Yeah true. But I mean d just those whistling, clapping key rings you have. They're cheap. So it can't be that expensive. Yeah. Yeah. stick it on the T\_V\_. Yeah. Two. I'd say so. Uh don't get many mo remote controls with screens on. Yeah it's stolen technology. But we have. Fa 'cause it's stolen. No maybe not. Yeah as much as as needed, I think. Yeah. Yeah. Yeah. On the Yeah. Be what we were told, and they'd say yeah, definitely.. Is that some long division? No. Just, I'm sure there's a. No I can't do long very impressive. Yeah. Yeah so. You'd been going a long time dividing that. It's two point four two eight five se it just keeps going on. Two point four two basically. Charge about three hundred quid for it. We're advanced chip are we? Yeah yeah. S That's Yeah. And then I'd say the integrated. Mm. remote control. No that's getting a bit tiny. Yeah. I'd ignore that. If it w What if we completely took out the the one single button we've got on. And just had a scroll wheel interface. And the L\_C\_D\_ display. I suppose the L\_C\_D\_ C\_ display's the one that's pushing it up a bit though. Yeah. Yeah. Yeah you could maybe take out the L\_C\_D\_ dis display even, if it if it comes up on the computer itsel on the T\_V\_ itself. Uh that is possible yeah. There we go. Screen. Make it a bigger dial. Easier to use. Even easier to use then. That was just we ran out of yellow. There you go. Even simpler. Yeah. For all those fruit lovers out there. Yeah. I think we did yeah I think we did quite well. Um Yeah. Right from the start of the day. We sort of knew where we were going straight away I thought. Yeah. We've used the whiteboard. Technology used. Excellent.

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# Meeting ID: 45

Data Source: Train

## Executive Summary

The project manager opened the meeting and went over the minutes of the previous meeting. The user interface designer and industrial designer then presented two prototypes of the remote the team is working on and discussed the options for components and materials to include in their design. The first prototype featured a simple design with only a small number of buttons. The second prototype was shaped like a banana and used scroll push button technology. The marketing expert then led the team in conducting a product evaluation of the prototypes in which the prototypes were evaluated on the basis of their fanciness, technological innovation, ease of use, trendiness, and marketability. Overall, the prototypes performed quite well in the evaluation. The project manager then examined the production costs of the remote. The cost to produce the remote was 9.20 pounds and did not exceed the project budget. The team then conducted an evaluation of the project process, in which they indicated that they were quite happy with the tools available to them, the ideas they came up with, and their teamwork.

## Complete Meeting Transcript

Yes. Alright. Well. Yeah, well you see, each made one, we didn't have enough yellow dough. This is the one that I made. It is uh curved, easy to hold, hand-held, nice and small with big easy buttons. This is like a scroll, but they are push buttons and they enter takes you into the different menus. Of course we need someone who's experienced with the television. I mean this is the infrared thing that's gonna zap at the television. Uh I'm not quite sure how to make that, but I'm sure it will work. Uh this is on off switch, 'cause I think we do need that, and I think it gives it a nice balance. And it's gonna have the logo imprinted on it uh in there. Um as for what it's actually made of well the function of these buttons is up, down, left and right in the different menus. Uh position, I presume that just means right right on it, easy to see. The main feature of it is just a simple design, simple, lack of uh buttons all over the place. Right? Form curved, kind of smooth, hand-held, makes it feel nice to hold. Uh material, I think Kate's gonna tackle that quite a bit, but I think we have two different options, because we did make a another one, which wa uh is in the shape of banana, it's just if you can imagine this as yellow with black buttons,

like just like this but in the shape of a banana, which is also nice and easy to hold and feels good and has a similar sort of scroll push button technology, just a slightly different design. Also with on off switch and infrared uh I had envisioned it in hard smooth plastic. So like uh well, I dunno, what's it like? I guess like an existing remote control, but molded and smooth. Whereas otherwise we'd thought, like with this one or mix and match, just we were gonna see what you thought, the uh a more spongy rubber cover with spongy buttons. So we have the two options we can follow, either the smooth hard plastic or the spongy rubber, depending on cost restraints. And what we well, what conclusion we reach when we discuss it. Uh material yeah, that's what I have to say about material. Can I scroll down on there and see what else Well colour, I think I definitely have a preference towards bright yellow with black buttons, because that's the company colours, but if anybody's got any other suggestions, I'm quite willing to consider them as well. So, it just depends what you think about these ideas and if I'm yeah, maybe, Kate, you better say what you think about them. I thin as for as for the fruit or organic theme, I guess this one is obviously fruit shaped. This one has n banana, yeah. This one has no obvious connections to fruit, but because it's round and molded, it kinda makes you think sort of organic, touchy-feely, kiddie, it's more like yeah, you'd expect it to be like a child's sorta toy remote control instead of a real one, which I quite like that sort of image. 'Cause it's very big and chunky and child-friendly and Hold them, you see, you know. Curvature, is it to your liking? If you don't wanna tire out your thumbs after all. Yeah. Breaking, oh right. Well you see, that's why hard plastic would be quite a good thing for it, because then it'd just be rigid. Yeah, we really like we really like that design, I mean it looks just like a logo, that arrangement of the keys. Like a c like a compass point, you know, just up, down, left and right, and we think we could make that quite a good feature. And it's like the the iPod scroll wheel, but better. Yeah. Yeah, yeah, I mean it that's what it makes me think of, mobile phones, I was try I was thinking, moving your thumb like this, what does that remind me of? It's texting. Hmm. Yeah. I mean the thing is we do need to develop our technology of I mean actually how to program the menus and what sort of, you know, text box is gonna appear at the bottom of the screen, but we do definitely think that it's a viable option. Uh yeah, we're finished. Yeah, what about price, is that gonna go on there as well? Price of materials. Not that we actually

know anything about it, but we can we can pretend. It depends what what you mean by fancy really, 'cause when I think of fancy, I think of it's got lots of extra sort of fripperies and, you know, like baroque curliness and which I'd call these quite uh minimalist, simple and plain, but I mean I do see what it is heavily reliant on appearance instead of pure functionality, so in that respect it is quite fancy. I think just maybe we need a different word other than fancy, I'd say maybe aesthetic. like stylish or aesthetic. Fancy. Did you just break the pen? Well d we'll just call it fancy then. Yeah, I think we n we need to they're both yellow with black buttons, it's just that we didn't have any more dough to represent uh that, but if you can just imagine banana shape with these bits as black. So what we re really need to decide is whether we want the actual banana shape or just a a purely blob or some sort of abstraction in between the two that isn't that is more curved, like a banana, but that isn't actually recognisable as a banana, you know, with the grooves and the stalk and stuff, so. So that's maybe not something we have to decide just right now, is it. Just somewhere a long the scale of in between these two. Yes. Oh yes. Well, maybe only a two or a three then, 'cause it's no we still haven't decided about specific sponginess or specific Yeah, I don't really think that's gonna work, but No. No. Well it is quite it is quite quirky I think. It could be quite a good brand, like a good little object. Oh, we also need tho think about the energy. Is it the kinetic energy? If it's it is gonna be environmentally friendly with the kinetic energy. Yeah, but we haven't completely developed that side of it yet, so we're not completely sure about that,

but yeah. Yeah. I would say maybe a two, 'cause we still we need to uh get somebody in who is good with the programming for the menus and things. I mean it's not just like I mean it's not like ev you know, on a normal chunky remote every button res I mean means something different, whereas this one has only got the four buttons and they all they mean everything, depending on what menu you're in. uh we need somebody to develop that. Yeah. Just putting no excess buttons. As for see if we're technologically innovative, I'd say it is quite innovative, because there aren't really many that have this menu idea instead of all the extra buttons. I mean I know we're not doing anything involving internet or speech recognition but but we are at the upper end of the push button market. Well, just kinetic then,. It's the wind-up. What does double curved mean, I don't understand. Oh no, we don't need that. No. Single-curved, I'd say. I I just wanna say plastic. It's just button. Yeah. Yeah. Well yeah, like the compass point one. Yeah, they could be plastic. Great. Yes. Yeah. And Play-Doh. Yeah well, 'cause I mean it's so hard to describe what you mean just with words and pointing at photographs and saying, well we quite want this, but imagine it rounder. So much better just to go and, you know, this is it, this is what we want. Yeah. Spongy. And I'd never heard of the kinetic energy before, so. Good work as a design team, because we Oh yes. Yes. Yeah. And the the only false one is because we've chosen to keep a simple old technology, which if it works perfectly well I see no point in improving on if it works, so. Yeah. So we do count as I think excellent or one.. Bring on the ice sculptures. Yeah. That's what I said, ice sculptures. Is that the end of the meeting? Red. Agenda three. Mm. I like the fact that on both of them the keys play such a prominent role. It's really kind of a Mm-hmm mm-hmm. Yeah. But it's also like texting, you don't Yeah. It's also in terms of um being lost it's it's quite it looks quite different. You know, I I d I have several four remotes, and they all look the same until you get up close and you have to you know, this is really identifiable. Mm-hmm. Mm-hmm. No, okay. Um sh

all I take your uh power? Oh. Okay. This is going to be a heavily interactive evaluation, and the method here is to evaluate the new remote control in terms of the user requirements and the hot trends introduced by the marketing department. So, this means we're going to go over the priorities that were raised by uh the consumers a as well as incorporate all of our insight into this uh evaluation exercise. So I'm going to go and use the whiteboard, and I've made a list of criteria to look at, and so I'm gonna I'm gonna leave this up as the last thing, but for the evaluation it's going to be one is true and seven is false, going over these different criteria, so one true seven false and I'm gonna now use the um the board. Okay. So um fancy, technologically innovative, easy to use, trendy, buttons, excess buttons, good buttons, ugly, sellable, and other. And in fact I hope that uh you all introduce some additional terms, because these are things that um have been brought up, some of them seem rather close, like they overlap. Mm, yeah, price. We'll put price up at the top. Um Okay, so Did you say? Uh okay, so wha how do we feel in terms of is this fancy? Mm-hmm. Mm-hmm. I yeah, so in that respect I think we'll go with that respect. Yeah. Elegant. Yeah, no these aren't the exact terms that the um Yeah. Elegant. We're gon let's use elegant, although the the the people, the word on the street is is Yeah. N that um yeah uh the uh is fancy. So let's let's take it to the next level. Well okay, so in terms of elegant, fancy. we'll call it E\_F\_ um, do we do we think that perhaps and maybe we should say the yellow? Should we go with the yellow in terms of I think that's a really superior they're both Yeah. Yeah. Yeah. As a banana. I think that many of us are abstract enough to look at the yellow one and say we'll call it the banana. And of the two I really like I m I like the banana, but I I do like the chunk. No, but I mean in terms we have to evaluate one of them. Unless do you guys wanna evaluate both? Okay. So we say true. Um technologically innovative. Yeah. So we'll say we'll say uh false. Easy to use. One, is that inappropriate? Okay. Oh, pardon me. Um trendy, s and I say specifically spongy fruity. Okay. Okay, so

two? Um are there excess buttons? That is false. Um good, well designed buttons, intuitive buttons. True. Ugly. People don't respond well to ugly. Sellable, uh quirky, you know, something people like oh, yeah. Yeah, I do too. Oh yeah. And I was I was thinking of other things um in terms of uh could we say it's cost saving? With the Yeah, with the energy. It is going to be kinetic? Yeah, we'll c we'll say it's a cost saving enviro. Uh so yes. Well you're still in the Play-Doh stage. Anything else? Including price, do you have any idea about price or other features? Okay. So true one or should I go to two or three? Okay. Um other? Anything else you guys can think of? And I'm gonna actually change a couple of these so then I'm gonna instead of ugly I'm gonna say it's attractive and then make that true, so that 'cause I have to do an average. And then um excess buttons. Exactly. Wow we're doing really well. Yeah, be you know, so it doesn't ruin the polarity. Mm-hmm. Or L\_C\_D\_. Yeah. Well if you g uh let me know if if any of these um if you if you all can think of any other um thing to change here if you th if you think I should change the innovative or add other features. If not I'll average those. Okay. Mm. So Um okay, how about if I uh pass this back to you and I'll uh figure out the average here. Thank you for everyone's help with that. One, two, three, four, five, six. Yeah. Sure. Yes. Yeah. Yep. I think with the marketing element of uh fruit shaped I I mean I that really opened my eyes. I I only speak for myself though. Yes. I can give you a number, um it's uh the average evaluation score is one point eight eight, so it means w you know, I can I can spell it out. There were six true or ones, four um pardon me, two s almos

t true or close to true, so that was four points, and then uh one false, seven points, so seventeen divided by nine we're between one and two. I would say that's ex excellent in terms of uh ho how much we adhere to the ideals of the uh market place. To maintain old technology, exactly. Yeah, yeah. Yes. Okay. Nice. So we might have to wait. Yeah. Um I one thing I want to do is oh, I think the meeting's done. Yeah. Um one thing I wa I wanna do is save everything in the right files, because I don't think everything is saved. The right files. Final meeting market I keep forgetting whether I've done this.. Yep. Ta-da. Right. Mm-hmm. Um well I don't have very much to add. Um the the case oops, that's the uh on off button just come off our prototype. The the case can be either um spongy rubber or hard plastic. We're not absolutely sure about a combination of the two, but it can be either of those. We have the technology to do that. Um and as for the the actual components um, uh Steph just said this is a quite a cheap device to manufacture. We have simple rubber push buttons um which provide all the functionality we need. Um the um the diode that actually does the um infrared is at the end, it's the stalk of the banana, or it's just the thing at the end of this version. Um so that's for material. Colour, well uh Steph's the expert on colour. Um we we don't have any particular restrictions on that. Yeah, I think that's all we've got to say really. A banana. Would you care to examine the prototypes, see how they feel in the hand? Yes, that's so that your index finger automatically goes straight to it. And it was partly we thought the design looked better, but it could be moved if if marketing feel it's important to have the on off button in a different place. Hmm. And it's a very simple design, there's not a lot to wrong, the components are cheap to make. Mm-hmm. Yes, a plain, simple, clean design. Well we have got s trendy further down, but Elegant, I don't know if I'd call them elegant. Stylish, yeah. Yeah, I'd I d I don't think that's what we're aiming at with this concept. I think we're using simple components that are gonna be robust but not particularly innovative. Very. Yeah. We have the worry about how robust it will be if it's it's curved as a banana but spongy. I think yeah. Yeah. No. So that's false. No. Yeah, I think they're different, aren't they? Mm. Yeah. Yeah. Well I think our instinct is that it should be pretty cheap to develop. We haven't got a lot of expensive components in there. I'd put it at one I think, but I dunno, what do you Yeah, true, it might be the yeah, yeah, true. True. Yeah, that's a good point. Right. Yeah.



That was the crank, wind-up crank on the side. Just one. Uh uh yeah, I think we can do it all with simple. Just checking that. Yeah, simple, 'cause we've just got push buttons, so we can do it all with simple which is the ch should be the cheapest. Yep. Yeah, that that one is single curve, isn't it? Um do we have I I think you it means you reverse the curve. Yeah. Yeah, I do I don't think we need that for either of them, you can do a banana in single curve, yeah. Yeah, can we do some what ifs, 'cause it may I mean I I still quite like the idea of combining plastic and rubber myself, but it depends on the cost, I guess. Yes. Yep. Do we need to say how many buttons, or or d is it just one? 'Kay. Uh they'll be rubber, yep. Actually, does tha does special material mean that plastic is not a special material? 'Cause I think they can be plastic. Yeah. They could be plastic, we don't have to have rubber buttons, because we haven't got a double curved case. It's just one, isn't it? What, we're in. More profit. Do you do you need to double click on that to open it? Yeah, yeah, the Play-Doh was best, I thought. Yep. Yeah. Yeah, I think we're a good team actually. I'm not sure all the wires are really great though. I thought so. Yes. Yes. Oh hang on, we haven't heard. Mm-hmm. Absolutely, and it's kept us within

budget. And then we get the product launch party. Product launch party? Absolutely. Um almost, there's one more thing I have to get out of the I have to make sure that this attachment will open. Ah-ha. Okay. We'll open that when the time is right. In the meantime Closing things down, okay. Let's see what this thing does. Does it come up together or disappear one of them or what? Ah, we came up together, we're good. Okay. Are we ready to start? Okay. It's now quarter of four. This is a f another forty minute one so it will end at four twenty five. Okay. Right. Our agenda is, as before, for me to open the meeting, for us to go over the previous minutes, then for the two of you to present your prototype and for you to g um Sarah present the evaluation criteria. We then have a finance aspect, which is a spreadsheet, an Excel spreadsheet. And I know what you're all thinking of, oh my, um because we're only given a forty minute time period to get it all in, including the production evaluation. So we're going to make a very fast track. Okay. Um and as you can see that's what we do next on this thing. So the first thing I have to do is close this so that I can get to Where is it? I need to open mine. Not the agenda. No that th I want the minutes from the previous minutes. That should be there, minutes. Yeah. Okay. Uh from meeting three, is it alright with you if I don't switch it to show, just use it as is? 'Cause this way I can more easily flip it. Okay, um obviously all of us were here for the last meeting, we reviewed the previous minutes before that, um each of you made your presentations. Um we discussed the various possibilities based on what was presented in those presentations. The market trend of fruit and veg, mm spongy, uh fancy and elegant more than technologically innovative and that more than easy. Um we decided chip on print would be used. Um we would use plastic with a rubber casing, I think was the consensus, powered by kinetic energy. There was no decision made on the curvatures or double curvature or straight. Um perhaps the prototype will give us an inkling of that. Um looking like a scroll, but it's really a push button technology, excuse my spelling um that was actually in use, that is uh behind the scenes is push button which we uh according to Kate have a very good uh grasp on doing that in production. Um we decided that separate fashionable covers covering your fruit and veg might be a separate product that could be suggested to management. Um and as suggested um yellow with black buttons with the company logo, a slogan and image might be a good idea based on the requirements that have been provided to us. Um we did have a few production issues and coordination of the various bits and we had some conflict of ideas and cost constraints and we ran out of time. Um we had to follow that up and prepare for the last one. And uh we closed as it ran out of time. Is that a fair presentation of what happened? Okay, back to this meeting. Um we're down to the prototype presentation. Over to you. Ooh, two. Ah. Uh-huh. 'Kay. Okay. Okay. Mm-hmm. Mm-hmm. Oh I see, the on-off's in the back. And

then you can use your thumb. I could see this thing, unless it's reinforced, having a problem with the you know yeah. Hmm. Okay. The next item is evaluation. Uh if that's if you're finished. Oh sorry. Try again. Hmm. Well we will soon, unfortunately. Come on. No., Elegant. Elegant. Mm. Yeah. The chunk. I think between the two, somewhere between the two is true. It's more true than false, about a two. Mm-hmm. Trendy. Mm-hmm. Hmm. Excess buttons. No. Better, more intuitive buttons, yes. No. I like it. Mm-hmm. Yes, the instinct says true. Yeah, that's not a cheap thing to get. Hmm. I think we're good. Okay. We're a little over halfway through the meeting and the next big thing is the finance. Okay. Yep. Right. Right. And as you can see it says the same thing, it had not lost itself, thank Goodness. And we're going to raise what's called a

sp a spreadsheet that they provided to me. Um and it says fill in the number of components you plan to use in your device. Hand dynamo, battery, kinetic, solar cells. Okay. Yeah. Um what's a hand dynamo? Oh shoot, forget that. Kinetic is um and how many of those will we need per we only need one. Okay. Electronic simple chip on print, and we'll need one of those. Okay, and we only need one of those. Okay, the case will be uncurved and flat or a single curve or a double curve. It looks like it single curve, 'cause of th the chunkiness. It's that's uh uh one. And that's uh that's the the one that goes like this. Right. No, single curve. Okay, case material supplements. Plastic, wood, rubber, titanium, special colour. We had the special colour. And did we say plastic? Yeah. Okay. We'll come back, if we can, to the rubber being added at the moment, that's where we are. Interface button push button interface. That's what we're using, isn't it? Whoops, don't want that, not yet. Um No, it just says push button interface. Button supplements, they'll be in a special colour of black. And the buttons Wha what is the buttons made of, rubber? So we need one of them. And are they any special form? 'Cause the rate we're going we can put the rubber on top. Oh. Okay. Um let's put that rubber in then, of the case material supplement. Uh we only need one of them. Um and the total cost has been calculated as nine Pounds twenty out of the twelve and a half we were allowed. We're in. That's us. Okay, I'm going to save this into our desktop, project documents. Okay. As our project document bit. Yeah. There we are. That's the only Excel document that will be in there, so it's there for all of us. Okay, so, are they under twelve fifty? Yes, go to the project evaluation, next slide. Right. Um the project process, satisfaction with, for example, the room for creativity. Yeah, leadership, teamwork, means, of having whiteboard, the digital pens and all that kind of good things. Uh-huh. Okay. So, we went over all those things and we're satisfied with all the above. Um did we find any new ideas? So we actually worked well as a group. Right. Are the costs within the budget? Yes. Is the project evaluated? Yes. Uh-huh. Mm-hmm. Alright. And we've therefore we have to do the final questionnaire and do the meeting summary, I have a final report to present, um and then we're done. We done good, and we're finished in time. I believe that is the end of our meeting. Thank you, Melissa.

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# Meeting ID: 74

Data Source: Train

## Executive Summary

The Industrial Designer presented options for each component. He suggested kinetic energy, a titanium case, and rubber push buttons. The group will ask if the kinetic energy component can provide enough energy. The User Interface Designer introduced the graphical user interface to the group and suggested using an LCD screen. He presented several existing products and suggested the following: large buttons; voice recognition; either push, scroll, or spinning buttons; and incorporating some customizable components. The group discussed including a help button; it was decided that it would make the device seem more complicated. The Marketing Expert presented that users found remotes too easily lost, complicated, and ugly. He showed that users were willing to pay more for a fancy remote. He suggested the LCD screen; the group felt that it was better to utilize the user's television as a display screen, but that they would inquire about cost before deciding. The group will inquire about the cost of voice recognition and scroll buttons. The group discussed incorporating a locator function and customization for children. They discussed the sensitivity of the voice recognizer to other noises; the group will ask about the capability of the recognizer.

## Complete Meeting Transcript

Okay so I think I will do my presentation on the components concept so can you please uh open uh I'm participant two. Components design. Okay so uh the first thing uh I have done is to to made a review together with the uh manufactural uh department and have which components was uh available to build a remote control. So for energy sources we have we have to choose between the solar energy, hand dynamo and uh kinetic um well uh kinetic uh technique to to store the energy. We also um we also can put a regular battery in the in the remote control. Now Yeah b uh f well uh I meant uh by by battery I meant uh I will not have a uh a wire between the remote control and the energy source but uh I didn't fou we didn't decide yet which kind of battery we will put inside the the remote. So uh it's a point to discuss. Then uh the case material we have uh uh also several choices, like wood, rubber, titanium or latex. But uh well it's not a a re uh well a real issue for the from the technical uh point of view. Concerning the interface uh we can we can put mm just simple buttons or scrolls or buttons uh much

more complicated, but it also requires that the chip to process the button is more complicated so. And uh this is the last point, the choice of chips. So what I have found is that I think basic battery or kinetic uh energy uh collection is the better way to provide energy because I think solar energy won't work in a cluttered uh environment. So um so I think we can start with these two main things. For the case uh well uh I think that uh titanium is um is a good choice because it's trendy and it's uh it's uh well it's modern and uh user are are mm will be uh very happy to have a a nice remote. For the interface uh I think that we can achieve uh all the desired functionalities by s just uh using uh rubber buttons, simple buttons and thus this allow to use a regular chip that are uh well cheaper. And s so uh we can move to the next slide. Yeah. Well uh uh i it's uh it's the the shape of the um of the remote. You you will have the well um the the curve will fit into your hand when you grab the Yeah. It's more comfortable that if these uh it's completely flat. Yeah the um that's the point. The kinetic one is uh y you can recharge uh by the um Yeah and by well by just by moving the ar uh your arm the mm well the remote will uh accumulate energy. But I d I don't know it's if it is feasible because I don't know if yet if the user will move enough to provide the remote um all the necessary energy. Yeah. And yeah and so can you go to the next slide please. So and uh that's uh that summarize well what I have said. So uh you're right we can uh see in our uh R\_ and D\_ uh if the kinetic metal is sufficient to provide enough energy. That's it. Oh yeah I take care, it's all right. All right. Yeah. Yeah. Mm-hmm mm mm. Yeah fine. Yeah. S a good idea. Yeah. Yeah. Yeah but uh as Norman say if uh there is uh already a commercial product available who t who do this we we can check uh to integrate it i into our uh new remote control. Yeah yeah. Hmm. Yeah. Well I I think you it's it's fine you have uh reviewed all all the possibilities but uh uh well uh i if we consider that uh the user interface is displayed on the T\_V\_ screen I don't think we need uh we need much buttons in the remote since we we just have to navigate and to have a okay or enter key or things like that, because uh adding wheels or scrolls uh makes the thing more complicated and more expensive also, so. Yeah. That's a good idea. To have a help button. Yeah. On the T\_V\_ screen. On the T\_V\_ screen the uh how to use your remote. Uh yeah. In a marketing point of view. But uh well I think Uh well. So let's see what uh what people want. Yeah. Yeah. Mm, the functionalities yeah. Yeah. Well mm well I I don't really see the advantage of having uh L\_C\_D\_ on the on the remote control if we have a a big screen and uh display on the screen. It'

s yeah of course it's fancy trendy and so on but it's expensive to produce and it's not really Yeah. Yeah yeah. Yeah but when you play with the iPod you don't have a big screen in front of you, s Yeah. Yeah. Yeah yeah. So I th I I well I think we we can focus on the uh on the fancy look on the uh on the speech recognition if the technology is available but well I think L\_C\_D\_ will uh will uh make us spend a lot of money for not so big results. So price of uh L\_C\_D\_ display. And Yeah. Yeah okay. And Well uh compared to the to s the simpl simpler simplest button. Yeah. Yeah I think that Yeah I I I think that uh well uh as we have seen in the in the presentation uh well uh about uh uh fifty percent of the of the percent n choose the button so uh I think to have uh five uh simple button is sufficient for our functionality. Yeah. But But the uh the thing is is i is that we can add a functionality on the on the T\_V\_ screen like uh a a list of function and then you choose with the with the button to well you navigate and you Yeah. But if i i if we if we could have a a a display uh g a user interface that is very complete on the T\_V\_ screen I think that just five buttons are sufficient, one to go up left right down and uh enter and you you just select the functionality you want to access or things like that. You don't have to switch to a channel to another uh Yeah but Yeah but if you look at the L\_C\_D\_ you you don't look at the T\_V\_ screen so i i it's not really worth to get to have the image if you don't look at, so. Yeah. Yeah.

Yeah. Well so we we can think about a well a a vocal command like uh find and when the remote control uh hears fine well yeah just uh to make him beep or t Yeah. Yeah. Put Yeah. And that's a good idea, that's simple, like in phones. Yeah. Yeah. Yeah if there if there uh there is nuff not enough battery. Also and uh uh the remote is lost. Yeah. Okay. They were ugly. They Well the last one with the um yeah with the two parts was uh original, so Yeah. Yeah. Well we can think about uh having uh on the on the on the user interface when you switch on the T\_V\_ you can uh well write a code or choose a category, if it is kids, uh things like that. So for mm yeah. So for my part I will check the prices the um the prices difference uh of what to use, where to use, and s uh and so on. Yeah. Yeah. Well I think we can we can have just numbers for channels and you can say to your remote control like uh sports and then on the T\_V\_ you have a list with with uh uh well with sports program playing now and and uh That's right, yeah, yeah. Well but well e every possible word uh has a probability to come about of the T\_V\_ so. Yeah yeah. Yeah but well okay. Yeah yeah. Mm mm. Well I Yeah. Well I uh I also I I also think about uh another problem, if if there is uh more than one person who is watching T\_V\_ the s well the the speech uh r recogniser should be able to distinguish between the two. Because uh I remember when I was a young child with my sister we yeah we always want to w to watch different emission at the at the same time so it's a pr it could be a problem if uh if well if someone passes by when you are watching T\_V\_ and say oh T\_V\_ thirty and just run, s Yeah, yeah. Yeah. Yeah that's well I think that's a good uh a good option because it's simple and uh simple to implement also, so. Okay. Okay. So I see ya. Mm. Mm. Mm. Sorry. What is this single curved what does it mean? So it's it's not Yo I yeah. When you hold on it, it is comfortable to hold. Okay. Yeah. And the battery, is it kind of a rechargeable or it doesn't matter? That that's what it means by kinetic. Okay. Mm-hmm. Okay. Mm. Mm. Okay. Yeah. Yeah. We we might check with our R\_ and D\_ department to see if they have this product ready for market. Mm mm. Wha Ah the department. Mm. Uh So I um keep in touch with the R\_ and D\_ department. So the titanium case is the normal case that I'll show you some pictures that I have and you tell me whether they are tit

anium case or not. 'Cause I am not very sure, plastic, titanium or whatever. There's another point I want to make, is that the uh well you've seen them I le na my presentation that um I point out some why buttons are not the mm not the only ways you can use Yeah. Yeah, maybe n Yeah. So the user interface is uh i it uses the aspect uh of a computer system, a programme which can be seen or heard or otherwise perceived by the human user and the commands and mechanism the user uses to control its operation and input data. So you s this gives you the ways to input data and we have uh we are more we emphasise more on the graphical user interface here. The idea is to represent buttons as figures, diagrams, symbols and on so you you can easily when you look at the symbols you understand what it is doing. Yeah. Yeah. So. Ea easy to use. So next one. function five. So I can use the button, the mouse maybe. Yeah. So next line. So the here are some examples. So they cluster the buttons together. They group them into col they colour them and uh they have different forms as well. Mm but this interface are kind of confusing. Uh basically there are too many buttons. Right. Next one. So some people are propose voice recognition and so ah by the way I receive an email from the from one our departments saying that the voice recognition has been used in the coffee machine for this by a company when you tell the you say good morning coffee machine and the machine are reply to you. So I just got an email saying that. And it seems like this voice recognition technology is ready to be used so we might consider that, supposedly. The next one. Mm so somebody some people use uh some people use a spinning wheel th with the L\_C\_ display so instead of using the mm buttons you have a L\_C\_D\_ screen and then there you can u you can use that as buttons, you can use that as real so so that could

be an option as well. Touch screen, I mean. Next one. And some people propose a scroll button. Integrated with push buttons or you may have scroll button instead of just the push button. Like the one we have here. Uh, next one. So mm so there are a few aspects that I collected here. So s basically this deals with special users, children, handicapped people, old people, and uh mm and prog basically they are programmable, specially for children. And uh mm yeah yeah. And then they also secure uh covers, to protect uh secure and hidden programming and battery covers that will protect your settings. So But we don't have to integrate all these complicated features. I'm just saying that the currently in the market there are there are control there are remote controllers f customisable for different people. Yeah, so that's the point. The next one. And uh you see this is the one where you have the protection cover. Mm maybe useful for children, they might you you they only see the buttons outside. And for adults wh where you have more control you can see the one inside. So the adults might wanna have a key to lock that to pr so children will not touch the button inside. Yeah. The next one. So this guy this is another company that provides big buttons. At I see that that is useful for old people and then you don't get it lost. But for our product we don't need a big one because you have voice recognition e eventually with use. And you can call your remote controller if you don't know where it is. T\_V\_ remote controller where are you? And then, he will beep and to say that I am here, for example. Is it possible? Uh? Yeah. Yeah. Yeah. Yeah. And uh, this is another one where you can uh the the the part that's a V\_ standing for the volume. So there's a up arrow and a down arrow. But you the see that in the V\_, the V\_ appears to be the down arrow on the top on the top up arrow if you up arrow there's a V\_ like as as if it's turning down so it's confusing interface, so I wanna avoid this kind of thing in the design. And here are is uh here is a s short summary that I summary that I c

omplied after the findings I found. Big buttons are convenient, voice recognition helps, push buttons, scroll buttons, spinning wheels can be used as navigation tools. And uh user customisable is important and finally simplicity simplicity is the key. Yeah. So we have many concepts there but we have to choose later on which ones are important to be used. And basically uh Yeah. Mm-hmm. Yeah. Mm. Mm. Okay. A help button. So you are display on the screen. So on the T\_V\_ screen. Okay. Okay. Okay. So that eliminates all the complicated documentation, okay. So wi Yeah. Mm. Mm. Well uh what I s propose is that uh you know a remote controller, i it could be a cube, is uh a small device that uh looks like a cube and maybe you can just change the um the buttons, if you ch turn one side you get one one buttons, you turn the other side you get the other buttons, so for maybe new generation people who get used to the computer they want lots of controls. Small Yeah. Let's see the market demand. What what market yes yes. Yeah. Yes. Yeah. Mm. Oh. Big screen. Yeah. Mm yeah. Mm. The thing Yeah. Yeah. Yeah. If you re-use the existing screen, we element eliminate the L\_C\_D\_, after all the L\_C\_D\_ just to display and if you have the colourful screen you can make the display colourful, fancy, as fancy as the one on the L\_C\_D\_, maybe even better. So Yeah. Yeah. Yeah. More on a fancy design. Yeah. Mm. Remember we have a s budget for the cost of producing the remote controller. Yeah. So i is so the thing is you can find out how much an L\_C\_D\_ will cost and then we'll decide again. Uh maybe you can find out the price and tell us next time. Is i if i Yeah. Yeah. And also the cost for the speech recognition. Ask our R\_ and D\_ department. Yeah. Yeah. And ho Yeah. And also the scroller button, how much will it cost. Yeah. Don't use the buttons. Yeah. Yeah. Yeah. Yeah. Important. Yeah. Yeah. Mm. Yeah, yeah. So so the at most more power uh. Yep. Yeah. Mm. Mm. Yeah. Yeah. Mm. Mm. Mm. I if Mm. Mm. Yeah. I think that there's no contradiction here, because if there are few buttons, you don't have to look at your your controller any more because you know where the buttons are, so if you wanna control the screen d sh sharpness you just say sharpness and then you t turn you just press lef increase or decrease

button and the same for the volume and the channel, if you had the speech recognition there you just shout your channel, just tell your channel and then you don't even have to look at the button at the controller so finally that will eliminate the need for L\_C\_D\_, with the help of speech recogniser you can Yeah. Mm. Mm. Mm. Yeah. A and Mm. Where, yeah. Yeah. Mm. Put it back at the charge. Yeah. Yeah. Mm. Hmm. Mm. Th yeah. Mm yeah. Yeah. Mm. Mm. There's mm. Mm. Yeah. That we can what we can do is we can program a function whereby when you press the switch off T\_V\_ button, the off button, the remote there be s uh instruction on the screen, please charge charge me. You never get it lost because uh every time you're off the computer the T\_V\_ you are asked the the command the T\_V\_ com remote controller would tell you to put it back to where to the charger. Yeah. So you will never get lost yeah. Yeah. Yeah because everything is programmed inside. So it's it's uh it's all about strategy, y Mm. Mm. Yeah, yeah. With uh two two two parts controller. Yeah. Mm. Mm. Mm. Mm. Mm. Mm. Yeah. Mm. Mm. these are probl yeah. Mm. Mm. Mm. Mm. Mm. I think we need to define also a s the set of vocabularies for the speech recogniser because uh if you want uh say we can sort by channels or sort by T\_V\_ programs, you have to decide a category of vocabularies for them. If numbers, they're easy, but if name the channel by by name Mm. Mm. Yeah. Mm. Mm. Mm. Mm. But I I I think that the user would like wou would like to associate the channel or call the channel rather than than the numbers. You say numbe channel number five of the T\_V\_ correspond to something else in the channel. So som

e people may want to say, I want to see this channel. Yeah. Check with the v R\_ and D\_ department the capability of recogniser. Uh? Well, it's convenient for the user. The uh uh mm. Mm. I I think that I have mm mm I think there's another way you can do is that uh you can uh if when the user ch press a button to choose the channel for example, then what you can do is that the you can make the T\_V\_ screen to split them into small little little squares of images where you you you have a snapshot of every channel, so let's say it's a four by four matrix of the images, so now what you do is f looking at the all the sixteen channels available at one time, you just use the control button uh, you just you you just choose the the option you want and then you just hit the button and then you go to that channel. So Mm. So you you don't use the speech recogniser in that way. Oh, okay. Yeah. Mm. Yeah, I wanna watch this, I wanna watch that. Mm. Mm. Mm. Hmm. Well, you you stay a five minutes. Yeah. Yeah. Oh. But people are often enough looking at the help, once they see the help button they say oh this is a complicated stuff. It's a psychology. Okay. And let us see what the market demands. We could just go to my presentation. Yeah that's right. I mean it just showed us the remote with an cap which could be used for kids and if you remove the Same remote with some Both yeah. And then we can decide what what we can yeah. So we just made an marketing survey of what people need from our remotes and how it could be special from the other remotes. And we got the best on the responses from the questionnaires. Uh we also have some prizes for the most creative solutions. And we found the following solutions which we could which would be helpful for our design. So seventy percent of the users, they find their remote controls very ugly, they don't find it pleasant to use in the size or usage or anything. And eighty percent of the people they are always I I mean they are willing to spend more money if the remote control would look fancy. And the current remote controls do not match well the operating behaviour of the user. And seventy five percent of the users said they zap a lot. And fifty percent say they use only ten percent of the buttons, so the rest of the ninety percent of the buttons they're not used most of the times. So this were the findings which we found. And also they cited frustrations with the present remote controls. Most of fifty percent of the time the remote controls are lost somewhere in the room and people are always searching for them rather than watching the T\_V\_.

And by the time they found the remote control the program is finished. So they're frustrated a lot And um if the remote control is too complicated it takes much time to learn the functionality of it. So you can just see the percentage, fifty percent people they responded that they always lose their remotes and thirty four percent they say that it's quite difficult to learn if it's too complex. So keeping in view all these findings and the frustrations I think this should be the solution for them. We should have an L\_C\_D\_ on the rem remote control. Mm-hmm? I mean as our survey says that people are willing to pay more if their remotes are fancy. So if we have a L\_C\_D\_ on the remote, rather than looking onto the T\_V\_ you just look into a remote and navigate it. It's the same menu as we have saw that iPod remote control. We just play around Yeah. Yeah. I mean this were the points which we got from the market demands. So the other one Yeah that's fine. Yeah. I mean that's Mm-hmm. Uh yeah we have uh I mean that should be found out by the Industrial Designers. And it's always good to have an voice recognition for the remote controls. Yeah it's o only for a limited vocabulary, say eighty commands or so. Mm, the scroll button, from the survey we never see that people would like to have some scrolling button. Because they they just they're just frightened to use the scrollings o

r help button. Yeah. They're not used much. Or it could be like this, as the people say, if they have a L\_C\_D\_ on the remote not on the television. Because when you have the L\_C\_D\_ onto the television screen you miss the picture in the background, we are most focused on the commands. So if you have then L\_C\_D\_ in the remote, you just have a menu, and increasing and lower these signs here to change the programs and this menu when you press the menu, in the L\_C\_D\_ displays as you go on pressing the menu it faster displays volume, then the program, then the brightness, contrast and all the stuff. And accordingly you can just increase or decrease. Yeah that has to be checked out. Yeah. Okay. I mean, better if we could just check all the cost with L\_C\_D\_ and also with the speech recognition. And then we could find which would would be a more suitable in this case. And the third problem was to find the remote control. Always, so fifty percent of the people say they lose the remotes. So Yeah that's right, that's exactly what I mean by voice commander. Or it could be also something like this, uh it's always boring to change the batteries of the remotes control, so we have some one charger there and whenever we don't use the remote control we put it in the charger. And when we're using that t remote and if we misplace somewhere, in the charger we have a small button, and just by pressing the button in the charger the uh remote control beeps, wherever it is. I mean it doe it also doesn't require a voice command, because there are problems with a voice command. Yeah, yeah, yeah. I mean charger would be fixed because it's always with electricity plugged. Yeah that's right. It's an good reminder, yeah that's right. And of course the final point is a fancy look. As we have seen earlier the remotes which were displayed by Norman they weren't fancy, I mean mm very big or something with lot of buttons. I think we should have something it I mean uh I mean uh I mean uh you see if it's like that even a kid who wants to have a control he could just plug it and use it, you can't avoid him. But you can have an button for child lock. So just by pressing the button with some code, you t you put a lock onto the remote, so that he can't use even Mm uh That's right. I think these other four points they're the market demands and so it's for the user interface design and industrial design to just think Yeah I think it should be clearer for us in the next meeting that th uh these could be included. No, we have a problem there. You see uh if you have a voice commands and you are s you are watching a score on uh basketball score or something, and if the score comes twenty four thirty five, you've just say twenty five and suddenly the screen the channel goes to twenty five. So I think there should be a prefix to some numbers I mean the the you just check all the probability that saying T\_V\_ twenty five and just ordinary twenty five. Ordinary twenty five you almost there's a probability of being said around sixty seventy



percent and T\_V\_ twenty five I dunno it will be round about one or two percent. So it's better to have some prefix before the number. Yeah something, some code. That will be too big. And it will be difficult for the vocabulary also. Als might be you just forgot the channel name, you kno only know the number. Then Yeah, the. Yeah yeah,. Yeah. A and in the same lines we would have a one more problem. If we are using the television in the different environments, say in the factories or in the shops where there is a lot of noise and this voice commands if they fail to work, that would bring a bad name bad uh reputation for our company. So I think we should specify some pre-requirements if we want to use a voice commands, say that it should be used in an silent homely environment or s something. Yeah that's right that should be an option. I think these are the practical problems. So we need to take care of them in the design. Okay. Oh it came there

on three minutes back so we are I think we can just press the okay. Okay. See you another thirty minutes. So we come to the third meetings. I have good. Um so in the last meeting we have discussed the functional design and now we will talk about the conceptual design. So we will talk about some specific details. This Uh this is what we have decided in the last meeting. But if we use battery We will, okay. Three. What's the function of this button. I think it makes the the interface really Graphical user interface. A graphical user interface emphasise the use of pictures. Yeah. Mm-hmm. We should include speech synthesis in this case, no? Mm-hmm. Or maybe we can include the user manual in the in the remote control and we should have just a button like help and you say uh and you ik you press the button help and maybe you see the the user m might in the in the T\_V\_. Yeah. On T\_V\_ T\_V\_ screen. So just you push the button and we will Yeah. If the if No In the case where they need help, in the case where they need help. Yeah. It's just for user customizable, for kids or old people. So So it's the same Can be used by both kids and old people. Maybe for kids, kids they like uh t no I they like to Yeah. Mm-hmm. You can use this screen instead of the big se screen, instead of use the yeah. Hmm. But Yeah. Mm. It's for it's just for small vocabulary. We it's not yeah. Yeah. Yeah. Push push. It doesn't mean that the other buttons are not necessary or important. But they are just less used compar yeah. Or maybe we can u uh or maybe we can uh make this the ten percent of button more bigger than the others. So. Mm. It's And I think it's increases the cost of the the remote control if you use L\_C\_D\_. I You will listen to a peep, special peep. Okay. Yeah. But you don't you don't have to move the the charger. You have to keep it. Okay. Maybe for some people lazy people. Yeah yeah. Mm. Or Or maybe you have to to show some specific programmes for kids and then just just yeah just push uh kids button so it's automatically. So if he. Yeah. Mm-hmm. Yeah it's yeah. Mm-hmm. Or just It's difficult to to just say the the name of the channel. It will be difficult to say just the name of the channel. Because you have to s t uh a ch yeah but you have to to have all the name of the channel in your vocabulary. Or maybe Or maybe the user can create his own vocabulary, just pronouncing the the name of channels and include in the vocabulary. Or lets the user create his own vocabulary of channel. No. Just you have uh in the beginning you have uh t you have to train you have to create the vocabulary by yourself. By associating each channel with the name or And for each one has his own. Or you have to s Yeah. Mm. Or we can switch on or switch off the the special, yeah. Maybe we'll discuss them in next meeting. It's time to close this meeting. Yeah. Okay. Thanks for your collaborations.

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# Meeting ID: 40

Data Source: Train

## Executive Summary

Uh now we're going um into the functional design . Then our agenda . first the opening . Uh this time I will take the minutes . Uh you're going to have a presentation . All of you . Um and we've got forty minutes for the whole uh prese for the whole uh presentations . So uh I suggest we take about seven minutes per presentation , and then we can have a little discussion about the new project requirements And then the decision on the control functions uh which we wanna include and those which we don't wanna include . My name is Freek Van Ponnem . I'm We have we uh have been doing research in a usability lab where we observed um users operating remote controls . Uh we let them fill out a questionnaire . Uh in addition we did some market research . Uh see what the market consists of . What ages are involved . these are three quite astonishing results , I thought . uh seventy five percent of the um people questioned uh indicated that they thought their remote were was ugly . Um and an additional eighty percent indicated that they would spend more money on a fancy-looking remote control . Um in addition remotes were not very functional . Fifty percent of the people indicated they only loo used about ten percent of the buttons on a remote control . And fifty percent of the people indicated that their remote tended to get lost in their room . Channel selection and volume selection um both got a ten on a scale of one to ten for relevancy . Then we did some research to the most relevant functions . The power button got a nine . And teletext got a six and a half . Then there are some one-time use function . That uh audio settings , video settings , and channel settings buttons . Which are not really used very frequently , but are still considered to be of some importance . Um channel selection was also indicated to be used very frequently . One hundred and sixty eight times per hour . Um sixty percent of the market consists of users between the ages sixteen and forty f six . the users of forty six to sixty five years cons The make up forty percent of the market . They are not really very interested in features . But they do tend to spend their money a lot easier . What I think this indicates for our um design . I think we should make a remote for the future . And this means we would um have to focus on the age ages sixteen to forty five . Um this would mean we would have to make a fancy design . Um The results also indicated that um about one quarter of the people questioned thought that the remote control caused R\_S\_ R\_S\_I\_ . And thirty four percent thought that it was hard to learn a n how to operate a new control , remote control . I think we should make very few buttons . Uh I think the most frequently used buttons should be emphasised . Especially the channel selection and audio uh selection buttons . But it might be

a good idea to make a docking station . And this would , could get a button in it which would send a signal to the remote which would then beep . So you'd know where it is in the room . And in addition to this it could um recharge the batteries in the remote if you put it in . Then um a surprisingly great deal of people w indicated that um an L\_C\_D\_ screen in the remote control would be preferred . This was um mostly people in the age of sixteen to twenty five . This would also greatly increase the production costs but I think these are just some small factors we could consider . I've been looking at uh the user interface of it . Um f for the techno f functions uh of of it . Um I think uh we uh must use the general functions uh of the uh remote control . I I've been thinking about a simple manner uh to put a lot of functions uh uh in one um in one uh remote control . Uh uh I've do I've uh done a little uh research on the internet and not much information about it , Um about uh interface Uh so uh you've got a lot of devi uh devices like uh D\_V\_D\_ uh uh television , uh stereo . But uh it must be uh user-friendly . you c you can't put a a lot of uh functions uh in one uh Yeah . Uh uh uh Yeah . In one um remote control . you can see , this is uh quite simple uh remote control . but uh This uh re uh remote control got a a lot of uh buttons . what uh I was uh thinking about was um uh keep the general functions uh like they are . like uh the on-off uh button . Uh keep it uh yeah I like a red button . My personal uh preferences um . Use a display for uh specific uh functions of the different uh device . And um here you've got a s kind of a display . It's a touchscreen . you got a general f uh f the functions of the device uh for a D\_V\_D\_ player or uh so um the pl yeah um f for uh playing uh reverse uh . And um you got here uh real buttons for uh selecting uh a device . you you never got uh all the buttons uh on w one device . We better c um uh use uh quite uh large buttons uh Everybody uh have to use it so Uh ol even even old people um young people . we must keep uh buttons uh quite s uh simple and quite large . I think if we are gonna use a touchscreen uh we're gonna go way above the twelve and a half Euros . N I I don't think so . Uh you got uh quite a cheap uh touchscreen . S um it's uh not uh in colour or something . it would certainly make a fancy design . But the It wouldn't be very robust . I've got a presentation about the working design . Um first about how it works . Everybody knows how a remote works . The user presses a button . The remote determines what button it is , uses the infrared to send a signal to the T\_V\_ . The T\_V\_ switches to the frequency , or what function it is . we've got um the the plate . It gots conductive disks for every button . When the user presses a button , a signal got sent , goes to the LED and transmits tranmi transmits its to the T\_V\_ . this is a schematic overview . You've got the buttons . The power source . And uh when a button gets pressed , its goes to the chip . I think we should use default materials , simple plastics . Keep the inner workings simple , Uh I think we should focus on aesthetics , the design and the user interface , and if you use high-tech materials it come back in every product . it's , in my idea , it's uh it's gonna be smart to invest in di in design and not in uh in the product itself . so I'm here to mess things up and uh tell you some new uh requirements . we've uh got to design a um remote which is only suitable for T\_V\_ . Um that's because uh it will be too complex and the time to market will be too big , if we wanna have it uh for more functions . Uh another point is we have to skip the teletext , because in the world of uh upcoming internet uh we think teletext is going to be uh a thing of the past . Another one is uh the customer is uh forty plus . Uh that's the the market we have to to to target , because we are going to develop a new product which is specially designed for the younger customers . And we have to be very uh attent in uh putting the corporate image uh in our product . So it has to be visible in our design , in the way our device works . I suggest let's have a discussion

on the control functions . Uh we can see if we can find a way uh between the functions we wanna use and the market we wanna reach with our product . Um 'cause you're you're saying that teletext is gonna be an old feature But I think if you're targeting people of forty plus , the chance that they will have a T\_V\_ with internet access within the next like twenty years is very slim . In addition people indicated that teletext simply was an important feature for the remote control . So I think it's pretty dumb to put no teletext feature on it . Besides that , I think the market for forty plus is like pretty small . But I mean if I s if I see this , it's I think we're just gonna go for another Standard remote . I think we can do a lot with the design and the simple buttons Uh if we put a lot of effort in those , we can make a remote control with uh just two or three buttons . Or just a remote which is suitable for the market we wanna reach if you look in Holland at the whole generation of forty plus , fifty plus , it's the the biggest share of the of the whole population now . But don't you think that if we make a remote which is uh typically made for this market , that people think the people think that's the the device I've looked for although I didn't realise it . I think that if we're If we put our marketing right um we can sell this just like um I don't know if you've heard about it in the news , the the elderly mobile phone ? if we if we make a remote control just I with that idea in mind , we could make tons of money , I think . We don't have to focus on on on the on the design then but on functionality . Uh I think teletext can be uh um can be a function as well . But only if uh if it won't higher the the cost , But um deaf people need uh teletext for uh for subtitles . I think it'd definitely be a bad idea not to include teletext . Is anybody um really against teletext ? I think that's a good idea as well , especially for the subtitles . I think uh that's very important we have a few buttons . So we can s we can skip the display , But do you need the buttons for one to zero . Think if you're gonna include teletext you do . maybe we can implement the scroll button ? Or a joystick like ? Just look if you look at telephones . The Sony telephone has a scroll button which is very useful in searching names or but um I don't think there are many T\_V\_s that can switch channels that fast . And so you would need like the T\_V\_ would need an a function where you can actually view all channels and scroll through it . If we're gonna focus on elderly people they'll have to adapt . So perhaps we should s stick to the basic layout . I think it's very important in the in the design . You can make a very fancy design uh with putting the buttons on the right places . But I don't think I think if you're gonna make a remote control only to operate a T\_V\_ , you there's not much you can gain on um having as few buttons as possible . you suggest we could better um focus on for example the docking station . I think , mean we obviously need a good way to position all the buttons But I don't think we should spend very much time in that . Do you think the docking station will uh is allowed in the budget we have ? And if the remote stays rather small , it should be possible we're just gonna focus on the extras ? I think so . fifty percent of the people indicated that remote control tended to get lost . So maybe we should implement the audio sign , or something . Like with your key-chain , if you whistle it goes uh it makes a sound . you have it's on some phones too , which have a docking station . And you just press a button and the phone goes ringing . point is the L\_C\_D\_ screen . Uh another Um I don't know if that will rise the cost too much , um I think we'll have to choose between the docking station or the screen , it might be a good idea to have just a little screen on it , which would explain a button if you press it . And it wouldn't have to be touchscreen or a very expensive screen , Just the L\_C\_D\_ . That's a good idea . Few buttons , we talked about that . Docking station , L\_C\_D\_ . Um general functions And default materials . I think that's a good idea as well , Because I think what we're going to design now is for people above sixty , maybe . If we

want um a with uh for example the the telephone for elderly people , we can target the real elderly people . Now you're talking about sixty to eighty for example . But I'd have to look into that a little more . And with uh the little screen in it , which explains the buttons . You could I think we n it would be a lot easier to adapt it to different cultures . In different languages , you know . If we're able to really bring an innovative product . I think since a lot of people indicated that a new remote control is hard to learn , and we're focusing on elderly people here which tend to have a hard time understanding new devices , Um what we're going to do for the next meeting is the Industrial Designer will do the components concept , User Interface Designer the user interface concept , and the trend-watching .

## Complete Meeting Transcript

No. Well I think if we are gonna use a touchscreen uh we're gonna go way above the twelve and a half Euros. But the It wouldn't be very robust. It's very fragile and you can get scratches on it. That's. Okay. Okay I've got a presentation about the working design. Um first about how it works. It's really simple of course. Everybody knows how a remote works. The user presses a button. The remote determines what button it is, uses the infrared to send a signal to the T\_V\_. The T\_V\_ switches to the frequency, or what function it is. So we've got um the the plate. It gets conductive disks for every button. When the user presses a button, a signal got sent, goes to the LED and transmits tranmi transmits its to the T\_V\_. It's a very simple device, technically speaking. So this is a schematic overview. You've got the buttons. The power source. And uh when a button gets pressed, its goes to the chip. The chip uh controls the infrared bulb and perf perhaps a normal bulb. When you press a button you can actually see your pressed button. Well um I think we should use default materials, simple plastics. Keep the inner workings simple, so it's robust. Uh I think we should focus on aesthetics, the design and the user interface, because if you're going to use high-tech materials the price is going to go sky-high. And uh you only have to design a remote once, and if you use high-tech materials it come back in every product. So it's, in my idea, it's uh it's gonna be smart to invest in di in design and not in uh in the product itself. That's it. I think that if we're If we put our marketing right um we can sell this just like um I don't know if you've heard about it in the news, the the elderly mobile phone? Yeah if we if we make a remote control just I with that idea in mind, we could make tons of money, I think. We don't have to focus on on on the on the design then but on functionality. We just change our focus on the project, and I think we can uh we can sell this. No. Uh that's a good idea. Yeah. And besides that it's um If we're gonna focus on elderly people they'll have to adapt. They're not used to using scroll buttons. So perhaps we should s stick to the basic layout. It should be possible yes. If it's not too fancy. And if the remote stays rather small, it should be possible yeah. Yes. So we're just gonna focus on the extras? Yeah. Like with your key-chain, if you whistle it goes uh it makes a sound. Yeah. Y i um I think we'll have to choose between the docking station or the screen, 'cause it's uh Well I don't think they have different television sets uh in uh every country. 'Cause Yeah. Yeah. Yes. Yeah. Okay. No. Yes. Think I'll go first. 'Kay. My name is Freek Van Ponnen. I'm the Market Expert. But you already knew that. Um I've done some research. We have we uh have been doing research in a usability lab where we observed um users operating remote controls. Uh we let them fill out a questionnaire. We had one hundred of these uh test subjects. Uh in addition we did some market research. Uh see what the market consists

of. What ages are involved. Well these are three quite astonishing results, I thought. Um remotes are being considered ugly. F uh seventy five percent of the um people questioned uh indicated that they thought their remote were was ugly. Um and an additional eighty percent indicated that they would spend more money on a fancy-looking remote control. So Um in addition remotes were not very functional. Fifty percent of the people indicated they only loo used about ten percent of the buttons on a remote control. And fifty percent of the people indicated that their remote tended to get lost in their room. So some things. Then we did some research to the most relevant functions. Channel selection and volume selection um both got a ten on a scale of one to ten for relevancy. The power button got a nine. And teletext got a six and a half. So these are the most most uh important functions on a remote control. Then there are s

ome one-time use function. That's what I like to call them. That uh audio settings, video settings, and channel settings buttons. Which are not really used very frequently, but are still considered to be of some importance. Um channel selection was also indicated to be used very frequently. One hundred and sixty eight times per hour. Then these are the This is the market. Um sixty percent of the market consists of users between the ages sixteen and forty f six. Um Main characteristic of this group is that they're very critical on the remote control. Um they like to use new f new functions. But they also are very critical. They won't spend their money very easily. So Um the users of forty six to sixty five years cons The make up forty percent of the market. They are not really very interested in features. But they do tend to spend their money a lot easier. Um What I think this indicates for our um design. I think we should make a remote for the future. And this means we would um have to focus on the age ages sixteen to forty five. Uh this also makes up most the biggest part of the market, so that will also be where our main profit would be gettable. Um this would mean we would have to make a fancy design. Um The results also indicated that um about one quarter of the people questioned thought that the remote control caused R\_S\_ R\_S\_I\_. Um this is certainly something to take into account. And thirty four percent thought that it was hard to learn a n how to operate a new control, remote control. So these are two factors that I think should be included in the design. Besides of course that the remote must look very nice. And the functionality As a lot of people indicated, they only use about ten percent of the buttons, I think we should make very few buttons. Uh this will also be uh beneficial to the design of the remote. Uh I think the most frequently used buttons should be emphasised. Especially the channel selection and audio uh selection buttons. 'Cause they're used most and so they should be robust. They shouldn't break down easily. Um Then as mo as a lot of people indicated that their um remote got lost in the room, it might be and I say might be because it would um certainly boost the uh production costs a lot. But it might be a good idea to make a docking station. And this would, could get a button in it which would send a signal to the remote which would then beep. So you'd know where it is in the room. And in addition to this it could um recharge the batteries in the remote if you put it in. Then um a surprisingly great deal of people w indicated that um an L\_C\_D\_ screen in the remote control would be preferred. This was um mostly people in the age of sixteen to twenty five. But up till forty five it remains feasible. This would also greatly increase the production costs but I think these are just some small factors we could consider. That would be all. Any questions? 'Kay. Yeah you should go to the top thingy. Slide show. Oh yeah. Hmm. Well it would certainly make a fancy design. So That is true. We would have to look into that. Yeah. So is there any discussion possible about the new product requirement? Yeah 'cause you're you're saying that teletext is gonna be an old feature and it's not gonna be used anymore anyway pretty soon. And new T\_V\_s will have internet access on them. But I think if you're targeting people of forty plus, the chance that they will have a T\_V\_ with internet access

within the next like twenty years is very slim. In addition people indicated that teletext simply was an important feature for the remote control. So I think it's pretty dumb to put no teletext feature on it. I'm pretty much against it. Yes. Besides that, I think the market for forty plus is like pretty small. But I mean if I see this, it's I think we're just gonna go for another pretty and not innovative remote control. Yes but it's not the biggest part of the market. And besides that, they're not very critical so I mean they

don't really care what the remote control is like. They'll just pretty much take the first thing they see and which looks acceptable. No. I think that would be the case in the sixteen to forty five age category. because they are critical and they they want to have a fancy remote control. People of forty plus, I mean they want it to work, but as soon as it works it's okay with them. So I haven't heard of it. Hmm. Yes. Yes. But obviously the board tends to disagree. Yeah, also. I think it'd definitely be a bad idea not to include teletext. Yes. Mm-hmm. But I don't think that's really an issue any more 'cause Well might be. But I mean it, if it's only for T\_V\_ you're not gonna need a lot of buttons anyway. You need a one to zero button, next channel, previous channel, volume up, volume down, and some teletext buttons but I think if you only I Nah. Think if you're gonna include teletext you do. I think many people like to use that. 'Cause if you should, if you want to switch from channel one to like thirty five, you don't wanna push the next channel button thirty five times. That's true but um I don't think there are many T\_V\_s that can switch channels that fast. And so you would need like the T\_V\_ would need an a function where you can actually view all channels and scroll through it. And I dunno if many channels would do have that. If many T\_V\_s have that. Mm-hmm. But I don't think I think if you're gonna make a remote control only to operate a T\_V\_, you there's not much you can gain on um having as few buttons as possible. 'Cause I think there are pretty many remote controls that can only operate a T\_V\_, which already only have the minimum number of buttons. I don't think there's much to be gained in that area. Yeah. That is true but I think there's simply not much to gain on the competition when you when you're making a remote control only for to operate only the T\_V\_. 'Cause if you have a a remote control only to operate a T\_V\_ there's simply not a lot of buttons required. There's not a lot of functions required so most existing remote controls simply don't have a lot of buttons either. So I think it would be very hard to actually gain on the competition here. That would that would cost a a big marketing expedition which was one of the arguments to make it only for the T\_V\_ because we didn't have the time to market a lot. Maybe. Well yeah I think, mean we obviously need a good way to position all the buttons and But I don't think we should spend very much time in that. Yeah I think maybe we should do some research into what elderly people like to have in a like to have extra in a new remote control. Yes well fifty percent of the people indicated that remote control tended to get lost. Yeah that was what I suggested. You have it on Yeah you have it's on some phones too, which have a docking station. And you just press a button and the phone goes ringing. So you know where it is. I think since a lot of people indicated that a new remote control is hard to learn, and we're focusing on elderly people here which tend to have a hard time understanding new devices, it might be a good idea to have just a little screen on it, which would explain a button if you press it. Which would tell you what it does. And it wouldn't have to be touchscreen or a very expensive screen, but Just a small screen with two Yeah. But I dunno if that would that would fit into the costs. No. I think probably elderly people would be a little bit more careful with their remote controls than youngsters. Yeah. I think I think that would be a If we should do something like that it would be a, I think it would be really good for uh for the image of the company. And I think, I think there would be a good market for it. If we're able to really bring an innovative product. Yeah the really But I'd have to look into that a little more. 'Kay. And with uh the little screen in it, which explains the buttons. You could I think we n it would be a lot easier t

o adapt it to different cultures. Yeah. Yeah. 'Kay. That's good. Okay. Everybody found his place again? Yeah? That's nice. Okay so this is our second meeting. And uh still failing? Uh now we're going um into the functional design. Um important thing of this phase is that we're going to uh try to get an agreement about the user requirements, technical function design, and the working design. So that we can move onto the second uh phase. But first this phase. Um first an announcement. There's a little adaptation in the air conditioning system. So There's our ghost mouse again. That that means that you can have a little trouble with, little trouble with the air conditioning, that's because of this uh It's in wing C\_ and E\_. So it should be over in a in a while, couple of days. But it's going to be cold anyway, so I don't think you're gonna need it. Then our agenda. Now first the opening. Uh this time I will take the minutes. Uh you're going to have a presentation. All of you. Um and we've got forty minutes for the whole uh pre for the whole uh presentations. So uh I suggest we take about seven minutes per presentation, and then we can have a little discussion about the new project requirements uh which have been sent to me. And then the decision on the control functions uh which we wanna include and those which we don't wanna include. So we've got forty minutes for all of it. So I suggest um let's start with the first presentation. Um who wants to be first? Okay. So Just maybe it's easier if you um Yeah I think you will tell your presentation as well. Just which function you have and what you're gonna talk about. Okay. Thank you. So anybody have um any questions until now? About functional requirements? Okay that's clear. Now to the second. Yeah. Yeah you can take your time. We've got uh plenty of time, so Yeah. There it is. Yeah. One remote. Hmm. 'Kay. Yeah. Okay. Anybody has questions about the technical functions? Yeah. Touchscreen. Huh. 'Kay. That's nice. Uh Yeah. That's right. Uh maybe we can first um listen to your presentation? Uh And then we have a little discussion about the requirements and uh design. I think it's going to Uh it's not too much. Okay. Okay. Thank you. Okay. Uh Okay now I hope everybody has a little bit more insight in the functions we all have and what we are doing right now. Um I'm the Project Manager so I'm here to mess things up and uh tell you some new uh requirements. Um that's, we've uh got to design a um remote which is only suitable for T\_V\_. Um that's because uh it will be too complex and the time to market will be too big, if we wanna have it uh for more functions. So it has to be simple. Uh another point is we have to skip the teletext, because in the world of uh upcoming internet uh we think teletext is going to be uh a thing of the past. And uh it's a function we don't need in our remote control. Um internet is also mentioned in a function we can use. Uh maybe also on televisions it will be available as well. Another one is uh the customer is uh forty plus. Uh that's the the market we have to to to target, because we are going to develop a new product which is specially designed for the younger customers. Um this is uh a bit pity for the Marketing uh Expert. Because he was uh aiming on the the younger persons. So we have to find a market which is above forty plus uh but which will suit our uh remote control, and the other way round. And we have to be very uh attent in uh putting the corporate image uh in our product. So it has to be visible in our design, in the way our device works. And uh we have to be uh very clear on this point as well. So I suggest let's have a discussion on the control functions. Yeah. Uh we can see if we can find a way uh between the functions we wanna use and the market we wanna reach with our product. Um Against the no teletext? Um Yeah it's it is Standard remote. No I think we can I think we can do a lot with the design and the simple buttons which were also ment

ioned. Uh if we put a lot of effort in those, we can make a remote control with uh just two or three buttons. Or just a remote which is suitable for the market we wanna reach because it is forty percent of the market. And um if you look in Holland at the whole generation of forty plus, fifty plus, it's the the biggest share of the of the whole population now. No. But don't you think that if we make a remote



which is uh typically made for this market, that people think the people think that's the the device I've looked for although I didn't realise it. So let's try it. Yeah. Yeah. It's a big success. Very big success. Yeah. Uh. I think so as well. Uh I simply think um uh that the new products we are gonna make, uh specifically design, are designed for uh younger people, uh so maybe we can focus ourself on the elderly people. And I think we have to um see what requirements we need for those um remote controls. 'Cause what you told is the channel selection is important. Volume selection, power and teletext. Okay. Um No we we haven't voted yet, so Uh I think teletext can be uh um can be a function as well. But only if uh if it won't higher the the cost, because I don't know if it will be a lot more money to implement teletext as well, but I don't think it will be a problem. Or is teletext a Yeah. Yeah. So I suggest uh Yeah. Is anybody um really against teletext? No? Just that, that we just keep the teletext. I think that's a good idea as well, especially for the subtitles. Maybe we can make that um another point of advantage in our remote control, if we uh make a k a button ex for example for big subtitles, which is instantly on the remote control. For elderly people they can think, oh I wanna have subtitles, and they push the button and they get the big subtitles. Um so I think teletext can v can be very useful in our advantage. Um Functionality should be few buttons, you said. I think uh that's very important we have a few buttons. So to keep it simple. No. Yeah. But do you need But do you need the buttons for one to zero. Maybe c we can Maybe we can use uh No, maybe we can implement the scroll button? Or a joystick like? There are other ways too. Just look if you look at telephones. The Sony telephone has a scroll button which is very useful in searching names or That's right. the numbers yeah. Yeah they can see how much buttons there are going to be on on the display, and if it's too much we can uh reconsider it. But I think there won't be very much buttons. Or there don't have to be a lot. The number of buttons? I think it's very important in the in the design. You can make a very fancy design uh with putting the buttons on the right places. And if you have less buttons you can do a lot more with To operate only the T\_V\_ yeah. No. So. 'Kay. So we can Yeah. That's right. Yeah. So you suggest we could better um focus on for example the docking station. Uh uh like other functions. Instead of f of less buttons. Mm. No. Do you think the docking station will uh is allowed in the budget we have? 'Cause it can be No. Yeah. Because I think that's uh That's a good advantage point as well. If we have a fancy-looking docking station or very That's a nice requirement. Docking station. I think so. Yeah. That's a good point. Um You said they easily get lost as well. Yeah. So maybe we should implement the audio sign, or something. Yeah. Yeah. Yeah. So audio signal should be possible as well. I think it's not too expensive. Uh another point is the L\_C\_D\_ screen. Um I don't know if that will rise the cost too much, because Yeah. It will be too much as well. Yeah. Based. Just the L\_C\_D\_. Oh just the normal screen. That's a good idea. So Some extra info. Feedback. Yeah. I think that's a good idea as well. As the small screen. Extra button info. I think that should be possible as well. Um let's see what did we say. Mm. More. Should be fancy to, fancy design, easy to learn. Few buttons, we talked about that. Docking station, L\_C\_D\_. Um gen

eral functions Yeah. 'Kay. And default materials. I think that's a good idea as well, because um elderly people don't mind if it's a titanium cover or just a plastic one. So that doesn't really matter. So I think we nee Uh let's um specify the target group. Because are we talking about elderly elderly people or people from forty to eighty. Because I think what we're going to design now is for people above sixty, maybe. Uh what do we want? If we want um a with uh for example the the telephone for elderly people, we can target the real elderly people. Yeah. So that's the Now you're talking about sixty to eighty for example. Yeah. Sixty. Okay. And different cultures. Are we Okay. No. We've got five minutes left just now. Small warning. Should Yeah. In different languages, you know. Yeah. or you have to put a language button in

it, but that will be a bit unnecessary I think. It's better to put it on different markets with it all. Okay. So that's the the target. Uh then a few small things. Uh okay. I will put the minutes in the project uh project document folder. Um what we're going to do for the next meeting is the Industrial Designer will do the components concept, User Interface Designer the user interface concept, and the trend-watching. So just keep in mind the things we've said about the target group, uh requirements, and the trends which are uh going on. And uh specific instructions will be sent to you by uh the personal coach. So um I thank you for this meeting. And I think we have a lunch-break now. So that's a good thing. Okay. Mm. Mm-hmm. Uh okay. Um I've been looking at uh the user interface of it. Um f for the techno f functions uh of of it. Um Okay. Mm? Oh. Uh. Okay. Um yeah. I think uh we uh must use the general functions uh of the uh remote control. Uh uh I've do I've uh done a little uh research on the internet and not much information about it, Um about uh interface but uh Uh Yeah I I've been thinking about a simple manner uh to put a lot of functions uh uh in one um in one uh remote control. Uh so uh you've got a lot of devi uh devices like uh D\_V\_D\_ uh uh television, uh stereo. So um But uh it must be uh user-friendly. So um uh you c you can't put a a lot of uh functions uh in one uh Yeah. Uh uh uh Yeah. In one um remote control. But um Yeah. Um yeah. Got uh many functions in one uh remote control, um but um yeah you can see, this is uh quite simple uh remote control. Um few uh buttons but uh This uh re uh remote control got a a lot of uh buttons. Um uh people uh don't like it, uh so um Well what uh I was uh thinking about was um uh keep the general functions uh like they are. So uh like uh the on-off uh button. Uh keep it uh yeah I like a red button. Uh everybody everybody knows it so uh uh you don't have to change that. Um My personal uh preferences um. Use a display for uh specific uh functions of the different uh device. So um Wh what I was th uh thinking about was um you've got um Uh this the remote control uh and uh you got here the general functions, uh like uh the on-off button uh sound uh I dunno um And um here you've got a s kind of a display. It's a touchscreen. So um yeah you got a general f uh f the functions of the device uh for a D\_V\_D\_ player or uh so um the pl yeah um f for uh playing uh reverse uh. And um you got here uh real buttons for uh selecting uh a device. So um this button is for a D\_V\_D\_ or So um for every um device you've got a uh a f a b a part uh display of a part buttons. So uh you you never got uh all the buttons uh on w one device. So uh that's uh my uh idea about it. Um yeah and Uh let's see. Uh yeah. So a touchscreen. Uh and um th the buttons uh the real buttons uh we have to use um. We better c um uh use uh quite uh large buttons uh for um yeah. Everybody uh have to use it so Uh ol even even old people um young people. So uh we must keep uh buttons uh quite s uh simple and quite large. So uh Um Yeah. Uh yeah. That was uh my uh part of it. So N I I don't think so. Uh you got uh

quite a cheap uh touchscreen. S um it's uh not uh in colour or something. Uh it's just uh um one colo Uh yeah. Uh I seen uh w uh something on the internet uh not today but uh a few uh weeks ago. Uh you got uh yeah quite an uh a kind of uh touchscreen um and it's uh for uh twenty uh Euros or uh less uh. So it's possible. Yeah. Yeah that's true. Uh. Okay. Mm. Mm. Yeah. Mm. forty Yeah. Yeah. Mm. Mm. Mm. Yeah. But um deaf people need uh teletext for uh for subtitles. So it's Yeah. It's Mm. Yeah yeah. Yeah. Yeah. Yeah. If it's only for televi Yeah. Yeah. Yeah. So we can s we can skip the display, so uh we don't need it. Uh Yeah. Yeah. Mm. Yeah. Mm-hmm. Yeah. Mm. Mm. Yeah. Hmm. No. No. No. Hmm. Mm. Hm. No. Mm. Okay. Yeah. Yeah. Mm. Mm. Yeah. Mm. Mm. No. So 'Kay. Yeah. Right. No. Yeah. Yeah. Yeah.

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# Meeting ID: 118

Data Source: Train

## Executive Summary

now we are on the conceptual design meeting . I will again do the secretary part the decision we want to take on this meeting are on the um first on the component concept , so what kind of energy we use uh what kind of chip on print and one ki kind of case . And also on user interface concept uh what kind of interface we use and if there is some supplements . And at the end um Sammy will give um a trend watching on what he's he's been doing . we're to mainly design f mainly need to know which components we'll use for energy , and the material and interface . For energy there are maybe two or three possibilities . First one , we can use simple battery , or we can use traditional solar cells mm and the material we can have plastic , rubber which is good for this R\_S\_A\_ and then uh titanium , which can be which have very good look an and then interface we're to use push buttons or liquid crystal d L\_C\_D\_ display . we would like to have some speech recognition s chip in our remote control . this can be simple kind of programmable chip which can use microphone sensors . Still we are looking for possible uh technical uh specifications and how w easy we can do and within our pri range , like we're to in our twelve Euros or around that . So we are looking for simple devices or simple technology to do the location of remote control in a room or in a house . we would like to propose battery instead of solar cells and it would be problematic uh to have enough energy with the solar cells And also we want to go for titanium design instead of rubber or the problem is with this design we found that we can't use double-curved shapes . What is a double-curved shape ? Like you can have two curves . we want to go for simple push buttons because it need a simple chip and it's really lesser uh re really less expensive compared to L\_C\_D\_ uh which needs advanced chip technology and it's more expensive , since we want to put some other features such as speech recognition we want to reduce uh cost . Um I want to know why it b uh just uh sorry but for the point before uh why not the rubber , if it is something that it seems to be light . Uh Uh And also like in if you put a it's be difficult to do all the moulding of buttons and these things W we can use something like you know the whole body's titanium But full assembly We'll use mainly for titanium and also it's bit difficult to do all the shapes uh . we we would like to use push buttons instead of L\_C\_D\_s Y yeah we have simple buttons and speech recognition technology , mm can we still include the L\_L\_S\_D\_ display ? it's either L\_C\_D\_ or push-button . maybe maybe we can see depending on how we'll come up with our full design because the speech recognition technology will take at least five Euros or or something so we want to reduce the cost on display it's it's not gonna be a touch pad , uh just

a display for giving you information . the batteries uh are going to be very light . and now I think we have many options in the market so we can go for small nickel or alkaline batteries this device on n that can be used for speech recognition could also be used for just uh the finding it basically , instead of clapping why not just be ask . We have dreams and the in the end we find out that it's not feasible . the concept of the interface . Generally I developed quite a broad concept not only for the interface , but for possible instruction or user's manual and uh all the complex things that come together with your T\_V\_ and remote controls . We got our perfect remote control with a lot of buttons and uh we got explanation for every button and you can use your time and uh it will take i some days to learn all this buttons and um the L\_C\_D\_ is going to be somewhere here and uh go back button , I don't know really where it is , maybe one of this buttons , maybe this button is power on and off ? that's our concept . It's called the millennium remote control . doesn't make sense . This is very ugly . too much concept . we will not use this . We will not use this . But instead of this I will devise That's our concept . And it's got just few buttons , quite low looking , and all this stuff we already we already discussed . Do you think it can come in several colours ? I would make a backlight of the L\_C\_D\_ screen with different colours . Um but not the case . Uh the case would only be in that uh aluminium uh titanium stuff , Because apparently from your survey people like colours , let's remember there's a Nokia phone which changeable panels . so that would be the option But it would be expensive , no ? If you use colour L\_C\_D\_ . if users want more colours they can pay more money to get this uh the shapes and they can have different assembly . Uh instead of that maybe we can change the colour of the assembler . you you propose something with option i that increase the price if we if you want o more colours on L\_C\_D\_ , there's one more decisi uh one more solution in fact , um 'cause there are some some paints that can change colour according to where they are , like they can reflect different colours depending on what is around , like what colour is around , and depending on the temperature , but that's maybe mo too much expensive , yeah . Because uh I think there are two kinds of people . Those for which the remote control is uh is to be uh something useful and those for which is something that that that uh is uh specific to them I think I think they would be ready p ready to pay more for that . It might be optional , yeah . Could we integrate something into our remote control , something like light ? That they can use it in darkness , like . Hand light , And um the remote control's going to be smart but how smart should it be to not to complicate things too much ? I heard that uh it seems that speech recognition is something that can be done Are are you saying here that uh the remote controls should be aware of who is using it ? I just want to say it should be real smart . since we have we want to do some speaker dependent speech recognition uh so we can use So it could be smart in that way . it might also record the kind of uh channels you are u more often using and uh levels of volumes that you're more often uh things like that that might be expensive The remote that knows you . I'm going to talk about trends and um I hope this can help us to to understand I how we should design our remote control . Anyway these days uh the best uh source of information is the web as you know , but uh basically there are uh in in the market of of remote controls there are three aspects that we should very pay much attention to . The first one , which seems to be the most important one , is that it has to be fancy , it has to have a fancy look and feel . And uh interestingly this is the very most important thing . It has to be fancy . Strangely enough it's more important to be fancy than to be wi and now that's the second thing it has to be , it has to be technologically i innovative , it has to be new with some of uh new uh technology inside and uh and this is also

uh more important than the last thing which is that it should be easy to use and it should be easy to use as a remote control . And finally of course it has to be useful as a remote control but it seems that it's not so important that it's useful as a remote control . currently the trends that we see in I in I big cities like Paris and Milan , well , it seems that this year things should have uh a fruit and vegetable uh way of of look or feel And I think of course uh i it applies to everything . It it can travel f from clothe to furniture same idea . And uh if we co we compare to last year , now it has to be spongy , When we were talking about rubber , I think uh the rubber aspect might be important because it's what is probably more feasible in terms of sponginess . So maybe titanium it's not a good idea . Think more of uh something in the colours of uh like fruit and vegetables and spongy , even in the shape it has to be more round and uh more uh uh look natural somehow . I mean And not those futuristic uh remote control with angles and uh and titanium like . these abilities are mainly ad addressed by young people ? we have people uh uh listening to the trends everywhere in the world , of course , It's more general trend it's not particular to the remote control . But it seems that trends travel across things . but some materials n they're to be uh they're to be something like solid like they can't be really spongy We have to I think we have to have the look of fruit and vegetables fruit . These things can be easily incorporated . We can have t colours or this shape If if it's something like rubber made or I think it's also going to be good . we will have uh next meeting in thirty minutes again . Um now you have to go straight on this individual action which i which are for Rama uh wil design , um Mark the user interface design , and uh Sammy uh the product evaluation . Uh you will work together uh on a new on on a prototype using modelling clay . um and I as always your personal coach will send you specific instruction . we want the speech recogniser and we want some kind of buttons and we want some themes like fruits or vegetables , we want to follow general trend . No , we don't have to , Again , as I said we can also try to make it , to create the trend . are we confident enough on creating trends ? we can make it smell like fruit . what about location and these things , people are really interesting on those features ? Or they really like They more want these fancy features it has to be fancy Whether it's useful or not doesn't seem to be very important . so I think if nobody else pro provides currently a remote control with that kind of stuff and if we can provide it I think it's a good sell for us Now we have to decide on what kind of fanciness . Do we take titanium smelling like fruit , or do we make spongy uh fruity-like we will try to explore these two options Maybe you could explore the two option . Could we make a titanium shape ? I mean fruit-shaped . at least like we can make banana Doub double-curved . Don't you say that you cannot do double shape uh curved shape and and s we're to see the whether rubber is expensive In fact I just agreed to make uh to make the like titanium panels on a whole rubber body . you explore now that you're going to work together these these two . Maybe we can have two different assembly also like one spongy and one kind of titanium . I think we have to choose . If we choose uh titanium or if we choose spongy still we want to keep L\_C\_D\_ ? Or Mm I think it's what we say , that we have an uh an L\_C\_D\_ with uh information . The thing is that uh if we want to have as he says if we want to have uh a small number of buttons we need to have a kind of output that says currently what their actions are . That's the converse to having zillions of button where each button does only one thing . and we just stick with two batteries so it's not any solar or in general I think people uh change T\_V\_ more often than batteries of their remote control . Because the trend goes faster than the life of the Yeah , we're done .

## Complete Meeting Transcript

Ramaro. Yeah, participant two. Component. Yep. So we're to mainly design f mainly need to know which components we'll use for energy, and the material and interface. For energy there are maybe two or three possibilities. First one, we can use simple battery, or we can use traditional solar cells or mm and the material we can have plastic, rubber which is good for this R\_S\_A\_ and then uh titanium, which can be which have very good look an and then interface we're to use push buttons or liquid crystal d L\_C\_D\_ display. And we can use some, moving kind of thing. So, as we discussed before, we need to we would like to have some speech recognition s chip in our remote control. So this can be simple kind of programmable chip and which can use microphone sensors. And we also want to look at our remote control, so. Still we are looking for possible uh technical uh specifications and how w easy we can do and within our pri range, like we're to in our twelve Euros or around that. So we are looking for simple devices or simple technology to do the location of remote control in a room or in a house. So uh we discussed an Excuse me. So we would like to propose battery instead of solar cells and it would be problematic uh to have enough energy with the solar cells and so we would like to just use simple battery. And also we want to go for titanium design instead of rubber or and well the problem is with this design we found that we can't use double-curved shapes. Like you can have two curves. Uh it's I think in manufacturing I guess it's problematic. So, we want to go for simple push buttons because it need a simple chip and it's really lesser uh re really less expensive compared to L\_C\_D\_ which are uh which needs advanced chip technology and it's more expensive, since we want to put some other features such as speech recognition we want to reduce uh cost. Uh Uh And also like in if you put a it's be difficult to do all the moulding of buttons and these things and Yeah. Yeah. Like in cell phones recently these you can with the rubber in four directions and yeah. But full assembly We'll use mainly for titanium rubber is expensive and also it's bit difficult to do all the shapes uh. And this push buttons we we would like to use push buttons instead of L\_C\_D\_s and so we want to mo I mean we're we want to put speech recognition so we want to reduce price on this technology and so that we can have enough space or enough money for S S Y yeah we have simple buttons and speech recognition technology, so Uh I So uh it's like a Yeah maybe maybe we can see depending on how we'll come up with our full design then if we have enough money or like for and because the speech recognition technology will take at least five Euros or or something so we want to reduce the cost on display or this inter Ok Yeah, that can we we can consider, because like it won't take much money I guess, because Okay, yep. You have any further questions or? Yeah. Yeah, we're to go for li and now I think we have many options in the market so we can go for small nickel or alkaline batteries for really light batteries and with uh good price. Yeah, that's then the the one thing we want to know is like because remote control is used for like in the household so it it it will be it m maybe at least five, six people want to use it so so how to uh uh how to define our re speech recognition whether we want to do s speaker independent or speaker dependent. If we're going for more speaker independent then it would be like again cumbersome and we need really m more technology and so Yeah, if if everybody in the house n to locate then we're to go for some speaker independent technology or something. Yep. Thank you. Yeah. Oh. We have uh some limitations. Three. So maybe you can use in the end and Uh Mm. Yeah. But it's uh But it would be expensive, no? If you use colour L\_C\_D\_. Uh instead of that maybe we can change the colour of the assembler. Maybe we can just if users want more colours they ca

n pay more money to get this uh the shapes and they can have different assembly. So users have different I mean they have their own interests, colour interests and so So we can just if they want they can just pay another two Euro. Yeah. Yeah yeah yes. If they want like uh so that we can yeah. Yeah. Just they'll get few more things and few more colours. Lights, yeah. Yeah. Yeah yeah. Mm. Yeah. Uh Mm. But those people will be really few, no? So like we can those Ah. Yeah. Mm. Hmm. Yeah maybe like the infrared like we can put some radium chips or something so that like at least um yeah. Yeah, that Oh. Yeah. Uh that mm that could be feasible I guess, like So since we have we want to do some speaker dependent speech recognition uh so we can use yeah. Yeah, yeah. Yeah. Yeah. Yeah. Uh it's Hmm. Four. Mm. Yeah kind of um maybe Yeah it Yeah. Yeah. We need to think about mm mm. Fruit. Even shape? More yeah. Yeah. Mm. So these abilities are mainly addressed by young people? Or it's This you you so did you Where? Oh. Oh, okay, mm-hmm. It's not from mm. Mm-hmm. Yeah. Yeah. It's more general trend it's not particular to the remote control. Mm. Yeah. Yeah but some materials n they're to be uh they're to be something like solid like they can't be really spongy or yeah yeah. yeah, yeah sponge, yeah yeah at least that's Yeah yeah that yeah yeah. Yeah. Yeah, looking yeah fruit. These things can be easily incorporated. We can have t colours or this shape or at least yeah. Yeah. Mm. Yeah. Look and feel de Hmm. Hmm. Mm sounds interesting. So, can we highlight the specific features of our yeah, so so we want the speech recogniser and we want some kind of buttons and we want some themes like fruits or vegetables, that's we want to follow general trend. Yeah. So, do you think Hmm. Yeah. Yeah. That's So what about location and these things, people are really interesting on those features? Or they really like They more want these fancy features like Feature Yeah. Yeah. Yeah. Yeah. Yeah. Uh we will try to explore these two options and yeah yeah. Uh yeah at least like we can make banana or yeah it's it's yeah that's a we're to look for and and s we're to see the whether rubber is expensive and d Hmm. Mm. Yeah. Maybe we can have two different assembly also like one spongy and one kind of titanium. we have only the plastic or the the chippy yeah fibre chips or Uh. Yeah. Yeah. Yeah. Even design. So still we want to keep L\_C\_D\_? Or Okay. Yeah, then we can yeah, yeah, that user friendly or Mm. Yeah. Yeah. and we just stick with two batteries so it's not any solar or yeah yeah j yeah, because Yeah. Yeah. Yeah, we're done. Yep. How was lunch? Mm. Why? Mm-hmm. W we can use something like you know the whole body's titanium but there are some rubber or I dunno some rubber parts like to make it feel better and to you know Yeah. Yeah. Mm-hmm. Okay, and still we have mm can we still include the L\_ L\_S\_D\_ display? L\_C\_D\_ yeah L\_C\_D\_. No, it's not gonna be a t no touchable but still like a source of information or source for menus. Okay, so let's try it, let's t Yeah, yeah, it's it's not gonna be a touch pad, uh just a display for giving you information. Mm-hmm. Mm-hmm. Mm-hmm. No more questions. Mm yeah, yeah. But still uh L\_S\_D\_'s already quite nice, L\_C\_ I'm an artist, sorry. So uh, that's not I hope that's not too much. Okay. Uh participant number three. Uh mm mm uh have a look at this no it's yeah. Uh so the concept of the interface. Generally I developed quite a broad concept not only for the interface, but for possible instruction or user's manual and uh all the complex things that come together with your T\_V\_ and remote controls. So let's start with this. We got our perfect remote control with a lot of buttons and uh we got explanation for every button and you can use your time and uh it will take i some days to learn all this buttons and um the L\_C\_D\_ is going to be somewhere here and uh go back button, I don't know really where it is, maybe one of this butt

ons, and um power on and off mm I I don't remember so uh it it should be maybe this button is power on and off? Or no? I can see nothing. So that's our concept. It's called the millennium remote control. Yeah. Really? I thought you like it. Ah okay just press the button, please uh. Yeah, we will not use this.

We will not use this. But instead of this I will devise That's our concept. And it's got just few buttons, quite low looking, and all this stuff we already we already discussed. And uh what will people say? They'll say it's perfect. Or what will say? Uh they will say it's splendid. And uh e everyone will say I'll buy it. And everyone's gonna be satisfied. I would make a backlight of the L\_C\_D\_ screen with different colours. Not the case. Yeah. Okay, so let's remember there's a Nokia phone which changeable panels. Do you like it? That's why you don't have it. That's why, 'cause it's nasty. No. Um, I am here. Mm-hmm. 'Kay. Okay, what uh there's one more decisi uh one more solution in fact, um 'cause there are some some paints that can change colour according to where they are, like they can reflect different colours depending on what is around, like what colour is around, and depending on the temperature, yeah. We can make it in fact. If if if the okay. Mm-hmm, mm-hmm, so Uh-huh. So, be an option, yeah. Yeah, yeah, yeah. But you know if you want to be different you just take your remote control with you all the time. And it makes you different, you know? Anyone has their remote controls here? No? Mm-hmm. Okay. Uh-huh, uh-huh. Could we integrate something into our remote control, something like light? That they can use it in darkness, like. Hand light, yeah. Mm-hmm. Okay. Okay. Okay. S well, let's go on maybe with the presentation. And um the remote control's going to be smart but how smart should it be to not to complicate things too much? And uh I dunno that's a question to you and to mm to Mm-hmm. Okay, okay. So just just just just think about it um. Thank you. Uh yeah I just want to say it should be real smart. Voice recognition is quite tough. I say don't use it, and the control just looks. 'Cause I ordered jus To I to I lock it. Yeah, sure. Mm-hmm. Okay, thanks. What is spongy? Okay. Okay. So we have to uh for yeah so are we confident enough on creating trends? Well, we can make it smell like fruit. Yeah. Mm-hmm, mm-hmm. Could we make a titanium shape? I mean fruit-shaped. But Doub double-curved. Okay, okay. In fact I just agreed to make uh to make the like titanium panels on a whole rubber body. Well, okay w we'll see. Yeah We'll see. We'll see. We'll see. I I really don't like this modelling clay 'cause you know it makes some for for I dunno uh yeah um we'll look. Okay, okay. Alright, alright. Mm-hmm. Yeah. Mm-hmm. Thanks Don't be sarcastic. Mark. Uh Rama. Ah. Mm-hmm. What is a double-curved shape? Uh-huh. The cost. Mm like this? Mm-hmm. Speech L\_C\_D\_. Seems not, it's either L\_C\_D\_ or push-button. Ah. The L\_C\_D\_ would The display would only be display and not uh touch sensitive you mean. Just uh for output, yeah. Yeah. I guess no um. So the batteries uh are going to be very light. Okay. So this device on n that can be used for speech recognition could also be used for just uh the finding it basically, instead of clapping why not just be ask. Mm-hmm. Okay. No, it's okay. Puts less of constraint on what we can do but it's always like that. We have dreams and the in the end we find out that it's not feasible. Anyway. Yeah. L\_C\_D\_. L\_S\_D\_ is something else, and it's quite nice as well. So, go on uh artist. Hmm. Let's change millenniums. doesn't make sense. This is very ugly. Oh no, too much concept. Ah. Ah, back today. Do you think it can come in several colours? Or did the Um but not the case. Uh the case would only be in that uh aluminium uh titanium stuff, like Yeah, well they like uh something which is uh Mm yeah, okay, so that would be the option. I don't know I don't have a Nokia phone, but I don't use that but

again, uh I might Yeah, bu but Mm-hmm. Kind of upgradable uh remote control. Wow, wow. Mm. Like a chameleon. Mm-hmm. Because uh I think there are two kinds of people. Those for which the remote control is uh is to be uh something useful uh I'm going to talk about this later but and those for which is something that that that uh is uh specific to them so it it's like a signature. My remote control is pink. Nobody else than me has a pink remote control. And that makes me special. I think I think they would be ready p ready to pay more for that. Those who wanted to have it pink. No mm no. It might be optional, yeah. The the young people the young people want to be different from their friends. Although



similar but have something just slightly better. Pink Mm. Yeah. Yeah, yeah. You always have your remote. Oh, you don't? Yeah. You don't have your remote. When you know like for instance take the iPod. It's a kind of remote control. Uh it's white and it's so white that you see it from anywhere. It has this distinctive look and feel and look which people seem to like just because it's a colour that we don't usually see in a remote control. White. Seems important. Mm glow in the dark, so Okay. Yeah. Uh-huh, yeah sure. Well so I heard that uh it seems that speech recognition is something that can be done uh so that's the smartness of the thing. Currently we don't have guns with speech recognition or uh beer cans with speech recognition but we may have remote controls with speech recognition. I dunno. Don't touch the remote. But yeah. Are you saying here that uh the remote controls should be aware of who is using it? So for instance the young guy would not be able to use it because his father doesn't want. Like with some Maybe fingerprint recognition or Mm. Um Mm. Okay. So it could be smart in that way. But for instance th I I'm thinking about the other uh uh particularity that the the remote control could have. Since it it knows who is using it, it might also record the kind of uh channels you are u more often using and uh levels of volumes that you're more often uh things like that and provide you ways of using them, I dunno, somehow, I dunno, that might be expensive but that might also be a good sales pitch again. The remote that knows you. My turn? Okay, it's alright. Four, I think. Trend, yeah. No uh yes. Okay, so I'm going to talk about trends and um I hope this can help us to to understand how we should design our remote control. So, next slide please. So first maybe just a small recap on how how do we watch trends so it's not so uh simple you might think that it's easy but uh it's not so simple. Anyway these days uh the best uh source of information is the web as you know, so have to go often on the web and look at uh what the others are doing, and ask real people who are using real remote controls every day uh or any other tool that is similar to a remote control which basically is a small device that people have with them, always, like a phone. We can use the phone as a as a good uh uh example of where to be inspired. Of course those that who are watching the trends are also have to be inspired because in fact they're not only watching the trends, they're inventing it, they're creating the trend. I hope I'm going to try to help you on that. This is more risky because you're not following the trend, you try to invent it, which means either you succeed and you make a lot of money or you don't and you're out of business. So anyway uh next slide please. Uh to be to be quick there's a lot of words here but uh basically there are uh in the market of remote controls there are three aspects that we should very pay much attention to. The first one, which seems to be the most important one, is that it has to be fancy, it has to have a fancy look and feel. And uh interestingly this is the very most important thing. It has to be fancy. Strangely enough it's more important to be fancy than to be wi and

now that's the second thing it has to be, it has to be technologically innovative, it has to be new with some of uh new uh technology inside and uh and this is also uh more important than the last thing which we w may think that would have been the most important, which is that it should be easy to use and it should be easy to use as a remote control. So as you see uh it first have to be very nice, something that people are proud of uh uh that i uh they can be identified with uh and and then uh something that um contains very novel stuff that they can talk about with their friends, huh, mine has this and not yours. And finally of course it has to be useful as a remote control but it seems that it's not so important that it's useful as a remote control. Next slide please. Uh and now in a more uh general uh uh broad way of seeing th uh the thing. If we look back and not uh look at only remote controls I think it's important to see that the trends are quite the same in many areas so currently the trends that we see in I in I big cities like Paris and Milan, well, it seems that this year things should have uh a fruit and

vegetable uh way of of look or feel or so. And I think of course uh i it applies to everything. That's the thing with trends. It it can travel f from clothe to furniture same idea. Fruit and vegetable. Think fruit and vegetable. And uh if we co we compare to last year, now it has to be spongy, yeah. Well this so so I think uh uh i When we were talking about rubber, I think uh the rubber aspect might be important because it's what is probably more feasible in terms of sponginess. Seems not, seems not. Yeah. So Think more of uh something in the colours of uh like fruit and vegetables and spongy, as a even in the shape it has to be more round and uh more uh uh look natural somehow. I mean And not those futuristic uh remote control with angles and uh and titanium like. So that's what people seem to yeah i I know it's quite far from what you thought but that's that's fashion and Okay that's all I have to say. These I'm sorry. Yeah, yeah we have people uh uh listening to the trends everywhere in the world, of course, as you know our company is quite big and uh so I'm just asking them what are the current trends according to them when they go in the stores and when they ask uh their uh friends that are also well. No, it's not it's not this this is very general, yeah. But it seems that trends travel across things. The what we Sure. Yeah. We have to I think we have to have the look of fruit and vegetables but we still have to put our chips inside, so of course. This is your problem. This is not mine. Yeah, I think in the colours and in the uh the kind of material. If it's something like rubber made or I think it's also going to be good. Okay? Yep. Thanks. Mm-hmm. Okay. Thanks. Spongy. No, we don't have to, but seems it's the trend. Again, as I said we can also try to make it, to create the trend. So there's no Well, that's you t can try to convince us. Okay. that's a good idea, I Uh I think i yeah i it's again in this uh what I said first it has to be fancy so I think if nobody else pro provides currently a remote control with that kind of stuff and if we can provide it I think it's a good sell for us because we have it and others don't. It's fancy. Whether it's useful or not doesn't seem to be very important. Maybe you could explore the two option. Mm. Seems to be. If you have time. For creation. You can paint it afterward. No problem. We have a very large department of paint. You will do it. Yeah. The thing is that uh if we want to have as he says if we want to have uh a small number of buttons we need to have a kind of output that says currently what their actions are. Yeah. That's the converse to having zillions of button where each button does only one thing. Yeah. Classical, we stay classical in that we don't reinvent uh the wheel. Anyway it's very in general I think people uh change T\_V\_ more often

than batteries of their remote control. So. Because the trend goes faster than the life of the So it's very Okay. We're done. Okay, so now we are on the conceptual design meeting. Uh y getting close to the last is the penultim meeting. Mm great. So um I will again do the secretary part uh we will have three presentation first um uh the industrial design, first Rama then Mark and then Sammy. Um um we have to take a decision on the control remote control concepts and we have forty minutes. So what we want to the decision we want to take on this meeting are on the um first on the component concept, so what kind of energy we use uh what kind of chip on print and one ki kind of case. And also on user interface concept uh what kind of interface we use and if there is some supplements. And at the end um Sammy will give um a trend watching on what he's he's been doing. It's So, let's go. First with Rama. Participant two. Mm-hmm. Mm-hmm, okay. Um I want to know why it b uh just uh sorry but for the point before uh why not the rubber, if it is something that it seems to be light. Okay. You m titanium it's more uh Yes so mm Uh-huh. Okay. Okay. Okay. Okay. Uh yeah so Okay, s so simple button and uh speech recognition for the more complicated. Okay. Mm-hmm. Okay. Mm. Okay, for the location. Hmm. Okay. So let's now go to the you don't have more question? Um mm thank you mm. Yeah. Yeah, but mm. Okay. Um yeah. Now let's talk about uh interface. Three. Which one? Okay. Mm. No. Mm-hmm. 'Kay. Mm-hmm. Because apparently from your survey people like colours, no? Okay. So? Uh-huh, okay, so you you

propose something with option i that increase the price if we if you want o more colours on L\_C\_D\_, yeah. Okay. And thermodynamic also. Mm-hmm. Mm-hmm. Yeah but that's maybe mo too much expensive, yeah. But uh it can be in uh maybe in an a gradable version, but Mm-hmm. Okay and you think that we don't have to make to make them pay more because of uh o or this is Okay, so so i it's not uh a s base service it's a Mm. Okay. Mm-hmm. So m so maybe that's if that it's a selling point maybe it has to be the base. And you'll be different. Uh in the train uh, hello uh no. Want to change my neighbour. Mm. Mm-hmm. Iradium? Ah sorry. Mm. Okay. So mm Mm-hmm. Mm, that's a nice world. Okay. Mm. Okay. Mm. Mm-hmm. Okay. So it's yeah, Marketing Expert. Participant two? Four, sorry. Mm. Mm-hmm. S So maybe titanium it's not a good idea. Mm-hmm. Um sorry Mark. It seems to be Mm-mm. Mm-hmm. Hmm. You're old-fashioned. Sorry. Okay. Mm you have questions? Mm. Mm-hmm. Okay. No more question? Okay. So Mm-hmm. Okay, so we will have uh next meeting in thirty minutes again. Um now you have to go straight on this individual action which i which are for Rama uh wil design, um Mark the user interface design, and uh Sammy uh the product evaluation. Uh you will work together uh on a new on on a prototype using modelling clay. Mm-hmm um and I as always your personal coach will send you specific instruction. Yeah you're right, you have to So you say s S do we agree on that? Yeah. We have to. No. Okay, that's a good idea. So titanium smell like fruit. Mm-hmm. Mm-hmm. Okay. I I agree with uh this uh Now we have to decide on what kind of fanciness. Do we take titanium smelling like fruit, or do we make spongy uh fruity-like Mm. Yeah, yeah. Don't you say that you cannot do double shape uh curved shape yeah. Mm-hmm. Okay. Mm-mm. Okay, so you explore now that you're going to work together these these two. Or or spongy an yeah. Mm. Mm. Yeah I don't think w I think we have to choose. If we choose uh titanium or if we choose spongy but uh it cannot be both. Ah you can pretend that it's uh titanium. Yeah, do don't worry, you you you speak with mm mm. Okay. So explore a shape. Mm I think it's what we say, that we have an uh an L\_C\_D\_ with uh information. Not uh Mm-hmm. Mm. Mm. Okay. Yeah, yeah, yeah. Mm. Yeah. Mm-hmm. Okay. So are we mm. Okay. So see you in thirty minutes.

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# Meeting ID: 135

Data Source: Train

## Executive Summary

welcome back fro to the second meeting . the first presentation we'll be looking at is Poppy's presentation . I will take this time just to apologise . Um , so I was looking at how we're going to go about the working design , Uh , on a functional side of things , we found out that wh from our previous meeting , we decided that there're certain points that will make our product unique . Um , one is the visibility in the dark , And we could use illuminated buttons , Or we could use fluorescent materials Um , also we could use um an alarm . So if we lost the um remote control , perhaps there could be a button on the television set itself , which you could press , Um , another thing I think we d missed out on on the last meeting was the fact that we should consider the environmental impact of our design . Um , from previous researches I've carried out on other projects , um we've learnt about smart materials where um um specific alloys of metals have a shape memory . So they can be heated and um and cooled , and they change the shape of um the metal . So um , the benefits of this for our product would be that when it came to the end of its product life , if it was heated , um everything would spring apart . So , all the um individual components could be easily separated , and then some could be reused , some could be recycled , I mean , the user would return the p product to the company , 'cause it's the product's responsibility to get rid of what they've made . Would we be the company that would break down these , or uh metals ? One thing we have to consider is our uh one hundred percent um turnover goal that we have for our financial sector . Um , so we'll have to investigate how much that will cost us , cost the company , Um also there is um components . But I haven't put this plan together yet . This would actually show the circuit diagram . Although I haven't come up with the final circuit yet . I it just shows what sort of energy source . It could be a battery , And , um , the next presenter will be Tara . There're two functional design options . A multifunctional remote control , which can be used for several entertainment devices . And a single function remote control , used specifically for the television . Um , multifunctional controls can be difficult to use , as the multitude of buttons can be confusing . A single function remote control is simpler to use , but it means you have to have other remote controls for your other entertainment devices . Um , I think that a single function remote control would be preferable , It'd be more compatible with a range of television sets , making it more internationally sellable . And it would be more profitable as it would be more simplistic . And less functions would have to be included . So it would be cheaper to make . So as far as we know , um , a single function television remote control is us usable

internationally ? Um , I was just wondering about the , what , what Genevieve said before , about having like some hidden controls like having the outer casing . And that would probably , um , I d , well well what you said before about it being a more profitable simplistic design . Does anyone object and , and find the multifunctional might be a better way to go ? because we're trying to do so much , that if we're trying to make a unique , user-friendly , dadada , and it's also multi also multifunctional , um , we're gonna go over budget for one thing . And with this we'll have more room in the budget probably to make a more original design . Okay . So I'll be discussing the functional requirements of this remote control . Um , I've done some marketing research , a lot of interviews with remote control users , um , and some internet research . and firstly I wanted to remind you about our company motto and purpose . So we believe in providing international market with fashionable products . Um , hence our motto , we put the fashion in electronics . Um , and we should also be looking to trends in clothing and interior design . Not just in electronic fashion . Any trends that are going on in , in the public , even media , Um , seventy five percent of users of remote controls find them ugly . Eighty percent of users would spend more money when a remote control would look fancy . Current remote controls do not match well the operating behaviour of the user . Um , seventy five percent of remote control users said that they zap a lot . Um , and fifty percent of users say they only use ten percent of the buttons . so it might be very appealing if , um , we have very concise buttons . And another thing with um lots of surfing , we'd probably have to work on something that could be um a lot more durable , And actually to go with that , I'm gonna give you some statistics on the uh relevancy of the buttons , how much they're used . Channel selection is used a hundred and sixty eight times on average per hour . Teletext , um , now I'm not too clear on what that is . it's just information that um , like television timetables , what's on , what's on now , what's on next , on every channel , and So it looks like something that we're gonna want to do some research on and include on our remote control . Um , and has a r a high relevance of six point five . Remote controls are often lost somewhere . Um , remote controls are bad for R\_S\_I\_ . But we'll have to also avoid , you know , buttons responding to the slightest touch as well . So I guess we're gonna have to figure out what age group we're , we're targeting , and if and if voice recognition is something we wanna look into . So it m it may be too complicated for us , but it's something to keep in mind anyway . And something that might further complicate it is that the T\_V\_ makes noise itself . We need to decide if that is our um intention is , is a simplistic design . Um an L\_C\_D\_ screen though might be something that , you know , you can shift through pages kind of li the way this PowerPoint is working . It would be good if it had the actual programme that was on , and what was next . Might be quite expensive to do that though . Um , I think our priority really should be unique design . so uh in my opinion it should be , um , user-friendly and unique . Um , I th myself , voice recognition kind of scares me off . I mean if we wanted to concentrate on fifteen to twenty five years olds , we could go for the fancy stuff . But if we wanna make fifty million , and and have everyone want this remote control , we should maybe stick to the basics . Um , so I I think , I think the older generations we should be catering to a bit more . Before we go into uh more discussion on we want this design to look like , I've received some information from the management that will affect some of our decisions . Um , for one thing , because Having controls with D\_V\_D\_ , V\_C\_R\_ , that sort of thing , would really complicate the design of the remote control . Um , we've decided not to include them and make it a specific , just a specific television um function . Which is good as , as we've sort of decided that we would like to go with that anyway .

Another thing that might um affect other decisions is that um the management feels that teletext is outdated , because more people are using the internet now . So , um , all the remote controls must have our um We'll incorporate our logo and colour in in some way . but for the purposes of this meeting I , I wasn't offered a , like a type of logo or colour , It's probably R\_ R\_R\_ in yellow . Um , so , now we need to discuss , um and come to a decision on our remote control functions , of , of how this is going to be . Are we going to write off the L\_C\_D\_ option ? So no L\_C\_D\_ , no teletext , and no voice recognition . I don't use teletext that much , but if it was on your T\_V\_ , you'd want to be able to use it , It was a management decision , so it's , it's pretty much out of our hands at this point . Um , well I guess , just from my findings it looks like we wanna minimise buttons . I think we should definitely go ahead with the alarm system idea that you had . Would you be able to , um , put the little device anywhere ? so it would need to be something that you could stick somewhere , or something . It would be able to use the same reception on the remote c control I guess , but the actual device would have to have its own infrared signaller . Would it need a battery then ? So , mm , more research into that one . um , the glow-in-the-dark , fluorescent , whatever , system , um is a go ahead . Um right , if w if we're minimising buttons , we might be able to make them actually larger . We could , may , possibly , sorry , incorporate them both so that the buttons could maybe be in the shape of the numbers themselves and be made out of some glow-in-the-dark material . I just thought that it , it might be sucking more battery power , if there , if it is a light up . Um , so like big b um buttons , for people you are visually impaired . I guess the other option , referring to the battery thing is , you know how cellphones will t light up for fifteen seconds or something , when you're s and then it goes , Um , if instead of a constant light up on the , on the remote control , if it lights up for ten seconds when it's touched again . That's probably feasible . Um , did we want to go for the glow-in-the-dark look ? Or did we want to go for the lighting up instantly ? Because it might , for , for our design purposes , I mean , the lighting up thing might be better because glow-in-the-dark material has a funny kinda colour . So we've decided on lighting up things . it might be perceived as tacky , glow-in-the-dark . Yeah well , I was just gonna throw out there the thought about um personalising the remote control . So I I dunno if there's something that diff , you know like five different face plates . and then that would be uh more profitable like as a sideline to the remote as well . I think that we should incorporate that . You could start out with three , and if , if we hit it big then we can add some on . Um , the environmental factor , we didn't bring that up again . We'll have to do more research .

## Complete Meeting Transcript

Oh, Function F\_ eight. That looks right. I'm sorry, what was that last one. Multifunctional and Ch Oh, I see. 'Kay. So as far as we know, um, a single function television remote control is us usable internationally? Right. D\_V\_D\_s and V\_C\_R\_? Okay. Yeah, I think I agree with the single design thing for now, because we're trying to do so much, that if we're trying to make a unique, user-friendly, dadada, and it's also multi also multifunctional, um, we're gonna go over budget for one thing. So Mm-hmm. Mm, 'kay. Yes I am. Oh, I'm not hooked up, but other than that, completely ready. Okay. Okay. Oh. I just lost my microphone. Just a moment. Okay. So I'll be discussing the functional

requirements of this remote control. Um, and I'll give you a little briefing on what that means exactly. Um, if you all remember from the email we got before our very first uh kick-off meeting, with the coffee machine? The functional requirements of that was to produce hot coffee quickly. Um, so what I'll be talking about now is the equivalent for a remote control. Um, so basically what needs and desires are to be fulfilled. Um, I've done some marketing research, a lot of interviews with remote control users, um, and some internet research. And I'll show you my findings. Oh, and firstly I wanted to remind you about our company motto and purpose. So we believe in providing international market with fashionable products. Um, hence our motto, we put the fashion in electronics. So I think that should be our priority here. Um, and we should also be looking to trends in clothing and interior design. Not just in electronic fashion. So that it's something that fits in the household. Um, we should be looking towards trends in both clothing and interior design. Any trends that are going on in, in the public, even media, you know who's famous, what T\_V\_ shows are being watched, um, to influence our remote control. Okay, so the findings. Um, seventy five percent of users of remote controls find them ugly. Which is a, quite a significant number. Um, the other twenty five percent didn't specify if they love them or found them, you know, neutral. Eighty percent of users would spend more money when a remote control would look fancy. Current remote controls do not match well the operating behaviour of the user. Yeah, they're willing, they're willing to spend money on a remote control with personality. As opposed to your basic, you know, oval black, all same size button remote control. Um, so it is something that people care about. It's not, it's not ignored in the household. Um, seventy five percent of remote control users said that they zap a lot. Zapping meaning they go through channels a lot. They're you know thumb-masters. Um, and fifty percent of users say they only use ten percent of the buttons. That's a very small amount. Thought that was interesting. Yes. And actually to go with that, I'm gonna give you some statistics on the uh relevancy of the buttons, how much they're used. And uh how important the uh users find them. So the power button, obviously, in an hour is only used once. Hopefully the person's not turning on and off the T\_V\_. Um, but the relevance of that button is nine out of ten. So people wanna be able to turn on the T\_V\_ with the remote control. Um, as opposed to standing up and turning on the television set. Channel selection is used a hundred and sixty eight times on average per hour. That's a huge amount. This is the most important button. Um, so obviously when commercials come on they're changing it, so as you said we want a durable button that's not gonna run down. Relevance of that button, our users found was uh ten, ten out of ten. Uh, ditto for volume selection, so ten out of ten. And it's used on average four times an hour. Not as much as channel selection, but still significant. Um, audio settings is used on average zero point eight times an hour. Relevance is two. Screen settings, which means brightness, colour etcetera, zero point five

times an hour. Um, and relevance of one point five. We're getting to specific statistics here. Teletext, um, now I'm not too clear on what that is. I don't know if you can help me. Flipping pages. Is that So like a running banner, underneath Oh. Okay. Okay. Like tells you the weather, and Okay. Right. Alright. Well I guess I'm not with it, because I wasn't But it's, it's being used fourteen times an hour. Um, and has a relevance of six point five. So it looks like something that we're gonna want to do some research on and include on our remote control. Um, channel settings. Zero point zero one times an hour. Relevance of three. Channel settings. P Sorry. Changing the channels? Oh, okay. Yeah. Okay. Um, so it's not used very often, but people still find it relevant. Okay. Um, biggest frustrations of uh the people that we interviewed. Remote controls are often lost somewhere. So that was already discussed by Poppy. How we could have a, an alarm system so that people can find it. Um, takes too much time to learn how to use a new remote control. So it should be very user-friendly, you know. People know

what to do very quickly. Um, remote controls are bad for R\_S\_I\_. Ah. Is that what it is? People with arthritis and such? Um, maybe our designers can look into that. Um, buttons that don't require, you know, very firm pushing, if they respond. But we'll have to also avoid, you know, buttons responding to the slightest touch as well. That's a problem. Okay. Did you guys uh get that one down? Um okay, here's some ideas for you. A large percentage of the public would pay for voice recognition on the remote controls. So I'll show you some numbers here. Um, so the youngest age group, fifteen to twenty five. Ninety one point two percent said that they would pay extra money to have voice recogni voice recognition included on their remote control. Um, and you can see that number decreases a bit with ol s Interestingly enough, twenty five to thirty five is the lowest amount. Um, that would, are willing to pay extra. So I guess we're gonna have to figure out what age group we're, we're targeting, and if and if voice recognition is something we wanna look into. And if we have the budget for it. Um, if we are targeting young adults, it looks like something that would pay off. Seeing as ninety percent, over ninety percent would pay for it. Mm-hmm. So that, that's a whole other field of research. I don't know if it'd be, if we'd still have a remote, or if you're talking to your television and saying change channel. Um and depending on how many members you have in households. So it m it may be too complicated for us, but it's something to keep in mind anyway. Right. Mm-hmm. Mm-hmm. It looks like Mm-hmm. It'd be like the ultimate remote. Um okay. And th the last thing here was a, an L\_C\_D\_ screen. So, I mean voice recognition might be a little too extreme for us. Not practical. Um an L\_C\_D\_ screen though might be something that, you know, you can shift through pages kind of li the way this PowerPoint is working. So that you don't have so many buttons to deal with. Oh sorry, just, just a screen, like a computer screen. S Or like um Yeah. Or Like an alarm clock. You'd have an L\_C\_D\_ versus just a, a normal clock. Oh just like an electronic screen. As opposed to just buttons. There would be like a little, like on Yeah. Like on the top of a cellphone, the the little L\_C\_D\_ screen. Um, now that's, I, I dunno exactly what exactly we'd put on there. I guess the channel that you're on, the v the volume setting. Mm-hmm. Well I guess that's something we can all take back to our respective research. Um, and finally, whoops, my personal preferences and thoughts. Um, I think our priority really should be unique design. Um, we want something that people want in their home. Every remote control looks the same, so uh in my opinion it should be, um, user-friendly and unique. So the other stuff might be a little too, a little too gadgety for some people. U

m, I th myself, voice recognition kind of scares me off. So if we're, if we're aiming to make this an international university, universally accepted product Um, and for all, the other thing is like age market. I mean if we wanted to concentrate on fifteen to twenty five years olds, we could go for the fancy stuff. But if we wanna make fifty million, and and have everyone want this remote control, we should maybe stick to the basics. Mm-hmm. Right. And we have to keep in mind the, the reliability of our research. I mean, you know, a sixteen year old boy would say, yeah I'd pay extra for voice recognition, until they realise that's three months allowance. Um, so I I think, I think the older generations we should be catering to a bit more. Yeah. Yep. Okay. That's it for the market research. Yeah. Maybe we can do the There you go. Oh, come back screen. Hmm. It's probably R\_ R\_R\_ in yellow. Yeah, I think. Okay, so I Are we going to write off the L\_C\_D\_ option? Yeah? Okay. So no L\_C\_D\_, no teletext, and no voice recognition. Yeah. Never heard of it. Um, well I guess, just from my findings it looks like we wanna minimise buttons. Um. And the What was the word they used? F findability is important. Mm-hmm. Mm-hmm. Mm. Mm. On the buttons? it doesn't It could it could be a tactile thing as well. Um right, if w if we're minimising buttons, we might be able to make them actually larger. And there's something on it. S you know like up arrow down arrow for, for volume. Um, and I don't know what we could do for, for



channels. S The numbers themselves. But then the like up button and down button for the channel, channel changing. Yeah. I just thought that it, it might be sucking more battery power, if there, if it is a light up. I'm not sure. Mm-hmm. Mm-hmm. Mm-hmm. I guess the other option, referring to the battery thing is, you know how cellphones will t light up for fifteen seconds or something, when you're s and then it goes, so if, if you're like changing the volume during a movie. I know, I'm thinking of mostly when you're watching a movie you turn all the lights off right. And you don't want to turn on the lights, to turn it down, because there's suddenly an explosion, and it's gonna wake up the baby. Um, so if you touch the button, it kind of reactivates it. It lights up for On self timer. Yeah. Oh, just if it was kinda the same way that a cell You know how a cellphone will light up for about ten, fifteen seconds when you touch a button, after having not touched it for a while. Um, if instead of a constant light up on the, on the remote control, if it lights up for ten seconds when it's touched again. Yeah, and you, you touch it and it just kind of lights up a bit, and it gives a faint glow. So if you have all the lights off in your living room, you'll, you'll temporarily see it. Because usually you're not fooling around for it for more than what ten seconds. So Mm-hmm. Mm-hmm. Oh right, the Mm-hmm. I was gonna say, Exactly. It the it might be perceived as tacky, glow-in-the-dark. It's kind of like Eighties neon-style. Um, whereas we're trying to be trendy and fashionable. So Mm-hmm. Mm. That's true. What um Oh sorry. Yeah well, I was just gonna throw out there the thought about um personalising the remote control. Um, it, you, 'cause you mentioned face plates. So I I dunno if there's something that diff, you know like five different face plates. I dunno if this will start making it more complicated, but it could increase the popularity of the, of the remote. Um Yeah, Exactly, like an iPod. Exactly. Or, or like mobile ph. And I dunno if we'd want to go with like T\_V\_ show themes or something. Like a Bart Simpson faceplate. But Mm-hmm. Exactly. You could start out with three, and if, if we hit it big then we can add some on. Mm-hmm. Right. Right. Okay. Yeah. That's okay. That's okay. Okay. Okay. Um, do I need to plugged in. F\_ okay. Function F\_ eight. Sorry about this guys. 'Kay. is on. Right. Okay. I will take this time just to apolog

ise. I, I only, uh, received my emails later on. 'Cause I was too busy carried away doing my own thing, which is not obviously not a very good part of a team-working thing. But there we go. Um, so I was looking at how we're going to go about the working design, and what we actually need to do, and what the remote control needs to do. And it needs to um allow a person to have a portable desi device, so they can control the television from wherever they are. They don't need to actually manually touch the television set. So, it gives them much more flexibility, and allows them to be where they want to be. Um, from Uh, on a functional side of things, we found out that wh from our previous meeting, we decided that there're certain points that will make our product unique. Um, one is the visibility in the dark, which was um Genevieve's idea. So we need to think about how we could bring this in um technically. And we could use illuminated buttons, which we are all familiar with when we're using a mobile phone, or um something fam familiar. A automatically, um lights up at first touch. Or we could use fluorescent materials which would just um take in the light during the day, and then as soon as they go off they would glow in the dark. Um, also we could use um an alarm. So if we lost the um remote control, perhaps there could be a button on the television set itself, which you could press, and then an alarm from the handset would sound where it was, hopefully in the room. Maybe behind a cushion or somewhere. Um, so that would work. Um, oop. Go back there. Um, another thing I think we d missed out on on the last meeting was the fact that we should consider the environmental impact of our design. Um, from previous researches I've carried out on other projects, um we've learnt about smart materials where um um specific alloys of metals have a shape memory. So they can be heated and um and cooled, and they change the shape of um the metal. So, for example, a screw that's holding something

together could expand and it would force all the components apart. So um, the benefits of this for our product would be that when it came to the end of its product life, if it was heated, um everything would spring apart. So, all the um individual components could be easily separated, and then some could be reused, some could be recycled, and I think that would be very important for products now. Especially 'cause there's much uh responsibility for all the um companies who are coming up with like new designs. 'Cause all, we all know that our resources are being limited, and we have to be very environmentally conscious. Yeah. Um And then Yeah. Yeah they would, um you would make the, the product as you normally would, apart from the, the bits that hold it all together would be made out of this shape-memory alloy. And that's the part that would um allow all the other parts to be separated at the end. I mean, the user would return the p product to the company, 'cause it's the product's responsibility to get rid of what they've made. Um, and then the company could then just use, make use of this shape-memory alloys to split up the components, and then either reuse some bits, and other bits which are obviously gonna wear out with time, or not usable, they might be like be able to put into scrap metal. Something like the case, if it's scratched or something, you would want to reuse it, but you might be able to melt it down and reuse it again somewhere else. You could we could probably empl em employ a, a side company or something to do that for us. But it would be our responsibility to get that done and to dispose of the products that we made. For a certain percentage at least. Not every, not a hundred percent of everything we produce, but Yeah. Yeah. Yeah. Well I the fact of the shape-memory alloys is that they, they don't need to be manually de um deconstructed. Like, you don't have to individually um unscrew all the screws. Because of this, their properties

are smart material. All you need is just the heat, so they self-destruct themselves. So I suppose it does need like high contact, yeah, you know high uh quality machinery, and very specific machinery, but Yeah. Okay. Um also there is um components. This'll be how it uh will actually work. But I haven't put this plan together yet. There we go. Sorry, should I go back. This would actually show the circuit diagram. Although I haven't come up with the final circuit yet. So I just put all those components in. Yeah. I it just shows what sort of energy source. It could be a battery, like rechargeable probably. Um, an' yeah, well how the infrared will actually be sent through the chip to be received by the chip on the television set itself. Okay? So, now is it F\_ eight again to escape? Or escape? There we go. Okay. Thank you. There you go Tara. Function F\_ eight. The one at the top. Um, I was just wondering about the, what, what Genevieve said before, about having like some hidden controls like having the outer casing. And that would probably, um, I d, well well what you said before about it being a more profitable simplistic design. I suppose having that would complicate it a lot more. And limit the design. Do you think? Yeah. Yeah. That's true. Yeah. Yeah. Okay. Yeah. Mm. Yeah. Mm. Yeah. Mm-hmm. Mm. the single function. Yeah. Yeah that's a good point. It's like the news. Or like information. The and what's on. It's like It's like very basic internet. Sort of, um Yeah, it's just information that um, like television timetables, what's on, what's on now, what's on next, on every channel, and Yeah. To get the right reception and picture, I suppose. Repetitive strain injury. I think. Oh, I'm guessing that's what it is. I'm not Mm. Yeah. Yeah. It is. Mm-hmm. Mm. Yeah. And if there was conversation in the room at the same time, although in theory it doesn't tend to be when you're watching television, but could be very difficult to get the specific uh design. Yeah. Mm. Yeah. Mm. What, what would appear on the screen? Like linked in with the teletext, or sort of like an teletext at your fingers, without having to access that through the television. Mm, Yeah. Could be. Mm-hmm. Yeah. Mm. Yeah. Yeah. Complicated jus complicating things even fo Mm. Okay. Can I just interrupt? Would you like to plug in your Have you got a PowerPoint or not? Okay. Thanks. Were they, was the management suggesting use of the internet

rather than teletext, or just avoiding both altogether? Yeah. Yeah. Okay. Yeah. Okay. Right. Yeah. Yeah. Okay. Just Okay. Work on that. Yeah. Mm-hmm. Okay. Yeah. Yeah. Yeah. I don't know. More research required, I think. But if Was it a management decision that we're having Okay. So Okay. 'Kay. Minimal Yeah okay. Yeah. The same signalling. I mean Or vibrate just the same as a mobile phone. Like you just a, a buzz or something. Yeah. If Do you mean the the link between the Well, if the button was actually on Oh, yeah. Maybe Yeah, yeah. Maybe something adhesive that you could like stick onto the back of any set that would be um yeah not very obtrusive. Obviously something small that's Yeah, that's a good point. Yeah. Yeah, okay. Pr probably. Unless it could be Okay. Um, unless some way, it could have some universal connection to like the socket, the same socket that the T\_V\_'s supplied from. I mean the power for the T\_V\_. So, mm, more research into that one. Yeah. Y Yeah. Yeah. Yeah. Yeah. Like a raised Yeah That's true. And also y, uh Heather you mentioned before, um like how it should be accessible to everybody. Um, so like big b um buttons, for people you are visually impaired. The glow-in-the-dark or light up won't make any difference anyway. So like you say tactile might be better, because it'd be more available to everybody. Yeah. Yeah. Mm-hmm. Yeah. No, it's not these days. I mean, it's quite easily accessible. Yeah. Yeah. Yeah. Yeah. Yeah. Yeah. So self-timed lighting. Um, I Yeah. So, self-timed Yeah. Yeah. I think the shape of th

e numbers is a really good idea. And I think that's un unique as well. I mean, I haven't seen that. And as you're saying like numbers can wear off if they're just sort of like painted on, you know printed. durable. Oh yeah. Yeah. Yeah. Repetitive strain injury. Mm-hmm. Yeah. Yeah, and we could Yeah there are now like loads, or a huge range of different colours that it could light up in as well, which could like link in with the company colours. Like it could be blue or green or yellow, or like we've just limited t with the, just ordinary phosphorescent so Yeah. Every time the, that it lit up, you c that could light up as well. Or, or the, whate Yeah. Is Okay. Like you can have changeable um mobile covers or something. Yeah, or Okay. Yeah. Person Yeah. Well, that's great. Interchangeable. Um, als Yeah. Interchan And also possible I mean, uh, we could gain out of that by advertising certain T\_V\_ shows, or Yeah. But if we, there is Yeah. We could Um, the environmental factor, we didn't bring that up again. Yeah. Um, I've Okay. Let's I think we could probably leave that 'til later on, then. No. Okay. Thank you. Am I starting now? Anytime? Oh sorry. 'Kay, um. Alright, welcome back fro to the second meeting. And um I hope you had a productive last thirty minutes. Um, and um, I'll be taking minutes on this one, and um Being hooked up to the PowerPoint for this meeting isn't very necessary for uh myself, because it'll be more about uh, what you guys are bringing to the meeting today. Um, so, the first presentation we'll be looking at is Poppy's presentation. And, um So, sorry? So, um, take it away Poppy. It's, it's plugged in. So, um No problem. I'm sure it's fine. Right, um, one question. This, um, self-destructible uh metal, it allows for recycling materials? So that, um, someone could have this product for as long as they felt that they wanted it, and then once they contribute it, then that company can break down the part, the parts better? Yeah. Mm-hmm. Would we be the company that would break down these, or uh metals? Or would we contribute to another group? Alright. Okay. This sounds like a really great idea. One thing we have to consider is our uh one hundred percent um turnover goal that we have for our financial sector. Um, so we'll have to investigate how much that will cost us, cost the company, um 'cause it sounds very labour-intensive. You would have to hire a number of people, and it might be more expensive. Mm-hmm. Alright. We'll still have to investigate the financial implications. Alright. I like the environmental approach. Um, we'll have to see if that can meet our financial goals as well. I'm sorry, could you Those were um Okay. So those are what, um, we'll c construct the remote. Those are all the Alright. Great. Alright. Thank you very much. And, um, the next presenter will be Tara. Yeah. Function

F\_ eight. Sorry. Yeah. Right. Does everyone agree with this? Does anyone object and, and find the multifunctional might be a better way to go? Mm-hmm. Yeah. Alright. Sounds great. Alright, well, um, are you ready for your presentation Genevieve? Fabulous. Except you're not hooked up to the Great. No problem, we can I'm sorry, what was that last thing that you just said? Mm-hmm. I'm sorry, that eighty percent of users would spend more money when a remote control would look fancy. You mean that they would spend more money on a fancy-looking remote control? Okay. Alright, so it might be very appealing if, um, we have very concise buttons. And another thing with um lots of surfing, we'd probably have to work on something that could be um a lot more durable, because I find with um channel-changers that, um, a lot of the numbers get rubbed down if they're printed on the button. Yeah. It's um No it's a button that you press, and then you, uh, like a menu pops up. I haven't used it before but Mm. That's rather sad. Yep. I agree with um if we're targeting young adults then it would be something we should look into. Um, financiall

y and and functionally. Um, and especially if we are um trying to be trendy, go with fashions, things like that. Um, ages like from thirty five to sixty five which show lower numbers probably won't be as concerned. Mm-hmm. Yeah. And something that might further complicate it is that the T\_V\_ makes noise itself. Wonder if it would have Yeah. Yeah. If we're looking for a simplistic design, if We need to decide if that is our um intention is, is a simplistic design. Um, because if, if it is then I think voice, um voice-activated Yeah, and that would sort of negate the whole remote control thing, because if people can activate the television with their voice then they won't be using a, they won't be talking into a remote, I'm sure. Um, I don't know what an L\_C\_D\_ screen is. I have no idea still. I'm sorry. Oh, on the remote. Okay. Yeah. Right. Mm-hmm. Yeah. And if one of the largest, uh, or most complained about thing is that it takes so long to get to know how to use a remote control, I'm sure that something like an L\_C\_D\_ screen or remote control would be just furthering that problem. Yeah. Alright. Okay. Before we go into uh more discussion on we want this design to look like, I've received some information from the management that will affect some of our decisions. Um, for one thing, because Having controls with D\_V\_D\_, V\_C\_R\_, that sort of thing, would really complicate the design of the remote control. Um, we've decided not to include them and make it a specific, just a specific television um function. Which is good as, as we've sort of decided that we would like to go with that anyway. Um, for many reasons. So um we have that decision sort of made for us. Another thing that might um affect other decisions is that um the management feels that teletext is outdated, because more people are using the internet now. And so uh we won't concern ourselves with um navigating the teletext option. Yep. Okay, sure. Yeah I do. I'm looking at looking at it right now. thank you. Um, well, I mean we don't have the resources or or possibility of using the internet with the remote control, but um they were just pretty much saying that the teletext would not be used. Alright, and another thing. This is for the design, the design of the product is that um we wanna create, um more of a sense that people know that this is from our company. So, um, all the remote controls must have our um We'll incorporate our logo and colour in in some way. So, um, perhaps um our logo on the bottom, or wherever you feel like it would look good. Um, it doesn't have to be the colour of our um of our company but, another thing is that, um we need to, we probably would have to have that colour and, and logo decided upon. Um, I'm assuming that we already have one, but for the purposes of this meeting I, I wasn't offered a, like a type of logo or colour, so if that could be um somewhere on the design so that we can be recognisable. The little R\_ R\_ yellow thing? Okay. Real Reaction? Okay. Um, yes, those are the changes. Um, so, now we need to discuss, um and come to a decision on our remote control functions, of, of how this is going to be. I'm just going to look at my notes for a second. Um, we have to decide on a target group and the functions of the

remote control. So, um, we already know that it'll just be for the television. It'll It won't have teletext. But um, you know, we could discuss um those other options that you brought up, Genevieve. Is that how most people feel about that? Okay. Yeah, but another thing is that if we're reaching an international crowd, um, I know for one that in North America there is no such thing as teletext, so it'd be really superfluous. Yeah. I don't know about other countries besides the U\_K\_. Do you know if anywhere else has it? Alright. It was a management decision, so it's, it's pretty much out of our hands at this point. 'Kay. So, I guess we're looking at something rather simple. Yeah. I think we should definitely go ahead with

the alarm system idea that you had. 'Cause I'm sure that could be in inexpensive because we could use the same kind of infrared the same signal through that and it could just like make a little beeping noise. It's not that expensive to do. Yeah. Yeah. Okay. I like that idea. Yeah. The button Oh. Minor detail there. Yeah, it would have to Mm-hmm. Yeah. Then it wouldn't, it probably wouldn't be able to use It would be able to use the same reception on the remote control I guess, but the actual device would have to have its own infrared signaller. Okay. Maybe, um Probably, I mean. That's your department you'll have to sort that out. Yeah, you'll have to Yeah, you'll have to invest Do some research on that, alright? Great. Um, alright, and I'm sure that, um um, the glow-in-the-dark, fluorescent, whatever, system, um is a go ahead. Is everyone interested in that? Yeah. Yeah. Hmm. Yeah. But I mean Yeah. Yeah. Could we somehow We could, may, possibly, sorry, incorporate them both so that the buttons could maybe be in the shape of the numbers themselves and be made out of some glow-in-the-dark material. 'Cause I don't think that glow-in-the-dark material, um, like the actual soft plastic, um, costs that much more than other colours. Yeah. Alright we have five minutes left um, for the meeting, but I think we should discuss this light subject a little bit more before we close. Um, what was I missed the last moment, reading that. What were you talking about with the lighting up buttons? Yeah. Yeah. Mm. So it could be any button that would be pressed. Yeah. Okay, so That's probably feasible. So, do you think that we should do the lighting up thing, and the glow-in-the-dark thing, and the shape of the numbers? Do we have to kind of decide what we're gonna do with this. Yeah, okay. Yeah. Yeah, yeah. And it could, if it's that softer rubber material it'll be, maybe, um, uh, better for people with um els no what's it called, R\_S\_I\_, what was it that we were talking about? Yeah. Yeah instead of like hard buttons. Okay. Um, did we want to go for the glow-in-the-dark look? Or did we want to go for the lighting up instantly? Like should we do both? Or we can have one or the other? Because it might, for, for our design purposes, I mean, the lighting up thing might be better because glow-in-the-dark material has a funny kinda colour. And it might not go with different like face plates that we might come up with. Yeah. Right. Right. Alright. So we've decided on lighting up things. Yeah. Yeah. But with the same thing, I mean. If you touch the button and then it could be, it could be lit up as well. Is Are you okay with that? Okay. Cool. Um Alright. So I think that um that completes most of our um our more uh practical decisions. And now it's up to designing. And um making sure that this can be feasible. And do you have anything Do you have anything to say? Like an iPod or something? Okay. Like a cellphone? Yeah. Mm-hmm. Accessories. Yeah. I think that we should incorporate that. 'Cause that wouldn't be very expensive at all. You'd just get one mould, throw some plastic in it, you know. Yeah. Well, that might be com problematic with um copyright issues. So, if it takes off then we'll, we'll, we'll try that out. Right. We'll have to do more research. Like as of yet, that has nothing to do with, um, the way it'll look. Um, does it need to be reached a de Do we need to reach a decision on that right now? Because we need to investigate the financial implications. Okay. Is it Does it need to be uh decided on now? Or should we Okay. Good. Alright then. Anyone else have anything more to say before we close? Alright, well. Let's

have lunch and we'll discuss this later. Alright? F\_ eight, w. Function F\_ eight. Thanks. Can you see? Do you think Is it uh, function eight yeah? Oh right. Okay. Okay. I'm the User um User Interface Designer. Uh, the technical functions design of the apparatus is the effect the apparatus should have. Um, in this case it's the

function of the remote control, which is to send messages to the television, television set. By taking inspiration from other similar designs, we'll try and come up with an original trendy remote control, which is sellable international. There're two functional design options. A multifunctional remote control, which can be used for several entertainment devices. And a single function remote control, used specifically for the television. Sorry. Um, a single function just for the television itself. Yeah. Um, multifunctional controls can be difficult to use, as the multitude of buttons can be confusing. A single function remote control is simpler to use, but it means you have to have other remote controls for your other entertainment devices. Um, I think that a single function remote control would be preferable, because it's easier to use. It'd be more compatible with a range of television sets, making it more internationally sellable. Um, it will make an original design more obtainable, as we have less functional necessities to include in the design. And it would be more profitable as it would be more simplistic. And less functions would have to be included. So it would be cheaper to make. And probably more sellable just because it's more compatible with a r a wider range of devices. Does anyone have any questions? Well, it's just that, when we're creating it, we're, we have to make it um compatible with different brands of devices. And it would be easier to make it compatible with just different brands of television devices rather than other ent, yeah, other entertainment devices. Yeah. Yeah. Yeah. Yeah. And with this we'll have more room in the budget probably to make a more original design. We'll have more money to go into the design side of it. Yeah. Yeah. It's um It has T\_V\_ has like information, it has information on holidays, the news, entertainment. No, li Yeah. Yeah. And you have page numbers like for the menu, and you press the page numbers with your remote, and it, it'll come up. Very basic internet, yeah. But you have Yeah. But you have no interaction back with it, you know. Like the internet you can send emails and You've no interaction. Yeah. Yeah. Uh, probably just tuning in the channels, would it be? Tuning them in at the very start. You know if you get a new T\_V\_ set, you tune in all the channels, do you th do you think? Yeah. Yeah. Repeti Uh. Yeah, yeah. I think it is. Yeah. Mobile phone. Yeah. Yeah. Could it it It would be good if it had the actual programme that was on, and what was next. But that would probably be Yeah. That would be good, yeah. Yeah. Might be quite expensive to do that though. And we should keep in mind that fifteen to twenty five year olds might not have twenty five Euros to spend on a remote control. Like their priorities might not be a fancy remote control, when they're just starting out and, yeah. Yeah. Yeah. Early twenties, that's the kind of age group. Twenties. Yeah. Yeah. Yeah. Yeah. I think it would be annoying though if I don't use teletext that much, but if it was on your T\_V\_, you'd want to be able to use it, if You'd Yeah. So is it just Okay. Alright. Right. I don't know. I don't know. Yeah. Okay then. Yeah. Would you be able to, um, put the little device anywhere? 'Cause uh isn't our remote control for all T\_V\_s, so you'd ha Yeah, with the button that you pressed. Yeah. C 'cause then it would only be a applicable to one T\_V\_ set, so it would need to be something that you could stick somewhere, or something. Yeah. Yeah. Yeah. Would it need a battery then? Yeah. I I like the light up suggestion. I think that would be better. 'Cause you know the way fluorescent lights lose their brightness after certain time, so I would go for Well just the numbers could be embossed, couldn't it? Like raised. Yeah. Could be raised. Just little arrows, that you could feel, maybe? Yeah. Yeah. That, I think that's good, yeah. Yeah. Yeah. Yeah. No, I wouldn't say so. That's good Yeah that a good ide

a. Yeah. Yeah. That, yeah, that's a good idea. Yeah. Yeah. For visually impaired, yeah. Yeah. If I was thinking though, if it was glow-in-the-dark, you could put the um Real Reaction symbol as glow-in-the-dark, and then it would be constantly advertised. Yeah. Yeah. Yeah. Okay. Yeah. Oh yeah. Interchangeable thing? That would be good. Yeah. Yeah, and then that would be uh more profitable like as a sideline to the remote as well. Y Could buy extra Yeah. That's a good idea. Yeah. No. Oh yeah. If w No. Okay.

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# Meeting ID: 72

Data Source: Train

## Executive Summary

Right Where we uh We have twenty five minutes for this meeting . We uh are to get acquainted . So does everyone want to say who they are ? I'm Robin . I'm I'm And I'm Alastair and I'm the project leader . So does anyone have any uh thoughts as to the tool training that uh is required ? so tool training . Project plan . I'm not exactly sure what you mean by tool training . Neither am I . So we have the project team , which is to um basically to come up with a new r remote control device . And uh our idea is to uh to make the new remote control device uh more user friendly than the previous one , and to to be trendier , to be with it , and therefore to uh to get a bigger market share and bigger audience . method of doing this is uh split up as you can see into uh the functional design , the conceptional design , and the detailed design in each of these uh phases we'll uh basically be handing over to yourselves , the designers of this uh this device . And uh having uh meetings so that we can uh during the course of the day um come up with a better better inst implement than we had before . So we've got tool training . Right so everyone's to uh supposedly uh draw their favourite animal over on the white board over there . I guess this is uh make sure the whiteboard works . Do you wish to go f Have a first bash at uh whatever . I think that I would have to say that my favourite animal is the cat . Um and I like my animal that looks nothing like a bear because um I dunno maybe because there's so many cartoon characters made up after the bear Um I'm gonna go for the dog , So what my daughters have got at the moment is they've got uh a few fish and so hopefully um won't prove too difficult to draw . Work has been done on uh this uh project where by um twenty five Euros is uh the uh expected uh selling price . So we're looking to sell internationally , not just in Europe . We're looking at um having our production costs limited to uh twelve and an half Euro per unit . And therefore making a profit margin of uh well not actually a profit margin it's uh because obviously you're gonna have overheads and various other costs to uh take uh from uh from that to give you your profit margin per unit . And so depending what the uh the overhead uh costs are will determine uh how many units we're uh looking to sell or projecting to sell at this point in time . Experience with remote control , first ideas . New remote . So I guess we're looking at um having a discussion at this point in time So uh any any thoughts ? Um I with some remote controls the buttons were a little small so maybe we make something with uh easy to press buttons . Okay , so so basically we're looking for some um we're looking for a device that is um robust and and therefore uh won't get damaged too easily . Um sort of easy to use so the buttons are accessible . Is this just a



television remote ? Because a lot of um systems are kind of T\_V\_ video combined now , or T\_V\_ D\_V\_D\_ combined . And one of the most annoying things is having like five remotes in the house . So if you've got a combined system , it could be a combined remote . basically I'll get back to you on that . Um one of the things um we found from the market research is that people often get confused by the number of buttons on them as well . Or is it just a television that we're supposed to be doing ? 'cause as you rightly said , there's nothing more annoying than having three or four devices littered about the uh about the room . So a device for for all remotes . And um sometimes uh they sort of remote controls defeat their own purpose because you're sat in the chair and the remote is somewhere else in the room . we need to sort of maybe think about how um we could maybe uh develop a remote control which moves around the room . Comes to your whistle . That's that's maybe something for the future when you can talk to your television , but Maybe we could um have better instructions with the remote . I mean we've done some research um about sort of you know what the cutting edge sort of hand held devices are , Next meeting in thirty minutes . You can't have both the th the one device and then have few buttons on it to 'cause you want you want simplicity as well , Whilst at the same time you want , as you rightly said , one remote for all . And so these are probably mutually exclusive options you could argue that experience of using devices and similar devices as people get more and more used to using remotes , So it's possible that we could devise a system where where you're you're basically sort of holding a a miniature computer which is controlling all your your sort of your television , your stereo , Okay , so we've got um the working design for I\_D\_ . For U\_I\_D\_ the technical functions design . Marketing , the user requirement specification . Specific instructions will be sent to you by your person by your personal coach . And I guess I'll try and write up some minutes of uh this meeting to uh to give it to you for the next meeting . I'm not exactly clear on what we're designing the rem remote for . Is this a mun multi-functional one I think you just said at the start it was a television remote control , so maybe we should just stick to that unless we get told otherwise . That's true , 'cause during during the course of our day we might make decisions based on information or meetings that would change where we're going . But at this point in time I think you're right that uh shall we make it just a T\_V\_ .

## Complete Meeting Transcript

Mm-hmm. Yeah. I'm Robin. I'm the Marketing Manager. Mm-hmm, okay. I dunno. Your microphone's just Yeah. I don't know. We can have have a whole menagerie. Right. Hello. Um I'm gonna go for the dog, and I'm gonna draw one badly as well. Uh. looks like it's going to be a dachshund or something. Right. There's my dog. Um I like dogs because they're very loyal. And they're always happy, so whenever whenever you're feeling sort of a bit a bit down or tired, they're always coming up and they're always um quite excited. So um you can always have a lot of fun with a dog. And they're also good for exercise as well. You can sorta get out and they they sorta never get tired. And and when they're tired they're quite cute as well, so. Okay, that's why I like dogs. Great. Mm-hmm. Yeah. Mm. Yeah. I've Okay. Yeah. Um one of the things um we found from the market research is that people often get confused by the number of buttons on them as well. 'Cause there's quite often lots and lots. And um

sometimes uh they sort of remote controls defeat their own purpose because you're sat in the chair and the remote is somewhere else in the room. So whereas in the past you'd have to get up to change the channel, now you have to get up to sort of pick up the remote. So so I don't we need to sort of maybe think about how um we could maybe uh develop a remote control which moves around the room. I don't know. That's that's maybe something for the future when you can talk to your television, but Yeah. Yeah. Mm-hmm. Mm-hmm. Yeah. I mean we've done some research um about sort of you know what the cutting edge sort of hand held devices are, and a lot of them sort of use you know they're like they're like mini laptops. So it's possible that we could devise a system where where you're you're basically sort of holding a a miniature computer which is controlling all your your sort of your television, your stereo, and where you know if you buy a new thing then it sort of you can link it to that as well, maybe. Okay. If you just click return it should be okay. It'll get rid of the message. If you hit just hit return and it should get rid of the message. Oh you've got. Yeah. Yeah. Mm-hmm. Mm-hmm. Okay cool. Okay cheers. Okay. I'm Nick. I am the Industrial Designer. Tool training. Yeah. Yes. Okay. You've lost uh your microphone there. Okay, yeah. I'll I'll Shall I see if I can get across without just tangling everything. Okay. There's one. Didn't think of that. 'Kay uh pens are over here. I'll try the red pen. Okay. Um. I'm gonna go for the bear which I'm be able to draw very well, but I'll have a bash at it. Uh. Ooh ooh I lost it there. I think I've just knocked the microphone. Um. We'll g then we'll go for a a s small small bear. Um and I like my animal that looks nothing like a bear because um I dunno maybe because there's so many cartoon characters made up after the bear like the jungle book characters and stuff like that. Great. Yes. Um I with some remote controls the buttons were a little small so they're quite hard to press so maybe we make something with uh easy to press buttons. As that is the main function. Yes. Um sort of easy to use so the buttons are accessible. is easy to use and see. Yes. Sorry, you go. You go. Yeah. Yes. Yeah. Maybe we could um have better instructions with the remote. Or are we just doing the design of the remote control itself, or sort of the instructions that would come with it? 'Kay. Or not. slide four Okay. Yes. 'Kay, yes. I think you just said at the start it was a television remote control, so maybe we should just stick to that unless we get told otherwise. 'Kay. Okay, that's great. I'm Louisa. I'm the User Interface Designer. I'm not exactly sure what you mean by tool training. I don't mind. Um. Let's see. Good job I got pockets today. Are we supposed to do this right now, do you think, or? Oh. Right here we go. Okay. I think that I would have to say that my favourite animal is the cat. Little smiley cat there. Um and this would

be because they're very independent, uh they're very intelligent, compared to dogs maybe. Um and they can be very very affectionate. Some people don't think so but I know very affectionate cats. Um. Um and they can look after themselves. Shall I rub that out, actually? That's quite good. Can I just check? Is this just a television remote? Because a lot of um systems are kind of T\_V\_ video combined now, or T\_V\_ D\_V\_D\_ combined. And one of the most annoying things is having like five remotes in the house. So if you've got a combined system, it could be a combined remote. Or is it just a television that we're supposed to be doing? Comes to your whistle. I think that might be back to the start. Um if you grab the kind of uh slide to the left and pull it down? I'm not exactly clear on what we're designing the rem remote for. Is this a mun multi-functional one or do we decide that ourselves as we go away and work on it? Right. Okay. Right, so start of the first meeting. Uh. Right, so agenda of the first meeting. Where we uh We have twenty five minutes for this meeting. We uh are to get acquainted. So does everyone want to say who they are? that seem sensible? And I'm Alastair and I'm the project leader. Alright okay, so tool training. Um. Project plan. So does anyone have any uh thoughts as to the tool training that uh is required? Neither am I. Oh I see, so we shouldn't really be Oh right okay, so. So

we have the project team, which is to um basically to come up with a new r remote control device. Uh we have uh the starting base was the original which has been in existence now for a period of time. And uh our idea is to uh to make the new remote control device uh more user friendly than the previous one, and to to be trendier, to be with it, and therefore to uh to get a bigger market share and bigger audience. So um method of doing this is uh split up as you can see into uh the functional design, the conceptional design, and the detailed design. So um in each of these uh phases we'll uh basically be handing over to yourselves, the designers of this uh this device. And uh having uh meetings so that we can uh during the course of the day um come up with a better better inst implement than we had before. And therefore um have a successful uh conclusion to the day. Um and you'll be doing uh various designs uh throughout the day to meet this end. So we've got tool training. Try out whiteboard. Uh. So we will um. Right so everyone's to uh supposedly uh draw their favourite animal over on the white board over there. I guess this is uh make sure the whiteboard works. So uh I don't know who wishes to go first. Do you wish to go f Have a first bash at uh whatever. Ah uh. But now you you uh you'll move out from the microphone and the camera. I take it that I would I would guess so. Or Technical problems. I mean you designers are meant to come up with these sort of things. Next. I don't see as there's any need to. There's plenty of space. I mean whatever. Exactly. We've had more time to prepare over this side, so we've all stuck our bits and pieces in our pockets. The three pens are underneath. You get marks for artistic impression. So you're just doing the face. Right, um. Well I've not actually had too many pets uh over my uh time 'cause to be honest with you uh I'm not too keen on them anyway. Not to worry. So what my daughters have got at the moment is they've got uh a few fish and so hopefully um won't prove too difficult to draw. Uh As you can see that my artist artistic work is useless as well. Anyway um. And uh one of the best uh things about fish is that they don't really take uh too much looking after because uh with most of the animals if you're going away on holiday or whatever, you've gotta spend money or get a friend or whatever to look after them for you. Whereas if you got fish, you just gotta put the food in a a a dripper feed which feeds them over the uh couple of weeks that you're away and uh change the water every couple o

f months, and buy in a few plants, so. Other than the fact that they keep dying, uh fish are uh are not are are are reasonable pets in that uh they're low maintenance. Right. Okay, uh if we're still all with us. Right okay, so. Work has been done on uh this uh project where by um twenty five Euros is uh the uh expected uh selling price. That information has come from our marketing manager here. So we're looking to sell internationally, not just in Europe. We're looking at um having our production costs limited to uh twelve and an half Euro per unit. And therefore making a profit margin of uh well not actually a profit margin it's uh because obviously you're gonna have overheads and various other costs to uh take uh from uh from that to give you your profit margin per unit. And so depending what the uh the overhead uh costs are will determine uh how many units we're uh looking to sell or projecting to sell at this point in time. So um Experience with remote control, first ideas. New remote. So I guess we're looking at um having a discussion at this point in time to help uh you um folks design our our new model as it were. So uh any any thoughts? Okay, so so basically we're looking for some um we're looking for a device that is um robust and and therefore uh won't get damaged too easily. Um we're looking for a device that is uh What was the other things you said there? Easy to use. Use. And see. Okay. Uh. Mm-hmm. Oh I w um basically I'll get back to you on that. But it seems to me sensible, 'cause as you rightly said, there's nothing more annoying than having three or four devices littered about the uh about the room. And uh So a device for for all remotes. Hmm. But is it in a sense it's r um mutually exclusive. You can't have both the th the one device and then have few buttons on it to 'cause

you want you want simplicity as well, you want any idiot to be able to use it. Whilst at the same time you want, as you rightly said, one remote for all. And so these are probably mutually exclusive options that uh Hmm you could argue that experience of using devices and similar devices as people get more and more used to using remotes, therefore they're more with handling them, therefore you can make them more complicated as time goes on. Better instructions. Mm-hmm. Okay. Um well we've got five minutes before the end of the meeting. So uh we have to uh start winding up. Um is there Next meeting in thirty minutes. So um Right, so we've got I\_D\_ the Come on, where's my Oh there we go. Yeah. That's what I was looking for. Right. So we've got function Oh what happened to the Right. Right. Sorry about that. Okay, so we've got um the working design for I\_D\_. For U\_I\_D\_ the technical functions design. Marketing, the user requirement specification. Specific instructions will be sent to you by your person by your personal coach. So. Are we all clear what objectives we're looking to meet in the next thirty minutes? And I guess I'll try and write up some minutes of uh this meeting to uh to give it to you for the next meeting. Television remote control. That's true, 'cause during during the course of our day we might make decisions based on information or meetings that would change where we're going. But at this point in time I think you're right that uh shall we make it just a T\_V\_. Okay? So we will depart. We will stay here and uh and break off. And I'll do minutes and and we'll see you in half an hour. Okay. Right s

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# Meeting ID: 85

Data Source: Train

## Executive Summary

The User Interface Designer presented the basic functions of the device and discussed the designs of two existing products, showing an example of the simple design that the group wants to implement. The Marketing Expert presented feedback from users, showing that users want a simple but fancy-looking remote control and that young users want speech recognition. She discussed including only the most basic functions in the interface. The Industrial Designer presented her internal design of the device and discussed the processor chip and the energy sources that will be integrated. She suggested integrating an extra lightbulb that lit up when the remote was communicating with the television. The Project Manager gave the group new requirements for the product design. The group discussed marketing the product to a wide range of customers. They had a discussion about possibly including a locator function and speech recognition. They discussed integrating the company's yellow color and logo into the design, and decreasing the number of buttons in the main interface. The Project Manager instructed the Industrial Designer to prepare the components concept, the User Interface Designer to prepare the interface concept, and the Marketing Expert to prepare a trendwatching report.

## Complete Meeting Transcript

Okay. Um welcome to our second meeting. This is the functional design meeting. And I hope you all had a good individual working time. Okay, let's get started. Okay, here's the agenda for the meeting. After the opening um I am going to fulfil the role of secretary, take the meeting minutes. And we're gonna have three presentations, one from each of you. Then we're gonna discuss some new project requirements. Um gonna come to a decision on the functions of the remote control. And then we're gonna close up the meeting. And we're gonna do this all in about forty minutes. Okay. First I want to discuss the goals of this meeting. First we need to determine the user requirements and the question that we can ask ourselves is what needs and desires are to be fulfilled by this remote control. And then we're going to determine the technical functions, what is the effect of the apparatus, what actually is it supposed to do, what do people pick up the remote and use it for. And then lastly we're going to

determine its working design, how exactly will it perform its functions, that's the whole technical side of 'Kay I'll just give you a minute, 'cause it looks like you're making some notes. 'Kay. Oh, well let's go ahead and, back, previous. So what I wanna do right now is hear from all three of you, on your research that you just did. Who would like to start us off? 'Kay. Okay. Um do you have a PowerPoint or no? Okay. Oh. Save it in the project documents. Okay. Mm-mm-mm. This one? Okay. Okay. Okay. Right. Ready. Alright. Very good presentation. Thank you. You speak with such authority on the matter. Okay. Who would like to um follow that one up? Now, that we've discussed Okay. Do you want me to run it or you wanna Okay. Functional requirements. 'Kay. Alright. Now we have Courtney with the functional requirements. Okay, what do you m Oh, I'm sorry. What do you mean by um the current remote controls do not match well with the operating behaviour of the user, like they have to press the buttons. Okay. Oh, right. The buttons. Okay. Yeah. Okay. It works. Ready for the next slide? Hmm. It's okay. It's very important. Could be, yeah. Oh. I think that's a pretty good guess though. Yeah. It's okay. Okay. Next slide? User-friendly. And so just to just to clarify by speech recognition you mean they would say, channel five, and the thing would go to channel five? Okay. Oh, that'd be lovely. Didn't they um didn't our rival companies manufacture a remote that you would press the button on the T\_V\_ and it would the remote would beep so if you have lost it Mm. Oh, yeah, that's true. We could definitely include that if we wanted to. If it's within our price. Okay. Are we ready for our last presentation, Amber? Okay. There we go. 'Kay. Oh my bad. Okay. Ready? That's okay. Hmm. So this would be the front? So the red would be the front of the remote though, right? Okay. The l the light up kind of Yeah. Hmm. It'd probably be lighting up the key too, right? 'Kay. The buttons. Okay. Yeah, definitely. 'Kay nex R Ready? 'Kay, any p 'Kay? Anything you wanna add for personal preferences though, you f you said already that we needed a large on-off button, you think. Anything else? Okay. Mm. Okay. Okay, let's talk about all of our We'll come to decision later about all the components that we need to include, let's um wrap up this one, and I'm gonna go back to my PowerPoint, 'cause we need to discuss the new project requirements which you might've already seen flashed up on the screen a bit earlier. Wait, come back. Alright. Sorry, let's go through this. Alright. Here we go. New product requirements. First it's only going to be a T\_V\_ remote. We're trying not to over-complicate things. So no D\_V\_D\_, no TiVo, no stereo. It's not gonna be multi-functional. Hey. And we th need to promote our company more, so we need to somehow include our colour and our company slogan on the remote. We're trying to get our name out there in the world. Okay. And you know what teletext is? in

States we don't have it, but um it's like they just have this channel where just has news and weather, kind of sports, it's very um bland looking, it's just text on the screen, not even Yeah, just black with just text. Yeah. Kind of. Yeah it's the whole screen. So anyway Right. Right. But it's becoming out-dated now, because of the Internet. Nobody needs to go to the teletext channel to check the news, and we have twenty four hour news channels now too, so Those are our new product requirements. Alright. Mm-hmm. Yes. It's part of the logo. Okay. What we're going to do right now is come to some decisions, definitive that we can all agree on, about um the target group and the functions and just definite things that we need to do and then we'll close up the meeting. So. Alright. Whatever. Okay. So our target group is You mentioned um older people? Would it just be universal for everyone, you think? Because I think even if something has large buttons, as long as they are not childishly large, like even technically non-technically challenged people are gonna use it. I mean they want something user-friendly, so Yeah. Yeah. Okay, so we want um for our target group would we say, I mean, young and old, all age ranges, all um, not kids obviously, right? Or kids? Okay, so we're going to go anywhere from kids to adult in the age range Um what about technic technical um specifications, like how how technically

literate are these people who are going to be using our remote? Okay. Right, okay. So so they need no technical experience to operate Okay. And we also need to determine the specific functions of this, just to get it all out on paper. So we said it needs to send messages to the T\_V\_, needs to change the channel, turn on and off, just basic simple stuff like this. So if you have something just say it and we'll add it to my meeting minutes. Mm-hmm, volume. Right. And we wanna keep um I'll make a note here that we wanna keep the number of buttons down. Correct, because people only use ten percent. 'Kay. Hey, what else? Um. I think so. What do you A finding kind of device or Yeah, ho homing device. Mm 'kay. Okay. Right. Hmm. Would that add to our costs at all, I wonder? Right. Okay. I I think we can make a decision about that later. Uh we'll still put that as a point that we need to discuss. So that would include battery source Power source rather. Is it going to have a charger, or is it going to be run strictly off batteries? And we also need to deal with the issue you mentioned of speech recognition, if we want that. Mm. You could um we could hook it up. Oh. Mm-hmm. And if and if we introduced it when they're this age, they're going to probably always buy a remote that has Right. Yeah. and the speech recognition could be part of the lost and found device, too. If we said, find remote, locate remote, or something. A certain phrase then it could beep. I dunno. Just throwing it out there. Well Okay, anything else we wanna discuss? Um. How how, yeah, how would you leave those out? Unless you could say the channel. Yeah, that's true. And also remember that in this day in age we need, you know, like a hundred button, too. I used to have a remote that did not even go up past like fifty. So I couldn't whenever I got cable, I had to get a new T\_V\_. Mm. get your own remote, or digital cable. 'Kay. Um. I guess, we're gonna discuss the project financing later, making sure that we can fit all of the stuff that we want to on our budget. Um. 'Kay. And don't forget we need to include the colour of our company and the logo. I'm guessing. And the R\_R\_. We could just have the logo in yellow, or maybe a yellow light for the keys. Right. So we've simplified, we don't need all those um play, fast-forward, rewind, or no menu buttons. So we've pretty much pared it down to on-off, volume, mute, channel up and down, um the numbers Yeah. Um can we go back to I'm gonna look really quickly back at those examples and see if there is anything. Which one is yours, t

echanical functions or functional requirement? Okay. The T\_V\_. I think that that's fine just for the T\_V\_. I mean how often does the average user need to do that kind of stuff? Hmm. Couldn't we do that all through one button, something, a menu button, that pops up with a menu on the T\_V\_ that says, you know, audio, video, whatever, language, you know? For the menus. That's true. Something that looks mayb you know. Y right, right right right. That one? Right. In the middle perhaps. Yep. good. Anybody have anything else they'd like to bring up in this meeting? Okay. get out of here. Let's go back to the meeting closure then and see what we need to do next. Mm. Alright. After this meeting we're gonna be sent a questionnaire and summary again which we need to reply to that e-mail. And then we're gonna have lunch break. And after lunch thirty minutes of individual work time. Um I'm gonna put the minutes I put the minutes for the first meeting already in the project documents folder, if you'd like to review them. And I'm gonna type up the minutes for this one as well. Um here's what we're each going to do. The I\_D\_ is going to work on the components concept, um U\_I\_D\_ the user interface concept, and you're going to do some trend watching. 'Kay. Specific instructions will be sent to you by your personal coach. And if anybody has anything they would like to add? No? Okay, well, this meeting is officially over. Thank you all. I don't mind going first. Yeah, it's in the should be in the m Project. You know you could you could do it yourself actually. Put it in Project Documents, yeah. Sure. Yeah. Okay. Um well, the function of a remote control, as what uh we've been informed, is basically to send messages to the television set, for example, switch it on, switch it off, go to this channel, go to channel nine, turn the

volume up, etcetera. Um some of the considerations is just um for example the what it needs to include it's the numbers, you know, zero to nine, so you can move to a channel, the power button on slash off, the channel going up and down, volume going up and down, and then mute, a mute function. And then functions for V\_H\_S\_, D\_V\_D\_, for example, play, rewind, fast-forward, stop, pause, enter. And enter would be for like, you know, the menus. And then other menus for D\_V\_ as well as T\_V\_, whether that means like um we can go and decide the brightness of the screen, things like that, all the more complicated functions of menus. And we can decide if that's what we want,, um if we want to include that on the remote, if that's something that would stay on the T\_V\_ itself, for example. These are two examples. Um and you can see on the left, it's got a lot more buttons, and I don't know if you can read it, but it says, step, go to, freeze, um slow, repeat, program, mute, and so those are some of the buttons and so it gives you an idea of s one example. And then on the right, it's a lot more simpler, it's got volume, it's got the play the like circle set, which is play, rewind, but it's also what is fast-forward is also like next on a menu. So you have functions that are d uh duplicating. And you have a mute button and then the numbers and the eject, and the power button. So that gives you two different kinds, a more complex and more simple version. Okay. And then lastly, it's just the questions that we want to consider like what functions do we want it to include, and how simple, complex it should be? And what functions it needs to complete. Uh, what are needed to complete insulation process, 'cause, you know, that's something that also has to be considered and it's gonna be hopefully a one-time thing, when you set it up it should be set to go, but we have to include the functions that can allow it to set up i in the first place. So that's it. Mm. Left. Wait. And that meaning what? Okay. Right. Only use ten percent of the buttons. Lost. S Wait, is that like your ergonomics like your hand movements or something? Like Channel, volume,

power. It's like if you're holding it to just say, where are you, and thing beeps, you know. Yeah. It's kinda like what the remote phone used to do. You know like go to the base. Yeah. Working design. Help me. Well, how much extra would the additional chip be? Is that gonna push us over our production costs? Mm-hmm. Yeah, that's gonna be what's communicating with the T\_V\_, but the other bulb, I think, is good to just to indicate, I'm doing something, it's sort of like a reassurance. Yeah. Just Well, should it be larger buttons in general, you know like uh the examples that I had, they were swi quite small. So should we try and go for something that has l larger buttons? Ovals. Yeah, yeah. Yeah. I know. Yeah, it's like black, black and white kind of It'll give you the sports. Except the entire screen. You can pick sports, you can pick the news, you entertainment, you know it's like Yeah. Company colour being yellow. Mm-hmm. It's gonna make it nicer. Yeah. We should go for the lowest denominator. High school educated. Well it's channel, on-off button, volume, mute. Um. Oh right yeah okay. Tracking. But you got a base. Well, if you have the base, you could start putting in a charger and then you have a different kind of battery. Yeah. Well, then we could If we have the speech recognition then we can start aiming at a like another kind of more handicapped disabled uh demo demographic. Well Well, then then do you put the voice recognition do you put the r like receiver on the actual television, in the base, or in the actual remote, 'cause then you've already got remote in your hand, why you just gonna speak to the remote, whereas if you just speak in general and you don't have to have the remote in your hand and like talk at it. Still fifteen minutes. Um. Well, do we wanna include the numbers like zero through nine? Can we conceive of leaving them out? Yeah, like you have one, two, three, four, five, six, seven, eight, nine, zero. Well, I don't know, I mean, if you can like well I don't know, if there's just a way of leaving them out? The colour being yellow? And how do we Can't make it entirely Well if you have like a Hang on. If you have this sort of strip kind of down at the bottom the base of it, just like yellow with the R\_R\_.



Right, yeah. Two examples. Yeah. Oh, it's a Yeah. Well, the other option is sort of like down at the bottom, like farther away, you just have this sort of box inset where it's like the buttons that you don't use as much, but occasionally you will use. and so it's like I don't well, I don't know. Right. Well, that could be No you could just double up with like the channel or the volume buttons. Channel is just up and down. And then add a Yeah. So we just have it like add a menu button then for the various things needed, including v voice recognition if we have any like settings for voice recognition now included in the menu. Did you send it? Okay. Great. We only use ten per cent of our brains. yeah. Do we really need t to provide more information on what R\_S\_I\_ is? Yeah, I'm just trying to move it. 'Kay. I think it should be there, working design. 'Kay. Uh I didn't get a chance to complete this one, 'cause some of the tools that I was given were frustrating. Uh okay, so method method of our design, I think I just start listing th some of the things that we actually need to put into this. We need a power source, we're gonna need a smart chip if we're gonna make it multi-functional. Um extra functions will probably need an additional chip. Either that or the smart chip will have to be extremely smart. Usually a smart chip is just a chip that's been programmed and designed so that it can complete a fair range of functions. I wouldn't think so, 'cause we could probably get it from like, in bulk, from a a newer company. And they tend to sell their chips pretty cheap. Um yep, nothing here. Um power source, I figured, batteries, 'cause they're easily available. Typically a remote has either two double A\_s or fo

ur triple A\_s, sometimes three. Uh it really kinda depends on the size of the actual remote itself. Um a large on-off button, demographically we're moving towards an older generation of people, so a large on-off button would probably be good. Selection button for various entertainment devices, so you want something that will permit you to select the D\_V\_D\_ player or the T\_V\_ or the stereo system. Um smart chip that perverts uh that permits, sorry, universal application again, something that'll allow us to skip over between devices, and that's kinda it. Uh this is my fifty second design. Power source over here. We're gonna have a switch obviously between the power source and the rest of it, and you're gonna need the switch. Um extra bulb could just be for flashiness, um subcomponent which would be like a way of diverting the power to different parts of the the device. Um the chip and of course the infra-red bulb, so it can communicate with the various devices that it needs to talk to. This is just like a rough schematic. So this is the internal workings. Yeah. Yeah, so you don't have to stare at that infra-red, 'cause you know when the battery starts dying in your remote currently, you have to actually stare at that bulb and go, okay, when I push this button, is it working? We can skip that whole thing. Yep. So you can put it in the dark. Yeah, that's it. I think that that's a good idea, because you know that's one of the most important buttons. Okay. You can also get the kind of the T\_V\_ guide so It's the entire screen is just running information at random. Seemingly. Okay. So, do we have to include the company colour within that? Mm well, even if we kept the regular standard size of remote, if we reduced the buttons down to the ones that people are saying that they use the most often and a couple extra, 'cause they're saying they only use ten per cent of them, then we should be able to accommodate fairly decent sized buttons. Most of them will intuitively pick it up though. how 'bout little to no, because there is no way that you are gonna be able to make it no. Do we want this thing to be able to be found easily? And like if this is gonna get lost underneath the coach, how are we going to accommodate the quick ability to find it? What if we gave it a charger? And on the charger, just like a phone, like you get a portable phone and it's got a charger, and if you d leave your phone somewhere, you push the button to find it, and it finds th the phone beeps for you. It's useful for the remote phone. Yeah. Rechargeable batteries are cheaper usually. Yeah. I think people would find that too foreign. It's when we get satellite. Yeah. Yeah, 'cause I don't have any material pricing information available to me at the moment, so R\_ the double

R\_. Or is the I Yeah, yellow could be and it could doesn't have to be huge. Mm-hmm. I had something, but I forgot. Do you want us to do our PowerPoints now or I can go. Yeah, you should run it. Mm yes. Yes, okay so we tested a hundred subjects in our lab, and we just we watched them and we also made them fill out a questionnaire, and we found that the users are not typically happy with current remote controls. Seventy five percent think they're ugly. Eighty percent want they've are willing to spend more, which is good news for us um if we make it look fancier, and basically w we just need something that really I mean there's some other points up there, but they it needs to be snazzy and it but yet simple. So that's really what we need to do. And we need we need it to be simple, yet it needs to be high-tech looking. So Like They like I guess use the buttons a lot. Yeah. I don't know. It's from my uh research. My team wasn't very clear. That's okay. I I think it's like the engineering versus user, whereas like the engineering she showed that the engineering ones are more complex and users don't really need all of the buttons that are contained on there, because they only use ten percent of the butto

ns really. Good point. It's a necessary evil. Mm-hmm. And so people say that they typically lose it, as you yourself know, because you probably lose your remote control all the time, much like any small appliance like a cellphone, and they we need something simple, because most people, well thirty four percent say that it's just too much time to learn how to use a new one, and we don't want to go we don't want to vary too far from the normal standard remote, but I mean they do need to be able to identify it, and R\_S\_I\_, I'm not very sure what that is. Yes, it is important for the remote control world. Sh Uh possibly. Uh yeah, that's what my web site said, I don't know. Yeah, I would assume so. I think we're supposed to know it as remote control experts. But also s so the channel, the volume and the power buttons are the most important on our company website you can find like the specific statistics concerning to how much each button is used, but those are the definitely the top ones. Yes. And so personally I think that we need a modern eye-catching design, but it it really needs to be simple. So saying from y your slide, your presentation, the engineering versus the user-specified remotes, I think that we should go with something that's more user-friendly. Where the engineering ones, the boxes, tend to make it look more complicated than it really is. Um the functionality of the product really needs to be considered as to like what type of buttons do we really need on it. And it needs to be open to a wide range of consumers, so even though we need a small number of buttons, we also need to take in like are most people going to be using it for a D\_V\_D\_ player, a TiVo, what what exactly are we using it for, as well as the age range. So we need a hip, but not a corny marketing scheme for promoting our product. And also we found our team found that speech recognition is it's like an up-and-coming thing they really consumers are really interested in it, and since our findings found that people are willing to pay more money for a remote for it to be more high-class we could consider it. I guess so, yeah. Yeah, I guess we can interpret it like, we can just try out different types of speech recognition within our remote programme. Oh that's fine. What exactly is a smart chip? So what exactly we are looking at, is this like the front of the remote? Oh okay. Like that we know the battery's working. Okay. Yeah. Yeah, and that's good. We should make it glow in the dark. Mm 'kay. I think we should. Like I think that would be in a as in like in for the design, sorry, um. I think we should definitely go with buttons that don't look like a normal remote, 'cause most remotes have small square buttons, I think we should do something like maybe bigger and round like bubbles. What is it? Like running along the bottom? Wait, is it like the Weather Channel where it's got like the ticker running on the bottom or something? So it's like a separate channel from like what you're watching? Okay. No, kids need to know how to use a remote, I would think. They gotta change between Disney Channel, Cartoon Network. Yeah, I think we need it all. Um I would say we should say dumber than the average person. Yeah. And channel. Yeah. Those are

the most important ones. Yeah. Sure, yeah. I need we we need a like homing device. Because people really are looking for a remote that's more high-tech. Do you think people'll really go for that though? Because Yeah. I would think so, because you'd have to develop a base. Hmm. Right. Do w Well, th there's the people who desire speech recognition, there's the different demog demographics have different desires, I don't know if you guys ge It wouldn't copy onto the the thing 'cause it's black, but all the different age groups have different desires for speech recognition. So basically older people don't really care. It's really the people twenty five to thirty five. I feel those are the people that really watch a lot of T\_V\_ t

hough. They're the ones that get addicted to soap operas and just sitcoms and stuff. Right. So Right. Yeah. Wait, on the remote itself? Well, we definitely need those. Yeah. You definitely need Wait. I feel like a ye I feel like a yellow one would be too garish. Or put like stripes, oh yeah, yellow lights. Yeah. Yeah. Yeah. Yeah, audi audio settings and screen settings, we need those like audio settings mono, stereo, pitch, screen settings like brightness, colour, or do we just want that accessed accessed from the television itself? Yeah, 'cause we need to we definitely need to have buttons for like sub-titles and things like that. It's 'cause the foreign film market is expanding and stuff, and like on television like I know f k living in Los Angeles it's tons of Spanish network television if it has English sub-titles it's definitely helpful. So we need up, down, and side-to-side buttons. Yeah, okay. Okay, yeah. Such as, yeah, the one the one over there on the left the engineering centred one. Ooh, I just got an idea for a design.

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# Meeting ID: 42

Data Source: Train

## Executive Summary

The project manager stated that the goal for the current meeting was to decide upon a concept for the remote the team is creating. The marketing expert discussed his findings from trend watching reports. He found that current trends are such that a product must have a fancy look and feel, be technologically innovative, be easy to use, incorporate a fruit and vegetable motif, and must be spongy. The user interface designer discussed how to create an interface for a remote that is easy to use. The user interface designer discussed the placement of commonly used buttons, the overall shape of a remote, and how to hide less commonly used buttons. The industrial designer discussed various components and energy sources the remote could include. The industrial designer focused on the use of a TFT screen and the use of solar cells to supplement the energy from two regular batteries. The team then discussed and made decisions regarding the option to use solar cells, the specifications of an LCD screen, how to incorporate a fruit and vegetable motif into their design, and how to hide lesser used buttons.

## Complete Meeting Transcript

Hello. Okay. Okay, I'll start. Can you open my presentation, please. I'm number four. Trend. Yep. Can you pass the mouse, please. Oh okay, that's fine. Okay. Um so basically I just want to presented to you present to you some recent results we've had from um looking at uh um some remote control market research and some fashion trends around the world. Um the fashion trends we got from talking to our our contacts in the fashion industry based in Paris and Milan. Um so f from our market research basically we've come to the conclusion that a fancy look and feel, um as opposed to a functional look and feel, is our number one priority. Um fancy is is is is the, you know, highest priority. Secondly um that our remote control needs to be techn technologically innovative. Um so this is t number two priority but it's two times less important as the fancy criteria. Um and third thirdly the easiness of use is is the um is is important as well, but again two times less important as the technologically innovativeness of the remote control. From our f fashion people in Paris and Milan, um we've discovered that this year um fruit the fruit and vegetable motif will be the most important thing in in clothes, shoes and furniture. So,

I'm pretty confident that our remote control fits into the furniture category. And also um the feel of material this year um is expected to be spongy. Um so hopefully our remote control reflects that s in some way. Uh sort of um squishy. Um. Yeah soft, like a uh like a sponge. I don't know. Yeah. Um so in conclusion, we need a our remote control needs to be something that's really fancy, um has lots of technolog tech technology in it. Um somehow would be good to have it related to fruit and vegetables with a spongy feel. And that it's easy to use and from our last meeting our you know Fabian told us that w you know one of the requirements is that we have to reflect the look and feel of our of th the Real Reaction company. Um. That's it. Less important. So um fanciness first and then two ti you know, half as important as that is technology technology, and half important as technology is easy to use. So. Inch. So So Ca Can I ask a question. This seven inch T\_F\_T\_ screen, how big is it in reality? So like that. That's quite big. Uh uh have we decided that we're gonna use this T\_F\_T\_ screen? But I mean even even that is like this big. Yeah. You can cut the T\_F\_T\_ screen. Okay, so Okay. So, what's the size of the device? Even from my perspective seven t seven centimetres by seven centimetres is still Is it Can you hold that, or? Yeah, a small c control that they can hold in hand. But is something that's seven centimetres square e easy to hold? Okay. So if we use s solar cells, um where is the sun if someone's watching T\_V\_ inside? Okay. Okay. It's it's quite innovative, yes. And if you watch T\_V\_ outside it's very useful. Which is the same area. Could you re could you redesign your board? Oh, five five centimetres by ten centimetres. Yeah. Mm, touch screen. So Well it's it's definitely the obvious choice, with the colour of our company. I mean what other what other fruit and vegetables Do you know of any any other fruit and vegetables that are yellow? Well I'd like a shaped screen. I think that's more important than saving a bit of money on on the T\_F\_T\_ screen. Yeah, banana's good. Okay. I think if we if we have a spongy layer on the outside of the banana then it's easy to make that, you know, to manipulate that to hav be a cover that you can pull off and I think for sure. Definitely. The softer the better. Yeah. We could use Velcro. Or uh ma maybe a magnetic thing. Yeah, I imagine some sort of vinyl thing. In a in a sort of a with a suede sort of feel. Maybe. Mm. So you're saying is it possible to have a solar cell and this removable cover and And a and a banana. Yeah. Okay. I think it's important. I think One of our p priorities is tech technology. And Mm-hmm. Yeah. Okay. Okay. Thank you. Hello, uh this meeting we ar

e it's fo should be focused on the conceptual design of the remote control. Um the goal of this meeting is to reach a decision at the end on the concept and I think the last time we talked about an a lot and we had a rough idea of what is going to be, but uh in th at the end of this meeting we have to to reach a decision. So, uh we will have again three presentation, from all of you, and uh I hope it will be fast because I would like to have time to for long discussion and and decisions. So, who wants to start? Okay. So start, uh Uh. This one? Turn. Hmm. Okay. Like a sponge. Yeah. Yeah, uh yeah. Easy to use, is it uh a as much as important than technology or fancy thing. It's less important, right? Yeah yeah. Okay. So, Hamed, can you. Mm-hmm. Um. Number? Three. This one? So it's not this one. Okay. Yeah. This one, yeah. Oh,. Oops. Can you fit any uh for example a T\_F\_T\_ or any electronic device in a spongy thing, or is there any problem for that? For example, put electronic card on a spongy thing, I can I can imagine it could be a problem. Yep. Okay. So Okay. Maybe put electronic in a box and a spongy thing around. maybe after. Yeah. No, I don't think it's seven by seven, I think it's seven the diagonal is seven. Usually when they say seven inch I think it's the diagonal. Yeah. I dunno I dun I dun One each. But, yeah,. Let's go. So let's cut the T\_F\_T\_. Mm. These technical engineers, huh. What user wants. He wants a small remote control, or? Uh uh with big buttons. It's difficult. A sm So maybe you can finish your presentation, and afterwards we will discuss about all this. That's it. Okay. So. No. Uh, so I think

we have a lot We have to take decision today, so I think we have to do some work to finalise our idea and take decisions. Uh first I think energy it's a key problem because uh it depend what can we have as feature if we use only batteries, for example, or something like that. Because can we have L\_C\_D\_ and speech recognition with battery, and it's also r related to the size of the of the devi of the device? Okay. So Okay. Uh like but using how many batteries, for example? Are are what Maybe what is the size of the battery Okay. Uh one two Okay. The television lights. At least when there is T\_V\_ you can get light from the T\_V\_. I dunno. Okay. Mm. At least it's new and maybe technology New technology. Yeah. Um. So I think before talking about the other thing, it's important thing it's the case. Uh what what are gonna be the size, because its weight drives the other what we are going to use as features and so on. For example for the for the L\_C\_D\_, if we choose to have a small device, we cannot use this um a such a a screen. Oh. I've I s I think the easiest thing would be to to have a smaller L\_C\_D\_, if it's possible. Okay. So we are agree with a small L\_C\_D\_. Yeah. Tactile or something, yeah. Touch screen, yeah. Yeah. The problem is we have a limit in a month of time, so we cannot do something very new. So let's go for a small L\_C\_D\_. Yeah okay. So, five by s ten. Um so what about, so the case we talked about. Um something easy to use, you said something easy to use but how does that fit in a fashion way, like with fruit and vegetable, and about the colour and logo of the of the company and so on, now, can we do that? My first idea is because our colour is more yellow, and the it should be easy to take in a hand, I thought about banana, or something like that, which is fruits, and A big banana. Um. Yeah. Yeah. But it's just an idea. I dunno what you think about, but Yeah. I dunno if it can fit with the technology. You are the specialists of that. So Yeah, and The screen has to be square? Or it can be like a a shape, quite, uh with curves. It could. Yeah. Okay okay. Yeah. Yeah, it should remember banana, but it's not doesn't have to b to be uh uh really the size and exactly the shape of a banana. So we are agree with the banana thing? Okay. So, the last point we decided it's infra-red, I guess. Everybody's agreed. Uh,

so that's it I think about the concepts. You have other thing to add to this point, or uh no? So, uh about the user interface, so we are going to use L\_C\_D\_. In the last meeting we talked about uh hidden buttons. I don't know what we are going to do with that. You talked about the buttons on the side Mm what? Yeah. Okay. And you mean the first layer would be spongy. So Is it is it possible to do that? It would be a great idea, but is it possible technically? Like doing a spongy layer of the banana, and you open it. Yeah. Yeah. Yeah. Yeah, but do you see that as a rigid thing, or like like a banana, something very soft, you can open like banana, or. Yeah. So, I dunno what you think, Bob, but it would be great for users I think, and very good for marketing. Yeah. Yeah. Um. And setting buttons hidden in. Mm, other remarks, or something, or. Something we didn't talk about yes yet, or. I think we are almost there. Uh maybe, how can we, if we have a soft thing, like this, and to open it we have to attach it somewhere, I dunno how to do that technically, or. And how Yeah, maybe. Ma magnetic oh. Okay. Okay. And what would be the matter here of the first layer I mean? Mm. Likes. Soft plastic, or Yeah, yeah, yeah. Hmm. And something we forgot, maybe, uh about the speech recognition system, are we going to use it, or not? It i Yeah, it seems feasible, and it would be something very great. So we have the de design, the a good shape, new and so on, and we have also the technology thing w will be. And even the easy to use thing, so it will be perfect. So we add also the speech recognition device. So, that great. We have decided everything. And think we are on a good way. So, um uh the next meeting will start in thirty minutes. Um, so uh the the Industrial Manager uh will uh will work on the look and feel design. The User Interface uh uh Mana uh Manager will work on the user interface device. And the the Marketing Expert will do the first project evaluation. So, I hope you can do that in thirty minutes. And uh, yeah, I uh I think you should work together, s you uh Hamed and Peter, to work uh in a in a first prototype, and uh

more about the shape and so on and how you can manage to put everything together. And um as usual you will receive some specific instructions on. So thank you all everybody, and see you in thirty minutes. Mm-hmm. Hmm. What does it mean, spongy? Like soft, or something? Okay. I will see. Okay. I think the biggest struggle will be the easy to use feature. We'll see. Exactly. Uh okay, so good news from me uh uh for me from Hamed, but bad news from Bob obviously, because spongy design, I don't like it as Okay, so could you please, Fabien, open it. I'm person two. And which one, uh probably the first one. I'm not sure but check the first one. I Most of the things I have to write myself on the board, but Yeah, that's it. Just It's only this slide? Yeah. This this is just uh one thing I wanted to mention and show you that I just uh I just found this, that our company uh developed a s a seven f seven fingers or I'll just Yeah, seven seven inch T\_F\_T\_ screen, which is good news for us, since we wanted to include a display there. Uh so I I probably draw it down raw scheme. This is this is the stuff that I can use to Okay, so the this will be like the overall scheme or overall requirements from the engineering point of view. Uh first thing is uh this will be the overall shape, no uh I'm not speaking about the real shape of the device, but the shape of the inside of the device. So there will be some circuit uh for the power. So, say power circuit here. Uh the main energy will be taken from batteries that we can uh uh And if we decide to use the speech recognition stuff there, we must use additional source of energy, which I found the best is to use the solar cells which can which can uh supply everything. I was computing all the all the things related to the speech recognition, and it's okay to use just uh two batteries and solar

cells, so. So no problem. There can be also solar cell. Uh the main board with all the circuits will take at least seven to seven centimetres, so this is my like hard requirement for the guys from the design. So at least seven to seven. It depends where you put your screen, because the screen is uh seven inch, so it depends on you where where you put it. It doesn't matter. Um it's just one cord from from the main board to the screen which can be elsewhere. So this will be T\_F\_T\_. And on the main board we have the um interface to the microphone, which is somewhere, say here. Interface to the microphone. Then the graphical card uh for the T\_F\_T\_ and the third unit is the I\_R\_. The good news is that we can uh we decided to use the infra-red unit because our company has also developed the chip for communication by the infra-red, including all the stuff inside, so it will be very cheap for us. So infra-red here. So the once again the overall requirements, seven to seven centimetres for the board, which has to be which can be spongy but has to be this size, and the T\_F\_T\_ which is seven inches. Um I have to check what I wanted to Uh from my point of view I don't care about the about the material used for the overall des uh ov all the device. A all these things in in uh in this box are okay to put in in any shape, basically. But we have to take care of the T\_F\_T\_. Well, sponginess. Maybe it a good feature, since it takes if it's around the T\_F\_T\_ then it's good, because it's just keeps it safe, I dunno. Well, it's maybe related to the U\_I\_. A Yeah, that's all from me. Yeah? Well, seven to seven inches. Yes. Yeah but To be honest, I was Yeah, honestly speaking I was thinking that it was seven centimetres initially, but it's seven inches. But I I think we can we can cut it. Yeah, no no problem, because because because then the size of the graphic card will be one fourth. So Yeah, but no problem to to me to cut the screen. So so for the same price we have four screens now. Ah well this is like this is almost nothing. Seven to seven to at least well some three millimetres or something. Yeah, but we wanted the big buttons and stuff like that, you know. Because if it's t too small we can we can lose it, at home, you know. I thought that it it should fit in the hand or something. W I I think so. I if the roller buttons are on the side you don't have to catch it like that, but just like this, and you know follow follow Well, that's that's no task for me, but well seven to seven at least yeah, but Oh, okay. Okay thanks. Not J uh just a point to the energy th things. If we use the batteries, and the additional so solar cell, then it's okay for L\_ uh speech recognition and L\_C\_D\_,

so no problem in energy, I think. But we have to use the solar cell. Otherwise not. Yeah I was thinking just common A\_A\_ cells. So like three to five centimetres, I dunno exactly, but. S Uh d doesn't need to be sun. It it's just the daylight, you know. Yeah well I I suppose that I suppose that uh that this remote control won't be in the in the room like this, where there is light only when when there are people, but. Yeah from the T\_ I don't think it's enough, uh. Ah it's a it's a compromise, no? Yeah, that's why I wanted to to include the speech recognition, because you wanted all the new things. Uh the s the screen is okay, but the board, uh that's the problem. Well what what would you guess as a shape? Or what what would be the shape? Mm. Okay. Okay. Five to ten. Well that Yeah, right. Yeah, I think it's feasib Well one um um How could we do it? We could put the board next to, well, under the L\_C\_D\_ and for example make the L\_C\_D\_ be totally unrelated to the thing that you hold in your hand. Like holding something, and the L\_C\_D\_ to be just on top of it, you know somehow. Well But maybe let's stick to the s spongy thing, like one unit. Well fi five to ten it would be feasible. Okay, so five to ten, I I think it's it's feasible. I'll make it. Fo Five by ten. Mm-hmm

. Okay, so Yeah, so so just just give me the the the five by ten numbers that you find the best and send it me and I will work it out. Hmm. Seven to ten banana. Okay. Rather mango or something or. You mean banana. Well, but If it's If it If the banana is big enough. Then, yes. But if you want to look at the screen, no. Well Well, it can be whatever you want. But if it's square then we get four screens out of one by cutting just. But if you want some shape then we can only get like two screens out of seven to seven inches, so. It's like more more expensive to have shape like that. But I don't care. You know, if we fit this requirement. Okay Yeah, m maybe the banana could be like a bit uh fatter than than the c c common one. But Like modified banana, okay. Well it we'll stick to banana, or? Okay. Mm-mm. Yeah, yeah. Sure. Like like peeling of the banana you s It would be cool, yeah. Peeling of the banana, you know, should should discover the other buttons, which are hidden. First layer obviously spo Yeah, w It's it's like silly, but the people will really appreciate it, yeah I think. Well is it possible to make it soft? So I think if it's so then it's cool? Cool. Honestly speaking, I cannot imagine it, so far, but it will be terrible. Mm. Pof. Well since since the since the things like the like the screen and um how to say that, solar cell has to be has to be like kept kept in the shape, we cannot b uh So we need that the that the peeling uh I dunno but we should we should take care of these two two things. So, if if uh the solar cell won't be visible while the banana is closed, then the material must be able to put the light inside, you know. So that we can reach the energy out of it out of that. It is possible, but, well if it I dunno. I dunno how to how to do it if if t if to if it's better to put the solar cell to the t to the peeling or outside it, or or inside. But then it must be some window there, you know. Yeah. I agree. Okay. Okay. Hello. I s No, no, you you can start. Yeah. The second one. Could you please show the presentation number three. Yeah. Three. Yes. Just Could you please check if it is the first one or the second. Uh, n n no, it's the first one. The second one. Uh yeah. Okay. Okay. So I am going to talk about a little bit about how this remote control should be appear to be more easy to use. I think uh I think the feature easy to use is more important than being fancy, but okay, we can discuss about it uh later. Um generally, generally uh this remote control uh uh should be should be something, in my opinion, uh the first feature is just to be easy to use. So, the more frequent buttons should be larger, they should be placed in a good position uh uh inside the remote control. And uh s uh I can conclude like this, that we shouldn't need to learn how to use it. It should be we shouldn't need to es open a a t book and uh start reading and uh learning how to use this uh this uh remote control. Okay. So what I found out that uh as I said uh I think it's better to put uh more frequent uh uh uh ke uh buttons which are used more in the middle of the remote control, and they should be bigger in size. Uh the shape of remote control should be in a way which can which should be



taken easily in hand. It should not be completely like uh a cube. It should be it should have round edge, so uh then it's easier. And maybe uh just like some toys, some joystick which is easier to take inside the hand. And uh also f uh uh m because because customers doesn't like to buy lots of battery, it should not uh consume lots of energy. Okay. And my personal p uh preference is uh, as I said, uh just putting this buttons in a special places and covered some buttons which are not used uh that much like settings button, like mobile phone. Usually some mobile phone cover the dialling number part, so we can cover these buttons which are not used or uh number buttons for the for the for the can channels, and just put uh volume change or s ch can u

h channel change buttons uh uh in the remote control. And if the user needed to do some more complex task uh he he can open the cover and then change settings or something like this. Uh. And also uh I think if we put some some some some some buttons inside of the remote control it can be used easier. Not on remote control. I dunno if I can explain well. But uh just inside. For example, a sliding or rolling uh uh d uh stuff, if we put it inside then we can easily manipulate with uh thumb. So it can be another uh preference. And uh I dunno but uh I think usage of a speech recogn uh r recogniser can be good. I know that it consumes lots of energy, but if we do it in some way that it asleaps when there is no sound and when it detects some sound it may consume less energy. And I think it's good because it's something new and usually young people like something new. So it may not be very useful but because it's new, people may buy it. Uh I personally think there should be a big difference between uh between something. Otherwise they prefer to buy something which is coming from a famous company, or. Okay. That's mine. Mm-hmm. Well maybe it can have two shells, a hard shell inside and a spongy shell outside. Yeah yes. Mm. Uh. Yes. Maybe this. So but Mm-hmm. Yeah. Hmm. Mm. I think I think their being uh large or small is not important. The only important thing is to be able to take it in uh inside hand easily. So let's say an average size, okay, and it should not be very heavy also. And I prefer to is it shouldn't have a uniform shape, so in the middle it should be a little bit thinner, maybe maybe. So we c it's like like some joysticks. You can take uh some some joystick you can take inside hand easier because it's it's designed for your f uh taking into account your finger shape and your palm shape. So the general shape should be like this. I think uh seven centimetre by seven centimetre is a little bit large. So uh seven not seven but let's say five by ten it's I think it's that's my opinion. It's easier. Yeah. Mm-hmm. Mm. Or uh or I don't know but I don't want to now invent something new, because we didn't discuss about it. So using some L\_C\_D\_s we can touch, so we can remove uh keys and just uh having uh, I dunno the name, L\_C\_D\_ responding to fingers. Touching the screen. Something like Mm like tactile. So But for now if we don't want to use such kind of screens I I think we using a a smaller screen is better, because A smaller s Okay. I think this is not good. Mm. Mm. Okay. Yeah, I think infra-red. Yeah, peeling of the banana. Yeah. Mm. Yeah. Uh Mm-hmm. Yeah, some Something like a plastic cover covering uh some interface, U\_S\_B\_ interface as in the in uh digital camera. If you see it's like peeling. You open a plastic cover and you see some U\_S\_B\_ interfaces, some some interfaces for adaptor. So keys can be uh buttons can be covered like this, with a plastic cover and uh when uh and when you open this cover it's like peeling a banana. So, something like this. Yeah, yeah, yeah it's a lic like a plastic cover, so. Mm-hmm. Yes, yeah it's a good idea. Magnetic. Mm. Yeah or a Yeah it can is it can be a plastic cover uh sticking to the to the all the stuff like uh with magnetic p uh magnetic uh magnetic uh materials in the border, so it's it sticks like refrigerator door, completely. And when you try to open it, it will be opened easily. So you you can be sure that it will not be open while you're uh while while uh you are commonly using uh buttons on the banana. Mm. Mm. Mm. Yes, I think. I think so. Mm. Mm-hmm. Mm. Mm. Thank you.

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# Meeting ID: 9

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## Executive Summary

The project manager opened the meeting and had the team members introduce themselves and describe their roles in the upcoming project. The project manager then described the upcoming project. The team then discussed their experiences with remote controls. They also discussed the project budget and which features they would like to see in the remote control they are to create. The team discussed universal usage, how to find remotes when misplaced, shapes and colors, ball shaped remotes, marketing strategies, keyboards on remotes, and remote sizes.

## Complete Meeting Transcript

Right. I'm Manuel and I'm the Industrial Designer in in this project um. In the functional design phase I'm I'll be dealing mostly with the requirements, um we'll discuss what the prog what functions the the product has to fulfil and so and so on. Um I suppose we'll work pretty much together on that one. Um um in the conceptual design um I'll be pro mostly dealing with properties and materials um of our product. And uh the detailed design in the detailed design I'll be concerned with the look and feel of the product itself, um so we're pretty much working together obviously on the design front here. Okay. Mm. Mm, mm. Right. So Mm. Well there are of course certain restrictions, you can't have it be any form and fulfil all functions at the same time, so there are always the some restrictions we have to apply here. Um however um one question is how stable is that thing supposed to be, that refers to the material, pretty much um. What are we gonna build that thing out of? How sturdy is it gonna be? Do we want it to last longer or rather have people whatever, have to buy one every half a year? Right. Right. One problem you'd get with this design is um the ball is a nice idea because of it's stability really, but of course, since it's a ball, it'll roll, so we'd have to have it flat on one side at least, down here somewhere, take away that part. That's one of the big issues. Also also you risk the hinges here. That's that's um a problem. That's that's interesting of course, but that's of course a weak point, yeah. E No no, uh uh. N n Uh, I'm your Industrial Designer, so i b well, the point is that well maybe I dunno. The shape is perhaps not the most ideal. As as stable as it is, there must be a compromise between um stability and design here, so. Mm. Mm. Well with the one-handed design you also have the the problem of the size w 'cause

you know from cell phones, they can be too small. So if the remote is too small it if it's small it probably looks better, but may not be th as functional. So for that there's So The question is also, I dunno, d do you really always want to open that thing when you have to use it? It's probably going to lie around opened all the time anyway, so I don't know if a lid is a good idea. From stabil stability point of view uh it certainly is, but also you have to face it and take into account the more of these things break by accident, uh the more we sell. So it's don't make it too stable uh. To the other design. It looks cool. Uh functional. Right. Right. Question is what makes those game pads functional? W I think that's pretty much the form for full hand. So it's a round shape underneath that makes it comfy, right, makes it nice, so that's the essential part. Except for that I think we'll not probably not get a get away from some longer design. 'Cause you also have to know which way around to point this thing. You know, all that dif batteries right, and Batteries go weak as well, so um after a while you have to point it towards the uh towards the equipment you wanna control with it, right? So, have to m show which is the front, which is the back. I suppose you could do that. O of course the more technology you stick in that, the more it'll cost, so. Course you can do that. I mean of course it'll be evident after a while or if you look at it, it'll it'll be evident which way around to point it, since you have the the numbers and the and the the buttons and stuff, but um it's rather about an instinctual thing, like you just grab it, you don't have to s look at it, you know, which way around to point it. Otherwise the design of or the the point of putting two sensors on both sides um would probably work. Mm. Let's. Obviously Alright. Okay. Oh, that's not gonna work. Oh, alright. Okay. Okay. Um alright. I'll just put that there. Uh as you all know we're here to create a brand new fantastic remote. Uh I'm Nick Debusk, I'm the Project Manager. Uh we'll just get started with everyone kind of letting each other

know who they are and what you're doing, what your what your role is um. Go ahead. 'Kay. Okay. Um so we've got our opening, our our agenda is the opening, uh acquaintance which we've kinda done. Uh tool training, project plan discussion and then closing. Uh grand total of twenty five minutes we have here. Um so we are putting together a new remote control. Um we want it to be something original. Um of course we're a not only a electronics company but a fashion um conscious electronics company, so we want it to be trendy um and we want it to be easy to use. Um we've got the functional design, conceptual design and detailed design um which basically is is the three of you um. And w uh well um functional design um. Um do we have um any ideas of of maybe d let's just throw out some ideas of what kind of remote control we want to have, and then we can go into how we're gonna design it and and how we're gonna do the detailing on it. So we want it to be um a T\_V\_ remote or I I mean do we want it to to do other things besides just be a a television remote? 'Kay. Mm-hmm. 'Kay. I I think yeah, yeah, r universal remote. Um this is my first uh go-round with creating a remote control, so I think we're all in the same boat here. Um Okay. So we should we should set our remote control up to where it has a uh like a tracking device or or like a a It makes a noise, there's a button on the T\_V\_ that you press and 'Kay. Yeah. Do we want so they're kinda like long and rectangular. Do we want something crazy? You know, we want something new that's gonna stand out. A m a modern so our remote should be 'Kay. Um. Okay so yeah, so we want it to be sturdy, we want it to to hold up to somebody's child, you know, throwing it across the room or, as you said, people kinda throw it, so ball-shaped, uh you know, if it were ball-shaped maybe, then it 'Kay. Um so we want it to be modern, fun, sturdy, um So our form and our function. Um we want it to be um easy to find. Um What else it what else do we want it to to do? So we want it to be universal. It's something that we're supposed to sell for about twenty five Euros um and you know, goals for profits are I think somewhere around uh fifty million Euros, what they wanna make on it, so. 'Kay. So marketing, you know, how maybe uh marketing, you could s find out

what is the most universally um appealing remote control out there. 'Kay. Um Do you guys have any ideas for what it should look like? Maybe we could draw it up on the on the board over there. Some ideas? We want it to be a b a ball, you know, we'll draw up we'll draw up the ball and maybe th um where the buttons are located. Uh-huh. How would we go about um making you know getting rid of our weak points? What I mean would we just have a flat spot on the bottom of the ball? Not to put you on the spot, but What did you say your title was again? You're the the Industrial Designer. Okay. Yeah. It's not new, it's not innovative, it's you know, everybody does long remote because it's easy, it's it's stable um. So if no, go ahead. Something with a grip. Yeah. Because even I suppose even with the ball it's it might not be the easiest to hold onto um. So perhaps the the joystick the the keyboard idea might work better. But then again, people like to use one hand to flip and one hand to hold their soda, so maybe maybe we I feel like I'm just shooting everything down here. Uh um Yeah. Okay, so unfortunately we've got about five minutes here to come up with our um remote control idea and start rolling with it. Um we've talked about our experiences with remote control and um we've got a couple ideas um. Let's see here. What if we had what if we had not only um say we went with the ball the ball function um, but maybe we give it sort of grips along the side s um to make it easier to hold on to. So you know um s so it's easier to hold onto that way. Course that'll then remove some of our our ball. Unless this unless this part were raised, so say the cover flips over and

covers that part. So the grip is No, that wouldn't work either um. But if we're gonna make it flat on the bottom, then that eliminates our ball anyways. So if it were flat on the bottom and then had the sorta grips on the side here I guess, um and then flat uh And then we have the problem with the hinge. So if we're flat on the bottom, it's not gonna roll away, it'll stay where we want. Mm, that's true. So we don't have it flip open. We just have a ball Okay, so then we forget the ball. It looks cool, but it's really not it's not functional um. So we've got our sort of keyboard kind. What if we flipped it around here, so that it were um Sorry, that doesn't look anything like what you had there. Um so it's up and down, you hold it this way. Course then it's it's like the rectangular again, only with a couple of jutting out points. But it's one-handed um. Yeah. Yeah. Yeah, because it doesn't have a cord, like joysticks do. Is it possible to have it to where it would work with a like a sensor on either side? So that either way you're pointing it it would work. More expensive and yeah. 'Kay. Um True. 'Kay. Are we out of time? Okay, well, just to finish up, should we s go with this plan, start making some Are good ideas, what are not. Uh. Must finish now, so. And then marketing will look and see what uh what people want. Okay. And Project Manager will design a better meeting for next time around, be a little bit more prepared. And uh alright, good meeting. Uh, uh, um. Okay. I am Corinne Whiting and I will be the Marketing Expert and in each of the three phases I will have a different role. In the function design phase I will be talking about user requirement specification, and this means what needs and desires are to be fulfilled, and I'll be doing research to figure this out. In the conceptual design phase I will be dealing with trend watching and I'll be doing marketing research on the web. And then finally in the um detailed design phase I will be doing product evaluation and so I will be collecting the requirements and ranking all the requirements to see how we did. Mm. Huh. Ours too. Mm. Ch Like a tracking device? Mm. Be good. Lot more modern. Maybe like user-friendly, like a little you know, where you can use both hands, like a little keyboard type thing. Mm. Mm. Mm. Also since we're partners of the International Remote Control Association, maybe we wanna make it something that would globally appeal. That's more on the research end, but the marketing. Yeah. And maybe as far as design goes, maybe we could have different ones for different target audiences, 'cause maybe one won't apply to all of the countries we're targeting. Futuristic. Mm-hmm. 'Kay, I'll draw something. What? My idea was just to have it be kind of like a keyboard type

shape, you know, like video games I so. But maybe I mean that would be kinda big and bulky. We could also try to do the hinge thing, so it could like flip out that way. I don't know. That's my idea. Yeah. Mm. Yeah. True. Mm. That's fine. You're the boss, you're allowed to. Yeah. Looks cool though. Yeah. Mm. Right. Yeah. Sorry to interrupt, but we have a warning to finish. Yeah. Mm. Great. Hiya, I'm Ryan. Um I'm the User Interface Designer. Um likewise I've three different roles for each stage of design. Um the functional design is looking at the tex technical functions of a remote control. Um in the concept design, the user interface, how the user reacts with the the product. And the detailed design um sort of like the user interface design, what they might be looking for, uh things like fashions, what makes wha how we're gonna make it special. That's about it. Yeah. Yeah. Well uh s function of remote control is just just you know, change channels is its main function. Oh right. I suppose you c try make it a universal remote for could work on all sort of electrical products in in one person's house. But, you know, they all sorta have the same role changing channels, volumes and then programming

. I think they all work on the same prin principle as well sorta like I don't actually know. But is it just infra-red? Is that standard? Ye yeah. Um one thing I thought of with the remote control is you always lose 'em. So if there's a g a way of finding it quite easily, I thought that'd be quite good quite a good feature. Oh you can get those key well you could whistle or make a noise and it'd beep. Yeah. Generally, all remotes are sort of quite similar in their appearance. Just long. Yeah. Black usually. Yeah. I think so. Maybe sorta spherical or something. A ball. Yeah. People I thought maybe, because people always tend to throw a remote control about the place to one another if it was in a ball, and maybe the actual controls are inside or something. Yeah. Yeah. Yeah. It could be cased on the outside and t everything could be inside. Ye Small. I'd I could draw sorta the ball idea. My original idea was just simply sort of a sphere, where maybe you this is where it's connected together, and then when you open it out, it could fol it could be maybe flip, like a flip phone, and then when you fold it out the middle Maybe a hinge that'll have to be the strongest part of it. If that if we did use a hinge, or if it was just two parts, and then you'd have just sorta you you you know, your buttons. Thing is inside I think, sometimes remotes have too many buttons, so maybe as simple as possible, um as few buttons inside as possible. Um, I dunno, what's the idea for. Just something maybe if you ha if it had like if some kind of like light or something or lights around it. It's looking a bit like something out of Star Wars at the moment though, to be fair. But yeah. That was that was a sorta simple idea I had and then you know you could about Right, it would almost be like a ball. So that was just just an idea I had. I don't know whether anybody else has other ideas? Yeah. Yeah. Maybe f yeah. Yeah, that's g that's a good idea. Yeah. The idea it didn't have to necessarily be f a hinge, that was just one idea though. Yeah. Well I I suppose that things become design. But I mean i I was trying to think of like the design of others. I can't think of anything other than a long rectangle for remote, maybe small, sort of fatter ones, but there's nothing being done sort of out of left field, yeah. Yeah. Yeah. I think definitely doing something different is a good idea. I mean maybe design something, that's sort of like uh I suppose not everybody's everybody's hand's the same, but something that would maybe fit in the hand easier. Yeah, with a grip. It still might be hard to it still not the ho easiest thing to hold, yeah. Like yeah. Yeah. It's d yeah. I think it's definitely got to be a a one-handed a one-handed job. Yeah. But then maybe to go back to the to th s something along those things then. Yeah. Put it Even if you designed it in some in a way that you know, isn't a rectangle, but still pointed in a direction that had definite points. So if that's your thing and you got something like that instead, and there's your s you kn you know which way you're gonna pointing it. Um Does it say what does it say for n it says on there what we need to do for the next meeting, I think. T

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# Meeting ID: 119

Data Source: Train

## Executive Summary

The project manager opened the meeting and then the industrial designer discussed the interior workings of a remote along with his personal preferences for the appearance of a remote. The user interface designer discussed the technical functions of a remote and indicated that a user centered approach to designing the interface would be preferable. The marketing expert discussed the functional requirements of a remote and user tendencies in using remotes. The marketing expert indicated that an ideal remote would include an LCD screen, would not be too small in size, and is easy to use. The project manager briefed the team on some new requirements and led them in a discussion in which the team discussed their target group and made decisions on the appearance and functions of their upcoming product.

## Complete Meeting Transcript

One question. Send. Submit. Mm. Yeah. I'll go first. Okay. I'll go first yeah. So. Huh? Okay, um Okay, um I wanted to explain the working design of the remote control. It's possibly very handy if you want to uh design one of those. Um well so it basically works uh as I uh uh r wrote down uh in this uh little uh summary. Uh when you press a button, uh that's when you do pr for example when you uh want to turn up the volume, um a little connection is made uh the the rubber uh button just presses on a on a little print plate uh which uh makes uh uh a connection that uh gives the chips, uh which is uh mounted beneath those uh that plastic of a rubber button. Uh senses that a connection has been made, and know and knows what button you pressed, becau uh for example the the volume up or volume down button. Um uh the the chip uh makes a Morse code uh like uh signal which uh then is si uh signalled to uh several transistors which makes uh which sends the signal to a little let. You know what a let is? Okay. And that makes uh the the infra-red lights signal which is sent to the television set. Uh which has a sensor in it to uh sense uh the signal of the infra-red. That's basically uh how it works. Um the findings uh uh that I found uh searching up some uh detailed information about the remote controls, are that uh they are very easy to produce, uh it is pis uh it's possible to uh make them in mass production because it is as eas it is as easy as uh printing a page, uh just uh fibreglass plate um is b uh is uh covered with

uh some uh coatings and uh uh and chips. Uh and the technology's already available, we don't have to find out how remote controls uh have to work or uh how that how uh to make some chips that are possible to uh to transmit those uh signals. Uh I made a little uh uh animation of about how a tran our uh remote controller works. we tel There. Okay. Uh well the sub-component, I suppose that you understand what a sub-component is, is f in this example it's the button. Uh when it is pressed down, um, the switch is ter is uh is switched on, so with uh the wire is sent to the to the chip in uh co-operation with the battery of course, because to make uh a a signal possible you have to have some sort of uh li uh a d ad uh electronic uh Yes, uh, okay. Um w after it's being composed by the chip uh the signal uh is transported uh to the infra-red bulb, and from there it signals a Morse code-like signal to the to the b to the bulb in uh in the television set. Okay. S Uh I wrote down some personal preferences about uh the remote control. Of course it is very handy if the remote control is hand held, so you don't have to uh uh wind it up or something, or just is it's it's very light to uh to make uh to use it. Uh I personally uh pref prefer that uh it would be p uh come available in the various colours, and uh easy to use buttons. But I suppose that the one of the other team members uh uh thought of that uh too. And it is possible for several designs and um easy to use b uh sorry, easy to use buttons. Perhaps soft touch, uh touch screen uh buttons because uh the rubber buttons are always uh uh they uh slightly uh they can be slightly damaged, uh so the numbers on the buttons are not possible uh to read anymore. And uh well as I said uh before th uh we can uh make several designs. Okay, well, that's my contribution to this meeting, and uh two of these this meeting. So. Okay. Hmm. Mm. Mm. Uh L\_C\_D\_ screen as in uh touch screen? Okay. 'Kay. Okay. No. Yeah. Mm. Yeah for Standby options, yeah? Uh yeah. Two s two two digits, oh okay. Yeah I understand what you mean. Yeah. It makes it twelve, yeah. Indeed. Okay. Well, not really And and there are some models that don't uh accommodate that function. So d uh wh the Philip's television makes it possible in that indeed to uh press one and then two to make uh the uh tj to reach channel twelve. But uh all the television makes uh use of those button where you first press that button and then pr

ess two digits to uh to get Uh yeah, think so. Mm. Mm-hmm. Yeah, we we could yeah. But I think that uh that collides with our mission to make it very cheap. Because L\_C\_D\_ screens are very expensive. A touch screen uh probably uh even more. So, true, true. But uh Well um is it possible to make an L\_C\_D\_ screen uh, how was the information? So perhaps we should we should focus on that L\_C\_D\_ screen. Yeah but uh will we not uh exceed our uh our uh production uh Is it possible to find out, anyway? You know? No, an L\_C\_D\_ screen's just like uh like a drawn here. Um just uh displays several buttons, for example um if you wanted the minimal uh use b uh buttons, such as channel and volume, you just h uh displays four buttons on the screen and it's possible to p uh press them down, just like a touch screen. Yeah, we can make it possible to do that, yeah. Yeah yeah. Yeah, yeah. That's my uh Yeah. Twelve fifty. Um. Well I suppose wi if the mar if our um if the i if the young people are interested in L\_C\_D\_ screens, we should make 'em. And if that is our d uh market share to uh and our goal to uh deliver those uh remote controls Yeah. Yeah. Mm. It's treasure. I hope we uh h and let's hope to reach those uh those sales. Yeah, can you um uh s I think that that they will send you some information about uh the cost of L\_C\_D\_ uh screens. Uh so if you uh Yeah, so if you uh you receive an email about that, uh can you post it in the or shouldn't we post that in uh our projects mail uh folder. Because you are the the Marketing uh Expert. I uh Yeah sure, sure. Mm. It's looks fancy one yeah, of L\_C\_D\_ screen. Mm yeah. And then not yeah. Um. Yeah. Mm. Okay? Yeah. Yeah. And there's also a A sh but in a sub sub-menu or something like that. Uh I think it's also important to uh make it possible to um how do you call it in English, uh, to not use batteries, and use ac uh bat uh batteries to uh to be

yeah yeah sure. Indeed. So uh you can mount uh the the the uh uh the remote control to um to refill the Yeah. Okay, because i uh when you get an L\_C\_D\_ screen, you run it on batteries, the batteries will be uh empty very soon, very fast. Yeah. Yeah, yeah. Yeah. Uh And go to standby mode when you don't use it, so that Yeah, automatically. After two minutes or three minutes, something like that. Yeah. Sure. Yeah. Mm. Yeah. No, when you when you're done with s uh w uh watching your television, you have to put it Yeah sure, of course. Yeah, but But you also forget to buy batteries, and then you can you can't use it, so I Yeah. High power user cell, i uh it should be uh a standard move to to put your remote control in the charger when you're done watching television, that's also a a a great advantage because you can't lose it anymore. Because you are obliged to uh put it in the charger and not to uh leave it in a couch uh between some cushions. Okay. Yeah it hasn't It doesn't have to be big. Yeah just just a cable, or a even a a a a charger where you can mount it on. Something like that, just u Okay. Functional designs uh for the elderly uh you could make it possible to enlarge the screen, so make it possible to not uh display uh a button at ten points uh, or Yeah but it is uh one of the functions you have to uh specify. Because we can look at uh uh perhaps uh forty buttons at a screen, but the elderly only look at two buttons. Okay. Speech recognition? Hello. Twelve Euro twelve Euro fifty. Well, spread it by a big market. Well let's leave out all the remote controls and just put a microphone on top of the television to Yeah Yeah. Turn volume up. Hey, that that's an idea. Okay, well that should it has to be remote control, not Yeah. Sure why not why not Yeah, mm. Yeah. Perhaps the options should be uh Why not? Why not? Let's hope uh to have some uh d We should do it. Yeah. Sure. Yeah. Certain systems already exist, I think. True, yeah. Yeah. This should be uh accommodated with some software, uh, uh. Yeah. Right. Swahili. Swahili. Yeah. Indeed. Yeah. So we want to

uh yeah it's international uh okay. Okay. Y it should be done. If it could be done, should be done. That's not so difficult at all, because I already use on several voice operated systems, and they are all possible to uh not all, but Yeah, sure, indeed. For speech recognition. Uh yeah. S Shortcuts. Uh. Mm. Sh Yeah, just just sub-menu. Yeah. Not directly uh available. Okay. Mm. Directly available. So does it confuse uh the user? Uh. I'll search um. If you want to use teletext, you can push the teletext button and then the options uh become available. No. Menu. Mm. There are a lot of options depending uh on what kind of television you got. 'Cause if you don't got a wide screen television you don't need the uh the screen settings uh for uh Yeah and if the television does not support such uh operations Yeah. Yeah. Colours I think the main colour of the remote control is uh the colour of the L\_C\_D\_ screen. I Because we don't want a lot a devi yeah a device self s g Okay, so use uh very uh lot of peo Adjust with phones, yes Okay. Twelve Euro fifty. Well, make it available in different colours, you mean? Sure. Red, white, blue, black. Grey. Yeah sea view, yes, Simpson's versions and Leave. Yeah. Mm. No. Uh not button Yeah sure, of course you need uh a settings button, uh or a settings option for the remote control. Just tap it. Yeah, it should be in standby mode, but A A A normal button on the remote control, or norm? Yeah, because uh when you touch the L\_C\_D\_ screen when it is in standby mode, it should pop on. Wh uh why would it be a a need to have a normal button? Mm. I think it looks a lot more fancy if you use uh if you don't have any buttons on the s on on remote control. Oh, okay Oh. Mm. Okay. Food. Yeah, think so. Yep yep yep yep. Mm-hmm. Yeah. Well, shall I go first with the users? I think well okay no problem. Ja precies, ja precies, ja precies E\_I\_E\_. Animation. Infrared light. To this meeting. Smoking. 'Kay. Check. Kijke 'Kay, so. We're going to j discuss the functional requirements of the remote, that m that means that functions user n want to have on the remote control, or just Yeah, and the users, actually. The methods I I prefer is we're going to look which section of the users we are going to focus a l on more. Are the younger people going to buy the remote control or the elderly people? And



then tho that section we're going to focus and adjust the remote more to that section than the whole user section. Okay. Some data. Younger people, from sixteen to thir forty five um years are more interested in fj features like L\_C\_D\_ screens, speech recognition e etcetera. And we possess about two third of the market from in that range of age. The elderly people, from forty five years to sixty five years are not that much interested in features, and we possess less than two third, that's two fifth, of the market share in that area. Goed so. 'Kay. Findings. Fifty percent of the users lose their remote often. So we don't have to make it very small, like uh like a mobile phone or something, but some somewhat bi bigger than small, so you don't lose it that much anymore. Seventy five percent of the users also find it ugly, and fif seventy five of the users zap a lot, so the buttons sh should be that small, or shouldn't be that complex because we have to search for the buttons, which one are you going to use. Next. Important issues about the remote. I think it would be better with a personal reference, but okay. Remote control has to have to have a low power usage, because s w seventy five percent of the users only zap one time an hour, so the power usage is also one one time an hour, or so, with a high power usage we would use a lot of but batteries. The volume button and the channel buttons are the two most important buttons on the remote control, so those they those have to h be find very easily. And have to be somewhat like bigger etcetera. It has also be have to find easily when the label is gone. My colleague also announced it

that labels should be scratched off or would be s uh senden okay. So uh if that's k uh if that's the problem, you also have to find it easily on the remote. Buttons. Like what all colleagues said, have to have to be minimalized. or should be covered, or in L\_C\_D\_ screen. L\_C\_D\_ screen is easy because we have the L\_C\_D\_ screen, we have the various options. Put one option and then you have the all the buttons of that options, so the other options would be gone. And you don't see the buttons. So L\_C\_D\_ screens should be easy, but an L\_C\_D\_ screen, the problem with the L\_sc L\_C\_D\_ screen is that elderly people fr from forty five to for sixty five years don't use the L\_C\_D\_ screen a lot. So we have to that keep that in mind that if you're going to implement L\_C\_D\_ screen, you don't have to make it that hard to learn or to use. Yeah, touch screen, yeah. The last but not least, younger people are more critical about the features. Because they use the remote control often more often, and are more technical than the ol older people. And the older people spend more money, and easily on a remote control. So we have to keep in mind to to focus not a lot not that much on the younger pep younger people, but also somewhat on the elderly people. And on my personal preferences, I don't have any mo more time to come with that, but like I said, L\_C\_D\_ screen is easily to use because you have you can implement a lot of buttons in one remote with not that much buttons. And it should be easy to use. Especially the volume buttons, the channel buttes buttons and the number buttons to zap through the channels. And that is it. Ja, Be television. Only the television. So yeah, then you can yeah. Requirements, no? Functions. Yeah, the basics then by a volume, channel, one till two zero numbers on it, oh teletext doesn't have to be? Um other functions. Yeah I had Yeah, yeah. I think it's I think it's easy to implement a button with a s s what which especially do that, because some T\_V\_s, if you press the t one and then the two, it be between five secs it make twelve, and that's that's not relaxed to user. Yeah. So that it easy and fast. Yeah. Our main targets' age are? were? Forty five plus, or? Forties, okay because because younger people as Uh younger people have now, sixteen till to twenty five age, are f eighty one percent interested in L\_C\_D\_ screen. From twenty six to thirty five have sixty six percent, and thirty six to forty five, fifty five percent, so I think to um Because on most recog remote controls um the print plate will be broken how much, two years. You have to press h very hard to go to the next channel. With the L\_C\_D\_ screen it's easier because you only have to wipe the screen to uh

for fingerprint, and then you can use it again. Yeah, okay. Yeah but a you don't know True. Yeah, it only says that this per cent percentage like L\_C\_D\_ screen. Because, yeah and it says that younger age between sixteen and forty five highly interesting features more critical. And if the only f Yeah, because our target is sixteen to forty five. Yeah you don't know how much it costs. Yeah, you don't know how much it costs, the L\_C\_D\_ screen. No, I don't have any costs here, I only have percentages. Yeah. Yeah, if you want to adjust, like for example, adjust the audio settings, you press audio on the touchscreen and you get the buttons for audio settings, so the other buttons are gone. I think it's the most easier thing, yeah. No. Yeah. Highly. Yeah, but Um, s forty six to forty five, thirty three percent, and sixty fifty six to sixty five twelve percent. But our our our what's it, project requirements are the new products should be reached for new markets, to customers that are younger than forty. No, that not now, but, so Yeah, but market share fro for for forty years and younger is higher than that of sixty five and younger. Yeah, i i if it Yeah, if it costs gets too much, too expensive, then yeah, we should be sticking to rubber buttons. N nothing, no costs

at all. Yeah, in I think that should yeah I think we all get the costs of everything. Yeah, okay, I'll I'll post it. Yeah. Okay, L\_C\_D\_, yeah. Then you have the seventy five percent of users find it r ugly. Yeah, and eighty percent of the users would spend more money with a when a remote would look fancy. Tha i l i it'll look fancy with L\_C\_D\_ screen. Yeah. Yeah, just a the plain remotes, not not specific L\_C\_D\_ remotes. So Mm-hmm. Yeah, of course. And then you have the other thing, that seventy five percent zap a lot, but that's not a f question with the L\_C\_D\_ screen. Only thing you have to do is wipe the screen off once each time, to get all the fingerprints off it. Um Mm-hmm. The most important things on a f on an on an uh remote control are channel selection, volume con selection, and power s power usage. And a teletext, but that is not of the question. Other things are Sorry? Yeah, it could be. Yeah. Yeah, teletext. And other other less important things are screen settings, audio settings, and channel settings, but Less important. Yeah, should be there, but not press Yeah, sub-menu, yeah. Yeah, in a breath it's Charted. Yeah, but we don't we don't have any costs now, so Yeah. Yeah e e power supply is one of the most important things. Yeah, I think it's it's not that easy because I don't think people will like it who who uh that you have to turn it on first and then use it, so I think it's better when th the T\_V\_ shuts down, the remote shuts down. Yeah. Yeah. After two minutes, yeah two three minutes, yeah. Yeah. And then b that uh before an hour when its get again gets empty. Then you have plenty of time to recharge it, of put it in a recharger. Charger. Yeah, if it's. Uh. Yeah, because when you're watching T\_V\_, you're zapping and you have to put it in a recharger, and I don't think it Yeah, okay, but then we have to be sure that the the the the batteries go hours, six hours, five, six hours, then. Yeah, then you have a problem. Or we have to be sure that the batteries last couple of days when they're recharged. So. Yeah because you have b but you have L\_C\_D\_ screen. High power usage. Yes. True. Yeah. Yeah. True. Yeah, you made a point there. Yeah, otherwise all your yeah. Just a small device. Plug it in, that's it. Yeah, like a like telephone charger or something. Yeah. Yeah. It has to be easy to use also, or things. Uh market share, speaker re speech recognition. I think. Also. Well I think that this should be standard. Large button large buttons. Yeah? Okay.. Yeah, it says also Yeah. Twelve. That's an also ninety one percent sixteen to twenty five, twenty six to thirty five years, seventy six percent, and thirty six to forty five, thirty five percent. But then I l l Yeah. Yeah. Ninety. Twenty five. channel. Yeah. Yeah, twelve. Yeah. Is this only would you would you pay more for speech recognition in a remote control. It's the only thing it says. I think an L\_C\_D\_ screen should be suf sufficient. Yeah, it says a lot, but No I think I think it's better to have L\_ L\_C\_D\_ screen, because in the area of tw thirty six to forty five, we have about thirty percent of the market share in in our hands, and fifty five of those people want

L\_C\_D\_ screen and thirty five want speech recognition. So I think it's better to keep it with L\_C\_D\_ screen. Yeah, if the costs allow it. Nee. If it should be done, if it could be done, I won't matter. Yeah. Yeah. Mm-hmm. True. Yeah. True. But that should also be with f should be also with L\_C\_D\_ screen. Because then I think in Chinese is different written, volume is different written than um Swahili or something. Ja, well possible. Yeah, yeah yeah yeah. 'Kay, what else? Yeah, we have to keep Yeah. I think it's difficult. Every language of dialects I think it's very differen difficult. Yeah. I think it can't be implemented, but maybe Yeah, 's an option, yes. Fifty Euro cents. Yeah. Mm, yes. No, but Curved? Um. I think we should we could that we could also implement a audio settings, screen

settings and channel settings, but as sub-menus. D Mainly if you turn the uh remote control on, you have to u you have to see from one till zero, channel and volume. And if you want to use teletext screen or audio, then you can press it. It should be available but not not Yeah. Yeah. Yeah. Yeah, but s Yeah. They'd have to be easy to use. The sign of it. Uh, no. What else can you do with a television? Uh play, pause, doesn't n need to be there. Yes, so this is your presentation. We could check the other remote controls with technical functions. Which ones were yours? Techni Ja ja ja ja ja. Technical functions. Yeah okay. Uh I think I go to have volume, mute but I Yeah. Very slow. Yeah, the zoom buttons. Yeah, b wide screen, high screen, different things you have, yeah different uh Yeah. Yeah it should be available, but then in separate screen settings or something. Yeah, screen settings, audio settings, teletext settings you have. Channel settings. So those four, and of course the main. Yeah. Yeah. Like tap screens or something or, I dunno. Something Yeah, if uh No, you don't yu a no you then you don't no ni don't then you don't use it. Mm-hmm. Yeah. So you leave it alone. Yeah. Or it could be possible to have a a standard version of the remote, an expanded version. Yeah. Colours. Yeah. Yeah, then defines itself. Because uh how many percent? Eighty percent? Would spend more money if it looks fancy. Yeah. Rasta colours. Yeah, see through version. Yeah. If you press a button, it turns green. Channel settings? Yeah. Mm. Yeah. Could be possible. Or like uh you have a menu button, you press Yeah, or otherwise you have a menu button, press menu then you have uh main uh menu search uh all the all the settings. Yeah, no problem. Yep. Um, I think b because we don't have a lot of buttons on the one screen, I think the buttons Yeah, but but or like you have you only have channel button or volume button. Those buttons you can you can Yeah. Yeah, th No, no normal buttons, yeah. Maybe only the on and o on and off button. But I don't think Mm, no. No no no, because we we discussed that you could charge it, otherwise is it jumps to stand-by mode automatically. Yeah, but a T\_V\_ of course, th that's the I think that's a best thing is that to implement that one in the menu with the volume and channel. No. Yeah, you tap. Touch screen, yeah then it's turn turn off, turn on. No, just the remote. A television don't have to be on, that one you can press on, yeah stand-by, then press on remote, press on and then T\_V\_ should be available. Or not. Separate. Yeah, but I think the re the remote control, if you press tap the screen, it always should jump to the screen which has the volume button, channel button, and of course of also the on and off button. Yeah. Mm-hmm. Yeah, if we can afford it. Yeah. Mm-hmm. Good morning, again. All set? Good. Okay. Let's see what we can find here. Okay. A very warm welcome again to everyone. Um here we are already at our uh functional design meeting. Um and this is what we are going to do. The opening, which we are doing now, um and the special note, I'm project manager but on the meetings I'm also the secretary, which means I will make uh minutes as I did of the previous meeting. And uh I also put these as fast as possible in the uh project folder, so you can see them and review what we have discussed. Um if I'm right, there are three presentations, I guess each one of you has prepared one? Good. And um we will also take a look at new project requirements, um if you haven't heard about them yet. And then of course we have to take a decision on the remote control

functions and we have some more time, forty minutes. But I think we will need it. Um well I don't know who wants to go first with his presentation. You can go first, okay. Is there an order? I haven't And one question, uh your name Denni, is it with a I\_E\_ E\_I\_E\_, okay. Thank you. Sorry. Yeah, it's a little bug it's in the in the smart board. Okay, thank you.

Yep. Please. Okay, thank you. Okay, thank you. Um, well thank you all, huh. I dunno uh did everyone receive an email with uh the new project requirements? No? Well, then I think it's a good thing that I made a separate slide of them so you can all read them. Oh, well not in this presentation. Hmm. Should be in there. Well, I can tell you them uh from my laptop. Um teletext does has become outdated since the popularity of the internet. So that's uh the first thing we I think we should pay less attention to uh teletext. Uh the remote control should only be used for the television, otherwise the project becomes more complex, which endangers the time to market, and of course would make it more costly, I think. Um our current customers are within the age group of forty plus, and new product should reach a new market with customers that are younger than forty, and you talked about that before. And uh a last point, but also very important, our corporate image should stay recognisable in our products, which means that our uh corporate colour and slogan must be implemented in the new design. So we have to keep that in mind. Um well uh according to our agenda it's then time to take a decision on the remote control functions. So, who has any idea about what should be on it, and what shouldn't? Yeah. Only be used for television. Well it says only for television here, huh. Makes it a lot easier, huh? Mm-hmm. Uh well new product should reach a market with customers that are younger than forty, and now we have current customers uh of forty plus. Mm-hmm. So we're going for an L\_C\_D\_ screen? And hoping that when we produce a lot it won't be too expensive. Mm-hmm. Okay, so L\_C\_D\_ it is? Okay. And what else? Yeah, okay. But for now it's L\_C\_D\_. Okay. Yeah. Yeah, and maybe you can make something fancy out of an L\_C\_D\_ remote, because it's new, as far as I know. Okay, what else does our remote need? Mute button. Mm-hmm. Yeah, and we could make an a separate menu on the L\_C\_D\_ uh screen for teletext. Mm-hmm. Mm-hmm. Mm-hmm. Yeah. And maybe a low battery indicator? On the screen. So we are going for the for the recharger. Okay. Yeah, also. Okay, well I've Yeah, you have some more points. And you said something about speech recognition? Even bigger than for L\_C\_D\_. But when you look at the percentages Speech recognition scores even higher, huh? Yeah, well, maybe because of the cost, but uh nobody knows uh how much uh it will cost uh. But would it be useful to imple implement both? On one remote? Or Yeah, I dunno. So, no speech recognition? Or Yeah, and then we have different languages. Okay, just make a separate remote for each uh Okay, so we only do this when we have enough money left. Okay. Well I've written down an an on or off button, volume selection, channel selection, uh the digits from one to zero, huh. Um or from zero to nine. Uh a digits button to switch uh between one and two digits, mute button, a separate menu for teletext, a battery indicator. Um we're going to use a docking station and uh probably L\_C\_D\_ and if there's enough money, speech recognition. And uh the possibility to uh enlarge buttons or to have large buttons in general. Okay, so not too much teletext support, but in a separate menu, and Okay, but no more buttons or functions, or? Aren't we forgetting something very important? Ping. Yeah. And a see-through uh Okay, well that's the signal for las final five minutes. Um so I have uh the things I just read. Um then we have uh separate menus for teletext, screen settings, audio settings, and what else? Channel settings. Okay. No, we said teletext also a separate menu. Okay, but we can work that out later, I guess. So we're having a a general menu with the most used functions, uh teletext, screen settings, audio settings, channel settings, and maybe there are options for the remote itself? Like uh large icons or small icons and I don't know what else, but Yeah, but on the L\_C\_D\_, huh? Right, yeah, okay. But

we don't need a sp

ecial we don't need a special options menu for the remote itself. Okay. Well maybe there should be a separate button apart from the L\_C\_D\_, because you can't turn it on when the L\_C\_D\_ is off. So how do you turn the thing on? There has to be a on button on the remote, huh? Tap the thing. Okay. And then the television is on also, or just the remote? Sure. Okay, well Yeah. So actually we're going to create a a button-less uh remote. No buttons at all. Okay, well that's might be a unique selling point, huh for a remote. Okay, well I guess we have to postpone further discussion to uh our next meeting, because we're running out of time. Um for now, we're having a lunch break, and then there will be uh half an hour for the uh next share of individual work. I will uh write uh minutes, if I can create them out of this. And uh put them in the the project documents uh folder. And here are the individual actions for the for the other roles. And of course specific instructions will be sent to you again by your uh personal coach. Luckily as we are. Okay, well thank you very much, for now, and uh have a nice lunch, huh? Yeah. Choose a number? Yes. Well. Well everybody already has his presentation, so you can adjust it. Yeah. Oh right. There is something turning. Yeah, I've got it there too. Yeah. Shall I go uh next? 'Kay. So. Well uh, my name's, and I looked at uh technical functions design of the remote. Uh I did this by uh looking at examples of other remote controls, of how they uh they look, and information from the web that I found. Um well what I found was that uh th the actual use of the remote control is to send messages to television set, how you uh d what you described uh just early. And this can be all sorts of medsa messages, turn it on, turn it off, uh change the channel, adjust volume, that kind of thing. Uh play video, teletext, but also t uh play C\_D\_ if you use it your C\_D\_ player the remote control will that one. There are some uh examples of remote controls. You can see they are very different. The one has got all the functions that you could possibly need and an lot of uh buttons etcetera. And the other is uh more user friendly, little with big buttons. And uh not n all the the the the stuff you can do with it, but uh the the essential stuff is there. Um I guess you could better y you should look at a a user centred uh approach, because the customers have to use them and and if they don't think it's usable they won't uh buy it. A lot of buttons they may think from I don't need s as much as that. Uh, well perf personal preferences is is uh a simple remote, with uh the basic functions that you can need that you could use. But uh keep in mind the new functions of T\_V\_ what we discussed earlier, split screen and uh is that a function that you should have? Because all the T\_V\_s will have them. Or because of only a few and isn't really necessary. And then uh make it I would make so that you can could uh use it on more than one appliance. If you have one that uh uh does with the vi the the video, it could also work with uh with the stereo, because play is play and stop stop and that sort of thing. The shu c you could reuse the buttons so that you don't have to have a lot of buttons for uh anything. And it should be a user friendly, clear buttons, and not too much. And that is my presentation. You must still have it open. Yeah. Hmm. Mm. Oh right. No. Res I did not. Perhaps the rest? Oh. Mm. Well you said it should only uh work with one appliance? Or with one uh d che only the T\_V\_? And the video also, or not uh? Oh. Alright. Okay. Yeah. Then it should have uh on, off, and uh Yeah. And per perhaps uh No. Well uh uh yes yes s sh A button where you can uh change from one number to two numbers. Can you Don't know if that's got a name, but Yeah. S Yeah. Yeah. Yeah, so you should have that one on. Mute misschien also. An But, do you But if you would do an L\_C\_D\_ screen do we have don don't you have any buttons? Or because if it only d

irects at the T\_V\_, then you only have uh I don't know what you want to do with the L\_C\_D\_ screen. Yeah? Oh right, so you can Oh, yeah alright. So you can adjust which buttons you want on that s screen. Yeah alright, oh right. Yeah. Yeah. Would be yeah. Well we had twelve fifty, I guess, for uh

production? Yeah. I dunno how expensive an L\_C\_D\_ screen is. Any guesses? Yeah. But But he also said that we should not only focus on the younger people, but also on the older, and will they use it if it only has an L\_C\_D\_ screen? Oh, so still a little bit people Yeah that's right. But you don't want to alienate the other uh But if they also buy it then it's alright. I guess. Yeah. Alright. An Yes. Yeah. Yeah. But perhaps later, so uh Yeah. I don't Well perhaps we should have a backup plan that we would use buttons if it's uh too expensive. Yeah. The L\_C\_D\_? Oh that's a bit of a problem. Oh, that's a bit of a problem. Yeah, but they don't they don't like it. They think it's ugly. When it has an L\_C\_D\_ screen. Oh, alright, I thought that you said that. Yeah. Yeah. A mute button. I think. And Yeah. But But shouldn't you put a button of for teletext on the for the people who want to use it? Remembering we have got a big remote that you have to fill. Yeah. Yeah, they are less important, but I think they should be there, or not? Like with a with a mouse, you have not, yeah. We should think of the twelve fifty we have but I don't know how much that's going to uh Yeah. You should Perhaps you should be able to to switch the control off. If you have an L\_C\_D\_ screen that's burns all the time I dunno. You shouldn't on and off because that's ver extra, that you have t first you have to turn the remote on, and then you can uh I don't know. Nee that's that's uh yeah. But then you can't Yeah. Yeah yeah au automac matically, that it yeah. Yeah. If it's sensible. Yeah. Yeah, b when the batteries are low But you'll also forget to put it in, because you throw it on the couch and you don't remember. Yeah. That's right. Yeah. Well I think the batteries should should w should work a lot longer than a couple of days, or not? 'Cause Yeah, that's right, but Yeah. Right. But then you also have to s have somewhere where you can put a remo recharger near your couch because otherwise you have to walk a long way when you twoft want to turn on the T\_V\_. Yeah. I think everything has it for and I guess. Yeah. Alright. Yeah, twelve fifty, twelve fifty. So it's pretty big. Yeah. W I know let's do a speech. Yeah. Yeah. You can clap or something. Yeah. Now you shouldn't say the wrong thing, I dunno. But they want to talk into the remo remote control, or something, or? Oh, but do we want to implement that, or? Yeah. I know Mm. Well I don't know if that can be done with the cost of twelve fifty. With that uh Yeah, but how would you like to implement that, that you say volume up, and then it goes up, or? Uh. Then you also have to have different languages if we go international. Then uh it's y it's yours to do a French and Dutch and English and Yeah, that's right. Yeah. Yeah you can use icons for the a speaker and uh But if that's better than language for the for the remote. Then it's Yeah. Well, if it could be done, we Yeah. Yeah, that should be uh anything matters. Well, you sh you should to adjust the thing. Yeah. And you have to speak the so that it can understand. You could use that n as an option, if you have money left, or something. Yeah. Let's do speech. Yeah. Mm. Yeah. I With uh teletext if it wasn't ver very important, it was but You also now have colours. I don't know if we should implement that. Yeah, when you press the red button, you go to page one hundred two, and when you press the I don't know if we should implement that, because it says that teletext not really important, but yeah, the shortcut, and you can't go to sport. Yeah. 'Cause it should be there. So actually it is there but it's just not r ready there. You'll have to search for it. Yeah. Yeah, that'

s a I guess not. We've got anon Have got got two examples here, but I don't think there's anything we're missing. Well, we don't have the video orders Yeah, you could look here all the the Uh th th th th I don't know, technical functions. They're a bit small, you can we should stretch them, because I guess we've got them all. And for a T\_V\_? Can you zoom in a T\_V\_? Or that you can put 'em on uh on on wide and yeah. But that should also be a sub then, a sub uh menu thing. Yeah, so we should also implement se screen settings. Oh right. Yeah. Yeah, so you can program the Yeah, so the first you see the main, and the other ones you can uh go to uh Yeah. I hope we can do this. We don't have to use that top. Yeah.

Yeah. And do we want them in different colours, or And and the buttons, should they have colours? Oh but we don't have any buttons. Yeah. They think it's ugly, right? Perhaps you can uh make adjustable fronts, like with the telephones. You can uh But I don't think that uh Yeah. Yeah. Yeah. A disco version. Five minutes? Oh yeah, right. So you can program the T\_V\_. Perhaps you should you'd throw them on on in one pile. So, options, and then you sub them. Otherwise you have all those teletext, perhaps teletext not, but Yeah, but I Yeah. Yeah. But I don't know. Or do we have any buttons? On the remote. Which one? But that's also in the L\_C\_D\_, right? So we don't have any normal buttons that uh No, alright. Yet on and off is p is perhaps you know No, no. Oh well, you should be able to set which T\_V\_ you have. If you have if you have uh Yeah. But isn't idea to use uh uh what you said, uh normal on and off button for the T\_V\_, that you don't have to use a Yeah but but not for the remote but for the T\_V\_, that you use But a not as normal button, in the L\_C\_D\_, yeah. No you just tap I think. But Yeah a yeah. I don't know whether it's handy to have a n a normal on button, a r just uh rubber uh for for T\_V\_, so you can turn it on and then you can choose the channel. Otherwise you I don't know whether or not that's Yeah, yeah. To turn it on. Of or you should put it in the L\_C\_D\_ screen. Yeah, I have, yeah. Well I I guess if you use the L\_C\_D\_ screen, you first have to search where is the on button, then you uh you you then turn it, and then the T\_V\_ goes on. But if you have a normal on button on the on the remote, then you do the on, and then you search the channel which you want. Oh right. Yeah, I think so too. Otherwise y wet e k Yeah. Yeah. If we can afford it. Alright. Lunch. Should we put this back in our rooms, or uh? Yeah.

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# Meeting ID: 22

Data Source: Train

## Executive Summary

The project manager opens the meeting stating that they will address the functional design of the remote and saying they are still undecided about whether it should be universal or specific. He suggests they name the project and they come up with "mando", meaning "control" in Spanish. The marketing expert presents some research done on user opinions of remotes. He suggests the use of using voice recognition or an LCD, which they discuss despite concerns about budget limitation. The industrial designer presents, showing examples of existing products and suggesting they add a scroll wheel for channel-changing. He says Internet capability might be necessary for an LCD and then brings up button size, suggesting having a flip-open door with extra buttons under it. They discuss voice recognition again, and then the interface specialist presents. He suggests they have two types of user interfaces and brings up that voice recognition would increase production price. They talk about the budget limitations on features and then the project manager summarizes decisions made and closes the meeting by telling each group member what he should work on.

## Complete Meeting Transcript

Uh. Mm I was thinking of the Mando. Mando. A\_N\_ yeah D\_O. It doesn't it doesn't sound cool for me, but maybe for a Spanish for I for Control. But mm, yeah. Mando sounds Latino. But yeah it uh Yeah because if the product will be international Maybe maybe I should uh start. Yeah. Mm. Okay. Yeah. Should be in participant four. Yeah, yeah. Uh. Okay so yeah I will I will give a brief outline about what I what I prepared for this meeting. For the functional requirements and especially for the for the user requirements. I prepare a marketing report and we have to find the weaknesses and and the the improvements we could do to the current remote controls. And also I di I did a study with for the incorporation of new technologies it seems that the remote controls have been have remained the same for the last five, ten years. There is no no significant difference between the the b the first new controls and Yeah. Yeah. Well more most of the people think that remote controls are ugly, thoroughly. So and they they admit that the the they should uh s they would uh spend more money in a fancier remote control, which is which is good and it's interesting point. Also the people are worried about



about the R\_S\_I\_ disease, which is if you repeat the same movement, which is not a very appropriate device, you will have problems when you will get old. So some people are worried about the shape of the remote control. They are also they get angry very often because they lost the remote control very often, so I think it would be a good point to find a solution to any beep any alarm or something incorporated to with the remote control every time it get lost. And also I found that young people the younger people are the more interested they are in incorporating new technologies in the remote control. So in my opinion the Mando this Mando shouldn't be very small because the smaller it is, the more like the likelier it is to get lost. Likelier or more likely? likely. Okay. Uh people also complain because they they all have the same size of the buttons for buttons who which are not very use like frequency memorising channels or or this kind of actions which are not very often but they they shouldn't they shouldn't have the same importance in the remote control. Also the design should fit the hand shape. So it may be interesting to think in both prototypes, for right and left handed people. Yeah. I dunno I think Anyway I think it could be interesting to release some a small fraction of of this remote controls. Sorry? Yeah. Yeah. Sorry? Yeah. Like uh Yeah, like No no I was thinking of so like something yeah. Yeah. Yeah yeah. It shouldn't be symmetric symmetrical. Not anymore. That's what yeah. And finally, the incorporation of a L\_C\_D\_ or a speech recognition system in the remote control could also be interesting, but I don't know if the budget would be large enough. But most of yeah most of the young people to thirty to thirty years old were really interested in this kind of technology. Actually this marketing report is restricted to T\_V\_ remote controls. Yeah but you should be able to activate or deactivate, so yeah yeah. Yeah uh channel fifty. Yeah. H I think I think that the transition to this to this new remote control shouldn't be very very abrupt very hard because if people see a remote control without numbers mm they will think it's very difficult to learn very difficult to very different build very different to the traditional If y I'm sure if you can sell a speech recognition remote control for twenty five Euros everyone will buy it. I'm sure. Yeah but you know the average frequency of pushing buttons, it's about eighty eighty eighty pushes per hour, or something like that. With a good shape for the Yeah. Uh What would be What would be

one question, what would be the goal of putting an L\_C\_D\_ in a remote control? What kind of information? Yeah but most of the T\_V\_s nowadays show the the n Yeah but yeah most of the T\_V\_s have teletext nowadays. Yeah. So what would what would appear in the L\_C\_D\_? Okay. But Yeah. I think that the speech recognition technology would be cheaper than the L\_C\_D\_. Because with the L\_C\_D\_ you need more requirements. You need an internet connection. You need more things. But for the speech recognition you don't need anything. You just say channel fifty, and that's it. But then we should move to another target because at twenty five Dollars, it's To move to another target? the expert uh said ninety five percent. Okay everybody is ready? Good morning again. So, today we are going to have a second meeting. Oh Michael, hi. You're late. You have a good reason for that? Very good. Okay, let's have a look to the agenda today. So, we are going to have a meeting about the functional design. Um so first before starting I was just going to uh to go quickly to through the minutes of previous meeting. So uh basically we are not decided if we should go for a universal or specific uh remote control, but I have new inputs for about that topics. I goin I'm going to share with you. And uh basically we decided to go to individual actions for each of you uh so um Industrial Designer should work was supposed to work on the working design. You showed us you are you prepare something for us? The U\_I\_ guy also uh work on that, yeah, and for the marketing our Marketing Expert should deliver some specs. Alright so so we are going to go

through three of your individual presentations. But first I would like quickly to uh to decide of to give a name to the project. So, I just put d quickly Remo, but if you have any o other names that we co could decide for just to to keep something fun for our project we we should we could discuss quickly. Any ideas? Powerstick, yeah. What else? What else? Mango? Mango? Mando. M\_A\_? M\_A\_? M\_ D\_O\_. Mm, okay. What does it mean? Oh. Hmm. Nice. Okay. So, let's go for Mando? Yeah? No objection? Great. So Okay, I think this is Okay. Okay, I think this is more a question of of I I think this is more a question of of look and feel. Something that should be addressed later. We should we should go to other for the other topics. Yeah okay, so let's stick f to Man Mando for the name and we'll see for the for the look and feel later. So let's go for the three presentations right now. So, who want to start? So maybe we could start with the market, yeah. Okay so I have your slides somewhere? Participant four. This one? S that's coming. Uh okay. Great. Mm-hmm. Okay. Sh next slide? Okay. Mm-hmm. Okay. Yeah. Something with the shape of the palm? On the sides. And then finally Yeah. First I'm just wondering about the L\_C\_D\_ stuff because uh because Yeah, so maybe it's a good time for me to uh to bring you to some new uh new informations. We had the new requirements from the so uh from the head offices of the company, and so they wanted so they want to um they would like to be restricted to T\_V\_. Okay, I dunno if you had this information already. No, so they want us to restrict the remote control to T\_V\_ only because of time limitations. Um they want also uh Excellent. So we have also to focus more on the internet aspects because well well teletext is outdated now and uh finally, it should be clear that the corporate image, that means colours and logos of the co our company should be clearly inde identified in the product. So Yeah yeah. Sure sure. So maybe we can jump to your presentations, right now. Okay so let's keep in mind about tha that that this last point about L\_C\_D\_ and speech uh reco Sorry, what is your? Okay Michael. Sorry? Um yeah. The wheel doesn't work. Looks like a P\_D\_A\_? Mm-hmm. Mm-hmm. Okay, can you continue, please Mi? Mm-hmm. Okay. Okay. Okay, thanks. you w

ant to go? This one? Great. No, not that one. you are two. Alright. Okay, sorry to interrupt you, but we have seen before that there is a new way of interacting that use wheel. Okay. Mm-hmm. Yeah. That increases the the cost also. Do you think that performance of such systems are enough to to target well of such technologies is enough? Okay. Well wh uh I imagine also that the microphone will be an ambiance um a um an ambiance microphones because you are not going to speak into into th into the remote control. So it could be s a few centimetres. Yeah. Okay. Okay we shou we should discuss this la later after after after this this uh slide. This is a this is a this is a a very important uh issue in discussion. Okay, next. Uh that finished? No? Components? Yes sure. Okay. Okay. So your your opinion is that we should go for special condition technologies? Yeah. Okay so Okay gentlemens, we have to take some deci decisions right now. Um so if I if I kind of summarise everything we've de we we said. We are targeting T\_V\_. We need we need to have um um remote control which is fanc fancy, which is uh which is easy to to hand not too small, not too big. Um we have or good shape, yes. We should bring new technologies for young peoples, and uh as we have uh also requirements to to use uh to to push thr toward the internet. Maybe this is something we can stick to it. And um also, a very interesting things I I I've seen on on on the one of the comp o our competitor is this wheel that we can use to navigate. So so my feeling is that re regarding costs budget we have an an an target price, it's not possible to go s to go to L\_C\_D\_ and also to go to automatic speech recognition technologies. Uh first m m why not to go to L\_C\_D\_. Because um in fact as we are targeting uh T\_V\_ in fact we can use T\_V\_ screen as a screen to feedback to to give some feedback informations about what we could have. Yeah that's right. Don don't you ha don't we have contacts with uh people on T\_V\_ or or well systems that exist that we

can use? Yeah. Yeah. That's good point. What's what could be the cost of uh well, could we fit the the targets uh in terms of cost uh if we go s to L\_C\_D\_ on the remote control? Yeah. So you mean yo you mean we we should target something maybe which is which would be more expensive but re really fancy in terms to um in terms to had to have really an added value? Okay, so regarding the automatic speech recognition, I think this is They have tele teletext. Well, because they have teletext on it. Th th you have a teletext sin signal that you can that you can uh that you can get thr through the channel. They have t most of them have teletext, but we want to get rid well one of our requirements is to uh to move to teletext to uh to the use of internet. So to to uh to browse more easily the teletext. For instance through uh through your remote control. The ti the start time, all the p all the programmes you could have uh o Well I don't know if this information is available from teletext, also. Well because for the same reason that we cannot uh informations on the T\_V\_. We c we couldn't grab information information which is not there. So so that mean w w we need an in an extra internet connection to use the remote control, if you want to browse, in addition to the T\_V\_, or uh or it should be a special T\_V\_ connected to Okay. We need to close the meeting. Um so Very quickly. No. Yeah, well people go to buy another remote control when they broke n broke their, and they want to go t for universal one, and they take the fanciest they can have. So this is that we z that that we should target. So the com the um the uh the committment is the following, we don't go for speech recognition technology. The L\_C\_D\_ is still on disc is still open to discussion. It is up to you to go through this um uh this way and to to report report me back next meeting. So Yeah, but not sure. Maybe it's cheaper, but we have no Okay this is this is an open question f

or you. Yeah. This is uh up to you to tell us. But I'm definitely not keen on to to no no no, I'm no I'm definit definitely not keen on going to speech recognition technologies. I'm not confident enough. I'm not sure that that we'll have a product really that work. I uh that work It's real yeah. How to guarantee such performances is really hard. Well this is still is is very bad. So, this is the end of this discussion. Next meeting uh here are the task you have to work on. Um so you have to work on the component uh concept. Uh you have to work on user interface, and you have to go through a trend watching. Okay. So the question is still open about the L\_C\_D\_ thing. Um uh we I hope that next meeting we will uh we'll take some um decision that direction. Thanks. Bye. Yep. Yes. Mm. Uh the Powerstick. Maybe a Spanish name would work well. Especially if we're selling into the U\_S\_ market becasue there's a lot of Spanish speakers there. Maybe something that sounds cool in English but sounds funny in Spanish. Mando. What is that? What does it mean in Spanish? Control. Okay. 'Cause it also like in English it sounds like you know the man's tool you know because you know men like to have control of the remote so it might The Mando. Yeah that's. And we could have some like you d you could have the fonts you know special, so you have man in like in in uh in one o in one font and then the O\_ as like Although you don't wanna cut uh cut women out of the uh potential buyers though, do you? So Yeah. Marketing. Well that's the thing. We need to know who we're selling it to before we can really decide on a Um. Yeah. More likely. Well th the on the thing is though, most remote controls are used by more than one person. So unless you're kind of targeting single people you know you're gonna maybe cut out some a lot of your market. Still shaped for yeah for your hand but not for a particular hand, right? Well it can still be a, you can still extend past the hand. Uh. Well it means like, this remote here is kind of is very thin and long so instead of having you know you might have it kind of a bit bigger or, you know, with maybe some some finger molds or something. Some finger grips maybe. You could even have some buttons like you know on the sides and everything, but Yeah. Yeah. No. I was still uh I was still working on this uh twenty five Euro price point because I think actually having looked at some of the

remotes out there, this is quite a low uh price if if we're maybe I can get to this in my presentation though, but um yeah. Yep. Okay. Yeah. I think even even if it was within budget do a speech reco rec system it might be a bit difficult because if you think if you're watching T\_V\_ you're gonna have a lot of this uh background noise from the T\_V\_ which might interfere with the Uh participant three. You might have some background noise from the T\_V\_ which will make the speech recognition much uh harder, so. Oh you press a press a button to talk, and the the T\_V\_ the T\_V\_ sound turns off. Yeah. Yeah. Mm. Yeah. Okay, so, could I describe the mouse maybe be easier to could I use the mouse, or Mm. Thanks. Okay. Great. Okay so um while uh researching this this topic I first of all just thought of a couple of things that I would like to see in a remote, and just uh looked to see if they're actually available in any current remotes, and then also searched for which are the top-rated uh remote controls on Epinions dot com, which is a a you know a a customer um written basically review site. So um there's a pretty wide range of uh remote controls these days and and uh this remote control on the right here is is one of the more extravagant, but it's not really it's by no means uh mm you know on it's own in being so expensive. There are a lot of expensive remote controls out there. So yeah it doe it's well basically all the functions uh are controlled through through the L\_C\_D\_ screen except for the really really kind of main functions, which have a coupl

e of of their own buttons. Um and if you look at a lot of the universal remotes out um on the market, I know we're working on television remote, but a lot of the universal remotes out there have uh have these L\_C\_D\_ screens which kind of helps when you're using multiple uh devices I suppose because you can have multiple kind of functions d different functions on the screen at different times. But um the thing that I find most interesting about this remote control, and it's kind of difficult to uh to see in the slide, but it has a scroll wheel on it, which is kind of like uh a mouse scroll wheel, which I think is it's a really kind of important design aspect um is it's 'Cause the thing is what a what we the presen this presentation we had is what we want the remote control to actually do. And obviously the the simplest thing that a remote control does is it just change the change the channel. Now um uh the I think that a scroll wheel is actually pretty a pretty handy way of of changing the channel. 'Cause I know when I um when I use the remote to change the channel I very rarely use the numbers on the on the pad. I usually use the up and down because most channels are you know two digit numbers and you have to press you know a special button to enter a two-digit number, and then two numbers, so that's just uh it's annoying. So I think a scroll wheel is is quite handy. Now um the the scroll wheel is is much more useful if you have an L\_C\_D\_ screen, and this brings us to the the point you were mentioning before about the internet uh capability. One possibility, if we now we need to still talk about the price point because obviously a lot of this stuff can't be done for twenty five Eu uh Euro, but one possibility is to download program information into the L\_C\_D\_ screen so that instead of actually saying I want to I want to go to channel thirty seven because I know this programme's on, you know, often you don't know what ch what channel it's on, or you don't know what's on. If you have a list of of programs on your L\_C\_D\_ screen you just scroll to that program rather than to a channel. So if you think about it's kind of like a you know in mobile phones now you don't use you don't remember people's phone number, you remember their name and you go find that name and ring it. So this would be pretty kind of a handy thing to have, but um we we really need t to discuss the price. So, I mean there are there are uh cheaper this is another multi kinda purpose remote control where it's it's it's very simple, there's only a few buttons, but al each of those buttons does something different in a different context. So this is something else we might wanna consider, is really kind of limiting the number of buttons, because this is the top rating uh universal remote control on on Epinions. It it's really uh maybe worth thinking about

limiting the number of buttons as much as as possible um because really I think people want to be able to find the button they're looking for without even looking at the remote control. And was saying before about having different size buttons for different you know frequently used uh tasks, but I think also you know the location and and shape of the buttons is important, but also the number of buttons. So if you have too many buttons it it increases the the difficulty of finding the one you want. So Yeah well we w Yeah well we will have a bit of a simpler uh task in that we're only doing uh a television remote control. Um I think maybe one option is to have you know a little flip-open um door that uh that you have hidden most of the time, but contains the extra buttons like, say, the number buttons for instance. Um I I would if I had my perfect remote control, I'd probably just have no numbers at all on it because they're just in the way. They don't really do anything. Maybe you know I although I do also find flip-open doors a bit of a pain because sometimes they can break off or or whatever, but maybe a door t

hat you can you can permanently remove or permanently have on would be good. Um but I think definitely you need to to keep the buttons down to a minimum, but not not let that kind of interfere with the functionality of of the device. Um Well I guess that depends on how you market it. If you if you have the right advertisement showing how how how easy it is and how you can, you know, navigate to a program without the numbers, then people might say that looks pretty easy. So, but yep. Um okay, so, I think um one of the really kind of useful things you can do with with internet connectivity would be to have this a programme driven interface rather than the channel number. So if we can have a higher priced uh remote control I think that would really be worth uh something that would be worth implementing. Um mm there's the L\_C\_D\_ screen, um which maybe maybe is too expensive, um but I think also at the scroll wheel, I haven't mentioned it here, the scroll wheel could be used without an L\_C\_D\_ screen, just for changing channel numbers easily. I think even that, I mean, that would be a fairly cheap thing, compared to an L\_C\_D\_ screen, to implement, um but I think that would be quite useful as well. And the other thing, you say we need to we need to keep it just television, but I think one maybe one option, since this is supposed to be a kind of a fashionable device, is you know there's a certain kind of cool or wow factor that you can kind of you can have with technology, and maybe we wanna make it something that's extensible to do other tasks. Say you have like um a little another little kind of base unit that can also receive signals as well as the television where you can, say uh, change the lighting in the room. You know that would be something maybe you could sell as an extra, so that it doesn't have to be part of the initial development, but, you know, later on you could you can you know you also, selling the potential of the device. Then you say potentially you can then do other cool stuff like change the lights, I dunno, close the windows, whatever, turn the heating on, and um, I think that's something we may need to have as as at least as an optional extra to to kinda make our product cool, since we say we're putting the fashion in electronics. Hmm. Well one one other thing that that speech recognition could really blow out the price for is uh when you want to sell into other markets, though, because, I'm not sure exactly where we're gonna sell this, but I presume it's not gonna just be English speaking countries. So then you have to s you know, you have to train models for Yeah. You know I guess you could actually train the remote control as you're using it by saying you know turn volume up, and you press the uh press the button like uh s people teach sign language to kids f well, by speaking and doing Yeah. Actually I'm not so sure because I'm the you know if I was using a remote control to, say, turn the volume up because I can't hear it very well, I don't really want to you know drown out what people are saying by talking you know when I'm when I'm instead of pressing up on on a remote control. You know if there's some there's some dialogue all of a sudden that I can't hear, I'm trying to actually find out what's being said, so maybe speech recognition gets in the way more than it helps.

Well it depends if it's a remote control th Maybe if the remote control is something that y you don't actually have to pick up anymore, that would be a a useful feature of the speech recognition. If you can leave it sitting on the table and you don't actually have to find it, then that could be. Well it depends though well it depends. If we we don't unless we have some input some video input to the T\_V\_ or we have control over the T\_V\_ then we can't actually display that. Like if we if we produce the T\_V\_s then then yeah we can put you know menus up up there, but otherwise we need to actually have some kind of something sitting in between

the video signal and the and the T\_V\_ to superimpose those those menus. So that's an extra cost. Well this is this is another que we still haven't really defined the remote. Are we still you say we're focusing on T\_V\_, but is it still a kind of like a universal remote in that it's a replacement remote control, or is this something for our own line of of televisions? 'Cause that really makes a big difference. 'Cause even if we have contacts we can't really produce a remote control that can bring up menus on other other companies' T\_V\_s. It's just there are too many T\_V\_s out there. It's it's not really gonna For twenty five Euro? I think it's impossible. But but I dunno, I think um it would be good to know if there is any leverage in that any leeway in that um that twenty five Euro because for twenty five Euro I think all we can really do is provide a very basic remote control, and that seems to be kind of against the philosophy of our company which is you know putting the fashion into electronics. So I would I would like to know if there's any chance of of increasing the uh of increasing the unit price. Yeah. Yeah. Yeah because yeah. Well th 'Cause you can have things like the programme name instead of the channel numbers, like an interactive programme guide. You can get a lot more information on it. So you could have the name of the programme, you could have um the start time you know where it's up to. You could have a I even a little image of you know the c you know the the m the main actors or something so you can quickly just kind of even without reading Well no, but there are the electronic programme guides out there. They may not have pictures, but maybe they do. There's dependi it also depends on the country. No but I mean with the internet you have flexibility of where you get your information from. So it may be possible that there are people out there providing that. Uh. Well I I think if we're gonna I think we would definitely need the internet connection because even with y I don't think you could even get teletext information from the T\_V\_ onto the remote control, especially if we don't control the T\_V\_. I dunno. We need to find that out. Mm. If it's a really small T\_V\_ maybe. Well the thing is I think I think the type of peop I think the type of people that are gonna want to buy a very stylish rem r remote control with lots of new technologies are the kinda people that are gonna have you know a wireless internet connection maybe, or a you know. Well this is what we need to find out. Can we can we increase the the price point of this remote control? 'Cause otherwise we need It's kind of hard to guarantee that you're gonna Ninety five percent is not good enough though. Yep. Yep. Yeah. Yep. Mm-hmm. Yeah, yeah. Yeah they are the most T\_V\_ watcher. So we should be careful. Yep. Well maybe it could be a universal design. A universal design, which is which is good for both the hands. Yeah? That's right, whether it's left hand or right hand, but but don't you think that the two points are clashing, one thing you are saying design should fit the hand shape and it should not be very small? The first and the third point, they are clashing. Okay. So fitting the hand doesn't mean much then. Mm-hmm mm-hmm. Mm-hmm mm-hmm mm-hmm. So it means design should be similar to the traditional ones? Little sleek, longer? And it should fit the hand. Mm-hmm mm-hmm mm-hmm. Mm-hm mm-hmm mm-hmm. No it could be command control kind of thing. It requir recognises particular sequence and then it gets activated. Means you say you should say like does that, remote control being on or be on kind of thing, and then remote control comes in the picture for the speech recognition. Because this kind of thing means

speech is there from the T\_V\_ also. So there should be something command controlled, you start and then you stop. It's like V\_I\_ editor, you are having two modes similarly. Otherwise it's just lying idle. Change the channels. Yeah. Mmm-hmm mm-

hmm. Yeah yeah. But there is one problem then the user has to understand each of that functionality. Because the same button is doing too many things. Mm-hmm. Mm-hmm. Mm-hmm. It does sampling out of the. Yep. So yeah. So most of the things which we are discussing about is speech recognition uh, that means on my own I yeah, it should be. Two. Okay so the working design is uh user i interface could be of two types, one is the usual press buttons which are there so that the user feels that he is knowing doing some he is knowing about that technology. So he is pretty comfortable if he wants to get this, and on top of that there there could be a speech recognition technology also being sitting on the on the remote. So the old kind of users who don't want to have any changes, it can it can be useful for them, and the new users, as uh our Marketing Expert was saying, they can use the new gizmo which is speech recognition kind of thing. That's right. So anyway, that didn't come into my mind, so th that is a possibility. These could be other kind of interfaces. Means we can have, depending on the cost, how much we can afford, we can have different kind of interfaces. So spe buttons are something which is very everybody is familiar with. So if you go to the market and you say that buttons are there the people know what it is, and on top of that if we are having extra functionality people are willing to shell that twenty-five Euros money which we are thinking. Otherwise we are just like others in the market. So anyway that is the first, user interface could be of more than one type, and uh yeah that means we can do the on-line changes which which cannot be done now actually. So apart from the speech, we can have the scroll kind of thing with the buttons. Now for buttons, normal requirements like bit coding and all those things are required. And for voice, limited vocabulary automatic speech recognition system is required and we require a microphone also to be sitting there on the remote. Uh that's right. But uh means we have to see how much what kind of microphones and stuff like that. Uh yes, if it is limited vocabulary usually it's enough. Yeah we we can uh target, means we can target ninety five percent accuracy or somewhere ninety seven perc That's right. No it it could be little d yeah it could be That's right. That's right. Mm-hmm mm-hmm. Uh it's more like, means there are different speech technologies which are existing so D\_T\_W\_ could be kind of which is the easiest. So you have to store some templates on the on the on the chip itself, and it's just dynamic time warping where you try to find out what it is, instead of having a model which has to be trained and being a micro-controller. Yeah, that's right. Yeah. So we can That's right. Yep. Yep. No no. Components. Yeah. So, will you go to the next slide? Yeah so this is the design which we are thinking so. We are having a power button and the switch, which is not much, and then we are having the which is to indicate whether the power is on or not. And then there are two kind of things which can be so one is the button interface which has not been shown because because of lack of time. So we could not put that. So now where the A\_S\_R\_ decoder is sitting, similarly there are different kind of interfaces which could be there. So there is A\_S\_R\_ decoder which could be there, and then there could be another scroll button scroll scroller, and then there could be buttons, and all of them they will just do the decoding and put it in the math put it in the proper message format. And then there is there is the chip which is sitting, the green one, and it converts it into bit codes, and that bit codes are sent by the infrared device to the receiver. So this is the easiest design the there could be. So th an A\_S\_R\_ decoder we can have things in. To have different technologies. So this was the my personal preference was that we can have A\_S\_R\_ sitting there on the remote control. Yeah. Yeah but

uh as soon as you try to put the microchip kind of thing or something the price will go up. So these are the slight problems. Because yeah the reason is that if we go into the market means though I don't have much idea, but as he the uh Marketing Expert presentation was So if we go with just the Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Alright. It's not possible. It's impossible. Are But just a small thing, what kind of market we are targeting? Is it that we are targeting the replacement remote market, or what? So the remote has gone bad and the person wants to buy a new remote or because the cost of L\_C\_D\_ thing could be as high as the T\_V\_ itself. That is very important. Broke. Okay. Okay. Okay. Okay. Okay. Okay. Mm-hmm. It's it's cheaper as compared to the L\_C\_D\_. Means th yeah twenty five Euros is yeah, that's right. Okay.



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# Meeting ID: 13

Data Source: Train

## Executive Summary

I will open our functional design meeting . we will have the three presentations from the Industrial Designer , User Interface Designer and um And after that we uh will have the uh new product requirements , I suppose the first to do the presentation will be the User Interface Designer . Um , so you're participant two ? did you save your presentation ? One one . I'm participant one . Three Isn't that technical functions ? it's David Jordan . Course . The first I will present the technical function design for user interface for our uh remote T\_V\_ control . remote c rem remote T\_V\_ control it's very has very soph sophisticated functions , so we want to design uh elegant , easy to use inter interface . A very good example is Google . So my job is to uh design a Google T\_V\_ controller which I want to have sophisticated functions while with very easy to use user interface . So you propose to to have the remote control which will be powerful . With sophisticated functions , and very easy to use . it's maybe difficult to have both , I mean the the one on the right doesn't look so simple But if we have very very good user interface it take less time for user to learn how to use it . but the question is how to merge you know the Google system to the system , alright . As you all know , you know m my job is to design you know uh to give an industrial design of the remote control . I propose a nifra infrared base I think it's cheaper than laser , so . what you find inside the re i the the system here inside it is just , you know a bulb and an infrared bulb , I have some kind of pictures and you have the other subcomponent There's a wire with remote control ? I think it should be wire wireless re remote con and you know because you f the b the the battery problem can hold you know will you use a battery or the a wire to connected you . So you think that uh a cable between the remote control and the T\_V\_ won't be a good idea . maybe it will be cheaper I dunno but as Industrial Designer , do you think that it will be feasible to have uh linked or to have link between the remote control and the television ? Do you think it will be cheaper ? Could you answer please ? Have to think about the question , but I think the wireless problem is more the um David Jordan's problem . Mayb maybe you have just to to kind of research If when you have wireless remote control and if you lose it ? I think it's would be easier to have a link between the remote control and the television , So just trying to answer all the questions , We had one hundred subjects , um , we observe their remote control use in a lab and then after all the experiments they had to fill up a questionnaire , um , Um actually seventy five percent of the users find m the most remote controls uh ugly , Yeah , the the look is is bad for them Then eighty percent of users would spend more money um actually if if the remote

controls were not so ugly . And then um yeah , the remote controls like the one you've shown previously it's not so doesn't fit the user requirements sometime , because it's too many buttons and so on . And uh users are actually zapping a lot , ten percent of the buttons are actually used in the remote control . remote controls are often lost somewhere in the room . Um it takes too much time to learn how to use the remote control for thirty five percent of the people . And uh remote control are really bad for R\_S\_I\_ problems for twenty six percent of the users . R\_S\_I\_ is like , when you're using the same um doing the same movement several times , then you get injured . Um so my personal preferences for this problem is we have to meet the user needs . If we can make it look fancy then we might sell more than our uh concurrent , And definitely if it could have less buttons , still maybe the same number of um functions , but less buttons , And just to have uh an idea , do you think you as the User Interface Designer to would it be possible to have less buttons and still have the same functionality and to have powerful remote control , you think it's possible ? Yeah , I think possible . Because we can We can uh mix uh several function in one button . but do you think it will be easy to use ? Because if you have many functions just for one button it would be quite difficult for the user to know . you you can have a switch menu , but it has to be intuitive . For example , if you have remote control you you can rem you can control your T\_V\_ and also you can control your uh recorder . But what I'm not so sure is about how to make the remote control look funny look fancy , not funny . Because different people have a different opinion about fancy . You know . I think the solution is to have many colours of you know instead of having one grey standard but I think it will increase the price of the production of the remote control . Maybe we can have di di we can have uh several options , so maybe just having many functions in one button is not that good if you want to zap a lot . new information about the product requirements , the first one is that um for the designing of the remote control we don't really want to use the teletext anymore , because so it's better to use internet then teletext . and also the remote control will only be used for television , you won't had um buttons to just to manipulate yeah to control the recorder or maybe the garage door or things like that . So maybe it will be easier for you to to design it , to have very powerful and easy . which will be used for for the television , for the recorder , for the camcorder and all the others , it will become too complex And also we want the image of the uh um real reaction be recognisable in the product , such as the colour and s the slogan . So has to be yellow . As we say , we put the fashion in electronics , so it has to be a fashion remote control . Fancy , fashion , powerful , easy to use . Require lot of requirements , but this this mean that your T\_V\_ would be able to , you know , connect to internet , you know , surf the web . There's that box in the T\_V\_ , so with the set box you you can connect internet with your T\_V\_ . I don't think it's popular , I think it has to be yellow . I think if you have you know th like a yellow ribbon here is the double R\_ . Or should be . Doesn't need to be completely yellow , I will close the meeting , um just after that we'll have lunch break . And you will have in thirty minutes individual work . and the User Interface Designer to work on the user interface concept . You will have as the I\_D\_ I don't remember what is industr Industrial Designer to put um pon Component component , yeah . And so specific instructions will be sent to you by your personal coach . I think the um session is closed . And by the way , Mister David Jordan , please record your presentations in your own folder . Not in mine . Regarding the first line , what So we're just expecting no more use of the teletext . But I dunno , but why , I think it would be simpler .

## Complete Meeting Transcript

Mm-hmm. Marketing Expert. Mm. Okay. Yeah. No sure. Uh it's David Jordan. Course. Mm-hmm. No, no. Uh this one doesn't want to be moved, I think. So, I dunno, it's maybe difficult to have both, I mean the the one on the right doesn't look so simple and Yeah. Yeah. Yeah, and then Yeah. Oh it should okay, yeah. The user should know. Yeah, that's gonna be the trick. Okay. So that's the point. Mm. True. Okay. What the cost is? Twelve, twelve a half. That might just So. Okay. What's the average price of this technology then? But this is what you would like to ask the user first and I don't think the user would be ready to have a I don't think well, yeah, I don't think he would, but in a sense The wire? Yeah. True. Uh that's my job. That's the Now the Yeah. Well that's actually one of the point, yeah? True. This you will see in my presentation then. Yeah. Which is participant four. So just trying to answer all the questions, if the user would be happy to have something or something else uh. We've made a study, so could you go to next slide. Sorry for the functional recurrence. So that's the standard method for marketing, okay. We had one hundred subjects, um, we observe their remote control use in a lab and then after all the experiments they had to fill up a questionnaire, um, and see what was okay or not for them. Okay. So then it's some statistics about what we observed and what they answered. Um actually seventy five percent of the users find m the most remote controls uh ugly, okay, so that's Yeah, the the look is is bad for them so uh it's your job, David, maybe. Then eighty percent of users would spend more money um actually if if the remote controls were not so ugly. So this is where we could have uh yeah, good market, I guess, if people are ready to pay more. So it's it's interesting information, I think. And then um yeah, the remote controls like the one you've shown previously it's not so doesn't fit the user requirements sometime, because it's too many buttons and so on. So we should change this as well. And uh users are actually zapping a lot, so they're using the device intensively, that's something to take into account as well. And um, you know, ten percent of the buttons are actually used in the remote control. And uh this is one of the main point for me. But I'll come back to it later. 'Kay. Could you go next slide? Uh, so as you said uh, remote controls are often lost somewhere in the room. So this is from the experiments we've done, so if we could solve this problem this would be interesting for the user, I think. Um it takes too much time to learn how to use the remote control for thirty five percent of the people. And uh remote control are really bad for R\_S\_I\_ problems for twenty six percent of the users. R\_S\_I\_ is like, when you're using the same um doing the same movement several times, then you get injured. Okay? So, those numbers are less important then the previous one, but still it has to be taken to count. So last slide. Um so my pres personal preferences for this problem is we have to meet the user needs. If we can make it look fancy then we might sell more than our uh concurrent, okay. And definitely if it could have less buttons, still maybe the same number of um functions, but less buttons, this would definitely be a good way of selling more. Okay. So Yeah, remember the user is not happy to read the manual. It's Yeah. Yeah, this is something we sh But this was first step and This was the first step, yeah. Specially distribution, yeah. Uh Yeah, but this is what we would ask to the users, so. Yeah. Yeah, remember it's twelve Euros. Hmm. Yeah, it's done, just yeah. If we would if we could remember like, not too many buttons and make it look fancy, I think it would make it. So. Lame, or Mm-hmm Yeah. Mm-hmm. So has to be yellow. I don't think it's part of the remote control design anyway. It's maybe more in browsing. Yeah. Hm-mm. Mm-hmm. Min Yeah. Regarding the first line, what So we're just expecting no mo

re use of the teletext. And that's it. It's already changed for Mm-hmm. Industrial Designer. Yep. Okay. Yeah. Industrial Design. One one. Three three, it's three sorry. In one, sorry. So you didn't save it maybe. Alright, so David Jordan? Mm-hmm. Too great for email then. Yeah. To merge the two system huh. Mm yep. But But this is Yeah. Yeah you maybe you have some international standards, where you know, if you can use one is the other are or almost the same, so the sign. Yeah, yeah. For example, I dunno here, escape, you know, you have escape in computers you have, so if you see escape, you know that it should be the same. So you have to The sh the user there for example the power off button it is something very international, you know that So. Yeah. So. Yeah, but the question is how to merge you know the Google system to the system, alright. That's your job It you Okay, okay. Participant two. Yeah. The rationale must be design, or So we can move to the next slide. As you all know, you know m my job is to design you know uh to give an industrial design of the remote control. So the re basically the remote control will be, you know, infrared control, so the problem is how to relate the how to relate the remote control device, like for example this one I h I'm holding in my hand and the T\_V\_. So, this one is leather bu based but I propose a nifra infrared base you know, so so for me I think that it is better it's bet it's better to control T\_V\_ so you know, so it's it will be cheaper and it is less technology than, you know For the cheap price we have, for the cheap price we want to I think it's cheaper than laser, so. Yeah, I think for the cost we want for the cost we want it's better to have uh uh Let's see. Yeah. You can move to the next slide, so. So the di the differen the findings you know what you find inside the re i the the system here inside it is just, you know a bulb and an infrared bulb, so here for example the infrared bulb will be here and the bulb it will be somewhere inside. You can go to the next slide. I have some kind of pictures you know, here. You have the b the bulb, it is a blue the blue stuff here and the infrared and the infrared bulb it is the red stuff you know and so and you have the other subcomponent that are not really here so important, so. This is in fact some other component that are in between the electrical de the electronic device. Look. But here what I wanted to emphasise it is just you know the bulb and. So and the next slide, it is the last one it's So it's I think it should be wire wireless re remote con Because you know, it's easier to manage and you know because you f the b the the battery problem can hold you know will you use a battery or the a wire to connected you. Or maybe some kind of thing that we can have both, but you know, I at my side prefer a wireless. Okay, so if you have some question I didn't answer? Well the avera the average prices I think that this technology will cost, I dunno, around eight Euros, so. Or at least you know, the You'd yes, you can. It's so so bres you have to decide how how you will you know, put some energy inside, so you can think about wireless or you know it's it's a question that we can raise, so. We can think that you know, with the wire, you know, without a wire. We can have both also. Yeah, but some pa I always want to have you know, sometime I want to have wire because you know. Uh, I don't think it will be too much. Have to think about the question, you know, 'cause it's I think that you know you can always you know I think wha wha with the wire it's mm cheaper but you know the wireless it's more practical, so. Okay, yeah. Yeah but, it should be an agreement, you know, because even if you can think of the wireless, it is it's it is the job of the the the g Graphical User Designer, but you know. If it is a lot cheaper and if you want to reach for example some the the money you have, if you want to use, so it can be good to have a wireless, it

it is a question. Right, so. Okay. Mm-hmm. The look, how it look like. Yeah. Yeah. Okay. Okay. The manuals. With a Look fancy. This is a question that should be asked to the If you ask the people, maybe the the marketing people. I think the solution is to have many colours of you know instead of having one grey standard Yeah, yeah, maybe. Yeah, maybe. Yeah, yeah, yeah. Yeah. Yeah, hmm. Yep. So. Yellow. For cheap remote control, yeah. Yeah. Yeah, 'cause what I'm thinking is how will you

will connect the T\_V\_ to internet, so. This is Yeah, but this this mean that your T\_V\_ would be able to, you know, connect to internet, you know, surf the web. Okay. It's pop I don't think it's popular, so that's the problem so. You had i if you are designing a remote control for you know the global usage, so if people don't have the technology. Yellow? Do you think that people like the colour yellow? I think if you have you know th like a yellow ribbon here is the double R\_. Or should be. Yeah, so. Doesn't need to be completely yellow, but just mm. But I dunno, but why, nobody's a threat to me. Industrial Designer, yeah. Component component, yeah. Good. Okay Okay, that's clear. Okay. Okay. No no no. One. I I think I'm a. In one. It's mine. Mm yeah. Okay. Okay, so. The first I will present the technical function design for user interface for our uh remote T\_V\_ control. Uh I I will focus on user interface design. Um so move to the next slide. As we know our remote c rem remote T\_V\_ control it's very has very soph sophisticated functions, as we show from this picture. There's a lot of functions. Over, I think over s twelve or twenty s functions of a remote T\_V\_ control. So how can we um design a user interface with so sa with so many sophisticated functions? Um, let's move to next slide. Um. Yeah. So I so we want to design uh elegant, easy to use inter interface. A very good example is Google. As we know uh Google it's a very successful because his um powerful function, but with very easy to use user interface. Um so move to next s slide. So my job is to uh design a Google T\_V\_ controller which I want to have sophisticated functions while with very easy to use user interface. So That's the end of the talk the end of the presentation. Uh With sophisticated functions, but with very yeah powerful. Yes. Yep. Yeah. But if we have very very good user interface it take less time for user to learn how to use it. Yeah, that's my job. That's my job. It's not the easiest I've got to. Yep. Powerful and easy to use. Yeah, that's the point. So what, the wireless remote control? There's a wire with remote control? Okay. Okay. Okay. Wireless remote control. Okay. Mm-hmm. Mm-hmm. Okay. Design a wireless remote control. Yeah. Functions. Yeah. Yeah, I think possible. Because we can We can uh mix uh several function in one button. So lets you then you have less buttons. But I'm not sure No you you can have a switch menu, so you can well for example Yeah, I think so. Like for for example you can uh you can category the function i i into several classes. Then for um you can have a switch menu, so you put the switch menu to it it tend to this kind of this category of functions. Then you you put the switch button, then it switch to another category of functions. Yeah. For example, if you have remote control you you can rem you can control your T\_V\_ and also you can control your uh recorder. So there's a different functions, but i if you you there's a button you can switch between control T\_V\_ and control your recorder. So we can has less buttons. But what I'm not so sure is about how to make the remote control look funny look fancy, not funny. Because different people have a different opinion about fancy. You know. Because maybe a colourful is fancy for some people, but maybe simple and uh uniform colourful is fancy for some for other peoples, so. Yeah, personalised colour. Because you know Yeah, because maybe some people prefer a red remote control, some people prefer

black remote control. Maybe we can have di di we can have uh several options, so user can select which colour they prefer, so. Mm-hmm. Mm-hmm. Mm-hmm. Yeah. Mm-hmm. Mm-hmm. Yeah. Control. Mm-hmm. Mm. Okay. But there's balance between function and the cost. Yeah. Okay. Mm-hmm. Mm-hm. Okay. Okay. Okay. Mm-hmm. Yeah. And cheap. A low cost. Yeah, there's that box in uh o of it. A pi There's that box in the T\_V\_, so with the set box you you can connect internet with your T\_V\_. Ok It's It's not so uh popular now. Mm. Global, okay. So I I so As as for the colour, what what do you think? Yellow? T\_V\_ remote control? Okay. Okay. Okay. Okay, okay. Okay. Mm. Okay. Okay. Okay. So, I will open our functional design meeting. So, I will play role of the secretary. As also Program Ma Manager. So, we will have the three presentations from the In Industrial Designer, User

Interface Designer and um What's your talk? Marketing Experts. And after that we uh will have the uh new product requirements, the decision on the remote control functions, and we will close the meetings after. Mm so um I suppose the first to do the presentation will be the User Interface Designer. Um, so you're participant two? No you're No, I'm participant one. Okay, never mind. 'Kay, did you save your presentation? Isn't that technical functions? Name's Jordan. So so I'll I let David Jordan do his presentation. Uh. Mm. So you propose to to have the remote control which will be powerful. So powerful, many functions and very easy to use. You mean this one? Yeah you have to learn the manual before using this remote control, I suppose. Oh you mean for the yeah pic pictograms or things like that? Yeah um such as maybe the Go on, go back and So, you will propose us something which is yeah so powerful and easy to use. Okay. So, next I propose the Industrial User Interface to present things. So you you're Um. Okay. So, Baba is the uh the Industrial Designer. Okay. Mm-hmm. So you mean that infrared control is a cheap technology? Yeah. Do y you know the requirements for the remote control? Twelve, nearly thirteen, yeah. The cost Mm-hmm. Okay. Yeah. What is this? Okay. Okay. Okay. So you think that uh a cable between the remote control and the T\_V\_ won't be a good idea. No it wou maybe it will be cheaper I dunno, I just may maybe you making a solu Yeah, but Yeah but as Industrial Designer, do you think that it will be feasible to have uh linked or to have link between the remote control and the television? I'm just asking you. Do you think it will be cheaper? Could you answer please? Okay. Yeah, but I think the wireless problem is more the um David Jordan's problem. As it's yeah. I think it's more your problem. Mayb maybe you have just to to kind of research or try to ask people if they will like something wireless or not. Okay, I'm sorry. So So just think of um the usability. Yeah. Just think of the problem. If when you have wireless remote control and if you lose it? I think it's would be easier to have a link between the remote control and the television, yeah. So I will let you to do your presentation, so. You mean the loo the look, the outside? Okay. Mm-hmm. What is R\_S\_I\_? Ah um okay. Mm-hmm. Mm okay. And just to have uh an idea, do you think you as the User Interface Designer to would it be possible to have less buttons and still have the same functionality and to have powerful remote control, you think it's possible? Sure? Yeah? Yeah. Yeah, but do you think it will be easy to use? Because if you have many functions just for one button it would be quite difficult for the user to know. Yeah, I think the Yeah, but it has to be intuitive. Yeah, okay. Okay, but Yeah, but Mm-hmm. Yeah, but I think it will increase the price of the production of the remote control. If you need to have special colours for remote controls it will cost more. Yeah, it will cost little bit more. And also f Yeah, but as soon as you speak about options, it means that the price increases, and we don't really want the price to be too too high, because we wanna be able to produce it. So, we want something fancy, as uh previously said, Florent, something very easy to use, powerful and also as uh it's written here, seventy five percent of users, they zap lot, so maybe just having many functions in one button is not that good if you want to zap a lot. And they don't really want to zap between functions of their remote control, they want to zap between channels on T\_V\_. So I think you have quite lot of points to to think about and to discuss it with uh the other members. So, is it okay for your presentation? Nothing else to to add? Mm-hmm. Okay. Mm so So, I had some new information about the product requirements, so you will have to take care of it of it in your thinking, in your designing of the remote control. So the first one is that um for the designing of the remote control we don't really want to use the teletext anymore, as it's something that's It's is uh No yeah, because now everybody has internet at home, so it's better to use internet then teletext. So, you will have to think about it in your in in the design of your remote control, and also the remote control will only be used for television, so for y for you your designing, you're not you won't be uh you won't had um buttons to just to manipulate yeah to

control the recorder or maybe the garage door or things like that. It's because if we want to do remote control which will be used for for the television, for the recorder, for the camcorder and all the others, it will become too complex and it will increase the price and we can't do that. We really want to focus on the remote control for the television. Is it okay? So maybe it will be easier for you to design it, to have very powerful and easy. And also we want the image of the uh um real reaction be recognisable in the product, such as the colour and the slogan. I mean that's uh if uh you want to buy a remote control and if you go in a shop and if you see the remote control you will recognise directly that it's our product. So you will have to use the colour of the product, of the um um of the uh of real reaction and uh also Yeah. As we say, we put the fashion in electronics, so it has to be a fashion remote control. Fancy, fashion, powerful, easy to use. Require lot of requirements, but Yeah. Yeah. But uh that's your job to find something mm matches. Maybe not, but maybe So. So everybody is okay with the new requirements? I think it has to be yellow. Yeah. Maybe you can change the colour, but the image of the society has to be recognised. Why you go It has to be fashion. So you have to Yeah. It has to be a fashion and really be uh the image of the society. Just when you enter you say oh, oh, it's real reaction. Think it's a real reaction remote control, so. And also it has to be attractive, of course, because if you want to sell to sell the remote control. It's okay? Yeah. Yeah. I think it would be simpler. Okay. So I will close the meeting, um just after that we'll have lunch break. And you will have in thirty minutes individual work. Uh Y you You will have as the I\_D\_ I don't remember what is industrial Designer to put um on yeah, and the User Interface Designer to work on the user interface concept. And Florent to work my subject. And so specific instructions will be sent to you by your personal coach. It's okay? I think the um session is closed. And by the way, Mister David Jordan, please record your presentations in your own folder. Not in mine. Should be better.

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# Meeting ID: 24

Data Source: Train

## Executive Summary

The Project Manager introduced the project to the group. The group set an agenda for the meeting and discussed the materials sent to them by the Account Manager. They discussed and explained their roles in the project. The group began a discussion about their initial ideas for the product. They discussed several usability features: adding speech recognition and an option to choose what to watch by channel or by content, reducing the number of buttons by using the television screen to display options, and adding a light adaptation system. All participants were instructed to gather more information for the next meeting, the functional design meeting.

## Complete Meeting Transcript

Good morning. Or you can put it in the shared folder. No, I didn't get it. This one. No. No,. I think it's for your guys to how to design it all the aspects so you need that information. Yeah I think assign your uh roles. For each person, yeah. Uh, I'm into marketing. yeah nothing much in the project. Marketing in this design. A design is basically for industrial design and the user interface. Yeah, this is. Yeah, that's right, first. us user define. There's a trend watching. Yeah. I mean working remotes we already have. This will be something different from the other remotes remote controls. Yeah, that's right. I'm a okay. I mean the main uh function of remote control is to have something in the hand and we should be very careful about the size of the remote control. If we are going to add a speech interface, I'm not sure with trendy slim size of the remote control it would be able to put a speech recog if you want to put a speech recognition system f interface for that I think the T\_V\_ itself could have it. And I could talk to the T\_V\_ television itself. I need not have an I mean we have some or something, different technology but Mm-hmm, yeah. And another interesting idea for this would be to have an light adaptation system depending upon the picture of So, I mean, if you're watching a movie and suddenly there is a dark uh some dark scene, the lights adapt themselves. The lighting in the room changes. I mean, we have a option in the remote control. If we want to have that option, you press that button in the remote. Oh, I'm afraid you forgot to put your lapel. The lapel. Yeah, that one. Just plug it. Yeah, that's right. Good morning. Well, I think we should set the the points to to drive the project and uh Yeah, from the account



manager. Yeah. Yeah, I think so. I think our uh responsibilities will be assigned when we in our mail we received from the account manager. Uh No, I'm doing the interface. Yeah I I'm I'm Well, maybe we have okay so I industrial design. It was a little confusion about my uh but it's alright. Yeah. User. Well, I think we can have a little discussion about what has to be done and what are your ideas about the Well, w we want to have a new re remote control for for T\_V\_ distribution I guess. So we have to plan how how it would be developed and uh how we can make it work. Yeah, I dunno I Yeah. Well I I think that Norman and I would think about um the technical points and um we should discuss it in the next meeting, or Yeah. Well, you have to make it work. That's the that's the big thing. Yeah. We can think about an interface with uh well Yeah, yeah. I I think if you want t to choose uh from a list of programme or or something like that you you may have to to use uh w uh I dunno Yeah. Yeah. On the content. Yeah, yeah it's it's a good idea it's a good idea but I I think that technically it would be um a little bit uh uh more tricky to to achieve this than just to Yeah yeah. Well I I I think that j just by using navigation buttons and the user interface on the screen we are able to uh navigate uh through the Well channel programme or contents or in an easy way, so Yeah in the dis display on the T\_V\_ screen and just uh with the with your remote control would just navigate through the f Yeah, yeah. So I think for for the technical points we have to to to check how to gather the data from programme or contents and all this stuff Oh right so Please, Norman, draw uh Okay. Yeah, by content or by channel, it's a good idea. And uh we we have to find a way how to gather information about the contents. Yeah. I think i it's not very difficult to to browse by channel but it's a little bit tricky to browse by contents so I think that's the the things to do and uh to uh reflect about it and uh discuss it in the next meeting. Okay. Thank you everybody. Okay. Good morning everybody. So, we are asked to to make uh uh a new remote control for television. And the characteristics of this new remote control should be original a

nd trendy and of course user user friendly. So people can can use it without any any problem.. I don't know. Uh, not yet, but if you want Do you want do you want me to send you a mail? Or Uh. You get email,. S For each for each one. So there are so we have three f yeah. We have functional design, conceptual design, and detail design. So, who will be the the responsible for the functional design? Any any volunteer? You are doing th. Okay, I'll for industrial design. Okay. And and you Norman? And And doing the marketing. Nothing related here to the Next. I don't know. I. About the design or Maybe we'll discuss this later, no? Mm-hmm. What we we have to keep in mind the these characteristics. And of course it should not be very costly. So About the about what? You mean the external or Yeah of g of course. Yeah. You won't I I think if we include a lot of technology on the remote control it will be very costly. S Like s uh you you you say we can use speech. In the hand. Yeah. Except if if you are far from the T\_V\_. This is it's Mm-hmm. Mm. Yeah we should also optimise the the number of buttons. This is good idea. So we have five minutes to Ah you can y you can you can use it if you so, can we S You it. Yeah. If if you you you can if you want you can use th the. Or before the before the the design that says. Norman. Be before before writing you can uh sit and that says what we what we said then after that you can you can use the. Yeah. Okay. Yeah. Mm. Okay. So maybe we'll meet in maybe five minutes? And we'll discuss the other other aspects. Okay. Well thank you all. Hmm. Good morning. Mm. B did you send us an email about this? Yeah, we we received an email about this uh d designs. Ah it's Okay. Yeah, you see the email? You email. The v very no, no the first one. It's inside. No, no. The third one. Oh, you didn't get anything. It's strange. Mm. I got an email about the dis about the discussion. Yeah. I dunno from who. From the account manager. You have received the same email, right? Yeah. Yeah. Yeah, so each of us has a role to do. In each We already have our role. 'Kay, we can So there are three kinds of designs, that's all. Okay, alright. Yeah, yeah. I'm doing the interface. Are

you using the you are doing the in Ah Okay. Mm? Um working on i. User interface. Yes. You see the second mail? Yeah, it's inside. Go down. Appendix. See there's a role for everybody. Even for the marketing. But look at your role, your marketing role. Yeah, that's your role. Mm. Yes. Mm-hmm. Need to collect information. Um. I I'm part of design, perhaps. Uh, what is most important in a in a remote control? What is the most important function aspect? Uh. That's alright. Yeah, it should be easy to work with. Yeah. Uh. We maybe you can have a speech uh recognition interface. You just tell the television I want which channel. Or or you can say for example, um I want uh to list all the programme tonight. Y you know, instead of uh remote control it's doing the some searching for you, so you don't have to look for the channel you want. Just say maybe I just want to press I wanna have a button for all the movies tonight. Or a button for all the magazines, all the information documentary tonight. And then you list a few, and I will choose from the list. So instead of pressing the channel number, I am choosing the programmes directly. Yeah, that's one way of uh making it useful. No, because no, it's not very a lot. Th this information exists. For example you can get um You can use uh well for example anything. The the idea of using speech to reduce the button, but uh and it's more natural. Yeah. Yeah. Yeah. Yeah. Yeah. Yes, possible. Yeah. But Yeah. Yeah, yeah. But th the main idea I wanted to s I wanted to say is that um there should be a function, instead of choosing the ch T\_V\_ channel, there's a option you can choose, either T\_V\_ channels or or pr or the or the contain or the contents of the programme. So it's more powerful. Yeah. No. No, because you see now all

the T\_V\_ programmes are available on the webs. They they are they are they are available in X\_M\_L\_ format or whatever the format. We don't care. We just say that this are some content. We just want to retrieve the content and then classi sort them by the types of programmes. Some of the websites they already provide this service, so we can just use the service available. Download it uh to the to this remote control. And then there's there are only six buttons for six categories, or sev seven. The most there are only seven buttons. So I just choose the category one and you reuse the same button, for example to to choose among the the sorted list the programme you want, so you don't have to choose among hundred channels, if you have hundred channels, you just have six buttons, seven buttons. Yeah, yeah. Yeah. Ah, yes. So. Yeah. Yeah, so you don't have to display here, just display on the T\_V\_ screen, right? Good idea. Okay. I think I think that will be revol revolutionary. Because all the T\_V\_ uh the the remote control have all numbers, lots of buttons and then you dunno what to choose in the end. Yeah. Alright. Okay. Ah w w we have sometimes to use the white-board. Five minutes. Okay. Okay. Yeah. Yeah. Yeah, but we are designing just remote control. Okay. Okay, do you want to have a conceptual remote control there, or you just want to put the function in? Go on, draw something. Mm. Where is it? Ah, okay. Where where is it? Here. Mm. Mm. Okay, alright. So so the most functional des mm the most important function is to ch choo buttons to choose the content. Right? We agree on that, right? Uh, uh first one is to uh buttons i or it could be anything with buttons. Uh to choose uh content s or channels. So we have both. The user can choose w which one they want, right? By content or by channel. Choose by contents or by channels. So And then what did we say just now? Other than this. Okay, so technically how the problems that how to do it is to how to get the content. Challenge. Okay. Content. Okay, so these we have to work it out. So this one of the problem. And uh The main thing. Okay. Alright. Alright, okay. So we are we'll discuss it we will get some information in the next meeting, so for now we get uh the funct this is the functional designer? That's the first aspect. Right. We will get information and then we'll come back in.. Yeah, we'll come. Alright. Alright, okay. Thank you, mis

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# Meeting ID: 26

Data Source: Train

## Executive Summary

I have a little problems with my laptop . And uh s s s so I had a little less time to complete . Um , it didn't work anymore . The entire Windows uh Welcome to the conceptual design meeting Uh uh , also this time there will be uh three presentations . And we um must uh reach a decision on uh the remote control concepts . Um uh , and at the end , uh I uh , when I finish it off I have some uh input from uh a master class I uh visited . information . I will take notes uh and at the end of the minutes uh will uh be at the shared folder . I'll be talking about the components . Uh , what I did was I reviewed previously used items uh by uh two two uh different uh age groups . Uh below forty five and above . senior citizens uh They , well , they like more the they like the traditional materials , like wood and and such more . And uh uh they like uh straightforward shapes . where whereas the young and dynamic , they like a more uh soft materials . Uh uh , soft and fluffy and colourful and But uh the two basic sources that I found were the best possible were the battery uh versus kinetic . Or you can go for both ? But uh the thing is about solar panel is you have to have I uh light . Uh , and you you could you could use normal light , but uh you wouldn't get the same amount of energy that you would from a battery or something . I I prefer kinetic because it's uh well , the costs aren't that much higher , and um , ju just a bit more high-tech than than a normal battery . But , what I what Jarek said , you could you could use a battery that you'd just keep it on the recharging whenever it moves . Or but but you could go in a in an double curves . And that's like several different dimensions . Yeah , that gives you a younger and uh more high-tech look , I f I figured . Yeah you could y It leaves more space for creativity . I I ch prefer rubber because it feels uh Yeah . Well , we discussed it in a previous meeting , so I figured I'll just leave it at the L\_C\_D\_ . Uh , you use the battery and w charge it up with kinetic . I I uh I would prefer uh both uh too . but if you have a square uh L\_C\_D\_ screen , and you put a case around it that has uh like bulbs or that that covers part of the L\_C\_D\_ screen . That's it's custom customisable and uh so what are the opinions ? Uh rubber or plastic ? I I I prefer rubber . I went to uh Paris and Milan for some trend-watching . In Paris and Milan , we uh asked different people , uh differing in age and in income , uh the amount of money to spend , um what they like in design uh and material nowadays . Our main audience , uh so that's people below forty , uh prefer the following . At first , the colours of fruit . Um , fresh colours , uh green , red , uh strawberry red , uh yellow , banana yellow . Yeah . They like spongy material , Okay , our secondary audience , uh people above forty a forty years in age , they like the dark traditional colours . Yeah , uh

materials like wood that They have to look fancy . Um , they should be technological in innovative . Uh , and easy to use . We have to aim at a mu at the main audience . And uh , therefore use fresh colours . Here , think about removable covers , as seen in mobile telephon telephone market . To customise your own remote control . Uh , in my second sheet of personal preferences , uh we have to reconsider the speech function uh recognition . You you can see that the market is just screaming for new technologies , like speak uh speech recognition and stuff . Uh , building games like Snake or Tetris to amuse the younger users . And third , I stick with it , the log-in functionality uh with the slogan , take parental control to a new dimension . But , the main concept is um take one big touch screen . Um , always display the primary buttons clear and visible . And uh make the menu structure changeable . One thing you've gotta keep in mind , keep the remote clear of too much functions at the same time . And um , things like teletext , put them in the menu . But um , well m my preference would to be put it in the menu structure . I think we can discuss a little about the the three uh kind of revolutionary things uh Tim uh came with . I think that parental control is a good function to uh to put in the remote . How I see it is you put it on the the remote and then you have like a Windows log-on screen with parents , children . You don't want to to go down and watch the news at eight o'clock and turn it on and wait twenty seconds for for uh the log-on screen and then remember your code and all kinds of settings . You c may use like when there's uh X\_P\_ , uh a simple log-on , d you just push uh one or two or three . I don't know if it's worth uh the time and effort we are going to spend on it . Well I think that's a b there's a big market for it , Just make through a remote as it is , but make an option to insert profiles , I i i if we in incorporate uh the parental control , uh let's say we do , and and well whatever , cho uh child just goes up to the T\_V\_ and presses up for instance . What m what may be better is to incorporate an uh a separate device that uh that you can program with the remote control . Okay . And what do you uh guys think of the games in the voice recognition ? But I don't think when you're watching T\_V\_ uh , hearing loud noises from the T\_V\_ , someone screaming one , and you f the channel switches , uh Yeah . Yeah , like f voice recognition is too much , I think . But Okay . So the games uh are in it . The voice recognition are not . And the parental control are Well , I think also it's a good idea , but very difficult to incorporate . The buttons will be uh touch-screen . Uh but there may not be too many buttons . The case will be double-curved and uh rubber , in a fr flashy fruity colour uh that with cover is removable . Okay . So uh I think we have decided on the things that Uh from Janus , the energy , the combination between battery and kinetic . Like the first idea uh from uh You can buy it without and uh with parental contr control ? Or are we going to put it in and uh just uh I I figure if you had two different remotes , you could bo choose one with uh well uh uh a receiver in it . Well , maybe you just have to restrict it to what programs , where the parent says , you cannot watch channel seven , nine , and ten , and you cannot watch all channels after ten o'clock . But you still have the problem about uh the television itself . You could just blame it on television and uh make it their problem . The parental control will be incorporated , but it must be not too complex . Maybe it's uh handy to build in an expert view and a simple view . What I was thinking about is just a menu structure , when you don't use it is simple . We take it to the other meeting , I went to uh a master class and uh uh two things uh are uh are uh can come in handy uh for us . First thing uh is uh we talked about knowledge uh management . Knowledge engineering and uh uh the fact that uh that uh that the idea of knowledge , uh sharing and learning knowledge from other companies is uh like that . It's it's uh very hot at the moment , so it's it's mostly for the

management expert to to look what other uh What other companies uh had to uh also with the the the the marketing campaign when they put on a newer remote , just some uh Yeah . Import export . I had a I had another idea to put uh uh the whole the whole idea of uh Real Reaction and uh uh uh a single brand and uh uh that kind of thing . When you uh put on remote , you see a kind of a just like when you telephone , you see a little uh animation . And uh with the with the with the motto , we put fashion in electronics . Well , if you if you have the L\_C\_D\_ screen , you can you can uh have a small logo i uh at the bottom . That spins around like all the time . It it's just like a uh globe in Internet Explorer . N Uh , next meeting starts in thirty minutes . the the industrial uh development uh centre and uh user interface uh will work together on a prototype . And uh will drawing it on the SMARTboard . And um , the marketing expert will uh will uh ke he will be keeping busy with the product uh evaluation . But the most uh specific instructions will be sent to you by email . But I think it was a very uh very good uh session , uh gentlemen . But keep an eye on your uh laptops for a real uh

## Complete Meeting Transcript

Hi. Yeah, sure. Okay. Uh, let me see. I think it's this one. Ha. Right. Uh, well, I'll be talking about the components. Uh, what I did was I reviewed previously used items uh by uh two two uh different uh age groups. Uh below forty five and above. And uh I just uh watch what the differences are and I checked uh, well, what what d do we want, and how can we uh d aim a at uh the target group. Well uh what I found was that a senior um senior citizens uh Ye Ah, it's it's okay. Uh They, well, they like more the they like the traditional materials, like wood and and such more. Wood and chrome. And uh uh they like uh straightforward shapes. Um, uh they they they they like luxurious uh styles, where whereas the young and dynamic, they like a more uh soft materials. Think of the Teletubbies, for instance. Uh uh, soft and fluffy and colourful and Well uh, shapes are curved and round. Y y you get the picture. And uh they like sports and gaming, and that gives them uh the vitality. Uh, so w well uh, firs Yes. Yeah. No, I'll I'll get to that. You you'll see. Yeah. Uh, well f first off, let's start start with the energy. W I uh I had a choice between uh a few different uh sources. But uh the two basic sources that I found were the best possible were the battery uh versus kinetic. Uh kinetic, that's when you move something, then uh it gets energy. I figured, well that's ki kinda high-tech, when when you have a remote control that well, when you pick it up, it has power. That would be actually very nice, uh I figured. Well, we could also use a battery, that's a bit Yeah. Yeah yeah, you c just you have to shake it around a little bit. And then then it d then it has some more uh energy. Well, y you could just go for a battery. Or you can go for both? Yeah, I actually did. But uh the thing is about solar panel is you have to have I uh light. Well, sunlight preferably. Uh, and you you could you could use normal light, but uh you wouldn't get the same amount of energy that you would from a battery or something. Uh for uh ultimate b uh n uh use of uh solar panels, you could actually use uh you could use uh solar panels, but uh you ha you'd have to implement them into uh the remote control, leaving you uh a bit less space for the interface. So uh so i i it it wo what's actually I I c just in f I've figured it out that well, uh seeing that you'll always be uh within the I uh distance of T\_V\_, and the from T\_V\_ there comes a a a whole bunch of light. So it would actually power itself uh from a T\_V\_. But, well you just take up all the space, and you wouldn't uh have the full amount of power actually used. So I I prefer kinetic because it's uh well, the costs aren't that much higher, and um, ju just

a bit more high-tech than than a normal battery. I mean, if No, but uh d Well, you pick it up and you press buttons and y well, you Yeah, well uh actually it is. And it if it isn't, you just shake it a bit and and add add with power up again. But, what I what Jarek said, you could you could use a battery that you'd just keep it on the recharging whenever it moves. And for rest, you'd just add juice on the battery. Exactly. And so that Uh Uh well, f furthermore, you you we uh checked uh the cases. We have uh different options uh concerning the cases. You ha I you sim uh you simply add a basic uh standard uh model uh it was kind of square and uh I figured that's a bit boring. So you you we could go for uh the single curved or the double curved. Um, single curve, it's just a well, uh, you know, it's just uh a nice curve. Or but but you could go in a in an double curves. And that's like several different dimensions. That gives you an whole new uh effec Yeah, that gives you a younger and uh more high-tech look, I f I figured. But, that uh we'll discuss later. What? You want me to draw in three-D\_? Uh, yeah, I ca I ca I could I could show you. I could show you. Well uh let's say y uh you uh Let's say that's your standard uh That's a bit your d standard design.

But you could actually go like uh something like this. And then uh in three-D\_ effect you could go So y you you just Yeah, this is a this bit uh difficulty in I didn't take a major in art. So But but you could have uh uh a whole new uh the back back the the the depth, you could you could uh just play around a bit with. You you don't have to use standard uh Yeah you could y It leaves more space for creativity. Uh that might be an idea, but just a Well, furthermore, uh well, uh plastic versus rubber? You We could choose uh what uh what's better, plastic um or rubber. I I ch prefer rubber because it feels uh Yeah. Yeah, it's soft and it's that I like soft. Yeah, yeah I mean uh plastic uh is Plastic also has that cheap feeling to it, like plastic uh Your your I usually associate plastic with uh something that's cheap. Uh that's maybe just me, but Uh, we could uh uh, oh, talk about it later. Uh furthermore, buttons. Uh traditional uh or a touch screen. Well, we discussed it in a previous meeting, so I figured I'll just leave it at the L\_C\_D\_. And uh chip set, well uh if we are going to use traditional buttons, we could go uh with a simple chip set. But uh if we decide to go on a n uh um L\_C\_D\_ screen, we would use an uh we have to use an a advanced chip set. And that would bring uh the necessary costs with with it. So that's something we th have to keep in mind. If it isn't uh manageable uh budget-wise, we'd have to go over to uh to sim to simple buttons. Yeah. Yeah, probably. Yeah, probably, but But uh yeah, that's that's That shouldn't shouldn't be uh that big a issue. I'll I'll I'll just add, uh uh I put a big summary here, so we could discuss it a bit. Uh what i what are your ideas concerning battery versus kinetic? Yeah, you you you should we should A combination. Uh, you use the battery and w charge it up with kinetic. When you pick it up, it charges up. Yeah. Yeah yeah, I know. Yeah, I con Exactly. What uh what do you think? You agree? Yeah? Both? Okay. Uh, well that would bring the m m some more costs, but I mean the Who cares, right. That's the Project Manager's problem. Yeah, well Fifty cent uh Uh, why doesn't And then we have single-curved versus double-curved. That Okay. No, we'll we'll just wait and uh Uh, plastic versus rubber. Any ideas? Uh, rubber? You Uh, I figured it will be m rather than hard Nah, rubber c uh this is a casing, yeah. Rubber casing, because well if you use an uh d a touch-screen, uh it's just a casing uh around it. So um, you could go for plastic, but I figured I I I would choose rubber. Well, m I don't know. No. Yeah. That isn't Yeah, that would cover it. That that would solve the problem. So mm Uh uh so uh so what are the opinions? Uh rubber or plastic? I I I prefer rubber. Yeah, you too? You sure? You you you seemed to hesitate a bit. Yeah, it it shouldn't it shouldn't flop over when you hold it in your hand uh No, that that that that's gonna The the chip set will hold it firm in place, and uh and and uh and a L\_C\_D\_ screen also Yeah it m might it might. Uh, tra uh traditional versus L\_C\_D\_, well I figured we we all set on that. And uh, then also the simple versus advanced. Well I figure if we go

for L\_L\_C\_D\_, we we should have the advanced. So that shouldn't be a problem. Okay, well that's my uh Uh, you're welcome. Well, the Teletubbies sh Well, you could. You you could. Well uh Yeah. Well, I actually saw a phone that you could use as a remote, so Yeah. Hey. That might be a next step. Well, yeah. You take your uh remote with you to school. Yeah. Very nice. I don't know if it's worth uh the time and effort we are going to spend on it. Because well it's a simple function, but it's gonna take a lot of resources and a lot of time um to programming it. Because you'll have to start working with the profiles and such. And I'm not sure if it's actually worth uh investing that much time and effort into it. I don't know what But, well, if you want to I i if we in incorporate uh the parental control, u

h let's say we do, and and well whatever, cho uh child just goes up to the T\_V\_ and presses up for instance. Well uh, nob nobody's stopping the child from uh well checking uh the channel. But that Well, I'm not sure because um for that to happen, you d you will have to receive a signal from the uh remote control, so it would, yeah, have to be constant uh constant signalling. What m what may be better is to incorporate an uh a separate device that uh that you can program with the remote control. And that uh provides parental control, for instance. And that's just an optional uh device. So there's n that's there's uh besides uh the remote control, you'll have a separate uh Yeah? Yeah, that's true. That's true, but uh at same instant, same happens when uh you have remote control. So But, only difference is uh the uh the people buying the remote control will now get the f added feature of parental control, and those people wouldn't uh necessary want it. So, you you'd be Yeah. Yeah. I can see games happening. Yeah. Yeah, that will be nice. Well, I don't know. I I figure if you had two different remotes, you could bo choose one with uh well uh uh a receiver in it. So you could actually easily uh build in uh parental control. But it would would be uh more expensive. So, a and that that way uh you could make cheap model and a expensive model. Could ma make the uh simple model and the deluxe model, uh for instance. Yes they are. Yeah. Yeah, you you have some T\_V\_s any Yeah. That is true, that is true. Well yeah, you could you could easily you could easily you could easily to the mote control. But you still have the problem about uh the television itself. Yeah, yeah yeah. Yeah. Yeah. Yeah, that is true. Yeah, that is true. Yeah, you could you could you could go like uh that that would actually make uh things a lot more easy. You could just blame it on television and uh make it their problem. Yeah, I figured I figure we could do that. Yeah, yeah, sure. Uh, I'm not sure what marketing thinks about it, but User profile. Well yeah, you you could actually build in a function that you can program it yourself, for the more advanced users. Yeah, which buttons do you want to in it. Because you can you can like build in a back-forward button, and uh some po somebody would just want to watch two channels. Yeah, you could you could m have people want uh want that. Ah, yeah, sure. Well, if you if you have the I L\_C\_D\_ screen, you can you can uh have a small logo i uh at the bottom. And it could just stay there. Yeah, that spins around or something. Hmm. Yeah. Yeah, something like that. A small icon. So we're going to work together right now? Definitely. Well thank you too. You wish. M Aye? Cheers. Hey. Yeah, uh I'm not sure if we uh we Because I saw something about individual actions. Well, yeah. Right. Uh Do you have new email? Hmm. Hey, Project Manager. What was it, problem? The laptop? It hang hung. Ha-ha. Oh. Project Manager. You're our Project Manager. Master. Master of I'm sorry. Okay. Go on. Yeah but when the power gets low, you have to shake it or something? Uh, and uh uh Hmm. Mm yeah. It's too less space. And when the battery doesn't work, I usually shake it too. So Like slamming on it. It's exactly the same. Hmm. But, are you going to draw it? The Yeah. Yeah. Uh, I c I can't imagine. I can't imagine how how how it looks like. Yeah. Design. Mm-hmm. Uh Oh, okay. Okay. Oh, okay. Okay. Well, I think uh we're going to sell tell ten millions of them. So uh I bet a big company in uh Korea or Taiwan, like uh Samsung, can give us uh a big discount on the chips, so U usually, chips are uh aren't more

expensive than one dollar. So That that shouldn't be a real issue, I think. Yeah, a combination. Yeah. Like an uh aku uh Acu uh, yeah. Well,. Yeah. Combine them. Okay. Of course. Fifty cent. Rubber. Rather hard. Yeah. Well, I think that touch-screens are generally square. But it's the case you put around it that makes the shape. Hmm? Yeah okay, but if y

ou have a square uh L\_C\_D\_ screen, and you put a case around it that has uh like bulbs or that that covers part of the L\_C\_D\_ screen. That That's it's custom customisable and Yeah, me too. Mm yeah. Yeah. Can I uh do my thing? It uh Expert map. Okay uh Last week I went to uh Paris and Milan for some trend-watching. For marketing. Our research and development department and I went to Paris and Milan. In Paris and Milan, we uh asked different people, uh differing in age and in income, uh the amount of money to spend, um what they like in design uh and material nowadays. Findings. Our main audience, uh so that's people below forty, uh prefer the following. At first, the colours of fruit. Very basic colours, like Janus explained. Um, fresh colours, uh green, red, uh strawberry red, uh yellow, banana yellow. Um, considering material, um Yeah. They like spongy material, like yeah a sponge-ball. Like a soft material. Janus m uh mentioned it also. I think he did some uh some findings himself. You wer you weren't in Paris? Okay. Like this. Like big uh g flashy colours. Fresh. It's nice, I think. Okay, our secondary audience, uh people above forty a forty years in age, they like the dark traditional colours. Uh Yeah, uh materials like wood that No n j just j just a w No, okay, but just just a wooden uh look. Like uh you have those fake uh fake panels on the floor. The that isn't wood anyway, but Okay? But, that's our secondary audience. So, uh we decided to take mm yeah the people below forty. So, that this doesn't apply. 'Kay, the third. Uh, there're some overall thoughts about new remote controls. They have to look fancy. Um, they should be technological in innovative. That means uh there have to be fancy things in. Uh, and easy to use. But that's common. My personal preferences. We have to aim at a mu at the main audience. And uh, therefore use fresh colours. Uh, I'll I'll come to that in a second point. Here, think about removable covers, as seen in mobile telephon telephone market. To customise your own remote control. Like the Nokia uh the removable covers, uh just put a red on it and go to the shop and buy a green one. Uh, a third, material being used uh could well be stuff like rubber. Um, two advantages. Uh, it fits within the current market trends. And uh it adds safety to your remote uh when you drop it. So Uh to come back to your question, I think uh and the people in Milan and Paris also think that uh the rubber should be pretty hard. Like uh seen on regular mobile phones. Actually, they have a lot in common. The phones and the Yeah. Yeah. Okay. Yeah, exactly. Uh, in my second sheet of personal preferences, uh we have to reconsider the speech function uh recognition. Uh, it's very innovative. Innovative. Yeah, like something. You you can see that the market is just screaming for new technologies, like speak uh speech recognition and stuff. But, we have to keep the cost in uh in mind, but it Yeah, it can be uh very expensive. 'Kay, second. Uh, building games like Snake or Tetris to amuse the younger users. Uh, also the link with uh mobile phones. Uh No, but No, okay. But you don't use games when you're d when you're making a telephone call. It's just the same. Yeah. When you're at college. Uh No. You al you also take uh t you take your IPac and go uh play games. Yeah. Yeah. Well, I do that, but Okay, and um And third, I stick with it, the log-in functionality uh with the slogan, take parental control to a new dimension. That's it. Yeah. Uh, what do you think about a back-and-forth come-up uh button? L like in uh internet explorer. Yeah okay, but does it that is for uh going from four to five. But if you go from two to eight, and you want Yeah, and on two. That you can switch switch easy. Yeah it is. Yeah. Mm no. That's it. Okay. Yeah. Yeah but What I see uh How I see it is you put it on the the remote and then you have like a Windows log-on screen with parents, children. Something like that. And w when you want to use th



e parents uh option, you have to Yeah, ok Yeah. Yeah. Yeah. Pu push parents. That then then then you have to uh go to three-digit uh log-in. Like two one three. And it's in. It automatically goes Yeah. Mm-hmm. Mm yeah. V violent T\_V\_. Yeah, of course. Yeah. Yeah, w It just has to be w when it's deliver out of the store, it has to be just simple and plain. But if you want to install it personally uh If I got kids, and I could choose between uh two remote controls. One uh w with parent control and one without, and I would would buy the one with. I th Yeah. Yeah. Yeah but yeah but that isn't possible. Yeah. Hmm. Yeah. Yeah, and And and you know w uh when you install another device, uh children can still go up to the T\_V\_, p pop open uh the thing and and and g go to a channel. Yeah, yeah of course. But Yeah. Ah it's Yeah. Yeah, okay. But it's just an an added feature feature. Mm yeah. Yeah, like f voice recognition is too much, I think. But games. It doesn't Yeah. That that doesn't c that doesn't co Yeah, that that doesn't cost a lot of extra resources, I think. Yeah, it's it's in it. But too ma I I think so, but Yeah. To put Yeah, to put it in always. Yeah, but T\_V\_s aren't capable of sending. Yeah? I thought they were just a able to receive. Yeah, some. But Yeah. Yeah, j just some rules. Yeah, okay. But, on the T\_V\_ at least my T\_V\_, is a is a compartment which you can press. And there are buttons uh behind it which you can use, if you d if you don't if you don't have a Yeah. Yeah. Yeah, of course. Yeah. Or j Yeah. Ah I have to uh consult my legal advisor about it. Consensus. Oh. Oh. I I have one thing left. Maybe for uh Jerome. Um, the views. Maybe it's uh handy to build in an expert view and a simple view. Yeah. Like at In the experts view, you have a lot of more buttons. Yeah. Mm yeah, okay. Fairly enough. Yeah. Yeah, wh which buttons you like or not. Yeah. Yeah. Just leave the other numbers away. Okay. Go on. A little chat. Marketing. Management. Yeah, that's my function, to Okay. Go on. How I know a marketing name for our product. R\_ th R\_ to the third power. R\_ three. Real Reaction remote. Mm-hmm? Bling. Yeah. Yeah, okay, but it has to be like a split second, because you have to put in a code also and Yeah. Yeah. That spins around like all the time. It it's just like a uh globe in Internet Explorer. Okay. Who uh Who who gave you the master class? Ronald Betenberg? Okay, thanks. Ah. In the master class. Yeah. Me too. Thank you too, lord. 'Kay guys, lot of success. Hello. Um, Project Manager, I have something to tell you. I have a little problems with my laptop. And uh s s s so I had a little less time to complete. No, a little problem, uh big problem. I just thought Um, it didn't work anymore. The entire Windows uh It it hung. During lunch, yeah. He's the master, yeah. Wow. Oh, have you considered the option of using a solar panel? W nah. Mm. Yeah. Yeah. Yeah. Okay. Yeah. Th th yeah. Yeah. Yeah. Um Yeah. Um, I think you should use kinetic as a back-up. A combination, yeah. Okay. Yeah. Psycho-kinetic. Yeah. Buy a fifty cents battery and uh Well maybe I have something in my presentation to uh to cope with that. Um, isn't possible to make combination with kind of rubber is or bendable remotes where you've got a. Or do you think it Rubber casing, yeah. Yeah. Um, well d Maybe I can ask it right now the question that I have. Uh, is it possible uh of is it necessary to make a touch-screen square? It isn't, I think, yeah? We're We put fashion in electronics, so maybe we can uh Mm yeah. Mm-hmm. Oh, yeah. Okay, I I get it. Okay. That's good. Well, as long a as long as it's it's uh it's firm, and you don't uh it's not bendable or something, I th I think that goes too far. Oh. Okay. It might even bounce back when you drop it on the floor. Okay. Do your thing. Spongeball. It'll float. Tables. Ah. Hey. Twelve fifty uh When your parents are watching some boring program, you can take the remote and do something else. Take it. Ooh. S Mm-hmm

. In Okay. Um the interface contents. Well that's a just simple PowerPoint mock-up I want to m make it more as dynamic for you so I'll draw there. But, the main concept is um take one big touch screen. Um, always display the primary buttons clear and visible. Maybe even li like this with uh u uses of a lot of space. And uh make the menu structure changeable. So if you press um system, that's Yeah, well m

multiple system options can, maybe five or ten or or one, can fit in. Or maybe even a step further when you want to um t um have some other options that are not programmable with one horizontal button. And um other buttons can may be displayed here if that's necessary. And um well, how do uh do we want to look at uh uh f um Yeah Does a remote look Well, it's you've gotta hold it in one hand. So um the middle like all remotes have to be in a little bit small, so you can put it in inside your hands. And some remotes you can use with your thumb. But I think that's too difficult for this one. So you can make it s a little broader. Yeah. And here? And maybe use your thumb on the on the main buttons. And use your other hands on the menu structure. So here are gonna be the program buttons. One, two, three, four, et cetera. And the the volume control and program control maybe. And, down here, um, I added, this could be one uh big L\_C\_D\_. Um, the menu structure. So you can use it in uh in this way. Um One thing you've gotta keep in mind, keep the remote clear of too much functions at the same time. Um, know that if you are changing the menu structure here, um And well, I still believe you should keep displaying the buttons. But if you're programming the colour of the T\_V\_, do not display twenty other options that are possible. Just keep it as simple as uh as possible. And do not use too many levels. Do not have to select a screen first and then brightness and then colour and un-plus, and um push plus twenty times. But just the um uh just in one button if possible. And um, well, you kn you all know the T\_V\_ levels. Um, channel one, two. And when you get to n to uh to ten, ye and want to go back, uh well you have a problem. Just m most most modern T\_V\_s, you you press one zero, and it goes to ten. And else, to one and through after that. So the s a button less. And um, things like teletext, put them in the menu. Things like um um Yeah. Yeah, yeah w Yeah, I I find I must trying to uh tell it. Is uh volume plus and minus? And this is program uh plus and minus. Uh Yes. Or if you're watching Studio Sports on uh on seventeen, and your wife is watching some soap on two Well yes, I think that's a good idea. But um, well m my preference would to be put it in the menu structure. And if you're using that button a lot of times, well of course the menu will still be displayed on the screen. You just don't have to play games uh in-between. But if you're really switching between two channels, you won't have time uh to d use the other options. Um, yeah already already told that. Yeah. That's my conclusion. Well, I agree, just put it in the menu structure somewhere. Um, yeah um system properties, um parental control. Yeah. Mm. Um, w well, yeah. It it has to be fast. You don't want to to go down and watch the news at eight o'clock and turn it on and wait twenty seconds for for uh the log-on screen and then remember your code and all kinds of settings. Mm-hmm. Why Mm-hmm. You c may use like when there's uh X\_P\_, uh a simple log-on, d you just push uh one or two or three. And if you push parents, then Yeah. To log in. Yeah. And if you puts a ye Uh-huh. And if you w you push p children, uh you don't have to uh log in, but you can only watch uh children's channels or uh Okay. Well Yeah. Well, maybe um some idea on that. Just make through a remote as it is, but make an option to insert profiles, 'cause if my grandad would buy this remote, he wouldn't want to bother with all all the all the uh things to do. Just make it an option in menu, ins install powerful

profiles or something. Um, b well, still some question I have about how to incorporate those ones. You're thinking about some channels they uh cannot see, but well, I I when I think, oh yeah, for the f for all the standard channels, and only for maybe after ten o'clock uh in the evening violent films and movies uh will come and uh maybe maybe some some timing uh will be uh needed instead of uh of channels, because if you're watching uh, I don't know, you're in the at day uh, cartoons will come up m on maybe Friday night. I don't know. Yeah, the disadvantage vantage is that someone will has to send all the show-view numbers of the programs that they remotes and edit it all, will have to decide uh That isn't possible. Well, yeah you could say if parental control is only it'll go from fourteen to sixteen with

the page-up then, but Mm-hmm. Yeah, on a separate menu uh option. Yeah, well yeah, I A mail too from management that it's very popular to use voice recon recognition. But I don't think when you're watching T\_V\_ uh, hearing loud noises from the T\_V\_, someone screaming one, and you f the channel switches, uh Yeah. Yeah. W you can put it on chip anyway, so uh As long as it's isn't a primary feature of the remote, but uh Optional in But how we do it? Well, I think also it's a good idea, but very difficult to incorporate. So we should make it too complex. Is t some menu uh function, you choose parental control, and maybe four files will emerge from menu where put it on. But uh how how it's gonna work uh uh will f be a problem. Mm-hmm. Well Ye I I think best would be uh to put it in and make it an menu option. You can put on Yeah. And you can just uh s when you buy it, you can select um personal preference, parental control on, and the password or something. Oh, it's a p Yeah. Well, maybe you just have to restrict it to what programs, where the parent says, you cannot watch channel seven, nine, and ten, and you cannot watch all channels after ten o'clock. And there's just some little uh clock in the remote. No, no, it's very simple. There uh th I h I've seen some of remotes who have a clock in it. So, the remote does doesn't transmit when it's after twelve clock. Yeah? Yeah. Yeah. Well, that's To put it very blunt, that's not our problem. Just have um the parents buy uh some glue and uh It's not not a part of the remote. You have to f Yeah. Uh, or make it ourselves very diffic Yeah. Yeah. Okay. Okay. Oh. Yeah? I'm listening. Um, well What I was thinking about is just a menu structure, when you don't use it is simple. And when you push uh system properties, uh entire list pops up with e ev all kind of f stuff you can program. Som some bench-marker. Oh. Uh, logo. Yeah? Yeah. Yeah. Well, you can show somebody a logo for point five seconds, they'll still remember it. And it it I linger on every time you see it. Very annoying. Yeah. Yeah, I It's ok For f Oh, for the next meeting, right? Um Stay here and P\_. Ah, no new email. Okay. Thank you. Thank you very much. Yeah. Uh-huh. See you. Yeah. Here? Or uh Yeah. If you got a No. So Stupid manager. No. Don't get what's Hello again. Mm yeah. Okay. Okay. Yes. Yes. Your project manager. Welcome to the conceptual design meeting for Real Reaction. Uh, hello again. Uh it's uh the same as the last time. Uh uh, also this time there will be uh three presentations. And we um must uh reach a decision on uh the remote control concepts. Um uh, and at the end, uh I uh, when I finish it off I have some uh input from uh a master class I uh visited. information. The the the the the concepts on uh we uh where we uh must reach a decision on. Um uh, our from uh are of two sorts. Components concepts and user interface concepts. Uh, the first one is uh really about the the the the the total package uh with uh Well, we have decided to do a do the uh with a touch-screen that must be a case around it so uh it won't be uh uh as breakable. Uh how how about the energy? Can you uh can you reload it or uh just have

batteries which you must exchange? Uh, the user interface concept. Uh, with the type and uh the the supplements. So uh where to put what button. And uh uh I would say uh Jans, can you begin? Okay. At the end, uh I will take notes uh and at the end of the minutes uh will uh be at the shared folder. Mm-hmm. One one little question. Um about the the material. Uh a soft material for a remote control? Okay. Yeah. Thank you. Mm-hmm. Oh. But you prefer kinetic? Okay. Yeah, but you don't move a a remote control too much. And that's enough to to keep the energy level uh Okay. Okay. Thank you, Tim. Yeah. Dynamic dynamic look? A little artistic. Okay. It's soft. That's the material the younger people want uh, ain't it? Just like the watch from Seiko. Yeah. I I uh I would prefer uh both uh too. Yeah. Combine them. Rubber. Yeah. Yeah. Mm yeah. Me too. Yeah? Okay. Mm yeah. Thank you. Yeah. Do your thing, Tim. Bring it on. Yeah. Flashy. Yeah. Yeah, but wood is not a not a material you which you build a a remote control of. Yeah but never seen one. Case. Oh, a wooden look, yeah. Okay. Yeah. Yeah. Would you prefer uh uh that you can choose the colour of your uh remote control or Okay. Okay.

Yeah. Okay. Maybe you could use your remote as a phone. There are numbers on it, so uh So that you say um S\_P\_S\_S\_, and it goes to uh Okay. Yeah, but you don't use that th games when you watching television, I think. Yeah, okay. You take your remote control with you. Uh great. Oh, okay. Uh I think we can discuss a little about the the three uh kind of revolutionary things uh Tim uh came with. The parental control, the games, and the voice recognition. Uh There's n not uh too much decision on uh that one so uh I think that parental control is a good function to uh to put in the remote. I don't know how you think about it. Yeah. Yeah. No but I think most people uh find it uh much more important that their children don't watch uh sex or violence uh on the television, and uh wait uh ten or fifteen seconds longer, so they can uh finally watch it uh because of that. Uh Yeah. Yeah. Yeah. Yeah. Well I think that's a b there's a big market for it, because uh you Yeah, you read many times in magazines same kind of stuff, and you heard on the news that uh that he Yeah, they believe that children uh are influenced by the television, and uh Well, we're we're aiming uh to uh below uh forty uh years. But there are a lot of uh people will below forty who have uh children in young age uh who who want um to uh not watch uh violent or uh Yeah. Yeah. Yeah. Yeah yeah. That's a that's a better idea? Yeah. Yeah, okay. Yeah, with and one without. Yeah. Yeah, maybe it can work with show view. Uh, you you can control your video recorder with show view. Uh, when you tick in a number, it will uh start and end uh recording. But maybe there's some option that uh that t uh the kind of show view numbers are violent, and that they are blocked out. Yeah. That's true. Yeah. Yeah. I wouldn't put it in an optional device. That that then then then it becomes too much, I think. If we do it, we we must do it in a kind of ways that like a profile, a parent profile, and a family profile, and otherwise. Yeah. Yeah. Okay. And what do you uh guys think of the games in the voice recognition? I personally think that that becomes too much. It's more like it gets you to the functionality, but Yeah. Yeah. Yeah. Okay. And games? That would Okay. So that will uh that that that must be in it, you think? Okay. So the games uh are in it. The voice recognition are not. And the parental control are optional? Yeah. Okay. Yeah, okay. Uh, but uh will there uh uh Like the first idea uh from uh You can buy it without and uh with parental contr control? Or are we going to put it in and uh just uh Yeah? Mm yeah. Yeah, you yo Yeah, but most often not. Yeah. Okay. So uh I think we have decided on the things that Uh from Janus, the energy, the combination between battery and kinetic. The case will be double-curved and uh r

ubber, in a fr flashy fruity colour uh that with cover is removable. The buttons will be uh touch-screen. Uh but there may not be too many buttons. And in the the menu structure, uh there must not to be uh Five minutes to go. Uh, too uh too many levels. And uh it must be easy to use. The parental control will be incorporated, but it must be not too complex. And the games are in it. So I think we have uh we have decided uh, okay. Uh, little more. Yeah. Like a like a moat or s or something. Yeah. Yeah, but you have that in the Yeah. You use the Yeah. It's already incorporated a little in that concept. Okay. We take it to the other meeting, okay? I have a little w uh little chat to do and uh then we uh finish. I went to uh a master class and uh uh two things uh are uh are uh can come in handy uh for us. First thing uh is uh we talked about knowledge uh management. Knowledge engineering and uh uh the fact that uh that uh that the idea of knowledge, uh sharing and learning knowledge from other companies is uh like that. It's it's uh very hot at the moment, so it's it's mostly for the management expert to to look what other uh marketing or did I said management? Oh. Just talking about myself. Uh W What other companies uh had to uh also with the the the the marketing campaign when they put on a newer remote, just some uh Yeah. Import export. And uh another one. Uh, they're a ha they're at Yeah, benchmarking, that's the word I saw. I uh couldn't uh Okay, uh another uh thing is uh there were there there was a survey, and um uh it came out that um people like to buy things from a single large provider, instead of those who

uh are partnering uh with us. So, we must uh we must bring it as if uh Real Reaction is uh is big company, uh a trustful company, and uh it has m Okay. I had a I had another idea to put uh uh the whole the whole idea of uh Real Reaction and uh uh uh a single brand and uh uh that kind of thing. When you uh put on remote, you see a kind of a just like when you telephone, you see a little uh animation. Real Reaction remote. And uh with the with the with the motto, we put fashion in electronics. And then you go uh The Yeah. But w th the idea from this uh thing is that we must present it as a as we are a a single large provider who will stand on our own. Mm yep, yeah. Also also. But we we are uh Yeah yeah y yeah yeah. Okay, but uh think about that kind of things. That's what they said in the master class.. N Uh, next meeting starts in thirty minutes. So uh maybe you can go to Paris and Milan uh once again. The master class? Franz Mehler's. Uh, very special, uh next uh session. Uh idea that you uh the the industrial uh development uh centre and uh user interface uh will work together on a prototype. And uh will drawing it on the SMARTboard. So that's a kinda new uh thing. And um, the marketing expert will uh will uh ke he will be keeping busy with the product uh evaluation. But the most uh specific instructions will be sent to you by email. Yeah, the well, uh dids this what I uh what I heard. I Not in the master class. So you uh just wait for the specific instructions and uh But I think it was a very uh very good uh session, uh gentlemen. I will thank you all. And uh Give me a good evaluation. Cheers. See you in a half hour. But keep an eye on your uh laptops for a real uh Yeah, but th there's there's still the my uh instructions that you will work together. That's not my problem. Bye-bye. The project manager always works alone.

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# Meeting ID: 76

Data Source: Train

## Executive Summary

The group introduced themselves and their roles to each other. The Project Manager introduced the project aim and agenda to the group. The group acquainted themselves with the meeting-room equipment by drawing on the whiteboard. The Project Manager discussed the projected production cost and price point for the device. The group began a discussion about their own experiences with using remote controls and about usability features to be included in the design. The Project Manager instructed the Industrial Designer to prepare the working design, the User Interface Designer to research technical functions, and the Marketing Expert to prepare the user requirement specification. The group discussed the function of the prototype and decided that they should restrict the remote to television for the time being.

## Complete Meeting Transcript

Mm-hmm. Yeah. I'm Robin. I'm the Marketing Manager. Mm-hmm, okay. I dunno. Your microphone's just Yeah. I don't know. We can have have a whole menagerie. Right. Hello. Um I'm gonna go for the dog, and I'm gonna draw one badly as well. Uh. looks like it's going to be a dachshund or something. Right. There's my dog. Um I like dogs because they're very loyal. And they're always happy, so whenever whenever you're feeling sort of a bit a bit down or tired, they're always coming up and they're always um quite excited. So um you can always have a lot of fun with a dog. And they're also good for exercise as well. You can sorta get out and they they sorta never get tired. And and when they're tired they're quite cute as well, so. Okay, that's why I like dogs. Great. Mm-hmm. Yeah. Mm. Yeah. I've Okay. Yeah. Um one of the things um we found from the market research is that people often get confused by the number of buttons on them as well. 'Cause there's quite often lots and lots. And um sometimes uh they sort of remote controls defeat their own purpose because you're sat in the chair and the remote is somewhere else in the room. So whereas in the past you'd have to get up to change the channel, now you have to get up to sort of pick up the remote. So so I don't we need to sort of maybe think about how um we could maybe uh develop a remote control which moves around the room. I don't know. That's that's maybe something for the future when you can talk to your television, but Yeah.

Yeah. Mm-hmm. Mm-hmm. Yeah. I mean we've done some research um about sort of you know what the cutting edge sort of hand held devices are, and a lot of them sort of use you know they're like they're like mini laptops. So it's possible that we could devise a system where where you're you're basically sort of holding a a miniature computer which is controlling all your your sort of your television, your stereo, and where you know if you buy a new thing then it sort of you can link it to that as well, maybe. Okay. If you just click return it should be okay. It'll get rid of the message. If you hit just hit return and it should get rid of the message. Oh you've got. Yeah. Yeah. Mm-hmm. Mm-hmm. Okay cool. Okay cheers. Okay. I'm Nick. I am the Industrial Designer. Tool training. Yeah. Yes. Okay. You've lost uh your microphone there. Okay, yeah. I'll I'll Shall I see if I can get across without just tangling everything. Okay. There's one. Didn't think of that. 'Kay uh pens are over here. I'll try the red pen. Okay. Um. I'm gonna go for the bear which I'm be able to draw very well, but I'll have a bash at it. Uh. Ooh ooh I lost it there. I think I've just knocked the microphone. Um. We'll g then we'll go for a a s small small bear. Um and I like my animal that looks nothing like a bear because um I dunno maybe because there's so many cartoon characters made up after the bear like the jungle book characters and stuff like that. Great. Yes. Um I with some remote controls the buttons were a little small so they're quite hard to press so maybe we make something with uh easy to press buttons. As that is the main function. Yes. Um sort of easy to use so the buttons are accessible. is easy to use and see. Yes. Sorry, you go. You go. Yeah. Yes. Yeah. Maybe we could um have better instructions with the remote. Or are we just doing the design of the remote control itself, or sort of the instructions that would come with it? 'Kay. Or not. slide four Okay. Yes. 'Kay, yes. I think you just said at the start it was a television remote control, so maybe we should just stick to that unless we get told otherwise. 'Kay. Okay, that's great. I'm Louisa. I'm the User Interface Designer. I'm not exactly sure what you mean by tool training. I don't mind. Um. Let's see. Good job I got pockets today. Are we supposed to do this right now, do you think, or? Oh. Right here we go. Okay. I think that I would have to say that my favourite animal is the cat. Little smiley cat there. Um and this would

be because they're very independent, uh they're very intelligent, compared to dogs maybe. Um and they can be very very affectionate. Some people don't think so but I know very affectionate cats. Um. Um and they can look after themselves. Shall I rub that out, actually? That's quite good. Can I just check? Is this just a television remote? Because a lot of um systems are kind of T\_V\_ video combined now, or T\_V\_ D\_V\_D\_ combined. And one of the most annoying things is having like five remotes in the house. So if you've got a combined system, it could be a combined remote. Or is it just a television that we're supposed to be doing? Comes to your whistle. I think that might be back to the start. Um if you grab the kind of uh slide to the left and pull it down? I'm not exactly clear on what we're designing the rem remote for. Is this a mun multi-functional one or do we decide that ourselves as we go away and work on it? Right. Okay. Right, so start of the first meeting. Uh. Right, so agenda of the first meeting. Where we uh We have twenty five minutes for this meeting. We uh are to get acquainted. So does everyone want to say who they are? that seem sensible? And I'm Alastair and I'm the project leader. Alright okay, so tool training. Um. Project plan. So does anyone have any uh thoughts as to the tool training that uh is required? Neither am I. Oh I see, so we shouldn't really be Oh right okay, so. So we have the project team, which is to um basically to come up with a new r remote control device. Uh we have uh the starting base was the original which has been in existence now for a period of time. And uh our idea is to uh to make the new remote control device uh more user friendly than the previous one, and to to be trendier, to be with it, and therefore to uh to get a bigger market share and bigger audience. So um method of doing this is uh split up as you can see into uh the functional design, the

conceptional design, and the detailed design. So um in each of these uh phases we'll uh basically be handing over to yourselves, the designers of this uh this device. And uh having uh meetings so that we can uh during the course of the day um come up with a better better inst implement than we had before. And therefore um have a successful uh conclusion to the day. Um and you'll be doing uh various designs uh throughout the day to meet this end. So we've got tool training. Try out whiteboard. Uh. So we will um. Right so everyone's to uh supposedly uh draw their favourite animal over on the white board over there. I guess this is uh make sure the whiteboard works. So uh I don't know who wishes to go first. Do you wish to go f Have a first bash at uh whatever. Ah uh. But now you you uh you'll move out from the microphone and the camera. I take it that I would I would guess so. Or Technical problems. I mean you designers are meant to come up with these sort of things. Next. I don't see as there's any need to. There's plenty of space. I mean whatever. Exactly. We've had more time to prepare over this side, so we've all stuck our bits and pieces in our pockets. The three pens are underneath. You get marks for artistic impression. So you're just doing the face. Right, um. Well I've not actually had too many pets uh over my uh time 'cause to be honest with you uh I'm not too keen on them anyway. Not to worry. So what my daughters have got at the moment is they've got uh a few fish and so hopefully um won't prove too difficult to draw. Uh As you can see that my artist artistic work is useless as well. Anyway um. And uh one of the best uh things about fish is that they don't really take uh too much looking after because uh with most of the animals if you're going away on holiday or whatever, you've gotta spend money or get a friend or whatever to look after them for you. Whereas if you got fish, you just gotta put the food in a a a dripper feed which feeds them over the uh couple of weeks that you're away and uh change the water every couple o

f months, and buy in a few plants, so. Other than the fact that they keep dying, uh fish are uh are not are are are reasonable pets in that uh they're low maintenance. Right. Okay, uh if we're still all with us. Right okay, so. Work has been done on uh this uh project where by um twenty five Euros is uh the uh expected uh selling price. That information has come from our marketing manager here. So we're looking to sell internationally, not just in Europe. We're looking at um having our production costs limited to uh twelve and an half Euro per unit. And therefore making a profit margin of uh well not actually a profit margin it's uh because obviously you're gonna have overheads and various other costs to uh take uh from uh from that to give you your profit margin per unit. And so depending what the uh the overhead uh costs are will determine uh how many units we're uh looking to sell or projecting to sell at this point in time. So um Experience with remote control, first ideas. New remote. So I guess we're looking at um having a discussion at this point in time to help uh you um folks design our our new model as it were. So uh any any thoughts? Okay, so so basically we're looking for some um we're looking for a device that is um robust and and therefore uh won't get damaged too easily. Um we're looking for a device that is uh What was the other things you said there? Easy to use. Use. And see. Okay. Uh. Mm-hmm. Oh I w um basically I'll get back to you on that. But it seems to me sensible, 'cause as you rightly said, there's nothing more annoying than having three or four devices littered about the uh about the room. And uh So a device for for all remotes. Hmm. But is it in a sense it's r um mutually exclusive. You can't have both the th the one device and then have few buttons on it to 'cause you want you want simplicity as well, you want any idiot to be able to use it. Whilst at the same time you want, as you rightly said, one remote for all. And so these are probably mutually exclusive options that uh Hmm you could argue that experience of using devices and similar devices as people get more and more used to using remotes, therefore they're more with handling them, therefore you can make them more complicated as time goes on. Better instructions. Mm-hmm. Okay. Um well we've got five minutes



before the end of the meeting. So uh we have to uh start winding up. Um is there Next meeting in thirty minutes. So um Right, so we've got I\_D\_ the Come on, where's my Oh there we go. Yeah. That's what I was looking for. Right. So we've got function Oh what happened to the Right. Right. Sorry about that. Okay, so we've got um the working design for I\_D\_. For U\_I\_D\_ the technical functions design. Marketing, the user requirement specification. Specific instructions will be sent to you by your person by your personal coach. So. Are we all clear what objectives we're looking to meet in the next thirty minutes? And I guess I'll try and write up some minutes of uh this meeting to uh to give it to you for the next meeting. Television remote control. That's true, 'cause during during the course of our day we might make decisions based on information or meetings that would change where we're going. But at this point in time I think you're right that uh shall we make it just a T\_V\_. Okay? So we will depart. We will stay here and uh and break off. And I'll do minutes and and we'll see you in half and hour. Okay. Right s

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# Meeting ID: 93

Data Source: Train

## Executive Summary

let's get started . Uh opening acquaintance , tool training , uh how to use the things here . Uh project plan discussion , and yeah then the rest of the meeting . Um we're supposed to develop a new remote control , that's both original , trendy and user-friendly . Um we're work we're working uh from top to bottom . Uh functional design , then we do some in individual work , then we have a meeting to discuss the results , etcetera etcetera . And at the end of the day we should have a prototype drawn up . Uh we have available the smart board and the whiteboard . Um uh we should take some practice . I have some instructions now to do that . you know how to the documents work . Uh this for toolbar . You see it next . Um And we can use this pen to perform . It doesn't always work . and in the format menu you can select colour and line width , etcetera etcetera . Each of you can uh take some practice and you should draw an animal . Uh you should explain Uh with different colours and with different pen widths . And you should explain why you draw that particular animal . Different pen widths , how do you do that ? Uh with the format menu . And use different colours etcetera . It's a giraffe . Yeah . Can you use one blank sheet per drawing ? Or you can press the next button , I in the file option menu . Is this part of our a acquai or introduction to each other ? introduction and get acquainted I'm guessing a turtle . How to select the next or Colours were under format A fox yeah . It's a cat . we have a financial aspect to this project . Um we can sell them at twenty five Euros . Uh the aim is to reach uh uh to sell as much as fifty million Euros . Uh that's quite a big amount of money . And the production cost should be the half of the selling price . now it's time for some discussion . Uh I'm taking notes . Um we each have a specific task , I didn't know if you received the same mail . as I saw in my mail . this industrati Industrial Designer should produce a working design . Uh the User Interface Designer should specify the technical functions . And the Marketing uh Expert should come up with user requirements . Uh did any of you already do some work on this part I started making an overview for myself , um what I had to do , and in every step I have a s specific task to perform or whatever . 'cause we have three design steps And do you have any ideas about the product uh so far ? I started I started with the first phase , I had to focus on the working design , which you said . I basically had two points . Uh according to the coffee uh machine example , I have batteries to supply energy , and we ye use button presses to activate or deactivate certain functions on the T\_V\_ . I got another point . It uses infrared light to communicate the signal to the T\_V\_ apparatus or stereo . Uh it's uh some buttons for for the on off function . And for the changing up to the to all the

channels and changing the volume . That are the the basic options for a remote control . I mean , you wanna ch ch flip the channel but you might wanna use teletext also . Uh and what did the Marketing Expert do ? from a marketing uh perspective , um well the function design phase uh consists out of the user requirements . Um what needs and desires are to be fulfilled ? there are a few means to reach that um by by doing research uh to see what existing products are there out in the market . I mean , what functions do they have . Um especially what are their shortcomings ? Are there any new functions uh which can be added to our product ? Um therefore we have to to do some internet search . For example for um well what kind of applications do current remote controls support , and what are f featur features of uh current and future televisions ? Um and we can interview current users and future users . What w what would they like to see uh on a new remote control ? Um especially for future users , uh I'm thinking of early adopters , because they they use new technology first , Um but have you any idea so far as what uh the user requirements are ? No n not specifically . I got some uh requirements it has uh it has to be user-friendly . Uh really easy to use buttons , not not uh very small buttons , but not the the also the big big buttons , It has to be a small unit . you can take it with you uh everywhere in in your house . Uh and a and a good uh zapping range . Uh the distance uh from your television to your uh remote control has to be , uh yeah um yeah , quite a big distance . I don't think I have anything more to add at the moment . I think we can go ahead with what we have . I will summarise the things we discussed and put it in the project folder . Uh the use of the Industrial Designer can work on the working design , etcetera etcetera . And it seems you get more information by email . I'm just a bit wondering what we're gonna do the next uh session ? Do we only have to to do uh phase one , the functional design uh ? After that we are going to the conceptual uh Y you do some individual work , we have meeting , individual work , meeting . And at the end of the day we have a final meeting . I mean , is it gonna be a multimedia control centre ? Do we want to be able to use the video recorder with it ? I think that is the user requirements part . As to what they want . Uh do they want all those functions on that small But but we need good communication about this stuff , So if I don't know what components to put in , it's kind of hard . I I think we have first to start with the basic functions and we can uh expand them . like I li like some like some some remotes who are out there , which I know , there's one button which is very easy to switch between devices . So you can switch to your video and then the same buttons control your video . And another function I'll think of switch to your media centre , but you'll ne need several other buttons for a video player . You need a play and a forw fast forward and a stop function . And you you don't need that for a T\_V\_ . And and for a t uh teletext you need additional buttons as well , so I kind of need to know what we uh need . and then we can discuss it with the next uh meeting . We could just start with the assumption that's only for T\_V\_ and video . And um reserve the possibility to add other features . So we have a basic starting point so make sure it's extendible . Yeah . and you can always extend that it it has yeah it has to be user-friendly . Th the least amount of functions possible and uh I'll see you again uh when the computer tells us to . Let's see what we got to do .

## Complete Meeting Transcript

We're the first. Marketing Expert, yes. Yes. Bling bling. Yeah. Right. Uh where has my screen gone? Hmm. Yeah. My screen is gone. Oh. Yeah. Yeah. Very nice. Yeah. Mm. Yeah. Yeah. Draw. Alright. 'Kay. Don't take up too much space. Should it be one Giraffe's yellow. Can you use one blank sheet per drawing? Or so y you must save it at the end and then Okay, then m make a new one. It's more like a dinosaur. Uh. Some leaf to eat. Yeah. Thanks. Yeah. Uh Yeah. Alright. It's not that fast. Yeah. I see. It misses the spot. I say good guess. Uh Because it's slow. Yeah I was a bit slow too. So Uh some other line uh width uh No. I dunno. Does it have legs? Yeah? It's more like a tank. Yeah that's fins but I don't know where. Some spots. Ah some eye. Yeah that's a fr friendly turtle I guess. Yeah well I think it's uh fair enough. Right. I don't know what the position is. Does it have ears? No. Oh okay. Can you erase ears or Yeah? Alright. Eraser. So I dunno. I it just came into my mind. So there's no particular reason I pen. Yeah. Well I'm guess I'm done. That's my turtle. How to select the next or here. Yeah. Here you go. A fox yeah. Firefox. A cat who had an accident or Yeah. Okay. Great. Yeah. Yeah. Yeah. Yeah. Yeah. Yeah. So that's very common. Yeah. Yeah. Uh well from a marketing uh perspective, um well the function des design phase uh consists out of the user requirements. Um what needs and desires are to be fulfilled? So there are a few means to reach that um by by doing research uh to see what existing products are there out in the market. I mean, what functions do they have. Um especially what are their shortcomings? Are there any new functions uh which can be added to our product? Um therefore we have to to do some internet search. For example for um well what kind of applications do current remote controls support, and what are f featur features of uh current and future televisions? So we can see uh what needs to be supported. Um and we can interview current users and future users. What w what would they like to see uh on a new remote control? Um especially for future users, uh I'm thinking of early adopters, because they they use new technology first, and they play with a lot of tools and stuff so maybe they have some good ideas to uh to add. I think I can get that information, yeah. So yeah. No n not specifically. More to how to get them and Yeah? Yeah. Yeah. Yeah. Yeah. From the other end of the room or something? Yeah. Any more points to discuss? Alright. 'Kay. Thanks. Yeah. The pro okay. Yeah. Okay. Uh. I guess so. Yeah. We're just working the three phases. Okay. Better make it Yeah. That is my question also because like new new functions Requirements. Yeah. Yeah. Unit. Yeah. Yeah well I I was Yeah well like I li like some like some some remotes who are out there, which I know, there's one button which is very easy to switch between devices. So you can switch to your video and then the same buttons control your video. And another function I'll think of switch to your media centre, because that's getting very popular. And then use your Windows media centre under your T\_V\_ with the same remote control. So with the switch, one single switch S Yeah records and stuff like that. No. Yeah. Yeah. In the project uh Yeah. Yeah. Yeah. Yes. Half an hour. You're fired. No. Alright let's move on. Yeah. Yeah see you later. Well good luck. Hi. Oh yeah, we have to talk in English, huh. I'm afraid I'm a bit slow for this stuff uh. I'm afraid I'm a bit too slow. I don't know how much preparation you guys did, but not a lot. Mm-hmm. Not yet. Operations. Different pen widths, how do you do that? Oh okay. Are you serious? I in the file option menu. How much time do we have to draw anyway? 'Cause I can take forever on this. Is this part of our a acquai or introduction to each other? Alright. Uh. Your line broke. I'm guessing a turtle. No. I'm kidding. Because of its shell. Dude you're a good drawer. Do you have a turtle pet? Uh okay. Yeah yeah ye

ah. Stumpy stuff. They kind of I look like mole legs. With sharp nails on. A little tail maybe. Uh no. The little holes maybe. And why did you choose this animal? Alright. Alright. Colours were under format right? Let's see. How am I gonna do this? Um Mm uh. Not quite actually. No. Aye. It's a cat. Not quite yet through. Uh yeah I dunno. They're my favourite pets. Uh I have colour already. Yeah I'm not so

good at drawing with this kind of st Oh shit. Um Excuse my language. I don't know how to draw its face. But you get the idea. It's a cat. It's my favourite uh pet animal, 'cause they're cute, they're independent and cuddly, I dunno. That's it. Or do I need to use more colours and Alright. Yeah. So we have to s Yeah. Mm-hmm. I guess so. Yeah. True. Well I started making an overview for myself, um what I had to do, 'cause we have three design steps and in every step I have a s specific task to perform or whatever. So I had to uh, I dunno, make an overview for myself about what I have to do, and kind of let it work in to get ideas about well how I have to fill it. Well I started I started with the first phase, I think was the functional. And uh let's see I had to focus on the working design, which you said. How does the apparatus work? And well I basically had two points. Uh according to the coffee uh machine example, I have batteries to supply energy, and we ye use button presses to activate or deactivate certain functions on the T\_V\_. And that's basically all I have so far. Alright. Yeah. Yeah. Yeah I kept it global 'cause that it activates or deactivates specific functions, 'cause I wasn't thinking yet about that. I mean, you wanna ch ch flip the channel but you might wanna use teletext also. I dunno what the word is in English. Uh Yeah. Obviously. Whoa. Is that you or alright. Alright. Alright. Well no I'm just a bit wondering what we're gonna do the next uh session? Yeah okay. We'll do our best. I am gonna work on the conceptual design already 'cause yeah it's fairly important to know what kind of components we want to put in. Do we I mean, is it gonna be a multimedia control centre? Do we want to be able to use the video recorder with it? Yeah. True. But but we need good communication about this stuff, 'cause I have to f put the components into the design. So if I don't know what components to put in, it's kind of hard. Yeah so Okay. Yeah I I know what you mean, but you'll ne need several other buttons for a video player. You need a play and a forw fast forward and a stop function. And you you don't need that for a T\_V\_. And and for a t uh teletext you need additional buttons as well, so I kind of need to know what we uh need. Whatever, I'll just put my ideas in uh in here and then we can discuss it with the next uh meeting. Okay. Okay. Alright. Yeah. I understand. Yeah. Alright. Yeah. Thanks. Alright. See you later. What the Mm. So you found your spots. Okay. It's called black. Okay. You see this beautiful presentation. Okay let's get started. Uh I sort of prepared this. Uh opening acquaintance, tool training, uh how to use the things here. Uh project plan discussion, and yeah then the rest of the meeting. Um we're supposed to develop a new remote control, that's both original, trendy and user-friendly. So, hope you have good ideas. I don't. Um we're work we're working uh from top to bottom. Uh functional design, then we do some in individual work, then we have a meeting to discuss the results, etcetera etcetera. And at the end of the day we should have a prototype drawn up. Uh we have available the smart board and the whiteboard. Um uh we should take some practice. I have some instructions now to do that. Uh well you know how to the documents work. So Uh this for toolbar. You see it next. Um we have a pen. And we can use this pen to perform. Yes. So It doesn't always work. Yes. Okay so you can draw. Okay and in the format menu you can select colour and line width, etcetera etcetera. Okay? Uh Okay. Each of you can uh take

some practice and you should draw an animal. Uh you should explain Uh with different colours and with different pen widths. And you should explain why you draw that particular animal. So, Julian. Uh with the format menu. And use different colours etcetera. And what's that supposed to be? Oh yeah. Oh yeah four legs. Uh-huh. Yeah. Yeah you can press the next button, which is uh yeah. I'll show you. Yeah. In file menu. Yeah. Yeah. What is it? A giraffe okay. Yeah I see a long neck but Okay. That's nice of you. Okay. Yeah pretty good. Uh could you press the next uh Okay. Then uh. Yeah sorry, introduction and get acquainted and That's the idea, so Yeah it's a bit slow, so Yeah. pressure. Why a turtle? It's slow. You were slow too so Yeah sure. Yeah not exactly legs but More like fins or Yeah.

Yeah it's I looks very friendly. Yeah okay. No. Yeah yeah yeah. There's a a gum, gum to. He said it was slow. I like it. Okay. Your turn Niels. The next yeah. Makes new paper. Yeah. Orange. Kangaroo. Dog. Cat. It's a cat. Why a cat? You have some uh? The pen, yeah. Sure. Yeah. Alright. Okay. Yeah. I think it's okay. You get idea right? Okay um we have a financial aspect to this project. Um we can sell them at twenty five Euros. Uh the aim is to reach uh uh to sell as much as fifty million Euros. Uh that's quite a big amount of money. And the production cost should be the half of the selling price. Okay now it's time for some discussion. Uh Yeah. We should get started. Uh I'm taking notes. Um we each have a specific task, as I saw in my mail. I didn't know if you received the same mail. Yeah? Okay so the um uh this industrati Industrial Designer should produce a working design. Am I correct? Okay. Uh the User Interface Designer should specify the technical functions. Right? Yeah? And the Marketing uh Expert should come up with user requirements. Uh did any of you already do some work on this part or Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. And do you have any ideas about the product uh so far? Mm-hmm. Mm-hmm. Yeah. Mm-hmm. Okay. Yeah I got another point. It uses infrared light to communicate the signal to the T\_V\_ apparatus or stereo. Same I believe. Uh and what did the Marketing Expert do? Mm-hmm. Mm-hmm. Mm. Mm-hmm. Mm-hmm. Yep. Yes. Okay. Okay. Mm-hmm. Okay. And you can get that information? Okay. That would be very handy. Um but have you any idea so far as what uh the user requirements are? No? No okay. Yeah? Of course. Big, mm-hmm. Uh what do you mean by that? Okay um Well I don't think I have anything more to add at the moment. Um I think the best is to go to work. Yeah. Okay. Yeah. I think we can go ahead with what we have. I will summarise the things we discussed and put it in the project folder. Uh the use of the Industrial Designer can work on the working design, etcetera etcetera. And it seems you get more information by email. So that was it for me. Uh Yeah, in the project folder. Yeah. I'm writing very fast. Hope it's readable. Okay um anything more you want to add to the discussion? Yeah. Because then we have a Yeah. Y you do some individual work, we have meeting, individual work, meeting. And at the end of the day we have a final meeting. And then I have to prepare uh I have to defend our design, so make it good. I depend on you. Yeah? If you can mix it it's okay. Mm-hmm. Yeah. Yeah. Well I think that is the user requirements part. As to what they want. Uh do they want all those functions on that small Yeah. Mm-hmm. Yeah I understand. You can always add a few Yeah. Hmm, the C\_D\_ player. Yeah. Yeah. Okay. Mm-hmm. Okay. You need additional yeah. Yeah. Uh Yeah. Yeah. We could just start with the assumption that's only for T\_V\_ and video. And um reserve the possibility to add other features. So we have a basic starting point and you can always extend that so make sure it's extendible. Yeah. Th the least amount of functions possible so it's easier to get to know how it works etcetera. Yeah? Okay and uh I'll see you again uh when the computer

tells us to. Yeah, you're di dismissed. Not yet. Okay. Let's see what we got to do. Yeah. Yeah. Thank you. Mm uh. Mm. We're the first ones. Move to the meeting room. Okay. Hello, good day. Yep. Kick-off meeting, wow. It's uh looks uh nice. Hmm? Yeah. No, it's it was uh not enough. I did my best. Okay. Um yeah. It's a giraffe. Yeah. Okay. Uh it needs some uh some yellow uh Oh format. That's some spots. No. Okay. Do I have to explain uh why I chose this uh this animal? I think it's a it's a great animal. It's a it's a giraffe. Yeah, that's a Um Okay I'll will give it an uh an eye. Hey. Come on. The next? Yes. Here you go. Hmm. 'Cause it's so 'cause it's green. No. A rabbit I think. Kangaroo. Fox. Mm. Okay. What uh what uh do you want to discuss? Yep. Yep. Yeah. Wireless uh huh. Uh it's uh some buttons for for the on off function. You d you already told that. And for the changing up to the to all the channels and changing the volume. That are the the basic options for a remote control. Okay, yeah. Yeah. Yep. I got some uh requirements it has uh it has to be user-friendly. Uh really easy to use buttons, not not uh very

small buttons, but not the the also the big big buttons, but just normal buttons. It has to be a small unit. It has to be uh yeah, you can take it with you uh everywhere in in your house. So it has n has not to be I yeah, gigantic uh machine. Uh and a and a good uh zapping range. Uh the distance uh from your television to your uh remote control has to be, uh yeah um yeah, quite a big distance. It has to be capable for zapping uh Yeah. Okay. Are you going to put the the notes on the Okay. Yeah. Yep. Yeah. Do we only have to to do uh phase one, the functional design uh? After that we are going to the conceptual uh Okay. I would first m Yeah. I I think we have first to start with the basic functions and we can uh expand them. Yeah. Yeah. Yeah. Yeah it it has yeah it has to be user-friendly. So it's hasn't it's yeah. Yeah. Okay. Yeah. Can we leave now or Mm. Okay. Good luck.

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# Meeting ID: 95

Data Source: Train

## Executive Summary

this meeting will be about the conceptual design , Um , think of it 's kind of uh turning the abstract into slightly more concrete . apologies for the last meeting , it was brought to my attention that I did not make the roles clear enough , um , so I will attempt to do so more accurately in this particular meeting . basically all we're gonna do is have some presentations again much like last time , um and we'll collate what we know about um what we discussed in the last meeting , possible directions . And then we'll make some more decisions on um basic uh firm up our idea on how we want this remote control to look and work . basically what I'm gonna have to talk to you about today is um component design Basically what I'm gonna be doing is talking to you about that . Um , components of a remote control , okay . We've already kind of gone over this but we're gonna have to get into more detail Energy source , um , our manufacturer offers a variety of energy sources , your standard battery , solar cells . Our manufacturer didn't say anything about lithium if we do go that route , we might have to look elsewhere . Um , and also there's a kinetic energy possibility . Basically , it's like a um the idea of moving the remote would create enough energy to keep it running . but I don't know whether that would be powerful enough to illuminate a touch screen . Um , the case , we have a few options , plastic , rubber or wood . Um and then as far as the way it's shaped , we can do standard boring flat , which we probably don't wanna do , curved or very sexy double curved . What kind of thickness are we looking at ? Um , I imagine that we could specify . Um , the buttons , there are multiple scroll buttons available from our manufacturer , but to use those we'd have to use more chips , And if we do go with the rubber doubled curved case um we'll have to use rubber push buttons because the other buttons aren't compatible with that . touch screen equals many chips which equals many Euro . Um , one thing that I noticed was that most remotes operate on a infrare on the infrared part of the spectrum . So you notice when you push a button on a remote you can't see anything coming out of it but in fact there is light coming out of the remote Uh one thing that I thought might be interesting was to use part use visible light coming out of the remote , just kind of as a fun gimmick . So you could actually see something coming out of the remote when you pushed it . is there an option that we can have that off or on so a person can select like I am sure that we could do that . just as a fun gimmick . Um , and then on to the circuit board that we're gonna use , also known as the chip . Uh , we really don't have any way around the T\_A\_ one one eight three five . we're very limited by what our current manufacturers can offer , um and my question to all of you is , should we



look to other manufacturies or should we just make do with what we have available ? I'd say shop around but with our time constraints , is that really a feasible option ? Um , if we do go the lithium battery route then we'll have to go outside our current manufacturer . My personal preference is uh I think we should probably go the solar battery route , just to kinda keep with the environmentally friendly theme that we have going on . Uh , I like the idea of the visible light signalling , and uh I was thinking about I was thinking of ways that we could produce the remote in a variety of different case materials to suit different tastes . Um , basically I was looking at what's going on in the remote control market right now and what's going on in other design fields , to see sort of what's what's trendy , what's new , what's happening . Um , remote control right now basically everybody says they want newer , fancier , more exciting um that we need innovative design options and there needs to be an easy user interface . Um the challenge is that current trends right now , across the board in fashion , in furniture , in technology , is a very organic fruit and vegetable kind of thing . Now I'm not saying we should have , you know , tomato shaped remote controls or anything , but I think it is possible maybe to use um natural colours , like if wood is an option , that whole organic , sleek , clean , Different skin options , and th apparently the feel of the next couple of years is spongy , though if we can get around to getting piloting , I thought maybe a casing option like uh not like a skin , but like a holder almost if you could do like um , leather options or wood options or something As far as the rubber that we can use we can use a rubber as part of the case , it has a consistency of those stress balls . I think perhaps the double curve thing and maybe this rubber option is our best way to go for right now . but then if the touch screen thing isn't gonna work out for us that's really a non-issue . I like the idea of of rubber too I think that goes against the whole fancy something , a new line , interface concept by your faithful user interface designer . So yur user interface , guys , is basically aspects of a computer system that we can see or hear , or otherwise uh perceive . Uh , commands and mechanisms , that basically user uses to control the operator operating system . Here's a d series of different remote controls that are out on the market today . the following are a bunch of different uh interface uh concepts . Uh voice recognition , we we um actually have some new uh information from our research design team current voice recognition starts up to about eighty speech samples , um and basically you record your own verbal labels c and connect them to the remote control . our design team , research team , has been able to uh set up a system in which uh you can teach the remote control voice c recognition system to respond to um with standard responses . Like you could say good morning uh remote control and it'll say in a sexy female voice , Good morning Joe . Um . Um , another concept is what uh Apple has come up with , the spinning wheel with uh L\_C\_ display like on the uh iPod Um and then we have the scroll button with integrated push-button , kind of like a modern a bit bulky , a bit crazy , I don't think that's we're necessarily going for . And uh some special components , uh ideas like uh blocking , having the ability to block channels from your for your children um and uh dedicated buttons for for commonly used uh channels and even uh ideas like secured or hidden programming but uh I again if we go with touch screen I don't think that's a big issue . Um and uh this is kind of the uh the big daddy of remote controls here . Uh the jumbo universal remote control is almost impossible to misplace or lose . so I I mean my ideas here and kind of where I think we're heading is something slightly larger than a regular iPod uh with a hard cla c uh plastic casing Uh changeable casings uh our design team was possibly talking about including one extra face plate with the package Uh touch screen interface , um possibly having go-to

buttons being uh stuck into the system so those don't move away from the screen , uh , the important ones like power , volume and jump between channels . Um , and of course our voice command system which I've talked a little bit about already and uh the use of recognisable colours and shapes to aid recognition of the features um that are around red for power , um arrows for different volume ups and downs and channels ups and downs and what not . And uh perhaps even adding in some stupid little jokes with the voice recognition idea Now we kind of have to come to some decisions , Based on what Nathan presented as far as the um various costs and benefits um I think , I dunno , what do you guys think about the touch screen at this point ? I think it's our most marketable feature and all three of us can have a chat about it . Um . But can we really afford it My estimate is that in order to incorporate touch screen technology it's gonna cost us upwards of seventeen fifty Euro per remote , that's just an estimate though . it's just , it is a question of and how much ca o does that mean we're gonna have to increase the price to make money . Where do you guys come up with these numbers ? That's just off the top of my head , I mean if you're gonna pay for an expensive high class remote , you're gonna expect it to do something we could probably maybe shrink the profit margins rather than selling for twenty five , sell 'em for thirty , but that's something that we can have finance deal with . Um , I say that we provisionally go with the touch screen and we can look into this other manufacturing option , and maybe we can get 'em somewhere else cheaper . let's let's say that okay so the touch screen will be our um our main selling point here . I mean I think that we really have two main selling points , 'cause with voice recognition I think that our casing and the voice recognition I mean , if if we're looking at bottom line , now we're looking at upping the cost to seventeen to get the touch screen on , I think we might have to drop the voice rec . I think we'd have to decide between 'em definitely . To be honest , we have the capa we have the design in-house , I mean we've we've come up with this , with this new voice What do you think on it Nathan ? About the voice rec ? I think if we we do both the obviously production costs are going to go way up I mean we we have to r reflect back on what our market research did say . and they said they wanted voice recognition . Course , maybe they hadn't thought of this whole touch screen option , but definitely we know the market is there for voice recognition Does having both really up our costs ? I can't see how it wouldn't , so we have to pick between one of the two . Um . we already have research backing voice recognition as you know fiscally solvent . But uh I I I personally would tend to another direction but if that's what's gonna sell I think that's what we need to go with I think the voice recognition is simpler , Is it cheaper to do the V\_R\_ or to do the uh touch screen ? Um , this is just off the top of my head keep in mind , but um , since we already have the technology in-house for the voice recognition we're not gonna have to do as much design work more or less you guys think that o o of the two of 'em , the voice recognition will be better . We will omit the touch screen in favour of voice recognition . You discussed either a lithium or a solar power . Would the solar power be enough to fuel a voice recognition ? Um , the solar power definitely would be but I think just to keep people from getting annoyed , we should install a small backup battery . we can't guarantee sunlight everywhere it works about the same as a solar powered calculator , and you know how those those don't really require that much light , I'm willing to agree with everything that's been said . If we're really not uh handling the remote control to a great extent we could possibly get away from the idea of having a hand-held remote control and maybe kind of have a round remote control that kind of looks like a paperweight or something like that , kind of a sleek little uh neat thing that sits on your table or

something . Why , why moving away from hand-held , why ? if you don't need to pick it up it could kind of be a selling point . if it's got voice recognition it can be technically anywhere in your room and still do its job . Do you think people that are people that buy a remote , are they always gonna wanna use the voice recognition I think we're banking on selling it to more than just voice recognition people , like we want it to work fundamentally as a basic manual too , we have to have buttons on it too as well . I mean , why not have a little rounded kind of thing , it could still have the basic buttons on it . And maybe a menu button and so forth , use a channel button to scroll through the menu d if they want to record programmes or whatever because we need to escape the traditional shape of a remote . I'm thinking of the airport portal , you know like that little pod looking thing ? I'm recalling that she mentioned that we n need to get away from the surgical white kind of brushed aluminium thing but you could have a very tasteful um wood coloured or earth tone kind of um Terracotta bowl or something . And the uh the material like the plastics and so forth , we were discussing that being uh using like a rubber kind of softer feel , if you feel the the tip on this pen it's a bit gives just a bit . something where it's uh a a more advanced f form of plastic that has some kind of a tactile response to it . Just kind of the squishy feel . let's see if we can do a squishy non-remote control-looking remote control . um . I guess we'll a that's gonna be uh a thing , if we run a bit over-budget , that might be okay , um . Sorry about the uh lack of information on cost , I just haven't been provided that information by our manufacturers we're more or less in agreement that we want to have a um a simple kind of function , you know , not too complex . although I'm not saying we should completely rule out major functions , they should be secondary , at least if not functionally then visually , Like maybe have menu things . If , if we're not going the touch-screen route then we can um just incorporate maybe something that folds out and something that slides down to reveal the you know more complicated things . we could do a slide or a compartment , Or you know , a b a b a a series of you know three or four buttons with a menu button and then a side an s up and down type of thing , like on um like on a D\_V\_D\_ player . we need to figure out what kind of buttons we're going to use , are we going to use scroll buttons ? Rubber buttons ? Um it seems to me that we could just do the um stick with the rubber 'cause since we're probably gonna be using some kind of um rubber for the outside case I think to a certain extent we have to stick with uh kind of uh a little bit traditional in terms of the buttons have we decided that we are gonna go with different style cases for different people ? because you have different cases and that might open up your market a little bit obviously , but obviously having more cases also costs more you could have uh a , you know , a um uh kind of a natural wood colour , like a stained wood and um , I don't know , olive green or something . That wouldn't be so much of a problem to incorporate into the colour of the thing . let's work on uh multiple case colours . stick with the same kind of kinda yeah , the same basic non-remote kind of remote design . we'll have the next meeting about half an hour , um . Nathan , I'd like you to work on just the basic look and feel , Um , what are our broad constraints before we deve design a prototype . And um Ron if you can figure out how probably best to lay out this idea of this simple design with the voice recognition built in and also this kind of drop down or s on the side kind of menu options simple . Um , and if you can check product evaluation with m some pilots and stuff . Um I need you guys to work together on making a prototype , um using um prototype building materials um . And also um specific instructions will be sent to you by your coaches as well .

## Complete Meeting Transcript

That's great. Alright, let me just PowerPoint this up. Right so um this meeting will be about the conceptual design, don't ask me s precisely what conceptual design is, it's just something important that we need to do. Um, think of it 's kind of uh turning the abstract into slightly more concrete. In this meeting ideally we'll come to some final decisions on what we're gonna do for the prototype. Um. Right so um, apologies for the last meeting, it was brought to my attention that I did not make the roles clear enough, um, so I will attempt to do so more accurately in this particular meeting. Um, fair enough, thanks for the input, 's always good. Um. So, basically all we're gonna do is have some presentations again much like last time, um, and gonna go through you, uh whoever wants to go first is f fine by me um and we'll collate what we know about um what we discussed in the last meeting, possible directions. And then we'll make some more decisions on um basic uh firm up our idea on how we want this remote control to look and work. So, perfect. So, without th further ado, whoever wants to go first is free to. Alright Nathan, take it away. It is Nathan right? I'm not calling you the wrong name over and over again? Good. Nice. Mm. Hmm. What kind of th thickness are we looking at? Okay, brilliant. Hmm. Hmm. M Maybe is there an option that we can have that off or on so a person can select like Yeah I like the idea, it's a good idea. Yeah. Mm. Mm. Mm. Can we do marketing piloting too? Try to see what kind before we launch can we see how they're received? Okay. Okay. Okay, perfect. Great, thank you very much Nathan. That's perfect, so I guess that makes sense for you to take it from here. Fascinating, compelling even. Tomatoes. Slick, slick. Interface, oh the interface graphics for the um Yeah. Mm. Yeah, it's like, yep it's ubiquitous isn't it? Great, thanks for that Sarah. Ron? Yeah. Lot of single people on the um on the re on the remote control research team at the Mm. Mm. Yeah, I can see. Mm. Great. Great, wonderful Ron, cool. Lot of good ideas, good facts to have. That's what they need, it's like a little dongle it just sticks up this further so you don't have to stand up every time, just connect it, my kingdom. Right so, good to know all that stuff, thanks guys, um. Now we kind of have to come to some decisions, um, I figure we can just go down the line and all three of us can have a chat about it. Um. Based on what Nathan presented as far as the um various costs and benefits um I think, I dunno, what do you guys think about the touch screen at this point? 'Kay. 'Kay. Mm-hmm. To produce each one. Mm. Hmm. Well. There is, it's just, it is a question of and how much ca o does that mean we're gonna have to increase the price to make money. Um, from twelve fifty if we d wanna get our fift uh hundred per cent profit margin um that would mean selling it from twenty five. If you multiply seventeen fifty by two that's thirty five. So From the board, um, well That's true, I mean And that's to be fair the um the per cent of the market we're not going for mass any you know, mass sales anyway, we're gonna make I mean we we're not talking about selling eight zillion of these things, we just couldn't, not for twenty-five Euros, so we could probably maybe shrink the profit margins rather than selling for twenty five, sell 'em for thirty, but that's something that we can have finance deal with. Um, I say that we provisionally go with the touch screen or wh y wh what was your thought on the matter Ron? Mm. No we could have a s very simple touch screen, you know, there's always the opportunity, if it's gonna be about the size of the iPod or whatever, you know, w we yeah, I guess we can play around with it a bit. Alright, let's let's say that okay so the touch screen will be our um our main selling point here. So The voice rec thing, I mean, if if we're looking at bottom line, now we're looking at upping the cost to seventeen to get the touch scr

een on, I think we might have to drop the voice rec. Yeah. Hmm. What do you think on it Nathan? About the voice rec? Mm. Yeah. I can't see how it wouldn't, I mean, there's you know the old aphorism, you can have it fast, you can have it cheap or you can have it quality, pick two of three. You know, you can't you can't have all three. It's just impossible. Well if we're gonna pick between e alright so we have to pick between one of the two. Um. Otherwise, yeah, we just it just becomes cost prohibitive. What which, which do we suspect we should hold o we should hold on to? 'Kay. What does the cost look like Ron? Is it cheaper to do the V\_R\_ or to do the uh touch screen? Nathan? Mm. Right. Mm. Okay. So I'm getting alright so more or less you guys think that o o of the two of 'em, the voice recognition will be better. Okay. Yeah. Okay. Sorted. We will omit the touch screen in favour of voice recognition. Yeah, well we'll we'll sic we'll sort out what it what f what else we're gonna talk about for the prototype but yeah that's our next step, it'll be a developing of prototype. Yes. We'll just run through it yeah, yeah, um. You discussed either a lithium or a solar power. Would the solar power be enough to fuel a voice recognition? Or this kinesthetic one, would that be enough to fuel a voice recognition remote control? Mm. Mm. Yep. Right. Okay. What do you think Ron? Okay. Hmm. Yeah. Well we have to have buttons on it too as well. But that's done, that's no bother I mean if you look at the catalogue from places like with sharper image or whatever you know they might have or like um who is it, Apple makes these really pretentious speakers with the th sub-woofers you know like clear and glass and you know and then they got these little pyramidal type of um speakers. I mean, why not have a little rounded kind of thing, it could still have the basic buttons on it. Um, 'cause we're going for basic functionality primarily as well. And maybe a menu button and so forth, you know um use a channel button to scroll through the menu d if they want to record programmes or whatever you know I mean we can sort that out. Yeah. Mm. Yeah, I mean a nice although we do um wh uh is I'm recalling that she mentioned that we n need to get away from the surgical white kind of brushed aluminium thing and get back to it but you could have a very tasteful um wood coloured or earth tone kind of um Still, I mean, yeah, along those lines. Yeah I like that, I like that idea a lot. Um, let's see what we can do as far as that goes. And the uh the material like the plastics and so forth, we were discussing that being uh using like a rubber kind of softer feel, um you know li lik if you feel the the tip on this pen it's a bit gives just a bit. You know something where it's uh a a more advanced f form of plastic that has some kind of a tactile response to it. Mm 'kay. Yeah let's see if we can do a squishy non-remote control-looking remote control. But to be fair, yeah, I mean, you just c you could just put it literally put it on the the ni the coffee table next to the telly and say volume up. Yeah I like it, I like the idea, that's good. Um and we've sorted of discussed costs, um. I guess we'll a that's gonna be uh a thing, if we run a bit over-budget, that might be okay, um. We'll have more of an idea when the prototype have more of a we'll have more of an idea later on. Um. And we just yeah go from there. Um, so we've revisited the touch screen and more or less ruled that out, um, I think so we're more or less con we wh wh we're more or less in agreement that we want to have a um a simple kind of function, you know, not too complex. Like maybe have menu things. Mm. Yes. Yeah we've also got the the me the thing of, if we're gonna have a non-remote-looking remote, how do we yeah. B But no I mean we could do a slide or a compartment, you know, like if it say it's a lit little vaguely ovoidal type of thing, it'd be easy to have a compartment in there. Or you know, a b a b a a series of you know three or four buttons with a menu button and then a side an s up and down type of thing, like on um like on a D\_V\_D\_ player. You know you see the modern D\_V\_D\_ players'll just have um a menu button on the side and then four buttons around them and you can just kind of manoeuvre through the menu like that. Well it seems like I dunno it seems to me that we could just do the um stick with the rubber 'cause since we're probably gonna be using some kind of um rubber for the

outside case we might as well stick with that um. Mm 'kay, um. We've already kind of covered this as well. That seems to be selling um and we we've more or less agreed that we want to target this youth market, um. Especially now with eighteen to thirty five year olds being such a large quantity of the population. Mm-hmm, mm-hmm. Okay. Um. Yeah alright, well, more or less covered what we need to cover I think fi an an any final thoughts before we think about doing the protot moving on to the prototype. Right. I was just gonna step on to um I wasn't? Oh, my bad um sorry. The um, yeah okay I was just gonna assign tasks in the next b anyth any oth any other final thoughts before we go ahead and cool? Um. Yeah. Well then again colours wouldn't be so hard to do, you could have uh a, you know, a um uh kind of a natural wood colour, like a stained wood and um, I don't know, olive green or something. That wouldn't be so much of a problem to incorporate into the colour of the thing. Yeah, I think that's probably a good id okay so let's work on uh multiple case colours. But yeah, stick with the same kind of kinda yeah, the same basic non-remote kind of remote design. Cool. Alright, so we'll have the next meeting about half an hour, um. I want the uh I'd like Nathan, I'd like you to work on just the basic look and feel, what can we accomplish, um, given these parameters that we're just gonna sort of have this kind of uh non-remote remote. Um, what are our broad constraints before we deve design a prototype. And um Ron if you can figure out how probably best to lay out this idea of this simple design with the voice recognition built in and also this kind of drop down or s on the side kind of menu options simple. Somehow work out how we can get this all s in the same place. Um, and if you can check product evaluation with m some pilots and stuff. Um I need you guys to work together on making a prototype, um using um prototype building materials um. And also um specific instructions will be sent to you by your coaches as well. So that's what to start with for now, is that alright, you guys feel clear about this? Alright. I guess we'll just hit the bricks. Thanks guys. That went well, thank you. Perfect. Go ahead. Nice. Mm. Right. Right. Nice. Interesting. Mm. Good call. Choose it. Well I'd say shop around but with our time constraints, is that really a feasible option? Right. Right. Um It's an option, uh but actually there's I've got some research already on like what we're looking at and trends in casing right now which actually might even come into play beforehand, it may help us decide for now. Temporarily anyway. I guess so, 'cause I found some interesting things. You waiting for me? I know, what a teaser ain't it. Um. Right. So current market trends. Screen. Um, basically I was looking at what's going on in the remote control market right now and what's going on in other design fields, to see sort of what's what's trendy, what's new, what's happening. Um, remote control right now basically everybody says they want newer, fancier, more exciting they're sick of this boring, normal, functional, um that we need innovative design options and there needs to be an easy user interface. Um the challenge is that current trends right now, across the board in fashion, in furniture, in technology, is a very organic fruit and vegetable kind of thing. Now I'm not saying we should have, you know, tomato shaped remote controls or anything, but I think it is pos

sible maybe to use um natural colours, like if wood is an option, that whole organic, sleek, clean, v line thing may be something we can look into. Different skin options, or if we can't afford this touch plate thing, or touch face screen interface um, maybe having the b images be specific, like you could choose your menu bullets to be a different shape or okay, not the example I would choose, but you know what I mean to t sort of and th apparently the feel of the next couple of years is spongy, uh not something I I've come up with a though if we can get around to getting piloting, I thought maybe a casing option like uh not like a skin, but like a holder almost if you could do like um, leather options or wood options or something Mm-hmm. Mm. Might be an interesting way to go. Um, yeah so something to sit on for now. So overall I think we should stick with what we're finding, everyone's looking for easy to use,

technologically innovative and this fancy new I think perhaps the double curve thing and maybe this rubber option is our best way to go for right now. Um. Yeah. Um. Well I d but then if the touch screen thing isn't gonna work out for us that's really a non-issue. True. Very true. Very true. Very much so. Um We could. I think that goes against the whole fancy something, a new line, but worth a shot. Ah, it could be, it could be, um. Yeah that's what I know. No problem. Mm. Yeah. Very true, very true. Mm. Hmm. Okay. Mm, right. Mm. Nice. Mm. Mm. I think it's our most marketable feature just because it's so new and it's something that is showing up in other places. But can we really afford it 'cause it looks like they would be, that would be a really main cost source then right? Per? Piece. I know And our goal was to be under twelve fifty or we have to be under twelve fifty? Do we remember? Okay. Can we justify it? Right. Though I think that's what people would pay for, I mean if you're gonna pay for an expensive high class remote, you're gonna expect it to do something Yeah. Right. Yeah. See if we can cut some corners. Right. Well and we can look into this other manufacturing option, and maybe we can get 'em somewhere else cheaper. Right. It's a starting point anyway, so. Mm. Yeah 'cause with voice recognition I mean really this is pretty bells and whistles kinda remote. I think we'd have to decide between 'em definitely. Price-wise. True. We've already got it. Pretty much. Right and they said they wanted voice recognition. Course, maybe they hadn't thought of this whole touch screen option, but definitely we know the market is there for voice recognition so to say we have the technology and we're not gonna use it even though we know it'll sell is a call I don't think I can give the highs ups. Like really I can't go in and say no we're gonna just ignore everything we know. Yeah. Yeah. Well, we already have research backing voice recognition as you know fiscally solvent. But uh I I personally would tend to another direction but if that's what's gonna sell I think that's what we need to go with and maybe we can table this touch screen for our next model. Mm. Right. Right. And we're still not then we don't have to deal with this battery issue nearly as much either, we can stick with what we've already got. In a lot other ways too. I think it's our lower risk option which for right now we can have it on the market sooner which is all in all our best option. So and when are we gonna have basic prototypes coming up next that's you guys's next step right? Right. Okay. Mm-hmm. Yeah. Well what of people with like the T\_V\_ in their basement, like what if wha we can't guarantee sunlight everywhere so having a secondary source is probably Yeah. True. True. Right. Okay. Uh Interesting. I if it's got voice recognition it can be technically anywhere in your room and still do its job. True, and i probabl I think we're banking on selling it to more than just voice recognition people, like we want it to work fundamentally as a basic manua

I too, right. Mm-hmm. Yep. Yeah. With the bu yeah. Mm-hmm. True. Way to go. Yeah I'm thinking of the airport portal, you know like that little pod looking thing? Right. That would be kinda neat. Terracotta bowl or something. Mm. Mm. Yeah. Yeah, which is the next big thing, so that's not gonna hurt us either. Right. Handy. Okay. Mm. Right. Well when the majority of people are only using the most primary functions on a daily basis, although I'm not saying we should completely rule out major functions, they should be secondary, at least if not functionally then visually, like those shouldn't be Take precedence, yeah. Right. And they slide. Well and do we wanna consider like an iPod screen which isn't a touch screen but you're still scrolling through menu options, in p True, we're still not making it easier then. True. Fair enough. Yeah. Mm-hmm. Yeah it's just a scroll. Yeah. Yeah. Probably. Right. Mm. Well no it's basic just like four directions that are that can use as menu or channel and volume or however you wanna do it, are really versatile and everybody's already got them to some extent on the remotes they already own so it's not like we're dealing with everybody relearning things 'cause that's not something anybody's gonna wanna buy a new for. Mm. Right, particularly in technological fields, so that's exactly

where we're headed. Uh. Oh it wasn't in the way but yeah, whatever. No, don't worry about it. Okay. Yeah. Yeah. Right. Mm. Yeah. Yeah, get in there. Yeah, totally. Cool. Cool. 'Kay. I'll go first. No Nathan's fine. It's either Nathan or participant two. Uh. Okay. Um, basically what I'm gonna have to talk to you about today is um component design and it's been brought to my attention that we may be somewhat limited as to what we can do because of what our manufacturer offers, so Basically what I'm gonna be doing is talking to you about that. Um, components of a remote control, okay. We've already kind of gone over this but we're gonna have to get into more detail and probably have to reach some conclusions some time soon. Energy source, um, our manufacturer offers a variety of energy sources, your standard battery, solar cells. Our manufacturer didn't say anything about lithium so we might have to look if we do go that route, we might have to look elsewhere. Um, and also there's a kinetic energy possibility. Basically, it's like a um the idea of moving the remote would create enough energy to keep it running. So that's one possibility but I don't know whether that would be powerful enough to illuminate a touch screen. So we'll have to look into that. Um, the case, we have a few options, plastic, rubber or wood. Um and then as far as the way it's shaped, we can do standard boring flat, which we probably don't wanna do, curved or very sexy double curved. Um, I imagine that we could specify. Um, I don't see any reason to go outside of the convention of three or four millimetres. Yeah. Um, the buttons, there are multiple scroll buttons available from our manufacturer, but to use those we'd have to use more chips, um and that would cost us more. And if we do go with the rubber doubled curved case um we'll have to use rubber push buttons because the other buttons aren't compatible with that. Um and just a little note there, touch screen equals many chips which equals many Euro. Um, one thing that I noticed was that most remotes operate on a infrare on the infrared part of the spectrum. So you notice when you push a button on a remote you can't see anything coming out of it but in fact there is light coming out of the remote and you know the television can detect that. And if you were to record if you were to make a video recording you could actually see the light. Uh one thing that I thought might be interesting was to use part use visible light coming out of the remote, just kind of as a fun gimmick. So you could actually see something coming out of the remote when you pushed it. Course it'd have to be a part of the spectrum

that wouldn't damage the human eye or anything like that. Yeah. I am sure that we could do that. Um, of course Yeah, just as a fun gimmick. Just to set us apart a little bit. Um, and then on to the circuit board that we're gonna use, also known as the chip. Uh, we really don't have any way around the T\_A\_ one one eight three five. Um findings, okay, we're very limited by what our current manufacturers can offer, um and my question to all of you is, should we look to other manufacturies or should we just make do with what we have available? 'S a bit of a challenge question. Right, that's my concern too. Um, if we do go the lithium battery route then we'll have to go outside our current manufacturer. My personal preference is I'll just throw my cards on the table, uh I think we should probably go the solar battery route, just to kinda keep with the environmentally friendly theme that we have going on. Uh, I like the idea of the visible light signalling, that's something to set us apart and uh I was thinking about I was thinking of ways that we could produce the remote in a variety of different case materials to suit different tastes. So we're not so confined by one style and say some you know, say our the one if we just go with one and it doesn't go over well then we're in a bad situation. Oh yeah, you're welcome. Mm. Mm. Hmm. I should have mentioned this um. As far as the rubber that we can use we can use a rubber as part of the case, it has a consistency of those stress balls. Mm. I like the idea of of rubber too because it's tends to be associated with being durable, something that you can drop and it doesn't matter. 'Cause so many you go to so many houses these days and you see broken remote controls.



Taped with duck tape and what have you, you wouldn't have that problem if you used rubber. Mm. No. Yeah. My estimate is that in order to incorporate touch screen technology it's gonna cost us upwards of seventeen fifty Euro per remote, yeah that's just an estimate though. I know. It's fun. I thought there was some flexibility with that. That's just off the top of my head, it is pending further emails. Right. It is the new it would be in a class of its own. It's true. We could initially go with what we have and if we can find them cheaper later on Yeah. I think if we do both the obviously production costs are going to go way up um but it does put it into it'd become the Rolls Royce of remote controls basically. It would be very nice. Yeah, 'cause you just upping the number of chips that you need to deal with each different function. I would have to side with that, I think the voice recognition is simpler, we already have the all the technology in-house, it's ready to go, it's packaged, it's Um, this is just off the top of my head keep in mind, but I think the voice recognition would they're both mm they're both gonna push the costs up, but um, since we already have the technology in-house for the voice recognition we're not gonna have to do as much design work and sometimes the design work is what push the costs up, if you know what I mean. Yeah. Are we going to talk now about um the materials that we're gonna use for the case and all those things? Okay. Um, the solar power definitely would be but I think just to keep people from getting annoyed, 'cause sometimes solar power fails and there's no way round that, we should install a small backup battery. Just to cover those moments when for whatever reason, the remote hasn't been exposed to It's true. Yeah, it works about the same as a solar powered calculator, and you know how those those don't really require that much light, um, but obviously a little more light than a calculator, but we're not talking about a lot of light. Doesn't have to be out taking a sunbath for a few hours a day or anything. Hmm. Why, why moving away from hand-held, why? What's the uh idea? Hmm. Do you think people that are people that buy a remote, are they always gonna wanna use the voice recogni

tion or is it just something that they do sometimes. Right. I think, I think you're on to something because we need to escape the traditional shape of a remote. Maybe something that looks nice on a table is would be good, even though and hand-held the same time. Yeah, those are nice. Mm. Okay. Right. Just kind of the squishy feel. Sorry about the uh lack of information on cost, I just haven't been provided that information by our manufacturers and I'm just having to guess. Right. If, if we're not going the touch-screen route then we can um just incorporate maybe something that folds out like what you often see on these kinds of remotes is the most basic functions up here and something that slides down to reveal the you know more complicated things. Yeah. Right. So are we gonna are we talking we need to figure out what kind of buttons we're going to use, are we going to use scroll buttons? Rubber buttons? Um Right. Right. So have we decided that we are gonna go with different style cases for different people? Or are we just going to go with one? ..It's very, it's very hard thing to predict because you have different cases and that might open up your market a little bit obviously, but if you have just one case and it doesn't go very well mm. It's a tough situation, but obviously having more cases also costs more so There's an idea. Right. Oh excellent yeah. That sounds good. Mister participant two that is. Interesting question. Yes. Did you? I like it, I like it. Yes. Fabulous. We can have a duck tape casing. It could go with the granola crowd. Phew. Computer's adjusting. One moment please. So interme interface concept by your faithful user interface designer. So yur user interface, guys, is basically aspects of a computer system that we can see or hear, or otherwise uh perceive. Uh, commands and mechanisms, that basically user uses to control the operator operating system. Here's a d series of different remote controls that are out on the market today. I think we're definitely trying to get away from this kind of a look. Um, so the following are a bunch of different uh interface uh concepts. Uh voice recognition, we we um actually have some new uh information from our research design team but uh I'll

get to that in a moment. Um, so current voice recognition starts up to about eighty speech samples, um and basically you record your own verbal labels and connect them to the remote control. Now our design team, research team, has been able to uh set up a system in which uh you can teach the remote control voice recognition system to respond to um with standard responses. Like you could say good morning uh remote control and it'll say in a sexy female voice, Good morning Joe. Um. In fact we already have this for a coffee maker line On the remote control right. Um, another concept is what uh Apple has come up with, the spinning wheel with uh LCD display like on the uh iPod which I am sure most of you know about. Um and then we have the scroll button with integrated push-button, kind of like a modern a bit bulky, a bit crazy, I don't think that's we're necessarily going for. And uh some special components, uh ideas like uh blocking, having the ability to block channels from your for your children um and uh dedicated buttons for for commonly used uh channels and even uh ideas like secured or hidden programming but uh I again if we go with touch screen I don't think that's a big issue. Um and uh this is kind of the uh the big daddy of remote controls here. Uh the jumbo universal remote control is almost impossible to misplace or lose. Um, again probably not what we're going for so I mean my ideas here and kind of where I think we're heading is something slightly larger than a regular iPod uh with a hard plastic casing although I think some of the suggestions we've come up with are definitely uh very good ideas. Uh changeable casings uh our design team was possibly talking about including one extra face plate with the pa

ckage to kind of set the idea that you can change it and you can try changing it and kind of get used to thinking about maybe buying another one which can add value to our uh bottom line. Uh touch screen interface, um possibly having go-to buttons being uh stuck into the system so those don't move away from the screen, uh, the important ones like power, volume and jump between channels. Um, and of course our voice command system which I've talked a little bit about already and uh the use of recognisable colours and shapes to aid recognition of the features um that are around so red for power, um arrows for different volume ups and downs and channels ups and downs and what not. And uh perhaps even adding in some stupid little jokes with the voice recognition idea like perh mm for instance my toastie maker that I got from my bank has jokes when it's ready. And uh that is about it. Oh you guys are always the dampers on these projects. You industrial designers. Where do you guys come up with these numbers? I'm thinking that's uh definitely a good idea and I also think that we could probably come up with some sort of a cheaper uh means to to go about this kind of production, my my team in the uh on the third floor suggested that uh Yeah. I mean I think that we really have two main selling points, I think that our casing and the voice recognition To be honest, we have the capability we have the design in-house, I mean we've we've come up with this, with this new voice we're using it for our coffee machines already. I can pass you on that email from my uh guy in uh guy down the hall. Sounds good. I mean we we have to reflect back on what our market research did say. Does having both really up our costs? Well my point is Um, I definitely have to agree with that last comment. It's you and me outside a little here. Calculator. I'm willing to agree with everything that's been said. Uh I have to say though that um another idea's come up in my head. If we're really not uh handling the remote control to a great extent we could possibly get away from the idea of having a hand-held remote control and maybe kind of have a round remote control that kind of looks like a paperweight or something like that, kind of a sleek little uh neat thing that sits on your table or something. Just a thought. Well if you don't need to pick it up it could kind of be a selling point. I think it's all about following Apple's lead on a lot of these things. Mm-hmm. Exactly. Think then we're hitting our cost issue again. I think to a certain extent we have to stick with uh kind of uh a little bit traditional in terms of the buttons and then and then make

our unique feature our casing and what not and our voice command. Well what are we actually doing? What were Sure. And again copying iMac's kind of for iPod Mac Apple's uh colour scheme. Fabulous.

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# Meeting ID: 6

Data Source: Train

## Executive Summary

The User Interface Designer presented three different concepts to consider for the user interface and introduced the idea of using speech recognition in the design of the remote. The team discussed the issue of using speech recognition at length. The Industrial Designer presented possible materials to use in making the case for the remote, introduced the option of using a solar battery, and discussed options for buttons. The Marketing Specialist discussed recent findings from trend watching reports. The team discussed what materials to use and their interface concept.

## Complete Meeting Transcript

So let's start our second meeting on conceptual design. So, as the previous meeting I will be the secretary and we will have three presentations and we'll have to decide on the remote control concept and finally we'll close the decision. So I will first uh What? I think I will let uh our User Interface Designer speak first, Mister David Jordan. So, we'll S technical accessoire? Interface? This. I'm not sure the one in the middle is very attractive. It's very big, yeah. Okay. Yeah, why not. We'll have big discussion I suppose after that, so. Okay. Something else? I just have one question, because for the intelligent controller, you said that we can use the voice recognition or the gesture recognition, but as the um expert told us, most of the people want to use the remote control to zap t to zap between channels. Do you think they will be able to use gestures? Because, if they do all the time the same gesture, as you said previously in the last meeting, maybe they will get injuries because of that? or if you say channel three channel three two three four six five, I think they will be bored after a while. You don't think so? Yeah, sure. I That's true. Yeah, but suppose you got a cold. You have a mute remote controller. Broken arm? Yeah, but suppose you have a family watching T\_V\_, and if they want to use their private remote control in the same time, do you think it will work? Everybody wanting to change channel in the same time? Why? If you have one brother and one sister and they want to watch their favourite uh T\_V\_ programme, so they say oh channel four channel three channel four channel three all the time, so. Yeah, but you have the remote control, so maybe you can keep it f with you. You're not you're not obliged to share it. Yeah, we can yeah. Yeah, I think it's a disadvantage. Yeah, but one other

question. How much will it cost? Yeah. Because I suppose we need to do research to have something working. Some efficient. So you think it won't cost a lot for us? Or? Yeah, but uh uh Mm-mm. Yeah. I agree with uh Yeah, but there is one problem that uh Baba talked about is the international remote control. We need something that is international. Suppose we're we want to sell it in France. The recognition system will be able to understand French. If you want to go to England, it will be able to understand English, so. Mm, okay. And with no increase in the production price of the remote control? Yeah, but how will you Oh. Seems to be quite complex. And what about voice recognition, do we have microphones? And where will be they? Do you think if we're far from television it will work? Yeah, but where is the controller? Yeah. Yeah, but we're here it's uh an object. But here you say you want to use uh s technology. Yeah, but what is the use of voice or gesture recognition if you have a remote control like this, if you have an object. If you want to use voice or gesture you need to be free, without any object. You just want to interact with television. Yeah, but you can lose it. Okay so you can build a kind of black box and put it on T\_V\_ and just to recognize gestures and voice. Ah. Yeah, but Mm. I think so. And maybe it will be quite Okay. Hmm. So, what do you think? We'll try the controllers you'd prefer. Which kind of controller would you prefer to use, you as a remote control user? So I think it would be better not to do any intelligent controller and to stay with the Google controller or a fancy controller. Maybe try to mix the Google controller and the fancy controller? Hmm? Just want to have something controller which is in a kind of intelligent controller, easy to use, sophisticated and fancy. You think it's possible? Yeah, but uh we want so Yeah, but we want something that works all the time, every day, every hour, for everyone. You don't need to tune it. Yeah, why not? If it's Not too expensive too. Okay. So let's go to the Industrial Designer. Maybe we'll be able to take a dec

ision after that, so. Two? Working? I can Okay. It's okay Uh I think there's something wrong with your Maybe you you record it somewhere else. Interface concept. No. Mm mm. Uh. Nope. It seems that we have a problem with the Yeah, so No, I think it will be more interesting to start with uh Yeah. You will had some more information in I think it will be interesting after your presentation to have um Baba's presentation. So. Okay. Okay, never mind. Mm-hmm. Mm-hmm. Mm-hmm. Okay. Yeah, I think it's an added value to the remote control and maybe it can attract all the ecological k yeah consumers and but about the the price of adding this solar battery, would it be something really that will increase the price of production more, no? So. Okay. And what about the uh materials? Impersonal, mm-hmm. Yeah. Yeah, and if you we want to put fashion in electronics maybe we can try to do something with wood. Mm-hmm. Mm. Mm okay, seems to be interesting, mm. Yeah, we want something easy to use and so I think maybe something very low level would be enough. And you think that we will be Okay. So wood. And what about the buttons? No it's fashion, yeah. I dunno. I think we have only uh five minutes left. Participant four? Functional requirements? This one? Okay. So we have to take decisions about the component concepts, about the energy. So, as you say you want something technologically innovative, maybe using solar energy and with battery would be something interesting, maybe will attract pro-ecology consumers. Uh cheap imprint so you s you propose low level chips would be uh enough to have something working well. Case. So you think case. Something spongy. Someth no wood. Maybe you It's it's natural. Th The feeling is natural, so maybe we can stay with wood. But it's still fashion. Yeah, something that you can into it. Uh and what about the user interface concept? Google and fancy? Because I think that with the voice and gesture recognition there are still some disadvantages with this. Yeah, but you need a receiver to recognize the gestures and the voice. That's true. So maybe we'll just focus on the Google controller plus the fancy controller, maybe try to mix them

these two concepts together, just in one and do a remote control with solar energy and batteries and with low level chips and wood. And L\_C\_D\_ buttons. Yeah, I think for these supplements the solar energy would be something quite interesting and not maybe too difficult to add. Yeah, for the interface something added value. With a module? You mean the remote control with a micro module if you want you can just use commands, words and use them when you don't want to use your fingers. Turning the T\_V\_ on or off. So, adding some vocal commands. Simple ones? Okay. So the next meeting will start in thirty minutes so we'll you will all have to work in in your direction. So you will have to work on the look and feel design, to have the easy to use, powerful and fancy remote control with some added value such as the uh simple vocal commands recognition. Uh you will have to work more, Baba, on the um spongy way to to add spongy um touch to the buttons and try to find maybe a nice shape for the wooden remote control. And I suppose I think we'll have to evaluate the product too. Yeah. Yeah. And remember as I said last meeting, we really have to build a fashion remote control and uh the colour of the um the society will be really it will be seen in the remote control. So you will have Baba and David Jordan you will have to work together on the prototype and you will have next time to show us um modelling a clay remote control, so you will have to model something. And I think that some specific instructions will be sent to you by your personal coach. So, no more questions, we can close the session. Yeah. Okay, cool. Yep. Yeah. No no no. Yeah. Mm. So uh first I will present the concept of user interface. Um there's three concepts in the user interface. So first

the first one it's a Google controller. The second is a fancy controller. The last one is uh intelligent controller. So there are three concepts in our controller. Um next I will explain one by one, the first is Google controller. Um, so I want the controller to be easy to use, but with sophisticated functions. So it's a combination of easy to use and um sophisticated functions. Uh this is a first concept of our controller. The second concept is a fancy controller, um so we want give the customers the impression that our controller is very attractive, um they can easily recognise our controller among a lot of products, so so the user interface should be very very cute, very very good um attractive. Such like this, there are several uh examples in the slides. Yeah, it's very, you know if you're Yeah. It's hard for it's easy for you to remember it. Or to recognise it, yeah. Yeah. Yeah. Yeah. So the last uh concept is intelligent. We want uh we want our controller to be smart, so maybe we should uh use um uh technology, such as speech recognition technology and gesture recognition technology, so we need to have some cooperation with some research institute on speech recognition and um gesture recognition. Um With this advanced features we I think we can attract a lot of user. Okay. No. There this is the three concepts of our controller. Yeah. Yeah. Yeah, so Y Uh I think some time it's very uh convenient to use voice interface and gesture interface than use button. For example, if you cannot find your uh controller, you can just uh just uh speak something such as, yeah, one two. Yeah. So you can use your gesture. That's no problem. For limited vocabulary speech recognition is very reliable and for limited vocabulary gesture recognition is also very Yeah. Yeah, they cannot speak at the same time. Yeah, it's very interesting. Yeah. Yeah, that's that's the advantage of intelligent controller. Even you have the controller, I can I can say channel three, so it's come to channel three, I don't have to. It's advantage. How much? No no we we just are use um No no we just um have some cooperation with some research institute, we don't have to do some basic research on this field. Yeah, I think it's uh because uh this technology is uh um for limited word or limited word uh lexical recognition, it's very it's uh yeah. It's No it's uh Even for the um because the the vocabulary the The vocabulary is very small, so that's not a problem. Yeah. Yeah. Yeah. Yeah, the key, the key um the key of our the key feature of our controller is that it's it has some some um adaptation mechanism. It's It's it means when

you when you sell this controller in China it's can recognise Chinese. It's r if you sell this controller in France it can recognise French. Yeah, it's Because of this product uh this technology has already been developed. So Yeah. Yeah. Oh n Yeah, yeah tha that's why we have to do language adaptation. Yeah. Even for each f for even for different family we have to do d yeah we would we have to do adaptation to No, it's not so complex. No no no it's not I think that's n that's not a problem because you you don't have to wear a microphone. It it just the microphone is embedded in the controller. Where is the controller? It's in your family, in your home. Yeah. Yeah you can you can embed it uh microphone here. Yeah yeah just you just put the controller here, then you you use your command and you do s your gesture. No no it's n y if you lose it Yeah. Yeah. I think it we should give the uh flexibility to the user and we think yeah. You can see they can switch form one modality to another. No, that's quite inter quite attractive. Well, if you do language adaptation, there should be no problem. We should have confidence in technology. More features, yeah. Yeah but if you stick to um stick to the first two parts. So what's the difference between our controller with other products in the market? There's no k fe

atures of our controller, so is there is there any necessary to design new controller without any breakthrough features? Would y would you replace your controller with a controller with similar function if you do not have some some function inside it that Yeah, you y that's a fun that's not the function of the controller, that's a function of T\_V\_. You can replace your T\_V\_ with a new T\_V\_ with internet browsing function, but Okay. But it's not the only the problem only the issue of controller, it's it's also the issue of the T\_V\_. Yeah, but we do we do we we cannot rely one hundred percent on these features to u to use the controller, but with the features of our controller such as you have the feature of voice recognition in your mobile but you seldom use it, your mobile, but you when you choose a new mobile, you choose the one with voice recognition. That's the feature is not one hundred percent reliable, but it's a feature to distinguish our product from our from other products. Yeah. Yeah, uh Yeah, if if if you're if you ar if you already have a product it works one hundred percent reliable, would you replace it with another one? Yeah. Yeah. Yeah. Yeah. Oh yes, but there's no big difference between the traditional controller. The then nn no. Tha But the there's there's n there's n not enough motivation for them to replace their old controller with a new one if there's no key feature in the new controller. That's the same yeah. Yeah. Yeah. Okay. Yeah. It did didn't r receive it. Didn't receive it. Participant one. Participant one. Yeah, maybe we can first come to uh to Frahan. With Frahan, then you can prepare your slides, then present it later. Okay. Okay. Okay. Okay. Mm-hmm. Okay. Uh-huh. Mm-hmm. Mm-hmm. Mm-hmm. So you got email? Mm. Later? Pla Uh yes. Yeah. Yeah. The smart controller. Okay. Mm. Yeah. It's good. Mm-hmm. Yeah. Yep. Yeah. Yeah. Okay. Yep Okay. Okay. Mm-hmm. No y you do the minutes first, or? No? Okay. Mm. Mm. Mm. Mm. Yeah but how how is how risky is it to trust like speech recognition or gesture recognition? Okay. Okay. But this this but this would never happen anyway. Yeah Yeah, but the Yeah but this Yeah. I don't think it Oh, okay, okay, you mean it could be a problem for this kind of stuff. No. No, but this is disadvant disadvantage. Yeah. Uh if you if if you use the basic But it's it's changing how the remote control is gonna be built. Because then you need uh I mean this doesn't have uh the power to do recognition, for example. Yeah. Yeah, this could be downloaded by the web maybe, or Yeah. Mm. Yeah, but then w Yeah, we have to take care of the twelve Euros problem. Okay. No, but then it's it's like this uh Yeah. But you would still have the buttons. Or is it do you think it should be only voice recognition and gesture recognition? Or you you still have the possibility to use buttons? Okay, so you yeah. Yeah, I dunno. It's a bit risky risky. Yeah, I dunno. What? If if I mean, uh I'm sure if the user pays the same price, he's happy to have recognition. But if if if it like doubles uh no one would would be interested. Yeah. No, I mean Y No, but you need you need

new remote controller then. Because if you wanna browse internet or, I don't know, if you wanna type something, or No. No. Cause for example yeah. Yeah. Yeah, you would True. I mean, for example the goo y you say we would we would have a Google-like controller. I don't see how adding speech or gesture recognition would make the remote control look more like Google. Google is simple, works fine, so I I guess if can have a remote control that is really basic, simple and works fine, it's already a lot. Uh thi this I mean, the user is not only interested in having speech or gesture recognition or if he has something that works fine and is really fancy, looks nice and it's easy easy to use, easy to use. See That's the problem, yeah. I mean, I I know it's more interesting to develop a remote controller with speech and gesture and w

hatever. But you have to think, the user is the one who gonna buy the product and so. I mean, that's the point. Hmm. Yeah. Dunno. I dunno if you remember what you had to say or I think it's more interesting what he says, okay. Yeah, true. Yeah. Yeah. Yeah. Special for Mm-hmm. Yeah. What about the touch scr touch screen? For example. It's it's expensive I I guess. Mm. Yeah. Okay. Uh no, trend watching. The other one. Yeah. Uh, I think so, just Yeah, so just to meet the user requirements I would just do a s short anal analysis of the remote control market and to kind of um have a better overview of what's the fashion in general I've checked more than only the remote control market, so next. So again, it's pretty much similar to what I've said in the previous meeting. Um user really really want a fancy look and feel. They're not so so interested in uh functional look and feel, okay. Like the one you've shown, David, with all the buttons and I mean i i it sounds good technically but it's it's not what they want and uh So, second point is they still want it to be technologically innovative, so maybe it's sort of related to what you've said with the speech recognition and so on. At the same time, it's important that it's easy to use. So that were the three first points from the remote control uh analysis. Now i if we look at fashion in general um Okay. Wha what we really see this year is that uh everything from clothes to shoes and furniture is is inspired by fruits and vegetables, okay, so I think we really have to take this into account for the design of the the thing. 'Cause it's it's really what people want. Even if it's in general fashion, we want it to be in the remote control. And then uh if we take the ordering or the ranking of all the points, fancy look and feel has, on a score of seven would have six as importance. Uh the remote control has to be technologically innovative, it's three. Then easy to use uh it's not so important actually with respect to other y other ones. So we see fancy look an look and feel is the most important one, and then if we combine this with the fashion uh from Milan and Paris we go to the fruits and vede vegetables. And the other point I haven't mention is people wan want to have a spongy touch, okay so this is this maybe doesn't really fit with the wooden design. I dunno. Yeah thi this is this would be like um plastic-like, but rubber, mayb maybe, you know, rubber-like uh device, so um Okay, tha tha that was the main point, I think, from the trend in fashion. Yeah, so when I think it's Mm-hmm. Maybe not no wood, but I mean ma maybe not the part you touching you know. Yeah, maybe the base. But still y Yeah. Yeah, I mean it's not exactly right for the spongy point of view. But we could maybe have both like part of wood and some rubber for the buttons, or I dunno. Yeah. Yeah. Yeah d I dunno. What interface? Yeah, no not forgetting about the fruits and vegetables trends. If possible. Hmm. Okay. Mm-hmm. Mm. A nice one. Yeah. Yeah. Mm-hmm. Yeah. Yeah. Maybe. Oh yeah, that's a good that's a good point, so. One and Yep. Yeah but Yeah but the same can happen even with it you know this kind of remote control because the That's right. It's it's And mayb maybe we can have the switching mode to pass from you know voice controller to manual controllers, eh. No, more expensive maybe. Well y y you have also the language problem, you know when you 'Cause it it have to be universal, so. Yeah. Yeah but you know. The product The pro It's a very smart, it's a very smart controller maybe Oh yeah yeah



yeah yeah. But Yeah but the problem is how to s you know if this is a push button controller, you can send this con this remote control everywhere in the world, the same one. If you have the language, you have to develop for each country. Yeah, but for each country you have to do one, because uh the for example for Se Oh really? That's Comple A microphone maybe. To talk to the to the T\_V\_ maybe. I if you say one,

he switch to channel, yeah. So well for example if it is somewhere in the room if i maybe if it is in the table there you can always say s channel one and the t the remote control gives the order to the T\_V\_ to switch to channel one. Devic Yeah. Yeah. Yeah but so you need a camera and you know a microphone inside your remote control. Yeah. But I think that, you know, switching from one country to to another will be a problem, so although y y Yeah but i i Yeah, we should. Uh. Mm. Yeah, but I think he need a control that is very reliable, so. Yeah. Yeah. Yeah. It's not really the we we can add for example some function like for browsing in internet, so or something like that. But uh I think a user need Don't have a the the Yeah if we can send email from it. Because the p the problem I can see with with the voice or the gesture itself wh what can happen in a family i i for example if Yeah And for all the person of the family maybe, so, yeah. Because you have new Ye Okay. Okay. Yeah, participant two um Yeah, working design, so. So I think Can you go to the next one? I uh it's not this one. It's uh oth the oth so I It's the working design. Sorry. Component design. So this yeah so this is the described use What? Are you inst I don't think so. Oh. Maybe I record recorded directly on the Computer. Okay, okay. Yes. I can say it to you without. Yeah, exac Okay. Yeah. Yeah. In fact, I don't know, I s because i in my presentation I don't have here with so It was in fact the design use to show you the design of what is inside a what is inside and what are the different component of the r of the remote control. So it will be interesting so I could show you some some picture of what is inside and so. So I in fact the the f something I want to discuss is which kind of material are we going to use, so will it will be wooden wooden di wooden remote control or a a plastic remote control like this one. So and in which which which kind will be the the different bu button, so it can be some, you know, classic pushbutton like this one, or you have also some button like L\_C\_D\_ where you know, the button the buttons are unlighted during the night, or, you know, you can see them in the darkness. And the other thing I want to discuss also is which kind of alimentation, electric alimentation do you want to have, so will it be for example uh d uh solar energy alimentation or will it be a battery like the classical battery so. And I think that for example for the alimentation it would be good to have uh both of them, so so for example in some country where you are in the the countryside and you are far from, you know, the cities uh for example in some place in in S Senegal, so if you have electric if you have solar alimentation, you just, when you want to have recharger or remote control power you just put it on the sun and after one hour you can come and so it can be interesting for people to have this kind of remote con It can be something interesting to make people buy it, for example. Yeah. Yeah, yeah mm. Ecologists, yeah, yeah, yeah, yeah, yeah. Alrigh In fact, having them both will if we want to have battery, regular battery and and the solar energy battery it could be it'll it will add a little bit of the price, but it will be an added value also that will be compensated, so hmm. And the materials, it depends for example you if you have a wooden material it can be more the plastic material is more common it's very resistant but, you know, something wooden will be like, I don't know high cl so a special high class, or you know, you can have some Yeah, even if it is not completely wood, but just a part of the, you know, will be wooden, in wood and it can be interesting. And so the last point is y also would do you want to have some very cheap integrated cir circuits, chips, or do you have low level or or very very expensive, it depends, but I think that low level will be, you know, it is an interim module. Yeah. Yeah. Yeah, yeah. Yeah, I think it will

fit on the price we want, twelve twelve Euros, so. I think the buttons I prefer, you know, the L\_C\_D\_ you know lighted buttons because, you know, it's I don't know um yeah, in the dark, it's fashion and it's related to how beautiful it is or uh if you want to watch T\_V\_ in the darkness or if you want to find your find your your remote control that is lost, you know in the darkness it's very easy so, right. I think a touch screen will be t as expensive as the L\_C\_D\_ buttons so. But And it is a kind of other design, I mean. It can also be interesting to have this kind of Mm. Ah yes. Yeah, yeah. Okay, yeah. Okay. And fruit and vegetables yeah. Spongy 'Kay. Okay, yeah, yeah. Yeah, but the problem is which kind of material do you need to be spongy? Plastic Very stuff Okay, rubber rubber design okay, yeah. Yeah. Yeah. Okay. Yeah. Solar. Okay. Yeah. It will be a Yeah. Yeah, I think Yeah, yeah. Yeah. No wood but Plastic? Would some I think we can have wood for example in the bottom and, you know. It depends on the design we want, so. Yeah, it's natural and i And it can be correlated to energy, solar energy, so for the marketing aspect, you know, saying that it's eco Mm, yeah, it's not right, so. Okay. Google and and fancy, f how about the the voice? And Uh maybe we can do some marketing studies asking people if they're interested and how It It is an an interesting concept to see to have uh voice control. Mm. Yeah. But and the problem is I I'm we can infer i if you have v voice control why not to put it directly on the the T\_V\_, so speak directly to the T\_V\_ and you don't need a remote control actually, so. But it will be embedded on the T\_V\_ and not on the remote control, so. Yeah, L\_C\_D\_. Yeah, yeah, yeah. And pf what can we think a supplement to I think the supplement can be the voice. It is just, you know, it is not the most important, but it can be a part of Yeah, yeah. Yeah. Mm. To push button, yeah, yeah. Even it is for s just some kids, you know, switching channels one two three four. Yeah, turning yeah, yeah. Not very complex commands, but easy commands, so. Yeah. Yeah, simple ones for expensive buttons Yeah, to make some new Yeah. Okay, fruits. Okay. Need it to be, okay. Okay. Okay. Sounds good, mm-hmm.

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# Meeting ID: 69

Data Source: Train

## Executive Summary

The project manager recapped the decisions made in the previous meeting. The industrial designer discussed possible materials to use in making the case for the remote, options for buttons, and options for batteries. The interface specialist presented two existing products which incorporate features the team is seeking to embed in their remote. The interface specialist also discussed other features to possibly incorporate into the design of the remote, such as an LCD screen. The marketing expert discussed recent findings from trend watching reports and how to incorporate these findings into the remote design with respect to what materials to use and the overall appearance of the product. The team then discussed other options for how they could incorporate a fruit and vegetable theme into the appearance of their product. The team then discussed other options for batteries, chips, buttons, and materials for the case, as well as the option to have a menu function.

## Complete Meeting Transcript

Yep. Uh-huh. Don't think so. Jess. Alright, so I'm gonna describe the the concept of the user interface of this des device. Um we've talked about uh the two essential properties of the user interface. We want it to be simple and we want it to be fashionable. Um other we've also got to remember that this is a device that serves as a useful purpose. Uh we want people to be able to use it s as a remote control, so we need to determine what the essential functions of the d of the device are and make sure that we include that we've included all of those and that we actually end up with a device that is going to be useful to people. We have a number of different choices for a design concept um and s that's that's something that that I'll show you some examples of um, but essentially we need to choose how how is this device going to work, how how what kind of model is there going to be for user interaction with this device. Uh once we've chosen a a concept for it, we can then design the features around the concept, making sure that we get all the essential functions in the device and uh the extra functions and the more advanced features. And of course we also have to make it look cool. So basically, that's what we don't want. M we don't want lots of buttons, uh complicated features. We want something that looks nice and simple. Here's a a fairly simple device. This is an an iPod from Apple. Um I think the main

thing to notice about it is it just has four buttons. It's very minimalistic in its design. Uh you use these four buttons to move around a range of settings on the small L\_C\_D\_ screen. Um the thing I like about this is that it's very very quick to access the main features. Uh you can just about make out uh that the button three buttons are uh previous track, next track and play pause. They're the main the main features of the iPod, the things you will use a all the time. Um then if you want to do anything more advanced, you go into the little menu on the L\_C\_D\_ screen and you use the buttons just to scroll around and and find the more advanced features that you want. So I think that's that's a good a good kind of model that we could have. Um here's a another example. This is uh it's an interesting idea and I think i it looks pretty cool. Um it's certainly got novelty value. Uh it's nice and colourful, it's nice and bright. Uh it's also something that you can kind of feel your way around. The buttons are are different shapes and and you can sort of yeah if you're watching T\_V\_ in the dark or whatever, you can work out which button's which and basically, yeah it's ith it's fun. So I I like I like this idea of just having buttons for the features that you use most often. So you'd need a few buttons to select your favourite channels. I mean most people, when they watch T\_V\_, they have two hundred and fifty channels on their T\_V\_ and they watch of 'bout four of them at the most. So, you have buttons for your favourite channel, changing the volume, which is something you do all the time when you're watching T\_V\_, and the button to switch it off, in case you get bored. Um other features, things like adjusting the brightness, tuning the T\_V\_, uh I don't know what else you do with a T\_V\_. Um but these are these are all necessary functions. Uh you can't have a t there's no point having a television that you can't tune or that you can't set the contrast, so we need to find a way of including these somehow. Um and one other suggestions I'd make is to in is to include in a menu system, a bit like on the iPod. So we'd either have a small L\_C\_D\_ display on the device itself, or uh have a dis a menu display that comes up on your television and can b be controlled through the device. And that would allow you to access access the advanced features uh whilst keeping a very small and simple set of buttons for the features that you use most often. I think that's that's one way to go, yes. Um I mean there are there are advantages and disadvantages

ges if you if you have an L\_C\_D\_ display, it's it's nice, because it's it lets you just sort of sit there and st and control your television from your armchair. There are disadvantages, an an L\_C\_D\_ display would have to be quite small, 'cause we're we're I well we're I assume we're gonna be making quite a small device. Um it would also have to have uh a kind of backlighting in it, 'cause you ten you tend to watch T\_V\_ in the dark, but you need to be able to see your L\_D\_D\_ L\_C\_D\_ display. The alternative is to have a an on-screen display on your television that you control through your remote control. Uh a bit like a bit like how they have these um digital boxes where you you press the buttons and it comes up with your this thing of watch lo what's on each channel. I mean that that's also a good idea. It's it can it does have it's problems as well, if you've got a small T\_V\_ and you're sitting on the other side of a room, it's hard to read the little text that comes up. Uh but that's a that's a design decision that we can make. Yeah. Yeah. Yeah, that that would be one of the features, yes. But it's it's it's something to bear in mind is that if we put a display on the remote control the c uh communication is one way, so you can't have the televisions and information back to the remote control, at least I don't think you can. Um I'm not sure. Is that going on? Okay. Uh that should be alright, actually. A kind of thing that Yeah. Yeah. Yeah. Is it supposed to be shaped like a vegetable? Uh like uh I dunno, like uh carrots or something. Maybe, or Kind of like a potato. Yeah. Depends. When you when you use a remote, do you press the buttons with your thumb, usually? Or your fingers? Or maybe you want something that's shaped like a mobile phone, so you you hold it in one hand, and you press the buttons with your thumb. Yeah.

Maybe. But if you've only got like four or five buttons anyway, then it's it's not so much a problem, perhaps. So you hold it in one hand and you press you press the buttons with your thumb and And you find that works quite well? Is that The button on an iPod, is it what is it, is it just four buttons or is it li more like a scroll thing? Right. Oh, I see, right, yeah. Oh, okay. Yeah, that's quite a good design. Yeah. I think it could be difficult in practice, yeah. Also z yeah, 'cause you would be z looking down at the L\_C\_D\_ screen, than back up at your T\_V\_ and people don't wanna do that. Like, to make it different fruits. Yeah, it's possible. I think maybe th the packaging, it should be like a lemon and the the packaging is like the peel. So instead of opening the box you just kind of peel it, and the remote control's inside. Don't know. Yeah, um I think it's good, as as long as we consider the the cost and the uh how reliable it is, but as far as I know, the technology is good. Al all circuit boards are pretty much the same, I think. Uh it's fairly fairly standard. Um I don't think we ne really need the scroll whe wheel. I mean it might be nice for changing the volume. Uh but I don't think it would really work. Yeah, you really need buttons for changing a channel. Yeah. Yeah. Yeah. I think yeah, I think a scroll wheel would be nice, but it's not necessary. Um Yeah. 'Kay. Yeah. Yeah. Yeah. Um Yep. Um And I think if we wanna keep our costs down, we should just go for pushbuttons, 'cause then we can have a a simple chip and it's simpler, it's it's cheaper to make pushbuttons than it is a scroll button. So in terms of uh in terms of uh economics it's probably better to have pushbuttons. Yeah, yeah, it's uh it's it's fairly simple. Yeah. Yeah. Interesting. Yep. Uh what do you mean by supplements, exactly? Um Yep. Yeah. Um in Yeah. On off, uh volume, favourite channels, uh and menu. Yeah, yeah about yeah like yeah, a bit like radio presets. Um Uh we wouldn't even need the numbers. I think maybe numbers seems is kind of old-fashioned. Yeah, yeah, you can just and you need some kind of, I dunno, sort of up d

own kind of button, but the volume control could double for that, for example. Cool. Yep. Clay. I wasn't expecting that. Mm yeah. Okay. That would be me. Alright. Well. Alright. Um I'm very excited by this one actually guys I uh had a lot of fun doing it. Components design. This is where you look at what does it take to make a remote control and what should we make our specific remote control out of. Um. So, we need to examine each element separately, but we're designing a full thing, so you wanna keep it integrated as a whole. The main elements of remote controls in general, and therefore ours as well, are the case, the buttons, the circuit board with the chip and the battery. These are all things that we had sort of addressed before, but I'm gonna take each one a little bit separately here as we figure out what they should be made of and what they should look like. The case, uh the options that I've gotten from headquarters about what we can do, um there's there's the shape of a case, we could do a flat sh a flat case, a curved case or maybe even a double double-curved case. I haven't seen any pictures of what this exactly looks like yet, just keep that in mind, but these are the options that we have from manufacturing and we can make our case out of plastic, the m the main base will be plastic, but we have all these sort of fashion and technological elements we can add in, wood, latex, titanium, rubber or other coloured types of plastic. That would be our case. Um buttons, for buttons we have um pushbuttons, which is what Real Reaction uses the most often, but we also have scror scroll wheels, which can have integrated pushbuttons, or we could go all high-tech and have an L\_ L\_C\_D\_ screen. Um circuit board and chip we can have a simple one, a regular one or an advanced one, depending on what our other needs are. And then battery I think is where things get most exciting. We're talking about long-life batteries here. Um we can we can have your sort of basic double A\_ batteries, but we also have these options of um using a kinetic battery, like are used in high-tech watches, where you just have to move it a little bit to get it to power up. Um so simple movements like pushing buttons would recharge the battery. Or a solar battery, although there are slight um complications with solar batteries

as in we can't use a latex case if we have a solar battery. Or um something they only described as the type of battery you find in torches from about fifty years ago, flashlights. Not quite sure what that is, but that's the description that I received, so that's what I'm passing on to you. So those are our options. Um personal preferences that I was thinking through here's what we've been talking about all through, fashion and simplicity. So if we're going for fashion in our cases, I think that what we're gonna wanna look at is a curved or a double-curved case, probably with a variety of design elements. Maybe titanium, maybe some wood. We're gonna have to investigate that better when I get specifics of the actual materials, but that's sort of what I have in mind. And we wanna go for simplicity. Probably pushbuttons, but I'm sort of intrigued by the idea of a scroll scroll wheel, if anyone has anything any ideas on that? I mean I know the iPods and things right now have touch scroll um buttons which are exactly like what they're describing, so that might be something we wanna look into. And I'm really intrigued by the idea of a kinetic battery. Solar I don't think would be such a good idea, because how often are you sure that your remote control will get a certain amount of light. But this idea of the kinetic, that you don't have to replace, and that a simple just shaking it around will make it work, I think that that would be a very interesting thing. But I think we'd also wanna go for a simple chip or regular chip to keep our costs down. Uh we really only need a regular or advanced chip if we're gonna start using an L\_C\_D\_. So I

think we want to be aware of not making things overly technological if they don't need to be, 'cause that'll keep our manufacturing price way down. That's what I have for options. Um I'd appreciate anyone's input, but that's what I'm seeing for the future of the the look of this thing. I'm not sure. I haven't received any specific visuals of this yet. This is what I'm sort of Yeah. I'm not sure, but I'll let you know as soon as I get any pictures. I know if we do have a double-curved case, it can't have any titanium in it. But the titanium, they were quite they're marketing quite hard to us as being used in the space programme, so that could be quite interesting. Space-age remote. Just all things to keep in mind. Yeah. That's about all I have to do, guys. I hope I didn't go through that too quickly. Yeah, n no idea, no idea. Um I'm assuming that a kinetic battery isn't gonna take up that much weight, and that a titanium is very light, I know, um but other than that's really basic, I mean, that's all I have gotten so far. Alright? Any other questions? No? Okay. I have save this in the uh shared projects, if anyone wants to look and I have considerable notes on the topic as well, if anyone needs any more information. Uh Just in my notebook, but if anyone has any specific questions, don't hesitate to email me or something. Alright? Uh I guess I can I know. G oh, geez. Hmm. Hmm. So you'd be advocating an L\_C\_D\_ then? Okay. Mm-hmm. Right. Right. Okay. Mm-hmm. 'Kay. Well Are you are you tak Yeah. No, I think I think we're talking menu like contrast and tuning the V\_C\_R\_ or something if I've understood you correctly, rather than menu as what's on. Oh, good point. Yeah. No signal. Oop, there we go. Okay. Mm. That there's all kinds of scope for imagination in that one though. If it's latex if it's latexy Um, mean An uh I if th my understanding of a latex case is that it's in fact hard to protect stuff inside, but that it's covered with the latex, which is spongier and softer on your hands. It's there's something to be said, I mean we we got that thing earlier from you about um not wanting it to R\_ R\_ repetitive stress injuries and things and and Yeah, something grippable, I mean we don't we don't we don't wanna go spongy, maybe. Yeah. Mm-hmm. Yeah, I think that given the list of materials I w I was forwarded it's that seems doable. could we go in fruit and vegetable colours? We could colour-co-ordinate them, li The buttons could be fruit-shaped. Oh well it's quite easy to s shape thing like carrot isn't it? Or maybe the buttons could be shaped like different fruits. be yeah. It'd be harder to f bu uh buttons I think. It'd be harder to press button. Um I Yeah, that's ts how I tend to do it. No just thumb-sized. Jus Yeah. That's true. Right. I

When I'm when I'm pressing buttons on my iPod, that's how I do it, hold it and press the four. Yeah. Yeah, or in and use my thumb or my pointer finger on the touch scroll wheel. Yeah It wel well yeah, it would I mean each version of it has been a little bit different, but Oh yeah, you had one of the in-between ones, when they weren't doing that anymore. Ts and you press the centre button, that's that's your all-purpose select button right there. Since it's the one in the centre that's not marked, yeah. Yeah. Uh uh t Yeah. Hmm. Yeah. Yeah, I think an L\_C\_D\_ screen might be good in theory, but not as useful in practice. Yeah. Right. Um Oh we probably have to get going, don't we? 'Kay. Could Could we uh could we have changeable covers like for your mobile? In different fruit and vegetable colours, yeah. Exactly. And you could co-ordinate with your house or whatever. All these options. Ooh. Oh. Yeah. Mm. Options. Uh-hu oh, oh yes. Right, I had sort of skipped over that hoping it wouldn't get be necessary but um Alright, so um decisions, what the okay deci decisions on energy I'm thinking is based on the battery. Um I dunno, what do people think about this kinetic battery idea? Am I Yeah. Yeah

. Right, I haven't gotten any yeah, any more information on cost other than it's more expensive than a regular battery, but um but if we're using a an i a cheaper chip, then it'll even out, I think. Um circuit boards. Um yeah, I got a whole bunch of information on how circuit boards are produced. They're they're thin fibreglass with copper wires etched on to them, and di I think they're quite easily printed on by machine, which is chip on print is where the machine prints on the wires and solders it all together for us. I don't really know what to tell you as far as decisions. I wasn't really given any options, I was just given that this is how they're done. Um yeah, I can't can't really tell you. I can I can tell you a whole lot about how it works. But I don't know any decisions on Yeah. I'm sorry, I did f Yeah. Right. Well okay, here's the here's the thing on the chips that I that I got. Um simple, regular, advanced chip on print. The chip on print includes an infrared sensor, so we don't have to worry about that. Um, 'kay, the pushbutton if we're gonna have pushbuttons, they require a simple chip, but a scroll wheel requires a regular chip, and an L\_C\_D\_ requires advanced. Do we want a scroll wheel, or do we just want pushbuttons? Oh. Yeah, th it'd be it'd be handy for going through if there was an on-screen menu of your channel choices, than you can scroll down on the scroll. Yeah. Yeah. Yeah. Hmm. F or for all those secret functions? When you get on the on-screen menu of all your functions that your remote could do for you without the buttons and you could have a scroll wheel to go through those menus. Right. So we could either go with a simple or a regular chip, depending and maybe we could table that decision for later. I don't know. Okay. Well, let's think about that while we talk about the case. Uh I'm kinda liking the idea of latex, if if spongy is the in thing. Okay. Uh yeah, everything I've N oh wha what I've what I've seen, just not related to this, but of latex cases before, is that there's uh like a hard plastic inside, and it's just covered with the latex. Not too thick a layer of latex, just enough to be grippable, like bike handles or or anything that you've seen like that. The inside is hard. I don't think we need to worry about protecting the circuit board, I think that that's done for us. Yeah. Yeah. Oh and we want a curved case, yeah? Or a double-curved? Yeah, okay. We don't really know what the difference Good point. Yeah. I say pushbuttons at least unless we get any information but I have no idea how much more expensive a scroll wheel is than than a pushbutton, but it's gotta be some more expensive, so I think it might be better to put our money into the stuff like the kinetic battery and the cool case because Yeah. Oh. Alright. So what are what are our buttons gonna be? On off So like one through five, or No. Mm. Yeah, up down. Ooh. Simple chip. Okay, cool. Clay. Mm-hmm. Okay. I g yeah. Time is it? Okay. Lovely to see you all again. Um it's our conceptual design meeting and it's starting at approximately fourteen twenty five and so we have forty minutes for this one again and so we'll go just after three o'clock. Um okay our agenda, we're gonna do an opening, I'm gonna review the minutes of the last meeting, then

we'll have your three presentations um and then we'll have to make a decision on the remote control concepts, and finally we'll close. So opening. Um these are our minutes from the functional design. We decided our target group is the focus on who can afford it, because we have international appeal and we said it's for all age groups, different um functions of it. Our main objectives were simplicity and fashion. And some specific functions are something to keep the remote from getting lost, large buttons for the essential functions, a possibility for extra functions, like a sliding a sliding piece and a long-life battery or a charging station. Okay, now three presentations. I'd like to do

it in this order, first do the conceptual specification of components, properties and materials um and then the conceptual specification of user interface and finally trend watching. Mm. 'kay. Function F\_ eight it. There we go. Mm. Hmm. Mm. Yeah, I wonder Mm-hmm. Just an interesting marketing kind of element. Uh just a real quick question um the weight of these different elements, have you no idea, okay. Mm-hmm. Mm-hmm. Okay. Mm 'kay. Thank you, perfect. Um if you made notes yourself you can put those on our um underneath our oh, uh in your book, then don't worry about that. 'Kay now we're um concepts concepts of user interface. Yeah, um. This one's so much tighter than the other one. Okay. Nope. There we go. Here you are. Mm. Okay. Mm-hmm. Mm-hmm. Mm. I do think that um one of the important features for a remote is seeing a menu and seeing what's on. Um and so like favourite channels is applicable, but I think that you do need to have some kind of function where it's um you have to you can see the title of the show or possibly a description of it. Like I know I use that often enough. Well if it if it was a L\_ L\_ C\_ D\_ on the remote, I don't know that you could find that you'd be able to see a Okay. Okay. 'Cause that would be more specifically a digital box, mm-hmm. Mm. Okay, now we're moving on to market. Marketing. Eight. Oops, it's not plugged in, quite in well enough. There we are. Mm 'kay. S sweet. Okay, do we have any some questions for this, let's see um. Um do you have any ideas how to possibly use these? Um how to how to use a fruit or vegetable or um or the spongy material at all? Like could we make a s like could we make a spongy remote? It would be easier on the hands. It's kind of and then it we would have to find a way to protect like the chip and all that, I dunno. But Mm-hmm. Mm-hmm. Mm-hmm. For sure, or maybe like um couple main ones being like, I dunno, lemons or strawberries or something. Could they be smelly? I don't know. Or carrot shaped, mm. Like large button, that's what I was thinking of, yeah. Might would you think you you do you think you'd be able to hold it? 'Cause I think the reason they're long is yeah. Harder to push. I usually hold it in one hand. Maybe But then the buttons would have to be very small. Don't you think? But I mean in order to get to all of them, you know. They would have to be within a certain amount of space with each other. Mm-hmm. Mm-hmm. Mm-hmm. It's a scroll, yeah, it's a wheel. The one I have doesn't have the four on it like around it, I don't think. Mm. Okay um we have we've about fifteen minutes left, so I'm I'm gonna continue with my presentation. Um I've one more slide before we close, but in that slide is when we need to make decisions about this these kinds of things, so I'll just bring that up and show you all before we move on. Um Yeah, and then like the the covers could be spongy latex wherea but the actual model could be titanium. Ah hmm hmm hmm. Okay, um components concept. Energy, chip on print. G That's this is the agenda they gave me. So can you just explain what that is real quick? Mm-hmm. I think it's awesome. I think it's really cool. Okay. If they're if they're really options. Okay. Um okay, then we'll move on to the case. Um oh but I guess maybe if we decided on like a simple, a regular, or an advanced chip, maybe. It would be nice for changing the volume, but I don't know how useful it'd be for changing the channel. 'Cause you don't have control over numbers or We have five minutes left for the meeting, so. So, have a scroll for volume? F Um. I think well I think when we go on to the user interface, we're gonna have to decide the interface we're gonna have to decide um whether we're



gonna have a scroll or not. Okay, let's do case. I'm a little um I'm a little hesitant about it, because I'm worried about protecting the stuff on the inside. Um Yeah, I would be more okay with like a titanium actual thing and then maybe like a mobile p

hone kind of thing. Mm-hmm. Okay. Mm-hmm. Okay. Ge o Okay. So we uh we do want latex. Okay. Latex. Um and probably in colours, maybe fruity, vegetable colours. Fruity colours. Okay um let's go to the ufe user interface then we'll come back to the chip I suppose. Well, we don't really know what the difference is, right? Yeah. Um okay, interface, the type and the supplements. So push or scroll, right? Or both? Mm-hmm. And if we had a sc an on-screen um kind of thing that you could scroll through, like you can use your buttons to scroll through things. I think that yeah. For channel surfing I think a scroll an actual like an iPod's kind of scroll thing would be too fast, I dunno. Mm-hmm. Is that okay with you? How you feeling? Mm-hmm. It might be cool enough. Okay, so we're gonna go with um type pushbuttons, and then supplements, how are we gonna do that? Um I assume that's what else we're gonna like h ha the um the additional buttons we can use. So we're gonna have like a menu button, so that we can access on-screen things then? Okay, um so we're doing an on-screen menu that we can scroll through. Pre-set channels and then we're gonna need um numbers one through zero, right? Well, but in order to pre-set a cha oh I guess you can just hold it down when you get to one when you're scrolling through. Mm-hmm. Okay, um finishing the meeting now. Um our next meeting starts in thirty minutes, um you each have things to do, look and feel design, user interface design, product evaluation, and you two are going to work together on a prototype using modelling clay. You'll get specific instructions from your personal coach. Um did we decide on a chip? Let's go with a simple chip? Okay. We are done. Thank you everyone. Oh I di these are already in our shared folder, so. Fourteen twenty six. Is double-curved like would be like two hands kind of thing? Okay. 'Cause I'm imagining like double-curved is like, you know, like two sides that curve and then like one curve would just be like a single vertical-ish kind of looking thing, but I've no idea. Sounds good. Thanks. Wait, but is that separate from what he was saying? Should I plug that in? Maybe it's just not Is it on? Ri What F\_ do you have to press, five? I just keep pressing lots of 'em. Well, I don't know how relevant all of this gonna be. If anything, the that they gave me. Alright. Oh yeah. Okay, so we're gonna look a little bit at trend watching. Basically, I was given um an executive summary that was a market investigation on remote controls that was recently conducted, and then also some fashion watchers in Paris and Milan commented on some things that are gonna be going on this year. So first um they had people they ranked um the important aspects of r remote controls, and right now i d they're saying that currently there's a functional look and feel preference, but that really, over the next year it it that's gonna be switching to fancy look and feel remotes, so that just goes back to the whole desire of our c Real Reaction company wanting to focus on fashion and so, even though we're stressing, when we're talking, we've all been talking about this like simplicity and easy to use idea, they're sort of wanting us to remember that the number one thing for everyone is that it's fancy look and feel. And as these are ranked, the top one is doubly important to the second one, which is doubly important to the third one, so just to take that weight into account. The second thing that was mentioned as important was the technological innovations. That would be like if we use something like the space material or the L\_C\_D\_ screen, things like that. And then ease of use was the third most important, whi so really, no matter what, we need to focus the most on fancy look and feel, according to this. I don't know how much we agree with that. And then the fashion watch talks about that this year's top trend for clothes, shoes and furniture is fruits and vegetables and tha that there's a preference f

or spongy, tight material. And so that brings us to my personal preferences. Who wants a spongy remote or one with fruit and vegetable padding. Personally, I don't really think that I want one that's gonna go out of style or go stale, excuse the pun, um in a year, so even though this is coming from us as, you know, trend watch, market research, I don't know how much of it we necessarily wanna take away. Also, considering that the d research b has been carried out by Real Reaction, I'm a little hesitant as to like, how these questions may have been worded, and if necessarily this whole fashion to technology y edas ease of use is necessarily the right ranking. Personally, like I might reverse it, but if we're working for this company then I guess no matter what, we have to stress fashion the most. But it doesn't necessarily need to be a spongy material. Yeah. I don't have a lot of notes to share if you want them, that pretty much sums it up. So yeah. Yeah, what can I possibly enlighten on? Mm-hmm. Yeah, so something, m m instead of a necess yeah, grip, I'm thinking grip more than like sinking into your hands, you know, i and I think I'm envisioning more like, you know, the material that you have when you sit on like a bicycle, so that it doesn't hurt when you're sitting down for a long time, like I'm imagining that sort of thing, I don't know what th that material's called. Oh God. What about the idea of like a round remote? Instead of like a vertical up and down one. Like in terms of holding it. Like that's a f shape of a fruit. Just to tie it in a little. Yeah. Yeah, 'cause otherwise your fingers can't move around. But I like i I love the idea of the wheel like the iPod. 'Cause th It's like five, 'cause there's one in the middle. I think why it would be good for us is 'cause like you could have the same wheel sort of effect for like channel flipping and then the other one could be like for volume. Like just the idea of like those so few buttons for main things, but then how you could go back to the menu and like, I dunno if we would want it on the screen there or on the actual T\_V\_. I kind of am wanting to say on the T\_V\_, 'cause if you're changing the brightness, don't you wanna see it happening, kind of? And then you could still have that available. Mm-hmm. Mm-hmm. Uh-huh. If I get any more information of fruits and vegetables, I'll let you know. Well, there we go. The iPod packaging is me like was so that was like half the fun. It's like the way it all comes all cute. Lemons? Yeah, I mean, it would t totally take care of our problem of not wanting to change batteries. Costs. But over time Yeah, it's a But if you c if you could scroll through the channels, and then the volume would just be and the volume would just be like the same way, forward and backward as I'm just thinking like it would make it much like sleeker sort of looking. And otherwise, no matter how may buttons we have, we're gonna have like, you know, black with red sticking out and th no it's gonna inevitably sort of start looking like those group of sort of ugly ones that we saw stacked up. Oh could it be hard, and then something around it? I'm thinking curved of some sort. Yeah. And let's like see if we get anything else. I mean I'm not like hard-sold on the scroll wheel, it's more just to give it a different kind of look, but if it's gonna be in a latex type thing and that's gonna look cool, then that's probably gonna have a bigger impact than the scroll wheel. Like a radio type sorta situation? Wow.

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# Meeting ID: 46

Data Source: Train

## Executive Summary

Then the project manager opens the meeting announcing that they will address conceptual design and then giving the agenda. Matthew arrives late and the marketing expert begins her presentation about trends. She emphasizes that the remote needs to be exciting, contain a cool feature, and be somewhat intuitive. She reports that currently fruits and vegetables are fashionable- thus bright eye-catching colors, bold designs, and a spongy feel is appropriate. She lists ideas such as changable covers, a locator, speech recognition, and LCD screens. The industrial specialist presents, talking about how a remote typically has different keys, structures and forms. He likes the idea of implenting speech recognition into a universal remote. They discuss without certainty about the cost of such functions. The industrial designer presents about remote control components and the manufacturing process, listing options such as various buttons, scroll wheels, integrated push buttons like those in a computer mouse, and LCDs. They discuss the project budget and the possibility of using an expensive chip. They decide to make two designs, one more advanced than the other. The project manager closes the meeting by telling each group member what his/her tasks will be until the next meeting.

## Complete Meeting Transcript

Right first time this time. Nu There we go. It's not that complicated, but I get it wrong every time. For Matthew, yep. Mm-hmm. Mm-hmm. Mm-hmm. Yep. Mm-hmm. I have a presentation, I'm just making this Okay I'll just email you this file, my presentation. Mm-hmm I'm just emailing it to you. Okay it should've gone through to you. Mm-hmm. Okay so this is just a presentation on uh the trends that we're gonna use to make the product stand out from the rest of the products out there at the moment. Um can I just put this on? So we have to work out a way what we can do with our product to make it stand out and make it so people wanna buy it. Um. This is to do this I will not remove my microphone. We basically used um some focus group surveys which I went through with you last time, the main results of that, and um some research on the current design um and fashion trends that are out there at the moment um, and as part of this The important aspects that came out were things that we've already

discussed really. The most important by far was the look and feel of it. It needs to be something that's very different from everything else out there. It needs to stand out. It needs to be not functional like the rest of the things out there at the moment. Most people find remote controls boring at the moment, we need to have something that looks interesting, that looks exciting, that will stand out. People will wanna buy it. Um That was twice as important as the next item on here which is that it has to be technologically innovative has to have something else, apart from just the look of it. People have to then think about it and say got something there that I want. That's a really cool feature, and it has to make them wanna buy it again. Third on the list, and again innovative was twice as important as this last um aspect, it has to be easy to use. So they have to be able to be able to look at it and have some intuitive idea of how to use it um. Drawing on the fashion trends at the moment, uh fruit and vegetables um. This is basically talking about just the the feel of it, so probably not the smell of it, but the bright colours, um eye-catching, really bold designs, and a spongy feel. Um I had a talk to the design people about this, but having a remote that's tactile, that feels different, that would be really cool. That would make it stand out. Um. Well ma make it not necessar sp spongy is the current thing. Spongy is the current texture, but basically there are no reports no remotes at the moment which are spongy or tactile at all, so if we make it like maybe furry or soft or something, that'll be something that sets it apart, rather than just bare plastic which they all are at the moment. So as far as the design goes, the very most important aspect was the design, to the customers. So going with the fruit and vegetable idea, we've got the bright colours, so makes it stand out, the oranges and the the bright yellows and the florescent colours, part of the fruit and vegetables um. Going back to the idea of taking inspiration from mobile phones, they've all got those a lot of them have the changeable covers, so they can choose what colour the outside is. That's one way of looking at it um. Textured feel we just talked about. Maybe it's another way of doing that. So if it's part of the the changeable covers then may maybe they can choose a different texture, a spongy one or a soft one or something like that. So they can choose it li as they want to to maybe to fit in with their decor in their living room, or just what they like, their sports team or whatever. Um and yeah, still taking the inspiration from the mobile phone design so functionality, the way the mobile phones work, the way the keypad looks. Also just the way that a lot of industrial design is going into mobile phones at the moment. They're big selling items. People put a lot of thought into that so we can leverage off that, and we can start using some of their ideas. Um back to te

chnological in in innovation, not quite as important, but still a big issue. Um we talked about having a way of finding a remote control if it's been lost, uh that's one thing we could look at. There are other aspects like L\_C\_D\_ screens and speech recognition which weren't I don't think, in my personal opinion, gonna be worth the extra expense and the extra effort that will go into them. I think we're better doing something basic like this which is very important and very will be a really cool feature to put in. And use. I had no real specific ideas for this, maybe we just, the basic idea of having your core functions big and at the top maybe, by themselves, and then yeah and then th th the finer details of buttons you don't use as much either hidden away or completely separate. Yep and that's the presentation. So does anyone have any comments or ideas on that? I think you Hmm. Well we're selling so many units of this. This is gonna be a mass marketed product, we can afford to have two or three different designs at least. Mm mm. Mm. Mm. Mm-hmm. Mm. Mm-hmm, yeah. Mm-hmm. Mm-hmm. Mm. Mm. Mm. I like the idea though of having speech recognition for like the n the name of a channel like B\_B\_C\_, rather than having to remember the the number of it on the keypad. That's a good idea. Mm. Hmm. Mm. Yeah I really like that idea. Mm-hmm. Mm. Maybe ten channels, yeah at the most. Mm. Mm-hmm. Mm. Mm. Mm-hmm. Mm b But a coffee machine, there's not too many words

they'd be using with that it's a it's a small vocabulary. Mm. Mm. Mm. Mm. Two thirty five supposed to finish. Hmm. Hmm. Mm. Yeah. Mm. I think you can do it both ways. You can have it so it's easy they can pick it up and use it straight away without doing anythi without customizing it, or if they want to they have the option of using these extra features. Hmm. Hmm. Hmm. Mm. Hmm. Mm. Hmm. Mm. Hmm. I like the idea too of being able to use the remote in the dark, so either having the buttons so you can feel the difference between them or if they if they light up or something. Mm. Mm. Hmm. Mm. Hmm. Mm. Mm-hmm. Mm. Mm-hmm. Mm-hmm. Mm just have a yeah Just the veneer on it, yeah. Hmm. Mm. Mm-hmm. Well maybe we need specific costings then. Actually do maybe two designs and then cost them out and see which one is gonna fit in our budget better. Mm. Mm. Hmm. Mm yeah sure. Mm-hmm. Mm. Mm. Mm. So is there any of these that you're looking at particularly or is this just ideas? Mm-hmm. Hmm. Mm. Mm. Mm yeah. You see? Yeah. Mm well one I've had before, a r r remote control we have at home is one that's actually got a cover on the bottom so the bottom bit is just, covers half the keys most of the time, and then you can slide the cover back to get to the the more advanced keys. Mm. Mm. Yeah. Um yeah I've seen that before too. Anoth another like b it flips up and then you've got another layer of buttons underneath. Mm. But I've seen also with keys and buttons on the top of here as well. I like this one. I like the shape of this one. Can we have can we think about maybe having a a non-recta non non-rectangular one, so with not just the straight little box that's a maybe curved or something. Mm mm 'kay. Is this for the next meeting though? I think we might be out of time out of time for this meeting. Yep. No. So is this is there anything else I need to do from a marketing point of view for the next meeting? Mm. Okay well is this me designing a way to evaluate it so Thinking about how to set up test groups and things? Mm. Okay. Yep. Mm. Hmm. Mm-hmm. Mm 'kay. Thanks guys. Okay so we are just waiting for Matthew. Mm 'kay. Yep. Mm-hmm. Yeah I think yeah the Matthew it is it's important that Matthew yeah is here because it's really a a team uh project with a team and if someone is not here then we cannot but it's okay it's good. Mm-hmm. So can you repeat and be more precise about what you just said? Uh about the feeling yeah uh yo Okay. Yeah. Yeah that's a very good idea, yeah. Yeah. Mm-hmm. Yeah very clear.

To let the people choose, you mean? Yeah. Yeah a range of uh yeah, a set of three, four different aspects. Sure that fits the Yeah. Yeah yeah I agree. Yeah. And your part is very related to mine because when you suggest something then it has to be integrated inside. Yeah.. Yeah. So what functionalities do you suggest for that? For facing this problem? Okay. Mm-hmm. Oh yeah yeah yeah mm. Mm. Mm-hmm. Yeah. And you want okay for coming back to one point y you want to let the user to programming the keys? Some of them? And uh isn't that too difficult for the we want w I don't know if we still want the um R\_C\_ to be easy to use, that's the compromise. Yeah. Yeah. Yeah. A standard. Yeah. Yeah. Yeah. Mm-hmm yeah like I would say that for programming uh keys, you said, uh it could be uh easily uh done within the the package of twel twelve Euros, but for the A\_S\_R\_ system, uh I'm not sure if it's feasible to have this or We Exactly yeah i if it's a low vocabulary it's already implemented, and w how much it's cost, maybe with a f cheap chip. Yeah. Yeah. Yeah. Mm. It's true. Mm-hmm.. I don't know how if I have time to talk about the Okay. So what I'm gonna present here is very uh um yeah basic knowledge about the all the the components that are inside a a R\_C\_ a remote control, and how is it manufactured h what is the process, just to explain you. So the method is ther there is a a set of components in a in a remote control like, and uh what cost the the components in themself do not cost a lot but the the way to assemble everything costs obviously, and I will uh show you my preferences uh uh at the end. So there are two uh different types of uh um Two different ways of using the the components for making a a remote control. Uh the basic way is to use a an integrated

circuit and some uh transistors with an that aims at communicating uh uh the message and to to send the message to the um to the led that will uh transmit to the receiver. And uh yeah the other components and the circuit board buttons, infrared, led, etcetera, for the components um. So you finding, just to say that the chip can detect uh when a key is pressed, and then it translate to the key, to a sequence, something like morse code, as you know, uh with a different sequence for each key, and uh uh that's, with the components we will use, we will have different uh messages, different sequences, and the chips sends that signal signal to the transistor that amplify to make it stronger um. So electronic parts are assembled onto uh printed boards uh because it's easier to mass produce and assemble. And uh so I think for our design we want some b uh programmable uh you know V\_V\_L\_S\_I\_ or F\_P\_G\_A\_ uh high technology, and this is important, and also we'll use uh yeah like in any uh high-tech uh devices a chip of fi fibreglass to them and connect them. So my personal design we need to find a solution what um what is the material of the cover we want to use. If it's plastic or you said that yeah you had some ideas uh like fruit, veg or I dunno. Yes. Yes. Yes. Yeah like they do in with cars I think. Yeah inside the car yeah. So they also emailed me that uh they have available a bunch of different buttons, a scroll wheels, integrated push buttons s such as a computer mouse. And uh very cheap L\_C\_D\_s, so liquid crystal displays, so I'm wondering, I think we might be able to integrate L\_C\_D\_ into our R\_C\_. And the final point okay is um we have yeah there are some uh compromise to to do. So we have to know that the push button requires a simple chip, but the scroll wheel uh and that kind of higher high-tech stuff needs more money um which is a higher price range alright. And the display requires an advanced chip, which in turns is more expensive than the regular chip, but I think uh with twelve Euros um and if it's uh uh made for mm four million uh items, then I think w we could be able to handle that. So to to sum up um we need yeah so I I just said that the components uh the li

st of components uh has to be uh yeah listed and um and um assembly is a an important process that has to be taken into account. And uh for the designing of the cove uh uh cover layout then it's better to to to maybe see that with uh the the U\_R\_ exp U\_R\_I\_ Expert so that we can it's really a team-working uh. So I I cannot design something without your agreement, right? Yes. Yeah it's kind of um simple pro progra programmable device, and we have to insert. I think we could insert one that could underlie several functions of Exactly yeah, for customizing and yeah. Okay. Yeah. Yeah good idea. Yeah. Exactly yeah that's a very good idea, we could have uh one main chip uh that could handle, uh it's called F\_P\_G\_A\_ chip, that could handle both uh like scrolling wheels as well as uh L\_C\_D\_ and yeah. Yes. Yeah also thinking, I think both uh if we had a budget of twenty twenty uh Euros, it will be okay, but uh. Yeah that's an excellent idea. Yeah yeah. Yeah because right now I don't have price in in head but for next meeting I'm sure yeah be able to do that. Yeah. Okay. I agree on that. Yeah. Yeah but i it's a detailed uh yeah yeah uh plastic versus uh wood, and we need maybe to centre our description on uh the the really the what buttons what uh functionality we want to offer to the user, and maybe with uh graphs or I don't know uh User Interface Designer you could maybe uh help us on that. Yeah. Perfect yeah. Yeah. Yeah customized. Yeah. I agree yeah, and not too m too many keys of course yeah. Yeah. Mm. That's what you mean? Yeah I like also this one. Yeah, the point is w maybe we need to also to make a decision on how how how big we want to be and how many buttons like n we should dec decide numbers or Okay. Yeah yeah yeah. Perfect. Exactly. Yeah. Two or three prototypes? Two? Okay. Yeah and find maybe a compromise. Perfect yeah. Thanks. Mm. Uh So I suggest we start the meeting uh without Matthew uh he's uh obviously late for some reason. Good. Um. Today uh we will uh talk about uh conceptual design. I hope uh you both did some uh some work uh concerning a uh conceptual design. Um this will be the uh agenda for the meeting uh. Uh I will take some minutes uh again. Um we

will have the presentations of y of you different team members, and then try to come to decisions uh about the concepts uh you have presented. So and that uh will uh we have some uh forty minutes uh to complete this uh. So um who has the fir do you ha Anna do you have your presentation ready? Okay. Ah there is Matthew. So. Good. Do presentation ready? Oh okay. So did you manage uh Oh yes I see him, good yes. No. Okay mm yes I have it. Mm. Mm. Hmm. Spongy feel? Mm. Okay. Mm-hmm. Mm. Yes well maybe Matthew can can give some more information on the Mm. Okay good, that's very clear. 'Kay. Um. Uh Maybe we yes well we maybe can decide later on um the l the the look and feel of uh I've it was a good idea maybe to to Yes the the the there are changeable covers, but on the other hand I I don't know whether my superiors would be so glad with it because you have to introduce a complete uh uh new l line of uh of supplies uh it would be uh very complicated uh organisational Hmm. Mm-hmm. Yes. Mm-hmm. Yes and of course it will be a we we get a if it works we can get uh after-sales I mean that would would be very good I mean those covers could go for for three, five Euro. That's a very good idea um And then uh maybe uh we can go a th Matthew's presentation because the Together indeed uh, because you ma might have some some information on the the easy to use, what you were already mentioning. Um yes but but I do maybe you can give a hand to us because I I'm not sure whether that that we can implement that for twelve Euro and fifty cents. I'm sorry to have Every time I have to come down on this price again to so this might be a little limiting for your creativity, but it's it's it's the real We have to consider it. S so do we think these ideas an and my uh sp speech recognition, I me

an maybe it's possible for for twelve Euro but then then it will be at cost of other functionality we might implement like the uh uh the the the furry uh uh case of the Mm. Mm mm. Hmm. Hmm. Mm. 'Kay good. Mm yes um I would Yes yes you can you can still. We have time. Nice. Mm-hmm. Well well m m maybe m maybe we can give the uh the uh the case a very uh uh normal a v very normal case but, with the changeable covers to fancy it up. So like a normal cheap plastic case which can be covered up in, for instance, a wooden case. I mean just what Mm-hmm. Mm. No of course. So So I f I think we we should come to some decisions now uh a about this. Um so I understand uh when we want a display we need a expensive chip, but when we want a scrolling wheel w we also need the expensive chip, so can we use same chip, so with one expensive chip we can uh implement several complicated uh or advanced features. Yes. Mm-hmm. Mm-hmm. So when the more expensive chip you mentioned there is possible in the in the given budget, uh maybe we should go for for the more expensive chip, so all features uh which you mentioned can be implemented based on the same chip. Do you think that's feasible? Uh You th you think it's possible. Hmm. Mm yes wh when you make a a design ca you can next meeting you can give an quite an exact cost price. That w that would be a very good idea. Mm. Good good. Yes but I can I think uh I think we can just use more cheap plastic for a kind of basic edition, and then people can fancy it up with with more expensive materials which which come with a with another price. Do do you agree? Ma I I think uh for next meeting we c you two can present a real design. Uh so drawing it on the board. And then we now sh only have to t to decide the general function uh. So um Let let's say next meeting w you produce two designs, one one one less advanced and one more advanced and with the cost price. Uh furthermore we go for the for the uh basic plastic case which can be later uh fancied up with uh with addit uh additional uh, how do you call them, these like like mobile telephones you can put a cover over it. But that that that that can be done later. We now can concentrate on the on the basic remote control. Um. Mm. Mm-hmm. Yes yes yes bi big keys is is good thing I think. No no. Mm mm mm. Mm w but then you have still have uh when you don't use it you have such a a an extent of your remote control which you don't use. So maybe it's possible uh, I don't know whether you can can indicate this, that you can elsewhere open your remote control and on the inside

are uh buttons you don't use that much. Yes. Yes I I th that's what I mean so I mean something like like a book. Mm. Ju just make two designs, and the we we can decide decide between th those designs. I think that would be a good idea. So anyone uh any questions for now? Um yes I come to that uh uh Yes well m maybe uh, I don't know whether that's possible, maybe you can start evaluating uh their work somehow. I don't know whether that's possible uh in the given time but a as far as possible. So uh you two will be together w working on a o on two prototypes and further instructions will be uh will be sent to you by uh by email. Two. I Mm and then Hmm. Yes okay. Okay let's call this to an end. Sorry. So Yeah I sent you the slides, you didn't see them? Okay.. So 'Kay. You can Yeah. Voila. Yeah. Yeah s then we could discuss later like we can put all ideas together. It should be easier with that. Yeah. So Yeah. Yeah so I'll I'll go with that actually so um Okay so m so then the the idea of uh having a remote is generally you have uh different keys and uh different structures, different forms, and uh they could be like buttons or like and um they could be of uh a varying sizes if you want to to uh basically emphasize a particular key more than the other, and uh maybe like you can have different colours for example having the r red for the on off switching on and off the button. So this this is the g

eneral trend to ha the method they do. So what I have found was that uh currently uh the they are mostly that the T\_V\_, V\_C\_R\_, music system operated ones actually, and they are very specific to each other, but there are some common keys for example if you want to follow the V\_C\_R\_ and if you want to follow the uh g uh s some uh soundtrack on the w w see they have the common thing actually you can have and uh There is also um a speech recognition to store channel information, names, like You can basically if you have a multiple functionality, say T\_V\_, V\_C\_R\_ or something I say it to the T\_V\_ and the T\_V\_, and you can programme the keys if you want to, certain keys are even the channel information. Yeah yeah so you you you can just uh because uh as more and more channels come then you have more and more problems to remember the v v exact channel numbers ex exactly, even if you arrange it by however you arrange it, you still have the problem to remember exactly which channel you want to So it it's like it limited one. In the present market I saw it that says something like they are looking for eighty word thing, eighty word, which shouldn't be th that difficult to implement, like eighty to hundred word. Basically you want you don't want to store all the channels in the remote control, you want to st store your favourite channel. Yeah some ten twelve channel information. You know you don't want to st store all the hundred channel information into that. And uh basically uh it depends like the remote with L\_C\_D\_ display for browsing because you have multiple functionalities for example you are watching a movie, and uh uh you are having a universal remote control and you want to uh you don't know really which functionality is now, so I am using the T\_V\_ so every time I use it, it could be like, for example I can use a simple toggle switch, and a display, so I press it so the display says, okay, I'm in T\_V\_ or D\_V\_D\_ or whatever it is, instead of having three keys separately for four keys, to model the functionalities will increase actually, and for you and you might want you don't want separate keys for all of them. You can't. And uh well there can be children friendly where you can programme your remote so that they they are not allowed uh to browse certain channels which you can block them, and you can operate them. So these are the things presently which are seen in the market scenarios at present. I personally would look at things like having a u universal remote, is uh um is a good idea, like instead of having unusual ones for all of them you can think of having, um with multiple functionality possibly with speech recognition. I got a mail from the the coffee machine interface unit that uh they have uh integrated the s speech recognition into a into the coffee machine, and so if you say hello coffee machine, it say hi Joe, or something like that, you know, and uh Yeah you you won't be using it, so it's a limited vocabulary mm thing, and very isolated word and it's uh it is interesting, and basically



storing the channel through voice or other ways of programming your keys, on the display for the browsing which is again and maybe having something like a blinking thing, like uh it could indicate you're uh it it could indicate what is cal like the uh whether uh you you have enough battery in your in your uh remote, the blinking. At the same time, if it's a dark room, it can be used to locate the remote also or Yeah you can let them to do that. N no but the if you give it d depends on the easiness like the user how much effort he can put. Like for example uh I would like to store in certain way, so if you want to give the full freedom to the user or you want to keep some constraints and let the user use it with that constraint. So it de So So Yeah. Yeah. We well we can still look at we can talk with the coffee unit and you can uh check how much how much they yeah yeah yeah. Maybe we can come we we can talk to them, and we can co

me with that, you know. And also well you can think of having uh since you have a you know something maybe if you added little bit of display, you might need the to che keep checking the battery, so you really need a some kind of indicator, so it could be a blinking option of L\_E\_D\_ it could actually be used to detect also. If it's in a dark room you can basically detect it also. So No actually i if i it is like you know it tells you um, it can be for two purposes, like if you have an L\_C\_D\_ display and all those things it's not going to be the standard remote, which is having uh which need just uh six six volt uh th sorry three volts um of D\_C\_. It may need more actually, so y you you may need to check your battery usage it and then you need that, some functionality to indicate the battery limit. And then if the battery limit is indicated, if it could be ind indicated through a blinking something and it can change the colour depending on your uh how much is the battery, well that is good enough to even locate even if you want to. You know. Yeah so You you have time some more? Yep. Sure you can you know. Hmm. Mm-hmm. Yeah mm mm-hmm. Mm-hmm. Yeah. Yeah. Sorry. Yeah so of course for example uh I wanted to know like if you want to have a a fo if you want to have the L\_C\_D\_ display over there, or if you want to store a programmes with a keys What kind of things you'll need inside your thin inside W wh what W what Okay. Okay. Okay so in that case you can even look at the technology what the mobile phone is trying to use with the card. Yeah where they do all the wi with with them actually. How f cost effective it would be to put that car chip into it and do the programmable things. D well Well I don't know if it'll fit into our cost of twelve point five Euro you know. Is it possible to fit in to that? Sorry. Yeah that's uh that's something which I wanted to ask you also, like what will be the each individually the cost of it. For example if f if you want to put wood I wouldn't suggest for wood uh 'cause it's I think it's m much easier to use a plastic or a rubber rather than wood. It will be much ch much expensive th though it's the most natural thing, but Yeah. Yeah it's uh Yeah we we can give a preference to them, but it is but with plastic or the rubber or whatever it is it's much better with that rather than going for Yeah. Yeah. Yea Okay. Yeah sure. Yeah we will uh Yeah. Uh. Yeah.. Okay. We can give them smooth keys, you know. Smooth keys with bigger s uh So that you know The the problem most of the time we've seen, the keys is that it's small, and every time we have to be very but if i the if we if we go to a different ways of designing those keys, then you can merge them together to Oh you can actually, for example, if you see, they are they are they are quite small over here, and uh now you can, for example, as I was if you make them big, it may change the look of the thing also to the people. At the same time, it is m more uh like it would be more interesting for people who are having this R\_S\_I\_ and all problem. Uh big keys may better for them actually and uh Yeah. Yeah. Yeah. Yes. Yeah so it's something like this, the model here s you can put the keys Yeah. Yeah. Yeah. Yeah, mm. We should make a Yeah that yeah next meeting we should be Yeah that would depend upon us actually. Yeah okay. No no. I don't have. Maybe it would be interesting if you could look um for the cost inventories of other devices, if you're using speech

recognition or something like that. Mm. Two. One for like cost and the one with like higher-end so that then we can be easily comparing them or you know find a compromise between both of them, yeah that's how it is. Yep. Okay. So we are done for now..

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# Meeting ID: 35

Data Source: Train

## Executive Summary

It's the conceptual design meeting . And a few points of interest in this meeting um are the conceptual specification of components . Uh conceptual specification of design . And also trend-watching . Um but first I'll show you the agenda . Uh first the opening . Then we have three presentations . Uh after that we have to come to a decision on remote control concepts . Then a little uh thing about the last meeting . Uh these are the points um we agreed on . The requirements and the target market . Uh requirements are uh teletext , docking station , audio signal , small screen , with some extras that uh button information . And we are going to use default materials . And we're going to target uh sixty to to eighty year old customers . um I suggest let's get started with the presentations . I'm uh gonna inform you about the trend-watching I've done over the past few days . Um we've done some market research . We distributed some more enquetes , questionnaires . And um besides that um I deployed some trend-watchers to Milan and Paris to well get all of the newest trends . Um most important thing is the fancy design . Um the research indicated that that was by far the most important factor . Um innovativeness was about half as important as the fancy design . By innovativeness this means um functions which are not featured in other remote controls . Um about half of , half as important as the innovativeness was the was easy to use . Um for our um group , we're focusing on the people of sixty to eighty y years old , this is um , these factors are slightly more equal . Uh the older people prefer dark colours . Uh they like recognisable shapes , and familiar material . And our surveys have indicated that especially wood is pretty much the material for older people . Um this leads us to some personal preferences . Uh the remote control and the docking station should uh blend in in the in the room . Um so this would mean no uh eye-catching designs . Just keep it simple the docking station and small screen would be our main points of interest , because this would be the . These would uh be the innovativeness in the remote control . Um well the trend-watchers I consulted advised that it b should be , the remote control and the docking station should be telephone-shaped . So you could imagine that uh the remote control will be standing up straight in the docking station . This is pretty much a new shape to uh older people . So they would prefer uh a design where the remote control just lies flat in the docking station . Um besides that we would advise um to bring two editions , one with a wood-like colour and maybe feel , and one with a grey-black colour . The wood-like for the more uh exclusive people . People with more money . uh some uh research uh a about um designing of an

interface . Um the uh last meeting uh we had a about um uh using a f few buttons . that's w what I what I want to uh uh to do in uh our design . just um we have just to focus on the primary um functions . finding an attractive uh way to control uh the remote control . Um the uh I found some uh something about uh speech uh recognition . only uh buttons uh for uh sound , um for uh on-off , um uh shifting u up uh sa uh ca channel or uh down shifting down . we uh need some uh new a attractive functions it's uh like a speak uh speech uh recognition and um a special button for selecting uh subtitles . overall um user-friendly . using uh large large buttons . Um It's uh possible to uh uh to make um quite cheap uh system for uh speech uh recognition . Um you can think about um uh when you lost your um remote control , you can uh call it and um it gives an um sig signal . And and uh for uh shifting up a sen uh c ch channel or uh for um uh putting out uh sound or something , you can uh just give a sign uh say um sound off Television uh put the sound off uh put the sound off uh . Um I was thinking about the special uh button for uh subtitles , um just one button to keep it uh simple . Uh one push on the button uh you get uh uh small uh subtitles . Um double push push um , if double click , um so uh you get uh big uh subtitles , for uh people uh um uh which c f uh who can't uh read small uh subtitles . we've got um the buttons we have to use . The on-off , sound on-off , sound higher or lower , um the numbers , uh zero to uh uh nine . Um the general buttons m more general b one button for shifting up and shifting down uh channel . Um also we want to uh use a little d display uh for um for displaying the uh the functions of the buttons . And um we can uh build in a function f which uh shows the channel or some uh which the t television is on . made a little uh picture of uh it . Just um we can put uh the on-off button uh over in this uh corner , D display uh of it , it's uh just a small display . Uh um you can put it uh on top . and a special uh button for shifting up uh and uh shifting down uh channel , um it's uh on place where um the thumb of of the About the components design . Um for the energy source we can use a basic battery or , a as an optional thing , a kinetic energy , like in a watch , But if we choose for that option , the docking station would c become obsolete . So I don't think it's really an option . Uh for the casing , uh the uh manufacturing department can deliver uh a flat casing , single or double curved casing . It's really up the the design that we're gonna use . Uh as a case supplement , we could um , I thought of that I later , uh a rubber uh belt , like a anti-slip . Uh for the b buttons , we can use plastic or rubber . And the chip-set , um it says simple here , but it should be advanced , because we're using an L\_C\_D\_ uh screen . And as uh the trend-watcher presentation showed , um people like wood , but it raises the price and it doesn't really fit the image , unless we would start two product lines . Um well the kinetic energy source is rather fancy . But depends on what we want . Um for the case , uh the supplement and the buttons , it really depends on the designer . that brings us to the discussion about our concepts . Um first I think we can talk about the energy source , uh f I think first of all we have to see uh it is possible to introduce kinetic energy in our budget , I think . We could use the basic normal battery . Uh a hand dynamo . there there are four options . But I don't think that's really an option . Uh solar cells . But not every room is very light Or the kinetic energy . And how exactly does the kinetic energy work ? y you basically shake your remote , and then it powers up . personally I don't think that older people like to shake their remote control before they use it . And besides that you mentioned it would make the docking station obsolete . And I think our docking station could be one of the marketing issues with which we can um get great popularity for our product . you could um insert the find the lost remote control function in there . Uh it's uh just a small display so I believe uh it will run on one battery for um six months

or f or or more . I think uh elderly people just like to have everything in place . And I don't think they they like uh remotes just laying everywhere in their rooms . So maybe a docking station will help them give the remote a place . And also what you said . Um you can introduce voice recognition by uh finding back your remote . But I think it's um more efficient and cheaper to put it in the docking station . So you have a but button on your docking station which you can push , and then it starts beeping . And then we can we can still use the voice recognition , but maybe then for only the the channels . I'm wondering um what will the voice recognition mean for the production price ? Mm I don't have any information on pricing . Um we also um asked if w they would , if people would pay more for speech recognition in a remote control . you can see here , our target group would not do that . I would greatly advise not to do it . So if that would increase the price for which we're selling our remote control But that would also go for the L\_C\_D\_ screen then I guess . It's a bit higher percentage , here the question was , would you prefer it . And on top of that the L\_C\_D\_ screen would um help in making the remote control easier to use . And I think a voice recognition function would not make the remote control much easier to use . I personally think the L\_C\_D\_ screen we wanna use , with the extra information , I think nobody has anything against it . Because it's just uh some extra information , Maybe we have to uh discard the voice recognition . If we don't have the voice recognition , it will it won't use a lot of energy to use . Um in that case we could use kinetic uh energy , but I think just a simple battery which you can reload on a docking station is just as good . And much cheaper as well . And that's the best choice . let me just choose for the battery . That brings us to the chip . there isn't any choice there because we're using the the the display . So it's gotta be advanced . And then we get to the point of the case . Uh if we wanna choose for wood or the black and grey . Or both ? wood is a lot more expensive to produce . Um but I think it will attract elderly people who wanna have something exclusive , And I think most important factor there is the wooden colour . But with colour was a lot more expensive ? Or ? I'll have to uh research . It's a lot more difficult to to handle and to to get in the right shape . with uh mobile phones uh uh so uh like the Nokia mobile phones , uh when you can change the case of it . Uh is it possible uh to make um changeable uh case . you have just to make one um standard um remote control , I think that's a very good option . You can sell the cases . and then you can make them with colour . Black and grey , other colours as well . We would have to look carefully into the design though . Costs . I think w we should just , we should then just design one um one remote , but it would have to be fancy with either the wood cover or the plastic one . everybody's okay with the changing covers ? I think that's a good uh good option . Um I heard our Industrial Designer talk about uh flat , single and double curved . the the general like most older remotes are flat , just straight . And what would single curved and double curved mean ? Um it would just only affect the form , for as far as I know . It's has to be possible to stand up ? Or just only to lie down ? just to lie down . the interface . What type of interface do we want to use ? Uh we can just use the regular form of it , Um you uh said you wanted to put the um changing channels button on the right side , so you could , so your thumb would be easily Um I thought maybe we could just make one of those buttons on both the left and the right side . For left-handed users also . Is it possible to um program it s so uh you got on the left side uh or on the right side uh buttons for for shifting u up and shifting up ? And on the uh other uh uh o other side uh buttons for uh shifting , uh for for the sound ? but I'm not sure if that would be very good for the easy , ease of use . Can't we make uh Can't we make a remote which you can flip over and use on the same No that's not gonna work . I

guess . But is it a problem that left-handed persons use a different hand ? I think the functions are that basic that nobody should have any problems with uh choosing a channel I think we could just uh leave it a normal shape . Let's look at the flat case . The the single curved so I'm not really sure what they're gonna look like , but I think it's something like this . or better Should prevent repetitive strain injury a bit . this type should be better for you I suggest um the single curved , because maybe the curve is pretty good to put the the screen in . the remote control have to um lay in your hand . Um bit like so uh um in the form of your hand . And to put uh the the buttons for um changing uh the channel uh over here uh But I think it's better to put the screen uh on top . And I'd prefer the corners to be round . But um the on-off button , um still on the top uh Then We've got a general idea of the concepts and the materials we're going to use . for the next meeting uh we'll have to look at the look-and-feel design . It's important that the corporate design image uh is going to be in the remote . So check out the corporate website maybe . The user interface design , it's the same story . And product evaluation . So the Industrial Designer and User Interface Designer are going to work together on this one . But you're going to get your instructions I think send by the coach . just um I will put these um minutes on the in the folder . I'm not sure if you're going to start right away to work together I think you're going to fill in the questionnaires first . And then you'll get a message . Then we can save this one in the folders group . if you wanna have a look at it , it's over there in the projects folder .

## Complete Meeting Transcript

Okay. Uh good afternoon. This is our third meeting already. I hope you enjoyed your lunch. I did anyway. Um let's see. Presentation three. Okay this is um the second phase uh we're going to discuss today. It's the conceptual design meeting. And a few points of interest in this meeting um are the conceptual specification of components. Uh conceptual specification of design. And also trend-watching. Um these are hopefully the points you addressed in uh your pre uh presentations you're going to show me in a few minutes. Um but first I'll show you the agenda. Uh first the opening. Then we have three presentations. Uh after that we have to come to a decision on remote control concepts. How we're going to make it. And then we're closing. We have about forty minutes. Uh so I suggest let's get started. Uh did someone encounter any problems during the preparation? No? Everything fine? That's nice. Then a little uh thing about the last meeting. Uh these are the points um we agreed on. The requirements and the target market. Uh requirements are uh teletext, docking station, audio signal, small screen, with some extras that uh button information. And we are going to use default materials. Um does somebody have any comments on these requirements? Maybe? No? These are just the the things we thought of, so maybe if you figured something else or thought of something else, just let me know. And maybe we can uh work it out. And we're going to target uh sixty to to eighty year old customers. So now everybody knows what we're do we're doing, um I suggest let's get started with the presentations. So shall we keep the same uh line-up as uh last time? Okay. Good luck. Okay. Thank you. Any questions about the the trends? Mayb No? Okay, we go on to the next one. Okay. Uh thank you. Okay. Thank you. So that brings us to the discussion about our concepts. Mm. 'Kay. So these are the points we have to discuss. Um first I think we can talk about the energy source,

since that's um has a pretty big influence on production price, uh and image. Uh so uh f I think first of all we have to see uh it is possible to introduce kinetic energy in our budget, I think. Yeah. Okay. Yeah. No. Yeah. Okay. Yeah. Yeah. Uh Uh well I think uh elderly people just like to have everything in place. And I don't think they they like uh remotes just laying everywhere in their rooms. So maybe a docking station will help them give the remote a place. And also what you said. Um you can introduce voice recognition by uh finding back your remote. But I think it's um more efficient and cheaper to put it in the docking station. So you have a but button on your docking station which you can push, and then it starts beeping. And then we can we can still use the voice recognition, but maybe then for only the the channels. That's safe. Yeah. That's a good point. Yeah, sure. Go ahead. No. Yeah. Yeah. Yeah. Easier to use? No, I think that's a good point. Yeah. I personally think the L\_C\_D\_ screen we wanna use, with the extra information, I think nobody has anything against it. Because it's just uh some extra information, and it's easy to ignore as well. So if you don't wanna use it you just don't use it. And um yeah I think the um Maybe we have to uh discard the voice recognition. Because it will increase cost uh signifi uh significantly. And I don't think the I don't think it will be a lot easier to use, as well. So that brings us back to the energy. If we don't have the voice recognition, it will it won't use a lot of energy to use. Um So in that case we could use kinetic uh energy, but I think just a simple battery which you can reload on a docking station is just as good. And much cheaper as well. So Okay let me just choose for the battery. That brings us to the chip. Just the advanced. Okay, advanced chip. And then we get to the point of the case. Um which brings us a little bit back to marketing as well. Uh if we wanna choose for wood or the black and grey. Or both? Um as we saw there is n

ot Yeah wood is a lot more expensive to produce. Um but I think it will attract elderly people who wanna have something exclusive, which they can show off to their grandkids. Look I've got a new remote control, and uh Yeah. That's right. But with colour was a lot more expensive? Or? You don't know? I think so because Yeah. It's a lot more difficult to to handle and to to get in the right shape. Yeah. Change the cases. Yeah. You can sell the cases. Yeah. I think that's a very good option. Because um then you can advertise as well with the Give your grandfather a new case for his remote control, or whatever. Because that's a it's something extra, it's something other remotes don't have, which we can get a great advantage point. So and then you can make them with colour. Black and grey, other colours as well. Costs. Yeah. Yeah. So you suggest we should design two different telephones on which you can apply, yeah remote controls, on which you can apply different case covers, for example. Remote. Yeah. Okay. So everybody's okay with the changing covers? I think that's a good uh good option. Changing case covers. Yeah. Mm. Okay. Uh but the form has to be um It has to It's has to be possible to stand up? Or just only to lie down? And the the cover of the the docking station is also on top of the television then? Or not? And you can just yeah then click it in. That's okay. Um so the interface. What type of interface do we want to use? Um maybe you can make a little drawing of it on the on the the board. Does somebody have ideas for a form or Yep. Mm. Usabili Yeah ease of use will be a lot more difficult, and then it's But you have extra buttons. So people can get confused. Especially if they have the same writings on it. Can't we make uh Can't we make a remote which you can flip over and use on the same functions as the normal one? Then you have to Let's see if I ca A blank one. And then you get Here's a little L\_C\_D\_ screen. Uh now I have to think. It's a plus and a min. No it's not very handy I think. Because the plus and the min will be opposite and all kinds of No that's not gonna work. I guess. Maybe we should Yeah. But is it a problem that left-handed persons use a different hand? I think the functions are that basic that nobody should have any problems with uh choosing a channel or Y yeah. Yeah. I think we could just uh leave it a normal shape. Uh but maybe we have to make it a l a bit more

fancy. In one or another way. Yeah. Um yeah just Yeah. Easier? 'Kay. I suggest um the single curved, because maybe the curve is pretty good to put the the screen in. Uh so that elderly people can uh use the remote control and at the same time look easily at the screen, because it's a bit, it has a bit of an angle. Yeah. I think so. Yeah. But now it's Do you have it upside down or Do you have it this that's top? Okay. Yeah. So get your mouse. Yeah. Yeah. That's a good one. But I think it's better to put the screen uh on top. So just flip it a hundred and eighty degrees around then you get here. If you can have this one, you turn it like this. And then flip it upside down. Because uh maybe your hand is in the way, if you have the display here. I think i On top. Yeah.. So then we get Here's That's the curve. Here the display, and then buttons. Yeah and then we can have a little bit off here and here maybe. Just that's for left hand and right hand users. And then h the rest of the buttons over here. Yeah still here jus That's Yeah. Should be more bit more friendly, yeah. 'Kay. Supplements. That's okay. Where's my mouse? Then We've got a general idea of the concepts and the materials we're going to use. So now for the next meeting uh we'll have to look at the look-and-feel design. It's important that the corporate design image uh is going to be in the remote. So check out the corporate website maybe. The user interface design, it's the same story. And product evaluation. So the Industrial Designer and User Interface Designer are going to work

together on this one. But you're going to get your instructions I think sended by the coach. So just um I will put these um minutes on the in the folder. And then we're going to uh try to finish our project, and uh make a good design for all the grandfathers and grandmothers, I think. Which are Uh let's see. I'm not sure if you're going to start right away to work together or I think you're going to fill in the questionnaires first. And then you'll get a message. So that's uh basically it. Maybe this one? Then we can save this one in the folders group. Uh yes, it's here. SMARTboard, there it is. So if you wanna have a look at it, it's over there in the projects folder. And then I guess we'll start in thirty minutes again. Thank you. Good afternoon. Sure. I'll start off then. Doh. 'Kay I'm uh gonna inform you about the trend-watching I've done over the past few days. Um we've done some market research. We distributed some more enquetes, questionnaires. And um besides that um I deployed some trend-watchers to Milan and Paris to well get all of the newest trends. And I've consulted some additional trend-watch trend-watchers, after the original trend-watchers return, about what the the best design would be. Um okay these are some overall findings. Um most important thing is the fancy design. Um the research indicated that that was by far the most important factor. Um innovativeness was about half as important as the fancy design. By innovativeness this means um functions which are not featured in other remote controls. Um about half of, half as important as the innovativeness was the was easy to use. Um for our um group, we're focusing on the people of sixty to eighty y years old, this is um, these factors are slightly more equal. 'Kay these are some more group specific findings. Uh the older people prefer dark colours. Uh they like recognisable shapes, and familiar material. And our surveys have indicated that especially wood is pretty much the material for older people. Um this is, this image will give you a little bit of an impression about um the look-and-feel that um the remote should have. Um this leads us to some personal preferences. Uh the remote control and the docking station should uh blend in in the in the room. Um so this would mean no uh eye-catching designs. Just keep it simple and Well the docking station and small screen would be our main points of interest, because this would be the These would uh be the innovativeness in the remote control. So this would be very important that we at least include these features. Um well the trend-watchers I consulted advised that it b should be, the remote control and the docking station should be telephone-shaped. So you could imagine that uh the remote control will be standing up straight in the docking station. This is not really This is pretty much a new shape to



uh older people. So they would prefer uh a design where the remote control just lies flat in the docking station. So it would be kinda more telephone-shaped. Um besides that we would advise um to bring two editions, one with a wood-like colour and maybe feel, and one with a grey-black colour. The wood-like for the more uh exclusive people. People with more money. Uh the grey-black colour for well people with less means. That would be all. Any questions? And how exactly does the kinetic energy work? You just You use it and it works. Okay. Well personally I don't think that older people like to shake their remote control before they use it. And besides that you mentioned it would make the docking station obsolete. And I think our docking station could be one of the marketing issues with which we can um get great popularity for our product. Um wel Yeah you could load up the batteries, you could um insert the find the lost remote control function in there. That's true. I'm wondering um what will the voice recognition mean for the production price? 'Cause in our earlier um market research, if you'd allow me to go to the

flat board, SMARTboard. Um so it was open here. Um we also um asked if w they would, if people would pay more for speech recognition in a remote control. Well you can see here, our target group would not do that. So if that would increase the price for which we're selling our remote control I would greatly advise not to do it. I think that would be better to uh insert in our other product, that is meant for the younger people. Um well this is Yeah but this is here the question was, would you prefer it. So that doesn't really mean they wouldn't pay extra for it. And on top of that the L\_C\_D\_ screen would um help in making the remote control easier to use. And I think a voice recognition function would not make the remote control much easier to use. Um well this was for like an L\_C\_D\_ screen like you would have on a on the the most advanced mobile phones. So pretty large. 'Kay. Mm-hmm. Mm-hmm. Well And I think most important factor there is the wooden colour. So it wouldn't actually have to be wood, if it's just wood-coloured. Probably. Yeah that is true. Yeah. We would have to look carefully into the design though. 'Cause we would have to make one w uh control which would fit in with a wooden cover and a plastic cover. The more original one, or the more standard one. So that would Well I wouldn't design a telephone but Well no I think w we should just, we should then just design one um one remote, but it would have to be fancy with either the wood cover or the plastic one. So, but that shouldn't be too much of a problem. Um I heard our Industrial Designer talk about uh flat, single and double curved. Could you explain that a little more? Mm-hmm. And what would single curved and double curved mean? Okay. So we can pretty much just do whatever we want. 'Kay. That's good. No just to lie down. We'll go for that. Well or besides it. Mm-hmm. Um you uh said you wanted to put the um changing channels button on the right side, so you could, so your thumb would be easily Well uh I think that was a very good point 'cause I pointed out earlier that a lot of remotes cause R\_S\_I\_. So that would be great for that. Um I thought maybe we could just make one of those buttons on both the left and the right side. For left-handed users also. For the volume. Um well that could Yeah we could do that but I'm not sure if that would be very good for the easy, ease of use. But if we would make um a changing channels and changing volume button on both sides, that would certainly yield great options for the design of the remote. 'Cause it could be made all symmetrical and stuff. That is true. Yeah. Yeah. That is true. Yeah. Mm-hmm. Mm. Mm-hmm. Mm-hmm. Yeah. Yeah. Mm-hmm. And I'd prefer the corners to be round. Think that would be better. Friendly on the eye. Yeah. Yeah. Very good. No. Mm no. Um 'kay um yeah. uh some uh research uh a about um designing of an interface. Um the uh last meeting uh we had a about um uh using a f few buttons. So uh um uh that's w what I what I want to uh uh to do in uh our design. So um finding an attractive uh way to control uh the remote control. Um the uh I found some uh something about uh speech uh recognition. So maybe uh we can uh use uh that. Um Uh and uh using a

little uh display. So um findings. Um yeah just um we have just to focus on the primary um functions. So uh only uh buttons uh for uh sound, um for uh on-off, um uh shifting u up uh sa uh ca channel or uh down shifting down. Um uh let's see. Um yeah and Uh we uh need some uh new a attractive functions uh uh which attract uh uh people for using it. So uh it's uh like a speak uh speech uh recognition and um a special button for selecting uh subtitles. Just uh what we uh mentioned uh last uh meeting. Um and yeah overall um user-friendly. So uh using uh large large buttons. Um It's uh possible to uh uh to make um quite cheap uh system for uh speech uh recognition. Um you can think about um uh when you lost your um remote control, you can uh call it and um it gives a

n um sig signal. So uh uh yeah. And and uh for uh shifting up a sen uh c ch channel or uh for um uh putting out uh sound or something, you can uh just give a sign uh say um sound off or A and uh yeah. Television uh put the sound off uh put the sound off uh. Um Let's see. Uh yeah. I was thinking about the special uh button for uh subtitles, um just one button to keep it uh simple. Uh one push on the button uh you get uh uh small uh subtitles. Um double push push um, if double click, um so uh you get uh big uh subtitles, for uh people uh um uh which c f uh who can't uh read small uh subtitles. So uh Um Yeah and w we have to keep uh in general buttons uh so um we've got um the buttons we have to use. The on-off, sound on-off, sound higher or lower, um the numbers, uh zero to uh uh nine. Um the general buttons m more general b one button for shifting up and shifting down uh channel. Um also we want to uh use a little d display uh for um for displaying the uh the functions of the buttons. And um we can uh build in a function f which uh shows the channel or some uh which the t television is on. So um made a little uh picture of uh it. Um See. Um yeah. Just um we can put uh the on-off button uh over in this uh corner, um almost uh e all uh remote controls uh are using a on-off button on that place. Um so uh people uh will uh recognise uh um the button. So um D display uh of it, it's uh just a small display. Uh um you can put it uh on top. Um it's uh most uh uh place where people uh, most of looks at. So uh um and a special uh button for shifting up uh and uh shifting down uh channel, um it's uh on place where um the thumb of of the So you you can uh easily uh shift up or shift down. Um it's uh quite uh handy place. So um and uh all the f functions for subtitle uh one button, uh for sound uh Uh and uh for our design, um uh we have to discuss about it uh I think uh so uh the form of it so And that's it. Mm. Nah. But what's the function? Yeah f for loading up uh the batteries. B b Okay but uh it won't use uh much e energy uh I I believe. Uh it's uh just a small display so I believe uh it will run on one battery for um six months or f or or more. So I believe one battery uh is just enough. Uh so Okay. Yeah. That's true. Yeah. Mm-hmm. Yeah. Okay. Yeah. Uh. Mm. Mm. 'Kay. Yeah. But uh is uh our uh research um about um bi large uh L\_C\_D\_ sh uh display, or uh just a small one uh we want to uh use? Okay. Yeah. No. Yeah. Yeah. Mm-hmm. Yeah. Uh I dunno. Mm. Mm. Uh is it possible uh to make um changeable uh case. So um uh you 'cause uh Yeah with uh mobile phones uh uh so uh like the Nokia mobile phones, uh when you can change the case of it. So maybe it's possible uh possibility. So um um you have just to make one um standard um remote control, and um yeah you can sell uh few uh Yeah. Yeah. Yeah. Yeah. Yeah. okay. Mm. Uh we can just use the regular form of it, but it's um not quite uh fancy. So um Yeah. Yeah. Yeah. For uh Uh for Yeah yeah. Mm. Yeah we um Is it possible to um program it s so uh you got on the left side uh or on the right side uh buttons for for shifting u up and shifting up? And on the uh other uh uh o other side uh buttons for uh shifting, uh for for the sound? Or Or isn't it? Yeah okay. Uh. Mm. Yeah but Yeah. Yeah. Yeah. See um yeah. Or we have to make a left uh For lefties and Um You mean um Yeah if Mm no. Yeah. Um Yeah. It's just uh u using uh your thumb. So um it's Yeah. Yeah. Um Yeah yeah. Mm-hmm. Mm. So um Do you say this um S uh Uh you got like uh sort of a I believe There? So um you want to put a display over here? Or not? Yeah. Um Yeah. Uh we can make it um

Mm? That's the top. So uh this top. This down. Um maybe it's possible to uh make this side like um Let's see. Um Colour uh okay. Uh to make this side um like mm the right colour. Um bit like so uh um in the form of your hand. So um Uh it's an So so the remote control have to um lay in your hand. So uh it's possib um yeah for s so and And to put uh the the buttons for

um changing uh the channel uh over here uh Yeah. Uh rem Yeah but this place um Uh it's Yeah I dunno um Yeah. Yeah so So Five minutes. Yeah. Yeah. But um the on-off button, um still on the top uh Yeah. Yeah. Yeah. 'Kay. Yeah. Yeah. Yeah. Okay. Okay. About the components design. Um for the energy source we can use a basic battery or, a as an optional thing, a kinetic energy, like in a watch, which you just shake and it produces energy. But if we choose for that option, the docking station would c become obsolete. So I don't think it's really an option. Uh for the casing, uh the uh manufacturing department can deliver uh a flat casing, single or double curved casing. It's really up the the design that we're gonna use. It's uh doesn't uh imply any technical restrictions. Uh as a case supplement, we could um, I thought of that I later, uh a rubber uh belt, like a anti-slip. Uh for the b buttons, we can use plastic or rubber. And the chip-set, um it says simple here, but it should be advanced, because we're using an L\_C\_D\_ uh screen. And as uh the trend-watcher presentation showed, um people like wood, but it raises the price and it doesn't really fit the image, unless we would start two product lines. Form should follow function overall. Um well the kinetic energy source is rather fancy. But depends on what we want. I think we should disc discuss that. Um for the case, uh the supplement and the buttons, it really depends on the designer. And the chip-set uh really should be advanced because otherwise uh it would really be a simple uh remote control. And that's it. Yes w there there are four options. We could use the basic normal battery. Uh a hand dynamo. But I don't think that's really an option. You don't wanna swing before you can watch television. Uh solar cells. But not every room is very light so it's not a very good option. Or the kinetic energy. Well y you basically shake your remote, and then it powers up. Yeah. Yeah. That's true. Oh. Mm I don't have any information on pricing. So I'll have to ask the manufacturing department. But that would also go for the L\_C\_D\_ screen then I guess. It's a bit higher percentage, but Okay. And that's the best choice. Well there isn't any choice there because we're using the the the the display. So it's gotta be advanced. Mm I dunno. I'll have to uh research. Yes. Yes. Well the the general like most older remotes are flat, just straight. And uh our d manufacturing department can also deliver single curved or double curved ca curved cases. Um it would just only affect the form, for as far as I know. So it's j really just up to the design department what we're gonna use. It doesn't really matter for the price or the functionality. Pick one you like, yes. Yeah. I think we should start by by choosing a case. Because that's the basis you're building on. So I could draw them out. Let's look at the flat case. Oh. It's from the side so it's rather normal. The the single curved so I'm not really sure what they're gonna look like, but I think it's something like this. So this type should be better for you or better Should prevent repetitive strain injury a bit. And the double curved s looks something like this I guess. So th those are the three options we have. Yeah. It's more logical to have it on top as well because, like on your mobile phone, it's always above. Oh maybe you should just s start on a blank page. Okay. Okay.

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# Meeting ID: 67

Data Source: Train

## Executive Summary

The Project Manager introduced himself and the project to the group. He presented an agenda for the rest of the project. The group acquainted themselves with the meeting-room materials by drawing on the board. The Project Manager discussed the projected price point, profit aim, and production cost for the project. The group discussed their initial ideas about the product design. They decided to make the remote a universal remote. They discussed the form of the device; it was suggested that the device could have a folding-open design or a touch-screen interface. They discussed energy source options and could not decide between using standard batteries or a recharging stand. They also discussed how to make the remote look more unique; it was suggested that the remote could feature the folding-open design to hide complicated functions on the inside of the device. The Project Manager instructed the Marketing Expert to prepare the user requirement specification and to research which devices the remote will control.

## Complete Meeting Transcript

Hello. Hello. You have to put it exactly on the on the yeah. I took your mouse. Yeah just yeah, no, that's for me, I just have to make some notes. I got my uh mouse. yeah. Uh actually my laptop doesn't work, switch it on again. Oh no. So you all read what we are going to do or not? Okay. Yeah, that's right. I just made a a simple uh presentation. So you put some things in it. Okay. How does this work? I dunno. This one? Ah cool. Okay. So that's my name,. Uh we're going to make uh a remote control, you already know that. Just have a look, are we going to uh this agenda of our meeting. You know, this is about twenty five minutes, this meeting. So um the thing we have to know is you already know what we're going to do, you also read what this the things or, not yet, okay. So um, yeah, it has to be original, trendy, user-friendly that's what we're going to design. Uh first we have uh uh three steps of uh making the the remote control. Fir the first thing is th the functional design, that's very important. We have to look what the needs are, the effects of the functional design, and and how the mm the the remote control works, so that's where we're going to look in the functional design, it's for the f next meeting. The the second thing is the conceptual design, that's what it that's uh the spe the specifications of the

components and the properties and the specifications of the user interface. And we have to look what uh the market is doing for what kind of uh remote controls are in the market. And the third thing is uh the detailed design um and that's exa yeah, you know what it is, it's exactly how it looks and whatever. Okay so uh no, this is a these are two smartboards, with the uh f uh s an introduction of that one. And you already saw you know all that that you here can put uh things in the the red project uh map. Folder, okay. So no okay have a look at that one. Okay. So uh what we're going to do first is um so you can read. You have to uh draw uh a favourite animal on the whiteboard and um and say why it's your favourite animal. So and you have this is just to try it out and we have to uh use a different pen colours and different thickness of the pen. So okay, so first have to show you, maybe you can come here to have a look how it works. Yes? Okay. This a new page, it's okay. Use pen format. and a different colour can use here no I just take the pink. You take oh there's no pink, okay, oh just purple, okay. No blue. And uh line width ten. Okay uh just take what I'm going to draw is an elephant. Just draw slowly, because otherwise it won't work. It's a very nice elephant, you can see. I dunno what it looks but it doesn't matter. I just h Something like this? Oh no Yeah, okay. Because I like uh okay. Just takes so long, okay. Whatever, just. You erased this one. It's a bit slow you can see, this is a bit annoying. Okay, so just for you guys just one of you can draw a painting if you want. Just don't um yeah, just u use it like that, yeah. That's okay. It's in format. Yeah. Just No it has to be an animal, so if that's it's it should be a shna snake or something. Okay. Okay okay. Okay. Okay, cool. Hmm yeah, that's nice. Uh do you have to write down why uh that doesn't matter, just it's to get used to the whiteboard, but it's okay. Just make a new blank new blank page. Yeah, not too far to the to the t pen top. Maybe you should hold your pen a bit more to the back, so that no, to the yeah. No, it's a dog. Uh we d only have twenty five minutes, so. Use your fantasy. Just hold it more more to the back then you don't have okay. No, that's okay, thank you. I thought these pens would be just um uh you write it down and you download it to Word, you already did it or no? No, not yet, okay. But it's just Sorry? Yeah, I know, but I d I I thought it would be just in in in uh typed words in Word, so that's not just it's just a picture. So it's not that cool as I th thought it would be. No. I don't know, what time did we start this meetin

g, I'm not sure. Half past. Okay. Okay, perfect. Yeah, thank you. Now we just have to save everything, so. Oh this is definitely the best one. Okay, so uh what we know is that we have to sell this uh remote control for about twenty five Euros. Okay, that's. And uh we have to make a profit of fifty million Euros, so we have to uh use a big market in Europe. The production cost are about half the price of selling price, sorry. So can someone make a a calculation about how many we have to sell of these to make fifty million, I dunno. Uh so we're gonna have a little discussion about um what experience are with a remote control the and everything, so just have a look how it we think about remote controls. Oh yeah, that's a good question. I think it's I'm not I'm not sure, it's not mm I think I don't think you can buy a a universal uh remote control for twenty five Euros, so not sure, but Okay, so we we just say we just say that's universal remote control. Okay, perfect. Yeah, everything just so a lot of buttons on the remote control. No, just everything.. so yeah, what what what's a remote control, it's just a black thing with some buttons on it, it's not nothing very special, but um yeah, that's right. So do you have any ideas how it has to look for for usability or user Hmm yeah. That's right. Should be a good point. Just big enough for the buttons we have, that's that's it. But you you you you think about uh uh one you can fold open. Okay, yeah, that's cool. Maybe for the D\_V\_D\_ pla player or something, if you just okay. Yeah. Why should you use a touchscreen on a remote control? There are buttons on it. Okay. But it's not t t t too expensive to put a touchscreen on it. Yeah. Yeah. So. And if you have a touch screen in it, it's definitely too too fragile uh fragile. No. You can put games on your remote control. Whatever. Oh

maybe that's a good idea, just to put it on your television and just s recharge, you never have to use any batteries. Yeah, how m how mu how how expensive uh is a normal recharger? I dunno. Uh if you th look at the market, it's probably it's still the best way just to put batteries in it, because maybe it's too expensive. Yeah, that's right, yeah. The option, just the option, that's cool. Yeah. Has it be has does it has to b have to be um uh like a different form than a normal remote control or Yeah Yeah. Yeah, just for the T\_V\_ and just the normal function, that's fine. But maybe it's maybe it's very hard to to make it fold open and to I look like it's very uh uh what's it's called? Maybe it's hard t No, that's right. So maybe we have to to uh keep it like mm a square, just normal remote control. Just think about it. We have to close this uh to finish this uh meeting, so. There's some more things. We have uh another thirty minutes, so then we're going to meet again. So you know what you have to what you have to do? Yeah. Yeah, I think this if you you have to n know if it's for s a T\_V\_, a D\_V\_D\_ player, all that things. Also from a user, but all these things together. Yeah, everything. Yeah, no maybe not not uh, that's not a f that's something for for for yeah. That's not for you. Just if what's in the market, what's normal, uh what kind of uh buttons do you have. Yeah, it's alright. Yeah, just is that okay? Okay. So see you in thirty minutes. For the next time you have to uh put it exactly on the square, so your laptop. No, sorry. Good morning. Okay. Good morning. Should I bring my uh pen too? Or Okay. I do. My laptop is crashing. Cr Help help help. Test test. Yes, it's working. I think my laptop is a bit etchy. Uh p Okay. Wow. Wow. Take it easy. I I was gonna make a cat too. Okay. Nice, eh? Uh. Excuse me. Yeah, it probably would be universal. Hmm, maybe, I don't know. And uh also for the V\_C\_R\_ and uh D\_V\_D\_ player and okay. Yeah, probably. Okay. And how big should it be? Yeah. Yeah. Yeah. Yeah n Yeah, or you c O or you could th think of an uh uh a small touch screen on the remote control. Uh maybe be uh

it's it's Yeah, or um maybe to keep it uh easy and uh small. Uh like a a to have Yeah, maybe it would. Kid-proof. And uh how about the batteries? Uh should you put it in a recharger or a just Mm yeah. Yeah, I dunno. Yeah, if you buy it uh separately from your phone it's probably expensive, but I don't know what the project uh projection costs are for such a thing. Yeah. Yeah. Yeah, but I have a mouse that's uh uh also uh Yeah, and and you just have normal batteries that you can recharge and just put it in the station, or you can change your batteries, so. Yeah. N uh if if we want to make it special, we probably have to do a lot of testing, if it really works. Yeah. Yeah. And what we have to think about too is uh uh buttons that you use often are um maybe uh like when you fold it open, when you have it closed, you can still uh do the th the functions. Yeah. But n yeah, but uh i basically when I'm watching T\_V\_ I'm just using like five buttons or so, so. Yeah. Okay. Okay. Okay. Two. Good morning. Mouse. Come on. There we are. Let's just check one more time. Mm. Yeah. One uh most to the right. Yes that one. Yes. Yes. Yeah. Purple. Looks very nice. A pink elephant. The water is important. Yeah. Yeah. Like this? Okay. Um let's make it um a dog. Ooh. Ah okay. A pig? I can make a dog. Um 'Kay, I make a cat of it. Oh, not too quick. No I have it. I just draw too quick I think. Okay, that's it. More. It's just to get used to it. Yeah, that's right, it but you actually got to write on the paper. You really got to write on that paper. Yeah, but it's just a picture. You really No. It's a donkey. Uh I think it was uh Yeah. Piece of cake. Uh easy. Universal. And only television? Or more devices? Ah okay. Not just a T\_V\_. Okay. Well we can try to make it special. Well Yeah. Nothing N It shouldn't be too big, but I don't think we can make it too small, 'cause it has to have a lot of functions, so. We can't make it smaller than the things we see now I think. Yeah. Or we have to make something uh like uh mobile phones that you can uh fold it opem. Maybe then you can make it s smaller and uniquer, maybe more trendy. Fold open, where you can see uh more options. I think Yeah, something uh on top, just dren general things like volume and T\_V\_ channels and inside things you don't use that often. Yeah b I wanted No you can make an uh

manual in it. But that's Yeah, I think it's much uh too expensive. Yeah, too fragile. Yeah. Yeah. Maybe that's a good idea, but yeah, we have to look at the price now I think. Well uh how much is your uh standards uh mobile phone recharger? Maybe have uh Yeah, 'cause well Yeah. Maybe uh use it as a separate option. Sell it uh separately. Rechargeable. Yeah. Yeah. Well I think we have to look at that, 'cause well you can do the standard way, but then you won't Well you can um have uh the basic things on the same place, like on off button on top and the T\_V\_ channels one two three four as a block, and then the volume uh obviously on t on top, so you can see. But the rest is uh you don't use that often, so if you have a clear button with an good icon on it, it should be clear as well. So it doesn't matter what place it is on the remote control I think, so you can do something unique with that. Yeah, yeah. Yeah. That's what I meant. Uh Okay, but yeah. No, what you want to do with it. Yeah, I also wrote down some stuff that you want on a Technical fun fu What do you want to do with your remote control, what do you need on your remote control. I already wrote some down, some ideas. Yep. There's already a document in the folder about it. Okay. I will. It didn't say that. Your fault. Bye bye. Hello. Ah. Plate? Uh I also forgot my mouse, but I don't need my mouse, I think. Damn computers. Can you hear me? Hello? Test. I dunno. Check. Okay. I think it works. Mm-hmm. We're gonna make a remote control. Press F\_ eleven. Folder, yes. Ah I can see it now. It look like a dinosaurs. Okay. Let me try one. Okay. Mm. Okay and then uh what

's the colour? How do I do Ah. I'll take this one. Uh there has to be water, but Yeah yeah, but it's an animal it's an animal that lives in the water. So I first uh draw the water. Uh. Okay, and now I make the animal. It's a fish. Mm-hmm. So. Um This is a worm. Okay, who next? Uh Okay. Well Paul? I think it's a pig. Or a dog. A sheep? No. Yeah yeah, it's a real pen. Oh. Y you can you can't edit in the edit it in Word. Oh, okay. Half past ten. Brilliant. Yep. Yeah, my first question was does it have to be a universal remote control? Because we sell it uh uh uh lonely from the t and not with the television, we sell it uh apart. So I Because Yeah, I know uh you can buy a re a universal uh control for uh only twenty uh Euros Yeah, I think. Okay. Well I th I thought about um making it the same uh style as the television, we don't have uh the same television uh all the time, so uh that's no matter. Um if we uh control the V\_C\_R\_ and the D\_V\_D\_ player player with it uh it has to be clear, because uh kids and uh elderly are gonna use it, so uh it's not only for the uh technical persons. Um I think it must be a very good control, so you can uh uh uh act uh use it from uh everywhere in your room, the the infrared uh thing must be from very good quality. No. Yeah. I dunno um Yes Ah that's that's Ah right right. Oh that's good, yeah. Yeah. Yeah, but Yeah but it's not reachable I think, touch screen. And we have to care for uh the strength of the remote control, because uh uh remote controls are most uh things in the house that falls down on the ground and it get often uh broken. Yeah and a lots uh uh lots of kids use it and touchscreen is not uh kids uh Um Ma maybe a home station. Yeah. Ah yeah. Yeah, but a home station is uh a really good idea, because uh lots of people are uh lose their remote control and don't know where it is, and now you can put it always at the same place. Maybe it's Therefore it's a good idea, but maybe it's expensive. Yeah. You can yeah, you can buy it with it. Oh yeah. Uh I I set something on paper already, size, looks, uh usable, uh the buttons on usable places, uh the the on off button must be on top, uh it has to lay good in the hand, you you have to uh Yeah, I don't I don't know I don't know if we You can make it very special, to create our own um looks, but it's very hard to Nah. Yeah yeah, what Paul already said. Uh on on top are the the basic options on top, and if you fold it open Mm. If you if if you make to fold open it's or also an uh the strength uh is not s as good as a normal uh remote control. Okay. Um for m for me uh the Marketing Expert, the user requirements uh specification, do I need to think as a user, a as a a a only the looks and the Okay. Yeah, it's also about strength and uh for

everything uh. Okay. Yep. Okay. Yeah, me too. Okay, well done. Oh Paul. Ciao. Bye bye.



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# Meeting ID: 25

Data Source: Train

## Executive Summary

The project manager introduced himself to the team and then acquainted the team with the audio and video equipment in the meeting room. The project manager briefly described the company the team works for and discussed the corporate website. The project manager then described the upcoming project and the roles of each team member. The project manager introduced the smart boards to the team and led the team members in an exercise in which they each drew their favorite animal and described why they liked the animal. The project manager briefed the team on the project budget and selling prices for the remote they are to create and led them in a discussion on their experiences with remote controls and what features they would like to include in their product.

## Complete Meeting Transcript

Morning. I'm. Yep. Hmm? Okay. Yeah. Yep. Hmm. Okay. Yeah. Okay. Sure. Yeah. Yeah. Okay. Hmm. A sheep. Okay. Um I'm just gonna draw its uh head, but mm Let's see. Mm. Uh. Okay. Yeah. You know what that is? Or who? Ah okay, yeah. Just a Mm. Guess. So uh Yeah. That's enough. Um, you say a blank, or Okay. Five minutes, okay. Mm? Mm. Oh really? Huh. It's a Sure. Yeah. Okay, yeah. Yeah. Okay, yeah. Hmm. Oh. Mm-hmm. Oh. Mm. Mm-hmm. Sure, yeah. Waterproof, or uh Uh, you never no know uh, I w I mean uh 'Kay. Okay, yeah. Mm. Mm. Yeah. Okay. Yep. Morning. Mm-hmm. Garfield. Well I was gonna draw a cat too, so. I'll just try something else. Something different than Garfield. Mine is a bit more skinny. But uh Well, it's supposed to be a cat. I like cats because uh they are uh independent. The pen. So. The pen. No, me neither. Nope. They were all mentioned, so Okay. So uh good morning. I see you all find your places. Is everybody sitting on the right place? Yeah? I guess so. So Let's see. First I will introduce myself. I don't know if uh if everybody knows me, so I'm Bart, hello. Hello. Bart. Hello. Hello. Bart. Welcome. Uh let's see. Uh let's start off um with a little presentation. Uh Now first I'll tell you a little bit about the setting. You can see there are a few cameras here. They'll record uh our actions and you'll have wires and microphones that will record your voice. Uh there are also some microphones there but th um you don't have to pay a lot of attention on those, because it will uh disappear when you don't attend to it. So is there a project documents folder? There are some notes

in it already I see, some documents. Uh I'll start with the presentation kick off. Is being modified by the administrator. Uh okay. Let's do it read only. Well I don't know if you've noticed, but uh we're working for Real Reaction. Uh it's a company in uh electronics. We put fashion in electronics, uh we make it work, uh we put a lot of effort in design and in the product itself. I'm Bart the project manager so I'll direct you through the project. This is our agenda. Uh we have our opening acquaintance, tool training, project plan description closing. Uh maybe I can sit down, then I can take some notes or Let's see. Maybe you can take the minutes once in a while. I dunno it's not a lot of work, but just uh if you hear something uh you can write down, just write it down. Uh as you can see uh it's the opening, acquaintance tool training. Acquaintance is a point we've done a bit. Um have you all seen the corporate website already? Yeah. Have you seen any flaws in it? I think I found one. No? I can see if it works this way. No, it doesn't work here. Okay no problem. But um on the corporate information side there's a th uh there was Real Remote instead of Real Reaction. Real Remote is not really the company we're we are, but it's just a little fault. Um okay, what are we going to do? Uh our project aim is as you can see a new remote control. It has to be original, trendy, and user friendly. So these are uh the points why uh we also hired you. We've got the Marketing Expert for uh the trendy and user friendly look. And Industrial Designer uh there's also user friendly and a bit original. And we've got our User Interface Designer. He's also uh That's about the new remote control. Uh project method um is uh there are three phases we are going through. First is functional des uh design, individual work, meetings. After the functional design, then the conceptual design and the detailed design. I had some role indications on here. But I think you know it already by yourself. The Industrial Designer is going to work on the working design, uh components design and a bit of the look and feel design. Uh the User Interface Designer is going to do the technical function design, user interface concept and user interface design. And the marketing expert is doing a little bit of user requirement specification, trend watching and project uh product ev evaluation. So that's

a bit what you're going to do. But that will be all worked out in uh other meetings. Then we've got our first tool training. We are going to work with a lot of high-tech tools here, so it's ab it's handy if we have a little bit of training first. As you can see we've got the smart boards here and here in the white board. Um in the white board here there's a little tool bar on this side. Here are some functions. You can save. N uh these functions we don't have anything to do with, only undo, you can undo a little uh piece of drawing. A blank new document for each person. Uh select a pen, eraser. Capture we don't have to do anything with. Uh then we've got our pen. This pen. It's really funny because you can draw with it on this page um in the think it is form of. You can also select the current colour and the line width. But then first you have to select the pen function. But we're going to work with it in a minute. So okay. Uh that's very simple and it's easy to uh draw your findings and drawings on there. Uh then a short thing about documents. We've got our shared folder, uh project project what was it? Project documents I think. But all you will found that already because there are a lot of documents in it already, so it will be okay. And these are available on the smart boards as well, so if you have a document you wanna show, just open it from the folder. Here is a simple tool bar. It's what I just said, it's save, print, move back or forward one page. You can switch between the different drawings. And then we're going to try out the white board. So as you can see we g all going to draw a animal. Just to uh uh just to get a bit familiar with it. Mouse wasn't running away. Is everybody is anybody playing with the mouse? No. Okay. We're going to uh draw animal. And uh just sum up a few of its favourite characteristics. Um the only thing we have to uh look after is that we use different colours, and different line width. Uh there's I can start from now. I will. You can use this pen by holding it like a like a little child. Because if you hold it like this, the

sensors will get blocked and then the drawing won't get good. Another thing is you have to be uh a bit slow. 'Cause if you're going to draw like really fast then um the pen won't hold up. So we choose form of current colour uh I think grey is appropriate. Then the line width. I think seven will be nice. Now you'll see my drawing capabilities. These are not very much, but uh Uh, see you have to do it real slow. Oh Ah I was trying to draw a dolphin, but I think his nose has to be a little bit But it's close. So what yeah it's this is bit of the swordfish. Yeah, he hasn't got an eye. Woah. Now we've got another function. We've got the eraser. And then you can undo this easily. Ah it's okay. And I've got to write down a few of its characteristics. Uh is They've got no text tool, no. Uh. Okay. This is typically a undo action, I think. Pen. Maybe you have to hold it a bit upside-down. I think that's it because if you wan ar are going to do it like this then it will be a stripe. But I don't know, I'm just trying. This is not my work, okay. Maybe you have to use Oh. Uh. I think it's a it wants to draw a another animal? I don't know. It lives for the fun. So It's my characteristic uh characteristic about the dolphin. It lives for the fun. So now I'm gonna hand over the pen on the new blank sheet to you. Go ahead. Maybe it's easier to draw the smaller line width, I think. Because this is going a lot better than uh I did. It's nice. Uh. It's a real dead sheep, yeah. For recognition, yeah, I see. Um maybe you can also write your name somewhere. On just a Yeah. Nice. Sweet. Yeah, just a blank sheet. No. Yeah, it's pretty skinny cat. Is your cat, or did you find him on the street? Ah. Okay. That's pretty clear. So everybody knows how to work with the white board now? So if you have any ideas or if you wanna draw anything on the white board, just ask and go ahead. It's pretty uh easy.

'Kay. S haunted white board. So we've got the tool uh introduction. We move along to the project finance. Um as you can see, we um for our remote control, a selling price is uh twenty five Euros. Our selling price. Uh our profit aim is fifty million Euros. Uh that's the least we have to get from our remote controls, so we have to work together to reach our aims. Uh we can do it international, so we have to focus on different kind of users, different kind of cultures, and different kind of trends as well. Um but that's all in the later stadium. Our production cost um can be maximal twelve and a half Euros, so that's also a point we have to keep in mind, that we won't make remote controls with small televisions inside, and stuff like that. It won't work. So just try to remember these points. Selling price twenty five, profit aims fifty million um, but more important is the int international market we're trying to focus on. And production cost uh maximal twelve and a half Euros. So that's leads us to our little discussion. We've got about five or ten minutes left for discussion. So I'm gonna sit down, I think. It's easier. I've got a message. Five minutes. Okay, that's uh good timing. Uh maybe you have to say the magic word. Does it do anything? Maybe you have to just clap it down? Mm back up again. No slide show. Hmm. It's off. Now you have to put it back o Oh yeah. You'll be okay, I think. Well it's those laptops. Nice. Okay. But so mm does everybody has um experiences with uh remote controls, and I mean not the ordinary mote controls, but also a little bit different ones? Like you can use for other? No? You? Ah yeah. Yep. Yeah I've I've got one at home. And you can uh program I think eight different devices in it, and you can use it for your television, anything else. And it also operates on infra-red, so you have to got the little device inside your room, and then you can operate it from the third or th or second floor. So that's pretty handy when you have a video recorder or D\_V\_D\_ player downstairs and you've got a link to your T\_V\_ on the second floor. So that's a pretty handy um thing. Um but only the I think that if you can put different kind of devices in one remote control, it makes it a lot easier as well. It's uh That's good to remember. Yeah, that's nice, I think. So we've we want different functions uh and we can maybe see if we can do something with the infra-red. But I don't know if that will exceed the production costs. So that uh that's something we have to find out, I think. And other functions for a remote control? Maybe we can make it

uh uh Shock proof. Sure. Waterproof. Okay. So these are our um a few things we can think of. Um I will put the minutes from this meeting uh in our project folder. That's a battery stays. Yeah. Uh. That's an idea as well. Other ideas? Quick ideas. Okay. Any questions about this uh presentation? Kick off presentation. No? Okay, then I'll put the minutes from this meeting in the project folder, and then we can all work. Finish meeting now. Okay. And we can all work uh on our own projects. Okay then I'll meet you in about a half an hour, I think. So good luck. Morning. Yep. My name's Frank. Thank you. Hmm, that's interesting. Sure. Yep. Visit it. Can't say I paid much attention to it, but Oh yeah. Okay. 'Kay. That was interesting. Innocent. 'Kay. I'm thinking about a swordfish.. Meat. Yeah. Hmm. Okay. Thank you. Okay. Gonna use a different line width. And I'm gonna draw in black. There. 'Kay, I'm not much of an artist, but here we go. Mm. Okay. This is my um Hmm. Sheep. With of course little blue dot they always get sprayed on their butts. There. Yeah. 'Kay. They are Come on. You have to go really slow when you're writing. They're brilliant animal animals. And that's just a little me thingy. So. Guess I'll pass the pen to our User Interface Designer. Interesting. A rabbit? Garfield. Yeah. Yeah. And the most interesting tail. Yeah. We're being haunted. Yeah, you got a message. So j

ust on a side note, why is it my laptop is only giving me a black screen? Yeah. Right. No. It's off now. Well, it was on, but Ah, there we are. Well, we have a kind of broad T\_V\_ at home, and a D\_V\_D\_ player, so we got like a lot of remote controls, one for the T\_V\_, one for the video recorder, one for the D\_V\_D\_ player. And I think it's it would be best to just make one remote control that can operate them all. Oh really. Yeah. Yeah. So I think you can take minutes again. Since it's your job. Yeah. Yeah. But that would be really good if we could do that. Um. Think it has to be shock proof 'cause my remote control tends to fall a lot. So Yeah, one other little thing. Thought it might be handy to put a battery status display on it. So you can see how much is left in the battery. But they'll also really drag up the production costs, so think we'll have to see about that too. But maybe just a little LED, I don't know. Um. Nope, don't think so. Okay. Aye sir. Half an hour. Okay.

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# Meeting ID: 126

Data Source: Train

## Executive Summary

The Project Manager gave new requirements for the product: the remote will not include a teletext function, will only be used for television, and must show the corporate image. The Industrial Designer presented possible components to consider. The group then discussed hard materials to include in the design. The Marketing Expert presented an initial sales plan and showed that there is a demand for remotes featuring voice recognition and other capabilities; the group discussed how it could be integrated into the functional design. The Project Manager offered to help the Industrial Designer find companies to provide help in integrating this component. The designers expressed that they needed more information from the board on their expectations for the product. The User Interface Designer gave a presentation on product design from the user's perspective and emphasized simplicity in design. She also suggested that the group make a decision on which features to include in the final product design, but the group decided to postpone it. The designers were given their assignments: the Marketing Expert will present the marketing concept; the User Interface Designer, the user interface concept; the Industrial Designer, the components concept.

## Complete Meeting Transcript

Fantastic. Titanium. Expensive. I don't know, I think verbally we can we can pretty much sell. Hmm. Uh from her side, I don't think uh there's too many more questions. If you can come to the Okay, from the marketing yeah, from the marketing side, just to to give an idea what the management is looking for, I was looking for a a remote control to have a s I have a sales price of twenty-five Euro, with a production price of uh twelve and a half Euro. For what uh I think from what we're trying to find, we're tr we're looking for, I don't think that price is exactly in the market. Okay? I'll explain myself here now in the sense that uh in a in the recent surveys, uh from the ages fr from fifteen to thirty-five, eighty percent are willing to spend more money for something as fancy as trendy. Twenty-five Euros, uh that's that's a preson reasonable price. That's a market price right now. Now if we're gonna take a risk, and push this up a bit, make it more expensive, but give them added things that they don't have now, then it w it could possibly sell. Obviously the risk is there. Too expensive, they're not gonna buy. But, I think uh there's

one other thing interesting two things that are interesting is that uh from the fifteen to thirty-five year-old group, which always spends more money on trendy new things, speech recognition is requested. And we're talking between seventy-five to ninety percent of this group is willing to pay for speech recognition on a remote. Obviously, we can't make a remote into a computer, but maybe simple commands. I dunno, louder, softer, on, off. That might be a possibility, even though it costs more, to be the first on the market to produce this. Thirty-five percent say they're too difficult to use. So we have to figure out a way of making it um more user friendly. Uh fifty percent say they can't find the remote half the time. So maybe one word speech recognition commands, say remote, and there's a beep beep beep, and they can find it through, you know, ten tons of newspapers, magazines, whatever you have at home. But, in the cost that uh the management is looking for, that's not gonna be possible. But if it's trendy, if it's fancy, it's got some colour to it, if it's very easy easy to use, if it's got simple remote speech remote uh control, like I said, louder, softer, change channel, on, off, remote, it goes beep beep, I can find my my remote without spending half a day looking for it and getting all upset 'cause I can't turn the T\_V\_ on. So we're gonna have to look at it in a in this global idea, with the ideas of the industrial uh design. But, price obviously we have to talk about. Speech recognition. Mm. Because tha w with speech recognition uh th I'm not that good at that idea but th if it's a one-word recognition, 'cause I know with telephones and cars and things I've seen in the States, a friend of mine says call Mom, and it calls up Mom. 'Kay the radio can be on and everything. Because I think s with speech recognition, if uh the the remote or like the telephone it has a exact word that it has to hear. I don't think it would come through a sentence in a television. If somebody's speaking on the se the television, they're not gonna stop and say remote, okay. So I think that uh something could be designed to recognise single word Like the t like the telephone. No because I this is this is years ago in the United States where we're driving down and he said call home, and the telephone called immediately so well, that's kinda cute. From from your side uh, you're gonna have to go back the management and s be more s precise. What do they want? Uh, a risk, take a risk on the market? Something that's gonna cost more, but could very easily s make a boom in the market? Because it has to be something totally different, has to be total totally new. Something that nobody has right now. And it's gonna cost. Mm-hmm. Sure. Sure. Obviously. If the bottom line is positive. Mm. Mm. Yes. Mm. Hmm. Individual actions.

She's objecting. Oh th we s we still have Yeah. Right. Agreed. 'Kay, do you wanna open the I'm number two. That's it. I'll do the notes. Yeah, thanks. So um well I I figured uh we should um identify some user requirements, and from my experience, I wanna uh, and from research I did, uh the the device has to turn the television on and off the first time you press on the big button, you can't uh can't have like uh waffling on this point, you know. Really have It needs to be able y y have to be able to find it. Because one of the biggest problems with remote controls is finding them. So uh, I also, since we have to establish our corporate image on the basis of this new product, thought we better look at things that are popular and um ex go beyond those, and, as I said in the first meeting, um and then uh we might wanna talk eventually about the materials that are appropriate to use in uh in the construction, especially in the the uh the outside of the product so that it gives the appearance, and it is reliable, and so forth. I did a little history on uh the the uh remote controls and when they were invented and so forth, so, I guess this guy Zenith uh created the Flashmatic, which I kinda like the idea, 'cause it made me think of um um maybe the remote control made a big flash when uh you turn the T\_V\_ on and off, that might be interesting. And um so it was highly directional flash light that uh you could turn the picture on and off, and the sound on and off, and change channels c so I think um those are still requirements we have today, uh fifty years later. And uh it was really a pioneering innovation, but it was uh sensitive to

the sun, so that uh it would get would start off by the you'd get it would easily cause um problems. So, uh I in addition to uh looking at the um uh the functional require so all these devices are examples of where uh mm they represent examples that are available today which I think the one in the middle is r um really uh something to keep in mind. It'd be easy to find. And um it would uh y you'd you could throw it at things if if the T\_V\_ didn't turn on and off, you could use it for something else. And since I'm not really um Industrial Designer, I didn't really know what to do with this slide. But um I just took some different uh schematics and I put them into this, and I guess this is what a slide might look like if you were drawing a circuit board. I don't know why um we were asked to do this. So, uh personal preferences, um I think we could uh I I'm really thinking outside the box here, and I think that we should consider perhaps having an an an a a size uh a remote control that changes in size depending on the user preference. So something that's very very flexible and inflatable and then you could shrink it. I think um it could either be you could go either one extreme, be very colourful, or you could make it clear, and um kind of blend in with things, so you didn't have to um uh have a problem with the th the decoration of the of the user's home. Um I think uh it needs to be waterproof, because uh sometimes they fall into cups and, you know, it might be out by the swimming pool or something like that. Um if you uh mi one of one of my requirements was about needs t to tell you when it's done its job or not, because half the time, I keep pushing on the remote control, and I don't know if it's actually understood my message, so I think it should give you some sort of an oral cue. And uh, course I never wanna replace the battery. So, that's those are my f preferences, and that's my presentation. Yes. Run over it with a car. Good idea. Good idea, I'll I'll uh um Yes, very good. Hmm. Titanium. Titanium would be be heavy, too, wouldn't it? No, I haven't really um I wanted feedback, I think we need to rate rank these, but we'll see what your uh personal preferences are and your thoughts. I like titanium. It's light. Uh yeah but uh who who said who said we were, you know, nobody told me how mu what our fi

nancial objective is, so um It'd be hard to inflate something ou made out of titanium though. Not fat? Not fat, huh. Might be hard to find, though. Oh, okay. Speech recognition?. D uh I'm sorry? Well, uh training is always an issue with uh commands. So um might uh we can perhaps um do it if the user is willing to spend some time in the training process, uh it could reduce th th uh the overall um cost. Not sure how. But um anyway, um I I think also that uh this might impact the battery life. And um so, maybe what we'll have to do is um add something where you can um recharge it wirelessly so that uh y you know sen send power to it. So uh or maybe uh set it out in the sun and it uh, you know, gets uh, from the light, um a a solar cell inside there so that uh you have enough uh juice to do all these fancy things. Off. Very good point. Okay, we'll find that out. Oh, it's um, seems very understandable. Clearly your research and uh and ours uh heading in the same direction, and um uh the only thing that I saw missing from uh your your research that we found was this uh ability to find the doggone thing when you need it. So uh, you know, but that's okay. That's why we're all here at the table, so that if we think of it and our research indicates certain things and um w we it's complementary. I also think that um uh th f the the feel of it is uh, when you hold it, is something that um uh was expressed more in in in in my uh design and that's logical and normal 'cause those are the parameters that an Industrial Designer's more thinking about, th th the look and the feel, and uh, you're First. Yep. Mm-hmm. Okay, so I don't have any questions. Sounds good. Do you wanna go back and look at the closing slide, maybe that would provide some guidance? Doesn't really tell us. Well it says individual actions, it says user interf so I'm supposed to do the components concept, supposed to work on the user interface concept, and you're supposed to keep watching the trends. Um and specific instructions will be sent by our our coach. I think we should do as many features as uh start with all of them right now and eliminate them later in the process, that's

my suggestion. You can object if you want to I think we should take that as an action item for after the meeting, 'cause w our meeting time has run out. Somebody else has go to use this room, and, you know, we can't hang out here and talk about this, so Thank you very much. Okay uh Agnes, you can help me for the slide when okay. Okay, welcome back. I hope uh you have a fresh head and a fresh time. How t now the meeting actually we gathering here to discuss about the functional design meeting. Okay, and uh we'll issue some information from uh all of you. And it's in the, I think uh, in the sharing folder. And uh I will invite uh the Christine and the Ed and uh Agnes to discuss about on the various subjects. So can you go to the next slide? Yeah uh the agenda of the meeting is opening. Then uh I'm going to talk about uh the project management, what I'm going to do, and uh, of course, I'm doing the project management and secretary both, okay, to take the minutes of the meeting. And there are three presentations. One is uh new project requirements. And the second one about uh decision on remote control functions. And uh finally we are closing. Uh and the meeting time will be uh forty minutes, so you have to be very quick. And I have come up with the management come with the new proposal, okay, and I have to discuss a few points on this. Uh both says new insights in the aim of your project. Uh the one is uh the teletext becomes uh outmoded, okay because if uh because of the computer systems and the new technology. So we don't need to consider really about the teletext all in our new project design. And the second one is about uh the remote control. Should be used only for the T\_V\_. That's what our uh management says. And the third point, it's very very important to establish our uh marketing or uh corpo

rate image, okay, with this new project or new product. Okay. So I will invite uh Agnes, can you go to the third slide? Okay,. So, I'll invite uh Christine to discuss about uh the functional design. Yeah, let me uh interrupt you uh if you can add other facility, other feature, like uh unbreakable. Okay, because uh especially today, you know, you have the family and the kids, okay, and the kids throw it and they they play with their remotes and. Yes. Okay, so if you can add the feature, okay, for your uh fabric whatever in your outline design okay, with unbreakable, okay, I think that will give a lot of advantage for our product, if I'm not wrong. Maybe you can uh add it in that. Okay, uh thank you Christine, and uh uh any questions or uh clarifications, or any discussion on the functional design? Yes. Yeah so Yeah the the I'm sorry because uh the last meeting we supposed to discuss about the financial thing. Uh let me go quickly, maybe if I can go back. I know the project plan and the budget. So I can close this, not sure. Was in uh S This. So let me see where is this file. This is Christine. That's yours, okay. Saving. Okay, uh I will I will send you a mail, okay? The project may be the the project aim, okay. At the end of the day, the company uh wants to make at least uh the fifty million Euro. Okay, and uh of course the price will be very reasonable on the the sales side. Okay, that maybe Eddie will talk to you about uh how much uh the price and uh what's uh how much its cost for the manufacturing and how much it's going to be we sell in the market. Okay. Then uh you can come back with your feedback. And I I have one maybe the suggestion or opinion. This remote control, okay, it can be for like universal, to use for any T\_V\_. Okay, and it will be slim, okay, and uh Not fat. Okay. Yep. But let's try it, okay, with the different uh the designs, okay, the functional designs. Okay? So any other questions? Okay. Thank you Christine for uh time being, so then uh Ed, so can you tell about Mm-hmm. Yep. Yep. Mm-hmm. Yep. So what do you think about uh the design? Do you think you can make it or uh What do you think about uh the design, uh what he was talking about of the speech recognition? Mm-hmm. Yep. Well, what I can uh suggest to you, Christine, okay, uh if you need some uh the technical feedback, or some training, okay, about uh this facility, especially for the speech recognition, I can recommend you some companies like uh Intel or I\_B\_M\_, okay, because they're already in this uh speech recognition part,



okay. And uh you can maybe have some uh technical backup from them, some kind of a technical tie-up. Okay, and uh if you want, I can coordinate, okay, to get some information, okay, and uh you can uh let me know, okay, so what kind of uh the details you require okay, to add this feature in this project. I don't think it's uh the difficult. And uh we need to know how much is the timeframe you need to develop, apart from uh what today. Yep. Yes. Yes. Yes. Yep. Yeah but but end of the day, you're the sales guy, so I will come back and sit on your head because uh you are going to give your sales projection, okay. It's uh of course it's uh good to uh tell the management how much it's cost us and how much you are going to benefit, okay. And uh, so I don't mind to convince, okay, the management to spend some more money on the project, okay, if you can make out of the money from this project. Yes, okay I don't mind to convince the the management, okay. The management says, okay, so they they don't want certain facilities, which it's already worked, okay, they want something uh new, okay. I think uh like uh speech recognit definitely they will agree, I don't think they'll say no for that, okay. And uh I hope I can convince the management on that, okay. So if you have any uh new ideas, okay, for uh your you can always come up and uh you can tell me if you need any uh s special, okay, coordination, okay, between any uh technical companies

, which you can uh hide their technology backup, okay, for your uh functional design or technical design, okay, then I am ready to do that. And uh what's your comments about uh Yeah, so you are finish, Ed, uh so I can uh Okay, I'll uh hand over to Agnes. Just gonna close this. T Uh where are you, here? Participant three. Okay, so I'll yep. Okay. Is it okay? Alri Click mm. So for anybody need uh any help, for time being, on this uh subjects, okay, so please come back to me, and uh Christine, maybe I can uh try to help you to get some uh the technical uh the companies to help you for uh make a design uh slim, okay, and to add some features, like we are talking about, the speech recognition and all. Yeah. So not really this one we are talk ab Yep. Okay, that will be great. And uh I'll send you the the minutes of meet Yeah. Okay, what we'll do is now we'll take for lunch break, okay, then uh we can discuss furthermore, okay, with our areas, and uh then we will come back again in the in the next meeting. So thanks for coming and uh I'll send you minutes of meeting, and uh please put your all information in the sharing folder so everybody can share the information. Okay? So let's go for lunch then. Thank you. Yep. Sure. No, this is the third slide. Sure. Um. You're participant s Two? Do you want the mouse, or do you want me to Mm-hmm. Do you have any preconceived ideas in terms of materials? 'Cause, for example, in the unbreakable thing, doing something plastic would be harder, whereas having something like, I dunno, steel or titanium isn't really economically viable. Yeah. Yeah. Sure, yeah. No, I just wondering whether that you had any sort of Yeah. The marketing comes out. That's Christine's. And that's mine, I think. In modified. S 'scuse me for one sec. Hmm. It seems also like with the speech recognition, yeah, it's a great feature, but if you're watching T\_V\_, there's a lot of ambient sound, and it's words. It's not just, you know, noises like something hitting. It's actual speech, so then you have to make sure that the speech recognizer is good enough to filter out the T\_V\_ speech, and the the user's speech. Otherwise, you can say remote. But if someone on the screen is saying the same thing, all of a sudden, you have someone in a movie saying off and your screen dies, because they've triggered the remote control and it's turned off your T\_V\_. So, I think if we can find a speech recognizer that can handle those types of problems, then yeah, it'd be a really good marketing gimmick. But, I think we seriously need to consider how that would impact the situation. Mm-hmm. Yeah. Yeah. Mm-hmm. Mm-hmm. Oh yeah. Yeah. No, I think it's a great idea if we can design it to suit those requirements. Yeah. Um well, I mean, maybe if I go through my presentation, you can sort of see what the user perspective is, and how it ties into the other two comments. Mm participant three.

Nope, here Good. Thanks. Yeah, and that's fine. Okay. So, basically, the method that we usually use in the user interface design is that we need to look at what people like and what people don't like about existing products. So, in our case, existing remote controls. And then, what the good ideas are, and what the bad ideas are, and why they're bad and good, which isn't always as obvious. We seem to have intuitions about why things are good or things are bad, but when you look, technically, at how it works, sometimes that's not the case. Then we need to decide what functionalities we really want to keep, 'cause that'll feed into both Ed's work and Christine's work. Um and then what the remote control should look like, obviously, once we've got a good idea of what the functionalities are. So, in terms of the functionalities that we need, you obviously need to be able to turn the T\_V\_ on and off. You need to change channels, both by directly going to a specific channel or by channel surfing. You need to be able to control the volume and then control any menus on the T\_

V\_ to regulate contrast or whatever. So, the problems that people have expressed is that there's too many buttons on remote controls, in general. The buttons it's not clear what they're supposed to do. Um often, you need to know specific button sequences to get certain functionalities done, um which you don't necessarily always remember, especially if it's a functionality that you don't use very often. And that the buttons are too small. So, here we've got two examples where here on the left-hand side, you can see a remote control that has lots and lots of buttons. The buttons, in a lot of cases, are tiny. Um they're hard to see, and okay, they're labelled, but the labels don't necessarily tell you too much. Whereas, on the other side, you have a much simpler remote control that I think basically has the minimum functionalities that are needed. And it sort of looks simpler and just less imposing when you first look at it. So, I would be inclined to go sort of towards this, in terms of design, rather than this. And if there's specific functionalities that require more buttons, then we can figure out how to do it with existing um buttons. So my personal preferences are to keep the number of buttons to a limit, or to a minimum, sorry, make frequently used buttons bigger and more strategically placed, so like the on button being really obvious one, the channel changing and the volume, and to keep the design basically sleek and simple. Which, I think ties into what Christine and Ed have both said fairly reasonably. Um so, that's pretty much it, and I don't know if you guys have any questions or Yep. Yes, that's true. Yeah. Yeah. Mm-hmm. Yeah. Yeah. Oh, that's definitely a very important factor, especially to users who are gonna be buying the thing and then using it almost on an daily basis in a lot of cases, I think. Oh Should we maybe make a decision about what features we actually want to include, 'cause we've thrown a lot of features onto the table, but do we actually want to incorporate all of them, or have we missed anything? Sure. Mm-hmm. I thought No, I I'm just thinking in terms of time, like if Yes, now I'm objecting. No, I mean, I was just thinking is it really practical to start designing something with features that we're just gonna end up throwing away? I mean, it takes a lot of time and effort for everyone to consider different features, um and s if we spend that time and effort on features that we're not gonna use, maybe it's better to spend it on the f thinking more about features that we actually do want, but I guess Sure. Yeah. Yeah. Sure. Okay.

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# Meeting ID: 19

Data Source: Train

## Executive Summary

The Project Manager reviewed the decisions from the previous meeting. The Marketing Expert made a presentation on trend watching, including trends in user requirements and trends in fashion. The Industrial Designer presented all the components of the device and announced that several of the features already discussed would not be available. He suggested substituting a kinetic battery for the rechargeable batteries and using a combination of rubber and plastic for the materials. The User Interface Designer presented his main interface design, which included buttons for the most frequently used features and a graphic user interface on the LCD screen for other functions, to keep frequently used features easy to use. He announced that speech recognition was still an option to consider, depending on price. The Project Manager then began a discussion to decide what was going into the final design. It was decided that a kinetic battery would be used in place of a rechargeable battery, that the remote will feature an LCD screen and rubber casing and rubber buttons, and that interchangeable rubber covers in fruit colors will be available. Speech recognition may be included if it is not too costly.

## Complete Meeting Transcript

Oops. Mm. After lunch. Yeah. Mm-hmm. Mm-hmm. 'Kay. Yep. 'Kay. Yep. Fine. It's okay with me. Yep. Regarding those sizes, which one you think will be light because we we have to take into consideration size also, so maybe a standard triple A\_ might take lesser space or and dynamo might take more space. Uh Right. Night. And are these like uh what are the life of the kinetic battery, it like it runs for long time? Mm-hmm. Okay. We c Solar would be slightly expensive. It's twelve point f Another question is like sorry. W w which one would last the longest, because we don't want customers to be like you know charging like a mobile phone every day. A remote control, like, so we have to s look at the life also. Okay. So Mm-hmm. Okay. Second thing is yeah and second question is like, a mobile you can change the cover, you call it a skin or whatever. So in this case if you're looking at like a customer can change the colour like from green, parrot green to chilli red or something like that. So is that feature available in like uh titanium, or it's like only specific to plastic or Mm-hmm. Yeah. Something like Alright.

That could be a good idea. It could it would be comfortable to hold on also. Sorry I didn't get the last part, you're talking of Just what you said I I didn't get the uh meaning of it completely, you're saying like Uh-huh. Okay. 'Kay. Absolutely, f for somebody who very often, if he would a person who switches channels very often or does use a particular function very often will find it very irritating to use a and he might spoil the touch-pad very fast compared to a button like, if you keep punching with an pointer or whatever. And just one small question before like you are, regarding the circuit, since we are having a flip-top, we can customise the two circuits for different type of buttons like we are keeping the standard buttons on the top and the more complex buttons under this thing, so we can divide the circuit like you know. Mm-hmm. Okay. Okay. Okay, uh would like to share something which I did here. First thing is uh basically on design we just took the input from the previous meeting, especially from the marketing and industrial design, to check on the customer needs and feasibility. Second is we checked into competitors, the picture here shows one of the standard models offered by competitors here. So y you generally see there's not much of variety and like marketing team said uh, people need trendy, they are bored of black and white. So you generally see rectangular shape, very monotonous kind of designs here. And uh second thing is there's too much of confusion here. No particular remote is standard. Like, some some people have a Here you see this? This is on a I I found th that uh only common feature is the ch uh channel control and uh volume control, rest other buttons, they are in a very disorganized and they are not consistent th with other models and all. Okay, and second as already discussed with William, we are going to have m maybe a G\_ G\_U\_I\_ interface in the f in the middle of the flip-top and g graphic user interface basically which is what we d do in computer, have icons or touch pad or whatever, which is Like you have on a I uh icons or something y you have is a good example of G\_U\_I\_ graphic user interface. So basically not point or click Press any particular device, he just has to click on that particular icon to simplify. And on the top m repetitive buttons which are like volume or channel changing and all could be on the pointing device, that means the use of button. So he need not use a pointer to keep changing the channel if a person is frequent surfer. So we are having a combination of boards, so f on the s simpler board, on the top we have this button, rubber buttons, to keep frequently changing the channels. But Mm-hmm. Okay and you mean to the And the lower distance. Oh f perfect. So the findings are too many cluttered buttons. Repetition of certain but buttons which I already exp

lained, example the volume and channel control buttons. All are confusing and in inconsistent. Okay we had a latest finding of voice recognition, there was a mail which mentions that our division has developed a new speech recognition s feature. We have to check into the for financial f feasibility whether we can incorporate it this at a low cost, but for like we had g um s response from the customers that they would like to have the feature of finding it. So it could be like, where is the remote, and the remote answers I am here. Some kind of thing or it gives a b bleep sound or some kind of sound and if this can be incorporated this would be more uh you can say trendy also? And technologically innovative also. So we we can check into the financial feasibility of incorporating this. My personal preferences would be like, as already uh marketing department, they want something to do with fruit so I wouldn't say the design should be like a fruit, but yeah we can take inspiration from fruit colours, like the vibrant colours, uh red chilli uh tomato red or whatever and second thing is cer certain standard buttons we should have, like for example, i if you see the previous slide uh I think most of the users would now be well acquainted with this cer central pattern, here, so we we we would not change h that particular pattern because i this is the most consistent thing in all remote controls. This is central one, the one you yeah volume and channel. So keep that m that standardised because that's the most

common feature across all models, if you look at all the models, it's here. This and voice recognition. The kinetic. Mm-hmm. Maybe we could start with the black and white. That that way we could upgrade later. Mm. Mm. Yeah. And for the sorry. For the body design I think plastic, uh w yeah we could use the body, for the inside and uh rubber as a padding or for the grip, something like to add to the design. Plast right. It's Uh I it's different. Right. Acupressure, you could talk of acupressures. And finally the body should be retouchable, may maybe ch you can change the body or the case casing the case outside, it should be moulded it with the design in such a way you can change it every time. Okay. The rubber. Fine. Yeah. Fine, uh we were talking of voice recognition also because that we are not for how to look it uh remote control if it's lost. So, are we looking at voice? Or maybe like uh William was suggesting in the last thing some devices you put on key chains. For I yeah, the whistle. So we can if financially voice recognition is not feasible we could go for a whistle. Yep. Uh sorry I didn't mention this, but we'll be incorporating in the design. Fine. Mm-hmm. Yeah. Again a questionnaire huh? I think we are pretty going in a clear direction now. Yeah, yeah I was getting that impression as well. Etcetera. Yeah. Yeah. Yeah, okay. That screwed in? Yeah. 'Kay, Okay. Um this is uh all about the design of the actual components and the availability of the components we have in stock at the moment. Okay, first uh the Into the method. The the main idea of the whole thing is just so you sh you just press buttons and it should activate things on the T\_V\_ and we discussed last meeting that it should be easy to find. Um also in this study I've looked into the availability of some of the materials, 'cause some of the things that we looked at last time aren't un unfortunately aren't available. Um, findings, I've got my nice little picture there. This is uh the chip called the T\_A\_ double one eight three five which is what's used in pretty much every remote control 'cause it sends out standard signals, based on your input and um it's pretty much used for all all T\_V\_ remotes at the moment. Um and then we we're loo looking into battery options. There's um actually no rechargeable option available, so we I saw the um the standard double A\_ and triple A\_ which we thought were a bit bit too bulky at the moment, dynamo charging, I thought that

that might be a bit silly to be to be honest, people won't it's it's basically like wind-up radio. So you wind up your remote control before you use it. It might You Yeah, yeah, oh yeah I presu you wouldn't have to wind it for very long, but I don't I don't think it's really sort of necessary when you th you think of the next two options, like the the solar charging, 'cause most people have the light on in the room anyway so they could get when when you got T\_V\_. No. Is it? Alright i Yeah it would the d yeah the dynamo would take more space 'cause you actually need a physical sort of handle to wind up. Yeah, okay. But Yeah and most people most people also watch T\_V\_ in the in the night anyway. But I I think I think the the next one's the best anyway. The the kinetic charging which is like you get it in r you get it in wrist watches and you d you don't even notice it. I mean the amount the amount of probably moving around you'd be doing all the time would would charge it up, I don't think you'd ever need to actually physically start shaking it up to make it work. Um yeah it's it charges into um some form of it's a smaller cell which it charges into and uh the si the size sort of a watch a watch battery, 'cause they use them quite frequently in watches. And that'll that would I would last for um well I do I d I'm not entirely sure how long it would last but I've never seen one run out. Yeah. Yeah and Yeah but then again I I think it is because if you think about it, the watch, although it's only a tiny amount it's it's um it's always moving for the whole day and they don't run out over night when you leave them on the side. And th for the same the same reason, you're only using it for a v incredibly short amount of time just to send the signal and then you're finished with it and you put it no no I do I don't think the the draw on it would be Mm. Ye yeah I think I th uh g y you could have a dual um power thing but the the thing with the solar cells is you

would need to put them on the case and they because, if you lie on a calculator they they're quite big and they all they all look identical. They're they're expensive, they don't Yeah the normal batteries would be the cheapest I'd presume then it would actually be the the solar charging ones, um but the It's I think they're not very resistant to dropping, 'cause if you drop stuff yeah if you if you have y the size you'd need to charge a remote wouldn't be that big but I mean if remotes always get thrown around and stuff, so. Y I think yeah, practically. I mean calculators you don't really throw around a lot whereas remotes you do, they can't Yeah they do, they yeah they've got dual things, but they're the batteries are smaller I think. Mm. W m yeah so the Yeah the the s if you if you had something du uh using the standard batteries and the solar charging, um, I don't think you'd I think the it would d well you know how long the standard double A\_s would last in or triple A\_s would last. Yeah I think i I think it would, yeah. Yeah. Yeah. Yeah. Yeah. Okay. Okay, well I'll move on. Um, my second part of my findings uh the mo most current remotes use this silicone uh P\_C\_B\_ board which pr printed circuit board, which basically has these contacts that are really close together and then when you press down on the rubber button, it'll connect the circuit and each each switch is connected to two uh different legs on the chip and so sends a different message and that then uh gets translated by the chip into a code and then it's fired out of this L\_E\_D\_ in the sequence of I on and off bursts. Well well this the thi the thing about is um they they can be as big or as small as you want them to be because you can you can print circuit board like that that it's it's simply spaced like that so you can have fit the n the size of the nine buttons in. If you if you see how thin the tracks are, you could you could s you could put them virtually right next to each other and have a

much smaller switch on each one, if you if you wanted to but um the there is an option to do to do it like that, or you could have some sort of array of switches which I'll speak about in the next bit so that And then to uh yeah, so to conserve battery life the remote should be in a standby mode no while not being used. Now what I was thinking about that was 'cause sometimes when y when you have these things, they've got little lights on behind the buttons, so you can see what all the buttons are, like on a mobile phone, they do it more often than on a than on a T\_V\_ remote, but you could you could have lights behind the buttons and um after like five or ten seconds of not being used I'd have that turned off, if we decided to go for buttons that could light up. Um, the case material, I've a been sent what the factory can actually give us, the there's the plastic which I think we were gonna go for anyway as the main case case housing and the the main problems with the well you could go for wood but I think it would be a bit impractical. Titanium um very expensive just to process, which to make it is expensive, and rubber, well you're saying that people like this uh spongy feel this year, so perhaps uh some something made of rubber, but I was thinking more of the buttons, because the buttons which they've they've said that they've they've put across are what is used in some stress ball manufacture and it's meant to be anti R\_S\_I\_. I'm no I'm not sure how that would work because surely your fingers would still be moving over the short distances but that's what they said. Um the problem with the casing is that uh there's quite um there's quite a few design restrictions that they've got on the shape of the case. If you go for titanium they can only do a standard box shape, whereas if you come to plastic they can they can be a little more they can they can do sort of curved shapes. But whether whether or not because we'd have it in two separate units for the flip phone. Yeah. Yeah I th Uh. Yeah in in titanium I don't I don't think it would be available at all really, the ju just it w well you could make it available in the titanium, it was just it would be so expensive to buy a new case for it, because of the expense of how much titanium is is it's light and strong but I think it should be left for aircraft design rather than for for a remote. Yeah, yeah. Rubber, yeah. And you can peel them off yeah. Yeah. Yeah. Hmm. T Yeah. Also the just just going

back to the interface designs with the buttons, the I know we were planning to do some sort of touch screen. Now what I was saying before about instead of having you could have just a bare P\_C\_B\_ circuit board and I'm sure you could probably get it in different colours and so just by touching it with your finger it'd make the connection over if you had them close enough, that would be one option. Um the second option they offer rubber buttons, but I thought that an L\_C\_D\_ type of screen 'cause one they're incredibly thin um and don't take up much space, two they you can have them in a sort of array and you can arrange the buttons on the screen in a sort of set thing and you could have them like a touch display. Uh what what Oh on the on the L\_C\_D\_ screen you could because you could fit it the problem with it basically is that it's flat and so you can't do lots of curve curved things with it, but um you can you wouldn't have with the L\_C\_D\_ you'd have the wires coming off, you wouldn't have that with the with the L\_C\_D\_, you'd only have that with the printed circuit board. With W also with the Yeah. You could have a flat screen inside, yeah, but I'm just wondering whether we want an L\_C\_D\_ screen inside. It wouldn't be like full colour, it would just be black and white, but there'd be touch touch buttons, so you wouldn't be pressing down on 'em, w or we could have rubber buttons which are made of this material which is anti-R\_S\_I\_. Is rubber. Mm. Yeah I hadn't I hadn't really thought of t

hat to be honest. Yeah you could, you could have some sort of stylus that you could pull out but I I think they could get a bit easily lost, 'cause I had Hmm. Yeah. Yeah. Yeah. Yeah okay. Yeah that's yeah that that's the end of m my Yeah. Uh yeah. Yeah yeah that that would be fairly simple, I mean you'd you'd actually have two separate you'd have two separate circuit boards but they'd be joined by wires or like some cabling between them, 'cause in the in the actual flip bit you'd have some linking. Mm. Um. Yeah. I mean you can you could do it, you could have a 'cause if you if you just put the full charge through an L\_C\_D\_ display it'll completely blank it out, but I don't know if you could get any mirror effect on it, I'm not sure about Yeah. Yeah. Yeah. If you if yeah if you have like buttons that appear on the screen in this L\_C\_D\_ screen. Yeah. Yeah. Yeah, yeah but you can do it with your thumb li Yeah. Yeah. Yeah. Yeah. Well, yeah we Yeah. Yeah. Mm. Yeah I think I mean if Yeah it is it is qui it's quite a cool feature to have and also if they've got it if they've got these parts already in stock, then it won't be cheap to re-manufacture them, uh or it will be cheap sorry to re-manufacture them. So do you reckon that's a good idea that, where's the remote, I'm here thing? I think that would be quite fun. Yeah. Yeah. Yeah to s th well it's it's not as expensive as it would be if it was full colour 'cause if we've just got a black and white one, I mean they use them in calculators so. Yeah. Well you cou um. K no the kinetic ones come come with um a sort of w watch a battery that goes in a watch. So it's a lot smaller, so it would Yeah. Yeah the well I think were we're going for the L\_C\_D\_ on that one, on the buttons, on the on the on on the top one we're gonna yeah. On the bottom we were gonna have the rubber, the rubber ones, the anti-R\_S\_I\_ ones. Um, okay on we've got the flip the flip-screen, the top one is gonna be the L\_C\_D\_ and the bottom one is gonna be the rubberised buttons. Plastic, okay. Yeah. Mm no. Mm. You can you can just Yeah. Yeah. Yeah, yeah j with these rubber these rubberised ca not the actual uh plastic outside case, just the rubber thing that goes round the outside. Oh yeah, yeah the whistle ones, yeah. Yeah. Yeah, depending on the expense of it. And they've got in stock, so yeah. Yeah. Okay. Did it? I'll wait until you're all um hooked up. Okay. Put it on in that way. Thanks. Okay. Welcome back everybody, hope you've had fun. Right um this is our conceptual design meeting, um I think we're slightly ahead of ourselves from the last meeting, I th I I think yeah um. This is where we talk about um properties, materials, user-interface and trend-watching. So I think we've touched on a few things to do with that already, but we'll just go over it. Um the minutes from the last time. Um we had a couple of um changes in our plans in that we couldn't use teletext, it wasn't gonna be a control for everything um and

that we had to incorporate the image of the company into it somehow. Um we have decided on a leaving out the voice recognition, we've decided on there being a flip design and um a different shape from what's normal. We were thinking a shell, but something along those lines, just a different shape from what's normal, um. You were going to look into the rechargeable batteries and we were gonna think about the port and an alarm for getting it lost, things like that, um and our market was going to be young, business, kind of range. Okay, so shall we start with the first presentation? Yes if you feel it's okay. Yeah. Okay thank you very much. Um let's start from the inside and work our way out. I don't think so, not yet. Um, yes, thank you. I hate those little things especially if you do them on too tight and you can't get the leverage on them to undo them. Okay. 'Kay.. 'Kay. Wa can you explain that? Like a right, okay. How what kind of how I long can you get out of that, I mean can you pick it up and then w

ind it for two minutes and then that's it for the night? Or That doesn't count though does it? I thought it was U\_V\_ like Any, any I'm pretty sure that solar is from the sun. Uh, I don't think it counts electric lights no, but I mean not many you don't want to limit your market. I mean people who live in basement flats there's not that many people, but there are people. Mm, but then it would be charging through the day, I think the point is that it charges through the day and then you've got it charged for the evening. Okay. Yeah I've seen But then if you think about a watch, it's on your wrist so it's on your whole bod it's on your body the whole time so you're walking around, you're doing things, it is moving a lot of the time. If you'd I mean you switch the T\_V\_ on, then you put it on the side, then you pick it up to change it and then you put it on the side. Is it really gonna be enough? Okay. So it's not the draw on it isn't Okay. Like a dual kind of. Expensive as well. What kind of price are we looking at for I presume the normal batteries are the cheapest? Solar. Well they're not designed Practical-wise okay. You do get a bit of wear but don't calculators have a battery in them as well? Mm. Okay, can we add in uh an attachment to closing feature? Can we think about that? 'Cause if we're doing the kinetic thing and it's Well add it in to think about um because, where am I? If it is the kinetic thing and it is small and it is portable and it is a different shape and the kinetic is something people don't do kind of we're doing something original and different um but if you wore it if it's something you could just clip on your pocket then you would have that less, you you wouldn't lose it so much. But then maybe that's looking at someone who's just sitting on their own rather than the eternal battle for control of the controls. No. Okay. Okay, right. Mm-hmm. What kind of things do we have to consider there? Can we what kind of size, does it come in varying sizes or is it just one size and we would have to fit the design of Mm-hmm. Okay. Okay. Mm-hmm. Mm-hmm. Mm. Mm-hmm. Hinged, yeah. So instead of the fascia that comes off being plastic, the fascia that comes off would be the rubber, like those pens that you get with the grip, that you can you can pull that off. Okay. Mm. Well that's been really popular with mobile phones so I don't see why not. 'Kay. Mm-hmm. Mm-hmm. Oh it would be flat inside. Mm. I think it would be good to have a contrast between, if the whole thing is gonna be this rubber thing it would be good to open it up and see something quite fancy looking inside. Now how would you distinguish, if you had it bare, how would you distinguish where you had to press, I mean Uh Like one of the palm pop thing. It would have to be attached. Okay, we'll talk about that so if you finish your and we'll come back to that. That's you, right okay. No. We're marketing to guys as much as we are to women. Well it's a remote control, you were sitting watching T\_V\_ are you gonna want to sort of open it and say oh shit I should go and have a shower and do my hair before I put the T\_ Yeah, no, no. Mm. Okay. Okay, okay. Mm. Mm. Okay. Which means Okay. Okay. Mm-hmm. Can we swap that round so th that the ones that we use all the time are on the bottom part? 'Cause if you're thinking about holding it you would be using your thumbs to press, just like a mobile phone. Yeah. That's what I was just saying, and then have the and then have the



L\_C\_D\_ at the top and then be able to touch that for the other controls, so have the um the volume and the programme, things like that, on the lower side. Okay. I can't see that, is that play and stop and things? Or is that volume and channel? Okay. Right. Okay. Um I'm not sure how long we've got left, but we need to make a decision about um the things we've discussed. So, we agree on Do we agree on the battery? Yeah. Um, that means that there's no function for li the port, you know that it sits in, then

pressing the button then having so we could incorporate voice recognition for the finding it. It's a bi i it's like a g it's a gadget, it's a selling point. I think the only I think the only pitfall that we would have would be how much it's going to cost if that means we have to cut down somewhere else, but I think pretty much we've used cheap relatively cheap and simple things. The L\_C\_D\_'s not cheap. Yeah, okay. And you could yeah. Okay. Do you want like a back-up? Um, okay so we've got battery. The inside components is pretty standardised across the board isn't it? So there's not a really a decision to be made there, um. The buttons what did you give us as our The bare-board L\_C\_D\_ or On the top one okay you've got the touch okay and then Okay, okay. No, it's fine. For the inside. Mm-hmm. Oh I think so, I think so. No I think I we don't wanna be tacky if we've got a kind of different shape anyway um the fact the m the material that we would be using would be cheap, so we could make it red, we could make it um psychedelic, you know, we could make it black and white zebra stripes, but that's not really what we're focusing on, what we're focusing on is the m you know yes. So we could just pick anything. It's just different it's just different from everything else and I mean, I'm trying to imagine um clean looking houses, sort of beige and black um so you either want something that goes with that, which is what's on the market anyway, or you want something that contrasts as you know like you get clocks now that are more of a talking point than an actual clock because they're so interesting and Mm. And you would just have an across the b you would have so many different options that you could do, you could have um a plain black one, you could have sparkly pink glittery ones for your little Mm. And ones tha ones that have rubbery spikes y you know, you could just go so far with it, like a puffer fish, you could just, you could take it wherever, so I think that's quite a flexible thing. Yes. Mm. Yeah. Okay we've got five minutes, um, or that might've been up for a while. Mm-hmm. Have you Okay. Well they do, but I think we can you could well it is, it is, I think you just address that with um advertising. Um, you associate the name with the individual product that it is and that does the work for you. Obviously it'll have a logo on it just like everything, but everything else has a logo on it. The point is that it's got to stand out somehow differently but I think it does, without that so I'm not worried about that. Depending on how i I mean we've got this memo saying that it's something that the company's looking into, so um that seems to make sense, but if it turns out that it's hugely expensive we'd have to cut down somewhere else, then it's worth thinking about. But I think we'll find out more about cost afterwards. Right I'm going to wrap it up there. I got a end meeting now message on my mo yeah so. Um so I think we've probably got it says, closing we have forty minutes so I um think we've probably got about that time before we come back. It's either that or we only had forty minutes to discuss what we just discussed and don't know how long that took. Is everyone happy? Okay. Oh good grief. 'Kay. Oh. Mm. Mm-hmm. Shall I? Okay. We just connect up. Thank you. There we go. Okay um so we decided on our market and so this feedback from the marketing department is really about trend watching. Um the methods we used to decide on uh current trends and so on, market trends, were that we did our traditional uh our usual market research study uh with a hundred subjects and the the general feedback from them is that the most im uh w I'm sorry I'm slightly tongue-tied after lunch, sorry Project Manager. Um we decided on the most important aspect i uh required in a remote control device and we'll come to that later. So that was one of the first things we did. Also with our company um being forerunners in uh

putting fashion into technology

, we also looked at a fashion update um using our consultants on fashion and design in Paris and Milan. Uh so the general findings from that was uh in the market trends the most important aspect for remote controls were people want a fancy look and feel, rather than the the current functional look and feel of remote controls. They also also want a remote control to be technologically innovative, and of course, as we predicted, that it should be easy to use. Now I should point out that the first of those findings, fancy look and feel, is the most important, is twice as important as the second, technologically innovative, which is in turn twice as important as being easy to use. So possibly that the feature that we put first is actually third is still important, but it's third in order of preference for the the subject group we looked at. Okay, um, now the fashion update which relates to very personal preferences among our subject group, um we found from our um consultants in Paris and Milan who des attended all the design and fashion fairs there, that fruit and vegetables are going to be the theme for clothes, shoes and furniture. So should we be thinking of using something like that in our remote control design too? There also seems to be um a trend towards a spongy feel to materials, uh again in contrast to last year. So a lot of interesting feedback there, both from our market research departments and from our people in Paris and Milan. Be interesting to see what our design people make of that. Unless anyone has any questions about that? Not yet? 'Kay. Okay. I know. Does does light charge as as sunlight does? Artificial light? Has to be solar. Mm. Artificial light, no. That's going to I know, different parts of the world too, if we're if we're marketing internationally. Mm-hmm. Hmm. Mm-hmm. Mm. Could I just ask referring back to solar charging, is that compatible with um standard batteries? I mean, could people put standard batteries in but with a s you know they could leave it in the sunlight for solar charging or the two things not compatible? Mm. So that affects the exterior design. Mm. Again it de Mm. It would just detract from the attractiveness of the of the whole feature, i it's not gonna add anything, okay. Shouldn't we do some market research on that first before we add it in because I I personally right, okay. It's not something that's come up in any of our uh focus groups and market research, it's not a thing that people are looking for when we threw it open to the field yeah. But it's something to put on the side to think about maybe. Mm. Okay. Mm. Mm-hmm. It does mark quite easily too if you let it fall. I've got a mobile phone myself which is titanium and it does mark very easily if you drop it. I was just wondering if we make the basic mould out of plastic but have like a rubber cover that goes over, that would give the spongy feel, that also allows us to kind of have different fasciae for the phone. Like a rubber sleeve almost, yeah. Mm. Mm. Very cheap way of changing the look of it and people can just buy a new one if they want to. Mm. Yeah. Mm. I don't s sorry to interrupt, I don't see why the curved thing is a problem, if we for example had a shell, once we open that yeah, so it'd be f yeah, yeah. Have I misunderstood you? Mm-hmm. Mm-hmm. Yeah. I just had another idea, I don't know if it helps with that, but just to do with the R\_S\_I\_. Is it possible, just as an option, when we open it up, people can use their fingers to press the button, or we have inside like a small pointer thing when people want to. Mm. Yeah. They're easy to replace as well, cheap. Mm-hmm. Mm. Yeah just a thought they wouldn't actually need one and they could use anything they've got, couldn't they? A pencil or a pen, so they wouldn't really need a Mm-hmm. I'll just raise another point while it occurs to me, it kind of applies to both our designers here, so I'm not sure how it would fit in. If we flip open, now you know how you've got

some mirrors in nightclubs that are mirrors when you turn to them and you turn away and it gives like an advertising display, you seen those? And they kind of respond to the turn of your body. Is it possible that when we open our flip-top shell it's a little compact mirror and when you press a button it then goes onto the phone display th uh the remote control display thing. They don't look at themselves? Just a

thought. Yeah. I know what you mean, it's with us using the ideas for a mobile ph it's with us using the ideas for mobile phones I kinda got sidetracked onto that I think, okay. trying to think of other features we can build in that wouldn't cost too much but maybe we'll leave that one on the side. 'Kay. Mm. Oh I think forget about the mirror that was just a very quick passing thought yeah. Sorry what does that stand for? Okay. No you'd hold it you don't if you flip it open then you'd be Wouldn't you? Isn't that the idea? You us if we just use the shell as an example again, you open that, you've got your L\_C\_D\_ display there and you've got the buttons there so you're holding it in the palm of your hand, yeah. Mm-hmm. Mm-hmm. Hmm. Mm. Mm. Kinetic? Mm. Mm. Hmm. Yeah, we talked about kinetic charging, we've deci seem to have decided on that, did we decide on double A\_ or triple A\_ batteries? No, one of the decisions we had to make was whether we had double A\_ or triple A\_ batteries 'cause they've still got to be charged this way haven't they? I oh I see. Right, okay, got you. Got you on that okay, didn't realise. Sorry could you repeat that last part? L\_C\_D\_ screen. Mm-hmm. Okay. Mm-hmm, so we decided on a rubber casing for the plastic shell, a variety of designs, okay. and it is just uh although it's rubberised and spongy, apart from that we're just going to go for sort of vegetable and fruit colours, we're not gonna try and make it actually a vegetable or fruit design or anything else, like a shell that we discussed, just go for the colours. Okay. Mm-hmm. The feel. 'Kay. Mm-hmm. Is that going to be this image I've got in my head of something kind of shaped like that, maybe about that size, made of plastic, fits into the palm of the hand, rubberised cover that's spongy. Is that really going to fit fancy look and feel which was the major thing that people wanted, market research, is that fancy? Mm. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Yeah. I'm just kind of pushing at that to see if you came out with anything else, but I mean I totally agree. We looked at those remotes, I mean they are kind of anonymous, very similar looking things. This would definitely be different enough, I just wondered if anybody could come up with something even more Well the thing is the rubberised covers are going to be s relatively cheap to produce, that if in a year's time we we get feedback from the design fairs that show something else is coming I mean it's so easy for us to just produce that and it can be slipped on, which is another beauty of it. Mm, so can I just recap uh Sarah, for the decisions that we've made, kinetic charging, the watch-type batteries, um L\_C\_D\_ display on th the top side of the flip top, rubberised buttons on the bottom side, we're gonna use fruit and vegetable colours for the rubber cover, the case itself is plastic. That's how far we've got, what else do we have to add to our decisions here? Mm. Yes, it was just, there was just a cost issue with that, but it's a good idea we just need to check on the cost, is that right? And incorporating the company logo? Mm. 'Cause I took it from the feedback you gave in the last meeting from y from y your report, it's not just a case of having a little R\_R\_ hidden somewhere, they do want it to be obvious that it's our product don't they? Since it's the only one of its kind on the market it's obviously gonna be ours. Yeah. Okay. Okay. Okay. Did we I know at the last meeting we spoke about a beeper, I think that was you talked about a beeper for a location, have we just rejected that in

favour of voice recognition then? You got to go through.

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# Meeting ID: 83

Data Source: Train

## Executive Summary

The project manager goes through the minutes of the last meeting. They have the prototype presentation and talk about the final design, features, and power source, type of chip and weight of the remote. They go through the evaluations, using the a list of criteria made by the marketing expert. They rate each criteria on a scale of 0 (true) to 7 (false): how fancy it is, how handy it is, how functional, how cool it is, whether they would spend twenty five euro for it, and whether they would change their current remote for this one. Next they do a cost estimate for production. In doing this, they decide against solar cells and go with the rechargeable batteries. They keep the regular chip, stick with plastic, put two scroll wheels and three push buttons, and make it a special shade of yellow. They eliminate the turbo button and give the remote a single curve because of budget restrictions. They briefly evaluate the project process and close the meeting.

## Complete Meeting Transcript

Yeah so uh following our decision to uh make a yellow well to make a banana remote okay so we actually have a We've well first first of all we made a an attractive base station uh with a banana leaf uh look and feel um and uh bana sit the banana sits in there k you know nicely weighted so that it's not gonna tip over and um this is the remote itself, it's kind of it's it's ergonomic, it fits in the hand uh rather well. We've got the two uh uh scroll wheels here which you know one on the the left for the uh volume and the one on the right for for the channel and uh underneath we have the uh the turbo button which is in like a nice uh trigger position for you know for pressing quite naturally. This is when you when you uh are scrolling the uh through the channels you can tell it to skip th past channels that you quickly rather th Yeah. Well when you stop scrolling the wheel it stops. But normally with uh it will just uh s stay on each station briefly so you can see the the picture. The T\_V\_ yeah. The s the turbo button. So rather than having uh an extra button for um for the on off switch you just use the turbo button. This is a teletext button. So once you press that then you get teletext and you can use the the channel selector scroll wheel as uh To navigate yeah. Yeah. Well then you can you you have like a little uh number selection thing, you press the the the teletext button uh to move between uh the fields and then you can

just scroll the number back and forth so you have s you go you scroll to seven and then zero zero and then you can uh Well you can you can press press the teletext button and then you then you can you can f Mm uh And this is the uh the infrared uh port. Also the top of the banana. So. And then we have in the uh in the base station we have the the button at the front for uh for calling the uh the banana. Actually they do. That's that's yeah that's uh that's form and function in the one in the one uh object. Yeah. So. But yeah that's um that's just like that's an attractive um base station. So. Okay. It's it's uh it's about the weight of a banana. You know, to give you the correct look and feel. I think a child would try to eat it anyway, so maybe we should consider that. maybe health and safety aspects. Yeah. I don't really know if the solar cells are actually necessary any more if you have a recharging base station. If I was gonna place them I'd put them on the on the top here since that's like uh the black bit but yeah I don't I really don't think it's necessary to have the solar cells anymore. Mm. The what sorry? What do you mean? Ah. Ah. A long time. No no no, it can it should be weeks. Yeah but y people don't like to put it back in the base station all the time people leave wanna leave it on the couch so Ah, okay. Okay. Yeah. It seems to be falling over. Or can move between positions in the in the number. It's all automatic. Yep. Uh. Yeah uh five. Five, maybe maybe maybe six it's it's I guess it's yeah. I'd give it a six like I'd I think it's probably more handy than my current remote, 'cause of the scroll wheels but maybe loses the point for not having you know the extra buttons when you reall if you do need them for some reason but you know you can always use your other remote. Yeah. Well it depends when you say functional, do you mean it does what we want it to do, or d does what it does, you know, can it make you coffee? You know. Yeah. Yeah. That's before Yeah. I have to say four. Well it's not a universal remote. Remember we're focus we're supposed to focus just on T\_V\_s. Well all T\_V\_s but only T\_ only T\_V\_s I guess. Four. Just four. Obviously there are some outliers so Which I'll say five. Yeah. S yeah. 'Cause it's five five seven seven so Uh, okay, definitely easy to use. Seven. Alright, now here's the sixty million Dollar question, well, twenty five twenty five Euro question. What do you what do you guys reckon? Hmm. Uh Yeah. Yeah. I'd say two. I don't want a banana on my living room tab

le, a banana remote. It is handy, it's handy, but it's terrible. Yeah. Yeah, but it's not a positive thing. Well, you know, it's it's handy, it's ergonomic, but it's a banana. Yeah but it says I, I would buy this, so. No, it's I. I would buy S s Still I I'd say two. I don't think I at any stage in my life I would want a banana remote control, really. I can say, maybe there is a market for it, I dunno. Yeah. Okay, so, it depends if uh If I had t if I had to spend twenty five Euro, if that was like my limit, maybe I would buy it. Because the other twenty five Euro remote controls are probably gonna look worse than a banana. And it yeah this is gonna f you know handy to use. Although it still has it still has the word of course at the beginning so I dunno. Um. I'd give it I'd give it a I give it a four now. Yeah. I'd say three, I mean my remote control is kinda at home is pretty terrible. If it was change my remote control of my D\_V\_D\_ player for a Mando banana then I would be more inclined to but uh 'cause it's really bad but uh I'd say a three. It's not very promising but you know we're not young trendsetters. Is there some some formula you're using that says you have to sum them up? Well just leave it at that then. No. I think it it kind of you just lose information if you sum it, so. Well we decided against the solar cells so You mean, charging it by shaking the banana. Well maybe dynamo is like you have to actually Yeah. Well actually that that no that sample speaker is not we we're not using that, we're just using the the very beep simple beep, that s that sample thing is like the voice recording and everything. So Yeah. I say that Yeah. Mm. Well, wait a second, no, it's it's double curved, it's got a c, it's uh Well d yeah it's monotonic but it's got but if you hold it if you hold it that way that's two curved, one on this side, one on that side, but they're opposite sides. This is actually I mean this probably this probably actually costs more than three if you Yeah.

Well no didn't we say we wanted to do a rubber if you drop it? Well when okay. Well we we'll come back we'll come back and see if we can fit it in. Yeah. No, we have two push buttons. Huh. Uh. Okay it's gonna have to be plastic. It's a recharger thing and uh Well I actually did um think about it myself but I thought you know because you could potentially you know you could be pushing it down as you scroll it for a instead of a turbo button but you know the turbo button does add that extra class. You know. So I mean if we're if we're over budget then maybe we could we could rethink that. Yeah. No we're not we don't need anything special for the buttons. Make it plastic instead of rubber. And then we're basically on budget except for you know ten cents. Yeah. Yeah well pl the base station is made out of m many units of plastic. Does that include charging circuitry and everything? So what do we do with the extra profits? Okay. The next fruit. No we have a product which none of us would buy. No it's people in in Milan and uh in Paris that are gonna buy it. We're n yeah. We're not in Milan or Paris. Actually there were a lot of That's 'cause I'm sick of Milan. Okay so um project process. Yeah. I dunno I think we had a fair bit of creativity. And uh but I think one thing we m missed out of this whole process was a um like a focus group with the actual people we're targeting. We needed some of these kind of young trendsetters to come in and play with the banana and you know see if they see if they like it. Because yeah the evaluation for us is is kind of pointless. Yeah. Because it it would also be interesting to uh you to know find out if we have a market in really young children as well, to see you know how to how to market this thing. 'Cause you know if well I mean maybe you don't wanna give all your kids their own remote because they'll be changing the channel all the time but you know maybe in some households where there is you know a T\_V\_ for each kid,

then you know, banana remote control could be fun for them as well. Might have to draw a face on it. So but I think that's something we need to to work on next time is really finding out more about the target market. Yeah. I think there are ways we could maybe simplify the Well just the the the circuit board that we're using inside, I'm not sure really how complicated our um our needs are. I mean all we have is two push buttons and two scrollers, do we really need an integrated circuit to you know to process that. And also fo you know for mood lighting and and stuff, that would be rather cool. I think that's actually something that should be in version two, is the ability to you know to control things other than the T\_V\_ and not just electronic equipment but you know the whole environment of the room. Yep. Okay. Thank you. Okay so we can go to the slides. Yeah. Number three. Oh number two sorry. So final design. Final design. Okay so Michael you can go ahead. You can pull it out first, maybe. Uh And we we do have one more functionality. If you take the banana as such and uh you press the turbo button, so it switch ons the switch ons the T\_V\_. The turbo button. Additional button. That's right, that's right. So then then both the scroll buttons they are for teletext browsing. And you can tele yeah, once you press the teletext button then the scroll buttons they are more for teletext, they are no more for channel or vol volume. Yeah. That's right. Yeah. Yeah. Yeah. So it always means, whatever the rays goes by they they get reflected and then you are having a better coverage. It's like antennas. And for the power source we are having solar cells and rechargeable batteries and this and uh the basis station is going to have the input from the mm power line for for charging the batteries. It is very light. Yeah. And we have put these different colours so that people don't mistake them mistake it as a banana. Otherwise it's you know a child comes and so Yeah. Mm-hmm. Oh we didn't think of that yet. Yeah. Oh yeah that's right. Mm-hmm mm-hmm. It'll It'll be always at top somewhere at there. Yeah because now we are having rechargeable batteries so that that is. Eight to ten eight to ten hours. N most no most of the time it's not being used. So when when you are making it on Mm. Mm-hmm. No eight or eight or ten hours of working. If you are just leaving like that it'll be much longer. Yeah. That's right. Yeah. And we are having

the speakers regular chip for control. Pricing is was a factor so that's why we have gone for a regular chip only not the advanced chip. And uh that's it. That's right. You want to have more functional buttons? You are not convinced. Not not many, we we want to keep it simple. So that this button fo is for teletext which is usually also the case, that usually there is a teletext button and once you press that, the channel buttons, they baco become the scrolling buttons. It's up to you, means. Now that Means let's say this this can move the the larger digits and this can move the smaller digits. That's right. Yeah. So there was there was a constraint that the surface area which we have on this banana on one side because of the shape. So we are targeting a segment which is which is just very trendy kind of thing, they they don't care about the buttons any more. And anyway Evalua yeah. Why this strange factor of seven? Usually I have seen that scales are from one to ten. Okay. Okay. Mm-hmm. Okay. Okay fine, got the idea. Okay. Okay, okay, great. Okay. Yeah yeah. Go ahead. Mm-hmm. Sure. Okay. Yeah yeah. Yeah. So you can say fancy, handy. Handy. Yeah, it's fancy, according to me. Seven. Seven by me. Okay. So you can add seven plus six plus seven plus Five. Again I'll give seven. Yep. Seven for me. I'll give five. That's right. That's right. The standards. What is available in the market off the shelf. We Five. So four point two? four. There I'll give it seven. That's right. For a T\_V\_ the most important feature which I

felt was the locator which is a cool feature. And then the scroll buttons are again cool features. We don't have L\_C\_D\_ for it but that we decided we don't want to have. Mm-hmm. Seven. Okay. Definitely seven. Okay. I'll say five. I'll say five. Why? No but it's really handy actually if you see. It's it's so handy. And then Anyb anybody who comes here anybody who comes to your home he'll at least ask once what is this. It's a very positive thing if you see like that. Youngsters. You want to flaunt. You with your girlfriend or something. Or might be it does some other kind of thing but Uh yeah, crazy. I say five. And you have saved it? You'll have to reload. They're not going to be as And they they might not be a as easy as this yeah. Yeah. S I go slightly up. Six. Six, five, four. Okay. I'll still give it five. Yeah. So it's somewhere three point five I think. No I said five. Mm-hmm. Oops. Yeah it's it's funny. Yeah, sure. Mm-hmm. Solar cells, yeah yeah yeah yeah yeah, we said no to that. I think rechargeable batteries will take care of the power thing. Yeah. To bring the cost Yeah. Yeah. Okay. So we have the regular chip on the print, which is one. And that's it. And we have sample speaker. Yeah. Yeah. the cost of that is very high. Uh-huh. Mm-hmm. Mm-hmm. And we have sev Yeah. So we we'll put some extras, if there is something. Okay. To reduce the cost, it's okay. Oh it's got all the directions so don't worry. It's got a direction. Okay. Okay. Yeah. That's right. We don't have any push buttons. No that is a scroll wheel itself, it'll be put in that. Ah okay, okay. Okay, okay. Yeah. No. There's no chip there. It just emits the signal. And the receiver accepts it and that's it. Just se sends the signal, that's it. Yep. No. Yeah. So first thing which we should take care of is, instead of rubber, let it be plastic. And uh that much money will be required for the base station, which is not there. Yeah. That's right. So might be ninety centimes for the the remaining things which the cord and everything which'll go That's right. Yeah. S Detachable battery. They like that. Mm-hmm. Biased. Mm-hmm. Mm-hmm. Yeah. The cost of the thing can be made more than might be. Because I think it's just the optimal, what we have done for the cost which we are looking forward to. Interface. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. That's right. Yeah. Integrate. Mm-hmm. So What else? Okay. Home? Happily satisfied. Mm-hmm. Thank you. What this button for? Okay. But if you want to go to page seven hundred? How man I don't understand it. Can you repeat it? Yeah. Ah okay okay. Okay. Okay okay. Okay. I see. I see. Okay. Okay. Is it really weight? Is it light or Okay. Okay. Ok Okay. Yeah yeah yeah, I see. I under I understand. How long the how long the bit the batteries long. I I yeah. I like I like it. Maybe the the thing that convince me the less

is the the multifunctional buttons. Looks a bit Looks a bit puzzled uh I dunno how to say that. You the the b the buttons change h h their function depending if y it's teletext or not And the volume button will will become And what about people who want to use digits? Butto real buttons? Okay. Because have you thought about configuration and all this kind of uh stuff? It's all automatic. Okay. Okay yeah it's fine. W we are living in a wonderful world. Automatically configure. Yeah. S Yeah. Yeah. Okay. I I const I constructed a a list of criteria based on the on the general user requirements. And each criteria is will be evaluated it's uh logical criteria so we must users must say i if it's true or is or if it's false in a in a scale ranging from zero to seven. Because i I'm sorry. Sorry. Ah yeah. It's from sorry, it's from one to seven. It's from from one to seven sorry. Because it should be an even it should be an even uh scale, and five is too short and nine is too long. I'm a I I'm Sorry? Yeah yeah. The variance is mi it's is minimal. I'm um answering your question. Okay. And that's the criteria I I found more useful

. I think I sh I I could write the criteria in the on the whiteboard? And we all four could range could evaluate the Okay let's let's evaluate if it's fancy or Seven but I would say seven. It's quite fancy. Six. Six. I would say Everything ar Mm everything It's compared to the all remote controls. Actually I don't know what are the r the real specification of a of a universal remote contro Ah it's not an univer but it's for all kind of T\_V\_s? Yeah. Four. Four. So four? It means cool features, like new features actually. I would say five. You said seven? Five. Sorry, I have them Of cour Of course the most difficult question for the end. I find it quite cheap actually. I dunno. If i i it depends, if you live in in Switzerland or you live in I don't know. Wha the initial specifications were for the whole all Europe or Yeah this is the the initial specifications. I would say six. It's quite cheap actually. Actually maybe Yeah I change the question. So yeah upload the Yeah it's two different situations. If you really need an universal remote control or if you would change your remote control for a n for a new one. So? What now? What range? Six. Six? Six? Six, so it's uh five point five, or less. Actually yeah, I we Five? You are romantic, really. I would say two. Who is the outlier? Wh wh you said five? I don't know if it's a No because there are more yeah, we shouldn't sum like that. Because the the last two questions is much more important than the rest actually. Otherwise we wouldn't we will not sell. Uh no I didn't anything. Yeah, the uh Yeah. Do you want me to sum o I think it's not S Actually what's the differen Too expensive. Actually whe whe when you wrote regular chip you should put two, because there is another chip here. Yeah but you need Fo i it does nothing actually? Okay so now we have a product which nobody would would buy. Would yeah, would buy. Yeah because th th the evaluation project Ah would buy, yeah. Massively, yeah. Yeah. Okay. Uh you have been in Milan a couple of times, so. And you said the lowest. Yeah, for the batteries Mm-hmm. So more general remote control instead of just focusing on uh on T\_V\_. The complexity shouldn't be much higher. For you said if it good for D\_V\_D\_ then I would Bye. Okay. Good afternoon again. So we should have our final meeting about the detail designed of detail design of the product of the remote control. Um So here is the agenda for today. Uh uh just going to go quickly through the minutes of the last last uh meeting then we have a p presentation of prototype of you two, sounds interesting. And we'll have um presentation of evaluation crit criteria by ou our Marketing Experts. Then we'll have to go through finance evaluation of the of the cost of the thing and um hopefully uh we should fit the target o tw of twelve point five uh uh Euro. Okay. So let's go. Uh if I go quickly through the minutes of the last meeting. So we went through th uh w we took this following decisions. No L\_C\_D\_, no speech recognition technology, okay, we went through a b to a banana look and feel for the remote control. We went through the use of wheels and but buttons. And also the use of a basis station for battery ch charging and uh also to um call the to call the mot mote remote control when it is lost. Okay. Um. Good. So guys let this uh wonderful thing. Oh yeah. Sorry. Um. Which is Yeah can you show it to



the the camera maybe. Mm-hmm. What's the use uh of the t turbo button already? Ah yeah yeah and then you stop when you stop it stops. Uh-huh. Which one? Okay. To navigate it through th through teletext. with the wheel it's easy. Excellent. Calling. Excellent. And the the leaves plays the roles of of antennas? Oh. Great. So, what else? Yeah, they're light. Ah yeah. So for the power source, apparently you still you you want to use both solar cells and batteries. Uh you mean okay. So Yeah, where are going to where are you are you going to place them? You have enough surface? You Okay. What will be the

autonomy? Roughly? The autonomy. Autonomy. Uh I mean how long does i how how long can it be held off a station? Yeah. A long Yeah, so it's It's used only when you Yeah. F weeks. Right. Next slide? Okay. Okay. Those really sounds very good. Nothing else to add? Yeah. Well in fact b both will be could be useful, navigating through teletext. Yeah. Wow. Very good uh yeah you th yeah. Bananas everywhere. Okay, so So we have to go through now evaluations. So your slides are ready? Uh you're four I think. So this is one, which one is this one? Num number So to have in order to have enough granularity it's in order to have enough granularity in the evaluation. Okay. Okay. Yeah, six. S seven. Six. No, wait. What do you say seven? Five? Okay, six point five. Handy? Seven. So seven, seven, six, six point five. Functional. Four. Uh for a remote control, does he have all the you could expect. Yeah. So it's universal but for T\_V\_s. So s uh four? Five? Four. Four. Okay cool? Cool device. Yeah. Seven. Six. Plus six, I say I said seven. So it's six. Yeah. Seven. Seven. And you? Outl you are not lik outlier. Seven Okay okay okay okay. Of course I'll buy the banana. Well Twenty five Euros. Cheap. Yeah, so the target price is for all Europe, or only for rich countries? It's more targeting U\_K\_ or So this is selling costs, not production costs. Yeah yeah sure. Um Five. Aw, should be nice in your It's kitsch. Well, don't forget well, don't for don't forget who we're targeting also who are f f who are wh yeah, youngst youngst No well yeah I if you would be young. Not telling that you are young. Li li like a teenager for instance. Okay you're you're crazy teenager and you like fun things. Yeah. Yeah, you want to show the beautiful banana you have. Okay so you s you give oh yeah yeah I know I know. So you say two. F I d I say five. You say? So what's the new question? Uh yeah, I think so. Yeah that's two different question. Ugly. I stick to five. W we have six, five Three So we are six, five, four Yeah. So So and last question, will I change my rem change my remote control from Mando banana. Um, zero. No uh we can't. So one. Well if. No uh let's say I'll put two. It's for the T\_V\_. Two three five two three fi and two. So it's r Yeah, three point five. No no you say five, he is the outlier. Okay just just do a sum. Well maybe we should we should uh have a look globally glob Yeah. So maybe maybe w we can we should stick to general feeling. We can had uh have a out of these numbers, which which is that well we should go for it. Problem with connectors? Okay. So let's move uh let's move on. Okay, now now we have to mm to estimate uh the cost okay. So I prepare an Excel sh uh an Excel sheet. Um well we are going to calculate the production costs. We should we should be below twelve point five. So I already uh put some pu some numbers here, okay. We are going to go through so this is the number the mm number of components we need for this thing. So it appears that there were things that we didn't thought about. Uh and also things that I uh I d I forget to uh to put like solar cells. Oh yeah finally we say no. Okay so let's let's go let's go let go through all the lines. So hand dynamo. This something we didn't thought about. But Yeah. Yeah. Okay so we we stick to battery, one. No kinetic also. I don't I don't see the difference between kinetic and dynamo. Ah you have to ah okay I see so kinetic is really uh shaking the banana. Crazy. Okay. So those banana is falling. Let's go ahead. So we we st only have one for battery. Uh then for electronics um so I didn't put anything for the. Yeah. Yeah. Okay. No so we hin Yeah so one. Ooh ye ye ye the cost is increasing. So we are The beep. That's what Okay so I'll remove

it. S So don't we need a Oh there is no listing for r radio frequency thing. So Yeah maybe. We'll see later. Okay so in for the case um I put single curved. Because we have two things. No. Well. What a what i if I put one here. Yeah so let's put

one here in the then instead of single oka all right. So we stick to plastic, it cost nothing. No, it's too no. It's too expensive. We're already at eleven. Okay so I put rubber one. Okay so special colour, yellow. Uh for the interface we have We have three. No no. We have two scroll, and we have three push buttons. And No it's no chip. This is just radio frequency. Th This is no chip. It's just Yeah. No. Just only. Okay w we didn't think a thought about uh integrated scroll wheel push buttons. Yeah, so Yeah. Okay. So no L\_C\_D\_, so for we have no button supplements, right? Uh well in fact could we could not we consider this button as a button supplement because oh no, these are these are for colours, co and special forms, special colours and special materials. So Okay so we are over budget. Yeah. Yeah. So mayb in fact n we have to put two here because it cost nothing. Exactly exactly so we have margin for that stuff. Yeah maybe. Okay good. Wha Excellent. Um we'll invest in R\_ and D\_. Yeah. So well we're under the the the cost. So we can go to through to project evaluation. Sorry? Which is different. Which is different. None of us will buy it. This is a battery. This is what we which you can mm It did yeah. Extra battery, yeah. Exac Well in fact I I did not know I didn't know really what to say here. If uh if you have any ideas of what we can we can say. So I don't I don't I don't understand what what they mean by satisfaction um and for and for example. Should it be more like um like a status of of the these meetings in fact. Yeah well in fact uh we we use a little bit the white board and the digital pen, not that much. Oh yeah it's really creative. Yeah. Yeah maybe we should go through, yeah an uh evaluation. So maybe you should we should do a kinda evaluation in the streets like asking to young peoples well, do you like to have a banana as a remote control. Yeah. Mm-hmm. Yep. Any any new ideas we could uh we could investigate next time? Dunno, oranges? Hmm. Okay. Very good. So Well done. I think we we can go home. Yeah. Maybe maybe we can hassle the the production department to to make a a real prototype that we can use at home to to evaluate. Okay so thanks very much. Bye.

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# Meeting ID: 130

Data Source: Train

## Executive Summary

Um the agenda for this meeting is um we'll initially have the prototype presentation by our two designers . And then we will evaluate it , given the criteria that um that we gave gave it . And um talk about our finances , whether we were under or over our budget . It's a pretty simple design . It's um based on a mango ? And we have the company logo here where's the L\_E\_D\_ ? It's in the middle of one of the little R\_s . And then the other one is the power . So it's palm-held . buttons are accessible from your thumb . And this is just if you've got like eleven or twelve or thirt the plus . So one plus one would be eleven , You press a plus button ? I've never heard of that kind before . but if if I wanna go to say number like sixty five , channel sixty five , if I press the six it'll go to channel six , and then I'll press the plus , and then it'll go to six and then put the five and it'll go to sixty five ? we can further define that . I wouldn't have thought it'd be a problem that it went to channel six first , in like on the way to channel sixty five . like as long as we realise that's what it'll do . Well the there is a there's a delay on remotes I think . um we went for like a a circular design for the numbers because we thought that's kind of a more natural movement than just going like that with your thumb . And it might actually help with the repetitive stress injury as well . Um and the feel of it , I mean , we've made this out of Play Doh , which is representing the , you know , the rubber , and the spongy rubberness . Okay , as for the colours , we were presented with um a limited range of colours for this prototype . that this is not necessarily a representation of the true colours that we would necessarily use . Um and we're thinking to carry-on with the fruit and vegetable theme , the colour um combination just could just be named after different fruit , But we're thinking that , seeing as we're having it in interchangeable casing anyway , like banana could be black and yellow , watermelon red and green , Banana's more representative of our colour scheme , like the company the yellow and black . or vanilla might be the most popular if it just uh blends in we thought of the components it was definitely um a focus of ergonomics and just a single ha handheld device , And so now that we've we have a prototype , uh we need to go over the finances Do you need to do a presentation first ? Evaluation criteria is next in line . Um , we're gonna be doing an evaluation report together based on the prototype that we've just seen . Um and looking looking back at my notes from our both our conceptual and our functional meetings , um I made a list of what our original requirements and goals were , Um and we're gonna do it on a one to seven scale where one is true and seven is false . So basically the lower p the lower the points the better . Do we have a fancy look-and-feel ? We've been quite

successful with the rubber coating The look is a little bit more playful . Yeah I guess that depends on your definition of fancy , I mean th the colours we were given for making the prototype aren't the colours that I think we would've necessarily chosen . I mean diff if you can visualise this in nice colours I think it would look quite fancy . I kinda like the potato look . It's a two ? Okay so question number two was is it technologically innovative ? So I know we have the kinetic energy which is very innovative . and the use of the rubber . and we don't have any scroll buttons , it's all pushbuttons , there's no L\_C\_D\_ control , so if we're thinking about the rest of the market , it's sort of probably halfway . we didn't want it to be any more innovative than this , because then that would've defeated the purpose . we'll put three , but I think we actually reached our goal . Uh , will it be easy to use ? Yeah . One . you can't really get confused with that . The plus number thing . But once that's figured out , it should be fine . Is this a good-looking remote ? Again I think the colour comes into this . I think that the logo could be smaller . Remember the management said that it had to be prominent . I like the appeal of it being like a big glob in your hand . where's it gonna sit in your living room ? the bottom could be like ch chopped a bit . But then it wouldn't sit as comfortably in your hand . Would we wanna show it off to our friends ? Okay , so should we say two for that ? will people be willing to spend twenty five Euros on this product ? I think we have to market it in the right way , that um to say that it is simplistic . And the kinetic energy part . No , I guess , I don't know much about the remote control industry , how much your average sells for , About ten pounds . But you don't have to buy batteries . So in the long term this can actually save you money . I would give it a two still though . Does this prototype match the operating behaviour of the average user . I think it does very well . easy to use . Okay so one ? Will this remote control be easy to find when lost ? is the alarm system still was it implemented ? But I mean it's not obviously obvious from the outside that that's gonna happen 'cause you can't s particularly see an alarm . I thought the light from the inside was gonna light up . You press the button it makes a noise It would just be a little speaker on the back or something . We can give it a one , because compared to every other remote ever m ever made , this one will be easier to find . Will it be easy to learn how to use this remote when brand new ? it's eas they'll pick it up and they'll know what to do . The plus thing needs to be worked on . we'll say yes it's uh one ? Uh , will it minimise the effects of R\_S\_I\_ , I think so . We may have to do some more research into other strain injuries that we don't know about . Two okay . Did we somehow incorporate the company colour and logo ? Well , yeah the colours are yellow and grey . So it could be grey on the banana one . I think this is the Four I think . Um , did we stay true to our motto and put the fashion into electronics ? But maybe more like two Alright so based on this evaluation , do we average them out sorta thing ? Yeah it is one point nine . So we need to tally up how much our w our product will be costing . Um we're using a regular chip . Um , it's cur it's double curved , so its curved all around . Um , we're using plastic and rubber , So it's like special colour well we'll have two colours Well one colour for the case , one colour for the buttons . So um our operating cost is twelve twenty Euros . I mean we weren't really given a lot of time , or materials , yeah , to go about our design task . Like we were very creative in in coming up with an idea I guess , but m and like if we had decided to use the L\_C\_D\_ screen , and like solar power backup and everything , then we wouldn't have been able to afford that . Good leadership , I think we stayed on task . and also our personal coach helped us along the way , We never were pushed for time , or sat around doing nothing , so I think we worked great as a team . We needed more Play Doh colours . The computer programmes are good .

Yeah well I guess we really it we bounced off of each other , Fantastic . Thank you very much .

## Complete Meeting Transcript

I'm sorry. What was the where's the L\_E\_D\_? Oh. Okay. Oh, there's no e okay. Okay. Sixty. Well the there is a there's a delay on remotes I think. Where you can have it it's like a five second input time. So as long as you hit them dada it should be fine. As long as there's not a big pause between the t hitting the two buttons. Was there so on the top there is volume and Channel up volume up. Okay cool. Yeah. It's the R\_. Mm-hmm. Mm-hmm. Yes. Oh it's nice. Oh I think I killed the five. I did. I killed the four. Oh god. Oh it smells good. Bravo You want the I don't know what order it goes in. I have one. Evaluation cri Okay. That's me. Hello. Oh there we go. Okay. Come on my computer. Come on. Sorry my computer's giving me technical difficulties. Should I press it again? Last time I did that it sh Okay. You're right. Oh. Still not there. Okay now I think for this one I could Would you guys prefer use the whiteboard or mayb maybe I'll just do it on right on the screen where you can see it. Um, we're gonna be doing an evaluation report together based on the prototype that we've just seen. Um and looking looking back at my notes from our both our conceptual and our functional meetings, um I made a list of what our original requirements and goals were, um, back to our kick-off meeting this morning. Um, and we'll evaluate as to whether we've s done what we set out to do. Um and we're gonna do it on a one to seven scale where one is true and seven is false. So basically the lower p the lower the points the better. Okay so question number one. Does the remote whoops. Sorry. Oh I'm not gonna be able um, I'll do it on the whiteboard. I can't change it so I'm g I'm gonna ask you to push it down once. I'll write down our scores up on the Okay so number one. Do we have a fancy look-and-feel? Yeah I guess that depends on your definition of fancy, but it's definitely different. It's not your traditional yeah. Mm-hmm. Yeah. Mm-hmm. Yeah. I kinda I like the potato look. It's very different. It's what? Oh sorry the mango the mango look. Yeah it is, fruit or vegetable depends on your mood. So I myself would say a one or a two. It's a two? Okay, and p One being true. So Two. Okay, actu that's pro that's gonna get confusing, like that. Okay so question number two was is it techn technologically innovative? So I know we have the kinetic energy which is very innovative. Use of the rubber, the use of the L\_E\_D\_. Isn't Mm-hmm. Yeah. And I think I mean it it's tough to say because we were we didn't want it to be any more innovative than this, because then that would've defeated the purpose. So I mean I we'll put three, but I think we actually reached our goal. We didn't want it any more than that. Okay question number three. Uh, will it be easy to use? Yeah. Yeah. S Yeah I think it's you can't really get confused with that. I mean, there'll be s we have to work out the uh number the plus system. But once that's figured out, it should be fine. Number four. Is this a good-looking remote? Remember that seventy five percent of users find most remote controls ugly. Mm-hmm. Whoops. Should just not touch it. This time it's the three I killed. I was just wondering if it should be like flatter. Or Well Yeah the bottom could be like ch chopped a bit. Oh. That's true. Maybe, it could it could be on the bottom, so you wouldn't loo like if it's flat here, so it sits up. Like that. I g If it's weighted maybe. Details, details. Okay. So, is this a good-looking remote? Would we wanna show it off to our friends? Yeah. Yeah? I mean I gue yeah, it's personal taste, but Yeah. Okay, so should we say two for that? Yeah? Okay. Uh, question number five. What's um will people be willing to spend twenty five Euros on this product? Remember that eighty percent of users were willing to spend more money when a remote control looked fancy. Mm-hmm.

Yeah it the marketing will have a lot to do with it. Shake it and the buttons fall off. No, I guess, I don't know much about the remote

control industry, how much your average sells for, but I know I am, aren't I? But you don't have to buy batteries. So in the long term this can actually save you money. So we'll market it that way too. So yeah I think with a good marketing scheme um and the personalisation options, it'll Yeah. Okay number six. Can someone read it out? Or Um yeah. So that was mainly that the statistics we said Mm-hmm. Yeah I guess the I think the key word there is average, 'cause there were some people that used the uh video input and sound and stuff. But they're not you and I really. So. Okay so one? Okay. Number seven. C Heather could you push it down? Will this remote control be easy to find when lost? Remember that fifty percent of users lose their remote regularly. Now is there the is the alarm system still was it implemented? It turns into a duck and starts quacking. Here I am. Um Okay. We oh you're just explaining why it's not on the prototype. But yeah, it'll be there. So we can we could say that We can give it a one, because compared to every other remote ever m ever made, this one will be easier to find. Okay. Um Question number eight. Will it be easy to learn how to use this remote when brand new? Remember that thirty four percent of users usually found it difficult. So it has to be yeah, it's eas they'll pick it up and they'll know what to do. The plus thing needs to be worked on. Yeah. Well Do Does it make more sense for the middle one to be an just an enter button? So then you would have to push two buttons every time at least. You could just press six enter, or one two enter. Yeah. Um, okay so we can we'll say yes it's uh one? Okay. Question number nine. Uh, will it minimise the effects of R\_S\_I\_, which was repeated strain injury? Um, which affected over a quarter of users. S It's soft, and And people could Mm-hmm. I don't know what other options there are. Could I mean, you could hold it in your left hand and d use your index finger. But there's not really any other options unless it's like a keyboard. So, I think we did as as much as you can with a remote control. So, one or two do you think? Two okay. Okay number ten. Did we somehow incorporate the company colour and logo? Now is the colour gonna be there even if it's like vanilla? Is the yellow Mm-hmm. It sounds like the colour's something that we But I mean the yell yeah d yellow's ugly though, depending on the So I think we'll have to talk to our executive managers, and see if we can get away with just the R\_R\_. Okay. Yeah. And the buttons in the middle. Okay. So, do you think that's more of a three then? Three, four? Four? Well we have good reasons for it, so we but we can still put a a four? Okay, and final question. Um, did we stay true to our motto and put the fashion into electronics? Current trends of fruits and veggies, desire for sponginess. Yeah. No, uh, are the plates interchangeable? I think I missed a few they are? So you can have banana and kiwi and okay. Okay, so that's something that's kind of in the making too, like maybe it'll become more Mm-hmm. Yes we do. So I wh what was I gonna put for that? A two for fashion? Okay, so our average there, five, six, eight, ten, eleven, twelve, thirteen, fifteen, nineteen, twenty one, divided by eleven is Between okay. Um. Yeah, that's very good 'cause the highest we coulda got is one. Does that seem right then? Okay. Sorry. Are you gonna do that? Okay. Oh is it locked 'cause I'm in it? Or okay. Mm. 'S good. Mm-hmm. Yeah and the conceptual and functional. Like we were very creative in in coming up with an idea I guess, but m When we can down to it. Okay. Mm-hmm. Yeah. Good leadership, I think we stayed on task. Mm-hmm. And the timing was good. We never were pushed for time, or sat around doing nothing, so Was good teamwork. I think we are well-suited to our roles. Oh really? Okay. Yeah. The computer programmes are good. The Yeah. I don't think there was anything Yeah. They'll probably still be there. Um I'm not sure, new

ideas found. Yeah well I guess we really it we bounced off of each other, which was cool. Like based on marketing stuff and then you'd say something about interface and yeah, worked well. Mm-hmm. Oh

does it have smart materials by the way? Does it have smart materials? Oh yeah. Mm-hmm. Mm-hmm. By watching T\_V\_? Mm. Conclusion? Dadada. Okay. Here we go. Alright, the agenda for thi oh. Alright. Um the agenda for this meeting is um we'll initially have the prototype presentation by our two designers. And then we will evaluate it, given the criteria that um that we gave gave it. And um talk about our finances, whether we were under or over our budget. I have a um a spreadsheet where we can calculate um our prices for every aspect of of what we've made, given our options. And um evaluate the product, as a group. And um So first we'll have the prototype presentation. Do you need the um PowerPoint for this? Alright. On? A mango. Okay. Oh. Okay. Oops. Yeah. Notice you have a number ten button. Okay. No problem. Ah. Oh. You press a plus button? Oh okay. I've never heard of that kind before. Yeah. Yeah. Oh. I But Would you have to go zero plus one if you wanted to go to channel one or two? Yeah but I mean if you press, it'll go to that channel right away. 'Cause you gotta press the plus afterwards. Yeah I know, but if if I wanna go to say number like sixty five, channel sixty five, if I press the six it'll go to channel six, and then I'll press the plus, and then it'll go to six and then put the five and it'll go to sixty five? I th Um Yeah it wouldn't be a problem. But I was just wondering like as long as we realise that's what it'll do. Yeah. C\_ and V\_. Right, where um where's the power button? Oh okay. Yeah. Yeah. Oh okay. Yeah. Ergonomic, definitely ergonomic. The spon yeah. Yeah. Bit of a stress ball feel. Yes. I would. My goodness. There you go. Genevieve? Yeah. And something hmm. Oh right. Yeah. It looks more Think like vanilla and banana would. Okay yeah. Kinda Christmas, you know. Yeah. Cool. Alright, thank you very much. Good work everyone. Alright. And so now that we've we have a prototype, uh we need to go over the finances and seeing if this prototype matches uh what our budget can handle. So, I have something I'm going to Oh wait a minute. Do you need to do a presentation first? Yeah. I'm gonna check that out for a second. What time is it anyw Oh yeah sorry you're right. Evaluation criteria is next in line. Yeah. Just press um function eight again. And then again I think. One more time. Yeah. Yeah. Okay. Ooh. Yeah. The look is a little bit more playful. Oh definitely different yeah. Oh you were only given red and black? Oh okay. Yeah. Okay. Yeah. Yeah. It's mango. It's mango. Yeah. I would say two. Personally. Yeah. Yeah. Yeah. Yeah. Yeah. I'd say maybe three. Yeah we want it simple. Yeah. I think so. Yeah. Yeah. One. Th The plus number thing. Yeah colour will definitely be a factor. I think that the logo could be smaller. And maybe not such a prominent way. Maybe like at the bottom, kind of. Oh it just had to be on there I guess. I like the appeal of it being like a big glob in your hand. Maybe if the bottom was just sort of flat, and then the rest is like round. It would still be comfortable I think. We c we could handle it I think. Ah it'd fall over all the time though. It'd be annoying. 'Kay we're done designing. Come on. I think, it was another colour and it was like I think it'd look okay. I think maybe a two. Sure. Yeah. Yeah. Durable. But you're our Marketing Expert. Oh. Exactly. Exactly. Yeah. I would give it a two still though. Mm. Oh yeah. Yeah. Yeah. Yeah. We have the alarm system. I thought the light from the inside was gonna light up. Or or was it gonna make a noise? You press the button it makes a noise right? Yeah. Awesome. Awesome. I though w it was gonna make a noise. Okay. Oh okay. Whoo. Okay. Yeah, totally. No problem, mm. Totally. Yeah. Yeah, so it's just like channel six, six, enter. Yeah but you don'

t have to press zeros. And then like twelve, enter. Yeah. Yeah. I think so. It's like right in the Your thumb might get a little bit uh Yeah. But it is soft. And that's kind of what the um the PowerPoint slide thing said would be good for R\_S\_I\_, so maybe it is but Yeah. Yeah. Yeah. Yeah. Yes we did. Well, yeah the colours are yellow and grey. So it could be grey on the banana one. Yeah. Mm, yeah. Hum. I would say so. But maybe more like two 'cause there's no like pictures of fruit, it's just sort of naming it by a fruit. With the with the colours. Yeah. Yeah. That's fashionable in itself to have interchangeable plates. Be

like Yeah. Maybe if it was scented. Yeah we have money for that. Um Alright so based on this evaluation, do we average them out sorta thing? Oh. I would say two. One point nine or something? I don't know these things. Um, between one and two. Alright. Yeah. I'm attempting to do that right now. Yeah it is one point nine. Ooh. Go Heather Pauls. Yeah. Alright, now with that over and done with, our next step is to see if we are under budget. And um my computer's frozen. And now it's not. Okay. So um in our shared folder, if everyone could go there right now, um I'm going to um steal a cable. Um it's it's um it's an Excel file. Oh. Yeah. 'Kay there we go. Um, production costs. And um I have to access that as well. One moment. 'Kay so far I've added what I think or what is going on? Great. It's blinking at me. It's locked for editing. Read only. I'm gonna open up a second one then 'cause it's locked for editing. I have the original in my um my email account. I dunno. No. No, I was hoping that you guys could. Um, there we go. Okay here we go. So we need to tally up how much our w our product will be costing. So um if you can look up at the screen, um the large screen, oh I guess looking at your own too and telling me which one you think. Okay we're using kinetic which is quite a large expense at three Euros. Um we're using a regular chip. Um, it's cur it's double curved, so its curved all around. That's another three. We're already at five. Um, we're using plastic and rubber, so Good thing plastic is free, we're at eight. Um S Yeah. I guess we should do it just for one kind. So it's like special colour well we'll have two colours right? Well one colour for the case, one colour for the buttons. So we can Um, we have push button interface, so that's inexpensive. And um we have a special colour for the button, and we also have a special form. And a special material. Which puts us just barely under budget. Hurray. Yeah. Good work guys. So um our operating cost is twelve twenty Euros. Awesome. And back to our PowerPoint. So we've 'Kay. Yes we are. So we need to do a product evaluation, again, which is probably um I dunno. A different extension of a Hmm. Yeah 'cause we're talking about leadership, teamwork. Yeah. Alright so um Do you guys feel like there was room for creativity? Pushed for creativity? Ye Okay. So it'd be like need more time and materials. But you were allowed m creativity? I think so as like but you were supposed to have creativ Right. Right Okay Great. Leadership? Is this me being like, guys do you like me? Um. Yeah. Yeah. Oop Okay. Teamwork? I think we worked great as a team. Yeah? Alright how were our means? We needed more Play Doh colours. Yeah. But ever everything else was satisfactory? Is that good Yeah? New ideas found. I don't really know what that means. Hmm? Yeah. Yeah. Yeah. Each other's Mm. Okay? Well with that achieved, our last slide is our closing slide. Yes our costs are within budget. It's evaluated generally positively. And um don't forget to complete final questionnaire and meeting summary. Then we celebrate in such a way that I have no idea. Alright? Okay, bye. Okay. Um yeah. I just got a few slides, so show them. Thank you. Do you want to present it? Yeah, here we are. Mango shape. The L\_E\_D\_. So it's palm-held. Yeah. You just need the nought. So one plus one would be eleven, or Yeah

because if you on your average um remote, if you press one twice you just go to um or uh say you wanted channel twelve, you press one, and then you go to channel one, and then two then you'd just go to channel two, instead of twelve. So if you did like one plus two you could go to channel twelve, or two plus two is channel twenty two. Oh. Well I don't mind, we can further define that. I wouldn't have thought it'd be a problem that it went to channel six first, in like on the way to channel sixty five. But I suppose it's not as snappy. Yeah. Yeah. If you don't put it Yeah. Yeah, that yeah. Mm-hmm. Um And channel, which is so you could just go like that without thinking about it, like It's the bigger R\_. So it's just like. We deci Yeah um we went for like a a circular design for the numbers because we thought that's kind of a more natural movement than just going like that with your thumb. Uh e ergonomics are all considered. Yeah. It could cause another type of repetitive stress injury though. But yeah, no I mean



it's a different movement so yeah. Um and the feel of it, I mean, we've made this out of Play Doh, which is representing the, you know, the rubber, and the spongy rubberness. Um 'cause it was said before in the material specification that this the this anti-R\_S\_I\_ um material is often used in stress balls so this has got a you know a bit of give to it, and it just feels feels different. Would you like to feel it yourselves? How it fits in the palm of your hand? Thanks. And you? O Okay, as for the colours, we were presented with um a limited range of colours for this prototype. But we're thinking that, seeing as we're having it in interchangeable casing anyway, that this is not necessarily a representation of the true colours that we would necessarily use. Or the combination. Um and we're thinking to carry-on with the fruit and vegetable theme, the colour um combination just could just be named after different fruit, like banana could be black and yellow, watermelon red and green, or vanilla might be the most popular if it just uh blends in more settled cream instead of the others are all a bit garish. Banana's more representative of our colour scheme, like the company the yellow and black. So that for corporate identity that would probably be the most strength. I mean watermelon, you know, m probably appealing to the yeah, seasonal. Apple green, brown, more kinda trendy, you know, khaki Yeah. Okay. Um yeah we thought of the components it was definitely um a focus of ergonomics and just a single ha handheld device, I mean you don't need to use both hands, one hand to hold this and type in with the other, you can just use your thumb. Um, as we said the rubber's probably used for comfort and anti-R\_S\_I\_ and that's about it. Mm-hmm. Mm go Feel I think. We've been quite successful with the rubber coating and Yeah. I think the colour has a lot to do with it. I mean th the colours we were given for making the prototype aren't the colours that I think we would've necessarily chosen. It's not the kind of ooh uh at all sleek red, black and yellow, and orange. Um But if you can imagine that in like a s just a maybe uh a kind of pale metallic-y finish or something Well I know know it's for rubber. I mean diff if you can visualise this in nice colours I think it would look quite fancy. Oh well, potato, mango, fruit and veg. Potato's fine. Potato's fine. Yeah. Totally. It's really adaptable. For the fancy I uh two, three. Yeah and the use of the rubber. For the anti-R\_S\_I\_. The L\_E\_D\_ use isn't particularly innovative and we don't have any scroll buttons, it's all pushbuttons, there's no L\_C\_D\_ control, so if we're thinking about the rest of the market, it's sort of probably halfway. In some aspects it is, like we said. Yeah. Though it was our specification. Yeah. Yeah. Yeah. Yeah and perhaps the turning on but Mm. Again I think the colour comes into this. Okay. Not in Don't worry. I suppose I've got quite big hands. Thing is like t

hat, it's not going anywhere particularly. Yeah. Uh yeah, it's less um, what's th ha. H it's got higher centre of gravity like that. I would definitely go for that rather than like your average plain old remote like that, but definitely in another colour, I'm not happy with those colours. Yeah. Yeah. Yeah. And the kinetic energy, shaker-style-y, whoo, ooh no. But you know, those'll be firmly on. Mm, yeah, that's true. Yeah. Good point. Yeah. Yeah. Does this prototype match the operating behaviour of the average user. Yeah. Because yeah, because the most accessible buttons are the volume and the and the channel-changing. And it's just you won't have to think about it. You don't have to look down to find them. They're clearly there, easy to use. Simple. Yeah. Mm. Yeah. It Yeah I lights on and, or flash as well. But I mean it's not obviously obvious from the outside that that's gonna happen 'cause you can't s particularly see an alarm. Yeah. But when the alarm's not yeah. If you Yeah. You could s Yeah. Well the thing is, if it was had an alarm system, I mean, when it when it lights up as we I mean it could light up when the alarm went. But if it was hidden underneath the cushion or something, there wouldn't be any point. So you can't see the alarm, but it would light up. Yeah. Alarm, but you can't see an alarm inside uh the alarm system itself. Yeah. Yeah. It w yeah. Sorry. Yeah. Sorry Heather. That wasn't very clear. Yeah I think just because it's we've decided to reduce it down to the basic buttons, I think that in

itself makes it so much easier to use. Mm. And or sixty six enter, y Yeah I think that's probably more straightforward. Yeah. Good Ooh. Mm. Oh. Injury. Yeah, that's what I was thinking. We may have to do some more research into other strain injuries that we don't know about. Mm-hmm. Mm. Yeah. I think we're getting that's true. Mm. I think yeah, I think too. Yeah. Mm. Yeah. I think this is the the factor that we've been least successful in confronting. Yeah. Four I think. Well I don't what do what Okay. Yeah. Like um the colour scheme names and stuff. Yeah. Yeah. Yeah. It is. The thing is, I think if somebody saw that and you said what was that inspired from, I don't know if you'd instantly say mango. Oh yeah. There we go. That would be great. Um Okay. It's Between one and two. So that's pretty fantastic. Mm. It seems like it should be more around two. Do we have an online calculator? Okay. Oh wow. Well done. Well that's excellent. Production costs. It says it I think it just means that we can't add any more to it now. Have you have you completed it? Oh right. Okay. Okay. Yeah. Yeah. Yeah. Double double-curved yeah. Yeah. Yeah. Yeah. Mm-hmm. Oof. Congratulations guys. Of the actual project rather than the product? A project? Is is yeah. So wh how we actually went round uh about doing it. I think we were pushed. I mean we weren't really given a lot of time, or materials, yeah, to go about our design task. So I think we could've done with a bit more time. Yeah. Yeah. Yeah. Well we were just limited by resources really and like if we had decided to use the L\_C\_D\_ screen, and like solar power backup and everything, then we wouldn't have been able to afford that. So that did limit creativity. Just resources. But yeah. The fruit and veg idea. Yeah we did. We've, uh seeing as we've come out with what we intended. A pro um a product within the budget. I think that's a sign of good leadership and also our personal coach helped us along the way, so you know I think it's been fine. Yeah. Good timing. And project manager of course. Yeah. Yeah. Um Yeah and more Play Doh, 'cause that was all the red we had. So even if we wanted to make a bigger prototype, we wouldn't have been able to. Yeah. It could be really straightforward for the computer. I think the only thing was having to remember to you know to tick the okays but I think I was the only one who struggled with that. Mm. Uh me too. Yeah. Well I think we've all learnt stuff fr

om each other, like the n um yeah. Just about each different. Got new ideas from each other. Yeah. Yeah. Sorry? Oh yeah. Well mm, did it come into the into I dunno if we counted that in the costs. Yes. Uh. Fantastic. Okay, brilliant. Thank you very much. Um This is what we came up with. It's a pretty simple design. It's um based on a mango? Yeah. And we Yeah. And we have the company logo here and this will be the infrared here and this'll be the power point, the on off button kind yeah. It's in the middle of one of the little R\_s. And then the other one is the power. And uh we just have a simple design. We wanted it all to be accessible from your thumb yeah palm-held and all the buttons are accessible from your thumb. So you don't have to Oh that was a mistake, wasn't it? Right no, that's a zero. Take that one off. Sorry. I was in charge of the numbers. And this is just if you've got like eleven or twelve or thirt the plus. You can go one, three or something. You press that first and then you go one three yeah. Well we just thought, we have all the numbers here, so we wanted something representative of numbers larger than ten and So the plus and then yeah. No no, th all that's why we have all these numbers. These numbers um these numbers all work independently up to nine. Yeah. Oh no. Uh, the plus is only for if you're going past the number nine. You p Oh. No you press the plus first. I I well it doesn't we haven't really s I would've thought you pressed the plus first and then the six five, but she says plus press which what do you think is simpler? It's a Yeah. Yeah. Oops. Yeah. Yeah. Yeah. So A channel. Just so we can flick It's in the middle of one of the little R\_s. Yeah, so it's all accessible. Without m taking your hand off the remote. And it might actually help with the repetitive stress injury as well. Okay. Yeah. Yeah. Yeah. Yeah. Of Play Doh yeah. 'Cause it'd be quite subtle and

Yeah. Yeah, yeah, yeah. The pomegranate's kinda girly and funky kind of, and then the vanilla's more for the more sophisticated customer who just wants something that fits in with all decor. Yeah. Mm. Well Yeah. Yeah. Yeah so not very sleek and we don't wanna go for black because most remote controls are black or grey. So we want it to be stand out that way, anyway. Yeah. A metallic-y finish we were thinking. Polished. Okay Yeah. We we were we were thinking about yeah. I w I'd say two I think. Fanciness. Yeah. Yeah. Mm. I'll go for three as well. No. Wouldn't be simple, yeah. Yeah. Yeah very. I think one for that. Yeah. No. Yeah that's the only thing yeah. It's definitely Yeah. But the Remember the management said that it it had to be prominent. Yeah. Yeah. But you know what I've just thought of there now. What where's it gonna sit in your living room? Is it not gonna fall off the arm of the sofa? Yeah. But then it wouldn't sit as comfortably in your hand. Yeah. Oh that would be nice. Yeah. Three. You would though, 'cause it's bit it's more interesting than other remotes. Yeah. Yeah. I think we have to market it in the right way, that um to say that it is simplistic. So people don't just see it and think, uh, this is so simplistic, I don't want to spend twenty five Euros. We have to market it. And the kinetic energy part. Yeah. Don't shake Oh no the plus. You're use the zero. Make a new one. I think they're about ten po ten pound, aren't they? About ten pounds. Fifteen? Yeah. Mm. Yeah. I think it does very well. The zap yeah. Uh Yeah. Yeah the bu when you press the alarm system, the lights behind the and it'll vibra It'll be again in the marketing. Yeah. The light it will. But But both Yeah. Oh, that would be brilliant. I'd be tempted to Yeah. It would have to be in the market Yeah but you still couldn't see it. It would just be a little speaker on the back or something. So the plu the plus w once that's written down on the page that'll be really simple, won't it? Yeah. That kind of annoys me though, when it's zero six when you have to press

I don't know why. Oh okay. Right. Alright, aye. Yeah. I'd say w yeah one. Yeah. Yeah. Hmm. But if you're zapping yeah. I don't think it will f Yeah, the biology. Mm. Yeah. Yeah. I I'd say t two. Yeah. Yeah. N We we can't really do that because for example on the banana theme we can't have it as being yellow. It won't stand out. So n it's not always gonna be the same colour. Gray, yeah. Yeah, could be grey. Yeah that's right, we didn't even rea Yeah. Perhaps a metallic or or like that's grey, and it wouldn't be that expensive to have a little bit of metal. No? That isn't rubber. Okay. Following that briefing we did. Yeah. Yeah. Yeah. Yeah. I think w yeah, I think one. Well that was our brief and we followed the brief. Well we haven't got a big banana but Oh yeah. No. No. Oh that would be class. Yeah. Two. It's Yeah. Close to two. Yeah. I got Yeah, 'cause we've a four to bring down. Uh, aye. Yeah. Uh, should've added five. This is. Yay. Is that the project document? Yeah. Oh right. What about a special colour? Are we using that? Yeah. And a special material. Yeah. That's good. Yeah. The ma Or materials. Yeah. Yeah. Yeah. Creativity. Yeah. Yeah. Yeah. Yeah. Yeah. Yeah, it c it might've been bigger. Yeah. I'm actually not sure if I've saved my presentations. Yeah. Through discussion. Yeah. And we were a able to modify each other's ideas to fit in with our areas of expertise. If if it if it If it can be afforded. Yeah. Yay. Yeah.

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# Meeting ID: 91

Data Source: Train

## Executive Summary

The User Interface Designer and the Industrial Designer presented the prototype to the group and displayed all of its components. They demonstrated how the locator function operates. They suggested that a trigger button should be included in a later designing phase to improve the feel of the product. The Marketing Expert gave an evaluation of the product and felt that it satisfied his criteria. He suggested including a lifetime guarantee and expressed concern that the remote would only be used for televisions. The Project Manager discussed the final production cost with the group; after an analysis of all of the components the final cost was 15.8 Euros. The Project Manager then led a discussion about the group's experience on the project. The group felt that they worked well together and that they had room to be creative, but only after they changed many of the initial specifications. They also had difficulties using the meeting-room equipment. They were satisfied with the increased final cost and budget.

## Complete Meeting Transcript

Uh 'kay. So Yep. Okay so we're here to talk about the detailed design of the product, 'kay? And here's the agenda for this meeting. Uh I'm just gonna open, say a few boring words to start with again, and start taking minutes afterwards. You guys are gonna give us a presentation of our wonder product that I can see some demonstrations of over there. Looks cool. And then we're gonna evaluate it. Then we're gonna talk about finance, and I've got a lovely Excel spreadsheet that I knocked up in the last five minutes for this. And uh yep. And we're gonna evaluate the product and close. Got forty minutes to do this in. We should be fine. Let's try and keep this one on schedule. So Your thing is in where is it? Is it in Who wants it? Zapping your favourite channels, eh? Oh okay okay. Ah 'kay okay, that's favourites. Ah 'kay. I like the the the the logo on there as well. It is very prominent. So this is the Okay. Ah, okay I see. It's pretty cool. Is that could that be easy to for the scroll wheel to be rotated if it lands on it? Oh well I guess it depends on the stiffness a little of it. Mm. Feels good. I take it that this is gonna be slightly lighter in the final design as well. Yeah it's kinda cool. You have to reach a little bit don't you. Ah yeah that wouldn't make sense. It's cool. I'm impressed. And hold it so wh what's the marketing perspective? Okay. Mm it's impressive. So let me get it, if I press this button I see. That's pretty cool.

Hang on. I plan to do that as well. So the the two blue are are those for the the it to charge off of in? Ah okay okay. Yeah it's the right shape isn't it? But maybe if you had a trigger plus the scroll then that would get past the the problem of it landing and scrolling, 'cause then it would need to be hit on both sides. Okay. But it's definitely got options for like different types of models and things as well based on that, hasn't it? So is that the the final colour scheme as well or? Okay. The hmm. It came off. The scroll wheels, a problem with them not being sort of I don't think the user interface guy wants to touch it anymore. Mm. Okay enough of that. Well i it's cool guys. 'Kay so are we done with the this presentation? Okay. Now now. Have you? Okay. Can I not get your get at stuff from your shared folder now? Oh I see I see. Do you would you a argue that that we're better going for the higher cost than bringing it down into twenty f five as we probably could, but lowering our profit margins? Mm-hmm. Mm 'kay. And we're actually quite open to be able to expand the product for a later version with those features quite simply anyway, aren't we? Th there's no fundamentally different technology to do that. Hmm. Yeah, the plus there's the the risk of making it unusable as well, or making it less b because at the moment it's actually very straightforward to look at all the buttons, you know what they do, it's very simple, and it just works. Mm there's a risk of that. Okay so we can talk about finance now. So I have a little spreadsheet for us where I I was wondering, you when you talked about the fifteen point eight Euros, I was wondering how you came up with that figure? Okay so I have bit of a spreadsheet here for this. Now I've made a f few assumptions here in that I'm assuming that our power adaptor we can make for a cost of four Euros, equivalent to solar cells, which I think is probably fair considering that we have in-house manufacturing of power adaptors already. Uh and I'm assuming that the locator beacon, the you know the Can be made for it sounded different that time uh can be made for a similar price to uh an L\_C\_ display, uh an uh Uh do you think that's fair coming from a m the manufacturing?. Okay. Yep. Okay. So we're down to sixteen point four, yeah. Is that a single-curved rather than a double-curved? We're not entirely sure what single-curve versus double-cur You think? Okay I'm convinced. But we save one Euro that way, yeah? So we come bring it down to Fifteen point four. Well

hang on. Do don't speak so it's in here, in that w do we have any we have special form don't we? So that's yeah. But the the the we haven't talked about any special colour though uh I don't th if we're going for greys and silvers then I don't think we're O okay so we're Push-button, scroll wheel, we're basically we have uh th is this intended to be a button as well or just a scroll? Just a scroll? It's not one of the scrolls where, for example, with this one you could push it down to be a button? Okay then we have fifteen point eight Euros. It wasn't bad. Okay so we're on to the We're on to the pat-on-the-back part of the presentation, where we have a look at the criterias th that Paul the criterion criteria that Paul has has given us, and we can use that to tell How's it going? Anyone got any thoughts? How how have we done today? I think we did pretty well too. That looks pretty spectacular. Any other chang uh thoughts? Okay so th th what about um room for creativity? Is it the. I I think we we ended up being quite creative there. Mm. Not every idea necessarily, it's still a remote control. Uh no yeah but we did we did break with the specs a little bit I guess, but the uh 'Kay leadership, what do we report back to the bosses? No th th I think they were r reasonably flexible with us over the whole changing the specs thing. I agree. Synergy. Teamwork, yeah he is uh. What did we think of the meeting room, I guess is an important thing here. Mm. Yeah, this falls off and uh the white board worked really well without any pro Mm-mm, lapel. Wha okay, oh, alright. That's it's down, it's quite close. Keep it, keep it calm. Oh dear. No more pizza for me. So yeah the the pen came in alright and it's a little uncomfortable to use but I guess it works. Nah, I'm I'm not convinced of that at all. I've been wor I've been wondering about that all day, but see these look like they're that looks the oth that looks like it would be that way around, but it feels more

comfortable, wh what you call upside-down. I don't care. Uh okay so that data might be slightly invalid. What new ideas have we found? Well let's do both then. Uh for the product? Yeah we came up with quite a bit. And for the meeting room, Has anyone got any more Yeah less sore on the ears. Okay so Are the costs within the budget? Nope. Oh hang on it really that's something we that the costs were under twelve fifty Euros. No requirements are changed. We're still under twenty Euros to build, so we're good. And the costs within the budget? Not the original budget, but they are now. Is the project evaluated? Mm I think so yeah, then celebration as it says. Oh I don't know how that got there. Uh anyway. Thank Thanks guys. Yeah, I've got a lot of paperwork to catch up on too. Oh. So you forgot how this works again? Boss. Hmm you knocked it up? Thi third third third. The end product thingy. Yeah.. Um yeah so what we ended up with. Production costs estimated by our manufacturing department and um the research department, which is us, is uh fifteen point eight Euros, someone forgot the units there yeah, uh unit price unit production price cost thing. Um we implemented the basic functions, which is just T\_V\_ functions plus the locator, which was one of the marketing things, cradle, scroll wheel for uh the the channels, and uh we implemented the f the the way of putting the new and revolutionary zapping, your favourite channels functionality, in the scroll. Yeah. Zapping you know zapping. Maybe it's just a Portuguese thing. And um yeah that was the result. Start s the the start uh to to to programme yeah. Not helping. Don't have no one to handle that. Yeah. So you ha you have like the the base station with um the little button for the where's my remote. The locator function. Wicked isn't it? Ja. Nah. It fell off. W we need we need we need s some more buttons if it would to work on some other stuff, but We we w yeah we could get another version of it that actually works. But uh Very co very col

f colourful. beep beep beep. Yeah. We don't It's a scroll. Yes. We're wicked. Awesome. Yeah. Yeah. That was mm-hmm Yeah. No. Yeah. Basically. It was more of a teamwork thing then really leadership based project was Teamwork. Yeah. And that's D you must have very long shirts. That's way far down lapel mic. Lapel lapel lapel. That's almost a crotch mi cr Oh dear oh dear. 'Cause this is you were using it o upside down. Still that Use them like that. Bunch of new ideas. Yeah comfortable headsets would be nice. Mm. Coulda been worse. Mm n no. Hooray. Free coke provided at the cafeteria. Who wrote that one? Cool. So so so. Maybe. Maybe maybe maybe. Bra Mm that's oh that's oh I like it. I mean you guys gave me more than I was asking for, so I'm happy because we've got some really marketable features in this. Yeah I think it's good. Good good good job. Uh pla I'm ha It's great. That's great. It's a great feature. So you can take this ho take this home with you tonight and you can push that and he'll be across town Uh, I can see that. Yep I like. Good job. No no. Well I mean of course, I mean My my s my suggestion is we're gonna go go to the silvers and blacks like most of the televisions. You know some blend of silvers and blacks. So you're not gonna find my uh my folder up there I gotta do mine up at the board. Yeah yeah. So No it's not in there because I had the computer problem and I I I cou I couldn't create it. I couldn't create it in the PowerPoint, and I think I've got this really strange cable. So what I had, basically going from the PowerPoint format, is that uh yeah yeah I like this a lot. Is this one of the tests is to see how we can adapt to s changing situations in the in the meeting room? So what we had is we had the method. That's not how you spell method, is it? No A\_.. So this doesn't go so fast this way. And when I speak about method I speak about the marketing of the product huh. And uh to me with this product we got uh we got basically three things to market. We've got the features, we have the uh characteristics, and we have the I I don't know what we would call the other part what we call you know the the the corp corporate Help me. The the corporation stands behind the product, okay. So the features I think we got the scroll, we've got the uh the locator, we've got the durability, we've got the

dependability, we've got you know the features that make this a unique product. Um the characteristics I talk about, we have reliability, we have comfort, we have ergonomics, we have environmentally sensitive. Uh and the corporation, we're talking about we're we're a new we're a new company. We're wanting to make a name for ourself. We're wanting you to uh find our product so we're gonna give you a good product at a fair price. One thing I would want to see is uh is can we can we get a lifetime uh guarantee on this product, a normal use guarantee, which means that this product, for the for the life of of the life use, if it should have a technical problem, that we could re replace it at no cost? That was something I would be interested in. Um so yeah without uh going into great details, we have a we have a product, it has the features and the characteristics, and the background, I believe, to make it marketable I believe at a cost of of of thirty thirty five to to fifty Euros. We're gonna be competitive, and we're gonna we're gonna have a market niche. Um w That that would be uh that would be I think a decision best made by corporate um I I m for my evaluation, based on what our competition is, I th I think that that we can go after this and and and go after more of the uh exclusivity sense than the mass market sense. But I'm sh I'm sure open to to market this in either direction. But you guys came up with a great product, and at that cost I think it uh there's nobody else that's putting this this combination of of ingredients together. The only limitations I see to this is that we're focused on television only. Uh t

hat's the only that's the only drawback I see to this. But with all of these other features I think people c one thing I'm I'm hoping for is people are not gonna even notice. There's gonna be somebody going home and say oh sh this thing doesn't work for my D\_V\_D\_ and my but I like these other things, so they keep it, they don't take it back. Well one of one of the thoughts that I had is can can this unit be be produced in a way that makes it upgradable? You know uh like like a um a sim card in a in a um in a telephone. You know is there a card in th can we make a card and so after Mm-hmm, but you follow what I'm s I'm s Yeah 'cause if if we can make this unit upgradable then we're yeah but then we talk about changing the warranty concept and everything, but that's that was just an idea I had. Uh to me the only additions Yeah. Yep. But anyway that's uh Mm-hmm. We've got a we've got a curve and a droop. I don't know whether that. Ooh. No, I think we come up with a with a attractive marketable um product and and concept. Yeah well we we we kinda broke we kinda at least adjusted every every criteria they gave us because we d we still have the the teletext capability in this thing right, we raised the price of it, we've added two t new technology to it. So you know you know if this thing flies then we've we've adjusted or broken every every idea they gave us. Yeah yeah yeah yeah. But I like I mean when I say we have we had I believe we have room for creativity 'cause w this is we did it. Cohesive yeah. Yes synergistic yeah. Yeah. You know you know what they're gonna have on the recording in there from that microphone is your lunch digesting you know th New ideas f uh for the product or for the the the the environment or what are we ta Oh. Well I I mean clearly remote control microphones would be the would be a nice solution to all these cables, but I'm sure that there's there's some justification for these things that I don't know about. And of course I did not have so much fun with my computer this afternoon. It's not been uh it's not been cooperating so well, but I don't think that's the that's avoidable. No. Okay. So we need to close this meeting, yeah bravo. Congratulations. S I've got a lot of paperwork to catch up on so let's close this and come back and 'kay. Put on your mic. Boss. Yep. Alright. Three, three. Pedro can have it. I like I'll help talk. Unit price. Scrolling through your favourites list. It's very prominent. So here I'll give you the so this is the cradle unit, and this is the actual remote itself. Um so the scroll bar is or the scroll wheel is this this green little scrolly guy here, um and then the volume controls are here and here. Uh you've got the keypad which is the numbers uh f from zero to nine and then ten. This is the power button. Uh we have our um we have the enter button and uh what was the

other button here? This is the teletext. The programme button, yeah the programme button. So this bl this button will be used both for the favourites and for programming your uh the um the type of television you wanna use. So um the plastic is the white area of this of the model here, and the red area is like a rubber covering. So you can see that when it lays like this or like this and the buttons are all gonna be rubber, so it's pretty hard to actually damage it um Yeah that might be a possible a mi uh possible problem, but if you drop it yeah. Yeah and it depends on if it's sliding, but I think it's pretty ergonomic. You can feel it. Yeah of course. Well this is clay. Yeah the the power button is a bit of a reach, but I think we might scale down the final model a bit. These this is a bit larger than it would be, but Mm Pedro can demonstrate the the paging ability. Beep beep beep. Um beep beep beep so beep beep beep beep beep beep be shut up. Beep beep beep okay. Um no no no tha that's alri Exactly that's exactly what those are for. And um there's one other feature that we were debating, but we decided to go a

gainst it, is um you could beep beep beep we were thinking that it might be interesting to have a trigger button here because you have this finger it it's it kinda feels like there should be something there, but we couldn't figure out what button is important enough to put there. And we we don't wanna accidentally be hitting the power button like that so Mm. Right. So maybe in a final design phase we might tweak that a little bit, but Mm-hmm. Oh no this is just what we had to work with at the time. So we'll leave the colour scheme up to the marketing people. Careful. Beep beep beep. Yeah. No way. Beep beep beep. Mm-hmm. Well, that was just just our technical team added up the um production costs of the individual units. Oh. Uh-huh. Uh-huh. Yeah. Oh, sorry. Yeah um I do think we that we we uh don't need the events chip on print, we only need the uh the regular chip on print, so there may have been a m miscalculation in there. And we and we have a single-curved uh Uh I think that It's single-curved, yeah. See it's a little bit more than f single-curved. So yeah it's fifteen point eight, that's where we came up with it. Okay. Yeah we do. Ah. What do you know. Oh it's a that's not very special, it's pretty If th. That's a scroll. Uh no we just use it as a scroll. It was a pretty accurate estimate I would say. Yeah. S 's kind of s frighteningly accurate. What? I think we did pretty well. Sh I think there was plenty of room. We got a couple innovative i Couple innovative ideas. Mm-hmm. Yep. There was a lot of synergy. These cables suck. Yep. Yeah. Lapel. That's our boss. Pedro's right. Pedro's right. Oh wel Well we had the favourites list, and the scroll bar, and we have the cradle, and the r uh remote call feature. All right. Good job guys.



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# Meeting ID: 10

Data Source: Train

## Executive Summary

Today , functional design phase . The functional requirements , it's uh uh very important for uh the user , seventy five percent of the users find most remote controls ugly . Um they want to spend money for a better system , for better remote control , and um they use yeah , they use zap a lot , but um uh the relevant buttons are the power , the channel selection and the volume selection . but uh w and not important in the audio settings , display settings we can we can hide those under a menu or something , that was in the test , the the most people uh f find it uh irritating uh when they cannot find a rem their remote control , so uh I think it's a bee beep to sound it and uh you can find it . And another thing uh they want was uh speech recognition And they want maybe an uh L\_C\_D\_ screen We wanna have a little preview on the remote control . Preview what's on the channel . 'Cause it sounds pretty expensive too . Uh my personal preferences is uh a button for my favourite channel , it just remembers the channel that you are on most , for example . Yeah . some technical functions . There are many buttons on a remote control which are not clear . Uh also symbols tend to fade after a while . this is basically what I h had in mind in the fade-proof symbols , locator , a sound , And possibly also the size , so more important buttons , bigger but more less buttons , easy , some bigger buttons . Yeah , it's true . So we agree on the the part that we need to get something on the on the remote to find it somewhere so if we make a circuit board with the the connections already on it , then that's cheaper . You have the the power coming in , The switch uh uh uh if you p press it then some electrical charge goes into the processor , that thinks over a Morse code , then uh the signal is sent to two uh light bulbs . You have infrared Uh I don't have any personal p uh preferences uh so far , except for uh the materials to be used uh light , that they are light . Like you said uh teletext is not not very popular anymore I don't think we should remove the button , But I don't think it should be very it should be one of the big buttons for example . This is a new product and with this new product we want to appeal to younger people , um the younger people were defined under forty . And one thing that should be important is that the corporate l colour and slogan are recognisable , which is apparently black and yellow , With that concept I started thinking , so why not just steal Nokia's idea and just make changeable covers for your I think this is a good idea . I think we should lose the L\_C\_D\_ screen , Y Yes , I think so too . I think it takes up a lot of a lot of power . What we could do , what could be possible , is maybe not an L\_C\_D\_ screen but with a preview , For example , a little T\_V\_ guide . I'm not sure it's even possible , I have to check that out , I think

the p yeah , the beep is a very simple thing to imple implement , just make a button on your T\_V\_ we should go for that . then uh I'd like to know now if we want the uh universal remote control or not , because that's uh determines everything I'm gonna do . I think it's universal . I think we should go for universal , Speech recognition , I think it's very hard , because we're selling across multiple countries . Besides that , the technology isn't really super yet , but it's just not I don't think the market's ripe for that yet . you should you should look into the in into the materials that are real durable . maybe a little harder plastic If we uh make a remote control with changeable covers , then we can also make uh a cover for every language area . But should the exchangeable covers include the buttons themselves it's not even a bad idea . For example , if your buttons are faded , after I mean if you make a durable remote , they are faded , you can just buy a new cover . Uh we can make something that you can only remove the sleeve . it's just just a one one piece of rubber for example , something I have to look into . you have to come up with a components concept , you should do some trend-watching , I think it should be have less or I very little buttons and maybe a second second level menu for the advanced things . Or maybe just stick 'em under a menu , Is it techni technically possible to uh send a signal to a television and then pops up a menu , because we're working with different types of television , That is true . I don't think so . A double-sided remote control ? I don't think that's useful . but you can't you cannot take into consideration all the different brands of T\_V\_s . because usually the the menu is the menu button is is usable between different brands . Especially the big ones , the big brands , if you can put some research into that , if it's possible . I think it's possible , I thi I think so too . Maybe it's a little more curves or whatever . And uh with different colours uh . I'll put some on paper and present them next time uh the ideas that I have . we could do some i do some work now on on the design for example . and since you're holding it like this , I suggest you put the channel up channel down and volume Think it's like this . I think that the the buttons should be the channel buttons should be uh on their own . Uh maybe the menu button can go i in the middle . Yeah , in the middle . Perhaps we should also make uh something like a flash on it , if you if it's lost , for people that are deaf . but for example if it's lost in your armchair , we'll not see the flash . We could make a combination that it goes beep and that you that some light lights up . We could do that . uh the power button somewhere over here ? I usually press it on top . Mute . I think it should be at the bottom somewhere . Around uh not uh not at top at the around the volume selection . Shall we uh also look if it's possible to make a rechargeable remote ? I'm not sure y I'm not sure it's if it's expensive , but just take a look at it , to have uh like sort of a maybe a base station that you put on the T\_V\_ . Could be flat , you could insert your uh remote into it . But I think that will cost a lot . Uh a normal wire would be better . I'm not sure if it costs a lot , And do people actually want that ? To pay extra they want to pay for rechargeable ? we could either make a separate station which just sends a signal to the remote control to either beep or flash to find it , we have to either that or make it integrated with a with a docking station . I think this is a brilliant product . because if they're willing to pay more , we could lose a little profit and maybe attract more customers , Could you post some other essentials of what people want , Where would we want the uh teletext button ? Do we put it somewhere over here ? Or maybe this is something for the next meeting , draw us up some some designs of of possible just keep in mind that the important buttons should be on top and either big , we don't want we want very little buttons , just the buttons you use a lot . because some T\_V\_s have the uh possibility to adjust brightness , that kind of menus . but that's what we stick under the menu button .

Because it needs to be configured in the television under the menu . If it isn't , then we cannot reach it . But I think most modern T\_V\_s have it in their menu . Uh isn't there a possibility to do research on that , so we know that for sure ? Um they want to pay for an L\_C\_D\_ screen and speech recognition . Oh , we're not going to be able to sell it for twenty-five then , with an L\_C\_D\_ screen . Yeah , just look at the possibilities then , we should do a little thing about design , because it looks boring really to me . Different colours maybe . And the design , it should differ . let's say that people would want an L\_C\_D\_ thing . Let's take the basic design again , what we oh , crap uh came up with . If you're reading from top to bottom , I think it's better to put it uh at the top . How can you use an L\_C\_D\_ screen ? But nee the function of it . So we have three people saying it should be on top . Do we put the volume control and the channel control here , In the middle . Maybe in a circle for example , like we like in this example . I think the channel button should be in the centre . but we do agree that we keep this at the centre , but if we need two batteries and an L\_C\_D\_ screen , that means a lot of space that we need . But it has to be a little bit heavier . Just to do research into both , w what it costs and what it takes for space . uh let's give this uh a name , and not like some vague serial number that no one understands , like with cars . Yeah , let's think of a name , okay . the minutes will be on the on the web shortly , If you rule out functions , then uh and that gets known , then people are not gonna buy it . I I'm not sure .

## Complete Meeting Transcript

Okay, we Mm. Okay, that's fine. Um. Okay, now work a little with me. Okay. Well, let's start it as it is. Okay, uh the method. There are a few questions that need to be answered, uh you already uh talked about it a little bit. Which buttons are wanted, uh is our remote control universal or should it be programmable. Uh if it should be programmeab grammeale then we need um something like a mode that you can switch it. Because then the buttons have to send out a different signal then they would normally do. And uh how big is the remote control uh going to be? I'll tell you why that's important to me. Um there are a lot of technical parts in the remote control, so uh uh that's why I also would like to say uh go a little bit easy on the designs, uh I heard ab uh you talking about beeps and about uh video screens, but uh the material inside and the technical aspects are quite complex already. So keep in mind that everything that you keep uh think of, it has to b to be built. So it's that's not as easy as it s might look like. Uh material study, I'm working on that um for the the costs. I have to check out how far I can go with that. Normally, a circuit board is made of fibreglass uh and the wires are made of copper. Uh that is how it is done and all the remote controls work that way, I think we can just go on with that. Um then I've read more integration of materials means less cost for the production. The more we can make uh at once uh in one piece, uh that is cheaper. Exactly, so if we make a circuit board with the the connections already on it, then that's cheaper. So we have to make something that's not too difficult in design again. This is what look like uh looks like if you press one button, so this is not the entire thing. You have the the power coming in, then you have like a switch. The switch uh uh uh if you p press it then some electrical charge goes into the processor, that thinks over a Morse code, that's how you should see it. The Morse code goes to the amplifier, then uh the signal is sent to two uh light bulbs. You have infrared and an interv um uh how to say it? Uh a light in indication, light that you know that it's

functioning. Uh here again, that's my story about the different modes, if you do want to make remote uh universal, then the processor has to uh make up a different Morse code when some button is pressed. That makes it much more complex, so we really need to have a look, do we want that or not. Uh I don't have any personal p uh preferences uh so far, except for uh the materials to be used uh light, that they are light. That was it. Hmm. Yeah. Mm-hmm. Hmm. No, I think this is a good idea. But Go ahead. Y Yes, I think so too. Yeah. Okay, uh Mm. Hmm. Mm-hmm. Hmm. I have to check that out, I'm not sure. That must be possible. Ja. I'm sorry, whe where do you wanna hit the T\_ you wanna we want a button on the television. In th okay, but that rules out a universal remote control. Because that's not possible uh. Uh. Yeah. Exactly. Okay, then uh I'd I'd like to know now if we want the uh universal remote control or not, because that's uh determines everything I'm gonna do. If not Okay. Okay, then I go for that. Yeah. Okay. No, it's fine with me, but then I know what to look for. Uh-huh. Mm-hmm. Exactly. I already noted that. Mm, okay. Okay. Hmm. If we uh make a remote control with changeable covers, then we can also make uh a cover for every language area. That's fo is uh especially for older people, that they can read it read it in their own language. That's okay, okay. Huh. Uh okay. Hmm. Hmm. Mm. Okay. Uh but I know that the buttons are like a Nokia telephone on uh one sleeve, so you don't have to change your whole cover. Uh we can make something that you can only remove the sleeve. Know what I mean? It works the same as a Nokia telephone, it's it's in my uh 'kay. Exactly. Hmm. Mm. Yeah. I don't think so. No, I don't think so. Because the television needs to respond to the signal, and if it doesn't know how,

it's Exactly, that's not possible. Hmm. Mm. Mm. But that might be broken. Hmm. Hmm. Hmm. Hmm. Mm okay. Mm. But I think there must be a way uh to invoke the more complicated functions of a television. For instance, if your old remote control is broken and you buy ours, then uh you should be able to get everything out of the television that's in it. Because otherwise you'll lose functions by buying our Okay, I thi I think so too. And I think that our r remote control should not look like uh any other. For instance uh Sony makes all their remote controls exactly the same for all their devices, and you always grab the wrong one because formatting of the buttons is exactly the same, only the labels are different. We should not do that. Exactly. Mm that's your uh division. Hmm. Yeah. Perhaps we should also make uh something like a flash on it, if you if it's lost, for people that are deaf. They they won't hear the the beep. Yeah. Uh. Yeah, it's true, but it's it's only has to do so when you press the button that it's lost. So. deaf people? I have another idea, I'm not sure if it's possible. Mm. Yeah, me too. Shall we uh also look if it's possible to make a rechargeable remote? That you don't have to buy new batteries if every Mm, yeah. Uh. But that's already possible. Yes. Yes. Okay. Uh you could make a device, but I'm not sure how that uh is possible with the costs, that you can put in normal batteries, rechargeable, but it you're the remote also can act as a recharger. So then you can choose, you have every decision. Know what I mean? You can uh put in normal Penlites, rechargeable Penlites, but they can also be recharged with the remote, with a wire. So but But I think that will cost a lot. Uh a normal wire would be better. Like a like a P\_D\_A\_, a hand-held. You can uh just put it in the electricity and it charges itself, you don't need basic station. Yes. That is possible, that's true. Mm. Yeah. Yeah. Mm. Yes. I'm going to try to find that out. I'm not sure if there's information available on this, but Hmm. These are uh comfort issues. So I think people will pay they wanted to pay for comfort. Well, this is comfort. Yes. Hmm. Yeah. Exactly. I think this is a brilliant product. I would buy it myself. Uh. I like the covers. That's a brilliant idea. I never thought I hope if I have information about that, I'm gonna Mm. Yeah. I would like to make a decision. What it costs and what kind of materials that we can uh choose what we want in it and exactly, I need it. Was it not possible to uh send emails around the office? Not. Yeah, okay. What uh what did you wanna

say? Mm. Mm. Mm. But that's the question, is it? Because it needs to be configured in the television under the menu. If it isn't, then we cannot reach it. I think so too. I think so too. Uh isn't there a possibility to do research on that, so we know that for sure? If you rule out functions, then uh and that gets known, then people are not gonna buy it. Then the consumer bond or something says uh you cannot do this and that with it. That's a bad bad com commercial for okay. That's true. Hmm. Hmm. Did they really said it like that? Those two things. Do they realise how much that costs? That's almost undoable. No, that's that's. Even if i if we have this lost unit, then we cannot do it for that price. Yeah, that's true. Mm. Hmm. Uh. Uh I But I really need finance information. We all do. Mm. Uh. Hmm. And the design, it should differ. This is Philips, huh? Philips has this. Okay. Hmm. Uh. Mm. Oh, I realise if we make it small, then it needs to be a little thicker, because I need to put all the electronics in it. If we make it s uh smaller, uh less wide, then we need to m make it a little thicker, because I have to put all the electronics in it. No. Hmm. Me too. Ah but. Hmm. No. M I personally would prefer it on the top. Huh. But it Hmm. Mm. Hmm. They want it uh. We should just try to make that if it's possible. If it is possible we should really do it, but we need that informatio

n. Also keep in mind again, the L\_C\_D\_ screen is very flat, but it needs transistors, resistors, I don't know what more and that needs space. So I have to look if that's possible. But if we Hmm. Hmm. If we have a a space issue, we can also lose one battery. It is rechargeable, so we can stick with one instead of two. That might be an option. Yeah, but if we need two batteries and an L\_C\_D\_ screen, that means a lot of space that we need. But it has to be a little bit heavier. Okay. No, but the things behind it. space. Like a process uh. I like this one more. Mm. Mm. I'll try to. One more uh thing I'd like to say, uh let's give this uh a name, and not like some vague serial number that no one understands, like with cars. Shall we all try uh to think about a name? Good luck. Yeah, I've Do we uh save the? Yes. Sorry, a little bit of pl little problem with computer.. Uh. Yeah, sure, no problem. Um there was a little problem with my computer so not uh the whole uh presentation uh Yeah. Um Okay, and I want to open the my s oh no. Oh no, that's okay. Uh slide show. Yes. The functional requirements, it's uh uh very important for uh the user, he he wants to yeah. The the method we used uh it's not m not a slide, because it went wrong, but the method we use uh, um we tested it w uh with uh a hundred uh men, and we asked them to w uh what the remote uh f feel uh like and uh what what's uh important. Uh People, sorry. Both women and men, yeah. Okay. Uh the findings um uh seventy five percent of the users find most remote controls ugly. Um Yeah, and yeah, most th th they want to spend money for a better system, for better remote control, so we can do uh a l a little uh nice things with it, and um they use yeah, they use zap a lot, um uh fifty percent say they only So that's the most important things. Um oh yeah, not all of it is it on mine on my PowerPoint presentation, but um uh the relevant buttons are the power, the channel selection and the volume selection. It's uh the most basic buttons that a user wants uh to use. Uh less important is tel teletext, uh um they use it, but it's not uh very uh important uh on the scale of zero to ten they six and a half uh and but not important is the channel selection, the the hmm? Oh, the the no no no no no, that's very important, but uh w and not important in the audio settings, display settings and uh Yeah. Um new preferences preferences. Uh um um beep to find your control, was that was in the test, the the most people uh f find it uh irritating uh when they cannot find a rem their remote control, so uh I think it's a bee beep to sound it and uh you can find it. And another thing uh they want was uh speech recognition um so they can say uh what they want to let's go to channel one and uh that's uh kind of things. And they want maybe an uh L\_C\_D\_ screen um to to look it um wh what's on every channel uh and uh what do I want with it? Yeah. Yeah. Yeah. Um Uh my personal preferences is uh a button for my favourite channel, so I can uh I dunno, so I can zap to my uh f uh quick uh to my favourite channel wh

what I uh so, the remote mu must see or um must um see wha what mine preferences are for which channel, so I can zap t to What? Yeah. Yeah. Recognise Yeah. Yeah, that's uh what my personal preference like. No, itself. Maybe it's easier to to sell it, but I don't know it's manageable, but we will uh we will see. Yeah, it's a little bit uh it's the end of it. It's a little bit uh I lost it, the computer uh crashed, so. Yeah. Darn computer. Yeah. Yeah. Yeah. Mm uh. Yeah. Uh. Yeah. B Yeah, and they want to pay for it and uh With more Where with more technical specifications in the Yeah. Yeah. But oh? Yeah, with with an L\_C\_D\_ screen you can Why? Nokia w Uh. Okay. Yeah. Yeah. Mm uh. Yeah. Um Everyone uh wants to buy it, so we w yeah. Yeah. Or one. Or when you say one two uh i it uh it's enough, right? But Oh yeah. Yeah. Okay. Yeah. Yeah. But b But every Oh. Yeah. Yeah. Yeah. Okay. Yeah. Mm yeah. Yeah. Ye

ah. Yeah, yeah. Yeah. Um yeah. And uh with different colours uh. Okay. Yeah. Uh. And a light uh Volume. Uh it's it's fine, I think. Oh d Yeah. Just And L\_E\_D\_ uh on it. Just a light on it or Very important. Oh, that's It's And But you r And you are reading from the t you always read from the top to the the bottom of it. Yeah, so it's Yeah. So i it's sorry? No, it's no. Uh. Hmm. Or or with the volume selection. Around uh not uh not at top at the around the volume selection. I don't know where exactly, but Wha No. Yeah. Yeah, that's better. On the right. Yeah. Maybe it's more ex expensive. Yeah. Hmm. Yeah yeah. Yeah, that's g But Which Yeah. Yeah. But Yeah, they want to pay for it. Yeah. Th uh there was not a el ask esque But But f hmm. Yeah. Yeah, okay. Yeah yeah yeah. Yeah. Yeah. Yeah. My computer crashed, so uh I lost my uh presentation, but I have the uh Yeah, but I Here I have the the s the homepage of uh our internet, and here is my here is my marketing report, maybe you ca you can look at uh that and Ah yeah. And one And uh wha what people want, I've uh I have another thing uh Yeah. Um Uh what I al already said is the the uh the remote controls are always lost, but it it's also for people, they want to learn it fast, not uh they want to No It's yeah, it's easy to learn wi and uh Um And The If Um If um Another thing I want to say is that uh we are looking at the market for the age uh younger than forty. Um on my report, I didn't uh ish I didn't show it in my uh presentation, because my computer crashed. Um they want to pay for an L\_C\_D\_ screen and speech recognition. So i yeah. Yeah, and Yeah. Uh but If if they So uh we can We can look at the possibilities for an uh L\_C\_D\_ and uh I dunno. Yeah. How much it will cost and Um It will come uh Yeah. Different colours maybe. But all Okay. If you're reading from top to bottom, I think it's better to put it uh at the top. It's j Uh. But i if you if you are going to uh put the L\_C\_D\_ on it, I think it's very important to use it, uh because it's use it uh But nee the function of it. So you can use it maximum, because uh it's a lot it costs a lot. So Yeah. It's expensive to build it, so you must use the maximum of it. Huh. Uh. But uh Yeah, I know uh. In middle of it. In the middle. Yeah. It's the most import yeah.. Finish meeting now. It's on your computer. Uh. Or And uh what about speech recognition uh Yeah, yeah, but or or an L\_C\_D\_ or an uh speech. I think it's L\_C\_D\_ is better now. Yeah. Yeah. Yeah, okay, yeah, that's yeah, that's okay. Oh, good. Yeah. Same... Oh, there he is. Go ahead. That's pretty shocking uh. Which channel selection? Oh, okay. Is that manageable? 'Cause it sounds pretty expensive too. Okay. Okay. Shall I go? Okay. So, some technical functions. Basically I have some issues which you discussed earlier. Uh let's just start with the method. It sounds really easy, what does the user do, what does the th remote control do, but there are quite some issues. So the things I'm going to concentrate on are the user aspect, because the technical aspect, that's pretty much covered. We can do that. What goes wrong at the user. Gets the remote control. Where is the remote control? We've all had it once, I want to watch some television, where's the remote control? That was one of your ideas which you posted in the network folder, a really good idea. Uh these are just the issues. I come to some uh personal experience, findings, possible solutions

later. Searches for the button. There are many buttons on a remote control which are not clear. Uh so either we lose those or we try to make it a little bit more clear. Uh also symbols tend to fade after a while. There's nothing more annoying than faded symbols, because you don't know which channel is this button, so possibly we could find uh something for that, yes. Uh covered that. Oh yes, user presses the button. Um usually when you have a lot of buttons, buttons are small. So you press more once remote control goes kablouey or som

ething like that, so we have to pay attention not to put too mun too many buttons on uh the remote control. And possibly also the size, so more important buttons, bigger si So this is basically what I h had in mind in the fade-proof symbols, locator, a sound, uh so clear we should stick to existing symbols, but maybe we could do a little uh investigation to see whether some symbols are uh need to be replaced by others. Uh This I pretty much covered. So what we want to go to is not this one, but more less buttons, easy, some bigger buttons. So that's basically uh what I had in mind. This is not the final design, this is just a general idea of how I'd like to see uh basically the general idea. So that was it. Yeah, I think it's a really good idea. Yeah. Yeah. Okay. Yeah. Oh. Is it manageable? Is it easy? Yeah. And it costs too much to fabricate, so we're on a tight budget here. And it's Maybe just a slap-on sticker with a button which sends out a small signal. Yeah, exactly. And it's Besides that, the technology isn't really super yet, so that is a problem in implementing this. It's a good idea, but it's just not I don't think the market's ripe for that yet. But should the exchangeable covers include the buttons themselves or just the C that's a problem with the with the text then. Oh yeah, I know what you mean. Yeah. Pretty straightforward. Is it techni technically possible to uh send a signal to a television and then pops up a menu, because we're working with different types of television, so we're going to work with that? It's an in-built menu, isn't it? Yes. So basically we Or we could use a double-sided for less used functions you Yeah, with the cover. I it's basically an idea to overcome these issues, because No, but basic functions but functions which are not frequently used. Because if we use a universal remote control, we're going to have to have most buttons on it, so Yeah. Yeah, I have some ideas. I have some ideas. I'll put some on paper and present them next time uh the ideas that I have. I heard a beep go. Yeah, but we like some some curves or Yeah. Oh, we get the general ideas, yes. Yeah, and since you're holding it like this, I suggest you put the channel up channel down and volume yeah yeah. So you have the up channel the down channel the volume, do we want that horizontal or vertical? This is basically what people are accustomed to, so Yeah, but this is just a g general idea. Uh maybe the menu button can go i in the middle. Whoa. You won't be able to find it. We could make a combination that it goes beep and that you that some light lights up. So we have the basic channels we've got here, uh the power button somewhere over here? I usually press it on top. At least that's what I'm accustomed to. What would you like to? Okay, mute button. Is that somewhere here? Is that used often? The mute button? Do people use that often? 'Cause uh I'm pretty much accustomed to it right over here, at least in general, but It's not that important, no. Sure. That's pretty much what people are accustomed to, aren't they? Well, I'm accustomed to the channels being on top. But isn't that expensive in the entire package? But again, isn't that too expensive? 'Cause that means that we have to implement rechargeable batteries, a docking station And do people actually want that? To pay extra they want to pay for rechargeable? Can can we save this or Yeah. Could you post some other essentials of what people want, so that I can work with some buttons, where to put it You seem to have information on that, I'd like to uh see some of it. No, it's not. No. Oh, your computer. Okay. Well, I have your PowerPoint presentation, I can get some inf information out of that. Let's see. Oh, where would we Where would we want the uh teletext button? Because we decided that it's n not that important. Do we put it somewhere over here? Or maybe this is

something for the next meeting, I can draw out some ideas. Yeah. Well, we have decided more or less the basic

structure. I can put the other buttons in. Yeah. Yeah. Maybe another idea uh. Yes, but it should cover all the functions, so possibly, just an idea that popped in. Yeah, but we could go a step further, because some T\_V\_s have the uh possibility to adjust brightness, that kind of menus. Yes, but it's because we're making. We need to adjust to the technology. True. No, I think. Oh, we're not going to be able to sell it for twenty-five then, with an LCD screen. Well I doubt it, but well, I had basically something like this. To make it kind of futuristic. So what kind of. Yeah, sure. Now it's pretty much tucked away in your hand. I'm still not convinced of the. Yeah. So basically what we have to decide now is uh what goes on top. Do we put the volume control and the channel control here, or do we put it on the side. Would we like to press it in the middle? Yes, but we do agree that we keep this at the centre, because it's basically the most important function. Well, that would make them quite small. So maybe you'd put them here. Yes, but a big remote control probably not something which people would like. So would we like this or would we like the other. Let's see what we have here. Okay. So I think of a name. So Yes, go and finish up and I'll see you at lunch. Yeah. Wait for the marketing director actually, so. Anyways. Uh. See, shall we wait? I'm not sure if he's late or delayed or whatever, so I'm gonna start soon, we have now don't have much time anyway. There you are, okay. Uh no problem. We're about to start, so have a seat. Okay, welcome again. Today, functional design phase. I'll take you over the minutes of last meeting. Okay, that was just to get to know each other, have a little thoughts on what your vision is and on this project, so I put the minutes on the table I made on the on the project share, so if you wanna review them, they're there. I will do so after every meeting, so if you have some information you wanna take back you can find it there. Anyways, um today three presentations, from every one of you. Um after that I got some new project requirements from project board, so we're gonna go after over this later. But I wanna start with uh stuff you did first, so we can see what everybody came up with. And after that we can have the new requirements and share some thoughts, so. Who would like to go first? Take it. Anyway, let's see what you have. Uh it's still a bit open. You should close it on your own notebook, I guess. Yeah. So there? Okay. If I can cut in, is it people or men? Is it people, okay. 'Cause I thought it was only men, so 'Kay. So we have to do something about that. Okay. Okay, just talk ahead. Mm-hmm. Mm-hmm. Okay, that's okay. That's a little weird. Okay, we can we can hide those under a menu or something, okay. That's like a button on your T\_V\_? Remote, okay. Okay. We wanna have a little preview on the remote control. Preview what's on the channel. Okay. That sounds too good. It's possible, but uh I think it's expensive, but do continue. Okay, you don't set it yourself, it just remembers the channel that you are on most, for example. You want the you want it to be programmed, for example y programmed f or you want it to recognise your favourite channel? Let's see, you you spend twenty minutes each day on that channel, so it recognises your favourite channel. Okay, so it's it does it recognise itself, you don't have to set it. Okay. Okay. I see. Okay. No problem, it's okay, that's Yeah, go ahead. That seems very good. Mm-hmm. Okay, so have it more make it more durable actually. Okay. Okay, so the buttons should be. Mm-hmm. Yeah. Wow. The size. Yeah. Make it make them bigger. Even more durable uh. Okay. Yeah, it's true. Yeah, that's clear. No, of course uh Yeah. I must say that it's. Hmm. That was it. Okay, that was good. So we agree on the the part that we need to get something on the on the remote to find it somewhere and increase the durability of the thing, so. The other as

pects, we'll just see how what you came up with and what's possible for that budget. Okay. Mm-hmm. Mm-hmm. Yeah. Of course, hmm. You mean integrate them all into the circuit board. Okay. Yeah,



okay. So you have Mm-hmm. Okay. Okay. That was it? I'll get back to my thing then. Uh Okay, back this up to the screen. So I got some new information on the project specifications are changing a little. Like you said uh teletext is not not very popular anymore because the uh the internet, nowadays people don't use the teletext anymore or hardly, so it can either Well, I don't think we should remove the button, because there are always people who are using it. But I don't think it should be very it should be one of the big buttons for example. Just put it somewhere or under second option or whatever. It's not important anymore. Um we're targeting young people now, because our um This is a new product and with this new product we want to appeal to younger people, which are um the younger people were defined under forty. I so I think it's that's also good with the fashion and everything, so yeah. They want to pay for it, people are willing to spend money actually to buy a um remote that they like. If they like the way it looks, the way it functions, so they're actually gonna spend uh spend money on it. Yeah. see how far we can go with it anyway, so And one thing that should be important is that the corporate I colour and slogan are recognisable, which is apparently black and yellow, but I'm not sure if we I think we should keep the the logo in mind, because with colours you can uh have a lot of uh fashionable colours and everything on it, which suits everybody's taste. So With that concept I started thinking, so why not just steal Nokia's idea and just make changeable covers for your I mean those cost hardly anything I think, and people could even spend extra money on buying a cover and so have an entire new remote control that they like to see. Or we can sh for example we can make a different a basic design. And sell the covers separately, for example. That's just a little marketing idea that could be applied, so you can p it appeals to really everyone. So you don't have to I think you don't have to make entire remote controls. We make a basic one and manufacture this cover separately. So that was that was my idea on what we could do to appeal this product to everyone. So just I'm not sure if you came up with anything in the meantime, after making a presentation. Would you like to share? Okay. Oh yeah. I think we should lose the L\_C\_D\_ screen, like you said. I think for example it's it's huge I think the L\_C\_D\_ is huge, it consumes batteries like hell. I think it takes up a lot of a lot of power. It costs a lot, I think. What we could do, what could be possible, is maybe not an L\_C\_D\_ screen but with a preview, but y I'm not sure if it's even possible. For example, a little T\_V\_ guide. Like you have a little just just a text only, not colour, just a little text thing so you can use your remote as a T\_V\_ guide. I'm not sure it's even possible, but maybe okay, make it Yeah, find a little compromise in that, but What did I write down? I think the p yeah, the beep is a very simple thing to imple implement, just make a button on your T\_V\_ and just hit the button, it beeps somewhere. I think it's easy to implement, we should go for that. Uh speech recognition. I thin Yeah, I mean where else should you put it? Yeah, but how are you gonna use that if your I mean if your remote control is lost, how are you gonna press where are you gonna press the button? A slap-on sticker. Oh, you mean as like a separate thing you can attach to your T\_V\_. Yeah, that could be possible. A little little box you can attach to your T\_V\_ is fine then, okay. I think it's universal. I think we should go for universal, because apparently we're a separate company making separate c remote controls to sell to a lot of diverse people. I think universal remote control should be possible. Yeah, I think we're targeting everyone, so remote Okay, universal is good. Speech recognition, I think it's very hard, because we're selling across multiple countries. So I think implementing speech recognition is such a small um apparatus, it's very hard to do. Yeah, but I don't see Arabian people speaking one, two uh whatever. It's Yeah. It's not a mature technology, I think it takes a lot of memory and everything in in a remote control, so I don't think it should be implemented in a remote control yet uh. What else do we have? Um well you should you should look into the in into the materials that are real durable. So the the the symbols won't fade, maybe a little harder plastic or

especially if we don't maybe we don't have to do all the buttons, but especially the ones that are the popular buttons, so those always fade first. Mm the thing is the most important things that we have now. Let's see. For example? Well, we're not we're not targeting older people, we should remember that. Everything we target is under forty, so. You assume that that they read correctly and I think they're The most important thing about young people is that they're really sensitive to trends that are passing through the world, so No, of course. No, I think it's just something you put over them, because Yeah we can Yeah, you can Well, that's not a that's not a bad that's not even it's not even a bad idea. I mean, for example, if you're if you're into the durability issue you could For example, if your buttons are faded, after I mean if you make a durable remote, they are faded, you can just buy a new cover. Uh I'm not sure it's it's hard to make. So it's a good and a bad idea. Mm-hmm. Yeah, I know, it's just just a one piece of rubber for example, okay. Yeah, that's what I something I have to look into. Either either change both the buttons and the cover or just the cover, I'm not sure which is easier, so Um anyway, yeah, this is what we're gonna do afterwards, just lunch break and have more individual work after that, so let's see what we let's see we So you have to come up with a components concept, yeah. I want some you should do some trend-watching, because even if we're if we're gonna do those covers and everything, what people really want, that's what we need to know in this phase, because that's gonna be the essential final design that we're gonna come up with. Um Yeah, I think user interface is fairly obvious. I mean it should be very intuitive, s Yeah, it should speak for itself. Uh for example I bought a remote control last week with a new T\_V\_, it was it it's like all buttons and you have no idea what it does at first, and I'm total T\_V\_ new, anyway. So I think it should be have less or I very little buttons and maybe a second second level menu for the advanced things. Or maybe just stick 'em under a menu, like you said the um the sound options and the surround and whatever, they're more complicated, just stick 'em under one menu and uh give it a just put it in in s in a software piece, you can menu and you can uh select everything you want to to set on your T\_V\_. That is true. No, that's true. Yeah, that's true. I'm not sure if it's impossible, but uh there's a chance it's not, so. A double-sided remote control? I don't think that's useful. Yeah, but then you're gonna have a lot of wasted buttons. For example you have a Sony T\_V\_ and the half of the buttons won't function if you have a for a Sony that won't for a Philips T\_V\_. I don't think we should Yeah, for exam I'm not s yeah, for ex you have to make it a little decision between the part if you want a universal remote control that it should do what people usually do with their T\_V\_s, not not the very complicated settings that you can usually do that with uh either a old old remote control if they really hate that thing, but you can't you cannot take into consideration all the different brands of T\_V\_s. I think there's I think there is a stan

dard for example between uh because usually the the menu is the menu button is usable between different brands. Especially the big ones, the big brands, so. 'Cause everybody I have a universal remote control and it can use the menu button, so I think I'm not sure, if you can put some research into that, if it's possible. Uh I think just a b and the navigation is very basic, it's usually the same thing. Yeah. Yeah, that's true. I think so uh we need to put some research into that if if we can open the menu, I think it's possible, just the way how to. Yeah, then then you could do everything I suppose, because usually the T\_V\_s have that inside in this other little piece of software, so it's okay. Mm-hmm. Yeah. Yeah I think it should be a little distinct from everything else, because it's either it's both maybe the shape can be a little different. Maybe it's a little more curves or whatever. So um Yeah, this. Not sure what because we have forty minutes, I'm not sure how much time we have left for the meeting anyway, so. Yeah, but it wasn't me, it was him closing something. So anyway, yeah, we could do some i do some work now on on the design for example. I mean what do you want, do you want, but Yeah,

may maybe something like this. But though smooth inside. So you have the transmitter here for example. Let's see that you what would be handy. I think that the the buttons should be the channel buttons should be uh on their own. Let's see one, two God damn it. Yeah, okay. Another one here. Let's see what I think this should these are always on top of the of the control, so they should be here. Think it's like this. Withi within the Yeah, just take it. Do you take triangles or Um I think it should be I think it Maybe we should make 'em bigger or whatever. Yeah. Yeah, in the middle. It's it's usually uh there, but Mm. Yeah, but for example if it's lost in your armchair, we'll not see the flash. And flash takes up a lot of batteries again. Yeah. Yeah, I thought about for deaf people for example, so. We could do that. Uh let's see. Oh yeah, it's true. Um that thing should be central. You shouldn't be you uh shouldn't press it by accident, but it shouldn't be stacked away somewhere. Yeah. Yeah, like that's gonna work. Yeah, I thought maybe we should move the buttons down and put it here for example to From top to bottom. Yeah, that's true, you should I think the bu the power button should be on top, 'cause it's the first thing you do, turn it on. So power button on top. Um Mute. Do we hardly I think it should be at the bottom somewhere. Mute. Turn the sound off. I don't think it's important, but I think it I think it should be you c you could put it somewhere here. No, because it Yeah, people are accustomed to that, it's Can I have that? That's j Take this out and here see Uh are we gonna take triangles anyway? I'm drawing triangles, but Yeah, it's maybe a bigger lesser than thing. So anyway, I think this is should be the channels and or sh Here, okay. Okay, should we chan okay, this two, channel up and down. Well, for that is it's on one part it's um it's a good thing to recharge it Maybe we should what what could be possible is one with rechargeable batteries for example. You have just put Penlite batteries that are rechargeable, because it's an it's it's it's very annoying. I'm not sure y I'm not sure it's if it's expensive, but just take a look at it, because it might be a very good idea. Because if it's it's uh useful to have it rechargeable, but at the same time, if you don't want recha if you forgot to recharge it and you wanna watch T\_V\_ now, you wanna be able to put different batteries in it, use it now and not in half an hour. How about I think I have a nice idea. Not exactly uh. I think it's uh it's a pretty good idea to have uh like sort of a maybe a base station that you put on the T\_V\_. Could be flat, you could insert your uh remote into it. I'm not sure. A what? Well, we were talking about the fact that we want

ed to insert either a beep or a flash into the thing with a little separate signal or So you could put that on a T\_V\_ for example. It could be very flat, could be very small. It's a very small Yeah, I'm drawing it big now, but So you can put your remote on flat for example. And at the backside of remote just just a little hole for example um you just put it down, it recharges for example. I don't think it's very expensive. I'm not sure if it costs a lot, that that's what he r That's that you that's what you buy yourself. It's just an idea, we have to find out if it's possible. Do they want but they want a rechargeable one? I'm not sure, you should find out if it's if rechargeable is important. Yeah. They want to pay for comfort, we just assu we we could either make a separate station which just sends a signal to the remote control to either beep or flash to find it, um and Yeah, we have to either that or make it integrated with a with a docking station. I think it would be good actually. I like the beep part anyway. So um let's go through the Covers is covers is good. Yeah, it's Oh we can save this. Up and saved. We even saved the ant. Um Okay. So what we have is you have I think you have to do a lot of work on if it's possible for the cost. Maybe yeah, or maybe you can find out i what people are willing to pay. We are going for twenty five Euros sales price, but just try to find out what they're willing to pay for it, because if they're willing to pay more, we could lose a little profit and maybe attract more customers, uh we just have to see what it looks like. Yeah, if you have some financial information that that'd be nice, so. Hmm. No, it wasn't wasn't allo it was possible, not allowed, so. So that's um why I'm not sure that you're allowed to share documents on

the on the draft. I don't care. I haven't heard any complaints yet, so. Um Yeah, the oh, they inc uh they include the new one. Or just for you. Oh no, I didn't have that. All it tells just let's make make a new tick the new one. Um other side. Yeah, let's increase it a little because Yeah, draw us up some some designs of of possible just keep in mind that the important buttons should be on top and either big, so the more less important More or less. Just play a little with this, put I shift a little up or down and we'll see what looks best. Or just po post your designs from time to time on the product share. Yeah, so we don't want we want very little buttons, just the buttons you use a lot. Well what we had function that what people do, so. People change channels, people they change the volume and they they change channel, they turn T\_V\_ off and on, for example. That's the basic fu that's what you do I'm not sure who present that again, but those are the basic function that people use it for, so those should be very well represented. That's true, but that's what we stick under the menu button. Everything is you say in every T\_V\_ that's configured under the menu. Yeah, but But I think most modern T\_V\_s have it in their menu. Uh we'll we'll see what we can come up with. Under forty. Yeah? Mm-hmm. Yeah yeah. The want to pay for Oh. Uh shall we? Younger, age sixteen and forty five. That's all here, here it says Yeah, age sixteen forty fi interest in main features more critical. Okay, so we're not focusing on this. Um All the interest in features, not really the L\_C\_ oh here. Would you pay for uh speech recognition in a remote control. Hmm, okay? Speech recognition is quite Yeah, just look at the possibilities then, because if apparently it's what people want, it's supposed to be a luxurious remote, maybe it's not even that expensive. Or find a compromise, maybe just a black and white or for some extra information on it, on your programmes. Me too. I mean we all do. Right. I think it's something we should put into consideration. Apparently it's what people want, so. We should see if what it costs, if it's possible. Yeah. Yeah, we should do a little thing about desi

gn, because it looks boring really to me. Even if you put it even if you put a different cover on it, it looks still looks boring, so. I have no clue. I just drew something what which would fit into your hand easily. I think it's a very Sorry? Yeah? Okay. Mm-hmm. Yeah, but you have to j just keep in mind it shouldn't be too heavy. I mean we can stick it in in there, I think. Huh even if in the worst case we can even Could you give me the pen back? So let's say that people would want an L\_C\_D\_ thing. Let's take take the basic design again, what we oh, crap uh came up with. I'll just make it a little bigger now. So a transmitter here. Anyway. We could let's say we have an L\_C\_D\_ screen, people want an L\_C\_D\_ screen. So then we should probably put it here. It doesn't have to be really big, but just just have to be has to be there. Think it's a good place, people don't No? It's not that uh it's not the most important function, it's just an extra thing, it just you press the buttons on top, because your finger is on top. How can you use an L\_C\_D\_ screen? Yeah, but why I I'm not sure. Uh if you t if you press a button, you can see it, ri I'm not sure wha I'm trying to imagine myself what it would look like. You would prefer it n Okay. So we have three people saying it should be on top. Okay, but then you would would s have to stack away your buttons somewhere else. Anyways. Uh this looks a little About the L\_C\_D\_s thing. Well if it if it's if it's possible wi if it's not too expensive, we should include it, because it's it's cool. Uh we have green now uh Or maybe we should m we could uh draw draw something a bit that has it on on on the bottom. Maybe in a circle for example, like we like in this example. I think this is not good, but for we could make circular buttons for example. For up and down, ma make it a circle on it, because it I think the channel button should be in the centre. Channel button should be st stick together, for example here in this section. Because it's uh We're not sure about the size anyway, just a general design. You can make it as big as you want. For example if you take uh No, let's see. For example just Yeah. I don't think if we if we even use an L\_C\_D\_ screen, we need to, definitely. Yeah, but we have to see what the

si what the size is. The L\_C\_D\_ doesn't have to nee doesn't need to be very big. Mm let's see. Finish meeting now. Okay, we will. So either We either we have to decide what what people want. Either this one, this this could be the luxurious one. So we have channel buttons here. I'm just drawing something uh. Uh I think this would this would look cool. You could have it for example small buttons here for some extra functions, so if your basic function's here, we should like we decided before, programmes up and down, and volume here. Well you can just no, I'm not sure if we can do that, but we could put a microphone in here for example. Just to do research into both, w what it costs and what it takes for space. But let's cut the meeting for now yes. Yeah, let's think of a name, okay. Uh okay. Okay, at anyways, the the minutes will be on the on the web shortly, so there we go uh. Yeah, to all.

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# Meeting ID: 121

Data Source: Train

## Executive Summary

actually we gathering here to discuss about the functional design meeting . and uh we'll issue some information from uh all of you . And it's in the , I think uh , in the sharing folder . And uh I will invite uh the Christine and the Ed and uh Agnes to discuss about on the various subjects . the agenda of the meeting is opening . Then uh I'm going to talk about uh the project management , and uh , of course , I'm doing the project management and secretary both , to take the minutes of the meeting . And there are three presentations . One is uh new project requirements . And the second one about uh decision on remote control functions . And uh finally we are closing . Uh and the meeting time will be uh forty minutes , management come with the new proposal , and I have to discuss a few points on this . Uh both says new insights in the aim of your project . Uh the one is uh the teletext becomes uh outmoded , okay because if uh because of the computer systems and the new technology . we don't need to consider really about the teletext all in our new project design . And the second one is about uh the remote control . Should be used only for the T\_V\_ . And the third point , it's very very important to establish our uh marketing or uh corporate image , okay , with this new project or new product . I'll invite uh Christine to discuss about uh the functional design . I I figured uh we should um identify some user requirements , and from my experience , I wanna uh , and from research I did , uh the the device has to turn the television on and off the first time you press on the big button , Because one of the biggest problems with remote controls is finding them . since we have to establish our corporate image on the basis of this new product , thought we better look at things that are popular and um ex go beyond those , um and then uh we might wanna talk eventually about the materials that are appropriate to use in uh in the construction , especially in the the uh the outside of the product I did a little history on uh the the uh remote controls all these devices are examples of where uh mm they represent examples that are available today which I think the one in the middle is r um really uh something to keep in mind . you could throw it at things if if the T\_V\_ didn't turn on and off , you could use it for something else . But um I just took some different uh schematics and I guess this is what a slide might look like if you were drawing a circuit board . personal preferences , um uh I I'm really thinking outside the box here , and I think that we should consider perhaps having an an an a a size uh a remote control that changes in size depending on the user preference . So something that's very very flexible and inflatable I think um it could either be you could go either one extreme , be very colourful , or you could make it clear , and um kind of blend in with things , Um I think

uh it needs to be waterproof , because uh sometimes they fall into cups one of my requirements was about needs t to tell you when it's done its job or not , because half the time , I keep pushing on the remote control , and I don't know if it's actually understood my message , so I think it should give you some sort of an oral cue . And uh , course I never wanna replace the battery . if you can add other facility , other feature , like uh unbreakable . because uh especially today , you know , you have the family and the kids , and the kids throw it if you can add the feature , okay , for your uh fabric whatever in your outline design okay , with unbreakable , I think that will give a lot of advantage for our product , Do you have any preconceived ideas in terms of materials ? 'Cause , for example , in the unbreakable thing , doing something plastic would be harder , whereas having something like , I dunno , steel or titanium isn't really economically viable . Titanium would be be heavy , too , um I wanted feedback , but we'll see what your uh personal preferences are and your thoughts . I like titanium . Expensive nobody told me how mu what our financial objective is , so um It'd be hard to inflate something ou made out of titanium though . because uh the last meeting we supposed to discuss about the financial thing . I know the project plan and the budget . I will I will send you a mail , At the end of the day , the company uh wants to make at least uh the fifty million Euro . and uh of course the price will be very reasonable on the the sales side . that maybe Eddie will talk to you about uh how much uh the price how much its cost for the manufacturing This remote control , okay , it can be for like universal , to use for any T\_V\_ . And I I have one maybe the suggestion or opinion . and it will be slim , Might be hard to find , though . But let's try it , okay , with the different uh the designs , okay , the functional designs . from the marketing yeah , from the marketing side , just to to give an idea what the management is looking for , I was looking for a a remote control to have a s I have a sales price of twenty-five Euro , with a production price of uh twelve and a half Euro . For what uh I think from what we're trying to find , we're tr we're looking for , I don't think that price is exactly in the market . in the recent surveys , uh from the ages fr from fifteen to thirty-five , eighty percent are willing to spend more money for something as fancy as trendy . Twenty-five Euros , uh that's that's a preson reasonable price . Now if we're gonna take a risk , and push this up a bit , make it more expensive , then it w it could possibly sell . But , I think uh there's one other thing interesting two things that are interesting is that uh from the fifteen to thirty-five year-old group , which always spends more money on trendy new things , speech recognition is requested . And we're talking between seventy-five to ninety percent of this group is willing to pay for speech recognition on a remote . Obviously , we can't make a remote into a computer , but maybe simple commands . louder , softer , on , off . Thirty-five percent say they're too difficult to use . So we have to figure out a way of making it um more user friendly . Uh fifty percent say they can't find the remote half the time . So maybe one word speech recognition commands , say remote , and there's a beep beep beep , But , in the cost that uh the management is looking for , that's not gonna be possible . But if it's trendy , if it's fancy , it's got some colour to it , if it's very easy easy to use , if it's got simple remote speech remote uh control , like I said , louder , softer , change channel , on , off , remote , it goes beep beep , So we're gonna have to look at it in a in this global idea , with the ideas of the industrial uh design . But , price obviously we have to talk about . What do you think about uh the design , uh what he was talking about of the speech recognition ? training is always an issue with uh commands . uh But um anyway , um I I think also that uh this might impact the battery life . maybe what we'll have to do is um add something where you can um recharge it wirelessly or

maybe uh set it out in the sun I can find my my remote without spending half a day looking for it and getting all upset and it uh , you know , gets uh , from the light , um a a solar cell inside there It seems also like with the speech recognition , yeah , it's a great feature , but if you're watching T\_V\_ , there's a lot of ambient sound , so then you have to make sure that the speech recognizer is good enough to filter out the T\_V\_ speech , and the the user's speech . Because tha w with speech recognition uh th I'm not that good at that idea Because I think s with speech recognition , if uh the the remote or like the telephone it has a exact word that it has to hear . I don't think it would come through a sentence in a television . what I can uh suggest to you , Christine , uh if you need some uh the technical feedback , or some training , okay , about uh this facility , especially for the speech recognition , I can recommend you some companies like uh Intel or I\_B\_M\_ , because they're already in this uh speech recognition part , and uh if you want , I can coordinate , okay , to get some information , and uh you can uh let me know , okay , so what kind of uh the details you require okay , to add this feature in this project . we need to know how much is the timeframe you need to develop , apart from uh what today . From from your side uh , you're gonna have to go back the management and s be more s precise . What do they want ? Uh , a risk , take a risk on the market ? Something that's gonna cost more , but could very easily s make a boom in the market ? Because it has to be something totally different , but end of the day , you're the sales guy , It's uh of course it's uh good to uh tell the management how much it's cost us I don't mind to convince , okay , the management to spend some more money on the project , okay , if you can make out of The management says , okay , so they they don't want certain facilities , they want something uh new , I think uh like uh speech recognit definitely they will agree , And uh I hope I can convince the management on that , the method that we usually use in the user interface design is that we need to look at what people like and what people don't like about existing products . So , in our case , existing remote controls . We seem to have intuitions about why things are good or things are bad , but when you look , technically , at how it works , sometimes that's not the case . Then we need to decide what functionalities we really want to keep , Um and then what the remote control should look like , in terms of the functionalities that we need , you obviously need to be able to turn the T\_V\_ on and off . You need to change channels , both by directly going to a specific channel or by channel surfing . You need to be able to control the volume and then control any menus on the T\_V\_ to regulate contrast or whatever . the problems that people have expressed is that there's too many buttons on remote controls , in general . The buttons it's not clear what they're supposed to do . Um often , you need to know specific button sequences to get certain functionalities done , um which you don't necessarily always remember , especially if it's a functionality that you don't use very often . here we've got two examples where here on the left-hand side , you can see a remote control that has lots and lots of buttons . The buttons , in a lot of cases , are tiny . they're labelled , but the labels don't necessarily tell you too much . Whereas , on the other side , you have a much simpler remote control that I think basically has the minimum functionalities that are needed . And it sort of looks simpler and just less imposing when you first look at it . So , I would be inclined to go sort of towards this , in terms of design , rather than this . And if there's specific functionalities that require more buttons , then we can figure out how to do it with existing um buttons . So my personal preferences are to keep the number of buttons to a limit , or to a minimum , make frequently used buttons bigger and more strategically placed , so like the on button being really obvious one , the channel changing and the volume , and to keep



the design basically sleek and simple . Clearly your research and uh and ours uh heading in the same direction , the only thing that I saw missing from uh your your research that we found was this uh ability to find the doggone thing when you need it . I also think that um uh th f the the feel of it is uh , when you hold it , is something that um uh was expressed more in in in in my uh design 'cause those are the parameters that an Industrial Designer's more thinking about , th th the look and the feel , that's for anybody need uh any help , for time being , on this uh subjects , okay , so please come back to me , and uh Christine , maybe I can uh try to help you to get some uh the technical uh the companies to help you for uh make a design uh slim , and to add some features , like we are talking about , the speech recognition and all . Should we maybe make a decision about what features we actually want to include , 'cause we've thrown a lot of features onto the table , do we actually want to incorporate all of them , or have we missed anything ? Do you wanna go back and look at the closing slide , maybe that would provide some guidance ? it says individual actions , so I'm supposed to do the components concept , supposed to work on the user interface concept , and you're supposed to keep watching the trends . Um and specific instructions will be sent by our our coach . I think we should do as many features as uh start with all of them right now and eliminate them later in the process , I was just thinking is it really practical to start designing something with features that we're just gonna end up throwing away ? I mean , it takes a lot of time and effort for everyone to consider different features , um and s if we spend that time and effort on features that we're not gonna use , maybe it's better to spend it on the f thinking more about features that we actually do want , I think we should take that as an action item for after the meeting , what we'll do is now we'll take for lunch break , 'cause w our meeting time has run out .

## Complete Meeting Transcript

Fantastic. Titanium. Expensive. I don't know, I think verbally we can we can pretty much sell. Hmm. Uh from her side, I don't think uh there's too many more questions. If you can come to the Okay, from the marketing yeah, from the marketing side, just to to give an idea what the management is looking for, I was looking for a a remote control to have a s I have a sales price of twenty-five Euro, with a production price of uh twelve and a half Euro. For what uh I think from what we're trying to find, we're tr we're looking for, I don't think that price is exactly in the market. Okay? I'll explain myself here now in the sense that uh in a in the recent surveys, uh from the ages fr from fifteen to thirty-five, eighty percent are willing to spend more money for something as fancy as trendy. Twenty-five Euros, uh that's that's a preson reasonable price. That's a market price right now. Now if we're gonna take a risk, and push this up a bit, make it more expensive, but give them added things that they don't have now, then it w it could possibly sell. Obviously the risk is there. Too expensive, they're not gonna buy. But, I think uh there's one other thing interesting two things that are interesting is that uh from the fifteen to thirty-five year-old group, which always spends more money on trendy new things, speech recognition is requested. And we're talking between seventy-five to ninety percent of this group is willing to pay for speech recognition on a remote. Obviously, we can't make a remote into a computer, but maybe simple commands. I dunno, louder, softer, on, off. That might be a possibility, even though it costs more, to be the first on the market to produce this. Thirty-five percent say they're too difficult to use. So we have to figure out a

way of making it um more user friendly. Uh fifty percent say they can't find the remote half the time. So maybe one word speech recognition commands, say remote, and there's a beep beep beep, and they can find it through, you know, ten tons of newspapers, magazines, whatever you have at home. But, in the cost that uh the management is looking for, that's not gonna be possible. But if it's trendy, if it's fancy, it's got some colour to it, if it's very easy easy to use, if it's got simple remote speech remote uh control, like I said, louder, softer, change channel, on, off, remote, it goes beep beep, I can find my my remote without spending half a day looking for it and getting all upset 'cause I can't turn the T\_V\_ on. So we're gonna have to look at it in a in this global idea, with the ideas of the industrial uh design. But, price obviously we have to talk about. Speech recognition. Mm. Because tha w with speech recognition uh th I'm not that good at that idea but th if it's a one-word recognition, 'cause I know with telephones and cars and things I've seen in the States, a friend of mine says call Mom, and it calls up Mom. 'Kay the radio can be on and everything. Because I think s with speech recognition, if uh the the remote or like the telephone it has a exact word that it has to hear. I don't think it would come through a sentence in a television. If somebody's speaking on the se the television, they're not gonna stop and say remote, okay. So I think that uh something could be designed to recognise single word Like the t like the telephone. No because I this is this is years ago in the United States where we're driving down and he said call home, and the telephone called immediately so well, that's kinda cute. From from your side uh, you're gonna have to go back the management and s be more s precise. What do they want? Uh, a risk, take a risk on the market? Something that's gonna cost more, but could very easily s make a boom in the market? Because it has to be something totally different, has to be total totally new. Something that nobody has right now. And it's gonna cost. Mm-hmm. Sure. Sure. Obviously. If the bottom line is positive. Mm. Mm. Yes. Mm. Hmm. Individual actions.

She's objecting. Oh th we s we still have Yeah. Right. Agreed. 'Kay, do you wanna open the I'm number two. That's it. I'll do the notes. Yeah, thanks. So um well I I figured uh we should um identify some user requirements, and from my experience, I wanna uh, and from research I did, uh the the device has to turn the television on and off the first time you press on the big button, you can't uh can't have like uh waffling on this point, you know. Really have It needs to be able y y have to be able to find it. Because one of the biggest problems with remote controls is finding them. So uh, I also, since we have to establish our corporate image on the basis of this new product, thought we better look at things that are popular and um ex go beyond those, and, as I said in the first meeting, um and then uh we might wanna talk eventually about the materials that are appropriate to use in uh in the construction, especially in the the uh the outside of the product so that it gives the appearance, and it is reliable, and so forth. I did a little history on uh the the uh remote controls and when they were invented and so forth, so, I guess this guy Zenith uh created the Flashmatic, which I kinda like the idea, 'cause it made me think of um um maybe the remote control made a big flash when uh you turn the T\_V\_ on and off, that might be interesting. And um so it was highly directional flash light that uh you could turn the picture on and off, and the sound on and off, and change channels c so I think um those are still requirements we have today, uh fifty years later. And uh it was really a pioneering innovation, but it was uh sensitive to the sun, so that uh it would get would start off by the you'd get it would easily cause um problems. So, uh I in addition to uh looking at the um uh the functional requir so all these devices are examples of where uh mm they represent examples that are available today which I think the one in the middle is r um really uh something to keep in mind. It'd be easy to find. And um it would uh y you'd you could throw it at things if if the T\_V\_ didn't turn on and off, you could use it for something else. And since I'm not really um Industrial Designer, I didn't really know what to do with this slide. But um I just took some

different uh schematics and I put them into this, and I guess this is what a slide might look like if you were drawing a circuit board. I don't know why um we were asked to do this. So, uh personal preferences, um I think we could uh I I'm really thinking outside the box here, and I think that we should consider perhaps having an an an a a size uh a remote control that changes in size depending on the user preference. So something that's very very flexible and inflatable and then you could shrink it. I think um it could either be you could go either one extreme, be very colourful, or you could make it clear, and um kind of blend in with things, so you didn't have to um uh have a problem with the th the decoration of the of the user's home. Um I think uh it needs to be waterproof, because uh sometimes they fall into cups and, you know, it might be out by the swimming pool or something like that. Um if you uh mi one of one of my requirements was about needs t to tell you when it's done its job or not, because half the time, I keep pushing on the remote control, and I don't know if it's actually understood my message, so I think it should give you some sort of an oral cue. And uh, course I never wanna replace the battery. So, that's those are my f preferences, and that's my presentation. Yes. Run over it with a car. Good idea. Good idea, I'll I'll uh um Yes, very good. Hmm. Titanium. Titanium would be be heavy, too, wouldn't it? No, I haven't really um I wanted feedback, I think we need to rate rank these, but we'll see what your uh personal preferences are and your thoughts. I like titanium. It's light. Uh yeah but uh who who said who said we were, you know, nobody told me how mu what our fi

nancial objective is, so um It'd be hard to inflate something ou made out of titanium though. Not fat? Not fat, huh. Might be hard to find, though. Oh, okay. Speech recognition?. D uh I'm sorry? Well, uh training is always an issue with uh commands. So um might uh we can perhaps um do it if the user is willing to spend some time in the training process, uh it could reduce th th uh the overall um cost. Not sure how. But um anyway, um I I think also that uh this might impact the battery life. And um so, maybe what we'll have to do is um add something where you can um recharge it wirelessly so that uh y you know sen send power to it. So uh or maybe uh set it out in the sun and it uh, you know, gets uh, from the light, um a a solar cell inside there so that uh you have enough uh juice to do all these fancy things. Off. Very good point. Okay, we'll find that out. Oh, it's um, seems very understandable. Clearly your research and uh and ours uh heading in the same direction, and um uh the only thing that I saw missing from uh your your research that we found was this uh ability to find the doggone thing when you need it. So uh, you know, but that's okay. That's why we're all here at the table, so that if we think of it and our research indicates certain things and um w we it's complementary. I also think that um uh th f the the feel of it is uh, when you hold it, is something that um uh was expressed more in in in in my uh design and that's logical and normal 'cause those are the parameters that an Industrial Designer's more thinking about, th th the look and the feel, and uh, you're First. Yep. Mm-hmm. Okay, so I don't have any questions. Sounds good. Do you wanna go back and look at the closing slide, maybe that would provide some guidance? Doesn't really tell us. Well it says individual actions, it says user interf so I'm supposed to do the components concept, supposed to work on the user interface concept, and you're supposed to keep watching the trends. Um and specific instructions will be sent by our our coach. I think we should do as many features as uh start with all of them right now and eliminate them later in the process, that's my suggestion. You can object if you want to I think we should take that as an action item for after the meeting, 'cause w our meeting time has run out. Somebody else has go to use this room, and, you know, we can't hang out here and talk about this, so Thank you very much. Okay uh Agnes, you can help me for the slide when okay. Okay, welcome back. I hope uh you have a fresh head and a fresh time. How t now the meeting actually we gathering here to discuss about the functional design meeting. Okay, and uh we'll issue some information from uh all of you. And it's in the, I think uh, in the sharing

folder. And uh I will invite uh the Christine and the Ed and uh Agnes to discuss about on the various subjects. So can you go to the next slide? Yeah uh the agenda of the meeting is opening. Then uh I'm going to talk about uh the project management, what I'm going to do, and uh, of course, I'm doing the project management and secretary both, okay, to take the minutes of the meeting. And there are three presentations. One is uh new project requirements. And the second one about uh decision on remote control functions. And uh finally we are closing. Uh and the meeting time will be uh forty minutes, so you have to be very quick. And I have come up with the management come with the new proposal, okay, and I have to discuss a few points on this. Uh both says new insights in the aim of your project. Uh the one is uh the teletext becomes uh outmoded, okay because if uh because of the computer systems and the new technology. So we don't need to consider really about the teletext all in our new project design. And the second one is about uh the remote control. Should be used only for the T\_V\_. That's what our uh management says. And the third point, it's very very important to establish our uh marketing or uh corpo

rate image, okay, with this new project or new product. Okay. So I will invite uh Agnes, can you go to the third slide? Okay,. So, I'll invite uh Christine to discuss about uh the functional design. Yeah, let me uh interrupt you uh if you can add other facility, other feature, like uh unbreakable. Okay, because uh especially today, you know, you have the family and the kids, okay, and the kids throw it and they they play with their remotes and. Yes. Okay, so if you can add the feature, okay, for your uh fabric whatever in your outline design okay, with unbreakable, okay, I think that will give a lot of advantage for our product, if I'm not wrong. Maybe you can uh add it in that. Okay, uh thank you Christine, and uh uh any questions or uh clarifications, or any discussion on the functional design? Yes. Yeah so Yeah the the I'm sorry because uh the last meeting we supposed to discuss about the financial thing. Uh let me go quickly, maybe if I can go back. I know the project plan and the budget. So I can close this, not sure. Was in uh S This. So let me see where is this file. This is Christine. That's yours, okay. Saving. Okay, uh I will I will send you a mail, okay? The project may be the the project aim, okay. At the end of the day, the company uh wants to make at least uh the fifty million Euro. Okay, and uh of course the price will be very reasonable on the the sales side. Okay, that maybe Eddie will talk to you about uh how much uh the price and uh what's uh how much its cost for the manufacturing and how much it's going to be we sell in the market. Okay. Then uh you can come back with your feedback. And I I have one maybe the suggestion or opinion. This remote control, okay, it can be for like universal, to use for any T\_V\_. Okay, and it will be slim, okay, and uh Not fat. Okay. Yep. But let's try it, okay, with the different uh the designs, okay, the functional designs. Okay? So any other questions? Okay. Thank you Christine for uh time being, so then uh Ed, so can you tell about Mm-hmm. Yep. Yep. Mm-hmm. Yep. So what do you think about uh the design? Do you think you can make it or uh What do you think about uh the design, uh what he was talking about of the speech recognition? Mm-hmm. Yep. Well, what I can uh suggest to you, Christine, okay, uh if you need some uh the technical feedback, or some training, okay, about uh this facility, especially for the speech recognition, I can recommend you some companies like uh Intel or I\_B\_M\_, okay, because they're already in this uh speech recognition part, okay. And uh you can maybe have some uh technical backup from them, some kind of a technical tie-up. Okay, and uh if you want, I can coordinate, okay, to get some information, okay, and uh you can uh let me know, okay, so what kind of uh the details you require okay, to add this feature in this project. I don't think it's uh the difficult. And uh we need to know how much is the timeframe you need to develop, apart from uh what today. Yep. Yes. Yes. Yes. Yep. Yeah but but end of the day, you're the sales guy, so I will come back and sit on your head because uh you are going to give your sales

projection, okay. It's uh of course it's uh good to uh tell the management how much it's cost us and how much you are going to benefit, okay. And uh, so I don't mind to convince, okay, the management to spend some more money on the project, okay, if you can make out of the money from this project. Yes, okay I don't mind to convince the the management, okay. The management says, okay, so they they don't want certain facilities, which it's already worked, okay, they want something uh new, okay. I think uh like uh speech recognit definitely they will agree, I don't think they'll say no for that, okay. And uh I hope I can convince the management on that, okay. So if you have any uh new ideas, okay, for uh your you can always come up and uh you can tell me if you need any uh s special, okay, coordination, okay, between any uh technical companies

, which you can uh hide their technology backup, okay, for your uh functional design or technical design, okay, then I am ready to do that. And uh what's your comments about uh Yeah, so you are finish, Ed, uh so I can uh Okay, I'll uh hand over to Agnes. Just gonna close this. T Uh where are you, here? Participant three. Okay, so I'll yep. Okay. Is it okay? Alri Click mm. So for anybody need uh any help, for time being, on this uh subjects, okay, so please come back to me, and uh Christine, maybe I can uh try to help you to get some uh the technical uh the companies to help you for uh make a design uh slim, okay, and to add some features, like we are talking about, the speech recognition and all. Yeah. So not really this one we are talk ab Yep. Okay, that will be great. And uh I'll send you the the minutes of meet Yeah. Okay, what we'll do is now we'll take for lunch break, okay, then uh we can discuss furthermore, okay, with our areas, and uh then we will come back again in the in the next meeting. So thanks for coming and uh I'll send you minutes of meeting, and uh please put your all information in the sharing folder so everybody can share the information. Okay? So let's go for lunch then. Thank you. Yep. Sure. No, this is the third slide. Sure. Um. You're participant s Two? Do you want the mouse, or do you want me to Mm-hmm. Do you have any preconceived ideas in terms of materials? 'Cause, for example, in the unbreakable thing, doing something plastic would be harder, whereas having something like, I dunno, steel or titanium isn't really economically viable. Yeah. Yeah. Sure, yeah. No, I just wondering whether that you had any sort of Yeah. The marketing comes out. That's Christine's. And that's mine, I think. In modified. S 'scuse me for one sec. Hmm. It seems also like with the speech recognition, yeah, it's a great feature, but if you're watching T\_V\_, there's a lot of ambient sound, and it's words. It's not just, you know, noises like something hitting. It's actual speech, so then you have to make sure that the speech recognizer is good enough to filter out the T\_V\_ speech, and the the user's speech. Otherwise, you can say remote. But if someone on the screen is saying the same thing, all of a sudden, you have someone in a movie saying off and your screen dies, because they've triggered the remote control and it's turned off your T\_V\_. So, I think if we can find a speech recognizer that can handle those types of problems, then yeah, it'd be a really good marketing gimmick. But, I think we seriously need to consider how that would impact the situation. Mm-hmm. Yeah. Yeah. Mm-hmm. Mm-hmm. Oh yeah. Yeah. No, I think it's a great idea if we can design it to suit those requirements. Yeah. Um well, I mean, maybe if I go through my presentation, you can sort of see what the user perspective is, and how it ties into the other two comments. Mm participant three. Nope, here Good. Thanks. Yeah, and that's fine. Okay. So, basically, the method that we usually use in the user interface design is that we need to look at what people like and what people don't like about existing products. So, in our case, existing remote controls. And then, what the good ideas are, and what the bad ideas are, and why they're bad and good, which isn't always as obvious. We seem to have intuitions about why things are good or things are bad, but when you look, technically, at how it works, sometimes that's not the case. Then we need to decide what functionalities we really want to

keep, 'cause that'll feed into both Ed's work and Christine's work. Um and then what the remote control should look like, obviously, once we've got a good idea of what the functionalities are. So, in terms of the functionalities that we need, you obviously need to be able to turn the T\_V\_ on and off. You need to change channels, both by directly going to a specific channel or by channel surfing. You need to be able to control the volume and then control any menus on the T\_

V\_ to regulate contrast or whatever. So, the problems that people have expressed is that there's too many buttons on remote controls, in general. The buttons it's not clear what they're supposed to do. Um often, you need to know specific button sequences to get certain functionalities done, um which you don't necessarily always remember, especially if it's a functionality that you don't use very often. And that the buttons are too small. So, here we've got two examples where here on the left-hand side, you can see a remote control that has lots and lots of buttons. The buttons, in a lot of cases, are tiny. Um they're hard to see, and okay, they're labelled, but the labels don't necessarily tell you too much. Whereas, on the other side, you have a much simpler remote control that I think basically has the minimum functionalities that are needed. And it sort of looks simpler and just less imposing when you first look at it. So, I would be inclined to go sort of towards this, in terms of design, rather than this. And if there's specific functionalities that require more buttons, then we can figure out how to do it with existing um buttons. So my personal preferences are to keep the number of buttons to a limit, or to a minimum, sorry, make frequently used buttons bigger and more strategically placed, so like the on button being really obvious one, the channel changing and the volume, and to keep the design basically sleek and simple. Which, I think ties into what Christine and Ed have both said fairly reasonably. Um so, that's pretty much it, an I don't know if you guys have any questions or Yep. Yes, that's true. Yeah. Yeah. Mm-hmm. Yeah. Yeah. Oh, that's definitely a very important factor, especially to users who are gonna be buying the thing and then using it almost on an daily basis in a lot of cases, I think. Oh Should we maybe make a decision about what features we actually want to include, 'cause we've thrown a lot of features onto the table, but do we actually want to incorporate all of them, or have we missed anything? Sure. Mm-hmm. I thought No, I I'm just thinking in terms of time, like if Yes, now I'm objecting. No, I mean, I was just thinking is it really practical to start designing something with features that we're just gonna end up throwing away? I mean, it takes a lot of time and effort for everyone to consider different features, um and s if we spend that time and effort on features that we're not gonna use, maybe it's better to spend it on the f thinking more about features that we actually do want, but I guess Sure. Yeah. Yeah. Sure. Okay.

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# Meeting ID: 15

Data Source: Train

## Executive Summary

The Industrial Designer presented an overview of the internal components of a remote control device. He discussed energy source and material options, and suggested that using rubber and plastic would be the most versatile option. He displayed the three options for chips. The User Interface Designer discussed voice recognition with the group, and the group decided to not use it in their design. He suggested using rubber buttons because of their durability. He discussed the size of the device and the layout of the interface, and suggested that the remote be moderately sized to prevent its getting lost. The Marketing Expert expressed concern that the remote lacked enough features to be distinctive. The group had a discussion to decide on the product features. They decided to include a charging stand, to use a thin rubber casing material, to include a locator function and a scroll wheel with two channel-changing options to increase its usability. The group discussed the cost of the various components and decided to sell the device at a point between thirty-five and fifty Euros. The User Interface Designer and the Industrial Designer were instructed to construct the prototype.

## Complete Meeting Transcript

Rock and roll. So do we need to re-train Mike on how to put his mic on? Okay, can he get it all by himself this time? So I believe I can fly. Just what I needed was something exciting. Remember, I'm an old man. Thirty's really young, eh? Jose he man is. N name. I've I just love you tech guys, huh. They just Yeah y do jabber. P Yeah. I I gotta I gotta flashlight, and uh yeah but it's interesting 'cause you shake it like this. Like this. And that's on the camera. Yeah. I g I I figured you would. Yes. Yeah. It it it Uh. Uh uh to me in a marketing sense it's not it's not relative. We can we can o we can uh accentuate whatever whatever product you put in there we can find a way to accentuate it. And if you make it from that super rubber, when you drop it on the floor it can bounce right back up in your hand. You don't even need to lean down to get it. Mm-hmm yeah that's yeah that's what I see. Yeah that's what I see also. Ooh. That's right. Mm-hmm. I dunno. Trend watching I guess. Trend watching I believe. See what it looks like. It's been so long. Well I don't know what to say. When I s when I see the when I see the product I I I I don't wanna buy it. I see so many of 'em out there. There's nothing about that product that

makes me wanna choose that product over other products that are out there. Yeah yeah. Okay. Okay. Okay 'cause 'cause right now I don't have too much to say about how to market this product because we don't have a product to market yet. And uh from from talking to Mike is that we have we have uh we can market a more expensive product now. That's what I understand so, hello. And and so yeah I'm a I'm a little bit stuck right now in that what uh w what is it that I'm gonna market? Uh without special or increased marketable features I don't believe the product has a consumer demand. Uh I like the idea of of the scroll makin there are so many people making these products at this price right now. What are we gonna do to make this one special and unique? Uh well I don't yeah it's I I just see it as different. I don't say it's specially mm I don't say it's special. Uh I say that it's different I what I'm looking for as marketing is m give me something different. I give me a lower price, give me a higher price, give me some new technology, don't give me the same thing that everybody else is putting out there on the shelf it's f at the same price. I need something to market about this thing. We're we're a new firm. What i if when when we have yeah when we when we have something like the cradle or or something give that's as as a marketing standard I need something to market, to make this product unique. Yep. Mm 'kay. Just remember when I made up this report I didn't have the information that we're discussing here. And and so so uh yeah when we have a cradle, when we have some kind of design, so what I'm saying is, from my perspective, I don't have a product to market right now. Um uh my personal preference is that we make some adjustment in the cost, either lower or develop an integrated new technol technology. That's that is the next step, there's technology and then there is technology, which we're moving into the next phase. And so uh we're gonna have some new technology to enhance the marketability. Yeah uh again I'm not sold on the product because we don't have a product in my opinion yet. So I need a product. I need a product to market. And I just whatever product you guys put together, we'll find a way to market it. Tha that I'm not concerned with. If you if you give me if you give me a cut-out of what everybody else has then I need to I need to find a lower cost. Yeah wh wh what's the wh Okay now what I see with the scroll wheel is everybody has buttons. So from a marketing standpoint I have I have another door to walk through when we have something that's unique. If it creates something more complex or more expensive, then I don't know if that makes it uh a marketing necessity. But again, from a marketing perspect

ive I want as much new and different about this thing as possible because we're we're co it's a very competitive market. Mm-hmm. Yeah yeah. I think it's that's right. I think so. Mm. Yep. I think we got some exclusivity in that, you know, we got something that nobody else has right now, and and that means we can we can make some adjustments in the retail or wholesale price if we need to and it also can create it's own demand from it's uniqueness. Yeah. Yeah right now there's right now there's nothing coming out of the T\_V\_ to receive, so you know unless technology changes and information starts coming out of the a cable box or something there's no s I don't see the, I don't see the necessity of an L\_C\_D\_ either. Don't see it. Again. Well I think it's it's the more uniqueness you can bring to the product, the easier it is, I believe, for me to market. Uh again the push-buttons I I see are are everywhere. And so we can go with the same thing, but we're gonna be com competing in a in a broader market than if we go with something unique. You know the other thing I thought about was you know, do we go to something like this? Make a remote that doesn't look like a remote. It's just another it's just a an idea, and I don't know I mean what I see one of the things one of the things you brought up in an earlier presentation is, when you got children, their their stuff gets inside the circuitry, they get dirty, they get messy with drinks and stuff. This And what I keep throwing out there I just keep throwing out ideas to try to make this thing look or act or in some way identify itself as unique or different. But



you guys are the ones that have to ultimately create the product within cost. Oh okay phew. I think you gotta get into cost effectiveness. I think if you can have the base station with a locator, I think those are two very strong features, if that's something that can be integrated without a bunch of extra cost. Mm-hmm. Integrated, yeah. So it's just uh I think that's I know personally that would be a very attractive feature, is to have a uh have a button I can push to find my remote control. Or maybe you can like have a smell-o-rama, you know you push a button and it puts out a stink. You can Yeah yeah yeah yeah. Yeah. W Yeah. Oh yeah. Yeah. I think there's you know that uh there are so many people today that are that are surfing are television surfers, and I see the scroll as a great mechanism for surfing. Instead of going button-to-button you just you'd j j j j j j. I really I really think that's a really cool thing for surfing. Well there's another That's right. Yeah I think so. I think so. Now the only thing I on the interface side of it, is that I see the dilemma. But if we have the option of scrolling at any particular speed, or the option of jumping direct, okay. So I can go uh presuming I have, on my television, something that tells me what channel I'm on, I can scroll direct from channel five to channel thirty two. I know what because it's on the television. The television tells me what channel it's on when I change it. So I don't know that really that's that's gonna be a problem, 'cause the television can go automatically from channel five to channel thirty two with the push of a button. Okay? So can we can we create that kind of interface within a scroll system? You understand what I'm saying? Oh no we could read it from the television. Yeah the television can tell you. Can. Put And then. And again we have another another great marketing tool. We have about three we have three or four things here. I dunno and an maybe we maybe even have this as in-house technology. This may be something that's available through our own uh through our own services. Or we go directional up we go we go this we go this we go this way for one, we go this way for the other. Ah-ha okay. Okay, okay, well then you just have, you have a diff you have a mode switch. Yeah yeah. Well you had acknowledg

ed that we have more money for this. Didn't you say so? That's what I mean. We can increase the cost. So I don't know I don't know whether having Well I think the design and technology has to come back and say, okay to create this product we see it's gonna cost us this much for this volume, because we do have a volume target of of fifty million profit. Okay I'm I'm okay with that. I guess what I just want to me the next step is for these guys to come come in with the design proposal with the cost estimate attached, and then we have to take this to the next level. We have to find cost. Yeah, I was gonna say thirty five to fifty. Because one of the things we're marketing about this product is that this is the last one you will ever need to buy for your television. It's one of the marketing features in this. Mm-hmm. Yeah yeah. Bas th that's that's easy. That's that's not a, it's a. 'Cause we have about six, six, seven features in that alone. Under the title of uniquenesses. Well I have Is my three twenty one is the next meeting? That's that's almost uh fifty minutes. You guys can You guys you guys can uh create a All kinds of things. Thanks, yeah. Still. Thank you. I don't have any emails. This means I can go home. Oh, we all leave. Alright well we got some exciting stuff for you guys. Or not. All ready. We do. Alright. I guess I'll go first. Yeah. Component, I think. Yeah. Yep that's it. My name is. My name is name. Sorry I did this in a bit of a rush. So so here's a look inside your really old-looking remote control. Um you've got a printed a printed uh circuit board here, and you've got all these buttons which kinda press down little rubber nubbies into these little holes that activate Yeah we've all broken a remote control. So you've also got um you've got your chip here, your batteries here, and some sorta electronics. Um Well so you've got here's here's a transistor, and this amplifies your signal, um you've got the L\_E\_D\_ here on the end of the uh uh on the end of the printed circuit board. Um you've got a couple diodes here for I don't know who and whatnot. So exactly. So um we've got a i in this in this uh

drawing he uh in this example here, this is a eighteen pin um uh chip I dunno. Uh it's two double A\_ batteries. This is pretty standard remote. So here are options for our power sources. You can use a basic battery, which we've already discussed, um th our tech department also said we have the option of doing some kind of hand dynamo where maybe you crank it or something like that. I don't know if that's really I don't know we got some qu crazy guys down there in that department so You shake it. Yeah. So that's the next bullet is the um the kinetic provision of energy, so it's like that flashlight where you have to shake it. Uh we've got solar cells, which I don't think is a very good idea because um you could not use your remote at night which doesn't make a lot of sense. And finally we've got our cradle o our power cradle idea. M battery versus cradle I think is yeah. It could be fun. Yeah. Well it is it is more uh I mean it is more eco-friendly than the than the cradle 'cause you're still using power off the grid with the cradle. So um our case design. We have uh choices in materials and choices in the general shapes that we can do. Our material choices are a plastic latex um ty or plastic, a rubber latex type thing, uh wood, or titanium. If we go with titanium we're gonna be uh limited in the amount of shapes we can do because it's tough to shape the titanium, and uh Yeah pers I think wood i I I can't see anybody wanting to use a wooden remote, it's just anti-technology really, you know. Right. And what we may be able to do, and I think this might be the best option is to combine some a couple of these. Um my recommendation personally would be to do some kind of a plastic inner shell with a like a rubber outer shell, to make it um to mak uh like a thick plastic inner shell and a t um kind of

a to have that rubber outer shell to make it more durable, and also maybe i I think it feels a little better than the plastic. Yeah um Yeah. The advantages of working with plastic and rubber is w we we'll have a lot more um options just in terms of shape because you can extrude plastic in basically any shape you want. So um and then we can cover you know the breakable bits with rubber yeah so um But basically these are curved and double-curved I I believe that the tech department, in their um in their message to me, that they were referring to the number of th curves in the bottom. I have no idea exactly what they're talking about, but that's what they told me, uncurved, flat, curved, or double-curved. I would guess this like this pen would be kinda like a double-curved, where it's curved on m m multiple axes, right? I think curved means just curved in one axis and double-curved is curved in two axes or surfaces. I have no idea. Oh okay oh like a wave, okay. Alright that makes sense okay. Um okay, with the interface we have the following options, we can u we can use push buttons, we can use a scroll wheel with an integrated push button, and L\_C\_D\_ display, or multiple scrolling wheels. Um so these are all options that the user interface guy can uh has at his disposal to put together a user interface. For electronics, we have these very technical um descriptions here. A simple chip, which is the least expensive, but I have no numbers to give you, a regular chip, which is like the medium porridge the medium expense uh Yes the difference is, with a simple chip a simple chip will operate oh why doesn't this scroll up? Previous previous, okay. A simple chip is required to operate push buttons. Um an advanced chip is required to to operate um the L\_C\_D\_ display, and it didn't say specifically, but I I have a hunch that a regular chip is gonna be the scroll wheel and the multiple scroll wheels. So but yeah. That's the end of my presentation. I think No. If the T\_V\_ is working, yeah. That's just I mean it'll if somebody says up in the middle of a television show, it's gonna change the channel. So Well then why don't you just press the up button? Even still there's gonna be interf th there's there still will be interference from the T\_V\_. It might not be it might not be completely confusing, but I think you'll still y it's still I don't think it's practical at all. I think it's a bad idea frankly. That I would believe. Mm-hmm. That's not a scroll wheel. Right. Instead of play, stop, rewind, and fast forward there, that's up, down, louder, and quieter. Trend watching has a later date there. Are you talking about the picture? That's not

our that's not our b design, that's just a that's just something he a a graphic he used to show you the layout of what the layout of the buttons might be like. What's special and unique about a scroll? Well right I think the two big th points that we have so far are the having the cradle and also having uh the um the actual design of the uh case itself having like this like rubber shell maybe with a plastic interior, having it look really nice um and also be really durable. Right yeah. Yeah. Well let's get a product then. Well my question is what would the scroll wheel do? Function-wise, what does that do that Yeah. Well it's it's just another way to do the exact same thing that the buttons do. Yeah. Th they are gonna be more expensive, but on the other hand, I mean, it I mean it is an alternative if if you think that's gonna sell some some uh you know if if we're gonna make up the extra cost by extra sales I think maybe it's worth it to do it, but I mean I would just use if I was gonna do this I would just use the scroll wheel for s channels up and channels down. I don't think volume or do you think volume would be No we can we can do multiple scroll wheels but Mm-hmm. Yeah. Mm-hmm. I'm thinking yeah something like kinda almost like these pens, you know, where there's you have plastic bits and then it's

not really rubber but just kinda like a fused the plastic with rubber on the outside. Well no ma yeah maybe a bit more then th is on here but ju just as a kind of an inspiration, these pens I think are are kind of Or from from my perspective I think L\_C\_D\_ is a mistake because this is a universal remote and all you're doing I mean it's you're not gonna get any information back from the television, so the only information you can display on this remote is what channel you just sent it at last and there's just not a lot of information, you know, there. It receives no information. So I I don't see any reason for having an L\_C\_D\_ 'cause it's an increased cost. Unless you can think of something interesting to do with it. Right. Well we have to I think for me it's still not exactly clear exactly what the inter user interface is gonna be. There's the scroll wheel, in or out? What do you guys like in the user interface? Well I dunno about like the flip-phone idea, because I think, as far as durability th it's not a big well maybe when it's closed. Mm-hmm. Mm-hmm. Yeah. Well The The locator's gonna require a radio transmitter, which will Um we're probably gonna have to go with a like a medium chip, s I would imagine. But we I we will need a receiver, an antenna. Yeah. It should be a really simple signal though so That's true yeah. Oh yeah yeah. It'll be really cheap. So the scroll wheel, in or out? For me I think the scroll wheel actually might not be so bad. I don't know exactly what the increased cost is gonna be, but I think he does have a point, i it might push somebody over the edge when they're looking at our at our remote versus something else, when they see this one has a scroll wheel to go up and down on the channels. I think it might be kinda neat to be able to do it like that. Sure. Well I think wh what it would be is like like the m like this, where it's maybe you know a digital wheel, right, where it's where it's quantized into you know certain That was that was my my intuition of what the scroll wheel would be. It's just it's basically it it's just a f look and feel thing. It has the same exact functionality as two buttons. Yeah. Now just just so you know though uh you did bring up a point which is very valid, is a lot of T\_V\_s won't re the T\_V\_s won't respond exactly the same. Some of them are gonna be kinda slow switching, so you may like queue up like fifteen channel changes, and it'll be like flip, flip, flip. But Right. Yeah it just might be frustrating where you can't make it go as fast as you want, but I think once people get used to it I I do like the idea of the scroll wheel though. I think I know what you might be getting at, or or Well, what about this what about if you can programme in your favourite channels into this scroll wheel and you can just like roll through your favourite channels, and it c it Why? It'll tell you when you flip the channel on the T\_V\_. Yeah. Well you just it's one extra button. You say programme start, and then type in 'cause you still have the typing you know you'll still have the keypad where you can type 'em in manually. So programme start, zero, one, enter, zero, five, enter, thirty eight, enter, programme end.

Mm-hmm. Mm-hmm. Mm-hmm. Oh well we also have to determine in some manner how to switch between modes, between going through your favourites list and just hitting up one, up two. No because you wanna be able to go up and down through the channels. Right. I think we'll need a we'll need a mode switch, but then if we have a mode switch we're gonna need some kinda indicator to which, an L\_E\_ an L\_E\_D\_ okay. Okay. Okay. Just so you know I think I mean it was my understanding that before we were gonna stay in the mid-market range. It seems we're kind of approaching a higher-end range. I wanna make sure everybody's okay with that. Okay. I just wanna make sure everybody's on board with it. So Right. Well y yeah. Let's let's try and think now, how much would you pay for with all thes

e features how much would you pay if you went to the store, and you were in the market f to replace your T\_V\_ remote, how much would you pay for that? I'm just asking you. If Then you could probably afford this. Oh no no. I would say thirty five to forty. Okay. Right. With a cradle, radio transmitters, and back-lit buttons. And it's gonna look sexy. Or not. It might look like clay. Probably. We'll let you know when we're done, if we can go earlier. Yeah. I don't think so. If we have any questions we'll just email you I guess. Afternoon guys. It's gonna be. Oh. 'Kay. We may do. I dunno, I'm feeling like a big boy. 'Kay, ready to go? 'Kay so we've got our conceptual design meeting. Hopefully we've all got exciting ideas now. Uh k exciting ideas. 'Kay so here's our agenda our agenda. Um I'm gonna open. I'm gonna talk for a bit about what we're gonna do. I'm gonna take some notes. We're gonna all do a presentation, and then hopefully we're gonna make some decisions now. Yep. Well when I say hopefully, we have to. So I'm gonna let you guys talk before we make decisions. And does anyone really want to go first? You p two? What's Components design. Your name is name? Huh hi name. Right. We've all broke a remote control ri um s yeah. You press this and it does th I dunno who and whatnot. 'Kay. Okay. 'Kay. Mm 'kay. Okay so we basically have battery versus cradle here? Okay. So we have battery versus cradle It's actually a novel thing because you could sell it a as a novelty, just to be actually serious for a minute here, you could Mm. Hmm. Wood wood would ge would give us a little bit of a marketing niche, wouldn't it. Nah. Okay. Hmm. Okay. 'Kay. Do you get a good grip on the rubber? Yeah okay. Okay. Okay. Okay. I think it might mean something like that sorta shape because a double curve rather than a yeah that's what. Okay. D do we have actually any concept of what the difference is between a simple chip and an advanced chip? Okay. Okay. Yeah that makes sense. So presentation from I guess design would go best. Next. Technical functions or interface concept? Yeah that's it. Yes, but it has your name on it. But what if you actually had to press a button to make it recognize? So if you pressed it and went, up? Man yeah. But if it's just one thing with a button that you can just go Up. Yeah, okay. Okay. You guys know your stuff. Mm. So we're suggesting doing a sorta scroll wheel thing for the volume? Nah. Oh okay okay. I see. Uh, okay. Okay. 'Kay. So on to Y functional requirements or trend watching? forty six nineteen fifty seven. Yep. Mm. Upper management said yes. Uh e excuse that, that's a bit of spam. It's cool. I'd I'd say though that we if we did make the decision to go with the cradle though, the then we have that as well, but wi with a similar Mm. Course. Yeah 'cause that's. Mm. Mm 'kay. So now So our big questions here really are cradle or not cradle? Do we go basic or do we go for features? Uh d does anyone really wanna do anything with the scroll wheel or should we ditch that off-hand first? Oh but that was in your presentation so wh what would you imagine it doing? Mm 'kay. Yeah. What I understand about scroll wheels is they're they're quite expensive to to make. So I d Well I d I like the idea of basically focusing the my personal preference is focusing the p the product on the idea of the uh the case the the uh dock to put it in to to charge it. We can target like environmentally friendly ideas, that sorta things. It s i m makes it easy to market, it's easy to differentiate the product, yeah so. And if we we

keep the rest in a format that is durable because the whole product's gonna need to be more durable than thus because you're not going to be ditching it as often. It's gonna need to be more expensive because of the cradle. So if we can market it in terms of that and yeah well So our big decision then is like how do we do um like we have to decide on the details and we have to decide on well not exactly the details

, but do we have uh What type of casing? I personally like what you were saying about the plastic with the rubber. Okay. Just a very thin sorta sheet for a grip, sorta thing or for Okay. So then if we do do we want to do anything more basic with the uh more advanced with the user interface in terms of do we want to go for um buttons, or do we want if we're ditching the scroll wheels do we want to go L\_C\_D\_? Do we want to give do we want to have anything else on it? Okay. Okay so the question is now I guess we need to decide on well you guys basically have to now go and figure out the details of this thing. So, what we need to know in terms of marketing and uh project management are are there any other questions that we need to answer now before you guys can go and build this? What what overall things have we not decided on? I think maybe in terms of marketing, is that gonna make enough of a difference to justify the cost? Yeah and I guess the question that that you're being asked right now is whether is the dock enough of a unique feature to be able to go out and sell that as a very different product, or do we really need the scroll wheel as well? Because the scroll wheel comes at quite a cost. That's gonna need a better chip as well? And it's presumably gonna need a little speaker in it or something like that as well to beep. But I guess a little tiny speaker is gonna be quite cheap, it's not gonna need quality, is it? It's Makes your living room more fresh as you watch. Okay we're doing well for time here. Um we've got about another ten minutes. I think that uh Mm per my personal preference is out. I don't think the cost is justified for a little bit more uniqueness when we already have that, and I don't think it's obvious and natural how it would be used. Mm. But then that that surely depends a little on the T\_V\_ because some T\_V\_s are quite slow at changing channels from like so if you've got a scroll wheel and you scroll scroll it really really slowly just so that you're actually keeping in pace with the T\_V\_'s ability to to change channels. Or do you have to go through and you wait for it? You scroll it a bunch of times and you wait for it to Mm. Uh I see I see. That's where you Ah I see I see what you're talking about now. Okay. Yeah if you're just sitting there going That's kinda cool actually. I like that. Well not necessarily. You could basically make it so that it'll I mean it's just gonna be sending a signal to the T\_V\_ yeah the T\_V\_'s go so if you send about five flip channels, if you did that it's gonna flip once. If you do that. Other than click click click. Yeah. And if we're marketing it as a high niche product, then we're gonna be selling it to people who are buying good T\_V\_s as well, yeah, presumably. Primarily. Mm-hmm. Mm-hmm. Oh I see so if maybe if we had an L\_C\_D\_ up the top that just did a number on it, right? And then it that basically Mm. Well that's quite cool. You'd need a display on the thing. Oh yeah yeah no I see what you're talking about. Yeah that's kinda cool. How would you program it though? Okay okay. Okay and yeah and that just basically flips between it and it'll go it sends out zero, five, and then thirty six, and then zero, one again. Yeah that's kinda cool. I like that. That's not gonna be too expensive because that's gonna be you're gonna be able to nab that off of computer mouse manufacturers really. You could basically come up with a partnership to be able to produce that quite cheaply. Might be, but that's not gonna be such a costly feature. The problem we're gonna have is making it robust. Making it last. So if there's a button for each type. Yeah people are gonna have their favourite sorta, whether they do that or whether they Yeah yeah the mode switch. Just the lights behind the buttons. You could have back-lit buttons maybe. Would that work? Is that okay we have five minutes. So right details that we've ta

liked about here are that we want a scroll wheel. We want a mode indicator. We want back-lit buttons. And if we're making back-lit buttons period, do we want that just for the mode indicator or maybe to indicate what button you're pressing at the time, so that you know if it's actually pressed or not. I've seen some remotes do that. I think we are yeah. Yeah well we don't have it's not that we have more money, we can push up the the price. Yeah. 'Kay. Yeah. So we really need to be sure as to what we can push the cost up to, though we haven't got to a stage where we're ready to pin down the price of components. But I'd say what sorta price are we looking to be able to sell something like that, and what sorta price can we make it for? Yeah no I I think that's where we really should be more flexible than anything else because as we said in the last meeting, our management is really looking for us to push our brand. We're entering a new market here, so I think the the profit expectation for this one product is maybe not as important as being able to But th what's our ballpark as to what we'd be able to sell something like this for? But you've gotta think who our target market is because I I'm not our target market. I'm a student, but on the other hand I would think, mm with my Project Manager salary, I would think yeah I could probably afford this uh would I buy it? Maybe. If I had a cool new T\_V\_ and this was r looking really slick and it had the dock and it had the scroll wheel, which I think's a really cool idea, that would sell me on it a little. Then maybe you know. I do I don't think I'd go over a hundred Euro certainly, that would be way too much, but the I would be happy paying over forty for it, I guess, but not much 'Kay. Thirty five to fifty Euros is our sales bracket okay. So the question is what we ca we make it for. Mm. That's why the scroll needs to be really robust. Yep. Okay. The next meeting starts in thirty minutes, although does it? It starts at three twenty one, the next meeting. So we've got more than a thirty minutes. Um we've got more like fifty. The the ne next meeting is three twenty one yeah. Yeah that is. Uh they've they've changed the times from the presentations. Okay so you guys will be getting your modelling done now and uh Okay are there any other questions with regards to what this thing's gonna do, look like, how it's gonna work that need to be addressed before we really look at this in a lot of detail? Okay. Okay. This one was quite easy. Always the optimist. 'Kay thanks guys. Think s Mm. Pro Probably not, 'cause he's 'S been listening to too much. He's getting retarded. Yay. Or not. Yeah. Apparently I'm old as well. Presented by name. My name is Inigo Montoya. You killed my father. Prepare to die. Yeah there's a thingy and a dingy and Nah. I wanna change that. I like the kinetic. Oh interface concept. Very long presentation. Well that doesn't bo bode well for it for it tats as well. Um so, somehow that thing's too big, but um okay um our uh manufacturing division wanted the speech recognition. They say they could put it to work but um we don't think so. No. It it it you'll be you know be affected by the by the other speech and Yeah and and fighting for the remote would not be fun anymore, and I think that's one of the things we wanna keep. That kinda would r d yeah. That would kind of lose it. Yeah so um taking that away, our uh the the the rubber but rubber buttons are the more reliable it's the the ones that would al would allow us to to market our product as being you know less prone to damage and more resistant to things like spillage of liquids over it or you know mistreat misuses as it happens to remote controls. Um as for the point that we making about losing it. Well, we wanna small r remote control one side because uh we want it to be cool and uh designed, but um apparently um market shows that bigger s bigger um remotes get less lost, about But um yeah I think we we need to compromise

between those two and somehow we'll do that. Somehow. Um so the the what I would propose is something more or less in the uh direction of what is to yo the right of that slide uh but without with a l a less complicated um design, so the numbers, the volume control, and channel control, and teletext access. Uh the volume and channel control can just become those the the four button array as in if it

was a round dial. And um if you just think about it as the one to the right but with the numbers and the four buttons plus maybe a centre one with teletext. Ye no it's not i i it's just four buttons that are on a cross, so that you ba basically can control all of the important tasks from that alone. Yeah um yeah so I think we w we go for something mid-sized, so something looks good and uh is not too prone to get lost. That be it.. But would we I dunno. I'll bet first in volume maybe. I dunno. It's only a T\_V\_. Hmm. Mm-hmm. No it's just different. Maybe not. S Yeah. Yeah I think we have like and it's not very usable and it will bring down the robustness of the whole thing, 'cause it's it it breaks down easier. Mm-hmm. Yep. Yeah. Yeah. Okay so we'll come up with something between thirty five and fifty that is rug rubber, robust, with scroll wheel, with the new facilities of the scroll wheel like favourite stuff, favourite channels, and and with a cradle, and yeah and the locator. Or not. Okay so you can market pe depending on that? Cool. Hmm. Yeah I think it pretty much everything's covered. Coulda been worse. Yes I am.

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# Meeting ID: 17

Data Source: Train

## Executive Summary

Right um this is our conceptual design meeting , I think we're slightly ahead of ourselves This is where we talk about um properties , materials , user-interface and trend-watching . the minutes from the last time . Um we had a couple of um changes in our plans in that we couldn't use teletext , it wasn't gonna be a control for everything um and that we had to incorporate the image of the company into it somehow . we have decided on a leaving out the voice recognition , we've decided on there being a flip design and um a different shape from what's normal . We were thinking a shell , but something along those lines , and we were gonna think about the port and an alarm for getting it lost , and so this feedback from the marketing department is really about trend watching . Um the methods we used to decide on uh current trends and so on , market trends , were that we did our traditional uh our usual market research study uh with a hundred subjects Also with our company um being forerunners in uh putting fashion into technology , we also looked at a fashion update um using our consultants on fashion and design in Paris and Milan . Uh so the general findings from that was uh in the market trends the most important aspect for remote controls were people want a fancy look and feel , rather than the the current functional look and feel of remote controls . They also also want a remote control to be technologically innovative , and of course , as we predicted , that it should be easy to use . Now I should point out that the first of those findings , fancy look and feel , is the most important , is twice as important as the second , technologically innovative , which is in turn twice as important as being easy to use . um we found from our um consultants in Paris and Milan who des attended all the design and fashion fairs there , that fruit and vegetables are going to be the theme for clothes , shoes and furniture . There also seems to be um a trend towards a spongy feel to materials , Um this is uh all about the design of the actual components and the availability of the components we have in stock at the moment . 'cause some of the things that we looked at last time aren't un unfortunately aren't available . This is uh the chip called the T\_A\_ double one eight three five which is what's used in pretty much every remote control 'cause it sends out standard signals , based on your input Um and then we we're loo looking into battery options . There's um actually no rechargeable option available , I saw the um the standard double A\_ and triple A\_ which we thought were a bit bit too bulky at the moment , dynamo charging , I thought that that might be a bit silly to be to be honest , So you wind up your remote control before you use it . like the the solar charging , 'cause most people have the light on in the room anyway so they



could get when when you got T\_V\_ . I'm pretty sure that solar is from the sun . But I I think I think the the next one's the best anyway . The the kinetic charging which is like you get it in r you get it in wrist watches I mean the amount the amount of probably moving around you'd be doing all the time would would charge it up , it like it runs for long time ? well I do I d I'm not entirely sure how long it would last but I've never seen one run out . referring back to solar charging , is that compatible with um standard batteries ? Ye yeah I think I th uh g y you could have a dual um power thing but the the thing with the solar cells is you would need to put them on the case on a calculator they they're qui they're quite big and they all they all look i identical . Yeah the normal batteries would be the cheapest W w which one would last the longest , because we don't want customers to be like you know charging like a mobile phone every day . 'Cause if we're doing the kinetic thing Shouldn't we do some market research on that first before we add it in It's not something that's come up in any of our uh focus groups and market research , But it's something to put on the side to think about maybe . most current remotes use this silicone uh P\_C\_B\_ board which pr printed circuit board , the thing about is um they they can be as big or as small as you want them to be Now what I was thinking about that was 'cause sometimes when y when you have these things , they've got little lights on behind the buttons , so you can see what all the buttons are , but you could you could have lights behind the buttons Um , the case material , I've a been sent what the factory can actually give us , there's the plastic which I think we were gonna go for anyway as the main case case housing well you could go for wood but I think it would be a bit impractical . Titanium um very expensive just to process , so perhaps uh some something made of rubber , If you go for titanium they can only do a standard box shape , whereas if you come to plastic they can they can be a little more they can they can do sort of curved shapes . yeah and second question is like , a mobile you can change the cover , So in this case if you're looking at like a customer can change the colour like from green , parrot green to chilli red or something like that . I was just wondering if we make the basic mould out of plastic but have like a rubber cover that goes over , So instead of the fascia that comes off being plastic , the fascia that comes off would be the rubber , Well that's been really popular with mobile phones so I don't see why not . but I thought that an L\_C\_D\_ type of screen the problem with it basically is that it's flat and so you can't do lots of curve curved things with it , I don't see why the curved thing is a problem , if we for example had a shell , once we open that You could have a flat screen inside , yeah , w or we could have rubber buttons which are made of this material which is anti-R\_S\_I\_ . I think it would be good to have a contrast between , if the whole thing is gonna be this rubber thing it would be good to open it up and see something quite fancy looking inside . Is it possible , just as an option , when we open it up , people can use their fingers to press the button , or we have inside like a small pointer thing when people want to . but I I think they could get a bit easily lost , Is it possible that when we open our flip-top shell it's a little compact mirror and when you press a button it then goes onto the phone display th uh the remote control display thing . We're marketing to guys as much as we are to women . you were sitting watching T\_V\_ are you gonna want to sort of open it and say oh shit I should go and have a shower and do my hair before I put the T\_ we are going to have m maybe a G\_ G\_U\_I\_ interface in the f in the middle of the flip-top we just took the input from the previous meeting , especially from the marketing and industrial design , to check on the customer needs and feasibility . the picture here shows one of the standard models offered by competitors here . So you generally see rectangular shape , very monotonous kind of designs here . And uh second thing is there's too

much of confusion here . basically which is what we do in computer , have icons or touch pad or whatever , so for on the simpler board , on the top we have this button , rubber buttons , to keep frequently changing the channels . Can we swap that round so that the ones that we use all the time are on the bottom part ? So the findings are too many cluttered buttons . Repetition of certain buttons which I already explained , Okay we had a latest finding of voice recognition , there was a mail which mentions that our division has developed a new speech recognition feature . We have to check into the financial feasibility whether we can incorporate it this at a low cost , So it could be like , where is the remote , and the remote answers I am here . so I wouldn't say the design should be like a fruit , but yeah we can take inspiration from fruit colours , like the vibrant colours , uh red chilli uh I think most of the users would now be well acquainted with this central pattern , here , so we we we would not change that particular pattern I'm not sure how long we've got left , but we need to make a decision about the things we've discussed . Do we agree on the battery ? The kinetic . so we could incorporate voice recognition for the finding it . Um , that means that there's no function for the port , I think the only pitfall that we would have would be how much it's going to cost if that means we have to cut down somewhere else , The LCD's not cheap . Maybe we could start with the black and white . did we decide on double A\_ or triple A\_ batteries ? the kinetic ones come with um a sort of watch a battery that goes in a watch . The inside components is pretty standardised across the board isn't it ? Yeah the well I think we're going for the LCD\_ on that one , on the buttons , On the bottom we were gonna have the rubber , the rubber ones , Um , okay on we've got the flip the flip-screen , the top one is gonna be the LCD\_ and the bottom one is gonna be the rubberised buttons . For the body design I think plastic , so we decided on a rubber casing for the plastic shell , a variety of designs , we're not gonna try and make it actually a vegetable or fruit design or anything else , like a shell that we discussed , um the fact the material that we would be using would be cheap , so we could make it red , we could make it um psychedelic , This would definitely be different enough , I just wondered if anybody could come up with something even more you could have um a plain black one , you could have sparkly pink glittery ones for your little So we can if financially voice recognition is not feasible we could go for a whistle . And incorporating the company logo ? 'Cause I took it from the feedback you gave in the last meeting from your report , it's not just a case of having a little R\_R\_ hidden somewhere , they do want it to be obvious that it's our product I think you just address that with um advertising . Obviously it'll have a logo on it just like everything , The point is that it's got to stand out somehow differently I know at the last meeting we spoke about a beeper , have we just rejected that in favour of voice recognition then ? Yeah , depending on the expense of it . Right I'm going to wrap it up there . it says , closing we have forty minutes so I think we've probably got about that time before we come back .

## Complete Meeting Transcript

Oops. Mm. After lunch. Yeah. Mm-hmm. Mm-hmm. 'Kay. Yep. 'Kay. Yep. Fine. It's okay with me. Yep. Regarding those sizes, which one you think will be light because we have to take into consideration

size also, so maybe a standard triple A\_ might take lesser space or and dynamo might take more space. Uh Right. Night. And are these like uh what are the life of the kinetic battery, it like it runs for long time? Mm-hmm. Okay. We c Solar would be slightly expensive. It's twelve point f Another question is like sorry. W w which one would last the longest, because we don't want customers to be like you know charging like a mobile phone every day. A remote control, like, so we have to s look at the life also. Okay. So Mm-hmm. Okay. Second thing is yeah and second question is like, a mobile you can change the cover, you call it a skin or whatever. So in this case if you're looking at like a customer can change the colour like from green, parrot green to chilli red or something like that. So is that feature available in like uh titanium, or it's like only specific to plastic or Mm-hmm. Yeah. Something like Alright. That could be a good idea. It could it would be comfortable to hold on also. Sorry I didn't get the last part, you're talking of Just what you said I I didn't get the uh meaning of it completely, you're saying like Uh-huh. Okay. 'Kay. Absolutely, f for somebody who very often, if he would a person who switches channels very often or does use a particular function very often will find it very irritating to use a and he might spoil the touch-pad very fast compared to a button like, if you keep punching with an pointer or whatever. And just one small question before like you are, regarding the circuit, since we are hav having a flip-top, we can customise the two circuits for different type of buttons like we are keeping the standard buttons on the top and the more complex buttons under this thing, so we can divide the circuit like you know. Mm-hmm. Okay. Okay. Okay, uh would like to share something which I did here. First thing is uh basically on design we just took the input from the previous meeting, especially from the marketing and industrial design, to check on the customer needs and feasibility. Second is we checked into competitors, the picture here shows one of the standard models offered by competitors here. So y you generally see there's not much of variety and like marketing team said uh, people need trendy, they are bored of black and white. So you generally see rectangular shape, very monotonous kind of designs here. And uh second thing is there's too much of confusion here. No particular remote is standard. Like, some some people have a Here you see this? This is on a I I found th that uh only common feature is the ch uh channel control and uh volume control, rest other buttons, they are in a very disorganized and they are not consistent th with other models and all. Okay, and second as already discussed with William, we are going to have m maybe a G\_ G\_U\_I\_ interface in the f in the middle of the flip-top and g graphic user interface basically which is what we d do in computer, have icons or touch pad or whatever, which is Like you have on a I uh icons or something y you have is a good example of G\_U\_I\_ graphic user interface. So basically not point or click Press any particular device, he just has to click on that particular icon to simplify. And on the top m repetitive buttons which are like volume or channel changing and all could be on the pointing device, that means the use of button. So he need not use a pointer to keep changing the channel if a person is frequent surfer. So we are having a combination of boards, so f on the s simpler board, on the top we have this button, rubber buttons, to keep frequently changing the channels. But Mm-hmm. Okay and you mean to the And the lower distance. Oh f perfect. So the findings are too many cluttered buttons. Repetition of certain but buttons which I already exp

lained, example the volume and channel control buttons. All are confusing and in inconsistent. Okay we had a latest finding of voice recognition, there was a mail which mentions that our division has developed a new speech recognition s feature. We have to check into the for financial f feasibility whether we can incorporate it this at a low cost, but for like we had g um s response from the customers that they would like to have the feature of finding it. So it could be like, where is the remote, and the remote answers I am here. Some kind of thing or it gives a b bleep sound or some kind of

sound and if this can be incorporated this would be more uh you can say trendy also? And technologically innovative also. So we we can check into the financial feasibility of incorporating this. My personal preferences would be like, as already uh marketing department, they want something to do with fruit so I wouldn't say the design should be like a fruit, but yeah we can take inspiration from fruit colours, like the vibrant colours, uh red chilli uh tomato red or whatever and second thing is cer certain standard buttons we should have, like for example, i if you see the previous slide uh I think most of the users would now be well acquainted with this cer central pattern, here, so we we we would not change h that particular pattern because i this is the most consistent thing in all remote controls. This is central one, the one you yeah volume and channel. So keep that m that standardised because that's the most common feature across all models, if you look at all the models, it's here. This and voice recognition. The kinetic. Mm-hmm. Maybe we could start with the black and white. That that way we could upgrade later. Mm. Mm. Yeah. And for the sorry. For the body design I think plastic, uh w yeah we could use the body, for the inside and uh rubber as a padding or for the grip, something like to add to the design. Plast right. It's Uh I it's different. Right. Acupressure, you could talk of acupressures. And finally the body should be retouchable, may maybe ch you can change the body or the case casing the case outside, it should be moulded it with the design in such a way you can change it every time. Okay. The rubber. Fine. Yeah. Fine, uh we were talking of voice recognition also because that we are not for how to look it uh remote control if it's lost. So, are we looking at voice? Or maybe like uh William was suggesting in the last thing some devices you put on key chains. For I yeah, the whistle. So we can if financially voice recognition is not feasible we could go for a whistle. Yep. Uh sorry I didn't mention this, but we'll be incorporating in the design. Fine. Mm-hmm. Yeah. Again a questionnaire huh? I think we are pretty going in a clear direction now. Yeah, yeah I was getting that impression as well. Etcetera. Yeah. Yeah. Yeah, okay. That screwed in? Yeah. 'Kay, Okay. Um this is uh all about the design of the actual components and the availability of the components we have in stock at the moment. Okay, first uh the Into the method. The the main idea of the whole thing is just so you sh you just press buttons and it should activate things on the T\_V\_ and we discussed last meeting that it should be easy to find. Um also in this study I've looked into the availability of some of the materials, 'cause some of the things that we looked at last time aren't un unfortunately aren't available. Um, findings, I've got my nice little picture there. This is uh the chip called the T\_A\_ double one eight three five which is what's used in pretty much every remote control 'cause it sends out standard signals, based on your input and um it's pretty much used for all all T\_V\_ remotes at the moment. Um and then we we're loo looking into battery options. There's um actually no rechargeable option available, so we I saw the um the standard double A\_ and triple A\_ which we thought were a bit bit too bulky at the moment, dynamo charging, I thought that

that might be a bit silly to be to be honest, people won't it's it's basically like wind-up radio. So you wind up your remote control before you use it. It might You Yeah, yeah, oh yeah I presu you wouldn't have to wind it for very long, but I don't I don't think it's really sort of necessary when you th you think of the next two options, like the the solar charging, 'cause most people have the light on in the room anyway so they could get when when you got T\_V\_. No. Is it? Alright i Yeah it would the d yeah the dynamo would take more space 'cause you actually need a physical sort of handle to wind up. Yeah, okay. But Yeah and most people most people also watch T\_V\_ in the in the night anyway. But I I think I think the the next one's the best anyway. The the kinetic charging which is like you get it in r you get it in wrist watches and you d you don't even notice it. I mean the amount the amount of probably moving around you'd be doing all the time would would charge it up, I don't think you'd ever need to actually physically

start shaking it up to make it work. Um yeah it's it charges into um some form of it's a smaller cell which it charges into and uh the size sort of a watch a watch battery, 'cause they use them quite frequently in watches. And that'll that would I would last for um well I do I d I'm not entirely sure how long it would last but I've never seen one run out. Yeah. Yeah and Yeah but then again I I think it is because if you think about it, the watch, although it's only a tiny amount it's it's um it's always moving for the whole day and they don't run out over night when you leave them on the side. And th for the same the same reason, you're only using it for a v incredibly short amount of time just to send the signal and then you're finished with it and you put it no no I do I don't think the the draw on it would be Mm. Ye yeah I think I th uh g y you could have a dual um power thing but the the thing with the solar cells is you would need to put them on the case and they because, if you lie on a calculator they they're qui they're quite big and they all they all look i identical. They're they're expensive, they don't Yeah the normal batteries would be the cheapest I'd presume then it would actually be the the solar charging ones, um but the It's i I think they're not very resistant to dropping, 'cause if you drop stuff yeah if you if you have y the size you'd need to charge a remote wouldn't be that big but I mean if remotes always get thrown around and stuff, so. Y I think yeah, practically. I mean calculators you don't really throw around a lot whereas remotes you do, they can t Yeah they do, they yeah they've got dual things, but they're the batteries are smaller I think. Mm. W m yeah so the Yeah the the s if you if you had something du uh using the standard batteries and the solar charging, um, I don't think you'd I think the it would d well you know how long the standard double A\_s would last in or triple A\_s would last. Yeah I think i I think it would, yeah. Yeah. Yeah. Yeah. Yeah. Okay. Okay, well I'll move on. Um, my second part of my findings uh the mo most current remotes use this silicone uh P\_C\_B\_ board which pr printed circuit board, which basically has these contacts that are really close together and then when you press down on the rubber button, it'll connect the circuit and each each switch is connected to two uh different legs on the chip and so sends a different message and that then uh gets translated by the chip into a code and then it's fired out of this L\_E\_D\_ in the sequence of I on and off bursts. Well well this the thi the thing about is um they they can be as big or as small as you want them to be because you can you can print circuit board like that that it's it's simply spaced like that so you can have fit the n the size of the nine buttons in. If you if you see how thin the tracks are, you could you could s you could put them virtually right next to each other and have a

much smaller switch on each one, if you if you wanted to but um the there is an option to do to do it like that, or you could have some sort of array of switches which I'll speak about in the next bit so that And then to uh yeah, so to conserve battery life the remote should be in a standby mode no while not being used. Now what I was thinking about that was 'cause sometimes when y when you have these things, they've got little lights on behind the buttons, so you can see what all the buttons are, like on a mobile phone, they do it more often than on a than on a T\_V\_ remote, but you could you could have lights behind the buttons and um after like five or ten seconds of not being used I'd have that turned off, if we decided to go for buttons that could light up. Um, the case material, I've a been sent what the factory can actually give us, the there's the plastic which I think we were gonna go for anyway as the main case case housing and the the main problems with the well you could go for wood but I think it would be a bit impractical. Titanium um very expensive just to process, which to make it is expensive, and rubber, well you're saying that people like this uh spongy feel this year, so perhaps uh some something made of rubber, but I was thinking more of the buttons, because the buttons which they've they've said that they've they've put across are what is used in some stress ball manufacture and it's meant to be anti R\_S\_I\_. I'm no I'm not sure how that would work because surely your fingers would still be moving

over the short distances but that's what they said. Um the problem with the casing is that uh there's quite um there's quite a few design restrictions that they've got on the shape of the case. If you go for titanium they can only do a standard box shape, whereas if you come to plastic they can they can be a little more they can they can do sort of curved shapes. But whether whether or not because we'd have it in two separate units for the flip phone. Yeah. Yeah I th Uh. Yeah in in titanium I don't I don't think it would be available at all really, the ju just it w well you could make it available in the titanium, it was just it would be so expensive to buy a new case for it, because of the expense of how much titanium is is it's light and strong but I think it should be left for aircraft design rather than for for a remote. Yeah, yeah. Rubber, yeah. And you can peel them off yeah. Yeah. Yeah. Hmm. T Yeah. Also the just just going back to the interface designs with the buttons, the I kno we were planning to do some sort of touch screen. Now what I was saying before about instead of having you could have just a bare P\_C\_B\_ circuit board and I'm sure you could probably get it in different colours and so just by touching it with your finger it'd make the connection over if you had them close enough, that would be one option. Um the second option th they offer rubber buttons, but I thought that an L\_C\_D\_ type of screen 'cause one they're incredibly thin um and don't take up much space, two they you can have them in a sort of array and you can arrange the buttons on the screen in a sort of set thing and you could have them like a touch display. Uh what what Oh on the on the L\_C\_D\_ screen you could becau you could fit it the problem with it basically is that it's flat and so you can't do lots of curve curved things with it, but um you can you wouldn't have with the L\_C\_D\_ you'd have the wires coming off, you wouldn't have that with the with the L\_C\_D\_, you'd only have that with the printed circuit board. With W also with the Yeah. You could have a flat screen inside, yeah, but I'm just wondering whether we want an L\_C\_D\_ screen inside. It wouldn't be like full colour, it would just be black and white, but there'd be touch touch buttons, so you wouldn't be pressing down on 'em, w or we could have rubber buttons which are made of this material which is anti-R\_S\_I\_. Is rubber. Mm. Yeah I hadn't I hadn't really thought of t

hat to be honest. Yeah you could, you could have some sort of stylus that you could pull out but I I think they could get a bit easily lost, 'cause I had Hmm. Yeah. Yeah. Yeah. Yeah okay. Yeah that's yeah that that's the end of m my Yeah. Uh yeah. Yeah yeah that that would be fairly simple, I mean you'd you'd actually have two separate you'd have two separate circuit boards but they'd be joined by wires or like some cabling between them, 'cause in the in the actual flip bit you'd have some linking. Mm. Um. Yeah. I mean you can you could do it, you could have a 'cause if you if you just put the full charge through an L\_C\_D\_ display it'll completely blank it out, but I don't know if you could get any mirror effect on it, I'm not sure about Yeah. Yeah. Yeah. If you if yeah if you have like buttons that appear on the screen in this L\_C\_D\_ screen. Yeah. Yeah. Yeah, yeah but you can do it with your thumb li Yeah. Yeah. Yeah. Yeah. Well, yeah we Yeah. Yeah. Mm. Yeah I think I mean if Yeah it is it is qui it's quite a cool feature to have and also if they've got it if they've got these parts already in stock, then it won't be cheap to re-manufacture them, uh or it will be cheap sorry to re-manufacture them. So do you reckon that's a good idea that, where's the remote, I'm here thing? I think that would be quite fun. Yeah. Yeah. Yeah to s th well it's it's not as expensive as it would be if it was full colour 'cause if we've just got a black and white one, I mean they use them in calculators so. Yeah. Well you cou um. K no the kinetic ones come come with um a sort of w watch a battery that goes in a watch. So it's a lot smaller, so it would Yeah. Yeah the well I think were we're going for the L\_C\_D\_ on that one, on the buttons, on the on the on on the top one we're gonna yeah. On the bottom we were gonna have the rubber, the rubber ones, the anti-R\_S\_I\_ ones. Um, okay on we've got the flip the flip-screen, the top one is gonna be the L\_C\_D\_ and the bottom one is gonna be the rubberised buttons. Plastic, okay. Yeah. Mm no. Mm. You can you

can just Yeah. Yeah. Yeah, yeah j with these rubber these rubberised ca not the actual uh plastic outside case, just the rubber thing that goes round the outside. Oh yeah, yeah the whistle ones, yeah. Yeah. Yeah, depending on the expense of it. And they've got in stock, so yeah. Yeah. Okay. Did it? I'll wait until you're all um hooked up. Okay. Put it on in that way. Thanks. Okay. Welcome back everybody, hope you've had fun. Right um this is our conceptual design meeting, um I think we're slightly ahead of ourselves from the last meeting, I th I I think yeah um. This is where we talk about um properties, materials, user-interface and trend-watching. So I think we've touched on a few things to do with that already, but we'll just go over it. Um the minutes from the last time. Um we had a couple of um changes in our plans in that we couldn't use teletext, it wasn't gonna be a control for everything um and that we had to incorporate the image of the company into it somehow. Um we have decided on a leaving out the voice recognition, we've decided on there being a flip design and um a different shape from what's normal. We were thinking a shell, but something along those lines, just a different shape from what's normal, um. You were going to look into the rechargeable batteries and we were gonna think about the port and an alarm for getting it lost, things like that, um and our market was going to be young, business, kind of range. Okay, so shall we start with the first presentation? Yes if you feel It's okay. Yeah. Okay thank you very much. Um let's start from the inside and work our way out. I don't think so, not yet. Um, yes, thank you. I hate those little things especially if you do them on too tight and you can't get the leverage on them to undo them. Okay. 'Kay.. 'Kay. Wa can you explain that? Like a right, okay. How what kind of how I long can you get out of that, I mean can you pick it up and then w

ind it for two minutes and then that's it for the night? Or That doesn't count though does it? I thought it was U\_V\_ like Any, any I'm pretty sure that solar is from the sun. Uh, I don't think it counts electric lights no, but I mean not many you don't want to limit your market. I mean people who live in basement flats there's not that many people, but there are people. Mm, but then it would be charging through the day, I think the point is that it charges through the day and then you've got it charged for the evening. Okay. Yeah I've seen But then if you think about a watch, it's on your wrist so it's on your whole bod it's on your body the whole time so you're walking around, you're doing things, it is moving a lot of the time. If you'd I mean you switch the T\_V\_ on, then you put it on the side, then you pick it up to change it and then you put it on the side. Is it really gonna be enough? Okay. So it's not the draw on it isn't Okay. Like a dual kind of. Expensive as well. What kind of price are we looking at for I presume the normal batteries are the cheapest? Solar. Well they're not designed Practical-wise okay. You do get a bit of wear but don't calculators have a battery in them as well? Mm. Okay, can we add in uh an attachment to closing feature? Can we think about that? 'Cause if we're doing the kinetic thing and it's Well add it in to think about um because, where am I? If it is the kinetic thing and it is small and it is portable and it is a different shape and the kinetic is something people don't do kind of we're doing something original and different um but if you wore it if it's something you could just clip on your pocket then you would have that less, you you wouldn't lose it so much. But then maybe that's looking at someone who's just sitting on their own rather than the eternal battle for control of the controls. No. Okay. Okay, right. Mm-hmm. What kind of things do we have to consider there? Can we what kind of size, does it come in varying sizes or is it just one size and we would have to fit the design of Mm-hmm. Okay. Okay. Mm-hmm. Mm-hmm. Mm. Mm-hmm. Hinged, yeah. So instead of the fascia that comes off being plastic, the fascia that comes off would be the rubber, like those pens that you get with the grip, that you can you can pull that off. Okay. Mm. Well that's been really popular with mobile phones so I don't see why not. 'Kay. Mm-hmm. Mm-hmm. Oh it would be flat inside. Mm. I think it would be good to have a contrast between, if the whole thing is gonna be this rubber thing it would be good to open it up and see

something quite fancy looking inside. Now how would you distinguish, if you had it bare, how would you distinguish where you had to press, I mean Uh Like one of the palm pop thing. It would have to be attached. Okay, we'll talk about that so if you finish your and we'll come back to that. That's you, right okay. No. We're marketing to guys as much as we are to women. Well it's a remote control, you were sitting watching T\_V\_ are you gonna want to sort of open it and say oh shit I should go and have a shower and do my hair before I put the T\_ Yeah, no, no. Mm. Okay. Okay, okay. Mm. Mm. Okay. Which means Okay. Okay. Mm-hmm. Can we swap that round so th that the ones that we use all the time are on the bottom part? 'Cause if you're thinking about holding it you would be using your thumbs to press, just like a mobile phone. Yeah. That's what I was just saying, and then have the and then have the L\_C\_D\_ at the top and then be able to touch that for the other controls, so have the um the volume and the programme, things like that, on the lower side. Okay. I can't see that, is that play and stop and things? Or is that volume and channel? Okay. Right. Okay. Um I'm not sure how long we've got left, but we need to make a decision about um the things we've discussed. So, we agree on Do we agree on the battery? Yeah. Um, that means that there's no function for li the port, you know that it sits in, then

pressing the button then having so we could incorporate voice recognition for the finding it. It's a bi i it's like a g it's a gadget, it's a selling point. I think the only I think the only pitfall that we would have would be how much it's going to cost if that means we have to cut down somewhere else, but I think pretty much we've used cheap relatively cheap and simple things. The L\_C\_D\_'s not cheap. Yeah, okay. And you could yeah. Okay. Do you want like a back-up? Um, okay so we've got battery. The inside components is pretty standardised across the board isn't it? So there's not a really a decision to be made there, um. The buttons what did you give us as our The bare-board L\_C\_D\_ or On the top one okay you've got the touch okay and then Okay, okay. No, it's fine. For the inside. Mm-hmm. Oh I think so, I think so. No I think I we don't wanna be tacky if we've got a kind of different shape anyway um the fact the m the material that we would be using would be cheap, so we could make it red, we could make it um psychedelic, you know, we could make it black and white zebra stripes, but that's not really what we're focusing on, what we're focusing on is the m you know yes. So we could just pick anything. It's just different it's just different from everything else and I mean, I'm trying to imagine um clean looking houses, sort of beige and black um so you either want something that goes with that, which is what's on the market anyway, or you want something that contrasts as you know like you get clocks now that are more of a talking point than an actual clock because they're so interesting and Mm. And you would just have an across the b you would have so many different options that you could do, you could have um a plain black one, you could have sparkly pink glittery ones for your little Mm. And ones tha ones that have rubbery spikes y you know, you could just go so far with it, like a puffer fish, you could just, you could take it wherever, so I think that's quite a flexible thing. Yes. Mm. Yeah. Okay we've got five minutes, um, or that might've been up for a while. Mm-hmm. Have you Okay. Well they do, but I think we can you could well it is, it is, I think you just address that with um advertising. Um, you associate the name with the individual product that it is and that does the work for you. Obviously it'll have a logo on it just like everything, but everything else has a logo on it. The point is that it's got to stand out somehow differently but I think it does, without that so I'm not worried about that. Depending on how i I mean we've got this memo saying that it's something that the company's looking into, so um that seems to make sense, but if it turns out that it's hugely expensive we'd have to cut down somewhere else, then it's worth thinking about. But I think we'll find out more about cost afterwards. Right I'm going to wrap it up there. I got a end meeting now message on my mo yeah so. Um so I think we've probably got it says, closing we have forty minutes so I um think we've probably got about that



time before we come back. It's either that or we only had forty minutes to discuss what we just discussed and don't know how long that took. Is everyone happy? Okay. Oh good grief. 'Kay. Oh. Mm. Mm-hmm. Shall I? Okay. We just connect up. Thank you. There we go. Okay um so we decided on our market and so this feedback from the marketing department is really about trend watching. Um the methods we used to decide on uh current trends and so on, market trends, were that we did our traditional uh our usual market research study uh with a hundred subjects and the the general feedback from them is that the most im uh w I'm sorry I'm slightly tongue-tied after lunch, sorry Project Manager. Um we decided on the most important aspect i uh required in a remote control device and we'll come to that later. So that was one of the first things we did. Also with our company um being forerunners in uh putting fashion into technology

, we also looked at a fashion update um using our consultants on fashion and design in Paris and Milan. Uh so the general findings from that was uh in the market trends the most important aspect for remote controls were people want a fancy look and feel, rather than the the current functional look and feel of remote controls. They also also want a remote control to be technologically innovative, and of course, as we predicted, that it should be easy to use. Now I should point out that the first of those findings, fancy look and feel, is the most important, is twice as important as the second, technologically innovative, which is in turn twice as important as being easy to use. So possibly that the feature that we put first is actually third is still important, but it's third in order of preference for the the subject group we looked at. Okay, um, now the fashion update which relates to very personal preferences among our subject group, um we found from our um consultants in Paris and Milan who des attended all the design and fashion fairs there, that fruit and vegetables are going to be the theme for clothes, shoes and furniture. So should we be thinking of using something like that in our remote control design too? There also seems to be um a trend towards a spongy feel to materials, uh again in contrast to last year. So a lot of interesting feedback there, both from our market research departments and from our people in Paris and Milan. Be interesting to see what our design people make of that. Unless anyone has any questions about that? Not yet? 'Kay. Okay. I know. Does does light charge as as sunlight does? Artificial light? Has to be solar. Mm. Artificial light, no. That's going to I know, different parts of the world too, if we're if we're marketing internationally. Mm-hmm. Hmm. Mm-hmm. Mm. Could I just ask referring back to solar charging, is that compatible with um standard batteries? I mean, could people put standard batteries in but with a s you know they could leave it in the sunlight for solar charging or the two things not compatible? Mm. So that affects the exterior design. Mm. Again it de Mm. It would just detract from the attractiveness of the of the whole feature, i it's not gonna add anything, okay. Shouldn't we do some market research on that first before we add it in because I I personally right, okay. It's not something that's come up in any of our uh focus groups and market research, it's not a thing that people are looking for when we threw it open to the field yeah. But it's something to put on the side to think about maybe. Mm. Okay. Mm. Mm-hmm. It does mark quite easily too if you let it fall. I've got a mobile phone myself which is titanium and it does mark very easily if you drop it. I was just wondering if we make the basic mould out of plastic but have like a rubber cover that goes over, that would give the spongy feel, that also allows us to kind of have different fasciae for the phone. Like a rubber sleeve almost, yeah. Mm. Mm. Very cheap way of changing the look of it and people can just buy a new one if they want to. Mm. Yeah. Mm. I don't s sorry to interrupt, I don't see why the curved thing is a problem, if we for example had a shell, once we open that yeah, so it'd be f yeah, yeah. Have I misunderstood you? Mm-hmm. Mm-hmm. Yeah. I just had another idea, I don't know if it helps with that, but just to do with the R\_S\_I\_. Is it possible, just as an option, when we open it up, people can use their fingers to

press the button, or we have inside like a small pointer thing when people want to. Mm. Yeah. They're easy to replace as well, cheap. Mm-hmm. Mm. Yeah just a thought they wouldn't actually need one and they could use anything they've got, couldn't they? A pencil or a pen, so they wouldn't really need a Mm-hmm. I'll just raise another point while it occurs to me, it kind of applies to both our designers here, so I'm not sure how it would fit in. If we flip open, now you know how you've got

some mirrors in nightclubs that are mirrors when you turn to them and you turn away and it gives like an advertising display, you seen those? And they kind of respond to the turn of your body. Is it possible that when we open our flip-top shell it's a little compact mirror and when you press a button it then goes onto the phone display th uh the remote control display thing. They don't look at themselves? Just a thought. Yeah. I know what you mean, it's with us using the ideas for a mobile ph it's with us using the ideas for mobile phones I kinda got sidetracked onto that I think, okay. trying to think of other features we can build in that wouldn't cost too much but maybe we'll leave that one on the side. 'Kay. Mm. Oh I think forget about the mirror that was just a very quick passing thought yeah. Sorry what does that stand for? Okay. No you'd hold it you don't if you flip it open then you'd be Wouldn't you? Isn't that the idea? You us if we just use the shell as an example again, you open that, you've got your L\_C\_D\_ display there and you've got the buttons there so you're holding it in the palm of your hand, yeah. Mm-hmm. Mm-hmm. Hmm. Mm. Mm. Kinetic? Mm. Mm. Hmm. Yeah, we talked about kinetic charging, we've deci seem to have decided on that, did we decide on double A\_ or triple A\_ batteries? No, one of the decisions we had to make was whether we had double A\_ or triple A\_ batteries 'cause they've still got to be charged this way haven't they? I oh I see. Right, okay, got you. Got you on that okay, didn't realise. Sorry could you repeat that last part? L\_C\_D\_ screen. Mm-hmm. Okay. Mm-hmm, so we decided on a rubber casing for the plastic shell, a variety of designs, okay. and it is just uh although it's rubberised and spongy, apart from that we're just going to go for sort of vegetable and fruit colours, we're not gonna try and make it actually a vegetable or fruit design or anything else, like a shell that we discussed, just go for the colours. Okay. Mm-hmm. The feel. 'Kay. Mm-hmm. Is that going to be this image I've got in my head of something kind of shaped like that, maybe about that size, made of plastic, fits into the palm of the hand, rubberised cover that's spongy. Is that really going to fit fancy look and feel which was the major thing that people wanted, market research, is that fancy? Mm. Mm-hmm. Mm-hmm. Mm-hmm. Yeah. I'm just kind of pushing at that to see if you came out with anything else, but I mean I totally agree. We looked at those remotes, I mean they are kind of anonymous, very similar looking things. This would definitely be different enough, I just wondered if anybody could come up with something even more Well the thing is the rubberised covers are going to be s relatively cheap to produce, that if in a year's time we we get feedback from the design fairs that show something else is coming I mean it's so easy for us to just produce that and it can be slipped on, which is another beauty of it. Mm, so can I just recap uh Sarah, for the decisions that we've made, kinetic charging, the watch-type batteries, um L\_C\_D\_ display on th the top side of the flip top, rubberised buttons on the bottom side, we're gonna use fruit and vegetable colours for the rubber cover, the case itself is plastic. That's how far we've got, what else do we have to add to our decisions here? Mm. Yes, it was just, there was just a cost issue with that, but it's a good idea we just need to check on the cost, is that right? And incorporating the company logo? Mm. 'Cause I took it from the feedback you gave in the last meeting from y from y your report, it's not just a case of having a little R\_R\_ hidden somewhere, they do want it to be obvious that it's our product don't they? Since it's the only one of its kind on the market it's obviously gonna be ours. Yeah. Okay. Okay. Okay. Did we I know at the last meeting we spoke about a beeper, I think that was you talked about a beeper for a location,

have we just rejected that in  
favour of voice recognition then? You got to go through.

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# Meeting ID: 120

Data Source: Train

## Executive Summary

So is the agenda ? Opening , acquaintance , tool training and project plan , discussion and then closing . Project aim is a new remote control . It's original , uh trendy and it's user-friendly . Try out the whiteboard , every participant should draw their favourite animal and sum up their favourite characteristics of that animal . so , I guess that was the test to see if this equipment is all working . Okay , project finance , selling price twenty five Euros , profit aim fifty million Euros . Market range internationally sold . it's gotta be can't cost any more than twelve fifty to make . Next meeting starts in thirty minutes . I mean the last slide wanted us to maybe discuss longer what our what our ideas where . Yeah , I think we're I mean before we close the meeting , we're supposed to come up with some ideas for Oh k so we're actually supposed to be doing this discussion like right now are we or Right , who's got experiences with remote controls then ? Is this a T\_V\_ one we are supposed to make ? Yeah . Yeah it's a T\_V\_ remote control . Are we are we going for like like telephones are going little teeny tiny things or we are going for something that's that's big and I mean , you want you want one remote that maybe can work uh all all of the functions of T\_V\_ and if you have whatever associated with T\_V\_ the D\_V\_D\_ player , or something like that , but like at the same time you don't wanna really busy remote with a thousand buttons on it or something . 'Cause I I I mean I was thinking something that's got different like maybe a a an L\_C\_D\_ display on it that's got different pages for different devices , but that would p that would probably be quite expensive . and then after we after we've found out what we can like , some different ideas , we can then go and do the research to find out if these any of these ideas are feasible or not . So would be nice to have something that that controls lots of different things . Couldn't we have like one that comes out ? you actually just putting three or four different remotes together but making them thinner , and um into one basically . Um have uh one very complicated one on one side with all the D\_V\_D\_ and V\_C\_R\_ access and stuff , and then on the other side o one uh a remote control that would be very very simple with just the channel , program plus and minus , and the just the mute button , for example . I'm not sure if it's a good idea to have a two sided remote though , 'cause it would be very hard to use in the way that you mani manipulate it . No , but you would slide it into uh someth like something on the back would hold or something like a flip telephone , something like that maybe . Okay . Um so I mean we still have time in our next meeting to come up with the actual concept for the user interface , I guess by the end of this meeting we should have at least a a rough conception I think we should also have a back-up

plan of I but also devices connected to the to the T\_V\_ , I mean , be able to operate D\_V\_D\_ players , things like that . 'cause I I I just think that it might be expensive to make something that but the the functions that we're sure that we want are that it can control the T\_V\_ , We should have a back-up plan of just a really good television remote control , that just that is just for a T\_V\_ , but it's just a really good , nice one . But what'll make it what'll make it interesting for people to buy though ? have it be like ergonomic so it's comfortable to use , Or maybe even so something that's for disabled people or big buttons for touchy buttons for I think a flip up thing , like a lock f like a lock functs function on it like you have on your telephones , User Interface Designer , that's that's so you gotta you go , you're you're gonna be the one that's working out what what buttons we need . Um . Industrial Designer , you are the one , you know , you're gonna be working out kind of box it goes in , I guess so , um Mm . Har how it works an And in marketing User requirements specifications . Do you think our two kind of overlap , because Yeah , it does seem like our our responsibilities have some overlap . You two you two are gonna be just , I think , you just double up , you know , you working together . You're the one that's gotta go and find out do th do the research ,

## Complete Meeting Transcript

So we're 'kay? On the or No. I dunno where to put it 'cause the Okay. Could you s take it off?. Okay. Are we free to take notes uh Okay. Okay. So are we supposed to bring the little things for the Mm. Yeah. okay. So my favourite animal 'Kay um Um okay, it's big, it's got a great memory. Supposed to have a great memory, we say an elephant never forgets. And uh dunno know why but looks like nice to me. Nice animal. Okay. No. Really? Oh that's a Not bad I would say. Very good. Mm. Yeah. Is this a T\_V\_ one we are supposed to make? Okay. T But how do we know how much uh, I mean, how much do we have per how much? Twelve fifty. So do we have to be realistic within the budget or Close pr I don't know how much it would cost. Yeah. Right. Yeah. Um have uh one very complicated one on one side with all the D\_V\_D\_ and V\_C\_R\_ access and stuff, and then on the other side o one uh a remote control that would be very very simple with just the channel, program plus and minus, and the just the mute button, for example. I can real keep it really really simple on one side and the other side be very complicated. Yeah. Or grandma as well, you know it's like what is the mute button. No, but you would slide it into uh someth like something on the back would hold like you wouldn't be able to press the buttons, but Start breaking up. Yeah. Yeah. Could be really light or, I dunno, something special. Yeah, 'cause at the end of the day if it says just T\_V\_ remote, doesn't say com combination with all all the r Mm. Okay. That's Mm. Mm. Har how it works an Bu Do you think our two kind of overlap, because Yeah. I don't Yeah. The back end of an elephant. Aesthetic yep, sure. 'Kay, my favourite animal, uh let's see. Dunno if any of you have seen Napoleon Dynamite before. It's a liger, a combination of a lion and tiger. Have you not seen Napoleon Dynamite? Oh it's a hilarious movie. You have to see it. And and it's best characteristic is it's pretty much the awesomest animal. But you have to see the movie to fully appreciate it. There go. A prairie dog? Oh a squirrel? Yeah, that's pretty good. Alright. So I think before we close uh, we are expected I mean the last slide wanted us to maybe discuss longer what our what our ideas where. I mean if you wanna go back to the last slide. Uh S Yeah, I think we're I mean before we close the meeting, we're supposed to come up with some ideas for Yeah. Yeah. Yeah, I think

this is just the preliminary, get some rough ideas for what our experiences with remote controls have been and and what we would roughly what we would incorporate into a new one maybe. Yeah, I think we've all got Mm. Yeah it seems like there's like there's sort of a tension between two ideas, I mean, you want you want one remote that maybe can work uh all all of the functions of T\_V\_ and if you have whatever associated with T\_V\_ the D\_V\_D\_ player, or something like that, but like at the same time you don't wanna really busy remote with a thousand buttons on it or something. Mm. Yeah. It g can't be more than twelve fifty per unit. Cost. Yeah. Yeah. I'm not sure if that's like I'm not sure if it's a good idea to have a two sided remote though, 'cause it would be very hard to use in the way that you mani manipulate it. Oh. Oh okay. Yeah. Okay. Mm-hmm. Yeah, we should uh I guess by the end of this meeting we should have at least a a rough conception you know stage one was technical functions design, what effect the apparatus should have. Okay. Um so I mean we still have time in our next meeting to come up with the actual concept for the user interface, but the the functions that we're sure that we want are that it can control the T\_V\_, but also devices connected to the to the T\_V\_, I mean, be able to operate D\_V\_D\_ players, things like that. Yeah. Okay. Right. Yeah, I mean. Yeah, that's true, maybe we should just concentrate on having a a good T\_V\_ remote, and have it be um have it be like ergonomic so it's comfortable to use, uh simple to use, and looks decen

t and Sorta find a niche for our remote, like market it to a certain kind of p kind of people, certain certain demographic Yeah, no I think you're right. Yeah, rathe rather than focus on Y Yeah. Yeah. Remotes spinning out from other remotes and having little nested remotes inside. Yeah, that's true what you were saying, I mean it doesn't have to have a flip function, it can just have a lock function, so that it's not uh not usable when you don't want it to be usable. I guess that's good good for now. That's me. Okay. Right. Right. Yeah, it does seem like our our responsibilities have some overlap. Yeah. Alright, see you in thirty minutes. Is that alright? or Okay. Keeps coming off. 'S fiddly. Right. Oh, another one. Ah. Very nice. 'Kay. Okay. Clip. Ah. It's an elephant. Oh my gosh, I'm never gonna be able to draw that well. Does it? Oh. Mm. I have no idea what my favourite animal is. Oh. It's A what? Alright. How. No. Great. Me? Okay. Not quite sure how this is gonna work. Cool. Uh well I'll try my best to draw. Can I just draw the face? Ooh. It's a cat. Which also has what? A big fat body and big and a long tail. Why? Because um cuddly. And usually cats are very friendly. Usually. And they're healing as well. They heal. And they can feel when a human's got problems so So, that's why I like cats. There we are, that's me. Mm. Mm-hmm. Ah. Market range internationally sold. Ah right okay. Yeah. Yeah. Uh. Yeah. Yeah it's a T\_V\_ remote control. Well. A new remote control for T\_V\_. What would I like? Um. Medium. Mm. Twelve fifty. Each. Guess Couldn't we have like one that comes out? Like so you have one in like mm it doesn't have to be really thick. I mean remote controls can be thin bits. And then you have one for your D\_V\_D\_ and you sort of slide it out, and then you have another one, you slide it out. have slides. And then it all comes compact into one. So it's not you actually just putting three or four different remotes together but making them thinner, and um into one basically. So you just flip them out. That would be cool. I was thinking that like a flip. Okay. Um.. But what'll make it what'll make it interesting for people to buy though? I mean if it's if it's just like Mm-hmm. Mm. I think a flip up thing, 'cause you always have this problem of like if it's on this well I did anyway, like we had five or six remotes and they would be lying on the c on the coach, and you'd come and sit down and ooh, the telephone's the television switched on or something. So maybe something that like does have a lid or closes, so you don't accidentally press a button or record button for something. Yeah. But make it like really snazzy and cool people will want it. So make it Yeah. Yeah. Mm. Yeah. And even for kids as well. It's um it's safer for them, I guess. Like they don't flick onto channels and all that sl flick onto. Mm. W What does

I\_D\_V\_I\_D\_N\_M\_E\_ stand for? Ah ri okay. these are requirement specification. And I'm marketing. These are requirement specification. So what the user requires in a remote. I guess that's what it says. Mm. So, do we take these off? Mm-hmm? Okay. Ooh. Hmm. How do we sta wa how do we start? Does anybody know? So that's this Oh okay, right. Uh.. Hmm. Okay, just hang on a second everybody. I haven't actually looked at this yet. um I haven't looked at it, but let's just start it off and we'll see what happens. If you're all ready. So is the agenda? Opening, acquaintance, tool training and project plan, discussion and then closing. Project aim is a new remote control. It's original, uh trendy and it's user-friendly. Project method, functional design, individual work, another meeting, conceptual design, individual work, and a meeting of details design, individual work and a meeting. Tool training. Try out the whiteboard, every participant should draw their favourite animal and sum up their favourite characteristics of that animal. Um. Uh Miss Industrial Designer, would you like to go first? Yeah, why don't you just

c, I think just clip on clip do you have a belt? Or put 'em in your pocket, yeah. Yeah, what's your favourite animal? Is it rude? That's a very good elephant. 'Kay, and you want to write up on there, it says you've gotta sum up your f f your favourite characteristics of that animal. Mm. Okay. Wonderful, well done. Do you want to use the wipe the m the wiper and wipe it off? And Mister aesthetics designer do you wanna go next? No. No. Okay, well done. Yeah. Miss mar Miss Marketing? Um yeah, I think you can just draw the face, but then you'll have to describe in writing how the rest of it looks. That's a very pr pretty cat. Okay, do y do you wanna do some write you wanna just write some words about it? Wow, so they're kinda spiritual. Well done. Okay. Um, I don't actually have a favourite animal, but for the for th for this meeting I'll s draw a little Uh. I honestly can't draw for toffee. Uh. Yeah. no no uh That's exactly what it is. Uh not a very good one Okay, well, you got it's a s It's a squirrel, and I like them, because they're cute and stupid. Right. Okay, so, I guess that was the test to see if this equipment is all working. Mm. Let's move on to the next page. Okay, project finance, selling price twenty five Euros, profit aim fifty million Euros. Yeah. Production cost, ah right it's gotta be can't cost any more than twelve fifty to make. experience with with remote control, so talk about who who's used what. Any ideas? Stuff like that. Next meeting starts in thirty minutes. At quarter to twelve. Yeah. Oh k so we're actually supposed to be doing this discussion like right now are we or oh okay. I thought this was just t giving us instructions for the re to do next, but Okay. Right, who's got experiences with remote controls then? Pretty much everybody. Um. 'Kay um. W what You want it big do you want it small. Are we are we going for like like telephones are going little teeny tiny things or we are going for something that's that's big and Video and ts hi-fi and stuff. Maybe you yeah now th that's the other thing is it's gotta be cheap. 'Cause I I I mean I was thinking something that's got different like maybe a a an L\_C\_D\_ display on it that's got different pages for different devices, but that would p that would probably be quite expensive. Per unit, yeah. Well at the moment we could, wa I mean we 'cause we this is what we th what we're doing at the moment is just saying what what we'd like, and then after we after we've found out what we can like, some different ideas, we can then go and do the research to find out if these any of these ideas are feasible or not. So would be nice to have something that that controls lots of different things. Um. 'Kay. Okay, that's. Th that's an idea. Okay. One side for kids, one side for adults. Like it or something like a flip telephone, something like that maybe. F flip it open and you've got all the buttons, or you flip it closed and you've just got the basic buttons on the outside maybe. Um, oh we've got five minutes left. But okay. Well we've got a k we've got a few ideas there. Yeah. I have got I think we should also have a back-up plan of I 'cause I I I just think that it might be expensive to make something that I mean we don't, we haven't been told it has to be something that will control everything. We should

have a back-up plan of just a really good television remote control, that just that is just for a T\_V\_, but it's just a really good, nice one. What do you reckon? See 'cause, I'm just thinking bearing in mind that we've gotta we have to have something that's cheap to make. I think we'll be able to come up with ideas and stuff a lot quicker. Yeah. May w you know, maybe even Or maybe even so something that's for disabled people or so people that uh b don't see very well or big buttons for touchy buttons for Yeah. Or just one that looks really fucking cool. Otherwise we'll be we'll be here all day talking about do this let's do that n I think we sh I think we should Yeah. I m

ean obviously everyone we're uh you know uh sounds like we're all a bit sort of gadget heads and we like things that do everything at once, but you know, that's Yeah. Yeah, that's right. Yeah. I mean I'd like one that makes tea as well, but that's not gonna happen. Okay, like a lock f like a lock functs function on it like you have on your telephones, yeah. Yeah, it's gotta be sellable. Yeah. Yeah. Okay. No porn channel for children. Okay. Um alright, so we've got some ideas, we've got um Let's move on. Oops, let's close that. Next meeting, uh okay. Industrial Designer um which is Um. Yeah, there you go. So User Interface Designer, that's that's that's you, so you gotta you go, you're you're gonna be the one that's working out what what buttons we need. Um. Industrial Designer, you are the one, you know, you're gonna be working out kind of box it goes in, I guess so, um whether it's what goes into the box, somehow. And in marketing User requirements specifications. Yeah, what Right, okay, yeah. You two you two are gonna be just, I think, you just double up, you know, you working together. You're the one that's gotta go and find out do th do the research, see what people want in a remote, what buttons are used more often, and s stuff like that. Oh, we've been warned to finish the meeting now. Okay. Okay everyone, well done. Good meeting. Yeah.



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# Meeting ID: 125

Data Source: Train

## Executive Summary

The project manager introduced the upcoming project to the team and then the team members participated in an exercise in which they drew their favorite animals and discussed why they liked those particular animals. The project manager discussed the project finances and the team engaged in a brainstorming session about various features to consider in designing a remote. The project manager then further discussed the roles of the team members.

## Complete Meeting Transcript

So we're 'kay? On the or No. I dunno where to put it 'cause the Okay. Could you s take it off?. Okay. Are we free to take notes uh Okay. Okay. So are we supposed to bring the little things for the Mm. Yeah. okay. So my favourite animal 'Kay um Um okay, it's big, it's got a great memory. Supposed to have a great memory, we say an elephant never forgets. And uh dunno know why but looks like nice to me. Nice animal. Okay. No. Really? Oh that's a Not bad I would say. Very good. Mm. Yeah. Is this a T\_V\_ one we are supposed to make? Okay. T But how do we know how much uh, I mean, how much do we have per how much? Twelve fifty. So do we have to be realistic within the budget or Close pr I don't know how much it would cost. Yeah. Right. Yeah. Um have uh one very complicated one on one side with all the D\_V\_D\_ and V\_C\_R\_ access and stuff, and then on the other side o one uh a remote control that would be very very simple with just the channel, program plus and minus, and the just the mute button, for example. I can real keep it really really simple on one side and the other side be very complicated. Yeah. Or grandma as well, you know it's like what is the mute button. No, but you would slide it into uh someth like something on the back would hold like you wouldn't be able to press the buttons, but Start breaking up. Yeah. Yeah. Could be really light or, I dunno, something special. Yeah, 'cause at the end of the day if it says just T\_V\_ remote, doesn't say com combination with all all the r Mm. Okay. That's Mm. Mm. Har how it works an Bu Do you think our two kind of overlap, because Yeah. I don't Yeah. The back end of an elephant. Aesthetic yep, sure. 'Kay, my favourite animal, uh let's see. Dunno if any of you have seen Napoleon Dynamite before. It's a liger, a combination of a lion and tiger. Have you not seen Napoleon Dynamite? Oh it's a hilarious movie. You have to see it. And

and it's best characteristic is it's pretty much the awesomest animal. But you have to see the movie to fully appreciate it. There go. A prairie dog? Oh a squirrel? Yeah, that's pretty good. Alright. So I think before we close uh, we are expected I mean the last slide wanted us to maybe discuss longer what our what our ideas where. I mean if you wanna go back to the last slide. Uh S Yeah, I think we're I mean before we close the meeting, we're supposed to come up with some ideas for Yeah. Yeah. Yeah, I think this is just the preliminary, get some rough ideas for what our experiences with remote controls have been and and what we would roughly what we would incorporate into a new one maybe. Yeah, I think we've all got Mm. Yeah it seems like there's like there's sort of a tension between two ideas, I mean, you want you want one remote that maybe can work uh all all of the functions of T\_V\_ and if you have whatever associated with T\_V\_ the D\_V\_D\_ player, or something like that, but like at the same time you don't wanna really busy remote with a thousand buttons on it or something. Mm. Yeah. It g can't be more than twelve fifty per unit. Cost. Yeah. Yeah. I'm not sure if that's like I'm not sure if it's a good idea to have a two sided remote though, 'cause it would be very hard to use in the way that you mani manipulate it. Oh. Oh okay. Yeah. Okay. Mm-hmm. Yeah, we should uh I guess by the end of this meeting we should have at least a a rough conception you know stage one was technical functions design, what effect the apparatus should have. Okay. Um so I mean we still have time in our next meeting to come up with the actual concept for the user interface, but the the functions that we're sure that we want are that it can control the T\_V\_, but also devices connected to the to the T\_V\_, I mean, be able to operate D\_V\_D\_ players, things like that. Yeah. Okay. Right. Yeah, I mean. Yeah, that's true, maybe we should just concentrate on having a a good T\_V\_ remote, and have it be um have it be like ergonomic so it's comfortable to use, uh simple to use, and looks decen

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something like a flip telephone, something like that maybe. Flip it open and you've got all the buttons, or you flip it closed and you've just got the basic buttons on the outside maybe. Um, oh we've got five minutes left. But okay. Well we've got a few ideas there. Yeah. I have got I think we should also have a back-up plan of I 'cause I I I just think that it might be expensive to make something that I mean we don't, we haven't been told it has to be something that will control everything. We should have a back-up plan of just a really good television remote control, that just that is just for a T\_V\_, but it's just a really good, nice one. What do you reckon? See 'cause, I'm just thinking bearing in mind that we've gotta we have to have something that's cheap to make. I think we'll be able to come up with ideas and stuff a lot quicker. Yeah. Maybe you know, maybe even Or maybe even so something that's for disabled people or so people that uh b don't see very well or big buttons for touchy buttons for Yeah. Or just one that looks really fucking cool. Otherwise we'll be here all day talking about do this let's do that n I think we sh I think we should Yeah. I m

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# Meeting ID: 33

Data Source: Train

## Executive Summary

The group introduced themselves to each other and discussed their roles in the project. The Project Manager opened a discussion about the project plan and asked the Marketing Expert to prepare an overall plan for the project. The Marketing Expert presented the initial aim of the project: the creation of a fresh, user-friendly remote control device. The Project Manager asked the Industrial Designer to create a functional design plan for the device, then asked the Marketing Expert about ideas for the sales strategy. The Marketing Expert presented an initial sales plan: to analyze the competition and to pinpoint the target marketing group. The Project Manager instructed all participants to work together on their respective design plans. The Project Manager decided that the design plans will be discussed at the next meeting, and that the next step will be to come up with a functional design of the device.

## Complete Meeting Transcript

Uh sure my name is Agnes and I'm an user usability user interface designer. Um I was wondering Mm-hmm. Mm. Mm. Well, no, not exactly. I mean my job from what I understood was to look at the usability requirements and make sure that the product is usable, it's acceptable to the people who are gonna use it and look at the best ways to do that. So I think I'll have to interact with Christine and discuss with her, so that she's not designing something that my studies will show right off the bat that it's not going to work, and so it's sort of it's a loop that feeds in, but I don't think necessarily that I'm in a coordinating position for it. Yeah. Mm-hmm. Which will also feed into the marketing, because depending on what users want, depends on how you sell it, what tag lines you attach to it, how you try to make it more attractive to users. So I think all three groups will need to interact quite a bit. Um, and then I guess build the plan based on all of that, because I think you need to take all the factors into account. Yeah, of course. Yeah, we can C\_C\_ him on any discussions or documents that are passed around. Sure. No problem. So, the immediate next step is to start determining the functional design, or okay. Mm-hmm. Okay. Mm-hmm. Mm-hmm, yeah, that would be useful. Sure. Okay. Thanks. Thank you. Oops. That's as far as it goes. Do you also do marketing? And I'm Christine, and my role in this uh scenario is to be the industrial designer. But I'm not really one. What is the goal of the project? Um no, I

I have not begun working on the design, and um I uh I actually didn't know we were designing a remote control, I thought we were designing a new monitor. Um the website I went to look at had some announcements about an introduction of a um uh some sort of a seven inch um monitor, and um I understood that that was the project goal. So um I'm glad I didn't do any work um ahead of time because uh I clearly didn't understand the project goal. Um I just did see that we were starting a new project together and there was going to be a four member team composed of these people, and um that's about uh that's and I I read through the different steps, and what my responsibilities were relative to the steps. Uh for the industrial design? Um well, I would think that depends on how much money you give us. Um because uh, you know, you can uh you can make it uh you have different choices with different financial models. Well, you know um, I kind of think that in general you have to do uh um y you have to have something that's very fashionable, that's uh very attractive that um people see and recognize uh its goal, and uh they immediately wanna have it uh have one of their own. So it would really would need to um something like the iPod would be good, seems to have caught on fairly well, so um d uh you know, I don't care what it does, just so it looks cool. Well, uh I've got a lot of other projects I'm doing right now um and so I'll have to wait and see how those uh how those go. If they uh go quickly then uh it could be a month. If um if I run into any problems in my other projects it might be six months. Mm-hmm. Mm-hmm. And when would you like that? Uh well if uh if we have enough time uh then d do you think um two weeks is a is close enough? Uh are there other people who will be contributing to the plan? Okay, I'll get back to you on that. Would you mind um at the conclusion of our meeting could you send us a copy of your slides? Thank you. My name is Ed and I do accounting. E\_D\_. Mm. No. Accounting, yes. Marketing is uh, is me. Well I think that we'll see that throughout the day in how we're going to put this together as a marketing to to market the product. We'll have to see on a through discussion on where we're gonna go from here and from with this. Uh for the moment not yet. Good question. No, this is like I said that we have to be discussed between all of us and we'll go from there. We'll have to simply we'll have to work o

n it together. Certainly by the next meeting. I'm in the sales I'm supposed to explain them what to do. We have to define exactly what our product is, from uh From what I had in mind we're supposed to be marketing coffee, is that right? Remote controls, 'cause I had two different things. I had a first part of mine was to make a remote control for a new f remote control for television, and afterward I had a discussion about coffee so we'll start with the remote control for television then. So we're have to design something that is very user friendly. Something uh visual that has something that will draw people to buy the product, because I think everybody's experienced with uh remote controls, and some remote controls are are worth uh throwing out the window. Uh th most of them ar I don't know we're have to come up with a new idea on how to make it a lot easier to use, 'cause a lot of times uh spend uh half a day through the instruction book trying to figure out how to use it. Well not yet other than uh doing research and taking remote controls and looking what other companies have to do uh, what they're building, their designs, their ideas, uh also have to pinpoint which market we're gonna go into. It should be a fairly large market because uh the number of people that uh the competition, uh th I agree it has to be something it has to be something new, it has to be something that that draws people saying eh, I like this. Whether it works or not, they have to first say I like this, I like the design, and then it's gotta be simple to use. Yeah. Mm-hmm. Mm-hmm. Do we already have a cost limit on this, th an idea of how much uh we want to market this for, how much it's gonna sell for, that's up that's up to us to decide, eh? Very good. Very good. No. Hi guys uh good morning everybody here. And uh I want to introduce myself, uh my name is uh Shrida Daseri and uh I'm a project manager for this new project

which we are going to discuss now. So I want to introduce first of all uh the names and the colleagues here. And what you're uh drawing? Uh how you spell your name uh? E\_D\_ okay. And? So only accounting? Okay. And? Mm-hmm. Industrial designer. So who is uh marketing, nobody in the market It's you, okay. So thanks for coming for the meeting first of all, and uh we have a long time, just twenty-five minutes to discuss about uh this project and the the project initiation. First of all I want to ask uh Mister Ed about your uh marketing plan and your product plan and uh Mm-hmm but uh do you already have like a functional design or a technical design or Oh for the moment not yet, okay, but uh what's what's your uh do you have some project plan, something with you or Mm-hmm. Okay, so uh by when you think you can uh give me some kind of uh project plan, okay, a discussion with uh By next meeting, okay that will be great. Uh Okay, so there's any questions or uh first of all about uh this project? Uh the goal of the project I think maybe I'll uh hand out to the Ed, okay, so to explain uh what is the project because he's in the sales and the accounting. Yes, so can you explain uh what exactly the product is? Oh I think uh, if I'm not wrong, we're making the remote control. Yes. Mm-hmm. Mm-hmm. Mm-hmm. And uh what abo uh Christine, what about your uh the industrial design plan? Are you have a design already on this product or uh you're still working on the design? Mm-hmm. Okay. Mm-hmm. So uh you'll be leading the team for your design team or how many members is working in the team, for the design? Yes. Okay. That's Yeah, but uh before we talk about uh the finance, okay, uh do you have some idea how we can uh sell this product or project in the market and how much is going to benefit to the company and uh of course it's to the individual also. Mm-hmm. Okay, but uh uh when you think you can give me like a kind of design on the functional design or the technical design? Yeah, but uh I need something in the writing, so like uh what's

your functional design, what's your technical design, and uh how many people you need for this project, and what's the time frame you're looking, okay, and what is the budget, maybe uh initial budget you're looking, okay, and uh how is going to the market, okay, so you've you've had to meet with the marketing team and how they're going to market and what are the marketing strategic plan, okay, when are you going to introduce, okay, and by the time you introduce the product and uh you know there there would be a competition, okay, so I need some kind of uh uh the plan in the writing from you. Okay, and it's po B as soon as possible. Yes I think uh that would be good, because I need to go to the management and uh tell them what we are going to do, and uh what cost is, okay, and what's the time frame and what's the project plan, because uh without any uh documentations, I cannot go to the management and say, so we are going to do this and we need this much money, okay, so then it's it's difficult for me to say, okay, that's the reason I need uh some kind of plan from you, initially, okay, then we can have the further discussion again. Yes, of course, if you need some help, uh so let me know. So, who are the people you need uh from the marketing or uh the technical side or uh the administration point of view, okay, to add in any documentation, or some technical point of view, so just let me know so I can uh coordinate all the teams. Yes. Thank you. Okay. And uh Ed uh so what's what do you think about uh this uh project for the remote control and d do you have some already planned something for your marketing strategy or uh the sales strategy? Hmm. Mm-hmm. Mm-hmm. Yes, so what I uh prefer maybe uh you need to interact uh more with the Christine, okay, because you know what she is going to do it, okay, and you know how to sell it. Okay, because uh she is doing the design, but you are the core because you are in the marketing, okay, so because you need to sell and you're the responsible for the all the money, the finance, okay, tomorrow. So, what I prefer, okay, so you need to interact with the Christine more and uh within her team, okay, who is using the functional design or technical design, okay, and uh you need to come up with some kind of plan, okay, how we are going to

do the your sales plan, okay, th Th That that's Yes, that's you have to decide, okay, so the best thing is you uh both of uh the Christine and you discuss with yourself, okay, and come up with the cost, and how we are going to compete in the market, okay, in the the technically, or in the sales wise, okay, the commercial wise, okay. Then uh we have to design, okay, how long it will take the whole project, okay, how much is going to cost us, and how much we are going to benefit for the company. Okay, of course it's it's uh of benefit for everybody individually. Okay, so I think it's uh maybe if we can uh give me some kind of your uh the sales plan, okay, including the technical what uh she's going to talk to you within the team, okay, then it will help me to discuss with the management for further, okay, and put it in the the proper project plan. Okay, and if you need uh any coordination in between uh compared to the maybe the some technical vendors or commercial vendors, okay, depends if you want to have some uh uh marketing plan or technical plan, okay, so you let me know. Okay, I can coordinate, or maybe uh, you are my coordinator, am I right? Between uh all the coor Yeah. Th Christine, yeah. Which is Yes. Yeah, so basically you need to interact with Christine more, okay, for the user acceptability, okay, and the testing, okay, then you will Yes. Yes. Yeah. Yeah. Yeah. Yep. But what I request, okay, keep Ed in the loop, okay, in between your uh meeting and Christine meeting, because uh he should know what's happening. Yes. Okay and please please copy all the mails, okay, all the discussions to me, okay, so I need to submit to the management. So any questions fo

r uh time being? Yes. Okay. To come up with the functional design and uh to discuss with Ed, okay, and how it's going to be work, and uh first of all with your user acceptance, okay, how it looks like and how it's going to be work in the market, okay, so then we can discuss about uh further things. So, we'll meet when the we'll discuss on the further meeting. It's okay? Thanks for coming. Yes, I will. Yes. I'll copy, uh le let us keep all the emails and all the copies, okay, share each other, okay, so you know everybody what's happening, okay? And if anything you need anytime so please either you can call me, or just send me email, or uh just come and uh knock my door, okay, so I'm available here. It's good? Okay, thanks for coming and uh I wish you a nice time then. Okay, see you later. Bye.



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# Meeting ID: 87

Data Source: Train

## Executive Summary

The marketing expert reported on research which shows that users think most remotes are ugly, easily lost and bad for RSI. Audio settings are rarely used, and the power, channel and volume buttons are used most often. The remote should be user-friendly and have a good look and feel. The marketing expert and project manager described the new requirements that the target group is users under 40, the remote should not include teletext, should be only for TV, and should feature the corporate logo. The user interface designer showed examples of two contrasting remotes, recommending that they should use the best features of both. The group decided to use an LCD screen and speech recognition. The industrial designer described how a remote works, and explained that his presentation was incomplete because he had not received the necessary information in time. The group discussed what functions to include and the layout of the remote, and the marketing expert drew a possible design on the board. They decided to have buttons for the basic functions and make the advanced functions accessible through the screen. They also discussed what buttons would be needed to navigate the menu on the LCD screen.

## Complete Meeting Transcript

You all saw the newflash? Or you got the same message? Yeah sorry. Yeah. Yeah I received an email so I thought I I can't mail you so I thought I'd just drop it in the folder, but Is it unlocked? Woah. I uh kind of opened it. Uh Okay. 'Kay. Everybody ready? No no no. Yes yes yes. Okay. 'Kay. Can we get started or is there some pressing issue? Oh no pressing. Did you plug in the power cable when you come back? Yeah. That's difficult. Yeah. Yeah. Format save. Yeah. Oh yeah sure. You have Playstation also? Huh. Okay. So there we are again. Yeah. Okay this is the agenda. Um we have three presentations, I heard. Yeah really. So who wants to start? Yeah. Uh this is you? 'Kay. Yeah. often. Next generation does. N not used anymore. Yeah. Yeah. Not by mail. I receiv the mail but you don't. So That's in the presentation, so Uh below I believe. Yeah below forty. Mm-hmm. Our current customers are in the age group forty plus. And the new product should reach new markets, which is the customers below forty. That's in a newflash. Yeah. But it also needs to have corporate identity. Present and the

colours. So we can't change much of that. Mm-hmm. Mm-hmm. Yeah. Yeah. Okay. 'Kay. It's open already so you can use to find yours. F\_ five. Go Jurgen. You pressed alt F\_ four? Oh great. Yeah. Uh maybe you can do it from your computer so talk us through it. Yeah. That's nice. F\_ five. Yeah. Mm-hmm. Mm-hmm. Mm-hmm. Yeah. The mm yeah. Yeah. Mm-hmm. Yeah. So n it's very easy. Now yeah it's okay. Okay. Yeah. Yeah so maybe you can hide them or something. Yeah you make a screen menu or something. Mm-hmm. Yeah and the other oth other uh functionality is the screen. What does the screen do? Yeah. It's low power. So what does the screen do? They said they needed it but what does it do? What do they want with the screen? Yeah that's what we make it up. So but what did the marketing No. Yeah okay it's handy. With no predefined uh We're back online. Okay. Mm-hmm. Content and form. Yeah. That was the end. Okay. Uh which one is it? Technical functions? This one? Functional requirements? No. You didn't put it in? Or it's not really English. Uh kick off. Oh working design I got it. Here you go. Just uh press uh yeah. Yeah. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm. Design yeah. Mm-hmm. Mm-hmm. Yeah decoder. Blank. Yeah okay. Work harder. Yeah. Uh 'Kay. Um for those that didn't see yet um the basic new requirements of the management were no teletext, only for T\_V\_. Uh it should be designed for a use g uh group below forty, but I don't think it's w wrong if we can uh target the current customer group as well. And uh the corporate identity should be clear in the design of the remote control. And we have to decide on the functions, and on the, let's see what was it, uh the target group. We have to make be clear what that is. Yeah users. Yeah so I think it's easy but Yeah it's below forty so we can decide where to Okay. So below forty is okay. But we need an lower level which to s uh focus. So is it from sixteen to forty? Is it from twenty to forty? Is it from thirty? Yeah? 'Kay. Yeah. Mm-hmm. Design. Mm. Mm-hmm. And maybe y Yeah. Yeah. Yeah. So is you should have a menu for all the the functions you don't use regular and which are Yeah. Aye yeah. Shall I uh Yeah. It's okay. no, it doesn't have line control, so Yeah we get the The remote, yeah? Basic. Is on top. Which should be easy, easily reached with the thumb. T I s should said right. Because yeah. Mm-hmm. Do the also with the thumb. So it should be a little bit longer so that you can put your uh thumb, also reach the middle. Or you should screen at the bottom and then you can see it very clearly. You you need to be able to hold it so Yeah. Yeah okay that's true. Layout. That's for the I can't help it. Yeah. Man. Yeah okay. You want the normal piece of paper? And you have a pen? Yeah? Mm-hmm. Uh. And the for flipping up and down. Yeah. And left to right. And those can also be used for the menu. Yeah. Yeah okay but this is f

unction so if you can use them for multiple things For the menu. Yeah. Mm-hmm. Yeah. Yeah. Yeah. Yeah. Yeah but that depends on where you put the screen. But it's essential that there is a screen. Yeah. And for the speech uh recognition part, if we want to incorporate that, we need a microphone. Yeah. This would be uh No that's not s sure so uh we need a display. Yeah. Yeah they're used to it. Mm-hmm. Yeah but then it's possible that you cover it with your hand so I think that top is the best option. Yeah okay. Depends on the sensitivity of the microphone, but I think that's okay. Volume. Up. Channel up and down, and the control of the advanced options. So maybe it, we should decide what advanced options we want to put in the L\_C\_D\_ screen. Yeah so sounds? Yeah and they're They're not used often so Yeah just Yeah sounds. Yeah. Of course. I'm just a secretary. Coffee? Treble bass. Uh Pitch I believe, yeah. Yeah. Yeah and mono stereo. Mm. And also the tuning part? Yeah programming. So channel programming? Mm. Yeah. Contrast yeah. Mm. No. Uh, so contrast, bright, uh And the others were in your presentation right? So I can just copy those? Okay. It's easy. Yeah the button options and the L\_C\_D\_ options. Indeed. Yeah. Yeah you have basically a button menu, which you can use directly, uh according to the old principle. And the L\_C\_D\_ options are activated by some

some software options, that's communicates with the infrared uh decoder yeah. So you You have an additional processor and and software part. Compared to o Mm-hmm. L\_ s Yeah. Colour. Yeah I I call it contrast. Yeah I make it c colour. Yeah. Yeah and automatically um Mm-hmm. Yeah so I've g channel program is autoseek? Uh name a channel, or Oh they get automatic names, okay.. Yeah. Yeah but can you also say I want f uh Veronica on the channel number uh five or Yeah. Yeah. How do you call that? Channels? Yeah. Ninety nine or something. Yeah. S swap channels? Can I call it that? Swap's good option. Okay. Uh other functions? Mm-hmm. Okay. Well that's 's up to uh Mister User Interface Designer. Also. That's you're Yeah but also, which buttons you have to press to get a certain result? And the working design was to specify how ph the physical interaction between the components was, as I believe. No I don't think so. But I think the communication with the television is difficult. But that's not our part. We don't have to design a protocol so No that's the Yeah. So but Um The User Interface Designer can design a menu for all these function I put them on the. Yeah. Yeah I can. I'll just try to reorganise uh things. Um So you design the basic function menu for the L\_C\_D\_ screen? Uh um I think th I think the yeah the layout of the screen and I think you can concentrate more on the button placement and the placement of the uh screen itself on the. No I d I think that's more in. Yeah. Okay. So he's layout and you're function. Form function okay. Yeah. I think i that's your department yes, because w he already knows what Yeah. But we're not allowed. Yeah. Yeah. Yeah and also make clear which buttons to press to get certain result, because that's always the difficulty. Every device has its own Menu okay. Yeah. Mm. Back. Yeah. Yeah but they're incorporated? Up and down is Smart? Put it on top. Mm-hmm. Well But that's uh J Jurgen's department. You just make the layout. You do we do the extra two buttons or not? Yeah. Yeah okay. That's true. And to, okay and back, also. And of course the four arrows. But those are still y doubly used. Both the L\_C\_D\_ Yeah. Menu button access the menu in the L\_C\_D\_ screen. You can navigate. But you can also navigate the channels. And the volume. Those are both both yeah. Oh five minutes. Light uh Yeah sure. Okay. Um Anything else? I've Volume. Well we have those buttons. We use all four. Yeah okay go ahead. Yeah that was already decided. Okay that's what we decided earlier on. Right okay. So yeah I wanna close down. I have to, sorry. it's not because I don't like

you but yh we have lunch break, and then we can work for thirty minutes, and I have to write very fast to make the minich min minutes. And then uh we'll see I don't know. Nobody told me. No I th believe there's first lunch break. Yeah. Or you can just Yeah? 'Kay. I think you can put uh the laptop back in the room and 'Kay. Yeah it's a lot of pressure. That's okay. Oh yeah. I don't know if it works but it should be saved. Yeah. It's uh Should be here. Smart board. Don't know if you can use it but Yeah. I try to organise it by these three. Yeah yeah yeah. I don't really mind. I just put the minutes here and we'll see. Yeah that's in the functional design uh folder. Yeah. Yeah that's just basically what I just showed. Yeah. Yeah I got it by yeah. I'm gonna get kicked if I don't do it so Make me proud. Yeah. I believe so. just ask. Hello. 'Kay. Newsflash? D did I miss something? Okay. No. Mm. I think you have to uh change your desktop uh size. computer is uh not functioning? Uh display. And then uh settings? Mm I'm not sure I. No. Okay. Format. I made uh uh my own map. It's a Yeah. Yeah. Yeah wa wa you actually Yeah. But it's not clear what you have to to type uh type in your presentation. Yeah. Really. Okay. Yeah. I was wondering uh But you you've got more information than uh. But where did you get uh that information? Okay. Yeah. Yeah. Okay. Mm. It's F\_ five. Okay. Oh. What is this? Oh no. How do I uh No no no. I pressed the mouse button. Yeah. Okay. Okay. Um if you all go stand around uh Computer Um No. Okay. I uh had uh two examples. Um this one is the the yeah the advanced one with a lot of options and functions and buttons. This the easy one I think we have to to combine them. And uh yeah merge

the best functions of all examples. Um but yeah the the age is uh under forty? So we Okay so so we have the option for more functions. Um yeah. Yeah. Uh yeah this this one we can remove for kids. It's just only for adults so uh we can uh use some advanced options. But Yeah but I prefer we we uh use the the basic options uh yeah. We have to to make them very easy so for just uh zapping around the channels you can just push one button. But if you want to to use your your video recorder or something else, you should use use an uh an advanced option. Okay one device. Okay. I didn't see. Okay and I also uh yeah. W yeah. We have to make it fashionable. Like you uh said uh before. Uh yeah the basic functions. Um yeah only use a extra function if they are really needed. Yeah. Yeah. Yeah. Did I uh did I break it? For for the advanced functions I think. Like searching for channels and Yeah. Okay. That's uh I'm al I'm almost finished so Um the we have to to to watch out for the i if we make it f very fashionable, it it the functional functionality will go down. So we have to make uh a compromise between functionality and fashional fashionable yeah content and form. Now that that was uh was the end. Yes. Yeah. Okay shou should we make a list of the of all the functions we want uh Yeah. But uh it's it's also for children or just uh Okay. Okay. Yeah. We we have to And if we have a larger public we have uh yeah more options to to uh sell our product. Yeah that's that's why uh I wanted to to make yeah two uh different uh yeah groups of functions. The the simple functions for for the the whole public, and the the advanced options for the younger people yeah who are more yeah experienced with uh Na I w I should uh put uh the the yeah the extra advanced options on the onto the onscreen display. Yeah. Yeah. Yeah. L left top or right uh top? Yeah, right. Okay. Yeah but if you are using the the normal functions, the the basic functions, you normally press them on the u yeah. Yeah. You broke it. Yeah yeah. And volume control. Yeah. Yeah. And do we need a a logo on our uh remote control, or On the left uh top yeah. Okay. Yeah may maybe because you're Yeah okay but only for the basic functi if you're going to use the advanced option, you're going to pr

ess the the menu button and then yeah. Yeah. Okay the yeah. That's possible. Yeah, okay. Okay we put it on top. Yeah. Yeah. Yeah. If we Yeah it it's just a remote control so Yeah. Television uh itself uh Mm. We we could make an option for it, but uh you can disable s Yeah. But uh the the television itself has also the the options brightness and uh screen colour etcetera. So yeah. Okay. Yeah. No that's Okay On the uh yeah can you i make a a map with with all the yeah 'cause it's now there are lots and lots of documents and The the layout of the remote control? Isn't that more the the u uh the user interface part? Yeah. But do I have to to uh to yeah to make the the menu layout also? Or Are you going to do that? Yeah? I I'm going to make yeah o okay. Yeah. Yeah. Okay. Y you you are going to make a list of what functions are uh are going to to be on the the screen, the menu screen. And I'm going to make a a nice menu uh with with pages and yeah. Yeah. Yeah. W we Uh I think we have to to group, to make two groups. Um the one group for the for the display, and one group for the basic functions, and Yeah okay but we we have a m yeah but maybe that's that's not uh yeah if you're if you're z zapping uh with your uh yeah remote control, you can press the the menu button, and then you are suddenly into the the yeah the display. Yeah. Yeah j just just group group the yeah we make these the advanced functions and these the basic functions. So we make a yeah a line between them. F oh yeah. Okay yeah we swap uh Okay. Yeah. So we make it a Okay. Uh Yeah. So we have a a menu button and a s Okay. Okay and back button. Yeah I'm I'm not s clear about uh the the extra two buttons. We have a menu button and That's the the one with the yeah okay. Okay. Okay so that that's not uh Yeah that Those are multifunctional. Yeah. Yeah. Yeah. No Yeah. So maybe make one uh one okay button and and one navigation button. Yeah the with with the the channel and the volume uh yeah m a multifunctional navigation button. Yeah okay. Yeah. But do we have to write uh to write down uh the our

stuff now? Or first lunchbreak? Because I I've everything in my head now so Okay. Yeah. 'Kay. Yeah. Yes sir. Oh no no. Okay. And uh we have to make uh some maps with uh with the all the the data we uh gathered.. It's it's just my own map so I put everything into the But you got some extra information uh Okay. But where do you did you get the newflash? You're the only one uh okay. Okay. Yeah. . It's I don't know. I didn't see it yet I think. Hey what's wrong with my computer?. Huh? What the Not really. Sorry. Okay. Where do I find this? I'm not so g display huh? Appearance? No what was it about? Yeah my computer is not functioning properly. Yeah yeah. No but my screen is reduced in size. Yeah. Feedback. Okay. This is dreadful. No not this, but the task. Yeah. No that's okay. No I just flapped it, closed it, took it here and then this happened. Ah. Uh where was it? In settings? Okay. Alright. Thank you. Do you guys like your tasks? I spent a lot of time thinking about what I was gonna do and then a couple of minutes before this I get my function you know the information that I need. So frustrating. So Yeah Yeah exactly. This presentation is mainly based on my own ideas 'cause I hadn't time to intergrate tha the information yet so Really annoying. Yeah. Ts So they do need to be in the Alright. By the way my T\_V\_ doesn't have an equ equaliser but okay. No. Alright. By the way where did you guys get that newflash from? I didn't get anything. Alright. Do we have uh yeah. Alright. It's th that's the self-destruct button. Alright. Mm-hmm. And we do have to integrate the screen and the the speech alright. Mm-hmm. Yeah. Alright. Ah look. We have your uh oh never mind.. Okay. Well my presentation is a bit uh sucky. Yeah a little bit. Uh no. No no. Yeah I think that would be it then. I have no idea. That w. Let me check. I know. Yeah. Alright how do I uh skip pages? The keys yeah? Alright. U

m yeah well I was working on this before I got my information. So I was just working off the top of my head and using my colin common knowledge about uh remote controls. And well the info on the website which came too late. Um so I didn't really know what kind of functions we had to put into it yet. So uh uh this is basically an overview of what we discussed in our last uh meeting. Those were my uh starting points. Uh I was working on a s yeah on a schedule, and I was supposed to do it like this. But um yeah then uh the information came and it was kind of exact with all the steps in the remote control that I had to follow, so I was trying to organise them for myself. And then make the the design, a the actual design, but I never came around to do that. So I'm not really sure what I'm supposed to say about it. I mean everything speaks for itself I guess. Mean you press a button um the it tru goes, it sends a signal to a chip, which uh translates it into infrared signal of certin spatial frequencies. And uh or temporal fr frequencies actually. And then uh through a uh transformer, it the signal gets boosted and then sent to the to the receiver on the T\_V\_ and the T\_V\_ will translate it into a function. Um Yeah well this was actually all I got around to do. I mean I dunno if I'm too slow for this stuff, but uh Yeah. Whatever. Yeah so what we might wanna do is uh yeah cust I have customised the screen functions, if you know what I mean. The uh younger users are more acquainted with these kind of machines so they can use more advanced functions. But maybe elderly people don't understand it so well, so they need a simpler remote. And yeah that you can choose what the design displays, or wha whatever. Yeah. Experienced yeah. The remote? Right top. Yeah definitely.. And might be easier huh? Yeah I Yeah exactly. I thought but this is really your department, that we need just the functional display and four cursors. And Yeah okay. Yeah. Mm-hmm. Why did we wanna put the display in the bottom? Okay. Because yeah if you use the functions your hand will block the display. Normal for logical t Yeah. On once it's on it's on. You don't need the power button. Yeah. Maybe on the top or even on the side. True. But if you uh if you hold the ma the remote like this, if you put it on the top on the side I dunno. Should be able to work. Never mind. Can we leave this up to you? Yeah so we we needed to integrate the sound and uh and image options right? Like uh bass uh so we need kind of an equaliser. If you Yeah

treble, middle, bass or something. Ah as.. Yes please. the mono stereo option? And there there was something else also. And then pitch. The frequency of the tones, yeah. Yeah isn't that that depends on the signal of the of what program you're watching. And yeah in the functionality of the no no of the remote uh do do we want uh the buttons to make sound when you press them? As a confirmation or whatever you know? I dunno. Under the a yeah advanced option menu you can put those things. Yeah. But so we have we have T\_V\_ options, which is all this. The sound, sound and image. And you have in that uh the indeed the remote control options. So we need two menus kind of thing. Uh-huh. Alright. Help. working design. Doch. He only has to figure out how it has to look. And how to use Yeah okay. But You did your homework. But um yeah. Okay. No no. It should be able to do any remote. No. Thank god. Uh all the functional uh aspects of the remote I think are in my department. I have to know what it has to do, so if you wanna you know the changing the channels kind of s thing is, I have to integrate that in the design. Yeah. I think that's a that's a good separation. Mm. Yeah we have to kind of work together. If if I make the the the yeah the menu like, I have to state which function has to be in the menu, and then you have to decide, it's, in a in a way that b is user-friendly. Yeah. I think yeah. Mm-hmm. Yeah. You wanna separate uh

. I think you should. It's easier. If you put too many functions in one button it gets confusing. No. Hey is it interesting for users if we put LED lights under the buttons? So that if you uh press on the menu function that only the buttons that are used for the menu are light up. N Yeah and then it's also easier to integrate several functions in one button. I think not. Yeah keep it optional 'cause maybe you can you know go left to right and up and down in a in one menu. The problem with the okay button in the middle is, sorry sorry, uh is uh if you're pressing up and down, you can easily press the okay once you, when you're not already at your choice. You wanna close down huh? That's okay. Already. Alright. How m how long is the lunchbreak? Okay. Mm. This is Yeah. Sorry for my uh not finished presentation uh. Bring it on. Alright. I'll try to. So first we have a lunchbreak now? Alright. Mm-hmm. I dunno where she. Yeah I I just saw it one minute ago. When I uh Yeah. Yeah pretty much. Mm. Yeah that's my presentation. Mm? Oh right. Ooh. Well Alright. Huh. You read the newsflash? Hmm. What? Hmm. alt delete.. So it doesn't draw the attention away. Yeah. Yeah. Yeah. I I had a whole idea and then just was typing it and then oh. I have to do that so switch. Mm. By your humble P\_M\_. Yeah that's fine. We have to start it right away? Functional? Yeah functional requirements. Alright. I'm gonna talk about functional requirements. Um Well uh some research has been done uh has been done. Uh observing of one hundred uh subjects in the usability lab using a remote control. Uh and they also filled in a questionnaire. The findings were um, well you can see them for yourself. They disliked the look-and-feel of current remotes controls. Users think they're ugly. Um they do not match the the operating behaviour of the users. So they they d they don't match what they want to have on it. Um they are often lost somewhere in the room. Um it takes too much time to learn how to use a new remote control. And they're bad for R\_S\_I\_. I don't know uh how a user can reach that but okay. Um there is also uh was also some research on uh the most relevant and and and irrelevant uh f functions. Uh most irrelevant and less used were audio settings, mono, stereo, uh pitch, bass. Um screen settings for brightness and colour and stuff like that. Um but they are used. I mean the Yeah they do need to be on the on the remote control. I mean if you can't control the the sound settings I mean if you dislike a very uh loud bass or something, you you need to change that. So um yeah we have to. We c we c Yeah I mean w we can't my my T\_V\_ has, but we we can leave them uh away. Uh most relevant, uh most used functions, uh they speak for themselves I guess. Uh power button, uh channel, volume selection. Uh teletext but we can skip that because I saw the newsflash, and teletext is so outdated that it it's i

should not be used uh any more in the future. So forget this one. Uh channel settings, so for programming uh your channels in in the right order. Yeah, on on the project uh No so it's a text file n in the project folder. So teletext can be skipped. Um there was some research on new features in a remote control. Uh about an L\_C\_D\_ screen uh and speech recognition. Well we got an update for the for the audience. Or the the the targeted group. So it's above forty I guess. The new product? Or below because that's pretty relevant. I thought I read a Yeah? Below? Okay well that's that's in the newsfla okay that's a good to know. Um because you see see a clear distinction between the age groups, concerning the features. I mean uh above forty people are not so interested uh not so interested in a screen or speech recognition. Uh but below that age they uh they pretty much are. So I think we can build that in. Um Yeah well we can skip this part as well, because I thought I read above forty so we could skip the features, but we just have to build them in because uh they

find it very interesting. Um well we have to keep all the classic functions but make the buttons as user-friendly as possible. Um and and also there's so not only the design of the bus uh buttons but o how you can push them, and stuff like that. So the physical uh aspect of it. Um And I think and certainly for for the for the lower age groups, uh nice design, which uh does not make the remote control in your room. It's it's actually a part of your interior, of of your design in your room. So it's the people can say, well what's that, well that's my remote control, so it's d it has to look nice and feel nice, and and have all the functions that uh Yeah so the the logo has to be uh present yeah, and the colours as well. Yeah so but I I don't think that's that's a problem because the thing has to have a colour anyway, and most of the times there is a brand present on it. So I think that's not gonna gonna affect it very uh very much. Well that are the the consequences uh on a marketing uh part. Yes.. Yeah. Just yeah. Sure. Yeah. Alright. Yeah. Yeah. Yeah and and and marketing research stated that that that kind of users are not afraid of of a lot of functions. So not not too much but yeah. And the speech recognition yeah. Yeah from age of sixteen so yeah. Mm. Yeah but uh the the newsflash also stated that it should control only one device, only your television. So w So there are not extra options in this case, but uh Yeah. Yeah. Yeah well what what we can do with the screen is is all the the configuration options, you can put that in the screen. And the and the yeah screen menu to to to uh to do that, and then the basic function just on the device itself. So it looks very simple and all the advanced features are hidden in the screen, uh with a clear menu. Uh. What are wh What. Yeah well it yeah it didn't it didn't say what they want to do with the screen. Well I, my guess is it's it's pretty handy for advanced uh advanced functions. Yeah searching for channels, programming them. Yeah. Yeah. Well you can improvise right? So we we can go for So we can go for the look-and-feel of the the left example, and then a screen on top of it. Yeah. Design? Yeah. Okay. Yeah frequency. Yeah. Yeah. Yeah we want to incorporate in uh into it. Mm. group of users, or because it says below forty I mean. I guess that's that's the tar yeah uh or male and female Uh six the marketing research started on s on the age of sixteen. Sixteen to twenty five, twenty five to thirty five, thirty five to forty five, something like that. So um How do you mean? Uh sixteen to forty. Well I I guess people of sixteen are are quite used to technology. So they they adapt to it pretty soon I guess. Yeah. But uh all incorporated in the screen or or just on the remote itself? Yeah like like you have a visual of the of the brightness with with a kind of sliding bar and a bus and and stuff like that for sound and and vis and and visuals? Uh you can make a if you make a drawing. Uh Uh. Uh black's okay. And draw it very big. Oh. Yeah. Yeah. Yeah well, this is basically uh it's alright the remote? Um well usually the power button is on top I guess. Yeah so it should fit right in into your hand. Right. Right. I most people are right-handed so maybe left-handed special addition, but okay. If you put it like like here. Or something. I dunno. Um then you could put a screen, like on a mobile phone, also on top I

guess. Okay so y yeah you have you have it in your hand, and the screen is below, and the buttons are in the middle. Okay for example if you put the screen here, it's more about the functions now than the layout. Doesn't work too well. It's uh it's bent.. Yeah. Right. Okay you get it. Uh for example if y if you put all the Right. Yeah. Maybe this. kind of works. Like if you have like uh ten buttons for for all the for all the channels, um and here one for for Yeah that that usually uh like here, here, here, here. So you have up and down for the for the channels, and I

eft and right for the volume uh Yeah. Yeah. And you you have most of the time you have one button in the middle. It says menu, and then if you press it you the screen gets activated and then you can use these buttons to scroll up and down and left and right to go into functon and then just mo most of the time this menu button is also like okay, to to confirm a a kind of action. So you scroll into it, okay. You select a function like v like uh bass. You just adjust it with these two buttons. Then okay to confirm, and then uh on on each on each screen there's there should be an option to go back to a to a upper level. And then finally say okay, exit. Or or one button to exit it. Uh in one time I dunno, that's not really my department. That's more your uh your department to to uh to Yeah. But it should be if the screen is here then the logo should be like on on top, yeah. I mean it's uh Yeah. Yeah I mean the position of the screen is also more essential than I mean we we look where we have space left and then put the logo over there. But um Yeah so it should be I mean if you have it in your hand here, should be on top somewhere, maybe. I mean i That's not sure but it's Yeah I mean a screen on top looks more lo logical to me. Also because people use m mobile phones and they also have the screen on top. So you you just have to reach a little bit for the power button. I mean if you grab it. But most most of the times if a if a T\_V\_'s on standby people just press a channel to put it on. So we put this on top, and then make the corporate logo like over here. R\_R\_. And j and the microphone, I mean it can be very small. If you look at your mobile phones are some stripes, little little holes. Yeah maybe on the side. I mean if the if the microphone is good. Yeah okay. So on the on the top is better. Yeah.. Yeah it doesn't matter that much. So but um the screen is on top? Which functions did we have left? I mean this is basically numbers, volume, uh channel up and down. Screen is over there. Yeah. Yeah. That's uh that's a good one. Yeah. Sound? Yeah. Equaliser. So if you have sound But not too advanced. I mean most T\_V\_s use only treble and bass. Yeah. It's uh pretty hard to write. Mm. Okay but you have sound? Yeah just oh y you have digital uh better write it down over there yeah. So you have sound. Yeah. Uh yeah sound and then within sound I guess treble and bass? Yeah. Also. Pitch. Yeah. But pitch, isn't that yeah that's the the height of the tone. Yeah okay, wh why would you use that? If people like talk like uh Yeah. Programming part. Uh so we have sound, yeah? Channel programming. Mm. I think it g it gets annoying. I mean most mobile phones used that in the beginning but Yeah. Yeah but people don't want to sit on their knees on their knees in front of their television with only three buttons then it's very hard to y yeah contrast and brightness? Yeah those are the most used I guess. If you look at your monitor. Well yeah well I guess that these were the only ones, I guess. Yeah. I will look it up. Yeah with the chip and then I mean Uh yeah. Well yeah we have power button, whether that's present. Channel volume selection present. Uh numbers present. Yeah a audio settings, mono, stereo, pitch, bass, treble. Screen settings, brightness and colour. Yeah con contrast is Yeah okay, colour and brightness. Um and what you say, channel settings or channel programming? So you you have an option to to start scanning all the frequencies, and when it encounters one, well it shows on your T\_V\_. And then you can um Uh and then you can select uh a number in your remote on which you want to save it. Yeah, autoseek. Well most T\_V\_s automatically display the name, which they get through the cable. Yeah. So you only have to choose the position on your It only has to match the the channel frequency on your



T\_V\_, with with the with the position on your T\_V\_ and and so your remote. If you already programmed it. If you want to move it. Yeah that should b

e possible too. Yeah how do you call that? Mm? Wait you you should be able to to browse through a list or something, which w displays all the all the values, all the channels which are possible. I mean like one to f thirty of or ninety or whatever. Just browse through it and then um in some kind of way see if it if it if it is programmed. Yeah. Swap channels. So you most of the time if you if you swap it S uh let's say for example you have uh R\_T\_L\_ five on on channel five. And Veronica on channel eight and you want to move Veronica to channel five, um most of the times you override the previous uh the previous one. Yeah. It's it's pretty uh yeah I mean you have to look on on the menu on the T\_V\_. Yeah. Or or is it too hard to to ju to just do it all on your remote? To programme the channels? Uh. Yeah. No. That's true. That's true. Yeah. So we have a figure a figure out a way to to do that easily. I mean th the autoseek is is not a problem. I mean you uh you uh current channel and then then it just says, uh on which number do you want to save this, and you just press a number on your remote, and then say confirm, okay, and then it's it's saved. It's easier, it's it's it's harder to, if you have already programmed it, to to swap. So we have to think of something for that. Yeah k kind of structure into layers. So And and the layout of of the thing itself.. Maybe more on Okay. Yeah. Yeah I guess so. Yeah. Yeah. With with some I with some layers in it. So some menus. Yeah. Yeah. Well I guess this this button, the the okay, menu okay. Or you can incorporate two uh difference uh different buttons. Uh like uh for your mobile phone. Um so this is only for to get in the menu, or to exit it. And then one to confirm, and one to go one step back. So it's like the the save button on your your mobile phone, if you have a Nokia or like that. Or the or the no button. To go one step back you it's only two extra buttons, but if it if it's very clear that they are for the screen Yeah because this this is used for both. Into your screen. Okay. So you I should leave the menu button out of here. And and just put it under the screen, the screen Yeah. But we should place the screen on top, right? Yeah. Yeah. You just you just find out and. Yeah. Yeah. Yeah, or confirm and back. Whatever. Yeah. Should we save this picture, or or you know what it looks like? Yeah. That that just to to activate the screen. So And then with these buttons, woa, y you navigate. Yeah. L I litten up yeah. That's very good idea. Alright. Yeah that's a good idea because then it becomes clear which buttons are active now, which you can use. Yeah. So Those buttons are are lit up. But just one thing. Should we use those two? Them? Or only this to to scroll? And then use the two functional buttons to confirm, to go into something? Oh no we have to use this to adjust some some bars? Yeah. And maybe we should use this also as an okay button, still. And then just only a back button. Yeah? Yeah. And one back. Yeah. Yeah. Yeah. Yeah. We have to ask. Yes. Yeah. Time pressure. Yeah we'll kick your ass later. No. Uh. Aye Y you saved it? Does it save automatically in the project folder? Or Okay. We'll see. Just put back my laptop. Alright. Yeah you can open it with the picture preview or stuff like that. internet. Alright.

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# Meeting ID: 124

Data Source: Train

## Executive Summary

I take it you all have received instructions as to what you were supposed to do I think the Marketing Manager probably should go first , addressing the needs and desires . Um I thought that the method I should follow would be gather suggestions from everybody , um and then as we go on what we'll have to do is accept and eliminate these suggestions according to um design and budget feasibility . So I'll be coming to you um frequently as the Industrial Expert to tell me how hard it's gonna be to add a feature or how expensive it's gonna be or if your time , if it takes five years to develop this it's just something we can't do . because if we're gonna sell this thing , I think the best time to sell it is as a Christmas present . So it's gotta be really attractive Um and then I'll be coming to you as the User Interface person to try to tell me from your point of view what are the most friendly features that we could put on it what what's what's gonna really be what they call a sizzle , A lot of times the thing that works the best from an engineering point of view isn't the thing that somebody's really just gonna take out their wallet and buy for Christmas for for their child or for their husband or whatever . Alright I I already did a little bit of research after our first meeting where we threw out some ideas and it looks to me that within the budget that we're looking at the uh the whole house idea really isn't gonna be possible . And then I found on the internet from from my research that some extended electronic entertainment control should be possible . At the budget that we're looking at and at the price point we're looking at , we should be able to make it work the T\_V\_ , the V\_C\_R\_ , the stereo set um maybe something else cute like a coffee pot or one other appliance or maybe a lamp . Uh okay , can can I at this point interject um something ? Um we have received instruction from higher up that certain things should not be uh considered . Um the one thing for example something to eliminate maybe that's the teletext , and according to to higher management the it should only control the T\_V\_ , and the third thing that they wanna make sure um that their that the corporate image is being maintained , and that the corporate colour and design are being used on the product , Um alright now other things that I found out on in my research is that the complaints that people have about the remote controls that are out there now . 'Cause a lot of them take too much time to learn how to use , but even more important the thing that we did address in our last meeting that frequently it's lost somewhere in the room . uh we wanna s make it as simple as possible , we wanna make it um obvious and intuitive to use , we talked about the a light emitting thing as well as uh maybe a beep , Okay , so , my personal preferences in this um project are really have to concentrate on the

sizzle . We have to have as few buttons as possible , because more buttons is more confusion , So we've gotta concentrate on the features that help you find it , Um and then maybe a motto , like we put fashion in electronics might be something we can use in our marketing campaign . Uh so today I'm going to talk about the working design of the remote controller . in a remote controller you have a chip integrated circuit which is like a brain of the remote controller . It takes the power from a battery and it takes the input and it transforms into an infrared signal and it sends it into the device , like a T\_V\_ or an air conditioner , something like that so . and uh so uh I think it's hard to design a remote controller for multiple uh devices . Yeah well that's already been eliminated by management , so we're off the hook . So uh user interface controls the chip and accordingly the messages it's like the text or buttons which uh which are there on the uh remote controller they those we can make uh um like fluorescent if suppose a child is playing with the remote controller and a and she she or he is pressing the buttons all at the time then there should be a beep saying that it's this this is not a a you know a a action , there can be no action taking to that so . like uh uh you should be able to lock your remote controller so that uh um whatever buttons are pressed by a child they can't be like y you i you if you have ki kids and all then they'll be pl playing with the remote controllers so can lock the remote controller . And uh different shapes that we can do like uh we can have you know a all animals shapes or you know comfortable uh whi which can fit into your hands you you say that won't add too much to the budget ? No no no , it won't uh I don't think it will be like , Do you think there's any chance of um having ser in having basically the same machine with the same buttons but maybe several different shapes ? Because we had something sort of sexy for adults and we could have something sort of Silly for children . so I think uh we need to make some buttons which are which are like um uh f in uh in intended for two or three operations , And and the butto buttons also I think if you want to have more features in your remote controller then there should be more buttons . because I think there's a lot of argument to be made for one button for one feature . So um maybe having buttons be various shapes might be a help too . You know , like the a triangle is for the volume and a square is for changing channels , so that people can uh develop a tactile sense of it . And uh display clock i if you want more features then we can display a clock And uh uh of course there should be a case where we can keep all the things As uh User Interface Designer I did a little research to find out what are the features which a user would like to have on their remote . uh something like a radio wave or an infrared light or a LED which can be used to change the different functionalities in the television Now there should be some timer to set for viewing a particular a particular programme or switching on and off a uh a particular programme according to the user choice . and then there should be a child lock system if a particular channel is not to be viewed by a particular uh for a certain age , then the parents can lock that particular channel so that the ch children cannot view that channel . one of the feature a user would like to have is the compactness of the co remote . and it should ha it should have as many buttons as possible for controlling different functionalities of the T\_V\_ television . And it should have an uh it can have an alarm clock and then to save electricity uh there should not be uh much s move uh lots of circuits and all that . And um uh as uh uh this is my personal preference that it should be in the shape of a T\_ in alphabet for more compactability . However uh the decision we have to take in this meeting is who is our target group . And uh what function , working design , how how does it work . Now , talking about the target group which is in a sense everybody , but I think within the target group we have subgroups . we have earlier it was

mentioned about um for example elderly people who have limited function with their fingers and hands , And uh I don't know how much we want to cater to children's use . and um I dunno what you feel about whether we can just say we have one target group and for this one target group we're gonna design this one thing So if you've designed something that's very attractive to children um the mummy please mummy please um you know we want it now we wanna go to the store and see it um that has uh a lot of marketing pull . I think the children issue can be addressed with the shape and with colours . The question is only whether our budget will allow to have more than one design in a sense . but uh the target group as a whole is basically everybody with a T\_V\_ . can we is it even feasible to make one one remote control with something for everyone , or would we have to use the same electronics and make three different shapes ? They have like removable plastic cases , so you can have a striped one or you can have a fluorescent blue one , or whatever , that in each package you know you have you have you have for example uh you have let's say a fluorescent blue on it but then you have uh another colour or stripe whatever that already comes in a package . Well we may have to come back to one or two of these points at our next meeting but um If we do some more research , maybe we . If money permits we can address some features for some subgroups within that . Do we agree on on that in principle , like money will tell whether we will be able to do that or not . So now I understand it's lunch break . I I think to sum it up the target group is basically everybody .

## Complete Meeting Transcript

Okay, is everybody ready? Mm-hmm. Um I take it you all have received instructions as to what you were supposed to do and um I think the Marketing Manager probably should go first, addressing the needs and desires. Yeah, mm-hmm. Okay. You're participant four. Okay, and now I can uh full screen. Uh, okay, okay. Uh okay, can can I at this point interject um something? Um we have received instruction from higher up that certain things should not be uh considered. Um the one thing for example something to eliminate maybe that's the teletext, because that's sort of outdated with the internet, and according to to higher management the it should only control the T\_V\_, mostly because they feel that it's too comp complex a task to um to to include other things, and they are concerned with the time to market. Okay. Um and the and the third thing that they wanna make sure um that their that the corporate image is being maintained, and that the corporate colour and design are being used on the product, so that it's easy that that that they can be easily identified as a product of of of the company, and that there's no mistake that it could be somebody else who is bringing this out. So I just wanted to interject this here so we're not getting too much off track here with uh with the things we wanna look at. These were instructions from higher up so we have to eliminate uh these things, so it's only gonna be T\_V\_, but the one thing maybe that could be um eliminated is the teletext uh idea. Mm 'kay. Okay. And uh who would be next, uh, I guess that would be you. Mm-hmm. You want me to get your slide show up? Mm-hmm. And you are number three? Number two. Okay. Okay. Mm-hmm. Yep. Yeah yeah, uh-huh. There, mm-hmm. Mm-hmm. Mm-hmm. Yo and it's yeah but it's so. Yep. Yeah well yeah well that has been e that has been eliminated, so that's that's unfortunately a moot point now. Mm-hmm. Yeah I It just build a mould basically and uh you know. As the budget we're looking at if you

build one mould I don't think that's going to make a big difference whether it's gonna be square or Oh yes. I think I think we will have to look at the budget on that but I think in principle that that would be that would be kind of fun, you know. Yeah. Silly for children. Like an animal or Yeah. Yeah, a little elderly, a little arthritic hand you know, and and it's a small button and and it they don't press it exactly you know something else happens n not their favourite channel comes up but something else and they're very frustrated you know. Mm, mm-hmm. Mm-hmm, mm-hmm. Yes. Yes. Yeah you're sitting there already or maybe you have no other uh Mm-hmm. Yeah, mm-hmm. Mm-hmm. Yeah. Holder, yeah, mm-hmm. Mm-hmm. Okay. Well, you don't have to. This one? And Francine? You are number two? You're three. Would you want it full full screen? Mm-hmm? Okay. Mm-hmm. Mm-hmm. Mm-hmm. On the on on the remote. Yeah, mm-hmm. Mm-hmm. Mm-hmm. Right. Mm-hmm. Yes. By your child, mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Timer, yeah, mm-hmm, mm-hmm. Uh okay, now I have On my slide show basically we already we have already done the agenda, and uh on the closing uh basically there will be lunch break and all that. However uh the decision we have to take in this meeting is who is our target group. And uh what function, working design, how how does it work. So these are the two things we should come up wit with. So uh the first thing is pro maybe a little easier on uh who is our target group. Um. I guess in many ways everybody. Everybody who has a T\_V\_. Yeah, and I think today there are probably not many people who don't have a T\_V\_. There are a few but in general not. Now, talking about the target group which is in a sense everybody, but I think within the target group we have subgroups. We have we have earlier it was mentioned about um for example elderly people who have limited function with their fingers and hands, so I think that's uh one group that's certainly importan

t. Um then we have just the nervous people who can never press a little button on anything um unless it's really very clear. And uh I don't know how much we want to cater to children's use. I mean that's a question um whether that's important that children can really use it or not. So this these are just some thoughts I have on it, and um I dunno what you feel about whether we can just say we have one target group and for this one target group we're gonna design this one thing or whether we're looking at what we like we we talking about different shapes, whether that different shape also includes maybe different uh buttons uh for different groups. Mm-hmm. That has a lot of that has a lot of appeal but I think uh I'm I'm talking about the functionality now on it whether we're looking at different groups. I think the children issue can be addressed with the shape and with colours. You know, like you make it nice and pink, fluorescent, banana colour or whatever you know yeah, for example you know. But the question is really, who is our target group. Do we look at one target group? And with the twenty five Euros you know can we can we afford to have uh I'm asking the technical people here whether um to look at sort of subgroups with maybe different buttons for each group how much would that throw us out of the cost we are supposed to respect? Right. With with Mm-hmm. Well that's that's Yeah. No The the quest the question to be addressed here is only who is the target group and how will it function, and I think the how will it function is probably the question of the buttons you know, within the target group or subgroups. The question is only whether our budget will allow to have more than one design in a sense. I mean the basic design I understand will be the same, but the question is how much will that set us back if let's say uh forty percent we make large buttons and the rest we make regular buttons for example. So that remains to s to be seen but uh the target group as a whole is is basically everybody with a T\_V\_. Yeah, well that's that's the question. Well maybe there's there's an idea you know t the new for example new portable phones? They have like removable plastic cases, so you can have a striped one or you can have a fluorescent blue one, or whatever, and maybe something like that, that in

each package you know you have you you have you have for example uh you have let's say a fluorescent blue on it but then you have uh another colour or stripe whatever that already comes in a package. And then if people really want more colours they can buy it separately. You know, yes. That's right, and but like if if then everybody is is is tired of the fluorescent blue and of the striped or whatever they have as another one in the package, then they can go to the store and for a few uh Francs or Euros whatever they can buy an alternate package with another two colours in it you know for example you know. Well I think I think the idea here is to uh to to d design one remote and what the only change is gonna be um the funct d t yeah uh the functional functional cosmetics if you want to put it that way, um having maybe larger buttons or buttons that light up or buttons that are slightly differently shaped for people uh either for children um Five minutes that was I guess tha that's the old message. Finish meeting now. Um um. But I think I I think to sum it up the target group is basically everybody. If money permits we can address some features for some subgroups within that. Do we agree, do we? Do we agree on on that in principle, like money will tell whether we will be able to do that or not. Okay? So now I understand it's lunch break. And um. So that's what we will do. So hank you very much. And we'll see you after lunch. Yeah I'd to just put on my microphone here and I'll be right with you. Okay? Okay you want me to start right now? Okay. Well, could you um put my slides up 'cause I think it might be helpful if uh we looked at the

slides at the same time. I'm participant four I believe. Yes uh-huh. 'Kay. There we go. Okay well I think we have introduced ourselves, so the functional requirements are is is part of my goal but why don't we pass right to the second slide. Cause that's where m my discussion starts. Right well um since I'm in charge of trying to figure out what we should put on this thing since I have to try to sell it. Um I thought that the method I should follow would be gather suggestions from everybody, and th the reason I just put that there like that is that uh in the init in the initial stage I think I should just be open to lots of suggestions. You know you can say anything you want no matter how silly it sounds you know it should run your car, it should heat up your motor if should um turn on your C\_D\_ whatever you want it to do um and then as we go on what we'll have to do is accept and eliminate these suggestions according to um design and budget feasibility. So I'll be coming to you um frequently as the Industrial Expert to tell me how hard it's gonna be to add a feature or how expensive it's gonna be or if your time, if it takes five years to develop this it's just something we can't do. So in the beginning just have a big puddle of things that we anybody can th throw anything in and then just weed things out that can't be done for one reason or another, and then the things that seem the most attractive that to uh to a customer we'll try to then prioritise those. So that was um what I meant there, and as I said on the slide there consulting the Industrial Engineer about that and the other thing is timing is really gonna be as important as money, because if we're gonna sell this thing, I think the best time to sell it is as a Christmas present. Twenty five Euros makes a nice little present, and we want it to be an impulse purchase, we want somebody to see it and think it's, gee I just gotta have that. And take out their wallet and buy it. So it's gotta be really attractive and it but it's gotta go to market by September, 'cause anything that you don't already have out there in September showing it around, isn't gonna sell for Christmas. Um and then I'll be coming to you as the User Interface person to try to tell me from your point of view what are the most friendly features that we could put on it and try to prior help me with that prioritising of uh of the features and of the the look and the colour and I'll be coming back to you to help weed out those suggestions from that point of view. So I'll be coming to you for how much is it gonna cost us and how long is it gonna take you, and I'll be coming to you to tell me what's gonna make somebody take out their wallet you know, what what's what's gonna really be what they call a sizzle, 'cause we gotta sell this sizzle. A lot of times

the thing that works the best from an engineering point of view isn't the thing that somebody's really just gonna take out their wallet and buy for Christmas for for their child or for their husband or whatever. Okay can we go to the next slide please? Alright I I already did a little bit of research after our first meeting where we threw out some ideas and it looks to me that within the budget that we're looking at the uh the whole house idea really isn't gonna be possible. So I'd like your suggestions to come back to the other slide where I was saying we we could suggest anything. I'd like the suggestions to be really specific, so that we'll have a list of things we can cross off, not something like you know whole house control what'll be And then I found on the internet from from my research that some extended electronic entertainment control should be possible. At the budget that we're looking at and at the price point we're looking at, we should be able to make it work the T\_V\_, the V\_C\_R\_, the stereo set um maybe something else cute like a coffee pot or one other appliance or maybe a lamp. I have to wind up? Yeah, sure. Okay. Okay. Of course, ye

ah. Okay, so that's something Okay so Okay. Alright, thanks for that. Um alright now other things that I found out on in my research is that the complaints that people have about the remote controls that are out there now. 'Cause a lot of them take too much time to learn how to use, and that was thirty four percent but even more important the thing that we did address in our last meeting that frequently it's lost somewhere in the room. Um so those are two things that we definitely do wanna address, uh we wanna s make it as simple as possible, we wanna make it um obvious and intuitive to use, and then the things about finding it we talked about the a light emitting thing as well as uh maybe a beep, and I think that those are things after my research that we definitely wanna try to incorporate. 'Kay can we go to the next slide please? Okay, so, my personal preferences in this um project are really have to concentrate on the sizzle. That is the selling point, the thing that's gonna make it an impulse purchase. Uh because once there's no be-back, well in sales they always say you know, be-backs don't come back. If somebody says, oh I'll come back and get it next week you're dead. They're never gonna come back and buy it. You've gotta make it attractive enough so they buy it now now now w now is a big word in in my book for selling this thing. And, in order to make it really sellable we've gotta shorten the learning curve, make sure it's really intuitive and easy to use. We have to have as few buttons as possible, because more buttons is more confusion, so that's why I'm saying, simplicity is good. Finding it's important, obviously you can't use it if you can't find it. So we've gotta concentrate on the features that help you find it, and I've already said this several times but I put it down in writing here, it should be an attractive impulse purchase at twenty five Euros. So it has to have enough value that when somebody looks at it they say, uh twenty five Euros I'm not gonna take that. Has to be so great that they're gonna say, uh twenty five Euros isn't much. Um and then maybe a motto, like we put fashion in electronics might be something we can use in our marketing campaign. Okay that's uh about it for me right now. Okay. Mm-hmm. Signal. Mm-hmm. Yeah well that's already been eliminated by management, so we're off the hook. Mm okay. Okay. Mm-hmm. Mm-hmm. Well we already eliminated that. Now that's good from a marketing point of view, the fun the fun shape. And that you you say that won't add too much to the budget? To d the shape is uh Do you think there's any chance of um having ser in having basically the same machine with the same buttons but maybe several different shapes? Is that gonna be a possible? 'Cause that might help with the marketing. Because we had something sort of sexy for adults and we could have something sort of silly for children or a little animal shape or in a or a little elephant so they can remember where it is. Mm. Well, I think I think that that's something that we'll have to discuss um with the User Interface person because I think there's a lot of argument to be made for one button for one feature. Because I think one of the things were complaining about in my

what I found out in my research is when they complained about how hard it is to learn a new one. The changing modes was something I mean you and I, all four of us we work with computers all the time, changing modes is nothing for us, but people who N and And that's and that's the kind of thing people learn by feel, and um you don't feel the mode change. So um maybe having buttons be various shapes might be a help too. You know, like the a triangle is for the volume and a square is for changing channels, so that people can uh develop a tactile sense of it. But we'll get to that with you. That's right, yeah. Now that's a good point. Yeah. Yeah, that's that's a good that's a good one, because the clock would be really friendly, and and when

is your favourite show coming on and Yeah, and a lot of time there's not a clock on the screen, and you have to go somewhere but you just wanna look at the news for a minute. Yeah that's that's good, the clock is good. Okay. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Case. So it um we should visit this site and have a look at uh what's up there? Or Okay. Okay. So it might be helpful if we had a look at that. Okay, thank you. Could you go back to that slide where she had that uh s slide up Betsy? Yeah, okay, thank you. Mm-hmm. Mm-hmm. Mm-hmm. Mm, 'kay. And an alarm clock, yeah that should that should be okay. Mm-hmm. Mm-hmm. Mm-hmm. Well you know there's the old motto, children under six never shop alone. So if you've designed something that's very attractive to children um the mummy please mummy please um you know we want it now we wanna go to the store and see it um that has uh a lot of marketing pull. Mm-hmm. That's right. You can make a banana shaped one. Mm-hmm. Respect. Mm. What about the electronics? That's not really gonna change much, is it? That that w that won't change much, will it uh? I d I wouldn't think so. Mm-hmm. Yeah. Yeah. Yeah. That's right, and can we can we is it even feasible to make one one remote control with something for everyone, or would we have to use the same electronics and make three different shapes? Um the same electronics and basically all that's gonna be different is the plastic case. And in that case we could probabl moulded plastic isn't all that expensive is it? Um you as an industrial person? Mm-hmm. Yeah. Mm-hmm. Well there's a real idea yeah. Mm-hmm. Yeah. Right. Mm-hmm. Uh yeah. An alternate package. Yeah. Okay. Well I think we can only aff, yeah. Cosmetic. Warning, finish meeting now. Well we may have to come back to one or two of these points at our next meeting but um Mm-hmm. Okay but we have to I Okay, fair enough. Okay. Yes. Okay. Okay. What features. S sellable. Yes. Yes. Okay. Okay. Receive. Multi-purpose. Eliminated. Mm-hmm colours. Yes exactly. Yes. Like a doll, or Yes. Yes. Okay. Something else. Channels. Yes. Yes. Mm yeah. Yes. Hmm. Okay. To keep the remote? Yeah. A case holder. A holder remote holder. Participant two. Yes. No no, I'm three. I can make it full? Yes yes yes. Okay. As uh User Interface Designer I did a little research to find out what are the features which a user would like to have on their remote. Yeah can you please go onto the next slide? So I found out that uh but uh the main purpose of a remote is to uh f control the function of a television at a far off distance at remote distance. Now for that, uh a remote controller should have a switch on off button by which a user can sit anywhere in the room in front of the T\_V\_ and he can control the functionalities different functionalities of the T\_V\_. There should be a signal uh something like a radio wave or a infrared light or a LED which can be used to change the different functionalities in the television if the user wants to uh change the channels or increase the volume he can change it. Now there should be some timer to set for viewing a particular a particular programme or switching on and off a uh a particular programme according to the user choice. Yes. Yes. So if he want to view a particular programme at say nine o'clock he can set the time, and the T\_V\_ will automatically it will switch on at that particular time. So he can use that kind of uh uh properties of features and then there should be a child lock system if a particular channel is not to be viewed by a particular uh for a certain



age, then the parents can lock that particular channel so that the children cannot view that channel. And uh the uh the uh and the one of the feature a user would like to have is the compactness of the remote. Uh the remote should be compact and it should have as many buttons as possible for controlling different functionalities of the T\_V\_ television. And um uh as uh uh this is my personal preference that it should be in the shape of a T\_ in alphabet for more compactability. And uh and uh and it is one more point which I noted it down, like uh the material which which which is used for remotes should be human friendly it should not cause any skin disease or something some allergy to either children or to um an adult person. And it should have an uh it can have an alarm clock a person if some if somebody wants to get up at around eight eight P\_M\_ then he can set the time and it can be used as an alarm clock, and I don't think it will cost much to set an alarm clock inside a remote. Yes, and as John Reece said the buttons can be, uh can we use the fluorescence to light up the buttons so different uh buttons will glow differently. So in even in the dark the user can know what buttons to use to switch on a particular channel. And uh uh the design of the uh um remote should be in such a way that there should not be any sharp projections so that if a child plays with a remote, he uh he should not be harmed in any way. And findings, uh I found out uh y um on different sites that uh there are different remotes which can be used, there are remotes which use the infrared for controlling the different functionalities, there are remotes which use the radio waves to control the functions and there are uh So uh there you have different uh types of remotes for different light source which are used which can be used for controlling the different functionalities of a television. Next slide. And these are my few personal preferences like it can be used for a multipurpose use. Not, uh no uh like it can be used as a T\_V\_ control as plus an alarm clock to set an alarm a timing and it should have a child lock, and then to save electricity uh there should not be uh much s move uh lots of circuits and all that. And if a person if if parents wants the television to be switched off by ten o'clock then it should be switched off ten o at ten o'clock automatically, so that nobody else comes later and use it. Timer. Yeah and then you can use a timer as well. Yes. Yeah that's it. Okay. T\_V\_ television we was. Mm-hmm. Different colours. Yes. Okay. No uh generally we can we can design a remote which is mainly for people with uh f age from ten to um forty and and then we can add on uh specific functional buttons for children as well as the elderly people or the people with who have nervous problems, yes. But in a family in a family there will be a aged person, children and a middle aged but they cannot buy three different remotes. They would like to buy just one and um just one which can be used all the three uh Cost effective. Okay. Yes. Okay. Um Yes. But uh yeah I I have a doubt like will it be cost wise effective if we if we design a remote having all the uh different features for different people or designing three different um remotes for three different categories of people. Okay. Of th okay. Okay. Mm-hmm. Okay, mm-hmm. Yes. Okay. Yeah? Mm? Open. And then full screen. Mm-hmm. 'Kay. Mm-hmm. Yeah. Yeah. Yeah. Hmm hmm. Mm. Yeah. Mm-hmm. Yeah. Mm. Yeah. Mm mm-hmm. Mm-hmm. Complicated, yeah, of course. Yeah. Mm-hmm. Yeah. Yeah 'kay. Yeah yeah sure. Thank you. Number two, yeah. Yeah exactly. Uh can you make it uh full screen please? No, it's like a well you you have to press here. The cup cup shape here? The thir third. Yeah exactly. Uh so today I'm going to talk about the working design of the remote controller. Um can you go to the next sli slide please? The metal is like uh in a remote controller you have a chip integrated circuit which is like a brain of the remote controller. It takes the power from a battery say a battery it can be a elec an electric supply like you have to uh like uh switch connec connect connect your remote controller to uh power supply from the you know electricity or something like that. It should be a battery because uh uh remote controller should be like you you you should take it t

to wherever you want and then um uh th this integrated circuitry takes energy from the power source and whatever like if you press a button it's like a input for the remote controller and it takes the input and it it transforms into a info infrared bits and it sends it into the device, like a T\_V\_ or a air conditioner, something like that so. Uh a remote controller is specifically designed to a single device. If you want to design it for multiple devices then you should make all the devices compatible with the frequency like uh th the remote controller it sends some bits some uh waves like with a particular frequency the device should know what the frequency is. It should re re recognise the uh waves which are coming from the remote controller and it should take the action like if you press a button channel or something like that then uh the remote uh remote controller will send a send a se send a signal, and the T\_V\_ it should translate that into like change the channel or something like that, change the volume control and uh so uh I think it's hard to design a remote controller for multiple uh devices. Uh yeah. Um. So uh user interface controls the chip and accordingly the messages like there should be a user user in interface like you know switch pad or something like that buttons should be there. So uh you can control whatever you want, you want to change the channel you want to control the volume you you want to uh mute uh mute the uh T\_V\_ or you want to have a child lock or you want to do some operations there's a there should be some device to tell what to do to the uh in uh integrated circuit so that the integrated circuit can s send the signals and T\_V\_ can perform the actions. So can you go to the next slide please? So I I just would like to uh add some extra features to the remote controller um I think these are the very simple features and uh they don't take much uh uh much of the um um investment also, it's like el the text or buttons which uh which are there on the uh remote controller they those we can make uh um like fluorescent uh they'll be like light emitting if it is dark so that you can find your remote controller if it is dark. And ther there should be a beep if many buttons are pressed if suppose a child is playing with the remote controller and a and she she or he is pressing the buttons all at the time then there should be a beep saying that it's this this is not a a you know a a action, there can be no action taking to that so. And there should be a child lock, like uh uh you should be able to lock your remote controller so that uh um whatever buttons are pressed by a child they can't be like y you i you if you have ki kids and all then they'll be pl playing with the remote controllers so can lock the remote controller. If make it useable for more than one device it's a it's hard but I think it's possible but it uh yeah yeah yeah so it's it's okay, yeah, yeah. And uh different shapes that we can do like uh we can have you know a all animals shapes or you know comfortable uh whi which can fit into your hands and um so that uh Yeah, yeah, yeah and colours also, different colours, and No no no, it won't uh I don't think it will be like, you can have you know for uh if you want ther there to be more Yeah yeah. It's it's just a s shape so it doesn't matter. Yeah. Yeah that is also possible I uh yeah I I yeah. Yeah that will be Yeah yeah. Mm-hmm. Yeah, for children, yeah exactly. Yeah, that's what, yeah. Yeah, exactly. Yeah. And and the butto buttons also I think if you want to have more features in your remote controller then there should be more buttons. If there are more buttons then it will be more complicated. If you have less features then your remote controller won't be attractive, so I think uh we need to make some buttons which are which are like um uh f in uh in intended for two or three operations, like if you press one button in one mode then it will change the channel, if you press the other

button in another mode it will change the colour. So if you want to have less buttons we can have that option but I think it will complicate the matter more I think so. Yep, yeah. Mm-hmm. Yeah, it's like you know yeah. Yeah. Yeah, yeah. Mm-hmm. Yeah. Yeah, yes. Yeah, yeah you don't us yeah yeah, usually. Yeah. Yeah shapes also, different shapes. Yeah that will Mm-hmm. Yeah. Yeah. Yeah, yeah, and also text should be very clear so that there there won't be any ambiguities and uh So yeah. And uh

display clock i if you want more features then we can display a clock it I I don't think it will take any money extra money because anyway we have an integrated circuit I think we can just definitely fit that feature into the circuit so it's Yeah, and we display a clock. Yeah. Yeah, and then you can just see your remote controller yeah yeah yeah so Yeah. Yeah. Uh can you go to the next slide please? Uh components uh the main components we need for uh it ha like buttons and uh underneath that there should be switch. And uh bulbs. Like uh we can have a bulb like whenever we are operating a remote controller or uh whenever the T\_V\_ is on suppose, then the remote controller should automatically have a b s light. Then it will be like if you switch on your T\_V\_ through anoth another source, not from through a remote remote controller and you you lost your remote controller maybe you can find with the light. Maybe we can have that. Whenever the T\_V\_ is on, remote controller will have a light. And then uh infrared bulbs. Um this is like uh when it is dark. And battery, there should be a battery for power supply, and a chip, chip which is like a brain to the remote controller which does all the operations, and wires connecting all chips, which is uh lights, everything, so there should be wires. And uh uh of course there should be a case where we can keep all the things and, you know different shapes or whatever it is there should be a case to put to give a shape. Yeah. Yeah, holder. Um uh can you move onto the next slide. Um next sli slide please. Um I have referred the site uh the homepage of the um our website, uh from where I have uh uh I got s few points. That's it, that's it from me now. Um. Uh it's not like that, I have referred the page to get new ideas or like what can be the working design to how it works and all and so and so. Yeah if you want. Yeah, it's okay. Uh, it's actually there now, there on the screen. Mm. Yeah, sure. If there is a clock then there can be a alarm clock. Hmm. It's like a t okay, it's like a timer it's like a lock to the television. Mm, T\_V\_, yeah. Don't T\_V\_, yeah. Hmm. Yeah. Mm. Yeah. Mm-hmm. Mm. Yeah. Yeah. Mm. We can design different remotes for different people, like for aged people there will be big buttons and you know. yeah. Children and everybody, yeah. Yeah of course that we can do, but specifically if y if like elderly people want big buttons then you can't really make a bi big remote controller so maybe specifically you can design a big con remote controller for elderly and for children, like in a different you know. No, it it doesn't cost, yeah. Yeah. Doesn't doesn't doesn't matter. Yeah. Hmm hmm. Uh no. Mm, I I I don't think no. It's not. Hmm. Yeah, like for mobile phones we have uh different you know covers, like designs and all so that w we can have that. Yeah. Yeah, but uh Yeah. Yeah, maybe, yeah, yeah. If we do some more research, maybe we. Hmm yeah, I think maybe seventy percent is a unique uh uh remote controller and thirty percent is yeah it's sort of like yeah. Yeah, yeah, of course, yeah. Mm-hmm. Thank you.

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# Meeting ID: 37

Data Source: Train

## Executive Summary

The project manager opened the meeting and recapped the decisions made in the previous meeting. The marketing expert discussed his personal preferences for the design of the remote and presented the results of trend-watching reports, which indicated that there is a need for products which are fancy, innovative, easy to use, in dark colors, in recognizable shapes, and in a familiar material like wood. The user interface designer discussed the option to include speech recognition and which functions to include on the remote. The industrial designer discussed which options he preferred for the remote in terms of energy sources, casing, case supplements, buttons, and chips. The team then discussed and made decisions regarding energy sources, speech recognition, LCD screens, chips, case materials and colors, case shape and orientation, and button orientation.

## Complete Meeting Transcript

Okay. Uh good afternoon. This is our third meeting already. I hope you enjoyed your lunch. I did anyway. Um let's see. Presentation three. Okay this is um the second phase uh we're going to discuss today. It's the conceptual design meeting. And a few points of interest in this meeting um are the conceptual specification of components. Uh conceptual specification of design. And also trend-watching. Um these are hopefully the points you addressed in uh your pre uh presentations you're going to show me in a few minutes. Um but first I'll show you the agenda. Uh first the opening. Then we have three presentations. Uh after that we have to come to a decision on remote control concepts. How we're going to make it. And then we're closing. We have about forty minutes. Uh so I suggest let's get started. Uh did someone encounter any problems during the preparation? No? Everything fine? That's nice. Then a little uh thing about the last meeting. Uh these are the points um we agreed on. The requirements and the target market. Uh requirements are uh teletext, docking station, audio signal, small screen, with some extras that uh button information. And we are going to use default materials. Um does somebody have any comments on these requirements? Maybe? No? These are just the the things we thought of, so maybe if you figured something else or thought of something else, just let me know. And maybe we can uh work it out. And we're going to target uh sixty

to to eighty year old customers. So now everybody knows what we're do we're doing, um I suggest let's get started with the presentations. So shall we keep the same uh line-up as uh last time? Okay. Good luck. Okay. Thank you. Any questions about the the trends? Mayb No? Okay, we go on to the next one. Okay. Uh thank you. Okay. Thank you. So that brings us to the discussion about our concepts. Mm. 'Kay. So these are the points we have to discuss. Um first I think we can talk about the energy source, since that's um has a pretty big influence on production price, uh and image. Uh so uh f I think first of all we have to see uh it is possible to introduce kinetic energy in our budget, I think. Yeah. Okay. Yeah. No. Yeah. Okay. Yeah. Yeah. Uh Uh well I think uh elderly people just like to have everything in place. And I don't think they they like uh remotes just laying everywhere in their rooms. So maybe a docking station will help them give the remote a place. And also what you said. Um you can introduce voice recognition by uh finding back your remote. But I think it's um more efficient and cheaper to put it in the docking station. So you have a but button on your docking station which you can push, and then it starts beeping. And then we can we can still use the voice recognition, but maybe then for only the the channels. That's safe. Yeah. That's a good point. Yeah, sure. Go ahead. No. Yeah. Yeah. Yeah. Easier to use? No, I think that's a good point. Yeah. I personally think the L\_C\_D\_ screen we wanna use, with the extra information, I think nobody has anything against it. Because it's just uh some extra information, and it's easy to ignore as well. So if you don't wanna use it you just don't use it. And um yeah I think the um Maybe we have to uh discard the voice recognition. Because it will increase cost uh signifi uh significantly. And I don't think the I don't think it will be a lot easier to use, as well. So that brings us back to the energy. If we don't have the voice recognition, it will it won't use a lot of energy to use. Um So in that case we could use kinetic uh energy, but I think just a simple battery which you can reload on a docking station is just as good. And much cheaper as well. So Okay let me just choose for the battery. That brings us to the chip. Just the advanced. Okay, advanced chip. And then we get to the point of the case. Um which brings us a little bit back to marketing as well. Uh if we wanna choose for wood or the black and grey. Or both? Um as we saw there is n

ot Yeah wood is a lot more expensive to produce. Um but I think it will attract elderly people who wanna have something exclusive, which they can show off to their grandkids. Look I've got a new remote control, and uh Yeah. That's right. But with colour was a lot more expensive? Or? You don't know? I think so because Yeah. It's a lot more difficult to to handle and to to get in the right shape. Yeah. Change the cases. Yeah. You can sell the cases. Yeah. I think that's a very good option. Because um then you can advertise as well with the Give your grandfather a new case for his remote control, or whatever. Because that's a it's something extra, it's something other remotes don't have, which we can get a great advantage point. So and then you can make them with colour. Black and grey, other colours as well. Costs. Yeah. Yeah. So you suggest we should design two different telephones on which you can apply, yeah remote controls, on which you can apply different case covers, for example. Remote. Yeah. Okay. So everybody's okay with the changing covers? I think that's a good uh good option. Changing case covers. Yeah. Mm. Okay. Uh but the form has to be um It has to It's has to be possible to stand up? Or just only to lie down? And the the cover of the the docking station is also on top of the television then? Or not? And you can just yeah then click it in. That's okay. Um so the interface. What type of interface do we want to use? Um maybe you can make a little drawing of it on the on the the board. Does somebody have ideas for a form or Yep. Mm. Usabili Yeah ease of use will be a lot more difficult, and then it's But you have extra buttons. So people can get confused. Especially if they have the same writings on it. Can't we make uh Can't we make a remote which you can flip over and use on the same functions as the normal one? Then you have to Let's see if I ca A blank one. And then you get

Here's a little L\_C\_D\_ screen. Uh now I have to think. It's a plus and a min. No it's not very handy I think. Because the plus and the min will be opposite and all kinds of No that's not gonna work. I guess. Maybe we should Yeah. But is it a problem that left-handed persons use a different hand? I think the functions are that basic that nobody should have any problems with uh choosing a channel or Y yeah. Yeah. I think we could just uh leave it a normal shape. Uh but maybe we have to make it a l a bit more fancy. In one or another way. Yeah. Um yeah just Yeah. Easier? 'Kay. I suggest um the single curved, because maybe the curve is pretty good to put the the screen in. Uh so that elderly people can uh use the remote control and at the same time look easily at the screen, because it's a bit, it has a bit of a angle. Yeah. I think so. Yeah. But now it's Do you have it upside down or Do you have it this that's top? Okay. Yeah. So get your mouse. Yeah. Yeah. That's a good one. But I think it's better to put the screen uh on top. So just flip it a hundred and eighty degrees around then you get here. If you can have this one, you turn it like this. And then flip it upside down. Because uh maybe your hand is in the way, if you have the display here. I think i On top. Yeah.. So then we get Here's That's the curve. Here the display, and then buttons. Yeah and then we can have a little bit off here and here maybe. Just that's for left hand and right hand users. And then h the rest of the buttons over here. Yeah still here jus That's Yeah. Should be more bit more friendly, yeah. 'Kay. Supplements. That's okay. Where's my mouse? Then We've got a general idea of the concepts and the materials we're going to use. So now for the next meeting uh we'll have to look at the look-and-feel design. It's important that the corporate design image uh is going to be in the remote. So check out the corporate website maybe. The user interface design, it's the same story. And product evaluation. So the Industrial Designer and User Interface Designer are going to work

together on this one. But you're going to get your instructions I think sended by the coach. So just um I will put these um minutes on the in the folder. And then we're going to uh try to finish our project, and uh make a good design for all the grandfathers and grandmothers, I think. Which are Uh let's see. I'm not sure if you're going to start right away to work together or I think you're going to fill in the questionnaires first. And then you'll get a message. So that's uh basically it. Maybe this one? Then we can save this one in the folders group. Uh yes, it's here. SMARTboard, there it it. So if you wanna have a look at it, it's over there in the projects folder. And then I guess we'll start in thirty minutes again. Thank you. Good afternoon. Sure. I'll start off then. Doh. 'Kay I'm uh gonna inform you about the trend-watching I've done over the past few days. Um we've done some market research. We distributed some more enquetes, questionnaires. And um besides that um I deployed some trend-watchers to Milan and Paris to well get all of the newest trends. And I've consulted some additional trend-watch trend-watchers, after the original trend-watchers return, about what the the best design would be. Um okay these are some overall findings. Um most important thing is the fancy design. Um the research indicated that that was by far the most important factor. Um innovativeness was about half as important as the fancy design. By innovativeness this means um functions which are not featured in other remote controls. Um about half of, half as important as the innovativeness was the was easy to use. Um for our um group, we're focusing on the people of sixty to eighty y years old, this is um, these factors are slightly more equal. 'Kay these are some more group specific findings. Uh the older people prefer dark colours. Uh they like recognisable shapes, and familiar material. And our surveys have indicated that especially wood is pretty much the material for older people. Um this is, this image will give you a little bit of an impression about um the look-and-feel that um the remote should have. Um this leads us to some personal preferences. Uh the remote control and the docking station should uh blend in in the in the room. Um so this would mean no uh eye-catching designs. Just keep it simple and Well the docking

station and small screen would be our main points of interest, because this would be the These would uh be the innovativeness in the remote control. So this would be very important that we at least include these features. Um well the trend-watchers I consulted advised that it b should be, the remote control and the docking station should be telephone-shaped. So you could imagine that uh the remote control will be standing up straight in the docking station. This is not really This is pretty much a new shape to uh older people. So they would prefer uh a design where the remote control just lies flat in the docking station. So it would be kinda more telephone-shaped. Um besides that we would advise um to bring two editions, one with a wood-like colour and maybe feel, and one with a grey-black colour. The wood-like for the more uh exclusive people. People with more money. Uh the grey-black colour for well people with less means. That would be all. Any questions? And how exactly does the kinetic energy work? You just You use it and it works. Okay. Well personally I don't think that older people like to shake their remote control before they use it. And besides that you mentioned it would make the docking station obsolete. And I think our docking station could be one of the marketing issues with which we can um get great popularity for our product. Um wel Yeah you could load up the batteries, you could um insert the find the lost remote control function in there. That's true. I'm wondering um what will the voice recognition mean for the production price? 'Cause in our earlier um market research, if you'd allow me to go to the

flat board, SMARTboard. Um so it was open here. Um we also um asked if w they would, if people would pay more for speech recognition in a remote control. Well you can see here, our target group would not do that. So if that would increase the price for which we're selling our remote control I would greatly advise not to do it. I think that would be better to uh insert in our other product, that is meant for the younger people. Um well this is Yeah but this is here the question was, would you prefer it. So that doesn't really mean they wouldn't pay extra for it. And on top of that the L\_C\_D\_ screen would um help in making the remote control easier to use. And I think a voice recognition function would not make the remote control much easier to use. Um well this was for like an L\_C\_D\_ screen like you would have on a on the the most advanced mobile phones. So pretty large. 'Kay. Mm-hmm. Mm-hmm. Well And I think most important factor there is the wooden colour. So it wouldn't actually have to be wood, if it's just wood-coloured. Probably. Yeah that is true. Yeah. We would have to look carefully into the design though. 'Cause we would have to make one w uh control which would fit in with a wooden cover and a plastic cover. The more original one, or the more standard one. So that would Well I wouldn't design a telephone but Well no I think w we should just, we should then just design one um one remote, but it would have to be fancy with either the wood cover or the plastic one. So, but that shouldn't be too much of a problem. Um I heard our Industrial Designer talk about uh flat, single and double curved. Could you explain that a little more? Mm-hmm. And what would single curved and double curved mean? Okay. So we can pretty much just do whatever we want. 'Kay. That's good. No just to lie down. We'll go for that. Well or besides it. Mm-hmm. Um you uh said you wanted to put the um changing channels button on the right side, so you could, so your thumb would be easily Well uh I think that was a very good point 'cause I pointed out earlier that a lot of remotes cause R\_S\_I\_. So that would be great for that. Um I thought maybe we could just make one of those buttons on both the left and the right side. For left-handed users also. For the volume. Um well that could Yeah we could do that but I'm not sure if that would be very good for the easy, ease of use. But if we would make um a changing channels and changing volume button on both sides, that would certainly yield great options for the design of the remote. 'Cause it could be made all symmetrical and stuff. That is true. Yeah. Yeah. That is true. Yeah. Mm-hmm. Mm. Mm-hmm. Mm-hmm. Yeah. Yeah. Mm-hmm. And I'd prefer the corners to be round.

Think that would be better. Friendly on the eye. Yeah. Yeah. Very good. No. Mm no. Um 'kay um yeah. uh some uh research uh a about um designing of an interface. Um the uh last meeting uh we had a about um uh using a f few buttons. So uh um uh that's w what I what I want to uh uh to do in uh our design. So um finding an attractive uh way to control uh the remote control. Um the uh I found some uh something about uh speech uh recognition. So maybe uh we can uh use uh that. Um Uh and uh using a little uh display. So um findings. Um yeah just um we have just to focus on the primary um functions. So uh only uh buttons uh for uh sound, um for uh on-off, um uh shifting u up uh sa uh ca channel or uh down shifting down. Um uh let's see. Um yeah and Uh we uh need some uh new a attractive functions uh uh which attract uh uh people for using it. So uh it's uh like a speak uh speech uh recognition and um a special button for selecting uh subtitles. Just uh what we uh mentioned uh last uh meeting. Um and yeah overall um user-friendly. So uh using uh large large buttons. Um It's uh possible to uh uh to make um quite cheap uh system for uh speech uh recognition. Um you can think about um uh when you lost your um remote control, you can uh call it and um it gives a

n um sig signal. So uh uh yeah. And and uh for uh shifting up a sen uh c ch channel or uh for um uh putting out uh sound or something, you can uh just give a sign uh say um sound off or A and uh yeah. Television uh put the sound off uh put the sound off uh. Um Let's see. Uh yeah. I was thinking about the special uh button for uh subtitles, um just one button to keep it uh simple. Uh one push on the button uh you get uh uh small uh subtitles. Um double push push um, if double click, um so uh you get uh big uh subtitles, for uh people uh um uh which c f uh who can't uh read small uh subtitles. So uh Um Yeah and w we have to keep uh in general buttons uh so um we've got um the buttons we have to use. The on-off, sound on-off, sound higher or lower, um the numbers, uh zero to uh uh nine. Um the general buttons m more general b one button for shifting up and shifting down uh channel. Um also we want to uh use a little d display uh for um for displaying the uh the functions of the buttons. And um we can uh build in a function f which uh shows the channel or some uh which the t television is on. So um made a little uh picture of uh it. Um See. Um yeah. Just um we can put uh the on-off button uh over in this uh corner, um almost uh e all uh remote controls uh are using a on-off button on that place. Um so uh people uh will uh recognise uh um the button. So um D display uh of it, it's uh just a small display. Uh um you can put it uh on top. Um it's uh most uh uh place where people uh, most of looks at. So uh um and a special uh button for shifting up uh and uh shifting down uh channel, um it's uh on place where um the thumb of of the So you you can uh easily uh shift up or shift down. Um it's uh quite uh handy place. So um and uh all the f functions for subtitle uh one button, uh for sound uh Uh and uh for our design, um uh we have to discuss about it uh I think uh so uh the form of it so And that's it. Mm. Nah. But what's the function? Yeah f for loading up uh the batteries. B b Okay but uh it won't use uh much e energy uh I I believe. Uh it's uh just a small display so I believe uh it will run on one battery for um six months or f or or more. So I believe one battery uh is just enough. Uh so Okay. Yeah. That's true. Yeah. Mm-hmm. Yeah. Okay. Yeah. Uh. Mm. Mm. 'Kay. Yeah. But uh is uh our uh research um about um bi large uh L\_C\_D\_ sh uh display, or uh just a small one uh we want to uh use? Okay. Yeah. No. Yeah. Yeah. Mm-hmm. Yeah. Uh I dunno. Mm. Mm. Uh is it possible uh to make um changeable uh case. So um uh you 'cause uh Yeah with uh mobile phones uh uh so uh like the Nokia mobile phones, uh when you can change the case of it. So maybe it's possible uh possibility. So um um you have just to make one um standard um remote control, and um yeah you can sell uh few uh Yeah. Yeah. Yeah. Yeah. Yeah. okay. Mm. Uh we can just use the regular form of it, but it's um not quite uh fancy. So um Yeah. Yeah. Yeah. For uh Uh for Yeah yeah. Mm. Yeah we um Is it possible to um program it s so uh you got on the left side uh or on the right side uh buttons for for shifting u up and shifting up? And on the uh



other uh uh o other side uh buttons for uh shifting, uh for for the sound? Or Or isn't it? Yeah okay. Uh. Mm. Yeah but Yeah. Yeah. Yeah. See um yeah. Or we have to make a left uh For lefties and Um You mean um Yeah if Mm no. Yeah. Um Yeah. It's just uh u using uh your thumb. So um it's Yeah. Yeah. Um Yeah yeah. Mm-hmm. Mm. So um Do you say this um S uh Uh you got like uh sort of a I believe There? So um you want to put a display over here? Or not? Yeah. Um Yeah. Uh we can make it um Mm? That's the top. So uh this top. This down. Um maybe it's possible to uh make this side like um Let's see. Um Colour uh okay. Uh to make this side um like mm the right colour. Um bit like so uh um in the form of your hand. So um Uh it's an So so the remote control have to um lay in your hand. So uh it's possib um yeah for s so and And to put uh the the buttons for

um changing uh the channel uh over here uh Yeah. Uh rem Yeah but this place um Uh it's Yeah I dunno um Yeah. Yeah so So Five minutes. Yeah. Yeah. But um the on-off button, um still on the top uh Yeah. Yeah. Yeah. 'Kay. Yeah. Yeah. Yeah. Okay. Okay. About the components design. Um for the energy source we can use a basic battery or, a as an optional thing, a kinetic energy, like in a watch, which you just shake and it produces energy. But if we choose for that option, the docking station would c become obsolete. So I don't think it's really an option. Uh for the casing, uh the uh manufacturing department can deliver uh a flat casing, single or double curved casing. It's really up the the design that we're gonna use. It's uh doesn't uh imply any technical restrictions. Uh as a case supplement, we could um, I thought of that I later, uh a rubber uh belt, like a anti-slip. Uh for the b buttons, we can use plastic or rubber. And the chip-set, um it says simple here, but it should be advanced, because we're using an L\_C\_D\_ uh screen. And as uh the trend-watcher presentation showed, um people like wood, but it raises the price and it doesn't really fit the image, unless we would start two product lines. Form should follow function overall. Um well the kinetic energy source is rather fancy. But depends on what we want. I think we should disc discuss that. Um for the case, uh the supplement and the buttons, it really depends on the designer. And the chip-set uh really should be advanced because otherwise uh it would really be a simple uh remote control. And that's it. Yes w there there are four options. We could use the basic normal battery. Uh a hand dynamo. But I don't think that's really an option. You don't wanna swing before you can watch television. Uh solar cells. But not every room is very light so it's not a very good option. Or the kinetic energy. Well y you basically shake your remote, and then it powers up. Yeah. Yeah. That's true. Oh. Mm I don't have any information on pricing. So I'll have to ask the manufacturing department. But that would also go for the L\_C\_D\_ screen then I guess. It's a bit higher percentage, but Okay. And that's the best choice. Well there isn't any choice there because we're using the the the the display. So it's gotta be advanced. Mm I dunno. I'll have to uh research. Yes. Yes. Well the the general like most older remotes are flat, just straight. And uh our d manufacturing department can also deliver single curved or double curved ca curved cases. Um it would just only affect the form, for as far as I know. So it's j really just up to the design department what we're gonna use. It doesn't really matter for the price or the functionality. Pick one you like, yes. Yeah. I think we should start by by choosing a case. Because that's the basis you're building on. So I could draw them out. Let's look at the flat case. Oh. It's from the side so it's rather normal. The the single curved so I'm not really sure what they're gonna look like, but I think it's something like this. So this type should be better for you or better Should prevent repetitive strain injury a bit. And the double curved s looks something like this I guess. So th those are the three options we have. Yeah. It's more logical to have it on top as well because, like on your mobile phone, it's always above. Oh maybe you should just s start on a blank page. Okay. Okay.

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# Meeting ID: 141

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## Executive Summary

The project manager opened the meeting and stated the agenda. The marketing expert discussed user preferences in terms of the appearance and use of remotes, finding that users wanted fancier looking remotes, disliked losing their remotes, wanted remotes with fewer buttons, frequently use the channel changing and volume buttons, and that younger users wanted speech recognition. The user interface designer described how a remote works and how to go about designing one. He presented two remotes currently on the market and the advantages and disadvantages to each design. The industrial designer described the interior workings of a remote. The project manager briefed the team on some new requirements and led them in a discussion about their target group, the option to include speech recognition, how to find a remote when lost, and batteries.

## Complete Meeting Transcript

Yep. Well there's a wee a wee plug just just that one there Ah that's it, yep. And then you have to press function F\_ eight I think it is on your laptop. That's it. Repetitive strain injury. Repetitive strain injury. So if you Cheers. Here we go. Right so I'm gonna talk about the technical technical functions design of the remote control um. We need to start by considering what a remote control actually is. It's a device that allows us to produce certain effects on our television, so i it's basically a communication device. We we tell the remote control what we want to do, it sends a message to the television saying change the channel, change the volume, uh yeah, adjust these settings, adjust the brightness. Um how do we actually go about designing a new television remote control? First thing to do is to come up with the design specifications. We need to know what our final product is gonna be like, so we need a a clear idea of exactly what this product does, uh how it works, and what the end-user is gonna want from this product. Um. Oh, a way I'd suggest that we could go about this is by designing uh several different prototypes of user interfaces for this product, um and then uh trying to get some feedback uh about h how well these particular prototypes work, uh sorta find out what people think of 'em. Um using a remote control is quite a subjective experience. Um, and different different people sort of prefer different things. Um we should remember that remote controls are a fairly standard piece of

equipment. When a user is using a remote control, he or she expects the buttons to be in certain places. So in some sense we're gonna have to aim for a device which is fairly conventional in design uh so that we're not completely shocking people. But I think within that there is also room for us to introduce novel ideas uh and to make something that's perhaps a little bit different, something that stands out. Um also in designing the user interface we need to consider practicalities. Uh the first of these is technological ye uh what can we do with the current state of technology as it is. The second is economic, uh we need to find a balance between features and price. So as you mentioned things like voice recognition would add to the price uh but it would also improve the design of the product. So I had a look on the web uh to see if I could find a few examples of existing television remote controls. In analysing these we can consider what things what's good about them, uh what things do they get right, what's bad about them, what's wrong with 'em, um how we can improve on the designs that that I found and what can we do to make our product stand out from the large majority of remote controls. Here's two examples uh probably at the extreme ends of the spectrum. Um on the left here we've got uh an engineering-based design for a remote control, so it's one that's got lots of buttons, it's fully featured, everything you might possibly want to do is there, you know, it's got forward, backwards, up, down, channel numbers, volume, uh freeze frame. Yeah, it's fully featured and it might take a while to get to learn to use it, but once you've learned it you can do whatever you want with your T\_V\_. The one on the right is a lot more basic. It's just got the essential functions of the T\_V\_ changing the channel, play, stop, volume. It would be a lot quicker to learn to use it, but again it's swings and roundabouts. There are disadvantages, you can't use it to freeze the television picture. Uh there's a lot of features that are missing from that remote control. So we've got to find a way of striking a balance between the two. Um as I said before, remote controls are subjective, different people want different things. Um personally what I want from a remote control is a device that's simple, it's easy to use, uh it's got big

buttons for doing the things I do most often, changing the volume, changing the channel. It does everything that I need it to uh, as I said before, I'm quite lazy, I don't wanna walk across the room just to adjust my television. I also want something that looks cool, um and that feels good, that's ergonomically designed. I think there's certainly a market for technology that looks cool. And I think that's why companies like Apple've made a lot of progress. Uh that was just on the company web site, yeah. What's up? Lefty loosey. Uh. Never heard that before, that's good. I'll think of that every time now. You don't have it in the States? Oh, I didn't realise. Um yeah, it's like a I suppose it's kind of similar to a very very basic web browser. Um you have like you have uh numbers on your remote control, uh y and you type in the page number you want, so like you type a hundred on your remote control and this kind of index appears on the television screen with just some text and some very blocky looking graphics on it. And you just type numbers to go to different pages and it gives you information, mostly rather boring stuff like what's on T\_V\_ next and share prices and that kind of thing. Yep, news headlines. It's early it's pretty old technology. It's like nineteen eighties. Right. So what's our corporate image like? It's kind of yellow colour with uh we put fashion in electronics. It's like double R\_. Yeah. Is it something that's gonna be sold separately from the television or is it something that comes with a television? 'Cause that would affect the way that we market it. Right. Right, okay. Yeah. Um. I would say no, because it's gonna add too much to the price. Especially if we are marketing it as a separate product, people are gonna be paying uh, well, uh we've got a price limit of was it twelve and a half Euros for to produce it? And I wonder if we can get voice recognition into that twelve and a half Euros without having to make too many other

compromises. Yeah. Yeah. Yeah. The remote There are remote controls like that, yeah. Like some T\_V\_s they have a sort of uh a sliding screen on the remote control of it that hides all the complicated buttons. So if you wanna do something complicated like programme your television or re-tune it, then you you open up this little hatch or or slide the screen down and there's all the all the special buttons. Yeah. Yeah. I think that's a good idea, yeah. Yeah. Si simplicity and fashion. Yeah. Yeah. Yeah. It's, yeah, it's pretty it's pretty high-tech. It's for, like, the ultimately lazy people, who can't even be bothered to pick up the remote. Yep. I think the product appeals across a quite a broad range of ages. I mean, we we said simplicity is is one of the features, so it's going to appeal to people, maybe people who have problems with technology, you know, people who get scared by having lots of buttons, and that might be older people, but then we've also got fashion, which is something that definitely appeals to younger people. Yeah. Yeah aim for a an income group. Yeah. Yeah. Yep. Yeah. Yeah. Which are kind of hidden away in some way or well not hidden but they're uh they're not as prominent as the main features. We should maybe investigate whether it needs a battery at all. I suspect the remote control does need a battery, but I dunno if you can Yeah. Yeah, without the energy, yeah. Yeah, that's that's possible. Yeah. Yeah. Yep. Mm shall we go in the order that you just did it? I dunno. How do I hook my screen up? Where does it go? Mm-hmm. Hmm, I'm not supposed to move this, but Where's function? No signal. Ah, wait, 's screw in. Push the screw. Mm alright I've never attached to anything. Alright, so, I don't know if you guys are able to get access to um the report that was online or if I'm the only one who is. But, I don't even know how to play this. No. Alright. So we're just gonna talk a little bit about

the functional requirements that people specified when they were asked. Um I guess Real Reaction did some market research. They had a hundred subjects and their usability lab and they watched them watch T\_V\_ and recorded the frequency that they used particular buttons and the relevance that those buttons had. What they found was they analysed people's desires and needs. Focusing on their desires, um people specifically said that they thought remotes were ugly, seventy five per cent of the a hundred subjects noted that and that they more importantly though, eighty per cent said that they would be willing to pay more for a fancier looking remote. I don't know anything beyond what fancy means, but that's particularly of use to us, I think. Um also they did some questions on voice recognition and found that the desire for voice recognition was inversely related to age, so younger people were more inclined to want something with voice recognition, whereas the older people in the like sixty and above segment or so did not really think that they would pay more money for voice recognitions. Um people also had certain frustrations, that I think that we could try to take into consideration with our design. That being people k um frustrated with losing their remotes. I think, over fifty percent of the people mentioned that that was their biggest frustration. People are also frustrated with the difficulty it is to learn how to use a remote and I think that ties back to what you were saying before just that there's too many buttons, it just needs to be easy to use. It also mentioned something called R\_S\_I\_ and I was hoping someone might be able to inform me as to what R\_S\_I\_ is, because I don't know. What? Ah. There we go. Wow. People do not like that. So I guess sort of the carpal tunnel type thing, people do not like that, um the repetitive use, I guess, caused a strain. Um looking at the needs people specified, the problem right now is that people's remotes are not matching their operating behaviour. People are only using ten per cent of the buttons that they have offered to them on their remote. And what people do most often is changing the channel and changing the volume. People also zap like to change the channel, about um sixty five per cent during an hour of use. So we really just need to focus in on those volumes and channel changers rather than things like the audio settings, the screen settings and the channel settings, because they're used much more infrequently and probably just complicate what's going on.

So I think that some things that we might wanna think about, the idea of an L\_C\_D\_ screen was brought up although they didn't have any details on what people's preferences on that were, so I dunno know if that's coming to me later, or something like that. But something for us to consider also just the phenomenon that less is more when it comes to the buttons on the remote or what we wanna make easiest to use, make sure that, you know, something like an audio setting isn't given as much importance and visibility on the remote as something like channel changing that's used a lot more often. And basically in order for us to win over to the consumer we just need to focus on what it looks like, that it has a fancy appeal and that it's not ugly and that it feels like the way they're gonna use it, so it doesn't give them any hand injuries or things like that. Hmm. Yeah, have I unscrewed it? Here we go. Mm-hmm. And I think that's in the shared, if I did it right, if anyone wants to look at it. No. A fashion fashion remote. Mm-hmm. Yeah. So wait, did it let you go on the Internet or was that just what it let you see? Okay. 'Cause I was like googling and then I'm like wait it won't let me google. Yeah, that's a good one it'll stick with you. What's teletext? Oh. Oh, so Mm-hmm. Oh. That explains a lot. That's good. Mm-hmm. Mm-hmm. Yes, I do think, who's gonna have the money to buy that also, that one? The only break-down that I was giv

en in terms of age was the voice activation and basically there's a big jump, after thirty five people don't really care if it has voice, so it's like basically fifteen to thirty five that think that that's a good idea. I dunno I'm gonna be given any other numbers broken down in terms of age later, but if that's sort of the only quality that we have that is divided into age then we would wanna stick between the fifteen and thirty five range. But what else are we gonna put, I mean not that I'm really gung-ho about it, I don't know what else you can put in a remote to make it technologically advanced though. So like other than just making it look good, how is it I mean it can look really great and still have the same up-n-down buttons and why's anyone gonna buy a new remote? Mm-hmm. If someone's looking to buy a new remote, don't they want like an upgrade? I dunno. Mm-hmm. Mm-hmm. Can you like I mean this may be too complicated, but, I wish I had something to explain it, like if it was just a simple, either this way or this way, that had like the main buttons and then you could like pull something out, kind of and like you got the rest the buttons, but the rest of them like went in. Do you know what I'm saying? Mm-hmm. 'Cause then 's like people who don't wanna ever look at them, never even have to see them and if you like get the instruction manual that comes with it and you just don't even read it then you'll never even know that those things can pull out. And you're a happy person and everyone else doesn't have to have like two remotes, one that has the easy ones and one that has more complicated ones, but 's all still in one. Yeah. I think simplicity, fashion. Mm-hmm. What can you do to like make the infra-red more functional, like why would it not be? I'm just wondering. Okay. So 's just the quality of the chip. Okay. Well, I dunno how useful that number is if we're not doing Yeah. Yeah. I don't. And if the whole idea is you're using a remote then why would you have voice, like you know what I mean and then it's like you wouldn't need a remote you'd just talk to your T\_V\_. Mm yeah. Maybe I mean if I get m more numbers, I'll e-mail you before the next meeting in terms of ages. But this doesn't divide up anything and there was only a hundred subjects also, which isn't, I mean, really isn't that representative, especially if it's a hundred subjects that th they then can subdivide into age groups that means there's very few in each age group, so Twenty to like fifty five. I dunno. Well maybe we don't have to defi define the target group by the demographic of age, maybe we can define it by like the demographic of like h t how much money they have to spend or something like that, like, well obviously it has to be someone who owns a television, and like how recently have they bought their television like that sort of thing. Yeah. H I mean, like I said before, fifty per cent of of the fru f like frustration someone can have that was the biggest one

and half the people said that happened and we all mentioned it before we knew about it. And if we're talking about making something easy that sort of goes along with it so it wouldn't be like a random thing to sort of add in. It would be relevant to like the overall goal I think, so Hmm. on your coffee table, it's not like an eye sore, that kind of thing. Yeah. So you never have to change the battery. Mm. It's good. Did you um were you able to like put yours in the group folder? Okay. Yep. Where is that? Yours is I only have three, I just have like our three. Yeah. No, but that's 'cause I think yours is in the e-mail separate, like it's not on the server. But if I open it and then save it, probably will be there. Oh wait, never mind you can't save it to the Okay. Right. I think, you might have to disconnect Rose. Yeah. I I think you just have to push it in really hard. Oh, got it. Mm, neither have I. Alright. Hmm. 'Kay. Hmm. Hmm. Mm 'kay. Okay, great. Hmm. Yeah. I think that could be our

selling point. Right. Hmm. Right, I really can't see what I'm doing, so does anyone have a Ah-ha, look at that, showing up already. Yeah. Alright um No, how do I play again? Ah. Okay. So this is our working design presentation. Um I had a bit of some issues with this, because I wasn't able to find everything I needed, but I guess that's we're still in early stages. Um so, yeah, this is this. Though th the thing about working design is the what we're trying to do as a working design is figure out how the aparata apparatus can fulfil its function. Um one of the examples that kept coming up for me is that a coffee grinder. It works because it converts electrical energy to grinding the beans and then you put the bean through a filter and that filters out, and then you get coffee at the end that's nice and hot because of the combination of electrical energy and then the other things that are brought in to make it work. Don't know if I'm explaining that very well, but how do I get to the next s ah. So h the method as um working designers figure out what you need to make it fulfil this practical function, what what needs to be done and how do we convert all the elements to make that done. So wha the easiest thing to do is to break down all the points at which you need something to happen. So you make a schematic of the way that the the energy is converted tsh towards this practical function. And then I think the easiest thing to do is gonna be work on each task separately. So um Uh. Uh. So the findings that I got uh very just very briefly is that you have a choice of the way that the information is projected to the receiver and in my opinion infra-red is the best way to do that 'cause you don't need a sight line. So that's one thing we're gonna work on. Um the user interface is critical here, because a lot of the things that happen in a remote control happen through the chip that controls that converts the electrical energy into data, which then goes through the infra-red, so the the chip that uh I think Ian is designing, is gonna be crucial. And really it all comes down to the to the user, because they're the one that's controlling most of the working design. So the components that we find here are the energy source, you know the battery or whatever that's gonna m make it work, then the chip, which converts the data, the user that's controlling the chip, and the infra-red bulb that's gonna let us move the data to the receiver. So you have four main components and they are designed sort of like this. You have your energy source right there which then um brings uh energy or information to the chip, which is also controlled by the users. You have energy going to the user who's controlling the chip ooh 's not what I wanted to do uh uh. Previous. Sorry about that, guys. Oh. No, no, no, no, no. Okay, let's just get back to my schematic here. W yeah, yeah. I think it's frozen. Here. Don't show me that tip again. There we are. Sorry about this, guys. I'm kind of pathetic with things like this. Um alright. So you have your energy source, your user interface who's controlling the chip, the chip also uses the energy, and the chip through the use of the user interface is gonna control the switch which will work your infra-red bulb, which will then bring the data to the receiver. So hopefully that makes sense for everyone in my kind of garbled way. This is the the parts of the working design that need to be figured out. And personal preferences, besides the fact that I can't spell, we

need a long-lasting energy source, people don't wanna be changing it a lot. We need a chip that works well with the user interface, that isn't too complicated. We need a straightforward interface, like Ian was saying, simple, not overwhelming it with information and we need a reliable and clear infra-red signal, so that you're not waving your remote around and having to get frustrated and go do it by hands. So that's pretty much it for the working design. Rose, do

you think you can give me a hand with this? Yeah. Yeah. It's gonna stick in your head. Mm. Ooh, no signal. Okay. Uh, it's a British thing. No. S Lottery numbers and sport scores. But if you ever see the T\_V\_ saying like go to page one sixty on Ceefax now, that's what they're talking about. I have no idea why we don't have it, but 'Kay. Mm. Okay, so we want something that looks good and is yellow. Okay. Well if we're gonna say that function um fashion we put the fashion in in electronics then you automatically, I think, a sort of younger group that that's who's gonna be attracted to this. Mm-hmm. Mm-hmm. Yeah, that's probably uh a population w quite a little bit of disposable income for use on technology anyway, so that might be a fairly good target group for us. Mm. To produce it, yeah. Hmm. But right. Well but why are we why are we aiming for a technological advancement? Everything we're talking about is ease of use and simple and that doesn't necessarily mean more technology, in fact it could use it could mean, not. If they might be overwhelmed with with remotes that have too many buttons and too much technology. Yeah, simplification. They could have a crap remote that came with their T\_V\_ that's just impossible to use, or maybe it broke, or maybe they're just missing it. Hmm. Ooh. Ooh. Mm-hmm. Yeah, that's a good idea. Mm. Good point. Yeah. Yeah mm. The battery and that I think that the chip takes the data and presents it well, without sort of scattering. Yeah. I think so. The quality uh quality of all the components really, I mean, we can't really do anything shoddy work, 'cause it's gonna be visible down the line. Mm-mm. Yeah. Ooh. Yeah. I Mm-hmm. Yeah, but I th I think regardless we're we're aiming for the under sixty five or something. Or like single professionals or something. Yeah. It's really hard to figure out right now. Yeah. That's a good point. Yeah. Mm. Yeah, t probably. Mm. Mm. Yeah, that'll probably be good. Yeah. Yeah. Mm-hmm. Yeah. Alright. Battery battery use. Yeah, but I think that goes in with simplicity and ease of use really. Yeah. Yeah. Mm. It I think it does. I don't I don't think of a way you can operate a chip and convert that much data without without one. But you could maybe have it in a little charging station like a mobile phone, or like a little cradle for your iPod. You could we could maybe do that instead. So you don't ha you got like a rechargeable battery. I dunno, that might contribute to less people losing it too if it stays in one place. Mm. Yeah. That's just off the top of my head. Yeah, who knows. Okay Sounds good. Yes, I just did that. Hopefully it is there for people. Yeah? Yeah. Okay. Technical. So in there we have technical functions presentation, working design presentation and the functional requirements. At least that's what I have in. Yeah, that's what I have as well, R Rose So. Yeah. Okay. Good to see you all again. Let's see if that comes up. This is our functional design meeting. Um. Just a sec while my PowerPoint comes up. Et voila. Okay. Mm um we put the fashion in electronics. Let's start. Okay, our agenda today um just check the time, it's twelve thirteen. Um. I'm gonna do an opening, talk about um did you all get the minutes? I e-mailed them to you. I'm also putting 'em them in the shared folder. So um then I we'll talk about our general objectives and have your three presentations. Um I'll talk about the new project requirements I've just received, and then we have to make a decision on our remote control functions. Finally we'll just close. We're starting this meeting at approximately twelve thirteen and we have forty minutes. So First of all the functional design objectives. Uh we need to keep in mind the user requirement specification, what needs and desires are to be fulfilled, the functions design, what effects the apparatus should have, and the working design, how the apparatus actually works to fulfil its function. Okay, three presentations,

um you can go in

any order you choose um. Sure, please do. Yes I do. Yeah. Function, F\_ eight, yeah. The blue one, F\_N\_. Is it plugged in all the way and you screwed it in and Mm 'kay. It's taking it a little bit 'Kay there you go. Press the little presentation. It's the um it looks like a Y\_ kind of over there above Draw. There, that one, there you go. Thank you very much. That was that was great. Um 's move on to the next presentation um on effects. Was that you? Great. Push. User interface, right. Interface. Mm 'kay, thank you. Okay. Hmm. Hmm. Mm 'kay. Thank you very much. That was very useful. It's funny to see the drastic difference between those two remotes. Um. And neither of them were very pretty, you know? Mm. Mm. You there it is. Lovely. Hmm. Um the it's right above Draw. There are three thingy if it's way at the bottom. Under three icons and it's the one that looks like a desk. Yeah, that one. There are Y\_s. You just press yeah, just click. That'll be fine. Um yeah use that thing you can go back, previous. Pardon. Oh, well. Okay. Ye Double click on it. With the right with the left hand one. There we are. Mm-hmm. Mm-hmm. Excellent. So, um. Yes, absolutely. Ah I can never tell which way to turn these things. Lefty loosey, righty tighty, right? Lefty loosey, righty tighty. Oh yes. Mm 'kay. Um I have nothing on my screen. Just a sec. Here we are. Okay, yeah, it's fine. Okay, requirements. We have a couple new requirements that I was just e-mailed right before the meeting and that we have to keep in in um in mind as we're creating this. We didn't bring it up yet, or at all in the meetings so far, but we're not gonna work with teletext because um well it that's been taken over by the internet, so we're not gonna worry about um we're not gonna worry about that. Um. It no. W d could would you care to explain it? How? Okay. Interesting. Okay um, well, we're not gonna the management has decided we're not gonna work with that. Um Okay um and we're also gonna w like your question earlier um whether this is going to be t for television, video, or etcetera. Just for television. That's what we're focused on. Um otherwise becomes to complex, we wanna get this out um very quickly. We only have a a short amount of time. Um and finally there's more marketing, I think, um, our corporate image has to be recognisable. So while we're gonna make it look pretty we need to use our colour and our slogan i in the new design. Looks like, yeah, kind of a yellow and black and we have that the emphasis on the R\_s in um mm-hmm. But it's, yeah, we put the um fashion in electronics. So we gotta keep that in that in mind. Yep. Yep. Yeah, or ha maybe some buttons could be yellow. Like, we can we can play around with it a little bit. Um. Okay, we need to talk about our functions and our target group. We need to decide who our target group is. You um in your analysis of different market um of the marketing, you identified that different groups wanted different things or had certain preferences, for example that um that older people didn't really care for um voice recognition, but younger people did. Um and so who are we aiming this at? Mm-hmm. It's gonna be twenty five Euro remember, so um it has to be avai marketable to um whomever it is. Well at least right now what we're doing is um deciding on just the remote itself, so it will probably be sold separately, twenty five Euro by itself. Now, those are that's all specific for speech recognition. Are we gonna use that as one of our functions? Mm-hmm. Mm. To produce it, yes. Mm. That's a good thing to keep in mind. Upgrade? Well, we can look for we can look at upgrade or we can look at um user-friendly. Simplification, so Uh-huh, mm. And we also need to talk about if we're only gonna have the very simple ones or also have the other ones just separate somehow or Kind of pull out of the side. Mm. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Um we have to be careful that that that doesn't impede um the chip transmitting information, but

um that's gonna be mostly technological thing. Um. Okay um, so what are we emphasising? I what in this project? Simplicity and fashion. Okay, those are very good goals, I think, um that we have to keep in mind in with everything we do. Simplicity and fashion and, yeah, or usability speci however you



wanna say that, which includes um an emphasis on making the infra-red very functional, so that you don't have to travel around a lot. Um. I think it's a lot to do with battery, but that's just my Mm-hmm. So our target group, we're saying, fifteen to thirty five? S voice recognition, which I kind of I kind of feel like voice recognition is not necessary in a remote control, like it might be necessary for a T\_V\_ but not for the remote c, you know. Seems a little bit Mm-hmm. Yeah, and it might be too expensive. Mm-hmm. Yeah. Mm-hmm. Under sixty five, okay, that's a good start. Um. I'd say we're uh can we narrow it down to maybe um teenagers and families? 'Cause that would go up to like fifty? Okay, single It's it's hard to narrow it down. Mm-hmm. Okay. Mm-hmm. Right. Mm-hmm. Mm-hmm. So maybe it's more useful to d d to define objectives like fashion and simplicity than to find specific target group as far as age is because, yeah, things so different will appeal to different people, but Okay. Um oh, there're a couple functions do we want something so that do we want some kind of thing to find it if it's lost? Like a button on a T\_V\_ you can press and it'll ring or something, I don't know like or beep? Mm-hmm. Mm. Okay, we have to we have about four minutes left to define our functions. So let's do that quickly. Um so we want something to keep it from getting lost. And we want um we want large buttons for the essential things. Large, accessible buttons for the essentials. We want a possibility to um to get um a possibility to get the extra functions. Mm-hmm. Um, yeah, hidden way. And we also want it to be fashionable, which I'm not sure if that's a function so much as a um yeah Mm-hmm. Okay, do it. Any other essential functions that we need? Battery? Do we need a long-life battery? But we might as well. Yeah, I would imagine. Just 'cause it is an electronic device, the Charging. Mm-hmm. We have to think about um space in living-rooms, too, like 'cause they're I mean, would you put it on top of the T\_V\_? I don't know, just think okay, that's that's a good idea, we'll keep it. Think it's And maybe fun. Okay. Um 'kay we're gonna conclude now, has everyone said their functions and 'kay. Um after the meeting we're gonna each complete a sks um a questionnaire and a summaries summary. I don't know what summarisation. Um and then we'll have our lunch break. After that we have thirty minutes of individual work. Um I'll make sure to put up um the minutes and the project documentation and including these PowerPoint slides. If everyone could do that as well, that'd be great. Um you each have individual actions, I\_ um I\_D\_ Industrial Design you've your components concept, User Interface, the user interface concept, market trend wa watching. And as as per last time you'll get specific incrat instructions from your personal coach e-mailed to you. And hopefully, I hope, next time you'll be able to access more of the web site that they they seem to tell you that you could. It's kinda frustrating, but um Be sure to note any frustrations or any um issues that come up in your um in your um summary. Mm 'kay? Great seeing y'all. Looks like there are um looks like there's a second one kind of of mine that's that I didn't do, it's from like an earlier project, I think so um Under the shared folder, I don't know it might not even be under yours as well. Projects. Okay. You don't have mine? S Mm. Okay. Well I'll figure that out in the meantime. Okay.

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# Meeting ID: 16

Data Source: Train

## Executive Summary

The project manager had the team members re-introduce themselves and then briefed the team on his own duties and on the meeting agenda. The industrial designer discussed the interior workings of a remote and the team discussed options for batteries and infra-red signals. The user interface designer discussed what features the remote was required to have and presented two existing products which were based on different concepts. The project manager then introduced some new requirements to bear in mind when designing the remote. The marketing expert presented research on consumer preferences on remotes in general and on voice recognition and the team discussed the option to have an ergonomically designed remote. The project manager briefed the team on the decisions made so far and the team discussed color options for the remote.

## Complete Meeting Transcript

Think we can first. Right. I just wanna 'cause basically I can't re I've really crap at remembering everyone's name so I just wanna rather than going uh Miss Marketing and Miss this and Miss that wanted to know your names again. just gonna leave this up here 'cause I'll you know. So Okay, and Gabriel. E\_L\_ is it? 'Kay. And you're s r R\_E\_I\_S\_S\_ Okay. 'S just a bit nicer calling people by their names I think. Uh, right. Okay, right, welcome to meeting B\_. Um this is gonna go a lot better than the last meeting, basically, uh 'cause I know what I'm supposed to be doing now. I am your Project Manager, and, uh yeah, I'm just here to sort of liaise between the three of you and get things going, get people talking and and I'm gonna be making notes and sending them off to the powers that be and stuff basically. Um right, this for the purposes of this meeting what this meeting is all about is um I'm gonna have some presentations from all three of you, what you've been working on for the last wee while, when you haven't been getting hit with spam on your computers and and, you know, filling out silly questionnaires and things. But hopefully you've been actually been doing something productive. So we're gonna each of you gonna give us a litt a little presentation. Um. Then we're gonna work, you know, from each of your presentations. We'll we'll uh talk about what we actually need as a final coming together of it all. Um and then we'll, yeah, we'll sort of conclude anything else comes up at the end of it.

This meeting it's not very long. It's uh probably down to about thirty five minutes now. So I want each of your presentations to not be too long, five five minutes, something like that. Um if you haven't done a PowerPoint thingy, it doesn't matter, it just it just says that you it's that's just one particular medium. If you haven't had time to prepare one, you can draw stuff on the noteboard, you can talk to us, you can you know however you want to do your little presentation, basically, you can. Don't feel pressurised into using this thing. 'Cause I don't. Uh okay. So um. You okay over there? Reissa, are you uh b are you joining in with this meeting here or are y or are y or are you are you just are you just uh doing some Internet shopping there? Okay, jolly good. Alright, let's have um well, we all know that it's it's a remote control that we're gonna be dealing with. I think the first thing we should look at is um probably the um what it is that it is actually supposed to be. So that's gonna be you Catherine, if we wanna hear from you first. You don't have to worry about screwing it in just there you go. Ah. Mm-hmm. Mm-hmm. Great. Okay. I prefer the pe I prefer the human touch personally. Yeah. Do you wanna just give us a moment, I just wanna copy this down. Um I dunno if you guys have got any questions for Catherine on any of this? Yeah, you blow on it and i Yeah, it's worked for the last fifty years you know. How far away is your television? It's never gonna be more than it's never gonna be, you kno unless you've got a T\_V\_ the size of a football pitch, it's not doesn't have to go that far, does it? Doesn't have to go through a wall, because you're not gonna be looking through a wall. Yeah, yeah I d it sounds like you you w don't wanna overcomplicate things. You know we don't need it. Yeah, exactly. Basically, we're we're desi we're designing and marketing a television remote control unit. We're not w w w w designing something that you can plug in a headset to and and you know connect to your laptop computer and stuff. It's uh Okay. Right, well done, Catherine. Um Gab Gabriel let's uh let's hear from you on on on such things. Mm-hmm. Mm yeah. Okay. Mm-hmm. Yeah. Great. Yeah. Great. Okay. Now that's I just have a q a q question for you. This w um research that you've been doing looki looking at other, you know, existing units stuff. Um have you found that anyone else has do has looked into the locking function or Yeah. Yeah. Um I

would say it's If it's simple to do, which I think it probably should be, even if it's a physical, you know, a f a like a f a physical switch or a physical cover for the remote, even something like that, um then yes, it's like, you know, like s you said earlier on ab ab ab a flip thing, something like that, but you know being physical. Look into. Um I've had word down from head office that something that we should be centred well, something we should take into account is um we've gotta keep the corporate image within this remote control unit. It's gotta d look like it's in the R\_ and R\_. You know, the the company it's it's, from what I can see from our other products, are yellow with blue writing on them. Um. We put the fashion in electronics. There you go. So it's kinda gotta look it's gotta look new and s you know something fashionable. If if remote control well, if telephones can be fashionable, then maybe remote control units can be. Yeah. Because we need Yeah. Great. Okay, fantastic. Right, well done, Gabriel. Um Reissa. Let's plug you in, baby. Yeah, w it it just takes a wee while. 'Cause we've only got five channels. I think that's k flicking quickly between channels. Yeah. Wow. You are a child of technology, aren't you? So there you go, yeah. Uh but do the younger generation have the money? They they don't. It's older generation, they're the ones that have gone out and People people from the age of thirty f there's a big drop off there. For people up to the age of thirty five, you're kinda saying, yeah, they want it. Um but no they're not sort of most people that have the money are people from the age of thirty five to fifty five, uh 'cause they're the ones that have been working for twenty years. Um d and tha and that's a that's quite a minority there, so yeah, it's not even like fifty fifty that's th thirty five per cent. Yeah. I would say scra I'd say scrap that straight off. So y so it's so it's so you got so that's something we should have a look

into then i when desi when designing the ergonomics of see have a look if um there's any w any medical background we can find out about this. Let's jus we just want need to cover our arses so that people aren't gonna sue us in ten years' time, say your remote control gave me repetitive strain injury. Yeah. They're having a lunch break at the moment, but yeah. I'll see if I can get see if I can get hold of them for the next meeting. Yeah. Okay. That's great, thank you very much for that, Reissa. Um okay, so we've basically we've decide we've d we've decided that it's gonna be, you know uh, we're going for a basic television remote. It's gotta be safe to use, it's gotta look cool. It's gotta be cheap. S um. Now going back to the uh industrial design of it, you know, we were looking at whether to use maybe infra-red or Bluetooth. I think, we should just go with the simplest option on everything, uh and that would be infra-red, energy source, that would be batteries. Uh mean we we can look into using the s, you know, the little tiny weeny batteries, all like special long-lasting batteries. Um. But a in there's no I don't think there's any point in making a remote control unit that's gonna last for fifty years, because technology will have changed and, you know, we won't have televisions in ten years' time. So I think we're all um pretty sussed on that. Um anyone have any questions? Everybody happy in their work? Now this is good, we've got a good structure going on. We all know where we're going to. Have you been ge has have any of you lot been getting loads of crap spam on your computers? Yeah. Yeah, stuff. Um okay. Do oh have you guys found out if we can if we can e-mail stuff to each other? Right. Do all you all know my e-mail address? Can you all d e-mail me your e-mail addresses?. Send me, yeah yeah, okay. Is it yellow and black or is it yellow and blue? I I kind of thought it was blue writing on a yellow background, but I might be just going a bit Okay. Well, maybe you

can come up with a few with a couple of different ideas? Well, see the thing is is we've gotta keep the company image. It's gotta say people have gotta look at this remote control and instantly recognise that it's a Real Reaction i product. There's loads of companies that called R\_R\_. This is slog but this is the slogan, this is the the the the type. Yeah. Well, not necessarily. But we have to incorporate it. Not necessarily even if i it just has to ye but you have to look at the product and instantly know that it's one of our products as opposed to a Sony product or a, you know, a Panasonic product. It's got to so maybe, so you can have a look at our our other products and see if they all follow a s similar vein, perhaps. Yeah. Yeah. Quite poss yeah. Well this is all your department. Mm okay. Well, well done everybody. And um, I think we uh stop for lunch now. We might possibly have done. If we've if we've finished at five minutes before the meeting's supposed to finish, then that means we get an extra five minutes for lunch. Yeah, there you go. Right. I just have to there's a few little bits and pieces I have to write down, but Take your headsets off, kick back, smoke 'em if you got 'em. . I am Reissa.

R\_E\_I\_S\_S\_A\_. Double S\_ A\_, yeah yeah. Sorry. Mm 'kay. Mm. I'm fine. Yeah. I uh yeah, yeah. D I mean, I I'm finishing off my presentation. No no. Uh I'm done. Okay. Mm. Is a battery like the only way of No, no No I meant like No 'cause like cha 'cause always changing um um batteries can get like annoying. The battery's down and maybe, I dunno, solar charged? Mm. Yeah. Yeah, but if like you're on the phone in the other room and you need turn television off or something and you don't really want to go into the put the telephone down, and go into the other room. How about Bluetooth? Instead of using infra-red, use Bluetooth. Isn't that a better signal? Mm. Mm. 'S just an idea. Adjusting. Yeah. Mm.. Mm. Mm. Mm. Okay.. Where does it go into? Here? The blue thing.. Well, function F\_ eight. No oh. Come on. Right. Okay.. Okay. Well, for our marketing report uh we observed remote control users in a usability lab, and also gave so this is research and we also gave participants um questionnaires to fill out. Um total number of people tested were a hundred just so you know, so that hundred people were tested and these were the findings. So seventy five per cent of users find the remote control ugly. Okay,

so they don't like the look of the remote control. Um eighty f eighty per cent of them would spend more money if the rem remote control looked really cool and fancy. So I think we all agree with that. Um current remote controls do not match well with the operating behaviour of the user. So, they don't like like the way they operate it doesn't like match how people behave. Um per cent of the users say that they only use ten per cent of the buttons on a remote, so probably if you have like one, two, three, four, five, the whole up to z ten, they probably don't use those, they only use the up and down channel. exactly. That's another thing. Um seventy five per cent of users say they zap. Not quite sure what they mean, zap, goes like. Yeah. Mm. Um takes too much time to learn how to use a new remote. I think especially for uh the older generation. I know my grandmother doesn't like mobile phones, takes ages to work how to use. Anyway um and they also remotes often get lost in the room, so nobody can find them. So maybe tracking devices is a good idea. Um personal preferences. Um so yeah um I was thinking something easy to use, especially for older people. Um has to look really cool, flashy groovy for people to buy it. And it's easy to find, so I don't know whether maybe and also we asked them whether they wanted whether they'd be interested in um voice activating. So voice activation. So and this was what we came up with. Then if you look fifteen to twenty five this is age, sorry, age groups. So fifteen to twenty five said like ninety two ni

nety one per cent of them said yes. Um so basically the majority except for the forty five to fifty five year olds for some reason didn't want a voice activated one. And neither did the older generation, but the younger generation who we are catering for, like who have most of the money nowadays, do want a voice act speech recognition in a remote. Well the twenty five to thirty five year old, and thirty five, and the thirty five to forty five, forty five point seven per cent say no, so So they don't Well These guys are growing up. Voice activation might not be the best. Um also with um with buttons, a thing called R\_S\_I\_, so wrist sense Huh? Yeah, repetitive strains injury, so they don't I think people who watch T\_V\_ maybe too often, keep changing channel hurts their wrist. I don't think so. Yeah maybe not so hard. Yeah. Maybe Mm. Yeah. Mm. Maybe th the buttons not so high up so you don't have to press so much, or we just like flat buttons, something. Yeah. So that is me. Mm. Mm. Mm. Well, just questionnaires. Yeah, you can. I think he's participant one, aren't you? Can't we have different colours in the remotes, so somebody can choose different col like does it have to be of a certain? But if it's a R\_R\_, it would be Real Reaction, like if it had a symbol on it. Whoa. So we have to have it one colour. Mm. Mm. Mm. Are we are we finished ahead of schedule? 'Kay uh. Right it was function F\_ eight or something. This one right there. Okay. Think we all Huh. Oh I thought we all were. Yeah, I have one too, okay. S Whoops I forgot to put the thing on Okay. Yeah. Sure, that's a good idea. Uh Gabriel. E\_L\_. Think she's finishing up her presentation. Oh. Yeah, alternate energy source, like win wind power or Bicycle power. One question I have, and I don't know how much control we have over this is um, as far as the infra-red signal, do we have control over, you know, how far away you can be from the receiving unit, the the T\_V\_, and still have it be operational? I mean, maybe we want one with a strong signal stream. Uh That's true. Okay. Uh I'm just gonna use the PowerPoint uh. Technical. Okay. Okay, so, while this is warming up, there it is uh. So I'm doing the user interface design. Yeah, and basically uh, as far as methods, I was I was looking looking at looking at uh already existing remotes, trying to find some inspiration from designs that are already out there. Thinking of what we can retain, what we can do away with, uh what we what we can perfect a little bit as far as design um. we don't want to do something that's too radical of a change, I guess, I mean people want a remote that's familiar, that has their favourite functionalities um and and does the basics, but Um so we can improve what's out there and maintain that, the basic functionality that people want. Um so things that seem like absolute

must-haves uh would be a volume control, um so up-down keys for that, uh channel keys up-down, but then also a numerical key pad so that they can just key directly to the channel that they want, rather than doing up-down, and uh a mute button. Uh one thing that I didn't include here, that I forgot that we talked about last time, was doing um some sort of lock uh function. Uh, I don't I dunno, uh that's one possibility. And so in the research that I was doing there's basically two types of remotes, ones that are engineering centred and ones that are more user centred, which I don't know if I can access the web page from here, but I can show you uh. Yeah. So this is a engineer centred one, so you see it's rather busy, but it also lets you play your movie, stop your movie, fast-forward, all this, um freeze frame. Uh and this is a user centred one. Uh it's it's easier to g just glance at this and see what's possible to do, you're not gonna be staring at it for five minutes. And I judging from what what we all talked about during our last meeting I kind of gathered that that's what we were going after, uh or the direction we were going in

at least. Um. So, the engineering centred ones uh provide a lot of functionality, but it can be a little bit overwhelming, so the user centred ones just focus on ease of use. Uh and this sort of overlaps with what the marketing person uh, Reissa, because uh we we need to find out what what people want before we make firm decisions on this. So uh, yeah, that's me. No that that that seemed like a novel idea as f as far as I know. I mean obviously another exists like you like you said in in mobile phones. That was sort of the inspiration for it. Um I've never seen that with in in all my years in in the remote business. I've, haven't I've never seen a locking functionality. I dunno, what uh do you guys have a a yea or nay on that a feeling about whether that's really necessary? Yeah. Mm-hmm. 'Kay. Right. Mm. Right. And our motto is is we put the fashion in electronics. I think I think we have to carry that mental. Mm. Well yeah these, I think, we can so we talked about the layout in my presentation and what I didn't mention yet really is is the sort of like the ergonomic design. I t I think we can make big improvements over these two that you see here, I mean. Uh, everything is going t ergonomic, you know, there's you know mice for your computers that are very ergonomic and keyboards and that could be one of our niches p sort of uh uh in the market, I guess. Um.. Yeah. Uh, yeah, this is getting all. Mm. Yeah, then you just have to do function F\_ eight and it should come up. Yeah, it just takes a second uh. Yeah, you wanna navigate the channels quickly I guess. Mm. No I would I would say the older the older people, yeah. Yeah, that would be my guess as well. What about just from the the prospective of our manufacturing cost? I mean if it's twelve fifty per unit. I mean, okay, there's Uh. Repetitive strain uh rep repetitive strain injury or like from doing Mm. Mm. Yeah, we should probably consult with our legal department uh. Yeah. I think we can do some really in in that department, the the ergonomic department, we can make some some really good improvements. Mm. Yeah, it seems like we're all on the pretty much on the same page. Oh it's probably just you, 'cause you're the project manager. Sell trying to sell your things. Okay. No I don't. I Uh Oh, it's just participant one oh okay. Yeah. Well it's just w it's just it's just par participant one, participant two. So are we headed towards like a b a big yellow and black remote as far as maybe that's our next meeting that we discuss that. Well, it's like white on i white and blue on a black background with white with yellow borders. Maybe that's like getting ahead of ourselves. Mm. Mm. Mm. Mm. And this is something that came on down from from the higher ups, so, I mean, we are sort of beholden to them. Not one colour, but the pattern needs to be recognisable.. Yeah, pretty soon I think, I guess that's now. Alright, see you all soon. Mm. Tha Okay. Who is gonna do a PowerPoint presentation? You will as well? Okay. Yep. Okay I'm Okay. I'm Catherine with a C\_. C\_A\_T\_H\_E\_R\_I\_N\_E\_. Right. True. How long is the meeting? Okay. No problem. Okay. Okay. Um just connecting this. Are we getting i Really? Okay. Cool. Okay. So I've got a very quick uh Uh. Okay.

So the working design, I've got a very quick presentation on this, so um I've oh no, you can't see a thing. Oh well, I'm gonna draw it on the board then. It's in blue uh, and I couldn't change it. We it's fine on my screen, but never mind. So um the idea is that we've got the energy source um, which in our case will pr, oh well okay, never mind. So um I think maybe uh two batteries, I dunno what they're called six, or something like that. Uh and then um then on the uh remote control itself will have um the sender for the signal, which could be uh an infra-red signal, um which will be sent by an electronic chip. And uh the chip will be controlled by the user interface. So we'll hear about that later from Gabriel. And uh the sender will se

nd to the telly itself an infra-red signal to tell it to switch on or switch channels. Um and that's it really for the working design. Sorry the presentation wasn't very uh clear but Really? Cool. Um, should I erase this or Okay. Fine. Or suggestions? Well, it's just, you don't want it plugged in really, s In indoors. I dunno, swi I th I th I think changing your batteries once every six months is not really a pain, but Yeah. Well, the thing is uh you you don't Well, we can make the the signal strong enough to go through walls if if you fancy it. I didn't think about that but Why not? I just think that it's it's gonna cost more and I'm I'm not sure it's you're gonna use it. It's a fancy idea uh it's quite nice, but then I don't th I dunno, either you if you wanna watch the telly you're in the room, you are gonna But Oh, we can we can keep the idea if you i We can see at a later stage, maybe, I don't Do you need the border? Okay. Sorry. Well maybe they shouldn't watch so much T\_V\_ then. Maybe it could be, instead of pressing button it could be just touching a Yep.. Well, in the project announcement, you've got the addresses, I think. So Project Manager, it's participant one at A\_M\_I\_. You have them i you have them, but we'll send you an e-mail. You want to have friends, don't you? It wouldn't be Well you could It could come But it could come in different colours and have the R\_R\_ colours just somewhere like just around the lock button could be the R\_R\_ logo or colours and If. Cool.

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# Meeting ID: 52

Data Source: Train

## Executive Summary

This is our final meeting , the detailed design meeting . what we have to get through in this meeting is firstly the prototype presentation from you two , It does look very cool . then Cat's going to present the evaluation criteria that we're going to be evaluating this against . Then I need to say some st a few things about finance , 'cause we have to check that it's within the finance criteria . Um and then we'll be making sure that our product fits both the evaluation criteria from Cat and the financial limits . Um and then we uh will have a brief evaluation of the whole process of production and design that we've been through . so will you maybe start with like the mm the shape and things Okay . So um basically going with our trend of vegetables and we selected the colour and approximate shape of banana . You think bananas are a safe thing to use ? Well , but it's it's just an a approximation . Um so basically it's the it's the flip open thing again . And it flips open on the side , so it opens like that . And we have the user interface o in here and uh the the L\_C\_D\_ and and the scroll are inside . And it's the whole thing's made of rubber , is that so I would say that this curvy does look quite like a vegetable . yeah , but um one thing we actually kind of um forgot while designing , that one side was supposed to be rounder , Is it to scale , or do you think you can make it a bit smaller ? Um it could be made a bit smaller , So so uh the user interface as as we discussed last time uh mm on on the on the cover we just have the very basic things . So we have that n uh channels here starting from um uh one two three So it's four , up to four , up to seven , up to nine and zero , z zero here . And then , well this is on off button . and and also the colour is quite often red , And then these ones would be for flipping the channels back and And and we would also have a l little um thing saying here , previous and ne prevon prevon next . The volume is is scrolling . On the side , And and and it's it's on the back is mm cover or back lid , because if you flip it open , you can still do the scrolling here . and and you have the mm spinning wheel with options to choose . Oh , the thing we forgot was like a mute button . Well , we'll have this on the screen , on the display . On the wheel , like if you hold the wheel down then it will mute . Uh on the L\_C\_D\_ we r you know , the main menu will have various options . yeah , the scrolling is kind of you have to scroll all the way to make it mute , right ? if it's a scroll and click so you hold it in ? But if you hold it in , And okay , so i so the the voice recognition is also just part of it . You can't really see it in the interface . And it's with the the black and yellow you're even in the right colours . Yeah , I think um we could do l the logo in grey , as it is on the website . I suspect we're gonna have a couple of minor finance issues , but um we'll se I'm



sure we can get around them somehow . So what we're gonna do is prefer prepare the evaluation of the new design . Um so we're gonna be using a seven point scale , so one is , you know , yes , it totally meets with that requirement and seven is , no , it really doesn't , we need to go back and start again . Um , you know . Basically , what I did was I went through all the like user requirements and things that we've done and we've worked on and like made a list of them . So for each of these we need to give it a one to seven . I did have A\_ , B\_ , C\_ , and D\_ down here , but it seems to have turned into like just bullet points . Okay . But if you can imagine that they say A\_ , B\_ , C\_ , and D\_ , then that would be really good . Okay um uh what I've done on the next page is I've set it up so we just put the marks in . If you take a note of them , left-handed people can't normally write right-handed , Um the the only thing that we were considering was that uh this thing is kind of more for right-handed people than for left-handed people , Does it match the operating behaviour of the user ? so y so we we might do we might want to do like a uh another m model another another version , which is like exactly the mirror image of this one . So maybe we need to put that needs a little bit of investigation , maybe give it a five , I would say ? Or maybe six , It might be a little clumsy when when it opens up , right , I th I think the alternative is flipping from the top . Yeah , but we which makes it kind of really big , yeah . or are we saying we're gonna stick a locator on the T\_V\_ ? th there's the locator dot . Mm that you stick on T\_V\_ . so that means you need a that does mean you need a little speaker on it though , To make it beep . so that's seven , yeah . If uh uh if this means intuitive , if it means the way people kind of are used to finding things I'd say six , 'cause the I mean the the standard layout for numbers is three three three and one , rather than the way you've got it . but it's not the immediate thing that you're used to . but uh it's a good technology , I mean once they get used to it . So , should we maybe say f a five so possibly for left-handed . Investigate . But otherwise it's superb . So , should we give it a six ? Um uh the ergonom ergonomic design well mm I mean I d uh I dunno , I mean the the repetitive stress things , but then who would be really pushing the buttons so much on the on the remote control anyway , And moreover it has um L\_C\_D\_ and everything , so that uh you know uh we minimise the pressing of the buttons anyway . Okay , so we give that a six , G\_ technologically innovative . it's the most sophisticated remote that I ever seen . Well mm we have we have the sample speaker as well , which is yeah , it's kind of new . All of the components have been used in other things before . They're never been used i they've never been using remote remote control before I don't think . What do you reckon , five , six ? Six . Put fashion in electronics . Fruit fruit and vegetables are fashionable these days , so . So , we need the average here , So I think we've done very well , The average is about six and something . Six point five , yeah . that's pretty good , I think . so we've looked at the prototype presentation and the evaluation criteria . And now we have to calculate the production costs . So I've got an Excel spreadsheet to help us do that . Um I started filling it in , No hand dynamo , right ? One simple battery . The chip , we're going for an advanced chip on print . We also said the sample sensor and sample speaker . Um single-curved surface , so that we can fold it . Case material we said rubber . I don't know what special colour means . I think something coloured , but rubber comes coloured , doesn't it ? You know . maybe it's like if you want titanium coloured or wood coloured , it's different . Or maybe maybe if you want some kind of pattern thing on it , We have pushbuttons , Scroll wheel with pushbutton we had , no ? And we have L\_C\_ display And button supplements . Yeah , but what do we ha we have L\_C\_ display , but but the wh but the s spinning wheel We've got more than one pushbutton though , That

means you can only have twenty five push buttons in total doesn't it ? That seems unlikely . whether whether pushbutton means that p count by button or do we We have to count all of them , I don't think that makes sense . if it is pushbutton then you got a zero point five , it's a scroll wheel so we we've put it's pushbutton and scroll wheel and L\_C\_D\_ display , So , as we can see , that's way too expensive down here . Our budget's twelve point five . Yeah , the sample sensor will have to go , 'cause that's the most expensive thing on there . so that has implications though for the . Uh it does not have for voice recognition , but it does have for the feedback speaker . when you say when you press one it says one or it says hello . But that's a bit of a gimmick anyway really , isn't it ? Mm and the locator also goes away . Well the speaker uh the sample speaker is is expensive , but we could just have some some very very easy device that just beeps . A also i in the case I'm not sure that you will evaluate this as a curved surface , because it's just rubber , so it's probably a flat surface rubber . Right , so we need one fifty off . Take it down to just a scroll wheel . in the L\_C\_D\_ we can scroll , right ? how do we how do we make a selection in uh in the L\_C\_D\_ ? But how do we make a selection if we cannot push the button . you can push this one , but we don't have a pushbutton uh we ca we don't have this muting mechanism for this scrolling thing . So that's point three . and I thought we were referring to this as a scroll spinning wheel and pushbutton thing . The scroll wheel is on the side . We're point three over at the moment . Unless we just take off the scroll wheel altogether and just have pushbuttons for the volume . Instead of scrolling here we have two buttons here , up for up and down . Oh look , we're way under budget Yeah , well we could admit to the single curve , couldn't we ? Or or that we have to have some sort of special colour . So did we lose um on our evaluation criteria , as a result of doing that ? No , I don't think so . Because we keep all the features , we keep voice recognition , we keep L\_C\_D\_ display . instead of having scrolling we we just push the buttons . But we lose the locator . so we still have the locate . We're gonna have a beep . It can come in the same colour as the the case . so it would be good if we could just have a little talk about the project itself and how it went , um so that we can feed back to the management for next time they're designing a product . as far as creativity is concerned , yeah I think there was there was room for creativity . The only the only problem being that at the end we had to cut some things down because of the the budget we had . I think uh n one thing that was lacking uh was that we did not know what the various things cost to begin with . If we'd had that sheet at the beginning should've been like , okay , so we can have that lot , let's just throw it together and do what we can . But in terms of the process of um going and working individually and then coming back to a meeting , that that worked in terms of . I think 'cause the meetings were so regular , you know . Yeah , the m the means were very very good , the means we used . the whiteboard digital pens . We like the pens . But that worked well having having a whiteboard that we could draw on as well as having the PowerPoint , I was I was satisfied with with the leadership , yeah . Yeah , and and and this time also the time limits but actually preparing the I mean especially with that last-minute alteration . I mean that was fairly tight anyway , But yeah , but I mean already just just preparing the slides before before the meeting , yeah . You weren't like a a dictating leader , so that was always good . And then the teamwork I think I think it worked quite quite nicely , yeah . Did anyone feel that they were getting sort of covered up and not being able to say their bit ? Mm . I guess it was a fairly small group , so all of us got to express our opinions , yeah . New ideas found . Not quite sure what about . Well it's it's it's pretty new , I think we'd like to think the ideas were new , costs are within budget , One Euro left over for bits that we

didn't foresee . Um we've evaluated the project . Can you put that in the project documents file ? And the process wheel didn't really have any major problems with . And my main difficulty was the the time pressure . sometimes it's like a little bit rushed . we've got like five minutes left . but if we've finished , then we've finished . Yeah , it was a pleasure working with you . So I would say that's the end of that meeting . Right , so we have to complete the final questionnaire and meeting summary when they send it . Was there a questionnaire already sent ? Do we have to go back into the other room or can we stay in here now ? I don't see why you can't stay here , really .

## Complete Meeting Transcript

Yeah. Yeah, about four fifteen, yeah. So, you said um are are we starting with the the so will you maybe start with like the mm the shape and things and and then I will explain the the user interface th uh things, like the buttons and the scrolling things and Well, but it's it's just an a approximation. Uh yeah. Rubber. Yeah,. Um it could be made a bit smaller, and and of course it would be and yeah, but um one thing we actually kind of um forgot while designing, that one side was supposed to be rounder, so we said the back side round, yeah. Yeah. Yeah. And it's spongy as well. So so uh the user interface as as we discussed last time uh mm on on the on the cover we just have the very basic things. So we have that n uh channels here starting from um uh one two three there would be numbers in in the on the actual one. So it's four, up to four, up to seven, up to nine and zero, z zero here. Yeah. And then, well this is on off button. It's it's quite standard mm place for it and and also the colour is quite often red, so it's it's kind of user friendly. And then these ones would be for flipping the channels back and like the previous one and the next one. And and we would also have a l little um thing saying here, previous and ne prevon prevon next. The volume is is scrolling. On the side, this one. Yeah you just do it like this. And and and it's it's on the back is mm cover or back lid, because if you flip it open, you can still do the scrolling here. See? So the volume is you just scroll, but then once you flip it open, okay, there there you have the screen and and you have the mm spinning wheel with options to choose. You can move back and forth and then if you need to m choose something on the screen, you just push the cen mm the middle button. A mute button. Well, we'll have this on the screen, on the display. Well, but the but the mute yeah, the scrolling is kind of you have to scroll all the way to make it mute, right? Okay, yeah, okay. Yeah. And okay, so i so the the voice recognition is also just part of it. You can't really see it in the interface. Yeah. And we do have the logo on it as well. So I think it Yeah. Yeah, I think um we could do l the logo in grey, as it is on the website. In the actual one. Yeah. So if you have questions. Yeah. Yeah, the yeah, it's definitely attractive. Oh, the locatable thing we actually forgot. Yeah. Shall I just prepare it now? It will be red, too. S seven was th the maximum, yeah? I l go for seven. I would think yes, yeah. Yeah, so y so we we might do we might want to do like a uh another m model another another version, which is like exactly the mirror image of this one. Yeah. But then then I think left-handed people are already used to discrimination anyway, so they just Yeah. Yeah, because I mean anyway, right-handed people would be able to scroll with it, so i if the majority are right-handed, it's uh Or maybe six, because it's just one one i one among the issues, I mean. Yeah. Yeah. No, yeah, but mm but we have it nicely with the hinges here yeah. So it won't be a problem, it will be and it will be it won't be heavy. Yeah well yeah, but it's it's a bit long. It's a little bit long. Well, I mean it can be

opened like this of course and yeah. S uh slightly smaller. Yeah, but if we flip it open only as much as that. Mm that you stick on T\_V\_. Yeah well w but I but the speak sample speaker is included, so it has some capacity to mm to do some to make some sounds, so yeah. Yep. Yeah. If uh uh if this means intuitive, if it means the way people kind of are used to finding things and it's I th I think it's Yeah. Yeah. Um uh the ergonom ergonomic design well mm I mean I d uh I dunno, I mean the the repetitive stress things, but then who would be really pushing the buttons so much on the on the remote control anyway, yeah? See. Yeah, so it's kinda Yeah. Yeah, it does have yeah. Technologi well Yeah. Well mm we have we have the sample speaker as well, which is yeah, it's kind of new. But

at the same time they are all they are all relatively new. Six. I mean how how far can you go with a remote control, really? It still has to do what i what it has to do. Yeah, isn't it fashionable? Yeah, sure. It's the maximum fashion. Fruit fruit and vegetables are fashionable these days, so. So I think we've done very well, but What's the assessment? The average is about six and something. A little bit over six. No, wait, a little bit under six. No, wait. Oh, three sixes, okay, yeah. Four sevens. Six point something, yeah. Six point five, yeah. Yeah. Yeah. Yep. Yeah, yes. Rubber. I think something coloured, yeah, probably. So I think this is probably special co no? Yeah. Or maybe maybe if you want some kind of pattern thing on it, yeah yeah, okay. Yeah. We have pushbuttons, scro we have scroll wheel as well. S yeah, yeah, we had, for muting, yeah. And we have L\_C\_ display and yeah. Um Yeah, but what do we ha we have L\_C\_ display, but but the wh but the s spinning wheel Yeah. Okay, let's yeah. We have to count all of them, or yeah. But it was very no innovative innovativeness. Well um yeah. Well the speaker uh the sample speaker is is expensive, but we could just have some some very very easy device that just beeps. This would be Yeah, yeah yeah there you record your samples your speech samples and Yeah, then then we would be in the b budget. Yeah b no no, you can push this one, but we don't have a pushbutton uh we ca we don't have this muting mechanism for this scrolling thing. Mm-hmm. But I mean we can put an additional mute button on the top as well. If you Mm. So Mm-hmm. Okay, yeah. Okay. Yeah. Well we're going to have a beeping thing. But yeah, it's it's not like sample speaker, but it will just beep, so we still have the locate. Which colour, the the colour of the phone or the colour of the But it can be yellow as well. It can come in the same colour as the the case. Yeah mm, as far as creativity is concerned, yeah I think there was there was room for creativity. The only the only problem being that at the end we had to cut some things down because of the the budget we had. Yeah, yeah, yeah. Yeah. Yeah, the m the means were very very good, the means we used. And the pens. Yeah, yeah. Yeah. Yeah, and and and this time also the time limits but actually preparing the Yeah. But yeah, but I mean already just just preparing the slides before before the meeting, yeah. Yeah. Yeah. I was I was satisfied with with the leadership, yeah. Mm-hmm. And then the teamwork I think I think it worked quite quite nicely, yeah. To express them mm mm no. Well it's it's it's pretty new, pretty novel solution for a for a remote control really, all this flipping open thing and Yeah, neither neither do I, but I've never seen anything and and none of my examples were was was like this, actually, so. Yeah maybe w maybe we could have a patent on this one. Patent patent patent. Mm. Mm-hmm. Yes. Yes. And my main difficulty was the the time pressure. Otherwise it's it's all fine. Yeah, yeah, yeah. Yeah. Yeah. Yes. Yeah, it was a pleasure working with you. You can make some animals. Oh, you don't like anim It doesn't? Smells quite nice. Smells very sweet. I made your animal for you. Yeah, that's the one It does look very cool. And then do we get to make a remote control? Yeah. Yeah. You think bananas are a safe thing to use? It's a bit um phallic. Oh, your remote control? Oh that's just bad. Is it to scale, or do you think you can make it a bit smaller? Yeah. It I does look like the curvy and then the whole shape's curvy, so I would say that this curvy does look quite like a vegetable. I wasn't

very keen on that, but yeah. So where's the volume? Ah, you did get that in then, mm-hmm. Oh okay,. Cool. Oh, the thing we forgot was like a mute button. Yeah. On the wheel, like if you hold the wheel down then it will mute. Yeah, but it's a scroll and click, isn't it? Okay, cool. So that that solves the whole mute issue.. Yeah.. Yeah, oh, we hold the remote. Oh,

but it it does feel all cold and slimy. I hate Play-Do, it's just minging. But yeah, uh that's cool, cool. Mm-hmm. Okay. Wales. Mm. Cool, okay. Right, okay. Fabulous, yeah. Okay, cool. So what we're gonna do is prefer prepare the evaluation of the new design. Um so we're gonna be using a seven point scale, so one is, you know, yes, it totally meets with that requirement and seven is, no, it really doesn't, we need to go back and start again. Um, you know. Basically, what I did was I went through all the like user requirements and things that we've done and we've worked on and like made a list of them. Um you know, so that we can evaluate each one and like so it was about going back to the start and saying oh yeah, we did manage to do that, or oh no, we really forgot about that. Okay? Cool, so these are what they are. Oh Yes, I did have A\_, B\_, C\_, and D\_ down here, but it seems to have turned into like just bullet points. Okay. But if you can imagine that they say A\_, B\_, C\_, and D\_, then that would be really good. Well, I thought we'd um kinda said that you'd have a little thing to stick on the T\_V\_? Yeah. Cool. Okay. So, be attractive to look at. That's this one. What do you all say? Yeah. Oh we're all so proud of the. Okay, so that'll be a seven for A\_. Could oh no, you can't whilst that's up there. Okay um uh what I've done on the next page is I've set it up so we just put the marks in. Yeah. But that's alright. If you take a note of them, and then I'll put them in in a minute. Okay, so we're all agreeing on seven for A\_? Cool, okay. Does it match the operating behaviour of the user? Yeah. I mean Yeah. I th I think it's not it's not like it's a pen. Yeah, but I mean because it's not like it's a pen, you know, left-handed people can't normally write right-handed, but they can normally do most things right-handed, so I would say it's not such a big issue. Yeah. I mean you can you can use your finger to to scroll rather than your thumb. So I mean that does kind of negate the whole R\_S\_I\_ issue. So maybe we need to put that needs a little bit of investigation, maybe give it a five, I would say? What do you what do you all think? Okay. Yeah. Yeah. I th I think the alternative is flipping from the top. Yeah um But you were thinking about making it smaller, yeah? Because So you have to keep that side flat. So it works like a mobile phone flipping, but y you know, as long as that side's flat, than that will work. Okay. Um okay, so C\_. Are are we admitting defeat on C\_ or are we saying we're gonna stick a locator on the T\_V\_? There's a locator. Cool, so that means you need a that does mean you need a little speaker on it though, doesn't it? To make it beep. Or a buzzer. Okay. So that's two, so that's seven, yeah. It's locatable? Fabulous. D\_. Yeah. Yeah, and I mean d So, should we maybe say f a five and say it is intuitive, but it's different, so, do you know, I mean it's obvious how to use it, but you might have to think about it first. So we give that one a five, you think? Yep. I'm glad you're accepting this. It has taken a little while, hasn't it? Um intuitive but Sorry, it's really hard to write on those. I just went a bit mad, didn't I? Um okay, cool, E\_, okay. Um I would guess this comes back from this whole B\_ thing links in here, so possibly for left-handed. Investigate. So, should we give it a six? Six? I used to send fifty texts a day, you know, and I never got repetitive strain injury from that, so I find it quite hard to believe to be honest. Okay, so we give that a six, yeah. Okay, F\_. Hang on, how come it's showing up with the things there but it only had bullet points there? That's just Oh okay, cool. Um right, so. Yes, so that's a seven then. Um, cool. Yeah, but I mean you don't They're never been used i they've never been using remote remote control before I don't think.. Yeah, what do you all think? Six? Well, that's it, I mean Yeah, but I mean everything has been used in space before it gets to anyone else real

ly, hasn't it? So, I don't think many peop That's it, they can take it with them. So, we give it seven, and we write There we go. Cool. So, we need the average here, so we got Seven So we've got four sevens, so that's twenty eight, three sixes, eighteen. Two three four Seven eight. Okay, that's pretty good, I think. Um no, that's it, yeah. Cool, there we go.. There we go and there are the marks. Yeah. Yeah, but rubber comes coloured, doesn't it? You know. Yeah, you might end up having to take off the sample sensor.. No. We've got more than one pushbutton though, haven't we? 'Cause then you have That means you can only have twenty five push buttons in total doesn't it? Not counting anything, we'd still be in budget. Twelve point five. No. Well it doesn't, but it uh And L\_C\_ display. This sample sensor. Yeah, the sample sensor will have to go, 'cause that's the most expensive thing on there. Yeah. But that's a bit of a gimmick anyway really, isn't it? We can afford to get rid of it. So that means no locator, does it? I mean does Yeah. Yeah. Okay, yeah. See, I was gonna say the scroll wheel pushbutton thing, 'cause But that's well you would just have to to spin it down. So that's point three. Yeah, I mean that wouldn't actually cost any more. That's the spin wheel though, isn't it? Didn't that come with the L\_C\_ Yeah. Yeah. S so we're point three over. Unless we just take off the scroll wheel altogether and just have pushbuttons for the volume. Could b still put them on the side. But yeah. I mean the scroll wheel's pretty cool, but Yeah. Yeah. Yeah, well we could admit to the single curve, couldn't we? Yeah, but Yeah. Yeah. No. No, I don't think so. Yeah. We just got rid of a gimmick that was never anyway, and the scroll wheel is I mean essentially the two buttons that was it's not a great difference I don't think. Really? Cool. That's not a very exciting colour. I think you should make it more vegetable-like. Oh the the beeper thing. It Yeah, I think Jen wants it to vibrate. You know, your pen vibrates? Yeah. Cool. Yeah. If we'd had that sheet at the beginning should've been like, okay, so we can have that lot, let's just throw it together and do what we can. Yeah. I think 'cause the meetings were so regular, you know. It wasn't like we were alone for very long, so you didn't st go off and think, wouldn't it be great to have a vibrating remote control shaped like a banana, and then, you know, come back three days later and Jen's going look, look, it vibrates and it looks like a banana. Um yeah, so yeah. Uh I like the pens. I want one. That would just be so cool, to d do all your notes and s I don't think you should say that was the recording. Okay, cover up the microphone. Alright, let's take it. Okay. It is a bit limiting, isn't it? Yeah. Yeah. The thing flew in, you didn't have the whole whooshing thing, 'cause there wasn't time for that, so yeah. Not that you can do that on the board, either. We could make some little Yeah, totally, I mean that was fairly tight anyway, I mean especially with that last-minute alteration. back it, this is just had to be changed. And yeah, so cool. Are we supposed to say nice things about Jen now? Yeah, definitely. You weren't like a a dictating leader, so that was always good. I know you've got the pen, you might attack me with it. Yeah. Yeah. I don't know, I don't go shopping for remote controls that often, maybe somebody's already though of it. Yeah. Yeah. I'll be looking out next time I need to write an essay. That looks boring, I'll see if anyone's made a remote control. Yeah, yeah. I think we'd like to think the ideas were new, but we've got no way of finding out. That vibrates Yeah, but that would just come up with like other things really wouldn't it. Yes. And it's fabulous. It's in the project documents. Yeah, yeah, sometimes it's like a little bit rushed. Yeah, we've got like five minutes left. Yeah. 'Kay. We could draw animals on the board again. I don't like Play-Doh, no. It's just m

inging. It smells so bad. It does. Mm. No, it hasn't been. Do we have to go back into the other room or can we stay in here now? Okay, so the other way. I'm proud of it. Uh-huh. How how much do we have, forty minutes? Yeah. Okay, so. Presentation. Okay. Okay. So um basically going with our trend of vegetables and we selected the colour and approximate shape of banana. Um Yeah. Um Yeah. Um so basically it's the it's the flip open thing again. So now we we have the okay, so Ma Maarika will explain

you the user interface there. And it flips open on the side, so it opens like that. And we have the user interface on here and uh the the L\_C\_D\_ and and the scroll are inside. Um well, everything else is probably user interface, so. Yeah, yeah. Oh yeah. Yeah, it has, yeah. Yeah, well, but i since it's made of rubber anyway. I I think it's it's uh Yeah. Mm. Hmm. It's on the side. Uh no, we we'd not put so on on the cover we have the the bare essentials. Uh on the L\_C\_D\_ we r you know, the main menu will have various options. Mm. Mm. Yeah, it's hidden in there somewhere. Cool. We ran out of resources here, so. You can have a look. Yeah, see the budget. I guess we'll give it maximum points in everything. So? Yes. Okay. But we can we can I can I can take note uh uh Um the the only thing that we were considering was that uh this thing is kind of more for right-handed people than for left-handed people, so if you're left-handed you're kind of left uh scrolling with your finger. But then yeah. Yeah. So bu it's it's not a huge problem, because i i it is operatable. Right. Yeah. Yep. Mm. Mm. One more thing is that i It might be a little clumsy when when it opens up, right, so it opens on the side. So Yeah yeah yeah, I mean yeah. So you guys can decide wh whether Oops. Yeah, but we which makes it kind of really big, yeah. Uh this this kind of uh makes it more and two, it might interfere with the I\_R\_ channel. Okay. Right. Okay. No, we have a locator. Yeah. Yeah. Intuitive, completely intuitive. Intuitive. And uh even the scroll, it's a it's a new technology so m m might be a little more difficult for people to get used to in the beginni so it is kind of not very intuitive but uh it's a good technology, I mean once they get used to it. Yeah. So I Yeah, okay. I'm gonna give a seven in everything, so. Mm.. Yeah. Yeah, unless you are a all the time sitting. Yeah. Yeah, I I think it is ergonomic. Mm yeah. And moreover it it has um L\_C\_D\_ and everything, so that uh you know uh we minimise the pressing of the buttons anyway. Absolutely. So it has voice control. Yep. Anyway it ha yeah, it's the most sophisticated remote that I ever seen. Yeah, but they've been brought together in a remote. Yeah. Absolutely. The carrot banana remote. I think that's a. Yeah. There are how many sixes? One, two, three. Three. And one five. Okay, twenty eight, thirty eight, fo forty six. Forty six and five, fifty one. Fifty one divided by Mm I guess it'll have to wait for a bit. Mm. Advanced, yeah. Yep. Mm anything uh I think which is not more. Yeah. Mm. No uh we we have uh yeah. Mm no. We don't have we're not using any of that. Huh? Wh wh what is the limit? Uh. Mm I don't think so, no. No it says what what is the kind of interface, if it is pushbutton then you got a zero point five, it's a scroll wheel so we we've put it's pushbutton and scroll wheel and L\_C\_D\_ display, so that's that's the three kind of interfaces that we have. Wh wh what's our criteria? Uh okay. Uh it does not have for voice recognition, but it does have for the feedback speaker. when you say when you press one it says one or it says hello. Mm and the locator also goes away. A also i in the case I'm not sure that you will evaluate this as a curved surface, because it's just rubber, so it's probably a flat surface rubber. Uh I mean uh um yeah. Um So tha that mean that we cannot press how do we how do we make a selection in uh in the L\_C\_D\_? If in the L\_C\_D\_ we can scroll, right? But how do we make a sele

ction if we d cannot push the button. No w w w but ha it's it's the scroll wheel and I thought we were referring to this as a scroll spinning wheel and pushbutton thing. That comes with the L\_C\_D\_? Oh so so the the this is. So we're adding costs for right, okay uh I mean I think this is good. Instead of scrolling here we have two buttons here, up for up and down. On the side. Mm uh it sounds good actually, yeah.. We have, yeah. Not really, no. Because we keep all the features, we keep voice recognition, we keep L\_C\_D\_ display. We instead of having scrolling we we just push the buttons. Um yeah. Yeah. But we lose the locator. So instead of speaker,. 'Kay. I think it mm I think uh n one thing that was lacking uh was that we did not know what the various things cost to begin with. Um we kap kept a adding things randomly. So, had we known Yeah, that or not, yeah. Yeah. So d all the random decisions at the end

could have been prevented. Mm. Yeah, mm. Yeah yeah yeah, that's it's it's I wonder what one of these costs. Yeah. Mm yeah. Yeah. Yeah. Mm. I guess it was a fairly small group, so all of us got to express our opinions, yeah. Mm. Hmm. Yeah. Mm-hmm. I thought that was good though, because if you're given too much time then you got nothing to do with your time and um yeah. Although we could have made the R\_s better had we had five more minute. We certainly are, mm. Yeah. Yeah, same here. Mm uh no. I don't think so. Was there a questionnaire already sent? Okay. This is our final meeting, the detailed design meeting. And again I'll take minutes. The what we have to get through in this meeting is firstly the prototype presentation from you two, so you can show us what you've been working on so diligently. Um then then Cat's going to present the evaluation criteria that we're going to be evaluating this against. Then I need to say some st a few things about finance, 'cause we have to check that it's within the finance criteria. Um and then we'll be making sure that our product fits both the evaluation criteria from Cat and the financial limits. Um and then we uh will have a brief evaluation of the whole process of production and design that we've been through. So we've got forty minutes. S 'Cause we missed out. So it's now I guess that we're supposed to start at fifteen thirty five, so we've got until four fifteen. Is that right? Yeah, until about four fifteen. So yeah. Go for it. Do you want Yes. Dual use, perfect. Dual use, perfect. Does it vibrate when you press the buttons? Sorry, sorry. Mm-hmm. Mm-hmm. Wow. And it's the whole thing's made of rubber, is that Mm-hmm. Yeah. Huh. Mm-hmm. Yeah. Six seven eight nine. I like that. Yeah. Uh-huh. Yeah. Mm-hmm. Yeah. Mm-hmm. Mm-hmm. Y or you could have it so you on the wheel if you. But if you hold it in, if it's a scroll and click so you hold it in? no. Mm-hmm, very good. And it's with the the black and yellow you're even in the right colours. Mm-hmm. Very good, let's have a look. Test it out. Uh it's a sort of intermediate colour, I guess. Very good. Okay, so maybe if we go on to evaluation cri criteria and then we'll there I suspect we're gonna have a couple of minor finance issues, but um we'll se I'm sure we can get around them somehow. We'll just send all of our manufacturing to some nice poor country and cut some of the prices that way. Wales, for example. Marketing Expert. Mm-hmm. Mm-hmm. So for each of these we need to give it a one to seven. Is that right? Mm dots, never mind. Yeah, I agree. Yeah, just prepare one now. I reckon it Yeah. Seven, yeah, it's terribly sexy. Yeah. Ah, okay. Excellent. Except we can't uh we can if we then yeah, I'll take a note, it's fine. Yeah. I think it does. Alright. But that's gonna be a problem, 'cause you don't always have all left-handers or all right-handers in a family. Yeah. Yeah. Mm-hmm. Yeah. Mm-hmm. Yeah. Um Six. Yeah, I think I think for um I mean most people are right-handed, so in in terms of our greatest target group, I think it's pre

tty good, but we might want to flag it for management, they want might want to um They Mm-hmm. Yeah. The length is gonna be difficu Mm. No, we're gonna put it like we've got th there's the locator dot. Mm. Yeah. Yeah. I'd say six, 'cause the I mean the the standard layout for numbers is three three three and one, rather than the way you've got it. I really like the way you have it, but it's not the immediate thing that you're used to. So Might be But it and it's something that they will be experiencing in a lot of different places soon. Five? Yeah. I'm happy with five? Yeah. Yep. But otherwise it's superb. Six. Yeah. Well we've banned them from Yeah. Yeah, it's varied. Yeah. Six? Voice control have seven. Ah, that's the second one. So you must have changed it on this one where it's got score, but not on the previous slide. G\_ technologically innovative. But in terms of the actual technology, none of it is actually new. Yeah. All of the components have been used in other things before. But do yeah, yeah. Yeah. What do you reckon, five, six? Yeah. Space remote. Put fashion in electronics. Very good. Yeah, one. Or a seven. Fifty one, one, two, three, four, five, six, seven, eight. Six point point about six point five. Close enough. Now wait until we get to finance and then we'll see if we can afford it. That's all you've got at



the moment, or did you have anything more? That's it? Alright. So, finance. And we'll see if we can unscrew this first. Sorry, this is I'm just um Beautiful. Not anymore. Computer no signal? Adjusting. There we go. Okay, so we've looked at the prototype presentation and the evaluation criteria. And now we have to calculate the production costs. So I've got an Excel spreadsheet to help us do that. Can you read that? Almost. More or less. Um I started filling it in, but of course these are provisional, so we have to go down. No hand dynamo, right? One simple battery. No kinetic energy, no solar. The chip, we're going for an advanced chip on print. We also said the sample sensor and sample speaker. Um single-curved surface, so that we can fold it. Case material we said rubber. I don't know what special colour means. It could be Rub rubber comes coloured, it's I would maybe it's like if you want titanium coloured or wood coloured, it's different. Yeah, let's leave it as zero, 'cause it's easy. We we're definitely going to have to so we've got pushbutton, and then we've Scroll wheel with pushbutton we had, no? S for the muting. Yeah. And button supplements. No. No? But the the spinning wheel's not there. I have think maybe it's integrated with the L\_C\_ display? I think the pushbutton oh. I don't know if that's one Yeah. That seems unlikely. Push what uh whether whether pushbutton means that p count by button or do we I don't think that makes sense. No. Yeah. Yeah. Yeah. Yeah. So, as we can see, that's way too expensive down here. Our budget's twelve point five. Yeah, so that has implications though for the. For the locator. Yeah. Yeah. What else does it need? Yeah, 'cause the sample speaker was, I think, more complicated then just a beeping thing. Yeah, okay, so we Uh-huh. Right, so we need one fifty off. Take it down to just a scroll wheel. We could do Yeah. You can have to scroll it straight r roll it straight down for for mute. That's with the L\_C\_ We decided, 'cause it's not on our list. The scroll wheel is on the side. We're point three over at the moment. It's nothing n Yeah, I have Yeah. Rather than having three different things that people have to do. There we go. Oh look, we're way under budget and we'll make huge profits and we'll all get bonuses. Or or that we have to have some sort of special colour. So that's alright. We we'll leave it at that and then I'll take I can send it back to management and say we weren't quite sure about the colour, if that costs extra then we've still got some space for it, yeah. Excellent. Alright. So did we lose um on our evaluation criteria, as a result of doing that?

Mm. Yeah. Yeah. Yeah. Alright then. We're gonna have a beep. Yeah. Yeah. Tha. 'Cause we we won't have run out of our pot of Play-Doh. Yeah, I know I know, my pen vibrates. But only for a very short time. Um okay. So looks like we've designed a banana. Well done, team. Um we need we've just got about ten minutes or so left of the meeting, so it would be good if we could just have a little talk about the project itself and how it went, um so that we can feed back to the management for next time they're designing a product. Feedback? Ideas? Mm-hmm. Mm-hmm. Yeah. Mm-hmm. But in terms of the process of um going and working individually and then coming back to a meeting, that that worked in terms of. Mm-hmm. Mm-hmm. Banana. Mm-hmm, the whiteboard digital pens. We like the pens. Yeah, you could take it to lectures and just write stuff down and have it printed out when you got back to the office. They great? Do you think they'd notice if one went? Oh okay. Yep. Shh. Yep. But that worked well having having a whiteboard that we could draw on as well as having the PowerPoint, 'cause the I find that the problem with PowerPoint often is that it's so static and you can't change it once you're in there, yep. Mm-hmm. Yeah. That's alright, that always irritates me anyway, yeah. Mm. Yeah. Yeah. And presumably you don't you can say nasty things as well. I have no stake in it. You have to say that, 'cause I'm taking the notes. I'll leave the room and you can have another go. Better than that than the banana. I think it worked quite well. Did anyone feel that they were getting sort of covered up and not being able to say their bit? Yeah.. New ideas found. Not quite sure what about. Yeah. Yeah. Mm-hmm. Yeah, that's right. Banana remote. Yeah. Or you can always go to Google and type in banana remote

control. Flip. Vibrate. And uh yeah. Nothing that you really want. True. Yeah. Okay. So, costs are within budget, well within budget, including a little what have we got? One Euro left over for bits that we didn't foresee. Um we've evaluated the project. You've got the scores. Can you put that in the project documents file? It's in there already. And the process wheel didn't really have any major problems with. Were there any was there anything that you found difficult, or anything that didn't go as smoothly as you'd hope? Yeah. Okay then. Um I think we're still well within our time. We've got about five minutes left, but if we've finished, then we've finished. We're just too too efficient and you should never drag a meeting on just because you have extra time. So I would say that's the end of that meeting. Thank you, team. It was very productive day and Mm uh no. Right, so we have to complete the final questionnaire and meeting summary when they send it. I don't know if it's already sent or not. Um presumably I have to I don't see why you can't stay here, really. Did I save this one? Production costs. It was supposed to be pink. But it was blue on the board.

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# Meeting ID: 103

Data Source: Train

## Executive Summary

um we decided to use a kinetic charger , standard chip , um 'cause it can come in various different sizes , We wanted a stand-by function . The case material is gonna be soft , rubbery , changeable . Um buttons with a combination of L\_C\_D\_ and rubber according to the design . Um bright funky designs inspired by fruit , keeping with the hip kind of feel . Um and to try and incorporate voice recognition software into our design until we can find out more about the cost of things like that . Prototype presentation . Um and the rubber buttons that we'll use will be anti-R\_S\_I\_ . Me and William worked on a prototype , and I think William is going to make a p presentation on that . I can hold it like and I'll I'll show you the presentation . And we'll first look at the exterior of what we've uh come up with over there . Um It's gonna have a a plastic body um with a sort of standard colour , either we're thinking some something fairly neutral like a a white or a light blue or something . This is underneath the rubberised the rubberised uh outer casing um which there'd be sort of a wide choice Um the um wide choice of colours and sort of patterns , Um it's obviously an a sort of clam-shell design and uh the um the top L\_C\_D\_ screen that you can see that would b would be sort of um how do you say , it's yeah yeah , it would be sort of inset into the into the top The black and white touch screen and the buttons at the bottom would d so so it'll fully close flat . we've um already said d decided on the kinetic batteries , which actually , thinking about it now , could y could also probably attach to the flipping open and shut as well , So put it in the top section rather than the bottom sections , Um we decided that um the voice recognition system , it did actually say on the email that they were sort of coming in and they were fairly easy to get a-hold of , so we presumed that they'd also be quite cheap . So you'd have something like where you'd shout out , where where is the remote and it'll shout back , I'm here , or something . Um the standard , there's be a standard transmission with the T\_V\_ using using all the standard chips that we've talked about . obviously 'cause it's split over two two different layers , it would need two separate P\_C\_B\_s , so it would be joined at the hinge through some sort of cabling . And uh because , obviously , all T\_V\_s use this , the same infrared medium , we'd just be using using the same thing to transmit the data . And the infrared um sender would be on the on one of the bot the bottom layer , just at the front of the So when you've actually got it open , it would be facing the T\_V\_ . And then finally um on to the interface . The top screen , as we said , is would be an inset um black and white L\_C\_D\_ s touch screen which yeah would uh have all of all of the the available functions for for the remote on it , uh whereas the bot the bottom screen would just

contain the standard buttons , like the vo volume up and down , channel up and down , power on and off , and uh things to that effect . And now we've we also decided on the inside , we could possibly either have um some some kind of sort of bezzled uh logo on it , or something inset , or maybe an engraving of the logo on the top . But not interfering with the outside kind of look of the product And finally that's how we put the fashion back into electronics , as that is that's the company logo . Um I've now got evaluation criteria . This stage of the evaluation is really for us as a team to evaluate if we have now got a product specification and prototype design that meets the the criteria that we got from our market research . the collection of the criteria , as we saw in our previous meeting , was based on the user requirements and trends found in the marketing reports and marketing strategy of our company . are we actually meeting those trends and requirements ? So it's what we've discussed in the last meeting , The criteria that we want in this remote control are a fancy look and feel , technological innovation , it should be easy to use , it should incorporate current fashion trends , and those the two main ones , they were the spongy texture and the fruit and vegetable strong design colours . The design should minimise R\_S\_I\_ and be easy to locate and we were still um uh slightly ambivalent as to whether to use voice recognition there , though that did seem to be the favoured strategy , We're going to use a seven point scale , where one is true and seven is false . and I will just do a preliminary rating of all those criteria on the whiteboard here . Is it everybody is going to evaluate , or just the Market w we'll discuss each one and we'll come to a consensus rating between one and seven . I won't write all of that out again . It will just be criteria one , two , three , four , five , six , Actually , it might be an idea , if we each did give our own individual rating , and we could take an average at the end . So I'll just separate the ratings by obliques , and if we go one , two , three , four , we know who's who . Criteria A\_ , the fancy look and feel . My own rating for that would be a two . Two and three quarters ? criteria B\_ , criterion B\_ , technologically innovative . I would give that a three . I'd give it a one . It's just two point five for that one . ease of use . Based on what you've said there , I would say a one , true . I would say a two . I would say a two . One point seven f five . it incorporates current fashion trends , I'm just thinking , before I give it my rating , you were limited in the use of materials for your prototype here . Is this actually going to be the colours that you would use ? the the base colour was um white or or like or I sort of a light blue , but the changeable fa faces would uh allow you to get any basically any one of a number of colours that uh th it's full sort of customised . So we could use any strong fruit and veg colours and that's what we're intending to do . 'cause th that's that's the the spongy feel would be in the rubber that you put round it , In that case it's got to be a one for me . Yeah , I'll give it a one as well . to does the design minimise repetitive strain injury . I don't think we've really touched on that a lot . we haven't really come up with anything that we felt could feasibly reduce that . but the very use of a remote control , if you're someone who's zapping , who's sitting like that , and we found so many people did , how do you minimise that on such a small device ? the type of button that we're gonna use in the bottom half , the material , minimises R\_S\_I\_ but with the amount of stuff we're putting on it isn't that much . I think I'm gonna have to be neutral on that and give it a four . I'd uh I'd f I'd go for a five , actually , And finally , last but not least , easy to locate . Now we talked about voice recognition , we talked about a beeper , Yeah , it was it was uh a voice voice recognition , have the designers come to any dec real decision on that ? And are we happy with the costs on that ? That is going to be feasible , cost-wise . Yeah , yeah , that yeah , that's feasible . And if you didn't hear it in the room that you were standing in , then

you'd realise that it wasn't in that room , you'd go into another room . it would be quite loud . That's a one for me . I do realise that we might be being fairly biased , 'cause it is our product , We've got our our we've got the highest rating of meeting the specifications that is definitely true for two of the uh six criteria there . That is for um incorporates current fashion trends and is easy to locate . The lowest rating we've got , which is really n it's not terribly low , i it's close around neutral is for uh the minimisation of repetitive strain injury . Do we feel on the basis of tha of these evaluation findings that we can go ahead and now produce this as a prototype and market it , or do we have to make further modifications ? I don't think so . We happy to go ahead ? I think we yeah . I think we're set . I think for most of those ratings that it's high enough at the upper end of the scale for us to go ahead with that , I'll just leave it there . I've got finance here now . We just type numbers into this and we come out with the final value . So are we still on for kinetic ? Yeah . See , it woulda been handy to have this at the beginning . Um it might have influenced our choice . It was a regular chip on print you you've put in three for the number of kinetic cells , there should just be one . one of them and one sample sensor and sample speaker . One double curve . 'cause it's two . what's a single curve then ? It would just be a flat bottom with one curve . like a domed thing . Um we've got plastic and rubber , I think rubber , since it's being used just as a casing , See , it says case material . we're not actually using plastic in the case , There's nowhere else we can code for the the rubber used in the casing . So do we not have to account for it in the cost somewhere there ? Or sh we should just put it in as one , because the plastic is zero anyway . special colour , do we need that ? Might do , if we go for some of the more exotic aubergines and such like colours . the push-button's one and L\_C\_ display one . I think we could change the battery also . Instead of going for kinetic how about going for a standard battery . and I really doubt if on the basis of current technology and our current capabilities , we could actually do much more to minimise that . and just actually making the rubber case the curved thing , is that going to make a difference ? so the highest we've got is the electronics here . Um and the interface . If we moved away from our much loved idea of a kinetic battery and just went with the standard batteries , would that make a huge difference ? it um it would make one difference . What I feel is , customers never said anything about the battery . but if you take away the voice recognition , then you've got it . If you took away that , that'll make it twelve point three five . If we change it to the battery it's that's minus three . We could do the voice recognition for , you know , business class or something , you know , like an upgraded version . I don't see why we have to sell it for twenty five Euros now , because they w they were saying they were quite willing to pay more for better product . We can put in our recommendations . If we if we're working to head office specifications as this is what this project team's working for , we can put in our recommendations for what we've we've found and what we the consensus that we've come to as a result of the meetings . Um as you say , we can offer the voice recognition initially to business class customers So if we take voice recognition out That'll do it . Twelve point three five . Is it twelve point fif was it twelve point fifty ? we are close to the budget . So we are under the budget . Product evaluation . We've done room for creativity , Because we've got decisions that we would have made that we weren't didn't feel able to make . Um I presume we discussed leadership and teamwork . Although we had our separate tasks , I think we had a nice time . there was so much interaction , so much that we needed to um bounce off each other . in that in relevant areas we've been able to , you know , give and take and adjust our remit where necessary . Yeah , I think there was uh very constructive feedback

by everybody . We came to a very predic creative design , yeah . And Sarah , you coordinated the work very well . I think it would have made it into the final product if it was actually if if we'd seen the marketing before the initial specification was put out , I think maybe it would've come out a d little different , although we didn't quite make the voice recognition in there , but that's that's good . I liked the fact that we could say an idea and it'd be suggested that that wasn't the best idea , but no one felt like shot down , you two created that wonderful specimen of a Play-Doh model . Um means , whiteboard , digital pens , etcetera , what does that mean ? Any ideas ? How do we evaluate the materials we had for communicating and sharing information ? Could it've been better , I think I think we probably woulda used the outer email system more , had we actually had had more time and if we'd been separated more . I think it's new ideas in general , It's really borrowing from other areas , it's , you know , bringing things from other areas in , Surprising to me is like uh people give a lot of attention to modifying mobile phones , like a real want to see a new launch or something like that . but nobody giving uh much idea to this . I think it's really good that this has been very market research based , because just going back to mobile phones , I mean this is the first change in remote control devices that I can really , you know , say is is obvious and visible . We see it in mobile phones a lot , and tha that's where we've borrowed a lot of our ide our ideas from . There are innovations in that that people don't really want . and I think it's wonderful our company's so R\_ and D\_ based . Um our costs are below budget with recommendations that they the budget be increased , Do you think that's takes into account um overheads like us being well paid kind of a thing ? And the heating for the building , do you think our budget includes everything , all the costs that are going out ? I think it was just the produc uh just the production cost of the phone . I think we've done very well to get within budget Um and we've got the meeting survey and questionnaire . There's a final questionnaire . we've got about fifty minutes to catch up with everything that I fell behind with , I think I've got minutes for two of the meeting and the last thingy .

## Complete Meeting Transcript

Is that someone's? Okay. Or something. Well done. Certainly. Logged in? Thank you. Oops. Okay. This stage of the evaluation is really for us as a team to evaluate if we have now got a product specification and prototype design that meets the the criteria that we got from our market research. So this is the first stage of the evaluation. Now, the collection of the criteria, as we saw in our previous meeting, was based on the user requirements and trends found in the marketing reports and marketing strategy of our company. So it's what we've discussed in the last meeting, are we actually meeting those trends and requirements? Now the findings that we came up with, just a recap, are here. The criteria that we want in this remote control are a fancy look and feel, technological innovation, it should be easy to use, it should incorporate current fashion trends, and those the two main ones, they were the spongy texture and the fruit and vegetable strong design colours. The design should minimise R\_S\_I\_ and be easy to locate and we were still um uh slightly ambivalent as to whether to use voice recognition there, though that did seem to be the favoured strategy, but there was also, on the sideline, the thought of maybe having a beeper function. Okay, so we can come back to that slide, if you don't have a note of those. I'll

just show you how we're going to evaluate our own feedback to this, to what we have so far. We're going to use a seven point scale, where one is true and seven is false. We look at each of those criteria that I've just mentioned, I'll call that slide back up, and I will just do a preliminary rating of all those criteria on the whiteboard here. Does that seem clear? Any questions there? So we're going to look at these criteria. Yes, we're going to come to where we'll discuss each one and we'll come to a consensus rating between one and seven. Is that okay? One is true, seven is false. Right. So I won't write all of that out again. It will just be criteria one, two, three, four, five, six, or A\_, B\_, C\_, D\_, E\_, F\_ to confuse it with the number rating. B\_, C\_, D\_, E\_, F\_. This is where I realise how tiny I actually am. Criteria and rating. Actually, it might be an idea, if we each did give our own individual rating, and we could take an average at the end. How about that? Okay. So I'll just separate the ratings by obliques, and if we go one, two, three, four, we know who's who. Okay. Criteria A\_, the fancy look and feel. How do we feel about this prototype model relating to fancy it is a fancy look and feel. One is true, seven is false. My own rating for that would be a two. One is true and seven is false. I'll just go this way. Two. Okay. Two. A four, okay. Adding those up, we've got a six and a five, eleven divided by four is what? Uh two and three quarters, is that right. Two and three quarters? Okay. Two point seven five, there we go. Okay, criteria B\_, criterion B\_, technologically innovative. I would give that a three. Okay. Not that you're biased in that it's the designer. The average oh, for you? You want your rating to be a two? Is that what you're saying? Okay. So, I'll work out the average for that again at the end. It's a very slightly altered. Okay, and we're just waiting for your rating. Two point five, okay. Losing one decimal place, that's okay. So what are you rating for this one, Paw? Two, okay. So that is eight. That brings it down to two, nice and simple, yeah. Okay, ease of use. Easy to use? Based on what you've said there, I would say a one, true. Two. A two, okay. Two. I should've said a two to make the arithmetic easy, shouldn't I? We'll just put almost two, because I'm not gonna get into silly decimal places. Okay. Or we or if we want to really bring it down, we can do later. Um mm now we're looking at it incorporates current fashion trends, now that's particularly in relation to our market research findings about the spongy texture to the exterior and the fruit and vegetable design colours. Right. So

I'm just thinking, before I give it my rating, you were limited in the use of materials for your prototype here. Is this actually going to be the colours that you would use? Right. So we could use any strong fruit and veg colours and that's what we're intending to do. Okay. And the spongy feel is no problem with that. Okay. In that case it's got to be a one for me. Yep. Everybody? Okay. That part was nice and easy. Okay. Uh moving on to does the design minimise repetitive strain injury. I don't think we've really touched on that a lot. We've we've discussed it, we haven't really come up with anything that we felt could feasibly reduce that. We've talked about pointers, but the very use of a remote control, if you're someone who's zapping, who's sitting like that, and we found so many people did, how do you minimise that on such a small device? Mm-hmm. Mm-hmm. Mm. Mm-hmm. Right. Right. I think I'm gonna have to be neutral on that and give it a four. A five, okay. Four and a four okay. Twenty one is that twenty one? So that's four point two five. And finally, last but not least, easy to locate. Now we talked about voice recognition, we talked about a beeper, have we really have the designers come to any real decision on that? It was the I'm here thing, yep. And are we happy with the costs on that? That is going to be feasible, cost-wise. That sounds good then. I'd go for a I ca we can adjust the volume on that, just as we could volume on T\_V\_. So if somebody's in the other room or if T\_V\_s in different rooms, or. Right. Okay. You built into the feature. Okay. Logical. That's a one for me. One and one, good. So, how do we feel about this? We've got our our we've got the highest rating of meeting the specifications that is definitely true for two of the uh six criteria there. That is for um incorporates current fashion trends

and is easy to locate. The lowest rating we've got, which is really n it's not terribly low, i it's close around neutral is for uh the minimisation of repetitive strain injury. Do we feel on the basis of tha of these evaluation findings that we can go ahead and now produce this as a prototype and market it, or do we have to make further modifications? We happy to go ahead? Yeah. I think for most of those ratings that it's high enough at the upper end of the scale for us to go ahead with that, and I really doubt if on the basis of current technology and our current capabilities, we could actually do much more to minimise that. I know. Okay. Well, I hope that's uh clear to the team. Is there anything you would like to to ask me about the findings before I sum up? Good. Fine then. I'll just leave it there. Oops. Oh yes. Yes. But it has a slightly flattened bottom so it can sit. So it can rest. It would just be a flat bottom with one curve. like a domed thing. Mm. The other curves at the sides, but it's slightly flattened at the bottom so it doesn't roll over. Yeah. What does it mean if you put point five for that? Mm-hmm. Right, okay. But it is gonna be part of the total cost, and there's nowhere else we can we can put that in, is there? There's nowhere else we can code for the the rubber used in the casing. So do we not have to account for it in the cost somewhere there? Okay. Mm. Might do, if we go for some of the more exotic aubergines and such like colours. S Has that not made any d if you click off that square now, has that not made any difference? Is it oh, it's brought it slightly down. So is is uncurved completely and just actually making the rubber case the curved thing, is that going to make a difference? Oh, it's not made any difference, has it?. It's gone up again. Oh. It's brought it down slightly. Is there anything on the menu No. If we tr um. If we moved away from our much loved idea of a kinetic battery and just went with the standard batteries, would that make a huge difference? And people are used to buying batteries, they're not gonna say I'm not getting this, 'cause I've got to buy a batte

ry for a remote control. Should we see what difference it makes? Um Yeah. Sure. But we're still working to um head o We can put in our recommendations. If we if we're working to head office specifications as this is what this project team's working for, we can put in our recommendations for what we've we've found and what we the consensus that we've come to as a result of the meetings. But we need to work to that specification to start with. And I think the voice recognition sounds wonderful, but our object is so distinctive that that in itself is gonna make it easier to locate as a f you know in a first instance. Um as you say, we can offer the voice recognition initially to business class customers and so Mm. Yeah. 'Cause we've done all the background work to go for that if they want it. Yeah. So if we take voice recognition out we are. Are you sure? Sorry, not meaning to doubt your words there. Right. Are they really going to quibble about ten P\_? Or point zero one of a Euro? Which is less than ten P\_. That's today's kick off meeting,. Mm. I thought that's what it was. So we're okay. Although we had our separate tasks, there was so much interaction, so much that we needed to um bounce off each other. And I've certainly felt heard, listened to in that in relevant areas we've been able to, you know, give and take and adjust our remit where necessary. Yeah. Maybe we should think of branching out into children's toys and fake mobile phones as a side line. And fake R\_C\_s. How do we evaluate the materials we had for communicating and sharing information? Could it've been better, was it adequate? Mm. Yeah. Yeah. It's really borrowing from other areas, it's, you know, bringing things from other areas in, it so it's I mean nothing is new, but it's applying it to a d in a different area. Absolutely, yeah. Mm-hmm. Mm-hmm. Yeah. Yeah. Yeah, the focus isn't on to that, yeah. I think it's really good that this has been very market research based, because just going back to mobile phones, I mean this is the first change in remote control devices that I can really, you know, say is is obvious and visible. We see it in mobile phones a lot, and tha that's where we've borrowed a lot of our ide our ideas from. There are innovations in that that people don't really want. I see people wanting a model of the phone they were



really happy with, and they can't get it anymore and it's innovation for innovation's sake, and I think it's wonderful our company's so R\_ and D\_ based. Yeah. But forcing it onto people, yeah. It's things that, you know, they might want to buy the thing they really want. Mm. Mm. Or there isn't a cover to fit it or whatever, yeah. See I think I think it was just the produc uh just the production cost of the phone. Mm-hmm. But I think in the remit that we were given, it was very specific. I think we've done what we were required to do, and I think there'll have to be another project team or a new project for us to look at at those kind of things. I don't think that's something we have to look at and find a way of raising the cash for. I think we've done very well to get within budget and it still makes such an innovative item that I think people are really gonna want. I know. Maybe it will. Maybe they are gonna steal our ideas and sell it. Mm-hmm. Questionnaire. Questionnaire done. Oh, I didn't have to rate you on how much you influenced the meeting this time. Oh, right. But do we not sometimes evaluate in these meetings too? Yeah. Is that for us? Okay. Yeah, shall I show? I'll show. Though do you do you wanna do you wanna sh do you wanna hold it and I'll I'll show you the presentation. Can I just nick your Whoa. Going a bit crazy over here. Thank you. Okay, so this is our look and feel presentation, the final our final presentation. And we'll first look at the exterior of what we've uh come up with over there. Um It's gonna have a a plastic body um with a sort of standard colour, either we're thinking some something fairly neut ral like a a white or a light blue or something. This is underneath the rubberised the rubberised uh outer casing um which there'd be sort of a wide choice they would be attached, but we can we can come up with that. Um the um wide choice of colours and sort of patterns, so you've got you've got a lot of customisation with it. Um it's obviously an a sort of clam-shell design and uh the um the top L\_C\_D\_ screen that you can see that would b would be sort of um how do you say, it's yeah yeah, it would be sort of inset into the into the top and the buttons at the bottom would d so so it'll fully close flat. Yeah, yeah. And working on the inside we've um already said d decided on the kinetic batteries, which actually, thinking about it now, could y could also probably attach to the flipping open and shut as well, so that you could probably get a bit of Yeah. Yeah. Um we decided that um the voice recognition system, it did actually say on the email that they were sort of coming in and they were fairly easy to get a-hold of, so we presumed that they'd also be quite cheap. So you'd have something like where you'd shout out, where where is the remote and it'll shout back, I'm here, or something. And then yeah. It wo it won't shout out I'm here or something. It'll just shout out I'm here, or something to similar effect. Uh yeah, if it was going like I d well tha that could be something for next time, maybe. You can have a remote that tells you exactly where it is. Um the standard, there's be a standard transmission with the T\_V\_ using using all the standard chips that we've talked about. Um it would it would have obviously 'cause it's split over two two different layers, it would need two separate P\_C\_B\_s, so it would be joined at the hinge through some sort of cabling. And uh because, obviously, all T\_V\_s use this, the same infrared medium, we'd just be using using the same thing to transmit the data. And the infrared um sender would be on the on one of the bot the bottom layer, just at the front of the we haven't I don't think we actually put it on. Yeah, yeah, something like that. Yeah, on the front on the front side of that, yeah. So when you've actually got it open, it would be facing the T\_V\_. And then finally um on to the interface. The top screen, as we said, is would be an inset um black and white L\_C\_D\_ s touch screen which yeah would uh have all of all of the the available functions for for the remote on it, uh whereas the bot the bottom screen would just contain the standard buttons, like the vo volume up and down, channel up and down, power on and off, and uh things to that effect. And now we've we also decided on the inside, we could possibly either have um some some kind of sort of bezzled uh logo on it, or something inset, or maybe an engraving of the logo on the top. No d not not actually. No, not uh

interfering with the whole look of the product when it's uh on the thing. And finally that's how we put the fashion back into electronics, as that is that's the company logo. There you go.. Yeah. Yeah, okay. Yeah. Yeah, I'd uh yeah I'd probably put it uh two yeah, two or three. No, three. Three. Mm yeah. Yeah, yeah. I'd give it a one. No, no, not at all. Yeah. Two. Two. Yeah. D\_. One. Yeah. Yeah, that's No, no, the the base colour was um white or or like or I sort of a light blue, but the changeable faces would uh allow you to get any basically any one of a number of colours that uh th it's full sort of customised. Yeah, yeah, yeah and No, no, 'cause th that's that's the the spongy feel would be in the rubber that you put round it, that otherwise it's just sort of hard plastic. Yeah, I'll give it a one as well. Yeah. Mm. No. Yeah. It's meant to be. Yeah. Yeah, I'd uh I'd f I'd go for a five, actually, 'cause Yep. Yeah. Yeah, it was it was uh a voice voice recognition, yeah. Yeah, yeah, that yeah, that's feasible. Um I think it would r I think it would probably be a a stand it would be a stand it would be quite lou

d. So it would be s p yeah. Yeah. Yeah, one. I do realise that we might be being fairly biased, 'cause it is our product, but W I thin yeah, I think yeah. Mm. No. Yeah. It was a regular chip on print and Oh, no, no, no, the um Yeah, it's you you've put in three for the number of kinetic cells, there should just be one. In the top, it's the number of c yeah. Yeah, and yeah, just a no, one reg v uh Yeah, one of them and one sample sensor and sample speaker. And they're double curved. No. Y Two, 'cause it's two. Yeah, I'd say I'd say it was w yeah, I think I think it's One double-curved. And one no, 'cause one yeah, one's double-curved, and then the other one's a plastic. Yeah. And special colour. Yeah. Yeah. No, no, that's it's as an extra. So that shouldn't that shouldn't be actually on there, because that's not incorporated in the cost of the remote you get. Yeah, okay. Yeah, the push-button's one and L\_C\_ display one. And buttons Well yes. Yeah. No, we'll have No, no, you've got to click off to calculate it again. C it might uh you might you might be assuming that that is in Euros. It could be in Dollars. And then it would be fine, because the exchange range would make it about twelve. No. Yeah, the standard, it um it would make one difference. The biggest one would be taking away if you took away If you to Yeah. If if you take away the voice, I I do I don't like to say it, but if you take away the voice recognition, then you've got it. Yeah i yeah. No 'cause it's samples sens sample speaker. If you took away that, that'll make it twelve point three five. They n n yeah, but you p minus three plus two. Yeah. But they but I mean in I don't see why we have to sell it for twenty five Euros now, because they w they were saying they were quite willing to pay more for better product. Yeah. We c we could s Yeah, we could say Yeah, I s And then say we recommend Yeah. Yeah. That'll do it. Twelve point three five. Is it twelve point fif was it twelve point fifty? Ah. Okay. Yeah. No. 'Cause that that was just a bought-on extra, you could just take that out and that would be fine, yeah. Yeah, I think that's brilliant. Yeah. Yes. Yeah, I'd say, as a team. Yeah. Find out from each other, yeah. Yeah. Yeah, no, I thought it it went really well and I yeah, I I feel that everyone was listened to and all the points that were raised seem to have been sorted out, although we didn't quite make the voice recognition in there, but that's that's good. I think it would have made it into the final product if it was actually if if we'd seen the marketing before the initial specification was put out, I think maybe it would've come out a d little different, but yeah. Yeah. Mm. Yeah, well. Discuss which ones yeah. Yeah. Yeah, I think I think we probably woulda used the outer email system more, had we actually had had more time and if we'd been separated more. Yeah. Yeah. Yeah. Yeah. Vegetables. Yeah. No. Yeah, I do I don't think the the companies are really concerned. They're just like we've got a D\_V\_D\_ player, does anyone remember the remote control? Can't you get the one that we used for the last one? Yeah, just jazz it up a bit. Uh d they don't really think about it, because normally, the remote control isn't the product which they're trying to ship. They're trying to ship the D\_V\_D\_ player, the video player, the T\_V\_. Yeah. Yeah. No. Yeah. Yeah. Yeah. Mm. Yeah. Yeah. Well. I think

that was just the the physical. Yeah. Yeah. Yeah, I think yeah I don't from the market research. No. Yeah, it was I it's top secret. Um it's it is it's a conspiracy going on here. That's what it is. In your yeah. Okay. Is that it then? Awesome. Was that not the questionnaire for the how you felt you'd done in your thing? I don't think. Yeah, the the s yeah. I think yeah, questionnaire seven was the one I did just before the meeting. Mm. Hmm. Thank you. Hmm. Hmm. Yep, me too. Mm-hmm. Yep. Me and William worked on a prototype, and I think William is going to make a p present

ation on that. Yeah. I can hold it like Yeah, so It looks crazy. Um not now. Oh. Yeah. Oh, where are the hinges? 'Kay. You able to look? Yep.. The black and white touch screen wherein people can Right. Mm-hmm. 'Kay. Ah oka Infrared could be here also. Yeah, here.. So when it's even if it's open here, the signals would go. Yeah. This one right here.. Which is No. Look up to it. Yay. So this is the one. Sorry. Evaluation.. Mm um I I think this is chip. Mm-hmm. Mm-hmm. Ah, it's perfect. Is it everybody is going to evaluate, or just the Market okay. 'Kay. Yeah, so you can 'Kay. I would say four. Mm-hmm. Almost three. I think yeah. Oh sorry, I I got it wrong. The first one rating, I'm sorry. Can you just make it two? The first. Yeah, I I just it the other way. Uh in Yep, I just got two point f One is a, seven is false, okay. Two. Two. White. With for the plastic? Uh blue. Any Right. Mm-hmm. Yeah, because you'll be having a Because of the rubber case. One. Mm. Four. Voice r recognition. Hmm. You want me to b unplug that? That's all. Yes. Okay. Chip on print. Okay. Yep. Single-curved. Two curves, yeah. Single-cu. Plastic and rubber. Yeah. Plastic one and maybe rubber point five. No I think rubber, since it's being used just as a casing, we can put point five. Yeah, because there are I think it allows the point five, yeah. We can use that. It means we are not using a lot of rubber actually. We're using just a very low quantity of rubber compared to plastic. Push-button. One. An One. I think we could change the battery also. Instead of going for kinetic how about going for a standard battery. Uncurved, flat. No, it just surprises one.. I don't think so. Ri I think it's in Euro. And going to a regular bat Yeah. What I feel is, customers never said anything about the battery. It's internal, nobody looks into the battery. But shape and colours, that's something we shouldn't comprimi Where's that special form? Mm mm mm. Mm-hmm. Make it costly. Yeah we are close to the budget. Two five. It's twelve point five maybe, then. I don't know what it said fifty percent of the cost. So half of the price would be I think it is the first one. So we are under the budget. Seems fine. Except voice recognition, everything is Yeah. Mm-hmm. Yeah. I think we had a nice time. Yeah, I think there was uh very constructive feedback by everybody. It's not like people trying to cut each other. There is more of uh true cohesive teamwork. We came to a very predic creative design, yeah. Yeah, and uh Yeah, I think. And Sarah, you coordinated the work very well. Yeah. I think that was the best part of the 'Kay. Yeah, moving around the room. But I think it's good, like uh we spent times individually. I never thought of a remote control with a flip top. That's mine. Yeah, it's The thing is Yep, sorry, go on Sarah. Surprising to me is like uh people give a lot of attention to modifying mobile phones, like a real want to see a new launch or something like that. And new f television products coming up, but nobody giving uh much idea to this. Like Sarah was telling, everything's Right. Mm-hmm. Maybe fifty percent more. Yeah. Who knows? Yeah. There's a final questionnaire. Celebration, you didn't talk about that. Yeah. If you leave them on the whole time you get to look like a noodle the whole time. Is that. three, apparently. Okay, you all switched on. I presume we're good to go. Okay, um minutes um we decided to use a kinetic charger, standard chip, um 'cause it can come in various different sizes, it wasn't uh uh gonna be a problem factor. We wanted a stand-by function. The case material is gonna be soft, rubbery, changeable. Um buttons with a combination of L\_C\_D\_ and rubber according to the design. Um bright funky designs inspired by fruit, keeping with the hip kind of feel. Um and to try and incorporate voice recognition software into our design until we can

find out more about the cost of things like that. Um and the rubber buttons that we'll use will be anti-R\_S\_I\_. O

kay? Prototype presentation. I think that would be you. Make sure the camera's Yes, yes you can. Wait a second, I'll get it out. Um Okay. You should have one of those things and you can just take it off. Ta-da. Right. Mm 'kay. Mm-hmm. Okay. Mm. So it's flush. Oh right, okay, yeah. So put it in the top section rather than the bottom sections, 'cause it's the top part that's okay. Okay. I'm under the sofa. Or, that would be too complicated. Infrared. Like here. Okay. Actually, no, it would be it would have to be on the on the front. Oh right, yeah, okay, yeah, I've got you. It's still pointing, yes. Yeah, that would make sense. Okay. But not interfering with the outside kind of look of the product once it's Okay. Thank you very much. Wrapping it all up, okay. Um I've now got evaluation criteria. It's to be presented. Okay. It's quite similar to what it was before, though. Sorry. Mm-hmm. Okay. Just write small. Yeah. That works. Mm-hmm. I would agree. Okay. I would say two. A two. It's just two point five for that one. I would say a two. I would say a two. One point seven f five. Okay, mm-hmm. Mm-hmm. One. Well the type of button that we're gonna use in the bottom half, the material, minimises R\_S\_I\_ it's meant to. Um maybe because it's slightl with the size that we've got it's quite small, but with the amount of stuff we're putting on it isn't that much. So maybe because there's more space, it's not kind of moving around trying to hit accurately the buttons in between. It's quite obvious just big buttons. Um Four. A standard. It would be. And if you didn't hear it in the room that you were standing in, then you'd realise that it wasn't in that room, you'd go into another room. One. I don't think so. I think we yeah. I think we're set. Do much apart from having a huge big Don't think so. Okay, thank you. Okay, I've got finance here now. I'm gonna plug this in so you can all see it, if that's okay. Um. Thanks. Right. Now I presume that the screen will go blank, that um Okay. We just type numbers into this and we come out with the final value. So are we still on for kinetic? Okay. See, it woulda been handy to have this at the beginning. Um it might have influenced our choice. Right, what's happening with the electronics? Double-curved. Oh, right, okay. Thanks. So, would there be two? One chip. Okay. One double curve. So what's a single curve then? So just one double Yeah. Um Mm. Um we've got plastic and rubber, haven't we?. Um Do you think? Okay. It would be like saying we're using See, it says case material. So we're not actually using plastic in the case, are we? It's including, it's including. Okay, we'll just put it in as we'll put in as half. Or sh we should just put it in as one, because the plastic is zero anyway. No, we don't step on anyone's toes. Okay, special colour, do we need that? N yeah, okay. Interface. Buttons Has that not gone up? Oh no, it was seven five it's changed not a lot. Oh, it's not calculated it. Okay, there we go. It's not a lot though. We haven't been dealin we haven't been dealing with dollars though, I think Okay, so the highest we've got is the electronics here. Um and the interface. Where's the where's the voice recognition? Right, okay. Well the kinetic is three. If we change it to the battery it's that's minus three. Oh, right. I keep seeing zero. Um We can do it some other way, we can do it doesn't have to be voice recognition. We could do the voice recognition for, you know, business class or something, you know, like an upgraded version. You could choose to have that or not. So should we just change the design specification then? Yes. Mm-hmm. Mm-hmm. Okay, we can make the price fit, and then say if we'd had our budget, we would've had this, because it also sets it apart from the crowd. They like their gadgets, they like something that's completely different. It's s something completely different associated with your company. Right, okay, so It's two point five. No, it's twelve point two five.

Yeah well two, twelve point two five times two is twenty five, isn't it? I think the agenda one was where the um price was, wasn't it? No. Twelve point five. Well done, people. So is that uh got us covered for the electronics then? We don't need something else to take that place? Okay. Okay. Right, so we've

done that. Okay. Product evaluation. We've done room for creativity, haven't we? Because we've got decisions that we would have made that we weren't didn't feel able to make. Um I presume we discussed leadership and teamwork. um in the sense that um did you feel like a team? Or did you feel like uh autonomy? Mm-hmm. Thank you. How did you find it? Yeah. Yeah. I liked the fact that we could say an idea and it'd be suggested that that wasn't the best idea, but no one felt like shot down, you know, y it didn't matter it saying what you thought, because if it wasn't something that was that relevant, then it didn't matter, 'cause it was just another idea in the field. I like that. Um teamwork. Well you two created that wonderful specimen of a Play-Doh model. Um uh I'm still not caught up. But that's nothing to do with the teamwork at all. Um Maybe. No, that was quite fun. Um means, whiteboard, digital pens, etcetera, what does that mean? Any ideas? Had time to kind of Yeah, 'cause we could just sort of say, sorry what did you say about that or what do you think about that, rather than having to email it, yeah. But it was nice having it there. Um like the whole picture of the thing. Yeah, I think it's new ideas in general, rather than Mm. Yeah, no. Well they have to come from somewhere, don't they? And as sh as w sorry, you go. Um as was shown by your presentation with all of the other controls, remote controls, no one's thought about it particularly. I mean they're slightly different, so if someone's been shut in the room and said make ours a bit different from everyone else's, 'cause it's w something we should think about, but obviously no one's put any great deal of thought into it. Mm. But then when it everything is really smart, and you've just got this big chunk of black thing sitting on your coffee table, it doesn't go, I mean if you could have something that's a proper funky thing, a funky item that's individual, individual to you, I mean they could even go into um you go in with an idea and they design it on Photoshop and then they just get it printed on the plastic, you would pray you would pay a lot extra, because it's individually being a plastic was being made for you. But people could have anything that they wanted. Because of the produ Mm. Yes. Yeah. Well, it's innovation for money's sake. The the people have to keep buying. Yeah. And you can't get you've got your handset that works fine, but you can't get the battery anymore for that type of phone, because the phones have moved on, things like that. Yes. It's madness. Um In closing There we go. Um our costs are below budget with recommendations that they the budget be increased, but I think I don't know, d what do you think? Do you think that's takes into account um overheads like us being well paid kind of a thing? And the heating for the building, do you think our budget includes everything, all the costs that are going out? So it looks well it looks like it's gonna be fifty percent profit, you've still got all of the overheads to come out of that. So maybe increasing it, you would also have to increase the price that it's sold at. But I think but you were saying that that's quite Hmm. Yeah. Mm. Yeah. It's a shame it won't ever get made. Maybe it will. Maybe someone'll r run down and patent it. Um the project has been evaluated well and truly. Um and we've got the meeting survey and questionnaire. Oh, so we've got about fifty minutes to catch up with everything that I fell behind with, so I'll be delegating in my um role as Project Supervisor, so good luck. I think the celebration is the twenty five pounds. Either that or we'll be dancing on the desks. Oh. Um ye ah, just the last, I think. I think I've got minutes for two of the meeting and the last thingy. I just got con

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# Meeting ID: 133

Data Source: Train

## Executive Summary

The project manager introduced the upcoming project to the team members and then the team members participated in an exercise in which they drew their favorite animal and discussed what they liked about the animal. The project manager talked about the project finances and selling prices. The team then discussed various features to consider in making the remote.

## Complete Meeting Transcript

Hi, I'm David and I'm supposed to be an industrial designer. Um, I just got the project announcement about what the project is. Designing a remote control. That's about it, didn't get anything else. Did you get the same thing? Cool. There's too much gear. Okay. Can't draw. Um. Yeah. Um, well anyway, I don't know, it's just the first animal I can think off the top of my head. Um. Yes. Big reason is 'cause I'm allergic to most animals. Allergic to animal fur, so um fish was a natural choice. Um, yeah, and I kind of like whales. They come in and go eat everything in sight. And they're quite harmless and mild and interesting. Tail's a bit big, I think. It's an after dinner dog then. Hmm. It does make sense from maybe the design point of view 'cause you have more complicated characters like European languages, then you need more buttons. So, possibly. Hmm. Yeah. And you keep losing them. Finding them is really a pain, you know. I mean it's usually quite small, or when you want it right, it slipped behind the couch or it's kicked under the table. You know. Yep. Mm-hmm. I think one factor would be production cost. Because there's a cap there, so um depends on how much you can cram into that price. Um. I think that that's the main factor. Cool. Okay. Right. Um well this is the kick-off meeting for our our project. Um and um this is just what we're gonna be doing over the next twenty five minutes. Um so first of all, just to kind of make sure that we all know each other, I'm Laura and I'm the project manager. Do you want to introduce yourself again? Okay. Great. Okay. Um so we're designing a new remote control and um Oh I have to record who's here actually. So that's David, Andrew and Craig, isn't it? And you all arrived on time. Um yeah so des uh design a new remote control. Um, as you can see it's supposed to be original, trendy and user friendly. Um so that's kind of our our brief, as it were. Um and so there are three different stages to the design. Um I'm not really sure what what you guys have already received

um in your emails. What did you get? Mm-hmm. Is that what everybody got? Okay. Um. So we're gonna have like individual work and then a meeting about it. And repeat that process three times. Um and at this point we get try out the whiteboard over there. Um. So uh you get to draw your favourite animal and sum up your favourite characteristics of it. So who would like to go first? Very good. Mm-hmm. Yeah. Yeah. Right. Lovely. Right. You can take as long over this as you like, because we haven't got an awful lot to discuss. Ok oh we do we do. Don't feel like you're in a rush, anyway. Ach why not We might have to get you up again then. I don't know what mine is. I'm gonna have to think on the spot now. Is that a whale? Ah. Okay. God, I still don't know what I'm gonna write about. Um. I was gonna choose a dog as well. But I'll just draw a different kind of dog. M my favourite animal is my own dog at home. Um That doesn't really look like him, actually. He looks more like a pig, actually. Ah well. Do you? Oh that's very good of you. Uh. Um he's a mixture of uh various things. Um and what do I like about him, um That's just to suggest that his tail wags. Um he's very friendly and cheery and always pleased to see you, and very kind of affectionate and um uh and he's quite quite wee as well so you know he can doesn't take up too much space. Um and uh And he does a funny thing where he chases his tail as well, which is quite amusing, so It is. I think it is. He only does it after he's had his dinner and um he'll just all of a sudden just get up and start chasing his tail 'round the living room. Yeah, so uh Yeah, maybe. Maybe. Right, um where did you find this? Just down here? Yeah. Okay. Um what are we doing next? Uh um. Okay, uh we now need to discuss the project finance. Um so according to the brief um we're gonna be selling this remote control for twenty five Euro, um and we're aiming to make fifty million Euro. Um so we're gonna b

e selling this on an international scale. And uh we don't want it to cost any more than uh twelve fifty Euros, so fifty percent of the selling price. Sure. All together. Um I dunno. I imagine That's a good question. I imagine it probably is our sale actually because it's probably up to the the um the retailer to uh sell it for whatever price they want. Um. But I I don't know, I mean do you think the fact that it's going to be sold internationally will have a bearing on how we design it at all? Think it will? Um. Hmm. Oh yeah, regions and stuff, yeah. Yeah. Okay. Yeah. Well for a remote control, do you think that will be I suppose it's depends on how complicated our remote control is. Yeah, yeah. Okay. What, just like in terms of like the wealth of the country? Like how much money people have to spend on things like? Aye, I see what you mean, yeah. Marketing. Good marketing thoughts. Oh gosh, I should be writing all this down. Um. Mm. Yeah. Yeah, yeah. Like how much does, you know, a remote control cost. Well twenty five Euro, I mean that's um that's about like eighteen pounds or something, isn't it? Or no, is it as much as that? Sixteen seventeen eighteen pounds. Um, I dunno, I've never bought a remote control, so I don't know how how good a remote control that would get you. Um. But yeah, I suppose it has to look kind of cool and gimmicky. Um right, okay. Let me just scoot on ahead here. Okay. Um well d Does anybody have anything to add to uh to the finance issue at all? Thin No, actually. That would be useful, though, wouldn't it, if you knew like what your money would get you now. Mm-hmm. Yeah, yeah. Oh. Five minutes to end of meeting. Oh, okay. We're a bit behind. Yeah. Right, so do you think that should be like a main design aim of our remote control d you know, do your your satellite and your regular telly and your V\_C\_R\_ and everything? Mm-hmm. Yeah. Or even like, you know, notes about um what you wanna watch. Like you might put in there oh I want to watch such and such and look a Oh that's a good idea. So extra functionalities. Mm-hmm. Hmm. Um okay, uh I'd wel we're gonna have to wrap up pretty quickly in the next couple of minutes. Um I'll just check we've nothing else. Okay. Um so anything else anybody wants to add about what they don't like about remote controls they've used, what they would really like to be part of this new one at all? You keep losing them. Okay. Yeah. W You get those ones

where you can, if you like, whistle or make a really high pitched noise they beep. There I mean is that something we'd want to include, do you think? Dunno. Okay maybe. My goodness. Still feels quite primitive. Maybe like a touch screen or something? Okay. Uh-huh, okay. Well I guess that's up to our industrial designer. It looks better. Yeah. Okay. Okay. Right, well um so just to wrap up, the next meeting's gonna be in thirty minutes. So that's about um about ten to twelve by my watch. Um so inbetween now and then, um as the industrial designer, you're gonna be working on you know the actual working design of it so y you know what you're doing there. Um for user interface, technical functions, I guess that's you know like what we've been talking about, what it'll actually do. Um and uh marketing executive, you'll be just thinking about what it actually what, you know, what requirements it has to has to fulfil and you'll all get instructions emailed to you, I guess. Um. Yeah, so it's th the functional design stage is next, I guess. And uh and that's the end of the meeting. So I got that little message a lot sooner than I thought I would, so Mm-hmm. Uh-huh, yeah. Th Okay, well just very quickly 'cause this we're supposed to finish now. Um I guess that's up to us, I mean you probably want some kind of unique selling point of it, so um, you know Yeah. Mm-hmm. Yeah. Okay. Right, okay, we'll that's that's the end of the meeting, then. Um. So, uh thank you all for coming. Um I'm Craig and I'm User Interface. Yeah. Well, my favourite an

imal would be a monkey. Then they're small cute and furry, and uh when planet of the apes becomes real, I'm gonna be up there with them. Yeah. I know um My parents went out and bought um remote controls because um they got fed up of having four or five different remote controls for each things the house. So um for them it was just how many devices control. Uh. Mm-hmm. Great. And I'm Andrew and I'm uh our marketing expert. Mm-hmm. Mm-hmm. Yeah, that's that's it. Yeah. I will go. That's fine. Alright. So This one here, right? Okay. Very nice. Alright. My favourite animal is like A beagle. Um charac favourite characteristics of it? Is that right? Uh, right, well basically um high priority for any animal for me is that they be willing to take a lot of physical affection from their family. And, yeah that they have lots of personality and uh be fit and in robust good health. So this is blue. Blue beagle. My family's beagle. I coulda told you a whole lot more about beagles. Boy, let me tell you. Impressionist. Alright. Mm. Superb sketch, by the way. Yep. I see a dog in there. Yep. Now I see a rooster. What kind is it? Is he aware that th it's his own cha tail he's chasing? Hmm. Probably when he was little he got lots of attention for doing it and has forever been conditioned. 'Kay. Um, can we just go over that again? Uh, so bas at twel Alright, yeah. Okay. So cost like production cost is twelve fifty, but selling price is is that wholesale or retail? Like on the shelf. Our sale our sale anyway. Yeah, okay okay. Okay. Mm-hmm. Alright. Yes. Mm-hmm. Mm-hmm. Well right away I'm wondering if there's um th th uh, like with D\_V\_D\_ players, if there are zones. Um f frequencies or something um as well as uh characters, um different uh keypad styles and s symbols. Um. I don't know. Yeah. Yeah. Yeah. And then a and then al the other thing international is on top of the price. I'm thinking the price might might appeal to a certain market in one region, whereas in another it'll be different, so Just a chara just a characteristic of the Just Or just like, basic product podi positioning, the twenty five Euro remote control might be a big hit in London, might not be such a big hit in Greece, who knows, something like that, yeah. Yep. Right away I'm making some kind of assumptions about what what information we're given here, thinking, 'kay trendy probably means something other than just basic, something other than just standard. Um so I'm wondering right away, is selling twenty five Euros, is that sort of the thi is this gonna to be like the premium product kinda thing or Uh-huh. Mm-hmm. Yep. Yeah, I'd say so, yeah. No. Yeah, yeah. Mm-hmm. Do we have any other background information on like how that compares to other other Yeah. Mm-hmm. Yeah, interesting thing about discussing um production of a remote control for me is



that I as you point out, I just don't think of remote controls as somethin something people consciously assess in their purchasing habits. It's just like getting shoelaces with shoes or something. It just comes along. Do you know what I mean? Like so sort of like how do you I I mean one one way of looking at it would be, well the people producing television sets, maybe they have to buy remote controls. Or another way is maybe people who have T\_V\_ sets are really fed up with their remote control and they really want a better one or something. But Right. Right. Okay so Right, so in function one of the priorities might be to combine as many uses I think so. Yeah, yeah. Yeah. Well like um, maybe what we could use is a sort of like a example of a successful other piece technology is palm palm pilots. They're gone from being just like little sort of scribble boards to cameras, M\_P\_ three players, telephones, everything, agenda. So, like, I wonder if we might add something new to the to the remote control market, such as the lighting in your house, or um Yeah, yeah. An Yeah. Like, p personally for me, at home I've I've combined the um the a

udio video of my television set and my D\_V\_D\_ player and my C\_D\_ player. So they w all work actually function together but I have different remote controls for each of them. So it's sort of ironic that that then they're in there um you know, the sound and everything it's just one system. But each one's got its own little part. Mm. Mm. Mm. Mm-hmm. Mm-hmm. Yeah. Yeah. That's just really good id Yep. Uh, sure. I remember when the first remote control my my family had was on a cable. Actually had a cable between it and the T\_V\_ and big like buttons that sort of like, like on a blender or something. And um, you know, when I think about what they are now, it's better, but actually it's still kind of, I dunno, like a massive junky thing on the table. Maybe we could think about how, could be more, you know, streamlined. S Something like that, yeah. Or whatever would be technologically reasonable. 'Cause it could b it could it could be that f it could be that functionally that doesn't make it any better, but that just the appeal of of not having You know, these days there's a r pe things in people's homes are becoming more and more like chic, you know. Um, nicer materials and might be be worth exploring anyway. Okay. Um. Before we wrap up, just to make sure we're all on the same page here, um, do we We were given sort of an example of a coffee machine or something, right? Well, um are we at ma right now on the assumption that our television remote control may have features which go beyond the television? Or are we keeping sort of like a a design commitment to television features? I I don't know. Yep. Yeah, sure. Okay. Okay, yeah. Okay. Okay. Okay. Alright.

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# Meeting ID: 12

Data Source: Train

## Executive Summary

So we are here for the functional design meeting mm I will take notes during this meeting so I will try to summarise it and put that summary in the shared folder if you want to look at it afterwards so then uh each of you will uh lead a presentation on the task that has been required last time We have a technical problem uh . Otherwise , could you just describe by hand ? With the the whiteboard ? So um the question well first of all what to control . So most people want to have a a remote for their hi-fi and T\_V\_ and stuff like that . and other people also want to have remotes for controlling um whole house . so there's a project I think called X\_ house or something like that that does that , uh you can integrate your remote with uh computers stuff . the finder feature yeah by whistling or whatever . Uh if you have the finder feature then you can also have uh at the same time as and general voice commands if you want yeah . so the user interface will consist of two parts . Uh and th the buttons part would be uh a set of buttons for choosing devices , a set of buttons for special navigation in space , a set of buttons for linear access of medium and a set of buttons for random access . What do you mean by linear access then ? Like a video tape goes forward , backwards , uh fast and stuff yeah . For special navigation for example you might have a T\_V\_ in the menu and you going to change yeah ? and also parameter changing . So if there are common parameters maybe we should put special buttons for that um or maybe we could have everything uh generic Voice command w we could specify anything . We could assign any button a command to any button , if we have enough processing power , Um I dunno if you can open the Short-cut to AMI shared folder ? Maybe you can send it to me by email . I will try to show it to everyone , in our usability lab we observed the remote control use among one hundred subjects and the subjects also filled a questionnaire so you can see that um seventy five per cent of users find most remote controls ugly Eighty per cents of users would spend more money when the remote control would look fancy . seventy five per cent of users say they s zap a lot . Uh the buttons have are to be um uh uh like you say resist resisting to to shocks . Um and fifty per cents of users say they only use uh ten per cents of but of the buttons in the in the remote control . F not many buttons , and uh and uh uh u useable buttons . but in fact we it it seems that we are going to make a T\_V\_ remote control according to new requirements I received from the management so they said uh they lost uh often the remote control in in the room so they want to have a way to to lot of the time they it takes too much time to learn how to use a new remote control . So they want something s really very simple

and uh easy to use . And uh remote controls are bad for R\_S\_I\_ so you we have to make it uh more ergonomic yeah . We know that uh the user use uh a lot their um remote control um to to change channel . Um and um to to change uh volume selection of the for the younger it's very important To have L\_C\_D\_ and voice . and speech recognition . And uh and the others is not so important So as we say before , I think uh um a remote control lightening in the dark it's it's a good thing . Because I received that email from management board and they seems to tell that that if we want to be on the market as early as possible we should uh focus on T\_V\_ more where it seems that the market is more important . but I think we have some technical problem or so . So I'm just going to describe briefly what we do in the remote control . Basically we have a a battery a power supply here . After that we just have um user interface . which could be um a L\_C\_D\_ let's say or um an array of push button , something like that . Push button or a L\_C\_D\_ . After that we we feed that into um uh an electronic chip . So I say U\_C\_ and I feed that to uh L\_E\_D\_ which is uh infrared um which is a an infrared um component . Um we just have to define the processing power that we need uh standard uh standard remote control takes maybe uh one month to to do that . So the only time problem is the sp voice recognition . I would say uh about eight months to have the first results . How much will it cost for one hundred thousand ? Usually this is less tha at two dollars per chip . and what about if we design a remote control which can be configure as you want ? another thing is that if we make something that's simple and easy to use that's bas to use immediately that means that it will be exactly the same as everything else . so maybe if we design something very simple and easy to uh find when lost it will uh add uh a serious competitive advantage so we don't have to make a very complex remote controls to access teletext and stuff like that So anyway we don't have to include this feature because it's it's not used any more by users , And then also we have to make very uh uh clear that this uh this remote control is is part of of our products and show our corporate uh logo and and colours on the on the design as well so that uh they identify it as one of our product . So before uh finishing we can uh define uh what would be the characteristic of the o th of the control of the remote control so from from the the Marketing Expert I think a key aspect is the easy to use aspect , So few buttons , channel , volume control Maybe switch T\_V\_ on and off I discovered that when I did a quick look , uh they do now som they do something which is quite nice now , you have a button , you you press it , and this is uh the previous channel which has come back . Maybe we can include that also . Previous previous channel button . How should they how should we implement that ? Because uh could be numerical only or could be also incremental . This is uh incremental , but once you press it for a long time , you go five by five . Because you have your previous channel button if you have incremental only it's not uh it isn't worth it because the previous channel is eith either minus one or plus one . I mean you know there is are some with a wheel like this . Instead of having the up down buttons for uh you can have the wheel . So have a wheel for incremental , have the digits uh on the lower side that can be closed I would say the wheel is better . not a a wheel but a ball , so it should be lightening in the dark I think because most people lost their remote control . and do we put an L\_C\_D\_ display ? If you do not multi function then there is no p point in having L\_C\_D\_ . Just increase the cost . So no L\_C\_D\_ ? And so no speech as well because it w it would delay too much the development process Yeah . That would be cool . But eight months is really long so I we will move to next meeting so in after the lunch break and I I will make a summary of that meeting that I will put in the shared folder you can't see Uh maybe for next meeting uh send me your presentation before by email so that we can see

them uh altogether .

## Complete Meeting Transcript

Mm. Yeah. Um I dunno if you can open the uh m is not here. Uh in yeah okay. No. In document. Mm computer yeah. Here. Here. But it's not Um. Mm-hmm. Yeah, I can do that. Okay. Um. It's participant one? Okay. You can uh. Yeah. Okay so you can you can go. Okay so in our usability lab we observed the remote control use among one hundred subjects and the subjects also filled a questionnaire okay? And here I have the results so you can see that um seventy five per cent of users find most remote controls ugly so we have to find something to make them more more nice, more kind. Eighty per cents of users would spend more money when the remote control would look fancy. Eighty hundred per cent of users would spend more money when the remote control would look oh to it's not good. So okay. So it's not in theory but I I can I can say yeah. Fifty f uh seventy five per cent of users say they s zap a lot. So mm we have to have a remote control uh very um out for that. Uh the buttons have are to be um uh uh like you say resist resisting to to shocks. Um and fifty per cents of users say they only use uh ten per cents of but of the buttons in the in the remote control. So all the buttons we we have to put are have to to have um a use a real use and not only or Yeah. F not many buttons, and uh and uh uh u useable buttons. Sorry? Yeah. Uh most for most is T\_V\_. 'Kay you can go so. So there are other frustrations expressed by users, so they said uh they lost uh often the remote control in in the room so they want to have a way to to find it. Um and um lot of the time they it takes too much time to learn how to use a new remote control. So they want something s really very simple and uh easy to use. And uh remote controls are bad for R\_S\_I\_ um I dunno. Yeah. Uh. Okay um before that I I have some some some thing uh to say before um We know that uh the user use uh a lot their um remote control um to to change channel. Um and um to to change uh volume selection of the and uh and not uh a lot for setting for setting the the channels and uh thing things like that. So it's better to put uh uh uh something very easy to set and uh and Very accessible yes. That's right. So then we asked some questions to them and um we asked this question if they prefer an L\_C\_D\_ screen or on their remultific function remotes control and if they mm pay more for speech recognition in remote control and you can go we have here the results of of the questions. So you know that um for the younger it's very important to have the s yes and speech recognition. And uh and the others is not so important but uh we know that uh uh people between fifteen and twenty five are people who watch a lot T\_V\_ and uh who who wh can use a lot this uh. So maybe we we can have a speech recognition in. Yeah. Mm. Okay and if there is th the conclusion now. So as we say before, I think uh um a remote control lightening in the dark it's it's a good thing. Uh not to many mud buttons like we we said before, e easy to use uh a way to find it easily in the room and uh uh resistant to to shock and to to An I s no, yeah. I dunno if you see something else important or Mm. Yeah. Mm. Mm. Mm? Yeah. Oh. Would j Uh yeah w I I think they they say that it's uh difficult to learn how to use it but i when you know how to use it, it's it's okay. But Yeah. Mm. Mm. Mm. Mm. Mm. Mm. Mm. Mm-hmm. Hmm. Mm-hmm. Mm. No. No no. I dunno, I dunno it. 'Kay thank you. Okay everyone's ready. So we are here for uh for uh functional design. Okay? So we are here for the functional design meeting mm so first I will show the agenda so we will uh I will take notes during this meeting so I will try to summarise it and put that summary in the shared folder if you want to look at it afterwards so then uh each of you will uh lead a presentation on the task that has been required last

time so user requirement specification, technical function design and working design. Then I will uh present you some new project requirements I received from

uh the management board. Then we will take uh the decision on on the remote control uh needed functions and then I will assign you the task for the next part of the meeting. Of the of the process. So uh who want to start the the presentation of what they did? You can start. You have uh PowerPoint? Ah yeah maybe there. Okay. Who are you? Ouch. And We have a technical problem uh. You put it on Yeah. You have no Over. Okay. There's no We have a technical problem. If you remember yeah but that's Yeah. Yeah. Okay. Okay so special navigation, linear access, random access and there's a fourth one no? So the better now for special navigation? Okay. Then linear access then random access. Ah yeah parameter okay. Okay. Okay. Okay and and voice command did you uh Okay. Okay. Okay. So that's uh that close your investigations? Okay. Okay. Maybe we can have a look at the user requirements with I dunno if I can open it. Maybe you can s It's Messenger no? In which folder? Short-cut to AMI shared folder? Maybe you can send it to me by email. Just to participant one. At AMI. I will try to show it to everyone, that would be more comfortable. You send it? Yeah. Uh this is this email. Okay. So maybe I can switch slides when you whenever you ask, that will be more convenient. So okay, functional requirements. Mm. Yeah. We can just keep doing that? Yeah. Okay. Okay. Okay. Okay, so fewer buttons maybe would be good? Okay. Yeah. Yeah but in fact we it it seems that we are going to make a T\_V\_ remote control according to new requirements I received from the management bo I will present them in the following. Okay. Yeah. To find it. Yeah. Yeah. Okay. What is her other side? Oh yeah? I did not knew that. Okay so you we have to make it uh more ergonomic yeah. It's your job Oh. Uh sorry got a message from Microsoft. Yeah. Yeah yeah. Yeah. Okay. Yeah. Okay. Yeah. This function should be very uh accessible. Yeah, okay. This is the main function okay. Yeah. Yeah. Yeah. To have L\_C\_D\_ and voice. Okay. Yeah maybe this this is important. Moreover th maybe those uh like those teenager customer could advice their parents to buy this equipment and so we can we have to take care of that point of view I think or so. Yeah. Okay. Yeah. Okay. Okay these are the user requi Yeah. No no no. We w it seems that we no want to have a T\_V\_ remote control. From the management board I receive an email. Cos it would be costly uh and and also it it would take more time to develop to have a a general generic remote control. That it would be too long to develop. Oh yeah. Because I received that email from management board and they seems to tell that that if we want to be on the market as early as possible we should uh focus on T\_V\_ more where it seems that the market is more important. So maybe it's a good decision. I dunno. What's your opinion? Okay. Maybe you can go to the whiteboard if you have some drawings to do I don't know. Okay. Are you okay? U\_C\_ is the central unit? Okay yeah. Computation. Okay. Okay. Okay so this is quite easy. There is not that much constraints. To have a you s you speak about with voi voice control? Standard button one. So do you have any idea of how long it would take to have voice recognition now? Okay so i it's a bit long yeah. One month for the standard one with button. Even if we have a L\_C\_D\_ display? Okay yeah. Okay so we can take this into account. So who think it would be good to go for uh like speech recognition? Yeah it will. Euros. Yeah, yeah. Well each unit is is sell uh twenty five Euros. Because we are It seems that that we want to sell like four million units from the first meeting. Okay. Maybe we can uh we can look at the new requirement I receive from the management board and discus discuss all function we want to have. Yeah I I will continue. Well ask your question if you want. Okay. It's not intuitive first. Yeah. But, but also it seems that Yeah. Yeah. Yeah. Maybe it would be more complex to configure it to be simple than creating a s

imple product. Yeah. But also we we see that that most people find it find remote controls too complex because they have too many buttons and they mainly use only channels and volume buttons. So we may just uh make a very easy to use remote control with mainly those buttons and maybe also um some lightning stuff too because most people find also hard to to find the remote control. Losed lose it etcetera. These these are these two points are the main frustrations so maybe if we design something very simple and easy to uh find when lost it will uh add uh a serious competitive advantage without making something too complex and too long to develop. So but le let us see first the new requirement. So we don't have to so this this uh is uh is um in the this is in the same direction as we were speaking so we don't have to make a very complex remote controls to access teletext and stuff like that Yeah but then you have to you have to define the buttons to surf amongst pages and stuff. Yeah. So well Yeah. So anyway we don't have to include this feature because it's it's not used any more by users, they prefer to s Yeah. I dunno. If i one button is still one more button. If if we want to make it very simple we have to reduce number of buttons compared to th to our competitors. Well anyway I have this point. We can discuss. Also um so as as I told before uh it would be better if it's only for the T\_V\_ um because we want to be quick on on the market. And then also we have to make very uh uh clear that this uh this remote control is is part of of our products and show our corporate uh logo and and colours on the on the design as well so that uh they identify it as one of our product. So this is the the key point. So before uh finishing we can uh define uh what would be the characteristic of the o th of the control of the remote control and which button do we need which function do we want etcetera. So do you um so so from from the the Marketing Expert I think a key aspect is the easy to use aspect, it should be very simple and most button are never used only ten per cent of the button are are used often so I think we have to do something very simple and I think we all agree on that point, no? Yeah okay. So yeah the key point here is simple. Maybe. So few buttons, channel, volume control and what el what function do you see in addition to that? Yeah. Maybe switch T\_V\_ on and off Yeah. Yeah. Volume, maybe a mute button, and then on off button. And that's all? Mm. Okay. Yeah this is cool. Maybe we can include that also. Previous previous channel button. So we have like channel button, the previous channel button, the volume button, plus a mute button, and uh just the the traditional on off button. Yeah. I I talk about that, yeah? Yeah. Incremental definitely because zapping you you switch them. We go faster? Mm. Maybe we should have also a digit button Yeah. Maybe we have also to have digits or only incremental. I dunno bec because if you have the Uh. Yeah. Because you have your previous channel button if you have incremental only it's not uh it isn't worth it because the previous channel is eith either minus one or plus one. So I think we need also digits. Maybe we we can make very obvious the channel and volume button button and smaller button down there with the the digits. Yeah. Yeah. Yeah. Yeah. Maybe we can have a wheel for incremental. Okay. So have a wheel for incremental, have the digits uh on the lower side that can be closed so as you say protected, and uh yeah I think this is the basi And do we do we have a No, a wheel is better. I would say the wheel is better. What is the expert of uh Okay. Yeah. That's a good idea. Well also we have to decide uh so it should be lightening in the dark I think because most people lost their remote control. Okay. Yeah, and do we put an L\_C\_D\_ display? Because it was important for young customers if you remember. Okay. So no L\_C\_D\_? And so no speech as well because it w it would delay too much th

e development process. Yeah. That would be cool. But eight months is really long and Maybe we can just uh Okay. So um I I will uh I will so I we will move to next meeting so in after the lunch break uh here are the individual uh action uh you are required to do but you will be uh recalled to the actions by uh email I think but you can take notes if you if you want but well the instruction will be sent. So thank you

for uh your suggestion and I I will make a summary of that meeting that I will put in the shared folder you can't see and uh and then you will um you will be able to to see what has been uh has been said on on this meeting and and what has been decided. Uh maybe for next meeting uh send me your presentation before by email so that we can see them uh altogether. That would be easier. No it did not work. She send it to me by email. So maybe this is better, to send it by email. Okay? So yeah I I'm it's in the first uh email so I'm participant one at AMI uh where is that, it's here. Participant one at AMI. Okay. So see you after lunch break. Hello. Make a start yeah. So. Cable, camera. Should be in my in their folder no? Up. Um at three I think. No? Mm. Do we think w s in the in the wrong folder maybe? It is possible. It was somewhere in something like this. I don't remember the name actually must be something like messenger AMI or something. Go up. Yeah go up. Again. No. Go back. Uh maybe messenger AMI. Messenger. No. There is nothing. Let's go and check. I'll go and check. Okay. Yeah. Yeah. So uh. Basically what we want here is a remote control right. So um the question well first of all what to control. So most people want to have a a remote for their hi-fi and T\_V\_ and stuff like that. And but other people want th also remotes for controlling uh and toys like robotic pets and little robots and stuff and other people also want to have remotes for controlling um whole house. Yeah, so there's a project I think called X\_ house or something like that that does that, uh you can integrate your remote with uh computers stuff. So there is one that is one thing. The other is the the finder feature yeah by whistling or whatever. Uh if you have the finder feature then you can also have uh at the same time as and general voice commands if you want yeah. So I think it should be a package in that case. Uh so the user interface will consist of two parts. One is the voice command part and on one is the actual buttons part. Uh and th the buttons part would be uh a set of buttons for choosing devices, a set of buttons for special navigation in space, a set of buttons for linear access of medium and a set of buttons for random access. Yeah? Like a video tape goes forward, backwards, uh fast and stuff yeah. Um. Mm? Yeah. For special navigation for example you might have a T\_V\_ in the menu and you going to change yeah? Uh. Mm. Yeah and also parameter changing. So if there are common parameters maybe we should put special buttons for that um or maybe we could have everything uh generic but uh there are a lot of uh remotes on the market right now and basically this is most of the almost everybody has this stuff. Voice command w we could specify anything. We could assign any button a command to any button, if we have enough processing power, I guess so. Yeah. Yeah. Yeah. Uh yeah I think so. Not so far. Where did you put it? mm. I'm designing the user interface. But what kind of remote controls did you look at? What kind of task was it? It was a T\_V\_? Huh. Uh-huh. Ah! Good. Other side yeah, yo wa your wrist. It i can become painful you can have tendonditis. Yeah. If you also up on a computer in a strange position. Ergonomic. But uh. Have to say ha ha. Mm-hmm. The first question. Mm. Mm. Mm I it's not true I think. The the second claim that you put. Yeah. I think that should be the same. I have uh I've no idea I mean I should know a bit more about how fast we can uh design it. I don't think Uh yeah. Yeah. Okay. Yeah. Yeah. Like a you feel a b

it like a dog with this stuff. This will think this will take more time to develop also. Yeah. Soon. Yeah. So the only time problem is the sp voice recognition. Yeah. Yeah. Ten years. But we don't have time to market. I think we should contact management. Well. Uh How muc how much do you get how much do you if you buy one million units h no, one hundred thousand units. Eh chips. We're gonna need chips right. Yeah. How much will it cost for one hundred thousand? Okay. So you have any idea for a powerful one that has uh good enough for do speech recognition. Yeah? Okay. So. No it doesn't. Okay. Four million. Mh-hmm. A a lot of people are uh if you have the L\_C\_D\_ screen if you can do it completely the way you want because the buttons also look the way you want them but it will be hard to

configure I mean imagine i uh so it's really something for the expert user. So I mean there are markets and markets. I think the young people are th uh are uh Christine here said uh you have a uh it is yeah. So for our young people uh it will be cool, they can be able to use it. Th maybe their parents will not but they will configure it. I guess. I don't know if there is study about that. Mm. And there are another thing is that if we make something that's simple and easy to use that's bas to use immediately that means that it will be exactly the same as everything else. All right? Otherwise, if it's different then of course everybody has somebody has to learn to use it first. Mm-hmm. Yeah. Mm-hmm. Mm-hmm. But teletext is just one button. You you just write the write the numbers. So will you add with the channel keys, right? So. I am. I'm sure that uh it don't like but uh I don't see just one button. So. Mm-hmm. Capital. Well if it is going to be just a T\_V\_ remote control it is going to be very simple. Well if it's going to be as simple as possible then just have the remote control, there is no other function that I can see really. Uh no you want to keep television on so that the advertising can revenue can come back to us. Or something. It's a memory, yeah. And uh and of course the channel changing buttons. How should they how should we implement that? Because uh could be numerical only or could be also incremental. Mm-hmm. Mm. It's an interesting idea, that if you press it for a long time it does something else, in general. So if you you have your ten buttons for the for the numeric the numerical buttons and you have instead of having just one memory you have if you press them for a long time No. Doesn't work does it. Maybe we should have a complete keyboard and just type console commands. Change channel to eight. No. Well if it's useful like if if you want to change between three channels for example then you h you cannot you cannot cannot work with just memory being incremental. Yeah. Yeah. Yeah when you zap usually you will have to press the same button all the time and Yeah. Mm-hmm. Hey I just thought this thing there is a I mean you know there is are some with a wheel like this. Instead of having the up down buttons for uh you can have the wheel. Yeah. Yeah. Mm-hmm. On the lower side I think it you have to turn it. No? If we do that. Yeah. Because of that Because it's uh it's it's not like a volume which is smooth yeah? The channels change one by one. So you have to the user has to like to should feel the the the discrete sense a bit. Yeah. Yeah. Even if i L\_E\_D\_ uh or a if it's the L\_C\_D\_ feature uh whatever, yeah. Yeah. I think it's only put on if cou have multi function. If you do not multi function then there is no p point in having L\_C\_D\_. Just increase the cost. The user does not have an advantage really. Well if it's going to delay yeah but uh it will be cool. It would. Because a user could say C\_N\_N\_ for example and it would go C\_N\_N\_. Mm. Yeah. Yeah. What is the folder that you put yours in? And did it it did work? Ah yeah. Mm. Okay. Okay what is your email? At participant one. Okay. Well during lunch break actually. So next t

ime we should have a fight. How about uh management or something. Who happens to be your friend. Okay. F do you want to start? Okay. No. What do you have in short cut? Participant two. Yeah. Otherwise, could you just describe by hand? With the the whiteboard? Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Okay. Mm-hmm. Mm-hmm. Mm-hmm. What do you mean by linear access then? Ah. Mm-hmm. Mm-hmm. Mm-hmm. I'm just thinking of some thing. Um We want to have a no, I don't know if this is a good idea. We want to have a a general remote control for everything. Okay. Yeah. Yeah. Yeah yeah. Yeah. No no. Finish tonight. But basically yeah maybe I can continue with my presentation, it would be al you you but I think we have some technical problem or so. So I'm just going to describe briefly what we do in the remote control. If fact Yeah but Do I have oh yeah. Now I have enough cables. Okay so I'm just going to describe in fact for for a remote control this is quite easy. We just have sorry, I'm going Like that. I'm just going to describe. Basically we have a a battery a power supply here. After that we just have um user interface. Let's say that um something like that, which could be um a L\_C\_D\_



let's say or um an array of push button, something like that. Push button or a L\_C\_D\_. After that we we feed that into um uh an electronic chip. So I say U\_C\_ and I feed that to uh L\_E\_D\_ which is uh infrared um which is a an infrared um component. And so what we for for myself this for for us this is quite easy. Yeah. Y it's a it's this just a chip which does all the um numerical numerical computation according to your display. And so for us uh this is quite easy. We just need to take to define what we want to do when the user interface um wants something and after that we just do the coding to s and send that to to the not the to the television. So for us this is quite easy. Yeah. Um we just have to define the processing power that we need uh especially if we want to do some uh speech recognition, in that case that mean that we are going to use more for simple Yeah of course of course. And um but for a standard one this is really easy. It's a question of one month and so on s No no no no, I say yeah standard uh standard remote control takes maybe uh one month to to do that. Yeah. Definitely. I would say. I would say uh about eight months to have the first results. Yeah. I can Um. Yeah. Yeah even. I mean that this is really standard devices now. Um eight. For uh speech recognition. And also how much uh I think during the kickoff meeting you say that we we shouldn't we shouldn't go up to twelve point five Euro per unit so how many units should we sell to have a Yeah but how many yeah. Yeah. Usually this is less tha at two dollars per chip. Yeah, we can Mm-hmm. Um I just had a question uh do you want to continue with your presenta? Is it Um you say that I don't remember by heart but thirty per cent of the tested people say that's it's quite difficult to to to use the remote control. Do they say that this is difficult but for the same reason or do they have other reason? To to maybe to keep in mind maybe to access to that menu you should do something like that. Mm-hmm. Mm-hmm. And But yeah maybe and what about if we design a remote control which can be configure as you want? You say that I want, I have six button Yeah. Yeah. Yeah. Okay. Yeah. Mm-hmm. Yeah. Yeah. Yeah. Yeah. Yeah. Yeah. Yeah. Mm-hmm. Mm. Uh I know that som you say that many people are doing plenty of a lot of zapping. I know tha I discovered that when I did a quick look, uh they do now som they do something which is quite nice now, you have a button, you you press it, and this is uh the previous channel which has come back. Mm-hmm. Mm-hmm. Mm-hmm. Let's say that we can do something like that. This is uh incremental, but once you press it for a long time, you go five by five. To go fa to go faster. Yeah. Yeah. Okay. Or we can do something like that. We can design the remote control to have access

. You know some remote control have uh protection and so you you y You Yeah, a kind of joystick. Mm-hmm. Or a or a ball, yeah, not a a wheel but a ball, and you say uh to Yeah. Yeah. Yeah, the yeah. 'S quite it's quite easy we do that w with back light on the on the wheel. A blue a blue L\_E\_D\_ and we sell that um. Yeah. Mm-hmm. Okay. Ten years Mm-hmm. Okay. Okay. Okay.

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# Meeting ID: 116

Data Source: Train

## Executive Summary

The UI and ID presented a prototype drawing of the remote control design. It can be used as a normal remote, but the speech recognition also provides a more advanced alternative interface. The speech recognition works as a finding mechanism as well. The rubber case is yellow with grey or black, with buttons either made of plastic or rubber. An extra button could activate/deactivate the voice recognition. The prototype proved extremely over budget. The main contributing factors were the solar cell and speech recognition. One way to compensate for the loss of features, but still attract their target group, would be to add more colour to the design. After the costing, the original prototype was evaluated on a scale of 1(excellent)-7(very bad). The criteria used were fancifulness (2), technological innovation (2), ease of use (2.5), whether it is easy to find (1), sponginess (1.5), number of features (1). Finally, the team evaluated the project process in terms of creativity (choices too narrow), leadership and teamwork (happy with it, but they missed communicating in between meetings), and means (SMARTboard was not satisfactory, but the digital pens were alright, but not too useful). The delay in providing costs of components was criticised.

## Complete Meeting Transcript

That's the same as uh on the top of it uh with the the round uh button. But uh we don't uh we don't uh we do think it's um well what if with ease of use, w which prefers the which the the customer of the user prefers. Plastic or rubber. Well, yeah. And a button for disabling the voice recognition. Yeah. That's the basic idea, yeah. Of our prototype. So just walk through it step by step. I mean, is it fancy, everything I believe uh I believe it's fancy. Oh, sorry. Twenty two. Yikes. Why does the price and and the s oh, one uh exa yeah. The number of uh yeah. And and does it But that's that's only for the buttons. So the button we can use plastic. And the pla uh And a plastic b just plastic buttons, a plas uh instead of rubber. Yeah, too bad. Mm-hmm. Um the yellow rubber, I think so. I'm into it. It's trendy trendy, fun yeah. Well, just give it a two. It's not the ultimate uh fancy two, but Yeah, but that's sti that's uh Looking at the user uh needs, we only uh don't we don't have the double-curved case. We w we do have uh the rubber, we do have the colours. That's two out of three. So I believe uh we are close uh to two. But

that's not in it. Ov or can we Okay. And the scroll uh wheel. The solar not many remotes have the solar, I think. Yeah. Well yeah, the voice recognition of course is hard to learn, I think. Well, hard it's not for the for the e for the elderly. They won't use it. I think I think a three. Wouldn't give it more. Yep. If you make it a four it will be three in general. If he makes it a four. Not a three. Darn. Nee. A seven, a three No. A four and a three together. Yeah, you have a two, he has a two. Three? And a three? Nee. I know. Yes. So if you want to have the conclusion as a three three. Then you would make a four. If you fill out a four Yeah, we haven't re uh re uh really worked it out, but you c you can you can just say find and he repeats find. Yeah, but that's the that's the the basic idea of the the speaker uh But even without it Yeah. Me too. Was it one of our options? So, in the in Yeah. But I think in this case in this case we've done the best we could. I wan I'll take one. It will be a one. Yeah, but it ha doesn't has the digits. I believe it's If you uh ask yourself it offers enough features, I don't I don't think it is it has all the features um a normal remote has. Yeah. I'll give a two. But we could couldn't uh what what's the selling price? Fifty? Uh twenty five. And costs were twelve fifty. But even now, if only our production costs w uh were exceeded the double, Think. Production cost was were t uh was twenty two? So uh selling price uh would be uh yeah. That's price, but w w No. An original remote control of any T\_V\_ kind, uh a Phillips remote control, y you pay uh Yeah, I kn I know uh from a few years ago, it it it costed hundred Gilders. Four six seven eight. Nine divided by six. Hmm. Yeah, I think uh The process was good. But w um we weren't aware of the prices of the costs. And and that was the the big deal. I if we knew that before, we c we could have made the the choice between what yeah. No, no. Fantastic. Yeah. Yeah. Yeah. Response and Uh it it has yeah. Yeah, it's not accurate. The p the pointing of the pen is not um the place where it it writes its um uh where it uh Yeah, where it draws. It's uh the drawing on on the b on the board is r right from the pen. So uh You to take in account that your you m yeah uh It's too slow Hmm. Yep. If it has O\_C\_R\_, uh I think uh I would use, but uh I I just uh took notes for myself and and and that's it. It w it w yeah. It was necessary for me to uh Yeah, because if I want something on the computer, I just type it. I type faster than I write. So Economic. Yeah. But y you can if you save this image, you can open it in your shared work folder. So it's almost yeah. Yep. Mm-hmm.. A and the function of of filling an an uh an oval or an an object. I it's not possible yeah. Oh it looks like paint actually. Great. It was a privilege working with you. To

private rooms? But you see the problem, y you can't continue your uh your line. Well, it's fluffy alright. Spongy. A giraffe? Right.. Leave it here. That's alright. Like this one. It's important. Uh I think th this is device which which has a learning curve. Um novice users u use this device as uh normal users use uh a c a remote control. And after a while they start to develop uh some skills in the the voice recognition functions, and then they will not use this dial as often. But other users who are new to this device need something like that. They n they need to understand what uh how to change channels and uh change the volume, so it's easier for them Yeah, maybe so. Yes, it's Well, it's it's it's another approach, it's more that our um. There are there are many ways of doing uh things uh on such a device. It's it's quite easy. Yes, rubber? There are plastic or rubber. Uh yellow with uh grey or black or something like that. Whatever cost uh cost uh the least. No. Uh maybe we should uh think about these buttons. But Yes, but it but these are tasks that are only executed once, I think. Or not? Well okay. Okay, yeah, that's right. Or something li like that. Yes. Is it spongy? I believe it's fancy too. Okay. Well it's very expensive. Okay. Okay. Mm-hmm. Mm-hmm. Hmm. Okay. But I'm afraid it's not complete. Because we use spec uh specic uh special materials, the last item. And you have not added one item there. So it's c way too expensive. But it Yes. Well, b basically it when when this is our only option, we should even consider changing the casing, because I think there's very little added value in uh an enhanced case with these

dull functions. So Type of m maybe another market segment. Yeah. Yes. That's maybe that's better. Maybe we could uh we should go for straight and simple, but that's not what uh has been asked. So we should kick the board's uh Well Hmm. Yes. Well, maybe it's good to do it anyway, because if we evaluate it, we we can also determine if our objectives are good. So Is it fancy? I think so. But it's not that fancy. I mean I think uh I think it would have been more fancy if we used the titanium housing the casing. It would be even more oh, you really like titanium. I'm I'm into it. It has flavour. Yes, that's right. You should taste it. It has to do with fashion, I guess. So do Okay. Yes. I think I th I think it would have been I would have think uh it could have been more fancy by using the double-curved case. It would have been even more fancy, but we decided not to, because if we use a double-curved case, we could not use solar. So Yes. Yes, I agree too. It's okay. We did yes, we did good. Well, let's let's this product. So I I I think it is. I think it's innovative. No. It could have been a little bit more innovative u by using the kinetic uh energy source, but it's it's way too yes, but I think uh it's a two. Well, but there are two parts in this remote control. What you see here is is the basic part. Everybody can use it, so that's easy to use. That's for a novice user. When you have a more advanced, elaborate user, well, such a user really would like to explore all these additional functions. So in that in that way it is advanced, and I think it's easy to use for for both uh types of users. So uh It's maybe it's not very uh easy for Okay. Yeah, that's right. You're right in that, but I I guess uh an advanced user will will find the voice recognition function easy to use, because he is already he or she is already an advanced user. So After all, I think personally I would give a two. But So, it's two, two and three. Two threes. So that's ten. So that's w No, two and a half. Six and four. Six and four is ten. Divided by four is two and a half. So Yes. Four? Two? Divided by four. That's not even But that's not possible to fill in, so we have to round it. Yes. It it most definitely is it's very easy. Yes. Maybe Uh I I think I think something like that. Maybe you have to uh programme it once, so to that I r

espond to uh a certain word or a certain sentence, something like where are you, and then it will sing I'm here. So something like that. So, I th Yeah, me too. Well, it can be. There are cases um in which the outside casing is um can be uh how d how do you prono is is moldable. No, it's not one of our option, but when you look in the market, when you look Uh yes, but that's not that's not uh what they are talking about, I think. Because we compare all these uh characteristics characteristics with uh market uh with with the real market. So there are uh remote controls out there which are a lot more spongy. They're out there. Yes, but it's not good enough, so it's a two. You take one? What do you give it? No no no. Uh I'll I'll change it, I'll make it m my my mark will be a four. Basically it's it's completely programmable. You can add very m much functionality by uh using the voice recognition mode. So it's quite advanced. Yes. Has uh the signals sent to it. Absolutely. Yes. But that that's its power, I guess, because uh a regular programmable uh remote control contains, well, uh really a lot of buttons. At at least uh forty buttons. So it's it's quite s complicated to get uh to get used to. And this is quite s simple. You can use your voice to to programme it. It's Yeah, I'll give it a one. Yes. I I've I think we've uh succe succeed in in developing a product that's actually quite good, but not for this kind of market, and not for this kind of price. So Hmm. Yes. Mm-hmm. Mm-hmm. Yes, I agree. I Yeah, okay. But Yes. M about fifty Euros. That's quite ex well, it's not it's not very expensive for a remote control that that has this functionality. Yes, it's more than fifty Euros. It's quite expensive, yes. Yes. Yes, but you can you c Yes, but you can learn this thing, all these functions. And it's easier to use because those uh remote controls don't offer voice recognition and this one does. So I think it's worth its price. Well, it's it's about one point five. Something like that. Well Well, I think Mm. Actually, we had Yes. We had we had too little information actually. So And uh um the the the well, looking at room for creativity, there was w way too the the

choice of components was way too narrow. So there was not really a process of uh Well Yes. Well, in the first meeting we we already were very creative. We we thought of possibilities who are not possible uh with the the current uh offer of uh manufacturing components. So We're tempered by that, yes. Yeah, okay. I think we're a good team. Yes. Well, I tried once, but that was not allowed. I think so too. Uh. The digital pen was okay, but SMARTboard was really bad. It's The response is very slow and the possibilities are very limited. It's not accurate. Maybe it's it needs to be calibrated. It is? Okay. Okay. I I think so too. Yes. Yes. Mm-hmm. But I think it's a great solution for uh for uh a known problem, uh writing down some notes, some some inf uh information, and then um forgetting your notebook somewhere and losing all that information. Because you have everything in one place and it's quite easy quite easy it's it's possible to make this information digital and share it with others in a quite easy way. I think it's a good product. I only think it's th the the shape of the pen is too big. It's not quite uh ergonomic. Eco ergonomic. Yes. Yes, yes. That's quite what PowerPoint does. An object, yes. Yes. The drawing capabilities are very limited. And and uh w you were when you're using uh Windows, you're used to a certain interface and certain buttons, uh which you can use for drawing. And a lot of these buttons don't appear here. So it's Not not uh n not way. It's quite uh limited. Okay. Oh, very good, celebration. Pop uh pop up the champagne. Okay. I see some action over there. Okay. uh we're done, we're finished, I believe. So, are there any more cycles in this process? I think not. But um how much time did we get for this meeting? And how much time is left? Te

n minutes. Okay. Okay. Well, I think we we we all know what the redesign should be. A simple, dull, uh one-coloured box. No, it's it's just the same product that is already on the market. What is that? It's a giraffe eating a eating leaves from a tree. So you're actually promoting Bluetooth. Or blue tongue. Blue tongue. Okay. Let's wrap it up. Thank you Mister manager. Now, let's have uh a bottle of champagne.. Okay. Could could I see the scroll bar as uh as as a sort of shortcut? A a and the voice recognition as well, th maybe you could uh could uh Yeah. Okay. Okay, good. And and the case is is rubber? And the buttons? Okay, and uh the colouring? with with grey or black. Okay, we'll we'll come to that later. Um okay. Anything else to add or Yeah. M uh yeah. M m but maybe you do want a programme button to uh for example activate the voice recognition, or train the voice voice recognition. Yeah al although by pressing the button for I n don't know two, three seconds, you could also say it you'd disable it with a little beep and and but o okay, that that's not really really important. The basic okay. Okay. Um you thought of some evaluation crit criteria? Okay. You are nameless. No. Okay, so this these are the cr uh the criteria. Okay, well the then we'll switch to my presentation. Um The production costs. The costs are not under Can I Um this is the Yeah, it's it's w way above um uh above the the the twelve Euro fifty. And what makes it very expensive is uh for example the solar cell. So I guess we should skip that, because it's not that important. Yeah, the the price, the the number of items and the the sum. Um well, this is what I would call our luxury model. Um if you would if you look at the uh w w w what we could do to make it more um to make it just between the twelve Euro fifty, um then I did the following changes. Twelve Euro forty cents I came up with by leaving out the solar cells, um by not using the voice recognition feature, because it's uh it's a four Euro uh addition to the price. Um Yeah, I believe Uh, push-button, well It makes it the thirteen yeah. Push-buttons are buttons are are not the most expensive, but do add extra cost. So um yeah, th this design is not um within our price model. Um Yeah. It's still too expensive, yeah. Um I I guess if we leave the if we leave this one out, um oh. And uh maybe not use the special form. It becomes a very dull remote control, I know. But it's the board decision. Um And um yeah. Yeah. Yeah, I know. Maybe we should look at an uh focus on another uh Yeah, m uh maybe not not all that fancy, but just way way more easy uh uh um basic and uh m

maximise the profits and um Yeah. Yeah. I know, I know. Yeah. Although I think we yeah, but we could still make uh a remote control that ap uh um applies um more to young people uh by giving it another colour already. Um so it is possible to make uh uh a device that attracts a little bit more to young people. Um but uh I agree it's it's not a fancy high-tech uh device. Definitely not, no. It's not that innovative. Or however you s pronounce that. Um so, okay. Um Oh, this is the wrong one. So uh that means redesign. We do not have the time o uh now to to redesign the product. Um but we can evaluate the process and um uh uh the satisfaction on how things went. Um I'm not sure if we need to evaluate uh the device first. I guess Yeah. Yeah, that's true. We I we can learn. Yeah. Yeah. I agree. Well I d it is it is Yeah, I think so. You like the rubber, uh Roo. Yeah. No, I'll I'll I'll give it a two. You like tita That's a flavour as well. Right. Um Yeah, I know, but but it but that's fancy in the way um I mean fancy has has a lot of Yeah. Yeah. It applies. It yeah. Yeah. Yeah, I I agree. Well, with the voice recognition feature and uh No, we are evaluating this this uh design now. This prototype. Yeah. That would have been a thrill. Yep. I'm not sure. I'm not sure. Yeah. Yeah. Uh I'm doubting doubting as well. Um Yeah. Okay. Uh two or three? Thr

ee? Wha wh what would be your guess? I mean ease of use um does not only apply to the most basic functions. It's the uh it's it's overall. Is the device easy to use? Yeah. Yeah. Um Okay. Uh Roo, a three? Ruud? Okay. So I could make it e easy? Roo. No, I haven't said anything yet. Okay, but if I would say a three, then it's six, and four is ten. Divided by four is two point five. But I'm filling in a three. Does it will so it will be a two point five. Yes, it is. I have a veto. Exactly. It's not about the content, it's about okay, um is it easy to f Yeah, definitely. Yeah, or beeps or yeah. I'm here, I'm here. Yeah. Yeah. Yeah. Well, I uh we should not uh stay too long on this subject uh because of the time, but I personally give it a one. Um Sebastian? Right, well. The feel of the remote control is spongy. Well, uh it can't be more spongy. So No okay, but but for the options given, it's the most spongy one. Yeah. Yeah. They're out there. Yeah. I'll give it a one. Yeah, I know, but you have to name a fig uh a number. Because we need to go on in for the time. You are okay. The remote control offers enough features. Well, Ruud, what what do you think about it? Yeah. Yeah, I know. What what we didn't talk about is um uh I think it has. Yeah. Bec because you can um we didn't talk about it, but you do have uh remote controls that are able to adapt another signal. So, you place a a regular uh remote control in front of the other one, hit the one or the two or the three, whatever, and it r records the uh the um the the signals. So you could uh uh uh enter any comment you like, as long it's able to as long as our device is able to reproduce the infrared signal. So I think th this uh this is uh a a remote control with a very high level of features. Although there are i a few buttons, but the inside is is quite uh advanced. Yeah. Yeah. Yep. Yeah. Okay, um let's give it a number. I'll give it uh a one. For for the for this t uh type of market, I think it's a one. Yeah. So high quality, low acceptance. The product is is is uh b high qua uh has a high quality and and is uh advanced. But whether or not our clients are are um willing to pay twenty five Euros for this kind of device is doub is well, is not sure. D do you agree? Yeah. Maybe we should have a radar uh function. Twenty five Euros. Yeah. Mm-hmm. Bu but well yeah, I know, but you're paying for th for the brand, because there are uh remote controls which control your stereo, television, D\_V\_D\_, C\_D\_ player, for under twenty five Euros. Yeah.. Yeah. Okay. Um you had an overall rating. Um That's counting. Okay. Okay. Um we'll go further on with the the rest of the evaluation. About the project itself, not about the product. Um What did you think about uh the process, the project process? Ruud? Try to translate that. Any any other Uh, Roo? Roo. Yeah. Better decision. Yeah. Less. Yeah. So we could we we could be we could've been creative. But um it was tempered by the choice of components and the the price. Yeah. Yeah. Okay, Roo? Any other thoughts on that? Ruud? You agree, okay. Uh leadership. Okay,

Roo's on for his promotion. Okay. I think so too, it's it's uh of course a laboratory environment. I missed it um to be able to contact you in between and uh say uh, hey Roo uh. Um Yeah. So um Yeah, but but si uh w w w when taken in account the the situation, uh I think we performed pretty well. Yeah. Um the means, the SMARTboard, the digital pen. Did you like 'em? Because of the response or Okay. Uh Okay, so it it had to be um better aligned, or what's the word? Uh yeah. It it was calibrated just before this meeting. Uh the one before, the third meeting. So uh it's not the calibration, it's the thing itself, I think. Uh Ruud, w uh did you use the pen a lot? Or not at all? Not at all. Okay. I thought it was quite a handy uh thing, although I would like to see um O\_C\_R\_. Yeah. To digitise them. Yeah. Yeah. Yeah. Yeah. Yeah. I know. Yeah. Okay. Um What w Uh Ruud, what did you think about

the SMARTboards? Yeah. Okay, you can't really decide. No. I missed a feature to easily select uh a slide and uh distribute it to the laptops. I think that would be very easy if you could say okay, I want to use this for my own work or my own presentation further on or Or the other way around, that you could show but m I know. I know, but I know, but we couldn't use that feature, so I missed it. We weren't able to do that. At least the um I wasn't explained how to do such a th Okay. Yeah. Okay, so y it it's not even as advanced as paint. Yeah. Okay. Uh no. Yeah, the project is evaluated. Um but, well, we need to redesign uh the product. Celebrate. Okay. Um you're dismissed. No, I think we are uh ready. Private room, Roo. That sounds quite scary. No, let's find uh the way to.. I don't believe so. Well, maybe we'd get an email. Thank you for your Forty minutes. A minute or or ten maybe. M Yeah, ten or five. So, we can uh redesign our uh Uh I would like to Oh. Yeah. Yeah. It's blue tongue. Yeah. This is a new model. But Blue tongue. It's spongy.. That is uh it's a new feature next to Bluetooth to um disable all Bluetooth devices. Um Yeah, we're done here. Gentlemen, thank you for your cooperation. Yes. Well, you could use two of them to programme the um channels on the two channel button, 'cause you have to assign two channel new channels. You Yes. Uh my name is not name but Uh well, I used the the uh documents. And these uh were the most important criteria. It should be. yeah, that's uh how the fashion guys uh state it. Fancy look and feel. So Uh well appar Yeah, but apparently uh we shouldn't evaluate yet. So Yeah, I think these are the most important criteria. So uh that's about it. Um well, since we're not gonna manufacture it anyway Uh Yay. Is it? Is it fancy? So uh one? Is it uh And w yeah, w what they want wanted was uh colours and soft materials. So in that way It it's fancy. Okay, and uh was it innovative? Yep. Yeah, and uh So uh also a uh two? Is it easy to use? Well the p the most important function is easy to use. The the zapping, channel switching, volume. But the more advanced functions are probably a bit harder. Good question. Uh I'll go uh for the two. Hmm? Huh? Yeah. I yeah. Yeah, two, two, three No. Is it easy to find? Yeah, I agree. No. Uh this this was a most spongy option. Well yeah, it depends, 'cause it's the most spongy we could but yeah. Well, if I give it a one there'll be one hell of a calculation. So I'll just give it a two and make this a one point five. Well, the basic layout doesn't offer much, but the voice recognition could add a lot. So Yeah, depends. Uh depends on what you uh implement in the speech feat Signal. Um I think think a one, 'cause v with a voice recognition you could add anything you want, so that's like um Maybe even because it doesn't look advanced. Yeah, but uh with these ratings uh should be about one point s seven, yeah. Ye The prices. I agree. Draws. No. Not really. Oh, I only use it to draw a rabbit, so can't say much about it. No, or the other way around. Yeah. And no added value. At all. So In interesting design. Oh uh it it does uh have a natural uh feeling. So Yeah..

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# Meeting ID: 138

Data Source: Train

## Executive Summary

The project manager opens the meeting by welcoming everybody and saying they will be developing a new television remote control. Then each group member states his/her name and role in the group. The project manager states that the remote needs to be original, trendy, and user-friendly. The further work will be on the functional, conceptual, and detailed design. Since they all know what a whiteboard is, they do a virtual drawing by each stating their favorite animal. The project manager tells them the project budget. They proceed to discuss problems with current remotes as well as preferable styles and looks, such as using face-plates so the look is changable. The project manager closes the meeting.

## Complete Meeting Transcript

Mm. Oh my name's Andrew I'm a I'm the Market Research person for this uh for this meeting and this uh project for creating this new remote control and uh yeah I'll be uh presenting information statistics on what people want to want to uh get from this new design, what people want to like and from a fashion point of view and the practicality point of view. Um, badger. Uh it's it's got nice contrast with black and white and uh I feel they're underdog kind of status and they're, the Make mobile phones and T\_V\_ remotes to make T\_V\_ remotes. Yeah. Think a lot of the time, remotes that come with T\_V\_ players and T\_V\_s and D\_V\_ players, like they aren't like an area that's put a lot of effort into, they're very boring, very plain. Like it's very a very like um making a a stylish remote control would be a very like Easily put us one step ahead of the current competition. Um. Something that looks looks doesn't look like remote control. So if you want, something that looks like uh something that makes you think oh what's this? Like this pen doesn't really look like a pen, but it makes you think oh. So, sorry that's a bit vague. Uh I suppose suppose that's up to the marketing to to make make people aware of the product. Mm. Yeah. Well from the mouse idea you could, remote is a piece of plastic with the big rubber buttons sticking out of it which you press, whereas if you want could all be flat and the buttons are very kind of almost subtle that instead of being raised out of the device uh you push into device you see, like a mouse button. I suppose. Easily, yeah yeah. Mm. Mm, yeah that would be good. Mm-hmm, um especially if we try to sell, what two million of them. Oh sorry, four million of 'em, but uh I think if w if we



market it as as not as not well this you c you could either market it as the point of view we could have the two we could have parallel marketing s schemes where you've got one where it appeals to people that want to have the new device that looks cool, is fashionable and like you just it's it's like uh it's one that rather than ra I wan I want rather than a kind of a need relationship with the device, but that might considering the act what the device is for and the nature of some people might not like respond to having a device that they just looks nice, therefore they want it so make it practical at the same time. I think it's this is gonna have to appeal to people that want device that can enhance their living room uh but also a device that uh is practically sound. So um, I dunno we'll have to decide which which angle we're gonna go to or both. If you. Mm. Um, well we could either market it together by getting control in a set colour or with like you buy it with several uh like you ge you get the f uh the face-plates with it when you buy or as a separate thing, but uh maybe thinking of that, it's considering the nature of the device, maybe a second thing like a second campaign to market new facials for your to your might go a bit astray since it is the kind of thing where y you generally get one and then forget about it. Unless you were trying to Mm. Oh it's that's a that's a good idea. Mm. Yeah true.. I'm Kendra and I'm the Us User Interface Designer and um I haven't had a whole lot of experience in this kind of thing before but I'm m so I'll be working on the design. Right. Yep, I'm just open to being creative. Um probably a duck I just I li I like the way they look and they're just nice animals and I like how they can fly or swim or walk around or whatever. Well I think I find a lot of them really complicated to use with all the different buttons and uh it's handiest when you have one that works both the D\_V\_D\_ player or whatever and the T\_V\_ as well. Um, but that it's easy to if you can switch back and forth instead of having to press a bunch of different buttons and so I think it's is best when they're clearly labelled and you can see which buttons you're supposed to use, you know. Yeah. I think something that'

s comfortable to hold because sometimes you get the remote controls that are just those big, rectangular things and uh they're kind of awkward to hold onto, so something that's more comfortable that fits in a person's hand better. Yeah. Yeah. Yeah. But maybe they could be concave instead of sticking up to have them be kind of down so you could feel them better. Oh yeah. Like a like a mobile phone? Yeah. Well, most I think most of the remote controls now are either just black or grey, so maybe we should go with something different or be able to I was just thinking of um what they're doing with mobile phones now how you can get the different um what are they called? Like the face-plates that you change so we could have maybe I don't know if it would be feasible to do something with that, where you can change the face-plates or have kind of a variety so people can get different different things. Have it kind of look how they want to, different colours, things like that, probably just plastic because that's always the lightest. Yeah. Yeah. Okay. Right w welcome to the the first meeting of uh Real Reaction's uh um development meetings for our our new television remote control. Uh this follows our very successful entry into the the consumer market over the last year or so um which we want to to build on, taking advantage of the uh the the latest developments in in technology and the uh the latest uh uh feelings in in consumer design and and demand and uh we want to make this the the very best product th that's possible for everybody, uh one that everybody wants, uh at a good price for the consumer and at a good price for the company. Uh and to that end we need all to work together uh to do that. Um and uh b in no particular order because ev everybody is uh just as vital to this project um I'll just go round th the table, Andrew, marketing, um m Kendra with the uh um designing the the the User Interface uh uh and Kate with the the industrial design. Um. What's uh the the th th project is is here to do, is is to to get this this project up and moving, ev everybody is is free to uh say wh whatever they want, uh everybody has a contribution to make and uh everybody feel free to interrupt me at any time to

to say what you want to say. Um in in terms of the immediate meeting the uh um everybody knows everybody else, everybody's worked for the the company for a while, if if anybody feels that they need to say more about themselves please do, if if anybody wants to b briefly give their their background so that everybody's quite clear what everybody uh uh everybody's experience is please do so. Uh in fact I'd I'd I'd welcome anybody to uh say something briefly about themselves, in fact we will do that by by going round the table quickly and and saying what what contribution you you're looking to make. So we'll start with Andrew. Right Kendra. Right at least means you haven't got any preconceived ideas so. Yep, good. Okay, very very quickly, um this I don't want to make this meeting too structured because the the whole idea is that it's a um you know a think tank. Everybody says what they what they want to say, uh and we don't want to be constrained by uh kind of convention or uh uh slides on screens or or anything else um but um briefly um th th this is what we want to do. The the remote control needs to be original, there has to be something about it that uh other remote controls don't have so that as soon as people see it they think um yes that's different, uh I want one, um and that goes along with being trendy, uh uh you know the I want it uh scenario. User-friendly as as we all know, remote controls can be uh uh very user-unfriendly so we want to make ours one that people can pick up and think oh yes that's it's obvious how that works, uh and they also want to look at the price and think oh yeah that's something that I may not need another remote control but uh it's such a nice one I'm gonna have one. And last but not least, or in

deed first of all, it it must make the company money, and we make the company money by producing what the consumer wants. The uh the further work to be done is i the um the functional design, uh what it uh what it must actually do, the uh conceptual design, uh how we actually present that to the consumer and th the the detailed design i is uh how we get that into production. Uh now th the main design tool that we have available to us at the moment is is the white board and uh uh let us very quickly do what i what it says in the in the in the prompt slide here, um In fact I suggest to avoid everybody untangling themselves from the uh the the wires, that we don't do that, um So I I everybody knows what whiteboard is so we'll um uh we'll do a virtual drawing on the on on the whiteboard of of your your own uh uh favourite animal, but le let's go round the table, your favourite animal. Mm and why? Uh-huh. Oh right uh my my wife says my beard looks like a badger's arse 'cause of the the white streaks in it. Kendra. Uh-huh. Right, okay. Uh-huh, fair enough yeah. I'm not sure that I've got any favourite animal to be quite honest, I think homo sapien because of their their uh overall ability to uh uh Sorry? Indeed absolutely yes, tha that's um Okay and uh w we need to keep in mind here that the uh we want to sell this for for twenty five Euro um, we want to m make an overall profit for the the company of fifty million Euros so we're we're looking at selling a lot of these um ag across the the entire planet and and we're looking at a gross profit of fifty percent. It needs to cost twelve Euros fifty to make. Um so we're not only looking at a a very trendy original product, we're looking at making it at a very good price. Um, okay, um would anybody like t like to to start by giving their o um sort of quick views of of current remote controls. No. Any any thoughts about buttons or any oth other way of approaching the p the uh the problem? Or anybody else, strong feelings about remote controls? Are there you know, bad ones they've used or good ones they've used or ones that they've lost and never found again? Um what so wh what's in in what particular style features are you thinking about? Uh-huh.. Yeah d no I mean do you think there's a risk if it doesn't look like remote control, people won't see it as a remote control um and uh Uh-huh. Any other thoughts about um th the physical appearance of a of remote controls? I mean th the thing that i immediately comes to mind is computer mouses which um I mean y you get all sorts of shapes in the shops and s you know some quite fancy ones um than the some from personal

experience which look nice but aren't particularly comfortable. Um any thoughts about buttons or flat screens or uh uh Yes, I mean the only thing is if you're watching television in a in a a darkened room um you need to be able to uh fi find the button buttons easily. Yeah, that's uh must admit I don't think I've ever seen one with concave buttons, that's uh certainly be different. Um do we need it to uh I can't think of any re remote controls that I know of that actually light up at all. Do we do we want uh Yeah. Okay. So, Andrew have you had any thoughts yet about how we might market something which there are already millions out there and that we want to uh uh uh t take over the entire um the planet with? Mm-hmm. Mm-hmm. Mm-hmm. Okay, yeah, yeah, well I d I think an any uh any facets that we identify w we aim need to aim for for all of. Um okay well first thoughts on um the the industrial design side. Indeed. Yeah. Okay, and um colours, materials? Kendra, anyone?. Yeah. Uh-huh. Right. Yeah. Okay that's uh Again I don't think that's ever been done before, it's uh the sort of the sort of thing that would get people uh thinking yes that's something that I haven't got and uh might need so. Uh Andrew, any thoughts about uh how we might market interchangeable fronts on on the remote control? Yeah. Yeah. I think Mm-mm. Right, okay I

think we've got um a good idea now. We uh meeting is uh Needs to be k uh wrapped up fairly quickly. So uh um we've got thirty minutes to start looking at the um at the design in more detail. Um then we'll we will reconvene in in thirty minutes and try to get some of these ideas uh uh more formalised. Uh thank you very much indeed. Uh I'm Katie, I'm the Industrial Designer and I'll just be I guess presenting about the the inter workings of our little remote control and uh yeah. Uh 's horses, no particular reason why. Um I think it's important that you should be able to when you when you press the buttons it'll actually pick up the signals from kind of anywhere and you shouldn't have to like contort yourself and twist your remote control to get it the T\_V\_ to actually pick up the signal. Mm. Mm. Mm. Mm. Mm. Mm. Mm. Mm that would be good. Mm. Mm. Mm. Oh I think it's it's remote controls are kind of a unique object 'cause it's you depend on them so much, but you don't i i it's you sort of just assume they're always gonna work, you don't think of them as a comp like a computer can break down and you're kinda like oh well fair enough there's all these complex things going on, it's gonna something's gonna get messed up eventually. They they just need to be very very dependable because people sort of take them for granted and then if your remote control breaks it's God forbid you actually get up and manually change the channel it just it needs to be very effective, very always dependable. Uh I don't think we should make it too small I 'cause I think it needs to it can't be too big like you were saying big an and huge and um awkward, but also if you make it too small kinda like you know how mobile phones are getting smaller and smaller um, it's just gonna end up under a couch cushion somewhere and um yeah. But so yes dependable, and have a good medium range size. Mm, mm-hmm. Mm-hmm. Mm. Well you could come up with like novelty ones, like they've done with the the mobile phones, you can get like different you know scenes from different movies and stuff on the remote control and sorta stagger the release of them and get people like oh I want that cover on it now and that'll keep them spending money. Thank you.

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# Meeting ID: 122

Data Source: Train

## Executive Summary

In this meeting we will discuss our final design . And we will do some evaluation about the , not only the product , but also the project . And then we're going to close the project today as well . And this uh design , detailed design meeting uh we will discuss uh the look-and-feel of the design , the usability interface design , and we will do the product evaluation . We'll have the prototype presentation first . Then we will set up some evaluation cri um criteria . Then we will look at the finance . Uh we will have to see if everything we wanna do is also possible within our budget . Then we will do the project uh evaluation , But first um we will do the this is prototype presentation . this is what me and Richard came up with . The default spot for the on-off button . The Then there's the volume and channel selectors . Simple plus-minus button . Uh we thought of a help button . If you hold it and you press another button , uh the help goes to the L\_C\_D\_ screen . Then there's the zero to one to zero buttons . A button for teletext . A button for the subtitles . And the company logo . So it's rather simple prototype . Um , is this the moment where we ask or can ask questions about the functionality ? Um , when you're in teletext there usually are buttons where you just you just press it and you g go to the next teletext page . Uh , that's just uh the normal uh as th as the normal uh remote controls uh you um came in uh page uh one hundred . Now you can use the normal uh one to zero buttons . But you can also uh use the um button th for uh changing the the channel . S so uh the shifting uh button . Uh for uh yeah shif shifting up in uh on t on t uh teletext , and shifting uh down . So I thought in a few meetings earlier we uh uh tried to keep it uh simple . Uh just a few buttons and large buttons . But uh I think these are altogether quite a quite a few buttons . So I'm wondering if we if we neely really need all of those buttons . I think if you look at most controls , they've got more buttons than this . the on-off button , it's it's a necessity . The volume and channel buttons , you need you obviously need those those . The mute button could be replaced uh by pressing the volume-down button twice . I think the help button really is necessary because there's no other way to know when someone wants to know what a button does . Uh , or you can build in uh when you press uh one button uh uh you can't leave out the number buttons I guess . Uh teletext and subtitles are yeah necessary . So it's rather basic already . Just n normal plain buttons . But they're supposed to be equal sized , round , with a with a little logo on it for the for the volume , the the triangle and stuff . and for the materials we've just chosen for rubber buttons . With a a different colour than the case . I will move on to the finance part , And I can tell you that we're going to have a pretty hard time producing this

for twelve and a half Euros . I don't know if I've filled in correctly , so just correct me if you see uh something wrong . I counted two batteries . But maybe we can also use one . Since it rechargeable . That's two Euros off . We need the advanced chip . Here we have the single curves . Uh we can see that the difference between uncurved and the single curved is one Euro . Um , but I think the single curved is good for design , and also for the display to have a prominent place on the remote control . Then we have the case material supplements . It's plastic . It's the cheapest one we need . But then the biggest costs are the buttons . So maybe we really should try to discard some buttons to uh keep our costs low . Let's fir first count the buttons we have now . Uh seventeen . Uh with the help button . I think we can uh discard the help and the mute button uh by pressing down volume long , or pressing down a a number long . Uh , d I assume you'd count the volume and channel thingies for two buttons each , So maybe we can we can even make one button with the volume and the channel in one , by pressing I was thinking , maybe you could just integrate three of those numbers to one button . On the chip you've got still uh four uh four buttons . Also the L\_C\_ display , I think it's , I think it's too expensive for the display we use . If we leave out the display we can also save money on the chip . but what's the big advantage of our remote then ? Only the docking station , I guess . Which isn't the the docking station isn't even in this c s schematic . it's not even taken into the price . But would it make the remote more usable for elderly people ? Don't you think we can , if we can count this as v as one button , and integrate th uh these buttons in three , maybe it's feasible to just put the price of the remote up a little . but uh we have to stick to the twelve and a half Euros . It is . If you leave out the L\_C\_ display . And if you use less buttons . Say Or you can take the single chip . But it is possible to make one uh for uh twelve fifty . Or we can leave out the ten buttons and take one scroll wheel for the programme numbers . If you scroll you will see the numbers on the L\_C\_D\_ display . Until you've got the right number , then you push it . That would bring up the price of the scroll-wheel also . Integrated scroll-wheel push-button . Okay but then you you can push uh some other button as well . Yeah . That's right . So if you scroll to a number and then you wait a half second , then it g turns to that channel . And the regular chip is not possible ? If you want to use an L\_C\_D\_ screen you you need an advanced chip , yes . And we can save a Euro by a flat design . or we have to uh skip the subtitle uh button . but I think that's That is a big advantage , can't we integrate the teletext and the subtitles in one button ? But then again that would be d j just pretty much not an option for older people , who don't even know what a scroll-wheel is . I think so . Yeah . With only five buttons on it . And a scroll-wheel . Holding a remote with which they expect to have like ten buttons for the numbers one to zero . And just um If you press the volume button you can control the volume with the scroll-wheel . So we make one for the volume , one for the channel . Plus scroll . we can leave the teletext in if we want . So we can decrease this one to four buttons . what does everybody think about a flat or a single curved design ? I still think we should go for the single curve design . But then again , all these changes are not really okay with me . But since we just have to . I'd rather just go to the board and get us to spend eighteen dollars a a remote . I think if you make a good advertisement uh on television and in the in the guide , you can explain to the people how to use the scroll wheel . But th um I think we can then keep the single curved one . Just to express our L\_C\_D\_ screen a bit more . I think it was better to have this price list a bit earlier . Before we went on to the to the whole design . Yes . Definitely . This will really require a lot of marketing to get this to sell . 'Cause if older people like familiar forms and familiar stuff . This is not familiar for them

. But they know the scroll-buttons from uh old radios . Uh they cal also uh buttons like that for uh changing uh channels . What it costs under twelve and a half Euros ? Uh , yes they are . But we can go on with the project evaluation . I did some literature study study , and analysis of the requirements we set up earlier . Translated it into criteria , Um , is the remote fancy ? The shape , look and feel . Innovative ? What new functions are there ? Uh , easy to use ? Uh , learnability is a very important factor here . Uh , is it functional ? And the cost . The target group . Is the remote really for the group we're making it for ? I have to say this was a little hard , because the minutes of our last meeting were not here . that's because my pen failed to upload his data . Is the design fancy , on a scale of one to seven ? We all go for six ? Um , is the design innovative ? I think so , Seven ? Is the design easy to use ? Mm . Not really . I would say four . Four or five between . Between four or five . Is it functional ? Yes . Do we have too many functions ? No . Think it's uh seven . and do we um take care of the biggest frustrations of the remote control ? Like it getting lost and R\_S\_I\_ influences ? Mm , we haven't thought of that one . Think we do . Are the production costs within the preset limits ? they are now . Does the design fit the group of focus ? I think that's a three . I think with our new radio button , I think it's uh I think it's better . I still I think it's too m too fancy . Too too flashy . I would give it a four . I think I'd go for two . Is the company company recognisable ? Yes it is . we have the logo there . And they wanna put fashion in their products . Uh in the slogan of the company . And we have the removable front cases . I was also supposed to calculate the score , These are seven factors times seven is forty something . Two ? Forty one out of forty nine . That's Around eighty percent . I think that's a pretty nice score . that brings us to the project evaluation . Did we move through the right phases , you think ? Along the process ? Think we should have a should have had the finance thingy a lot earlier . In the design phase . So lack of information about prices . Was there room for creativity ? Not too much . No . It's because of the finance sheet . Yeah . Yeah , there w there was enough room , but the finance uh And I would've liked to go for the younger users also . And just to be able to access internet and get something of your own . Was it clear what everybody had to do uh according to their roles and functions ? Yeah ? Teamwork ? Did it work out ? Working together ? Also , you two of you with the uh last phase ? The tasks are very structured , Were the means sufficient for the tasks uh we had to do ? the smart-board , the d d drawing is just a pain in the ass , but The digital the digital pen is very nice . Failed download . Smart-board was irritating . the sharing of the information was uh was okay ? Pen is here . Uh , network . Have we found new ideas for having this kind of meetings ? Um , yeah any more ideas ? Or questions about the project ? Or about the product ? Because I think then that we get to our last sheet . Considering we are not going to make a docking station . Do we think we gonna get the twelve and a half million ? I think we will . If we gonna export this product . if we're n gonna make a scroll-button anyway it'd be more for the younger people than for the older people . So maybe we should just re-focus . Just put it on the market for everybody . You can you can change markets where by changing the front covers . So you can also try to uh reach the younger people by uh putting fancy covers on on the market . Just as a test . See how it works . I think then it would be way more uh popular with younger people than it is , than would be with older people . Even if it were their covers . I think we still have to fit in one more questionnaire . I think . Five more minutes ? Then we still have some questions . If somebody has some questions they can ask them now . I think I'm going to make our final presentation now . And then I will be back in about ten minutes to show you the final presentation .

Summary of the project . Are we supposed to go into our own rooms again ? Uh maybe we have to fill uh another questionnaire . And we can keep our L\_C\_D\_ screen , which can provide extra information . How to use the scroll wheel . How to use the other buttons as subtitles .

## Complete Meeting Transcript

Okay. Well this is what me and Richard came up with. The default spot for the on-off button. The mute button just below that. Then there's the volume and channel selectors. Simple plus-minus button. Uh we thought of a help button. If you hold it and you press another button, uh the help goes to the L\_C\_D\_ screen. Then there's the zero to one to zero buttons. A button for teletext. A button for the subtitles. And the company logo. So it's rather simple prototype. And uh we'll have to see from testing uh how the users take it. Sure uh just pop in at any time. I think if you look at most controls, they've got more buttons than this. And well the on-off button, it's it's a necessity. You can't drop that one. The volume and channel buttons, you need you obviously need those those. The mute button could be replaced uh by pressing the volume-down button twice. So we could cancel that one. I think the help button really is necessary because there's no other way to know when someone wants to know what a button does. Well, you can't leave out the number buttons I guess. And Yeah. So it's rather basic already. Yeah, they're It's rather hard to draw on the white-board. But they're supposed to be equal sized, round, with a with a little logo on it for the for the volume, the the triangle and stuff. Just for recognition. So and for the materials we've just chosen for rubber buttons. With a a different colour than the case. So they jump out. And uh that's about it. Yep. Yes. Yep. Yep. Yeah. Yeah. Yes. Uh that's that's a big cost. If we leave out the display we can also save money on the chip. Which isn't the the docking station isn't even in this c s schematic. So it's not even taken into the price. We we could save money on it. But would it make the remote more usable for elderly people? My mother can't even send send an S\_M\_S\_ message. So Yeah. The margin will get too small. Yeah. Ten. No remote. That's We're getting closer. Yeah. You could just not scroll for a half a second. So you won't need a button. If you want to use an L\_C\_D\_ screen you you need an advanced chip, yes. Yep. Yeah if you v could just leave out one more button. Yeah. I think so. Yeah. What if you have to scroll to page eighty eight? Eight hundred eighty eight. Yeah. Okay. No. We could make two buttons out of that. And just um If you press the volume button you can control the volume with the scroll-wheel. So that would save two buttons. If you do the same for the channel. More obvious. So if we Yeah. So If we leave out all those buttons, perhaps you can go with the flat flat case. And make it smaller overall. So if you put the the volume and channel buttons on the same height as the on-off button, the screen right behi under that, than the scroll button you get a a much smaller remote. And it sh Yeah? Yeah. Richard's argument was very good. Yeah. Yep. Yeah. Six. Yeah. Four or five. Yes. No. Mm, we haven't thought of that one. I think that's a three. I still I think it's too m too fancy. Too too flashy. Twendag sieven an twendag. Yeah. Yes. Yeah. That's true. Yeah, there w there was enough room, but the finance uh Yes. Yes, was okay. The tasks are very structured, so you can just do step by step and it's very easy. Well, the smart-board, the d d drawing is just a pain in the ass, but The digital the digital pen is very nice. Yes. Yeah. A flip-over or a more precise uh digit Yes. No. Didn't work. Yes. Yeah. Considering we are not going to make a docking station. Perhaps. Mm-hmm. Okay. Okay. Good afternoon. So Hello. No problem. Okay. That's

possible on uh this time of day. Starts at three o'clock. Uh Uh, let me see. Our fourth and last meeting. There he is. Yes. Okay this our last meeting. In this meeting we will discuss our final design. And we will do some evaluation about the, not only the product, but also the project. And then we're going to close the project today as well. So after this you will be uh free to go and uh spend all your money. And this uh design, detail

led design meeting uh we will discuss uh the look-and-feel of the design, the usability interface design, and we will do the product evaluation. Um, in order to do that we have this agenda. We'll have the prototype presentation first. Then we will set up some evaluation cri um criteria. Then we will look at the finance. Uh we will have to see if everything we wanna do is also possible within our budget. Because everything costs money, and the more functions you wanna have the more money it will cost. So we have to see if it fits within the twelve and a half Euro per remote. But we will see that later. Then we will do the project uh evaluation, and the closing after that. We've got forty minutes. So we will be finished at half past three. But first um we will do the this is prototype presentation. So, if some yeah if somebody wants step forward. Okay. Okay. Uh but um I thought in a few meetings earlier we uh uh tried to keep it uh simple. Uh just a few buttons and large buttons. But uh I think these are altogether quite a quite a few buttons. So I'm wondering if we if we neely really need all of those buttons. That's right. Yeah. Yeah. Mm. Long time. Yeah. If you put Yeah. Okay. Yeah. Uh teletext and subtitles are yeah necessary. Okay. Yep. Okay. So we had somebody about th interfa Something about the design of the buttons there? Just n normal plain buttons. Yeah. 'Kay. No. No. Yeah. Okay. Yep. Okay. That's nice. Then because we only have thirty minutes left, I will move on to the finance part, which is pretty exciting, to see if it's all possible what we wanna do. And I can tell you that we're going to have a pretty hard time producing this for twelve and a half Euros. If we see I don't know if I've filled in correctly, so just correct me if you see uh something wrong. I counted two batteries. But maybe we can also use one. I don't know if it's possible. It's rechargeable. That's right. Okay. That's two Euros off. We need the advanced chip. So there's not much to uh to save there. Here we have the single curves. Uh we can see that the difference between uncurved and the single curved is one Euro. Um, I don't know, but I think the single curved is good for design, and also for the display to have a prominent place on the remote control. I think we have to keep that. Then we have the case material supplements. It's plastic. It's the cheapest one we need. So that's uh not much to save either. But then the biggest costs are the buttons. So maybe we really should try to discard some buttons to uh keep our costs low. Because you have to we will have to get the twelve and a half Euros at the end. Um, so if we Let's fir first count the buttons we have now. Because I Sixteen. Nah, that will be even more then. Eighteen Euros. So, seventeen. Okay, including the help? Yeah. Uh seventeen. I think we can uh discard the help and the mute button uh by pressing down volume long, or pressing down a a number long. That saves us uh one Euro already. 'Cause then we have got fifteen I think? Fifteen buttons. And this is No those are one, I think. Yeah but th it's not stated in this files. So maybe we can we can even make one button with the volume and the channel in one, by pressing That's possibility as well. So And it's good for the design as well. So you can make Uh let's see. If you make this Looks a bit like uh a cross. Plus. Min. Uh s yeah channel. Yeah w Yeah th I think they count uh the materials. Yeah on the chip there. Yeah. That's right. That's right. But I think because we have the advanced chip we can just count this as one button. But No but I think Yeah. Maybe it is, but then it seems to me that it's impossible to get the twelve and a half Euros. Also the L\_C\_ display, I think it's, I think it's too expensive for the display we use. I think they uh try t That's right, but what's the big advantage of our remote then? Yeah. No. That's extra. That's extra. That's right. That's an option. Poland. Something. Polish supplier. Don't you thi



nk we can, if we can count this as v as one button, and integrate th uh these buttons in three, then we save a lot of money as well. Yeah. That's a point. Yep. No. Yeah but uh we have to stick to the twelve and a half Euros. We don't have any more budget to develop it. Yeah. So It is. If you leave out the L\_C\_ display. And if you use less buttons. Say Or you can take the single chip. There it is. But then w Good looking. Yeah. I think it's uh difficult as well, but Or we can leave out the ten buttons and take one scroll wheel for the programme numbers. Then w Because then we save ten buttons. Then we have five and one. And and see. If we have this one and we've got the advanced W uh, we're getting close. Then you will Or maybe you can um scroll. If you scroll you will see the numbers on the L\_C\_D\_ display. Until you've got the right number, then you push it. Alright. It's gotta scroll and push. Okay but then you you can push uh some other button as well. Yeah. That's right. So if you scroll to a number and then you wait a half second, then it g turns to that channel. But it would definitely crop cost, a lot. And we need the battery. And the regular chip is not possible? It has to be advanced? It has to be advanced. Yeah. Okay. And we can save a Euro by a flat design. That's an option we can Then we're almost there. Yeah. So if we Yeah but I think that's That is a big advantage, if we're But Can we use can't we integrate the teletext and the subtitles in one button? If you push it three times? Yeah. Ah that's not really that No. I think if you make a good advertisement uh on television and in the in the guide, you can explain to the people how to use the scroll wheel. If you just make it real simple. Because it saves it saves a lot of money. And we can keep our L\_C\_D\_ screen, which can provide extra information. How to use the scroll wheel. How to use the other bu buttons as subtitles. And it's good for the innovative design as well. If you would erase these. Mm eraser? And we put uh Looks a bit odd maybe. That is Something like that. Then, yeah. We've got the scroll-wheel. One, two, three, four, five buttons, if we erase this one. And these are two buttons then. Yeah. Yeah. That's really a good good idea, I think. And it will make the use of the scroll wheel uh more obvious indeed. So we make one for the volume, one for the channel. Plus scroll. That's right. So we've got one, two, three. Yeah, we can leave the teletext in if we want. That's m that's better. Y yeah. Mm yeah. Uh yeah, and then you can That's right. So we can decrease this one to four buttons. Yeah. That's no problem. Yeah. Yeah. It's uh it's more the moulds in which they are being made, I think. Single curved is really easy to just fill in. And cases come right out of the machine. And single curved you have to have a different uh different machine, than a flat one. I think this is a really easy one. Um, what does everybody think about a flat or a single curved design? Freek, what do you think? Yeah. Yep. We have to cut costs. Yeah. Yeah I'm ag Ask for more money. Yeah. Yeah. I am agreeing with the usability. Yeah. Yeah. But th um I think we can then keep the single curved one. Just to express our L\_C\_D\_ screen a bit more. So people will use it more, and especially for the help functions, it will be good if we have scroll bar, scroll button. It will be necessary to have good help function, as well. So this is scroll. I think it was better to have this price list a bit earlier. Before we went on to the to the whole design. But I'm glad we could make a bit. It's pretty different, if you saw the last one than this one. Yeah. It will. Yeah. No, but I think I think the most That's right. We can let I We can stick it out, a bit. Like a old old buttons. Maybe that's recognisable for them as well. Yeah. That's a good one. So, I'm afraid we have to move on. And it's uh it's b uh less frightening, I think. If they see this design they think oh, there are only five buttons

, and uh But we will see. Yeah. That's definitely right. Yeah. I would buy it. That's right. I would buy it if I was six. No I don't know. What it costs under twelve and a half Euros? No? Uh, yes they are. No. But we can go on with the project evaluation. Let's see. I can sit down I think. We still have fifteen minutes left, so we're nice on schedule. Um, the project process. Evaluation criteria. That's right. That was the point I forgot. I should There we are. Evaluation criteria. Go ahead. We've got five minutes I think

for those criteria. No we've got fifteen minutes but Uh yes. What? Uh yeah. Okay. Yeah, that's because my pen failed to upload his data. I tried to but it's uh it's giving errors by downloading the software. I think it's fancy. Yeah. Six. Very. Subtitles, buttons. Yeah. Seven. Yeah. So we've got twenty cents for our docking station, huh? Yeah. That's right. That's a bit dodgy. I would say four. Four or five between. Between four or five. Yeah. Is it functional? Yes. No. Think it's uh seven. It was. I had them worked out. Mm. They are ugly, not very functional, and getting lost. Yeah. No I think with our new radio button, I think it's uh I think it's better. I think it Yeah. I would give it a four. Then we have to do the three. It's the Yes it is. Yeah. And they wanna put fashion in their products. Uh in the slogan of the company. And we have the removable front cases. So, I think it's very recognisable. Yep. We've got a calculate it. Mm? N We've gonna We're going to evaluate it. Forty nine. Forty one. That's Around eighty percent. What is it? That's eighty four percent. I think that's a pretty nice score. Okay. Thank you. So, that brings us to the project evaluation. Yep. Thank you. Project process. Did we move through the right phases, you think? Along the process? That's right. So lack of information about prices. Okay. Uh Okay. Satisfaction. Was there room for creativity? No? It's because of the finance sheet. Yeah. The room was Yeah.

Restrictions. Internet access. 'Kay. Leadership. Was it clear what everybody had to do uh according to their roles and functions? Yeah? Teamwork? Did it work out? Working together? Also, you two of you with the uh last phase? Nice. tasks. Okay. Were the means sufficient for the tasks uh we had to do? Or were they too much? Smart-board. If it wants to download its uh data. Failed download. Smart-board was irritating. So you rather wanted to have a flip-over? Or something else? Faster as well, I think. Yeah. Flip-over. Yeah. Uh you need a smart board uh application I think. But I think you can Yeah. Should be possible. Yeah you can export it as image. Must Yeah must be So the sharing of the information was uh was okay? Uh, network. Yeah, pen is here on the table. Yeah. It's possible. Okay. That's nice. Have we found new ideas for having this kind of meetings? Or Yeah. Yeah. So Yeah. So everybody puts his own score. And then it mediates the score, and you can get one Yeah. That's better. So that's uh How do we call? Evaluation criteria. Okay. Mm, any more ideas? Or questions about the project? Or about the product? Because I think then that we get to our last sheet. Are the costs within the budget? Yeah. Do we Docking station. That's a good point. But maybe because of the docking station the price of the remote can also be a little bit higher? Uh and I think you can compensate that as well. So I think that shouldn't be the biggest problem, because it's very cheap to make as well. Do we think we gonna get the twelve and a half million? Or what was it? Fifteen fifteen million. I think we will. If we gonna export this product. It's innovative. Especially in America. People are pretty decadent. Sometimes. You can do more. Yeah. Just put it on the market for everybody. You can you can change markets where by changing the front covers. That's one thing you can change it with. So you can also try to uh reach the younger people by uh putting fancy covers on on the market. Just as a

test. See how it works. That's I think a good advantage. Yeah. Uh, uh then I think we can have our little celebration, right now. That's it. Yeah. I think we still have to fit in one more questionnaire. I think. I don't know. I didn't get a message from the from ending of the Oh I think I have one now. Five more minutes? Oh that's nice. Then we still have some questions. If somebody has some questions they can ask them now. Or we can put these in the project folder as well. Maybe that's Export as picture, I think. Hmm. This is another network, I guess. Does somebody see the project folder? I don't. Hmm. My Documents. Yeah, I'll just put it in My Documents and uh That's okay. Okay. I think I'm going to make our final presentation now. And then I will be back in about ten minutes to show you the final presentation. Summary of the project. Yeah. Questionnaire. I think you all get a questionnaire in in your room. And then I'll meet you in I think about ten minutes, or something. Okay. Thank you. Hopefully my pen will

download its software. Oh. Or data. So Yeah. Yeah. Uh, that's just uh the normal uh as th as the normal uh remote controls uh So um You put it uh you um came in uh page uh one hundred. Now you can use the normal uh one to zero buttons. And you But you can also uh use the um button th for uh changing the the channel. S so uh the shifting uh button. Uh for uh yeah shif shifting up in uh on t on t uh teletext, and shifting uh down. So Oh yeah? Yeah. Yeah. Yeah yeah. Uh, or you can build in uh when you press uh one button uh uh Yeah. But m Yeah. We disc discuss that already. But uh we think uh old people uh don't know that uh option. So uh they just put in uh put press uh the button and uh And uh Oh. Yeah. Yeah. Yeah, it Yeah yeah. Just to recognise it, so uh Uh yeah and now we don't need uh LEDs or um Y uh s some uh remote controls uh do it also, but um uh because we use the little display we don't uh have to use it. Uh so Nay. Mm. Yeah we can u just uh 'Kay. Mm. Yeah. Yeah. Okay. Yeah. Uh Sixteen, I believe so. Uh seventeen. Uh with the help button. Yeah.. Yeah. Where did uh Uh, it's just one button. But, um Yeah. There were uh two uh for one big button. But they are uh more expensive than the small ones. Uh, yeah. So It's just a. But I don't don't know if if it's cheaper. So uh, we've still got four buttons, but just um So You got uh not not a butt button itself, but uh on the um Yeah. On the chip you've got still uh four uh four buttons. So Yeah, but. Are we gonna buy a um a remote control uh when you can uh use it? So um Yeah. We m uh we must um stay below the um below um twelve uh fifty or Can't uh go um Nay. Is it impossible to But it is possible to make one uh for uh twelve fifty. I don't think so. S Yeah. But, you can't use uh Yeah. But we want to make a uh so uh uh fancy and a good uh Yeah. Uh, wi with n Oh, with uh attractive uh o options. So uh, you can stay uh below uh twelve fifty. So Scroll-wheel's one. No, it Yeah. Yeah. Mm. D yeah. Hmm. Ja ja. Yeah, or we have to uh skip the subtitle uh button. So Yeah Yeah it's a big advantage. But um, it's Uh, yeah. Yeah. Yeah. But if you push the teletext button twice It's uh One m uh one b uh, a few buttons. Yeah. Hmm. Yeah. Uh yeah. But uh, you can make a f quite a big uh remote remote control for uh just the same price as a small one. Just uh you only have to pay for the double curved or single curved. It uh it's a bit uh.. Yeah. Yeah. Yeah. The th No. But um But they know the scroll-buttons from uh old radios. Uh they cal also uh buttons like that for uh changing uh channels. So maybe it's uh Yeah. Yeah. Yeah. Yeah. Mm-hmm. But very special, so uh No. Mm. Yeah? Mm. 'Kay. Uh six. Yeah. Mm. Sh Yeah. Mm. Not really. For old people I I W Yeah. Four. Yeah. N Yeah. No. Mm m Yeah. Mm, th yeah. Yeah. Uh We have to test it s But Uh, yeah, true. I go for three. So Yeah yeah. Yeah. Hmm. Yeah. Yeah. But it Yeah. Yeah. Yeah. Yeah.. Mm. Yeah. So Yeah. Mm-hmm. Mm. Yeah. But Uh Ye

ah. A flipper's uh easier, so Yeah. But if you want to share uh of uh when you make um a picture like this uh on the presentation, it's easier to uh share it with uh other people. Uh so uh you can sh save it uh and uh put it on the internet, or uh uh in shared f uh folder or uh sh uh shared directory. So So Yeah? No? T can uh can you export it uh like a Yeah.. Uh. Uh, yeah. So you can Uh It's possible. Okay. Um, yeah maybe um uh when we n uh just uh give the numbers of of uh Uh uh o one of uh out of s uh sev Um it's uh easier to uh to do the th things that are like that on a computer. Uh, so uh just I uh like uh at u university uh So Yeah. Yeah. Mm. Mm yeah.. Mm. Yeah. Yeah. Mm. Yeah. Ah. Ah. Ah. Hmm. Where's the champagne? Uh, I believe y uh Okay. Yeah. Yeah. Uh maybe uh they will save it. So uh Okay. Uh maybe we have to fill uh another questionnaire. So uh Yeah. Yeah. Okay. Good afternoon. Sorry I'm a little late. Got stuck in the traffic. Yeah. Um, is this the moment where we ask or can ask questions about the functionality? Um, when you're in teletext there usually are buttons where you just you just press it and you g go to the next teletext page. Mm-hmm. Okay. Okay. Um Yeah. Yeah. Yeah. Think so. That's what I pointed out earlier. If you just make a control for just the T\_V\_ there's just not much to gain here. Since it rechargeable. Um Damn. Wouldn't Yeah. No. That wouldn't be an option.

Uh, d I assume you'd count the volume and channel thingies for two buttons each, right? Well, think actually there're two buttons, aren't they? Well I was thinking, maybe you could just integrate three of those numbers to one button. That would cut the cost. Mm-hmm. Yeah. But, I think this really is four buttons anyhow. Yes. Only the docking station, I guess. Maybe we should to a different supplier. Yeah. Yeah, that's what I'm wondering. Um Well, since the market research indicated that older people spend their money easier, more easy, maybe it's feasible to just put the price of the remote up a little. Especially since we have those nice features. It would be a be a pretty rigid one. Or b Basically becoming a choice between like either a good remote and a higher production cost, or just any other remote control. But how does scroll-wheel work here? That would bring up the price of the scroll-wheel also. Integrated scroll-wheel push-button. But Yeah. I think that would be like the end of our usability. Yeah, but Well, think it's pretty much the teletext subtitles are right now you just push the teletext button, go to page eight eight eight, and teletext disappears. But the subtitles stay there. I think that's the case on most Well, that could be just uh like the scroll to eight, click, scroll to eight, click, scroll to eight, click. But then again that would be d j just pretty much not an option for older people, who don't even know what a scroll-wheel is. Holding a remote with which they expect to have like ten buttons for the numbers one to zero. With only five buttons on it. And a scroll-wheel. True. True. That's a pretty big scroll wheel. So this is five buttons. Right now we have five. Mm. Well, I still think we should go for the single curve design. But then again, all these changes are not really okay with me. But since we just have to. I'd rather just go to the board and get us to spend eighteen dollars a a remote. Or do some market research and see what the options are. Yeah. Yes. Definitely. Yeah. It's pretty different. But this is not really like for the group we were making our remote. This will really require a lot of marketing to get this to sell. 'Cause if older people like familiar forms and familiar stuff. This is not familiar for them. So we're gonna have to do a lotta convincing them. Yeah. That's true. Might uh might be confusing too. They'd be like, what? Only five buttons? Yeah. But you're not sixty. Mm-hmm. So um, I like set up all these criteria. And evaluation of the thingy. Thank you. Five more minutes? Okay. 'K

ay so I did some literature study study, and analysis of the requirements we set up earlier. Translated it into criteria, which would be these. Um, is the remote fancy? The shape, look and feel. Innovative? What new functions are there? Uh, easy to use? Uh, learnability is a very important factor here. Uh, is it functional? Are there not too many functions uh among the functions? And are the those functions that are there, are they useful? And the cost. The target group. Is the remote really for the group we're making it for? And recognability. If our company is If it is easily recognisable that our company made it? And So we're supposed to evaluate it right now. Let's see. Oh I have to say this was a little hard, because the minutes of our last meeting were not here. Okay. Interesting. So Is the design fancy, on a scale of one to seven? We all go for six? Good. Um, is the design innovative? I think so, with our L\_C\_D\_ screen, docking station, scroll-buttons. Seven? Should be do-able. Is the design easy to use? Well Would be for us. But I'd go for four, too. Is the design functional? Um, do we have all functions that we want to include? I think we do. Do we have too many functions? I don't think so. It's pretty slim. Seven. Oh, and do we um take care of the biggest frustrations of the remote control? Like it getting lost and R\_S\_I\_ influences? Think we do. Are the production costs within the preset limits? Well they are now. Does the design fit the group of focus? Yeah. I think it doesn't. I don't know. I think I think a radio button is not exactly what older people expect to have a remote control. I'm not sure. I think I'd go for two. 'Kay. Is the company company recognisable? Well, we have the logo there. So Yeah. So that will be this. I was also supposed to calculate the score, but thought we would have another private thingy after this. Is this Like after this, are we done? Or We're gonna go to our other room again. Well,

anyhow. These are seven factors times seven is forty something. Two? No. Nine? Uh, minus one. Minus three, minus four. Minus four. So that would be minus eight. Forty one out of forty nine. Okay. Guess I'll just type that in on the bottom here. Hmm. 'Kay. So that will be the evaluation. Think we should have a should have had the finance thingy a lot earlier. In the design phase. Yeah. Definitely. No. Not too much. No. Yeah, true. But And I would've liked to go for the younger users also. And just to be able to access internet and get something of your own. Yeah. Mm-hmm. Yeah. Yeah. Yeah. Yeah, I tried to open the file on my laptop, but not possible. Yeah. no. Should've done that then. Pen is here. Mm. Yeah. Mm-hmm. Yeah. They are. Yeah. Fifty grand. Yeah. Yeah, still I think I mean if we're n gonna make a scroll-button anyway it'd be more for the younger people than for the older people. So maybe we should just re-focus. Or specifically for younger people. That's true. Yeah, I think then it would be way more uh popular with younger people than it is, than would be with older people. Even if it were their covers. But Party party. 'Kay. Oh you did. Mm-hmm. Yeah. Yeah, it probably will. Oh yeah, you're supposed to make a final Are we supposed to go into our own rooms again? Yeah. Yeah. That'd be nice.

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# Meeting ID: 78

Data Source: Train

## Executive Summary

The Marketing Expert gave a presentation about user requirements as shown through a usability study and demonstrated that only a small number of functions on a remote were used with frequency. She suggested focusing the interface design on the most frequently used functions. The User Interface Designer presented some questions that should be considered in making the device user-friendly and displayed two existing remote controls for comparison. The Industrial Designer discussed the necessary internal components and how they operated together, and presented her preferences for the type of each component to be used. The Project Manager gave the group several new requirements for the project. The group discussed several product features and decided that the remote will feature a locator function and will not feature speech recognition. The group discussed whether or not the remote should control multiple devices. They discussed important button functions to include and increasing usability by incorporating a scroll wheel in the design. The Project Manager instructed the other participants to fill out a questionnaire and to work on their individual presentations for the next meeting.

## Complete Meeting Transcript

Okay. And I can start if you want. Mm. Is there an order? No. We haven't decided on an order. First. Okay. Um, how do I put this I'll just put the cable in. Is that it? Can you see? Oh, here. Okay. So what happens it doesn't work? No. Is it in the right thing? Oh wait, um. Uh. You need to help me. Yeah. Oh, wait. That's is that it? Right here we are. We're here. Okay, um. In order to see what the functional requirements were to be found, um a hundred people were tested in a usability laboratory through just their habits to n know their habits were observed and questionnaires were given out. Um, the findings in in some cases matched what we were talking about. Custome Customers and users don't like the way remote controls look, they don't like the way they feel, they don't think they match their operating behaviour, and an example is what we were talking about, the buttons, they only use ten per cent of the buttons, so later on there's a study of the buttons that they use most and I think we should design according to these buttons. Easy to lose, and R\_S\_I\_. I don't know what R\_S\_I\_ means. Um the person

that did the questionnaire obviously did, I don't have a clue. Um, according to the frequency of use and the relevance of each buttons, I have made a list of the buttons that we should focus on in order of importance. So the most important buttons are those to do with channel selection. They're used about a hundred and sixty times per hour. And um yeah so and and people like to zap a lot apparently, so this is the order. Channel selection, teletext, volume, and power. The other ones are the settings, and they're used less than you know zero point eight to zero point five times per hour, and this means that I think we can we could have like a a button for all the settings, and then, just one, and then from there go on to the audio on the screen, either on the remote or on the television. Um, about the screen, and speech recognition, some people are more willing than others to actually pay for that. And if we look at the market, f people from well from fifteen to thirty five year old year olds, I don't really know how to describe this, um ninety one to seventy six percent of people in that age range are willing to pay more for this sort of product, while people that are above thirty five years ol um years old go from thirty five percent to eight percent, so people that are sixty five for example wouldn't actually pay for this sort of thing. Um I don't I don't know um what the decision to be made is, but I think that the people that actually do buy remotes m more are those like teenagers and young professionals and um, most likely, but we should discuss this together. And that's all I have to say about the matter, um. Shall I what do I do? Do I give this to someone else? Function F\_ eight. S That's on view. Oh. How it looks or the the buzzer you mean, yeah, for sure, yeah. Well that's for speech recognition. And screen. That's only for speech recognition and screen. Yeah yeah yeah. I mean I just put the values in. But um the screen is the same as what, Yeah, I'm happy with that. Completely. Yeah. Yeah. Okay. So do you plug it in the T\_ you plug it in T\_V\_, this thing? Okay. Okay. Okay. Yeah. Just there. Mm. Are we um should that thing be on the thing to put the you s you talking about a home for it. Do you still want to build a little thing next to the telly or to p hang on the wall or shall we leave that for now? Okay. Okay. For the so you have that button, that so there's is there a light or shall we leave just have a radio? Are we just having a radio? On the phone. You don't need a light. Yeah yeah yeah. Yeah yeah. You can hear it's under the couch yeah. Um, So need the other buttons. So we have this mm. Mm-hmm. They're not, no. It not V\_H\_S\_ here? But V\_C\_R\_s Yeah. Yeah, for sure. Well for sure we need the um I think we can just design the channels? I mean power's just a button, and it's not used that much, s and it's usually t hat red and I think it's quite nice to keep it like red. Oh okay, yeah. Yeah. Well even um iPod thing, like um, I don't know if people like this but if you want to reduce the number, of buttons, instead of having like one to nine, have a sort of scrolling I don't know. Yeah. Because people li seem now the iPod's out people seem to like this thing that there's no Know you don't have one two three four five Yeah yeah, it's just and it's one thing which has everything. Well can't it tell the like can't you if you you can have the number on the telly going like one two three four five once you scroll and then It's like I this like that, and then you do that. And then you can have um if you actually just want to zap, you can have like a thing like that, and that, and then it can just be plus and minus. Yeah, you can Yeah, click o actually click on to have Yeah. What do you mean the function? Yeah. Yeah. Yeah but it knows for some reason. The iPod knows. Well for the volume you have to press the middle, and then go up. And then well if you do that it goes, but if you like that makes more sense 'cause there's already ones with up and down here, that I've seen. Well what you for the iPod you press an w right if you're on the channel let's say, then you press on the middle and then if you do that again the volume goes up, and if you do that it goes down. But if you wanna keep it with volume here and here, I'm pretty sure Yeah. I don't know, you could click and then have it up and down, but I think Yeah yeah yeah. I think it Yeah. Yeah. Yeah yeah yeah. Well it could just be simple instead of being a I mass. Because, the other thing, I didn't tell you all my

presentation, is that people find it find that it's a big waste of time to have to learn how to use your remote and that's another thing they complained about. Um, what other buttons were there? Volume oh we've ts just said that. Channel selection. Menu. But D\_V\_D\_ players usually have their own remote. Yeah, yeah, yeah. Yeah. Yeah, it is only fun Okay. Just uh You may need to But sometimes you have to do it it's like a three set setting cycle, so press it a couple times, hold down function and then press F\_ eight. Adjusting. The cable might be a little loose or something. Oh, you got it. How do I um Right. Okay so this is on the working design, which is sort of the uh mechanical functions of the remote, um and the method I used was to basically look at existing designs and incorporate ideas from our last meeting. Um so I think we need two basic functions which is just the basic remote functions, the user can input a channel or volume setting and it will be output to the T\_V\_. And also we talked about um a location function where maybe you could press a button on the T\_V\_ and it would send sort of signal to the remote where it would beep or flash or vibrate or whatever to tell you where the remote is. So the components we need are an energy source to power the remote, um input which would probably be buttons, although um we just talked about voice recognition, processor to take the information, um something to transmit it to the T\_V\_, and we also need something on the remote that would receive the location signal and have an output, like possibly a beep or a vibration. And also you need a sender for location signal, which would probably be a separate um thing that we'd have to sell with the remote and people could stick it on their T\_V\_ or stick it on their wall. And this is just sort of an overview of how the remote works. Power comes from the battery, goes to the chip, um and then it is sent from there to an infrared bulb which is probably the easiest way to send to the T\_V\_. And then for the location function, you would have a sender on the T\_V\_ which would output some sort of signal, um we could use I\_R\_ but we'd probably wanna use radio instead. That signal would go to a receiver which it would process it, and it would be output in the form of a buzzer or a light lighting up. Um

so my personal preferences for how to build the remote would probably be uh, battery for the energy source, that way you wouldn't have to plug it in, um a button pad for input, um we can purchase a pre-made chip which will handle all the processing stuff, I\_R\_ transmitter to communicate to the T\_V\_, that's just sort of standard, um so most T\_V\_s have an I\_R\_ receiver. Probably a radio receiver to send out location function and to receive it and I'd probably say a buzzer for the location function on the remote itself. So that concludes my presentation. Mm? Yeah, uh I d I was an engineer before I came here. It's easy to implement. Locator. Well I was thinking about that but uh I mean speech recognition is really hard to programme, and also, if the T\_V\_ is on it's making sound and the people on the T\_V\_ are talking, and if somebody says like one, then the T\_V\_'s gonna switch itself to channel one, or it seems like a silly, I'm not sure how you would implement it. It's a cool idea but Well you would have to have a button on a T\_V\_ or on your wall or some place since the T\_V\_ already has power. Yeah you click the button, it's gonna send out a signal, and I was thinking, I\_R\_ is line of sight, so unless the remote is like actually in front of the T\_V\_ it's not gonna work, um so probably like a radio signal like on a on a cell phone. Sends out a signal and then the the remote hears the signal and so it beeps probably. It would have to be sold separately because if the sender's on the remote then you'd have to find the remote first to click the button to find the remote. Yeah, it'd probably just stick it on your T\_V\_ so if you need to find the remote, click the button. Yeah, so it would be a two part package. Yeah I think so. Um on the T\_V\_ or on the phone? Um it seemed like a a beep seemed the most reasonable to me, I think that's what the phone has, I mean when you need to find your phone, you just have someone call it and it starts ringing somewhere and then you can figure out that it's in the couch or wherever. Does anyone know if V\_C\_R\_s are the same across international? Okay, so you'd need like a whole different set of



buttons for everybody's V\_C\_R\_s. Yeah, other than that region and coding thing. Mm-hmm. Mm-hmm. Yeah, I never think to hold something down. Yeah, you can have the number going around in the corner. Doesn't it rotate though, so it'll be moving around. Mm-hmm. If it works on an iPod then it works. I don't have one. Oh. Yeah. I don't think so. I don't think it's the wheel dealy. Yeah.. And they're re-programmable aren't they? You can put on your songs and then put on a different set, that's probably why they're expensive, they're like little computers. Mm-hmm. I A D\_V\_D\_ is simple, you just have play, pause, eject, and menu maybe. Oh yeah. But it's cool to have it all on one, because you wanna turn it on then you wanna turn up the volume, and then you wanna go to the menu, so you don't wanna switch. Well but D\_V\_D\_ is only like four buttons. Oh. But I think the circle only does channel isn't applicable to D\_V\_D\_ really 'cause you don't wanna but volume is and volume is actually controlled on the T\_V\_ so you don't have to switch. Yes we can try that. Who's that?. Could you just plug it back into hers because she had oh. Right. So get this. Okay so now I need to press F\_ eight, what is it? 'Kay. What's function? Oh function, I see it. There we go. Okay. Um. This my presentation about the uh technical functions design and I basically just tried to focus on um just what what functions we need and how to make that the best function for the user. So uh and I just sort of like thought about it myself and looked on the internet. And okay so basically um I think i uh like it is really important that we sort of get this done in a user friendly and fashionable way. Um so I think things like uh you know keeping buttons together that like close together that um are used in the same way, uh or um maybe that making 'em the same c

olour, keeping the number of buttons the uh leas you know to a minimum, and also things like is it is it um is it uh can you c y small enough large enough I'm not sure we c I guess we would need to do some research about, I would, about what size is appropriate and that sort of thing, um but basically we need to make sure that it turns on and off the T\_V\_. Does it have like capacity to change the channels? Um does it do or do we need to have like functions for cable or V\_C\_R\_? And then, is it findable, and uh how do we wanna do that? And um I just thought that these two remotes were pretty boring, um I dunno if this will work but And I think we can find something that's more fun to look at and use than either of those. Just I mean I like the one on the right better, just because it does have fewer buttons, uh but I mean I think we sh can sort of think about things like um like colour and you know size, shapes, that sort of thing, to best fit the user. That concludes my presentation. Okay. You need the little thingy. Ooh. Do you know about like I dunno, you seem like you know about Okay. Cool. Like in terms of how it looks, or like what it does? Okay. Yeah. Okay. So Is our target group then people so do we wanna go ahead and design this thing with the finder button? So Okay. So the yeah, yeah, yeah. So then our target age group would be the nineteen to thirty five range, what was it? Oh. Yeah. Yeah. Yeah. Hu yeah. Okay so are we gonna have just some kind of a like we'll have the buzzer on the som like on the T\_V\_ itself. Yeah. Okay. Okay. Alright. Okay. So it's now like a two-part thing. Okay. Alright. So we get to design that too. Make it fashionable. Um, okay. Yeah. Then it can live anywhere. Yeah. T So i Yeah. That was that was me. I think w I think they're both sort of just like general remo they're both general remotes. And uh Yeah. S Um Yeah. So. Okay, let's see if I can I think still though, it shouldn't be that hard to take like just reduce the number of buttons you know, like 'cause if you just have like one menu button, that works like with a you know, or you can just kind of scroll through the options u that come up on the T\_V\_. Yeah. Yeah. Yeah. Yeah. It seems like that would be hard though. I mean, like because unless you know yeah. Just 'cause I wouldn't I would probably pick it up and just be like uh why is there no on button. Yeah. B Yeah. Yeah. That sort of like joystick flat touch thing, yeah. Yeah, yeah. I think that's an interesting idea, 'cause it's cool, it's it's funny like you f like I just I don't have an iPod but like I,

you know, I just like started messing around with one of my friend's the other day, and you just sort of and it's funny how you pick it up and you just figure out how to use it quite easily, like it's not that hard, you know. Yeah, and it is yeah. It is really but do you need a screen then, do you have to have a screen then? Yeah. Okay. Yeah. Yeah. Okay so we have this like scrolling sort of button. Like a disc. Yeah. Yeah. It's like it's just like the same technology as a mouse pad. Yeah. Yeah and then. Okay. So like it's like a little part of the circle that Or it oh so it's just a region of the circle that you can zap. Okay. Yeah. So volume could be like the top it and the bottom So do you need to okay. Well y you have to you have to like be able to change the function of it to like I mean like okay, 'cause so I dunno, I guess Okay so when you g scroll your thumb like around it, it'll s like say you're go you're going clockwise. That that means you're gonna go up the channels, and then you scroll the other way and it'll go down. But then so if you wanna switch to the to u do you have to switch to a function where like y so you're either in that mode or you're in the mode where like it just has like the four like you know this is channel that way, that's that way and volume is up and down. It just It just kno the iPod knows. S Yeah. So you just you just can either do this or like you

can just touch it if you want. Okay. That's what I mean. Okay. Okay so you have to like press this middle region and then you can scroll up, go up and down. It's like a b Like I think we can go on the fact that it does just work with the iPod. But the only thing is like, iPods are so expensive, like, it has to be is that part of yeah, I dunno, I dunno. You don't think so? Okay. Okay. Yeah. I'm thinking we could if if we're hav So ba I mean but an iPod just has that circle thing you know. Yeah. Yeah. Well like since it just has the circle thing, you could make it a qui a kind of cool shape, like it could be a cool sort of you know, because it could be circular, you know, or something weird like that, just Yeah. Yeah. So okay. This is just for T\_V\_, it's not for or it is does need to be compatible with Yeah. So how do you switch Okay. So like if we had that Yeah. That's true, yeah. So, I know I'm not c really clear on what Yeah, yeah. So you'd have to have like I think you would have to have like a function switch button, you know somewhere so like you can you're either on T\_V\_, you're on D\_V\_D\_ or you're on V\_C\_R\_, or you're like. So Yeah, but I mean like to switch the fun so like to switch the function of the little circle disc, the touch pad. Yeah but it it would be So but I'm saying like, does it make sense to have like some kind of a button, so like you're if you're on T\_V\_, like you can switch channels, but then if uh if you're on D\_V\_D\_ then like the channel bu like the the region of the disc that was for channels is for like switching to different tracks or s you know, to different I mean do we need to think about that, that like 'Kay so we'll try to zip through this, since we're short on time. Welcome everybody. Um hope your sessions went well. Um so this is our functional design meeting, we're going to consider um user needs, technical effects, and the working design of our remote control. Um I've been taking meetings on the minute minutes on the meetings, and I'll be putting them in the shared documents folder so if there's anything you need to refer to you can find them in there. Um I I'll get the ones up for next time, um they're not finished yet. Right. Um so can we have updates from everyone from what you've worked on just kind of a quick summary of anything interesting that you'd like to share or discuss in this sure. Hm? No, any any order's fine. Yeah. Oh yeah, sorry. It sh it takes a few seconds I think. Uh-huh, and then press function. and F\_ eight. Here we are. Oh. Is it on? Okay. Hm. 'Kay. Yeah. Just move right on. Uh function F\_ eight. It's the little blue w it's the one th yeah. Yeah should be It should be yeah. 'Kay. Okay. Well thank you everybody. Um we have we'll discuss that and then I just wanna mention some new project requirements that came in. Um, teletext is apparently outdated, so due to internet popularity, so that's off the list. Um, also our remote should be used only for television, um, no extra internet kinda fancy things, just the remote and the television. Um and also we need to incorporate our corporate

image onto this, so um the phrase is, we put fashion in electronics, so let's be fashionable I guess. Um if we have something I mean silver and and gold or yellow are our colours, so if we had a like a kind of silver one like you saw, and yellow writing, something like that. Okay. Um. So we need to make some decisions on the remote control functions. Um, yeah. Do Let's I guess we should yeah make some kind of brainstorming, see what we can wha what um well probably our target group and how it's gonna going to appeal to our target group and I dunno the the s the buttons and what it does and that sort of thing. So. I think that seems to yeah. Mm. Yeah, teenagers and young professionals. Oh, uh. Yeah. Mm. And if if you consider our budget, it probably if you consider our budget, to h have speech recognition programmed in every single remote might be a little pricey. Yeah. Right so um yeah. Y

eah. Okay. So you you'd need like a separate base for that or like something you can right. Yeah, yeah. So do you think even though we're not talking about speek speech recognition our target group should still be teenagers and young professionals. Huh. Okay. Yeah. We probably leave that. I mean I guess one takes care of the other, like um if you can yeah if you can call it then it's Yeah. Yeah. Yeah. And like if the if the phone's under the couch, you might not see the light, so yeah. So I mean the two remotes that you had shown r I don't remember who showed them, yeah you you did um, they're I mean one looked like it was for V\_C\_R\_ type thing, and the other looked like just television. Oh really. 'Cause that that is something we have to decide, is whether we want to have V\_C\_R\_ capabilities. They're not no. Yeah, that's right, yeah. But D\_V\_D\_ probably is. And and if we're if we're targeting young professionals and teenagers, I mean it's gonna be D\_V\_D\_ type, that's the the technology these days. Yeah. Yeah. S Huh. You know, I've seen some remotes that where you just hold one, like if you hold one down it's it's a different colour than the other buttons but that turns it on. So you don't actually have a separate power button, it's just But It might be confusing. Yeah. Yeah. Besides you like to be able to go power. I have the power I guess. So we definitely want a power button and numbers. Right. Mm. Mm. Yeah. Oh that's gonna Is that like on on a mouse pad where like kind of okay. I've never used one. No. Okay. Okay. Well i We could we could even have four buttons, like, if that's the if that's the mouse, you could have the volume and the channel changers just like on that as well. Huh. So it's like holding You can o And you you is there an extra actual button? Or are you actually you're just using the mouse to go up and down. Like Mm-hmm. Mm-hmm. Right. Mm-hmm. Well I mean if if you're gonna this for channels, right, then y wouldn't the volume need to be separate somehow? Like you could just have Oh, like Oh you could actually Yeah. Is that what makes them expensi I think it's all of they have so much memory though, that's it's Yeah. I think it's the uh h it's their capabili I mean they it can hold what like five thousand songs or something. Yeah. Yeah. Yeah. S Mm. Um You know actually our our new project requirements, I'm not sure if they meant o onl use only for television as in not for D\_V\_D\_ or just not internet type things. So I'll I'll check that and update you on the next But we'll hold off on that 'cause But s yeah uh. Yeah. Mm. Mm. Yeah. But i Yeah. Um, yeah, let's think about it 'cause we need to wrap up. Um let's see. Um so everyone's gonna go finish their questionnaire, uh then when we come back after lunch we'll have thirty minutes of individual work, um yeah, so think about the things we've discussed and bring some new ideas to our next meeting. See you soon.

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# Meeting ID: 18

Data Source: Train

## Executive Summary

One team member presented her proposal regarding the room designations of the new space. In her proposal, professors received private offices, administration was close to the professors' offices, and most people were grouped by project. A second team member presented a proposal on the same topic. In his proposal, there was a lounge containing workspace for two people, an admin office which Giselle had to herself, a number of people shared offices with their assistants, and visitors were placed among students. The group discussed and made decisions regarding the placement of professors with students, the purpose of a lounge area, the possibility of putting up partitions in the lounge, the placement of Gisella and visitors, the option to have a reading room, and how to arrange furniture in some offices.

## Complete Meeting Transcript

Yes. Yeah, Martin. Mar Ah. Yeah, ho Mm. Yeah. Mm. Yeah. But you no specific uh views for mountains or old town or I mean people prefer any windows. Oh. Oh. Yeah, I guess those thin lines, or I mean they're windows or Okay. Oh oh k okay oh 'kay. Hmm. Hmm. Yeah yeah. Yeah. Yeah. Yeah yeah. Yeah. And then one of old town. Yeah. Oh. So you can't do any partitions? I mean, you plan to do any partitions in three p person rooms or like this kind of blocks? Yeah. Yeah. Yeah, just three desks, yeah. Yeah. Yeah. Yeah. Mm. But how often the lounge is used, um People uses on regular basis daily basis or Oh. Yeah. Okay. Hmm. Hmm. Okay. Yes. Yeah. Yeah. Mm yeah. Yeah. Mm. Yeah. Hmm. Yeah. Hmm. Yeah. Mm. Yeah. Oh. Yeah. So you have some Oh. So you have some books also like? Mm hmm Oh, okay. Hmm. Oh. Yeah. Yeah, you mean you can display some new journals or a new proceedings and Yeah. Yeah yeah. Yeah. Yeah. Yeah. Yeah. Mm-hmm. You mean these fifty per cents, I mean, they're all separate or Yeah. Okay. Yeah, okay. Yeah. I mean, they don't Okay. Yeah yeah. Yeah okay. Mm-hmm. Yeah. Yeah. And then secretary has separate room. Yeah, okay 'cause Yeah, okay. Mm. Mm. Yeah. Yeah. Yeah. Yeah. Yeah. Yeah. Yeah. Yeah. N d Hmm. Yeah. Yeah. Maybe can you combine both, or like in two person room, Pierrette too? Yeah, Martin is fifty per cent. Maybe Okay. Yeah. One is finishing. Oh. But then you can create on more spared place in that big three piece room, no Yeah, somewhere. fifty per cent. Yeah yeah yeah. But then you can move

administration to the single room. The k Because she's only fifty per cent working and and she will Oh yeah. Yeah, and give that room to f some professor with a student or from for visitor with the visiting place or Yeah. Yeah. Yeah. Yeah. But you can't put three desks in the two person rooms. Yeah. Yeah. Oh mm. Mm. But even like you can put mm Paola in administrate office like You're already three people. Mm, it looks like small room compared to the other three p Hmm. Yeah. Yeah. K Yeah. Yeah. Yeah, it's fine. Mm-hmm. Yeah. Yeah. Yep. Thank you. Uh I guess I start with my presentation. We had two groups of people working on this. So we'll show you two slightly different presentations. Feel free to ask any questions or comments, obviously. Um the first one was done by myself, Bruno, Marianne and Nikos. And the rationale that we have, I'll show you the layout in a second, was that full professors would get private offices. Administration is close to the professors offices, so it's easier for the secretary to speak to everyone. The fax is in the administration office, since it's mostly used by Gisella, who's the secretary. For noise reduction purposes we've moved everyone who has office hours together, and we've also put the network printer and the photocopier in the hall. Um, so I'll just show you how that works. Basically, you can see Gisella sort of there in the middle with the fax machine, and Maggie and Susan, who are the two full professors in our department have the private offices. And the photocopier and the printer are sort of in the hall on the side there across from mailboxes. Um, just to go back, most people are grouped in projects. And we have two fifty per cent people who are half time in Geneva, half time at the E\_P\_F\_L\_ in Lausanne. And they m them we've put in three person offices, so that in the three person offices it's not constantly three people. So there's a little bit of give there. And the reading room, or the lounge as some people call it, that we have is in a central position. So basically we've got Andre and Nancy at the top. Um they don't actu they will be starting a new project together, if um if I'm not mistaken. Like I said, Susan and Maggie in the individual offices. Nikos and Yalina, who work on the same project, at the bottom. The reading room is in the middle. Um, Marianne and Bruno are at the bottom. Um, as well, Marianne works closely with Pierrette and the other Marianne. We have two Mariannes in

our department. And David is a half time. So as I said, the half times are in the three person offices. And on the other side we have Maria, Martin and myself, who all work on the same project. And Martin is fifty per cent. Um Gisella, we've given her two person office for two reasons, one is because there's a spare place there, so if we want to put a stagieur or someone who just comes in for short period of time, we figured it was okay if they were in the admin office which is a little bit noisy, because they're only there for a short period of time. Um, and again the proximity to the other offices. Um so I guess that's pretty much it for our proposal. Um I don't know if you want Andre to go through his first or if you have any questions for me. She's It's Do you wanna explain how it it works or Martin is fifty per cent. Pierrette, there's two sort of statutes of professor. I guess you could say where there's Yeah. There's a professeur d'ecole and the But the idea is Maggie and Susan are sort of the senior um professors on staff so they got the the individual offices. Um the department will obviously be growing, but there are some people who only work part time, there's some people who are doing P\_H\_D\_s or master students, who won't necessarily be there for a larger extent of time. So for example, Yalina and the Finnish Marianne are master students for right now, so whether they decide to stay and do a P\_H\_D\_, we're not sure yet. Um, Nikos is working um as a researcher. So for him it's the same thing. There's I think the only constant people are Susan, Maggie, Andre, um Gisella, Pierrette, um and all the rest are either P\_H\_D\_ students or master students. And again Martin and David are half time with the E\_P\_F\_L\_, so that's project dependent as well. Unfortunately, we haven't been given as much space as we would have liked, but that's always the case. Um, Susan wanted a private office, she has a

preference for private offices. Other than that, no one really had any tight constraints from what I've heard. No one's explicitly said that they needed to avoid anyone else. Um Yeah yeah yeah. No, they were fine with it, so And they're both nice views. Yeah, they're windows, yeah. Or sorry, the thick lines are windows actually. We have fairly big windows in the room, yeah. So there's lots of light coming in. And one of the reasons for putting the reading room where it was is that you have a lot of light coming in, so if people just go somewhere to sort of relax and have a quiet place to sit, they have a lot of light and Yeah yeah. Yeah, well I mean it depends if you like looking out over the old town and the cathedral. That sort of goes both ways, but, yeah, we've got two mountain views, sort of on that side, that side, and then the last part looks on the old town. Because we're on the sixth floor, you can actually see everything, 'cause I don't think buildings are much higher than was it, six or eight floors? Yeah. The purple thing is the mailboxes. And those are fixed, we can't do anything about those. So Um, r We don't have anything like that. If we can get stuff like that, it might be a good idea. Some people might like them. At the moment we have people three sharing like three people in a room, without any partitions and it's a little bit noisy, but people sort of get used to it and admittedly it's mostly assistants that are stuck in rooms like that, so it's junior people, but Well, do you want to do your presentation and Okay. So Mm-hmm. Mm-hmm. Yeah. Mm-hmm. But realistically we don't actually have that many visitors coming in. I've been here for almost two years, and we've had a couple of stagiaires, but that's it. No, for a professor, yeah, but Oh, in a way, if that's your argumentation, then put a visiting person with a senior researcher, at least, if not a professor, rather than two students. If you're gonna argue that the visitors are supposed to be important and they should have their own space, then put them with an

other researcher, rather than two students. Fairly regularly there's at least one or two people in there. I mean it's a Yeah. It's a fairly new thing in the department, but it's being used pretty regularly or something that a lot of people wanted, just sort of quiet space out of your office that doesn't have the office furniture, the office chairs, it sort of has comfortable sofas and armchairs and things like that, where you can just go and relax, and or if you wanna read something for a longer period of time in a more comfortable environment. And because we do a lot of reading and things like that, it does get used fairly often. We sort of have an open policy where if there's no one in there and you want to have a discussion, then that's fine, but you can't displace people who are in there reading, just because you want to have a mini-meeting or whatever. Yeah. Yeah, they're Yeah. Which is sort of why in our proposal we had it completely as a separate room. So if you really want peace and quiet, you shut the door and when the doors are shut, like unless someone's making noise right outside the door, it really is fairly quiet. Mm-hmm. Mm. I mean, suppose if the need really arises and it comes to a point where we do have a lot of people, then you can get rid of the lounge, figure out what to do with the furniture, either distribute it between various offices or put it into storage somewhere. No no no. No, this is something that it started off sort of as a discussion at the coffee table, where people were complaining that sort of in the middle of the afternoon they just wanted somewhere to go off and have some quiet time and That's where it came from. There are bookshelves in there, but it's not really a library, 'cause everyone At the moment, everyone has a bookshelf in their office and we just go in and borrow books from everyone else. It's more really about having a comfortable place to sit um where it's not an office environment, it doesn't look anything like an office. So it's just Yeah yeah, and people can come w in with their stuff or leave a newspaper or a magazine lying around for other people. We've got a bulletin board where you can paste up articles that you think are interesting for other people, but I d Well she shares an office, so Which is why we were thinking that it wouldn't be a problem to s keep her with a spare person, because that's the w the situation it is right now, and if you're a stagieur and you're

coming, and you don't necessarily expect to have a full-blown office, if you are only there for about two months. Yeah. Gisella has a fixed schedule for when she's there, but David and Martin are sort of they fluctuates. Like they can't say that they'll be there Monday, Tuesday and half of Wednesday, and not the rest of the time, which is part of the problem. I mean, they can't specify when exactly they'll be there. So our rationale for putting them in a three person room is that it doesn't matter when they're there and whether they're there for certain hours or not. It's just either there's two or three people in those rooms, and sometimes there's less, sometimes there's more, because we also don't work fixed hours. It's not like we work, you know, nine to five or whatever. Everyone sort of keeps their own hours. Yeah. We have Pierrette and Marianne in the same Yeah. For visitors. Mm-hmm. Mm-hmm. Yeah. Yeah. I think, because it's a fairly new thing, it's a little hard to say at this point. I think that most people like it, now that it's there, they sort of see the value of it and they wouldn't want to see it wiped out entirely, definitely. Yeah. And that's the danger is Yeah. Mm-hmm. Mm-hmm. Mm 'kay. Sure. Either way. Okay well, since this one's up, keep this one in. Easily, go ahead. Mm-hmm. Double rooms. Mm 'kay. Pierrette and Martin? Mm-hmm. Here? Out There's two Mariannes, one is Swedish, one is Finnish. So we just call them the Swedish and the Finnish. Oops. No, both start with S\_ but

Uh, it was Bruno, right? Yeah. Mm 'kay. In here? Okay. Well for m Martin If you didn't mind working with Martin, we can switch Nancy and Martin here. Oops. Yeah. Ah. Wrong keyboard. So we can say that this is sort of for But then again you get the more formal visitor in with a bunch of students in a crowded room. Well, you can say that this one is for let's say stagieurs or interns. Um Yeah. Well you can move Maggie and Bruno into this room. Move Gisella, move the other spare place to the big room, but then there's not a lot of people in there. We're not terribly noisy, I think it'll be fine. Yeah. And I am too in common with Maria. And we work on slightly different schedules too, 'cause Maria and I tend to work earlier and Nancy tends to work later. So that shouldn't be a problem. Mm-hmm. Yeah. Sure. Um, so you want to do That's gonna back-fire on me. Yeah. And that's the problem is that you either get smaller desks, 'cause the ones that we have now won't fit. No. I think it's gonna be too much. Well, Maria is full-time. So just like that? Okay. I don't think she cares. Actu Bruno did mention that he didn't want to be in a room with a lot of people, 'cause he did that before and he didn't really like it. So maybe I don't know, I can switch with him, and we can put him and Nancy together. I don't mind, it doesn't really bother me. Okay. Yeah. Well, the gender balancing, we have more women than men in our department anyways so No. Okay? Do you see any constraints from any administrative sides? Good question. Yeah. Mm-hmm. Yeah. Mm-hmm. Yeah. So basically, we're moving into a new space, but it's only marginally better than the old one. Mm sure, yeah, we can do that. Mm 'kay. Sure. Okay. So I'll save that. Yeah. Okay. The final copy. I'll circulate it to everyone, along with the numbers that you guys wanted to see in terms of the space. Okay? Great, thank you for your time. Mm-hmm. Mm-hmm. Uh, actually Martin is fifty per cent time. Yeah. No? Oh, because you would say that she's an assistant professor or something like that. Oh, okay. Yeah. But um yeah, maybe that's Yeah, there are full professors and assistant professors, if you want. And, yeah, it's true that she's an assistant professor, but uh well, we see, maybe we can move a little bit around just to give her uh, well, also at least, maybe not a uh an office alone, but at least with just one person, not two. We'll see. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Yeah, no, mountains are just in the far so, that's not Mm-hmm. Yeah. Um well, uh I can think of some reactions from the people wi so maybe I can Well, r Yeah, well, tell me about some of the constraints and Well, first of all I must say that there are also quite a lot of common points, so um it's probably not going to be very difficult to Yeah, please. Thanks. Perfect. So um, yeah, actually we um Well, basically the the group who produced this uh proposal is made by Susan, Martin,

David and uh and myself. And we also well, Susan volunteered to ask Maggie and Pierrette about how they they felt about sharing offices, and. So, as you can see, well um Susan gets obviously the same office, which is quite a good thing. Um, then things started move a bit. It looks like I'm also in the same position. But the most obvious constraints that uh we we found here was that it was probably very difficult to have a lounge uh just a lounge in one room, because it would block us two full working places. And although it's true that the group, I agree, decided to to had to have a lounge, we propose to put the lounge uh in the room at the the upper side on on the right. Uh, so let two people share this with uh sort of a, yeah, a place where we have a sofa maybe and uh and some books. So it's obviously a calm place. People are not there to talk very loud, but they can sit and relax, and uh still look at at the mountains. Um, also So that's one of the main differences, I think, maybe one of the points that we have to talk about. Uh the other o

ne is the admin office. So it's Gisella fifty per cent because she's only half time, and uh the fax machine. Um Gisella actually has a lot of phone calls to make and uh it's true that her activity is quite noisy when she's there. Um, it's also true that she has quite a lot of files for most of the the projects actually that we manage, so it appeared, at least to well to our group, that even if she's here only half time, she should have an office by her own because it would be quite disturbing for other people to to work in the the same office. Uh Gisella has has no objection against sharing the office. We thought it was more for the the calm of the the people. It's true that this blocks one of the one person rooms, but uh on the other hand, uh Maggie has no objection uh sharing an office with her assistant. And this appeared to be true also of Pierrette. We don't know about Pierrette sharing an office with two persons, but at least no problem in Pierrette sharing her office with uh Marianne, the the Swedish one, who is sort of her assistant. Um so this is why we, yeah, we put Maggie with with Bruno. And then the third main difference uh would be the the number of visitor places or free places. Uh you notice a new name in the room uh at the centre upper upper side. So that's Paola. It's true that it's someone coming next year, Susan reminded me this uh of this point, and I could not really ignore it. Uh, so um that she's an Italic, she will arrive in about two month. And the two uh, vis one and vis two, are the visitor places. You had one, I think, called free space or spare spare place. Um we didn't really reach a very good agreement on the distribution of these two rooms. So the the two at the centre, uh where is written Paola, Yalina, the two visitors and then Maria plus David. So I think there is quite a lot of space here to uh switch a little bit among the people, just to make some kind of smooth occupancy rate, so not to have one empty room when we have no visitors, um and uh then a very full room when everybody is is here. So I think we're we are quite willing to split and put say maybe one visitor with Maria and David uh fifty per cent in the other room with the second visitor, so that it smooth is. Well, yeah, exactly so the visitors are uh basically stagieur and it happens that sometimes we have two of them even if it's only for three or four month. Martin seemed to insist that when we have a visiting professor, for instance, we cannot really put him with Gisella, because, well they wouldn't feel very nice, they they made a joke about that. So we should manage some kind of decent space. It's true that these one or two last one or two years we didn't have uh a visiting professor. But um Yeah, so uh I think, yeah, these are the three main points. So one is the place of the lounge. Uh, the other one is the uh the place of the admin office with Gisella. And the third one is the number of visitor visiting people and uh, well, how many of them we want to accommodate and where where we put it. These, I think, are the three main differences. Otherwise, we pretty much agree on uh on placing people. Mm-hmm. Mm-hmm. Um sorry? I I didn't understand. Mm-hmm. Mm-hmm. Yeah, that's that's true, I think, yeah, they are are quite open to to this. Martin also reminded us that he is quite noisy. He has a lot of uh phone calls to make, even if it's here if he's here



only fifty per cent of the time. Um, so yeah, I I don't mind this, but uh that's something But it's true, yeah, we could also try to put a visitor and the professor. Um, Martin made another point. It was the fact that sometimes professor have to professors have to discuss sensitive matters about projects and financing, and they sometimes might feel uncomfortable discussing this with their well, in the presence of their P\_H\_D\_ students. Like saying, oh I I have to reduce her t from eighty per cent to fifty per cent. That's probably something So I I mean, all these are constrains.

I don't know how you would like us to proceed from here, or if you already have questions or reactions on this one. Mm-hmm. Mm-hmm. Yeah um Well Mm-hmm. Yeah, we Yeah, that's true, that's one of the problems. Um, well we were told that it was not really possible to build walls, but we noticed that this room actually has two doors. So uh we thought that maybe we could put some kind of, well, separation. I Yeah, maybe just, yeah, furniture or just uh some kind of screen. No, it's not sound-proof. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Yeah. Mm-hmm. Mm-hmm. Mm-hmm. Yeah, well, it was actually this pressure from from my group that led to this, to squeeze a little bit uh the place of the lounge. Now, how for instance would the university feel about a room that would be only used as a lounge? Would they feel it's too empty and that we have too much space? Or w is there no problem? The Do do you see a problem with having a I a room just for a lounge or no? So we could have a separate room as a lounge as long as uh we pack the other offices. Mm. Personally I I have no problem with this. So um that's that's fine. Mm-hmm. Mm-hmm. Mm-hmm. Yeah, yeah, exactly. Yeah. Mm-hmm. Mm-hmm. Okay, so I think maybe we can agree on on the lounge in a separate room if we can manage to to find space elsewhere. What about Gisella, how do you feel about putting her in a separate office? Which is the case now I think. Well she has an extra Yeah. With a visitor space, yeah. Mm-hmm. Mm-hmm. Yeah, it depends on what kind of visitor you are exactly. So we could say some kind of low key visitor. This is uh very nice. Mm-hmm. Actually, Gisella fifty per cent means that she's there half time, uh generally in the mornings. Yeah. Mm-hmm. Mm-hmm. Um, I think it's what I tried to do before, it's the shared lounge, uh th Um Do you have assistants with professors? Yeah. No, I think this is quite accepted and it's a bit the case. No, I think it's uh the lounge uh the admin room An Yeah, and the number of slots for visitors and for this new student who arrives, because having just one spare place, this was probably the strongest disagreement in my group. People said uh we should have at least two or three spare places, just for, you know, growing or sometimes you have three interns that arrive. So even if they are not perfect places. Um Yeah, that's yeah, that's how we did in in our proposal, yeah. Uh. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Yeah, mm-hmm. But then we need to squeeze in in one of the three person rooms some extra visitor space and uh I I think so. If if we want to keep the reading room. Uh I think it's possible by playing a little bit with the furniture. Um, so yeah. I think another point here, and I don't know how you you feel about it, is, well, the fact that Martin is said he would be quite noisy fifty per cent of the time. So many phone calls. So I wouldn't put him in that big office, even if he's fifty per cent, but he's still a professor here and we got him from E\_P\_F\_L\_. So that I I think I mean if we need to reach a solution now, I I wouldn't mind working from your plan, and doing some changes. Or if you prefer working from mine and doing other changes. So um Okay, yeah. Depends how how easy you can write in it. Okay, so let's keep the reading room. Uh also I think Pierrette Pierrette and Martin p should deserve at least I think offices with one person, not with two. Uh Yeah. We we never asked them, it could be, but um on the other side they have, I think, no real project in common, so I wonder Whe I I think I would prefer, and probably my group would prefer, to see them with the respective assistants, and I think Pierrette plus Marianne is a very good combination. Why not switching them from, yeah, that office? Yeah, switch the whole group. Yeah, Marianne Swedish, and

then Pierrette. Because there are two Mariannes. And both family names start with S\_ T\_ A\_. No. No, not true. The just S\_. Yes. Mm-hmm. Now let's do something with Martin too. U

m Yeah, maybe we can write it down, say vis vis one. David is fifty per cent and visitor one should Yeah, or spare or It's fine. Mm-hmm. Gisella Yeah, mm-hmm. I think that's closer to what I said. Well, because actually we have this project in common. You know, call I\_M\_ two. Um yeah, I think it's And so d could we um Mm-hmm. Well, I think, yeah, always Gisella, but I think there is no way to uh Mm-hmm. Yeah, sort of second uh Um, yeah. So you would put Gisella in a one person room? Yeah? Yeah. Mm-hmm. Yeah, we could, yeah, even put We couldn't put Maggie and Bruno together. That's obviously the case. Mm-hmm. No, let's leave it like this for the moment. How do you feel, because your office well, three persons and you are all full time in there, so you with Nancy and Maria? Uh-huh. Yeah and you have Parmenides in common with Nancy. Mm-hmm. Mm-hmm. And do you think we could put a visitor with Nikos and Yalina? Because it's it's also it's not very clear, you know, Yalina's that we said in our meeting. Yalina's master thesis should be defended in a couple of months or something like that. So we don't really know what happens afterwards. So we could at least think it's sort of an open place. Or we could get that office for you and Nancy and put Nikos and uh Yalina with Maria and a visitor? What about that? Wouldn't you like to have a calmer spot? Yeah. Yeah, but a visitor actually uh doesn't have that much paper, so for instance maybe they don't need uh, well uh the place to put their files, you know, a smaller drawer. They just need a a desk and probably just one drawer under underneath. Yeah, probably not. I think it wouldn't be uh Yalina and maybe we could think of a visitor too here? So that Think so? Because remember there is also this Paola arriving um on the new project. So, you know, Susan insisted that uh we should be And it's al also it's not very clear because Nikos and Yalina are Well, Nikos is um research student, Yalina will finish her master thesis, so it's Yeah, okay. Yeah, Paola or Mm-hmm. Or maybe Paola will be able to choose. Yeah, I think that's quite okay. I don't know about any preference of Maggie being alone or with Bruno, or no? Yeah. Um, David mentioned also that there should be some kind of gender balance. Uh I don't know if there is a strong constraint, but I think we are doing pretty well. Well, so I'm not sure that was what was meant, but Ha. Okay, that's fine if he mentioned this to you, that's quite nice. And okay, yeah, I'm with Martin. Not very balanced. Mm-hmm. Yeah, that's why Okay, if you don't mind me sharing the office with Martin, that's fine. Okay, yeah, that looks good. So Agnes with Marianne and David. Yeah, so you have I\_M\_ two in common. That's nice and he is fifty per cent, so that means the office is not very crowded. Okay, the other one is a bit crowded, but that's okay. Gisel Mm-hmm. Um I I think for the moment. Mm-hmm. Yeah. Mm-hmm. Well, what was said in in my group, actually Susan who knows professors from other um other faculties, well, she noticed that most of them have rooms alone. So this is true for Susan and Maggie, but not true here for Pierrette and and and Martin. So we can already argue that uh we're squeezing in even the the professors. It's true that the reading room But you know we fought so much to have it, so let's uh let's try to have it there. And I think putting four people in a three person room is already a sign that uh we are already quite uh quite full, so um I think, yeah, it's normally the nominal capacity of this, I think, it's uh eighteen people. Um, eighteen or or seventeen. And we're only fifteen if you don't count Paola and some visitor's place. And I think it's quite important to have space for visitors, because if you have no visitors or if you cannot take a new, well, intern, during the summer, you're very much handicapped. So I think we're, yeah, on Well, the reaction of my group was that this was almost full already, so I well, we tried to I th

in Mm-hmm. Yeah, so I think, yeah, what we could say about the reading room is that we we squeeze quite a lot of people in in the other offices, so I think it's okay. Um Mm-hmm. Perfect, just save it please.

Maybe it's another name. Just say okay, it's fine. Okay. So, my group also asked to circulate the final proposal just to make sure there is no major problem. And the numbers. And we're done. Thank you, sirs. Okay. Mm-hmm. Mm-hmm. So you say so Pierrette is a professor, but she's only she's only fifty per cent time. Is that why she's in a three person office? Uh-huh. I see. Mm. Mm-hmm. And what what's happening what do you foresee happening in the next couple of years, like beyond this m b beyond this current group of people, do we do we know of any changes coming? Is the department growing? Or is it is it going to be Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. That's always the case. Yeah. And have you have you talked to th any of these people to ask them if they have any special requirements? Oh. Mm-hmm. Mm-hmm. Of people they needed to be near or people they would needed to avoid or anything like that. Okay. Okay. Alright. But you've given people chance to say that if they really needed to? Okay, good. Mm-hmm. Mm-hmm. It says mountains. Is that because that's the view. Yeah? So it's the best view. You gave the reading room the best view? Mm-hmm. Okay. Oh, two mountain views. Oh, and that's old town. Okay. Okay. Mm-hmm. No, okay. What's that purple thing there? Oh, okay. Mm-hmm. Alright. Okay. Hmm. Hmm. Mm-hmm. Uh-uh. Mm. In the lounge, yeah. Mm-hmm. So it's not a place for discussion. And it's it's it's a quiet place. Yeah. Mm-hmm. Mm I see. And so i there's no are you planning some kind of partition between the lounge and the offices or ar How are you gonna keep those things I think should ask the question to you, how are you gonna keep them separate? 'Cause it seems like fairly separate functions. Book-cases or something or Yeah. Hmm. But it won't be uh an acoustic separation? So if if the Those are students there? So if they're noisy, that could disrupt the quiet of the lounge. Um, but As a separate room. Mm-hmm. Mm-hmm. But you've also put the lounge in a a very k kind of a high-traffic area where the mailboxes are, the printer and the restrooms. So that's um That may also tha that may be good for meeting people and bumping into people, but it's maybe against the idea if it's a very supposed to be an isolated quiet spot. So I d mm, you know Mm-hmm. Mm-hmm. Mm. Well, maybe if it if it helps us pack more people into the offices, because they have a private lounge. maybe it's a good thing. Saves us money. But uh Uh yeah, I guess that's Let's see, what is that? Mm-hmm. Mm yeah. But you're saying it does get used. So you've it's it's not a completely experimental concept. Your your department has a lounge and it gets used a lot. Yeah. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. So, can you just summarize briefly the differences between your two proposals, the key differences? Uh sh shared Yeah, the shared lounge, the the assistants with their professors. In two cases. Yeah? Oh okay. So that's okay. Yeah. So Yeah. T\_V\_ at The lounge, the admin room separate. Not shared. Mm-hmm. Okay, so you basically achieve that by giving less space to the reading room, I think. Yeah. Right. So I guess what One of the questions is how important is the reading room to your group really? Is it is it something that's a very valued thing that has to be protected, um, or is it okay to I make it be kind of this spare space that gets used up a little bit when you need when you have some extra visitors or things like that. I think that's Mm-hmm. Mm yeah. Mm-hmm. But I suppose once it if it gets eaten away a little bit, at one some point it becomes unuseful, and then Yeah. So it Mm yeah. Mm-hmm. So what does that mean, Swedish um Oh, I see. Okay. Okay. Oh. Okay. Just S\_, uh so just to know who they are, okay. I've heard of that. Mm-hmm. Mm-hmm

. Mm. So when you when you put four people in that office, does that mean you're planning on four desks? You need space for four desks? Yeah. Do you know if it's possible. Yeah. Mm right. Mm-hmm. And so you can fit that, you think. Mm-hmm. Mm. No? Mm. You mean Maybe you should break the wall between the men's room and the women's room. Sorry. No. Mm-hmm. Mm. Mm. Is your person to square meter ratio within the n university norms? Overall. We don't we don't, I mean, we don't want

people coming in seeing this lavish reading room and and and everyone having their own office if that's not what we are having in the other places. We have to make sure that um if for example there's a spare reading room, like we were saying before. Overall your department has doesn't have excessive space per person. Mm-hmm. Mm right. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm yeah. Mm bu Mm-hmm. Alright. Well, it's good in case I ever have to defend it. You know, it's good to have some numbers, if you can come up with some numbers uh Some And maybe uh relative to some other comparable departments. That's It's it's good to have that. But if you both agree with this plan and you think your group will be happy, then uh fine with me. I don't know about you, what do you think? Yeah? Okay. Alright. Well, thank you. No problem. Thank you. Okay.

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# Meeting ID: 51

Data Source: Train

## Executive Summary

this is our second meeting Um , right our agenda for today , I'll go over what we decided last meeting , we decided upon a universal control , one handset for all , T\_V\_ , video equipment . Um , that it was important that the product was accessible to a wide range of consumers , wide age range , not limiting anyone . We decided it was important to reflect the company's image in our product , we put fashion in electronics , you know that kind of s thing . try We discussed a flip-open design , um reducing the size of the control and an electronic panel um for further features like programming , things like that . three presentations , I've got written here so shall we hear from Marketing first ? Um is it okay if I postpone that til later , Okay this is uh the working design , What the first thing question I asked was what are we trying to design ? Well , a device which basically just sends the signal to the T\_V\_ to change its state , whether that be the power , or the channel um or the volume , everything is just um some sort of signal to change the state of the T\_V\_ or other appliance that it's sending the signal to . Um , so I decided I'd have a look at what th other people have designed and try and take some inspiration from that . But uh although we will want to be taking ideas from other people , we wanna make sure that our design stands out Um and uh I found out that most uh controls use some form of infrared to send signals to the T\_V\_ presumably because of the cost issue of uh something like uh the same thing that computers use , wireless Um , most of them are powered by some form of battery . Now our one , I'm I'm not sure whether we want to look at the size issue because most of them are powered by triple A\_ batteries but those can be quite bulky so I d I didn't know if you wanted to look at something else um so we could shrink down the size of the control . You're saying the triple A\_ batteries are small or the surrounding it ? if you if you look at if you look at most remote controls they're quite they're quite chunky and then you obviously need something to decode the information that you're putting in from from the controller and that's because of the size of the batteries , the triple A\_s are the smallest you can get are they not , right ? well you can you can get the sort of circular round ones Um , now the ones at the moment are small but I was just wondering if we could look at something a bit smaller . Now these have a wireless range of up to about five metres we've just got the the power going to the infrared bulb with the chip and the uh U\_I\_ interface um which would basically , when you when you pressed anything it would the chip would convert it into some form of I\_R\_ data which could be decoded by the T\_V\_ receiver , which obviously means that we're gonna have to conform to whatever um whatever form of communication that the T\_V\_s

are already using so all the components that I've put forward are uh low in cost Um it should be different enough um from the alternative products to get a good consumer base , because they're small they're also easy to lose so if we could look into some way of d dunno some anti-going down the side of the sofa thing that you could have , Yeah . Actually mm some of my points might overlap with what William's just mention , but basically my method was like uh whatever brainstorming we did in the last meeting , just a couple of valuable points and started developing on that and there might be some missing loops in this thing which I think we'll uh take a feedback from the marketing And to summarise I I would say it's it should be user-friendly by being easy to use , rather than having a lot of complex button because you can have an engineering maybe having hundred buttons and maybe having uh a remote control which has the main features like volume control or channel ch changing the channel or whatever . So what the concept is to have a flip-top model . The and we can punch in new f features such as uh added features such as shock proof body because there are times like uh people have used a remote control for say a year or something and they they are not used maybe thirty to forty percent of the buttons so we we can maybe go for an economies of a higher production so we can give in add in more features and make it less costly . if you ask me personally , I would make uh flip-top with a trendy uh uh design because they are times when the buttons tend to be a bit hard after uh continuous use usage and all that . and s maybe we we should look at also like the buttons whe whether they are like soft or little hard okay so if anyone wants to write something down that they want to bring up at the end , um I'm going to look at the functional requirements from the marketing point of view we used our our usability lab , the company's usability lab , we did our usual selection methods to get a cross-section of the general public , all age groups from fifteen upwards and um we observed them in the lab , Our findings , lots of findings , I've just summarised some of them here . The overall thing which I've I've got at the top there in italics is that users dislike the look and feel of current remote controls , Um , we found that seventy five percent of users find most remote controls ugly . Eighty percent would spend more money when a remote control would look fancy , but um that's quite a high proportion of our our , you know , international target group are prepared to spend more money for something that's a bit nicer looking . Um , current remote controls do not match well with the operating behaviour of the user overall . For example , you can see below there , seventy five percent of users zap a lot , Um , fifty percent of users only use ten percent of the buttons , Um and possibly we can also cut back on cost if we don't have so many functions actually on the remote control . Um the biggest frustrations that people found with regard to personal preferences were um something that you you mentioned earlier , uh remote controls are often lost in the room , fifty percent were were particularly frustrated by that . Uh thirty four percent of people take said they take too much time to learn to use Um , um slightly more than a quarter of people said it was bad for uh repetitive strain injury . Um the vast majority of the thirty five and under age group would like um a liquid crystal display and speech recognition , again that was to aid I think in uh when they've lost the actual remote control , some kind of speech recognition . Something we didn't put to them , but which I'm thinking of now is um even if perhaps the lost control can give off a bleep every now and again til you find it or a flashing light , possibly . So thirty fives and unders who would like those two features , that kind of evens out thirty five to forty five and in the older age group it kind of reverses , if there's any more information I can email you extra details , we have new project requirements , um we're not going to be using teletext , our

control is only going to be for T\_V\_ , it's not going to be a combined control , I think maybe Sky things like that might be incorporated into it , but I don't know , what do you think ? Would that imply video use ? But I mean , general T\_V\_ controls do do video as well . I think we assume that it's still got play and stop functions and programming . Ju um just as an idea on the uh speech recognition thing that pr it'd probably be quite expensive to incorporate an entire speech recognition thing We do have a budget limitation that we can't control ourselves , so I think when we can take a cheaper option which still does the same kinda thing Yeah but um on on that again I just thought 'cause you can get those key chains now and you whistle and then it'll let off a loud noise to let you know where it is maybe on the T\_V\_ you could put like a pack on the T\_V\_ or something so you can't see the remote , you go and press the button on top of the T\_V\_ and it beeps Um the third thing was that we have to make sure the corporate image is very much incorporated into the handset . Um so we want logo , we want um fashionable , trendy , further market research will be needed to kind of focus on what that is , it's gonna be different for a fifteen year old th for somebody who's sixty and also across the world if we're aiming at the international market . Well y yeah you could you could have a number of different designs So are we talking of a single model or maybe five , six designs ? The features could be same and the body could look slightly different . um the controls that are coming out now have kind of big , rubber buttons , I'm thinking kind of Japan , I'm thinking uh young , um office people , Maybe for U\_S\_ and all you can have a slightly bigger remote control Okay , so the remote control functions . and maybe in Japan and all you need to have a small , yeah . I think we have to design one product Th the internal d engineering design has got to remain the same , yes , absolutely . Um we've got the T\_V\_ , we've got the video , now there's um I can't remember what it's called , the little code at the end of programme details , Video plus . We could use that as an alternative to programming in times , things like that , And you wouldn't you wouldn't need uh a whole host of extra buttons for that , I've not come across that function if you look in the newspaper , T\_V\_ guide or any T\_V\_ guide there's a five , six digit number afterwards but just discussing the different age groups and targeting the different age groups it occurs to me , to produce our own mobile phones , that that's kind of what led us on to comparing T\_V\_ remote controls with with their design features , um , chain companies like Carphone Warehouse , you can pop in anytime with a phone that you bought for them w if you've got any problems with it and they'll fix it , Is it worthwhile with with our retail outlets having a a similar um kind of service so that if older users were deterred from buying this , if they know they can just pop into one of our high street outlets , th you know , which button is it I press for this ? Th as free as a free aspect of our service , would that not make it more attractive to them ? But the only problem is that with a mobile phone you signed for a contract but I I'm not sure how much the cost would be of having I mean instru instruction books I feel c I reckon can cover that . Instruction manuals . there will be a customer service number thing that you can phone up and speak to for a phone maybe he might walk down the street , but for a remote he will just refer to the manual and all that . But we should focus on making the manual as user-friendly as possible I'm not sure if we need a design um decision now , Um , what other functions ? oh batteries , that's what I was thinking about . Mobile phone batteries , what kinda battery is that ? th the thing that you get with mobile house phones , you sit it in its charger when you're not using it or t at night or something , Um , something like that should reduce the size of it . yeah if you if you had if you had one of those uh just coming back to your other point about pressing the button and setting off the bleeper in

the room that could uh So are we talking of a concept of a rechargeable something on the remote ? Rechargeable with a docking station . Um , th the shape you got trendy . I mean so many remote controls look absolutely identical , What I was thinking of a design which Nokia h uh came up with almost six or seven years back . so they came up with something like this , curled up , so here , so it's like uh you can say a banana shape kind of thing , curled up like a boat . I wouldn't say exactly semi-circular but yeah smooth . I mean for example , if it was a C\_ or something like that , you could have it in a vague C\_ shape that opens up kind of like a shell , or something , I think that's that sounds a really attractive idea , you know even though we're using plastic , you can still I mean think of the designs you can get in plastic , You could have different kind of casings . So you could have like psychedelic ones for younger people and sleek ones and and people might want to put it on their mantelpiece or whatever as a ki if it looks attractive enough as a kind of ornament Yeah maybe we could come at some say five , six des designs Can I just quickly um go over the new project requirements so that I haven't missed anything . So it's no teletext , it's only for T\_V\_ and by implication video , our corporate image should be incorporated in the remote control , um something about Videoplus . Mm , and the rechargeable batteries . That's not at the moment a requirement , And we've talked about um there being an alarm or something , a beeping for being lost , um . and the I the instruction manual , I don't know if we deal with that , um . What would you specifically like marketing to look at before the next meeting ? 'Cause we're at lunchtime now I think . I think you can email me , if there's any more questions .

## Complete Meeting Transcript

Oh God. Uh, no that's okay, sorry. Um is it okay if I postpone that til later, I just want to get access to a little bit more information, is that okay? Mm-hmm. Could I can I interject to ask a question there, is that appropriate? You're saying the triple A\_ batteries are small or the surrounding it? Mm-hmm. Right, the triple A\_s are the smallest you can get are they not, right? Oh I see. Okay. Mm. Mm. Mm. That's a very important part, it came up in our market research findings too so I can refer to that, whenever you like me to present. No. The plug hasn't come out at the bottom, has it? No. Meter adjusting. Mm. 'Kay. Have I got to keep this here? Does it matter? I'll have t I'll have to move it won't I? Uh, whoops. Will it manage? Bit more, oh dear. Oh. Is that okay? Thank you, just pull it closer a little bit. Get it right over, okay, thank you. Okay, um, I'm going to look at the functional requirements from the marketing point of view and uh obviously our starting point with marketing is always market research. Um, so that's where we started, we used our our usability lab, the company's usability lab, we did our usual selection methods to get a cross-section of the general public, male and female, all age groups from fifteen upwards and um we observed them in the lab, just their general use of the remote control, you can see we had a hundred subjects there. Our findings, lots of findings, I've just summarised some of them here. The overall thing which I've I've got at the top there in italics is that users dislike the look and feel of current remote controls, so it has obvious design implications there. Um, we found that seventy five percent of users find most remote controls ugly. Eighty percent would spend more money when a remote control would look fancy, we were quite surprised by that finding, but um that's quite a high proportion of our our, you know, international target group are prepared to spend more money for



something that's a bit nicer looking. Um, current remote controls do not match well with the operating behaviour of the user overall. For example, you can see below there, seventy five percent of users zap a lot, so you've got your person sunk back in the sofa channel-hopping. So again there's power implications there. Um, fifty percent of users only use ten percent of the buttons, so again a big design issue there. Um and possibly we can also cut back on cost if we don't have so many functions actually on the remote control. Um the biggest frustrations that people found with regard to personal preferences were um something that you mentioned earlier, uh remote controls are often lost in the room, it's a slipping down the back of the sofa type of thing, uh fifty percent were particularly frustrated by that. Uh thirty four percent of people take said they take too much time to learn to use and I think that ties in with the um the previous finding of people only using ten percent of the buttons, they just can't be bothered to learn about the other functions. Um, um slightly more than a quarter of people said it was bad for uh repetitive strain injury. You know those small movements of the remote control can lead to kind of shoulder and elbow problems. Um the vast majority of the thirty five and under age group would like um a liquid crystal display and speech recognition, again that was to aid I think in uh when they've lost the actual remote control, some kind of speech recognition. Something we didn't put to them, but which I'm thinking of now is um even if perhaps the lost control can give off a bleep every now and again til you find it or a flashing light, possibly. Um, that trend reverses in the older age groups. So thirty fives and unders who would like those two features, that kind of evens out thirty five to forty five and in the older age group it kind of reverses, they're not so bothered with this. I had marvellous tables and things that I could show you, but I think I'll just keep it simpl

e, if there's any more information I can email you extra details, is that okay? Mm-hmm, so can we not programme a video with this remote control? Just channel-hopping. Would that imply video use? Mm-hmm, yes. Yes. Um we didn't really look into that but remember we found that finding that most people only use about uh ten percent of the buttons, I think th th those do tend to be the basic channel-hopping things and on and off for the video, fast-forwarding, so on and I think it's sort of general knowledge that people do find programming their videos a nightmare. So I don't know if that's something we need to look at. Mm-hmm. In fact I've just called up that table there, we asked those two questions, the table relates to both questions, so we didn't differentiate. Would you prefer an L\_C\_D\_ screen, that's multi-function remote and would you pay more for speech recognition in a remote control? So you can see how the the yes no sort of varies across the age group there, and a substantial number of don't knows in the older age group, I think that's just general fear of new technology. Oh yeah. Right. Mm. Yes. That's a super idea. Yeah. Yes, further market research will be needed to kind of focus on what that is, it's gonna be different for a fifteen year old th for somebody who's sixty and also across the world if we're aiming at the international market. What is um attractive to a trendy New Yorker and what is attractive to a retired South African, I dunno, you get the idea. It's it's gonna vary around the world. At the end of the day, th the engineering design is one thing, it's the user interface design that may and th the sort of you know fashionable aspect of it we might have to change for different markets round the world. Yeah. Mm. Mm. Mm-hmm. Yes it will appeal to sections of the market def Mm-hmm. Mm-hmm, mm. Mm-hmm. Mm-hmm. Th the internal d engineering design has got to remain the same, yes, absolutely. Mm-hmm. Mm-hmm. I'm concerned, when you read the the R\_S\_I\_ issue again, repetitive strain injury, I don't think just moving your finger around on a small screen is going to deal with that enough, I think that is still a kind of a question mark issue how we deal with that. Um, R\_S\_I\_ tends to be caused by repetitive small movements. I'm j I really can't get my head round this one, this may have to be postponed to a future meeting but it's something we should

think about. Mm. I know, and it becomes ridiculous, yes I know. Yeah. Yes. Mm-hmm. Do we have to initially um, you know looking at the findings here, focus on a younger age group initially and then broaden out the market later. Do we really have to go for everyone right away? Um. Mm. And when we've been throwing up our ideas we're automatically talking about business people, young people, trendy people. Mm. Mm-hmm. Mm. Mm. I'm just thinking of budgetary issues too, for when it does get to the sort of broad scale marketing stage, we want to, you know, not waste money, not be profligate and uh you know focus on where the idea will be taken up, first it's most likely to be taken up first of all where the main purchasing power is coming from for a product like this. Mm. Right, I've not come across that function but it sounds wonderful. Ah, hmm. Right. Superb. Mm. Yes. Right. Excellent, mm-hmm. Mm. Right. Can I just run this past you while it occurs to me, I don't mean to quickly jump from one subject to another, but just discussing the different age groups and targeting the different age groups it occurs to me, to produce our own mobile phones, that that's kind of what led us on to comparing T\_V\_ remote controls with their design features, um, chain companies like Carphone Warehouse, you can pop in anytime with a phone that you bought for them w if you've got any problems with it and they'll fix it, they'll phone the company, you can use their telephones. Is it worthwhile with our retail outlets having a similar um kind of service so that if older users were deterred from buying this, if they know they can just pop into one of our high street outlets, th you know, which button is it I press for this? Th as free as a free aspect of our service, would that not make it more attractive to them? Mm. Mm-hmm. Right. Alright. Yes If it was something as simple as you couldn't change the channel, but I mean for if there were any more or are we absolutely definite it's only gonna be for T\_V\_ and video, we're not gonna put any okay, just a thought. Okay. Mm-hmm. Sure. Mm. Yeah. Not for such simple functions because we're focusing on that, yes okay. Mm. Puts people off reading them so they just do the obvious, yes. Sure, okay. Mm-hmm. Mm-hmm. Mm. And we don't w I mean so many remote controls look absolutely identical, these long, brown things with the same coloured buttons all crammed in on the s the surface. We definitely an ob an obvious thing, a very simple thing is to get away from these brown rectangles, we don't want that. Mm-hmm. Slightly curved, curved. Mm. Mm. I mean look at the mobile. I think that's that sounds a really attractive idea, I've not come across anything like that before, if it kind of yeah and that opens out into your flip-top. Then it's nice t to h you can make it lightweight plastic, nice to hold in the palm of the hand and just because you're having to actually insert in between the two covers, that's gonna take care of some of the repetitive strain injury trying p prevent a lot of that I would think. I think it's a really nice idea and plus you can get you know even though we're using plastic, you can still I mean think of the designs you can get in plastic, we can do a nice conch shell or scallop shell exterior. Mm-hmm. Yeah. Mm-hmm. Less chance of it being lost too, it's not like a chocolate brown lozenge that's gonna go down the sofa and people might want to put it on their mantelpiece or whatever as a ki if it looks attractive enough as a kind of ornament they don't not gonna lose it so much either. It's easier to bit nice to handle. Mm-hmm. Okay. Can I just quickly um go over the new project requirements so that I haven't missed anything. So it's no teletext, it's only for T\_V\_ and by implication video, our corporate image should be incorporated in the remote control, um something about Videoplus. Right. Right. Right, so when they press for programming you it comes up on the L\_C\_D\_, a reminder about using Videoplus? So that they have a look at the guide and Or was is this nothing to do with the project requirements, is this just that was an add-on feature? Uh-huh. Right. Right, so it's kind of doing away with the programming feature? Right. Mm, and the rechargeable batteries. Was there anything else there that we in the new new project requirements? Mm-hmm. That's not at the moment a requirement, it's something we're looking at, what preference so it may

come round to market research at some point to see what people would like. Okay. What would you specifically like marketing to look at before the next meeting? Or shall I just sort of generally look at all the issues involved? Okay. Okay. Whoops, questionnaire four. 'Cause we're at lunchtime now I think. Help. It's up there? That screen's black. Alright, okay. Okay, that's fine. Are we done? Right, okay um, this is our second meeting and I might be a bit all over the place. Um, right our agenda for today, do you want us to give you a second? Okay, um I'll go over what we decided last meeting, um, we decided upon a universal control, one handset for all, T\_V\_, video equipment. Um, that it was important that the product was accessible to a wide range of consumers, wide age range, not limiting anyone. We decided it was important to reflect the company's image in our product, we put fashion in electronics, you know that kind of s thing. Um, our budget would have to affect um try not to reflect our budget, um that we might have a bit of oh oh you can see it, okay. Um dissonance between what our budget was and what we

want it to look like. Um want it to look uncluttered, undaunting to the customer. We discussed a flip-open design, um reducing the size of the control and an electronic panel um for further features like programming, things like that. Okay. Um, three presentations, I've got written here so shall we hear from Marketing first? No that's fine, that's fine. Unplug me. Um, F\_N\_ function F\_ eight. Mm-hmm. They are. Okay, thank you very much. Um, would you like to continue on from that? Or, maybe move the laptop over. F\_ function. Oh, there. 'Kay. Um, I think we'll chat about it at the end, okay so if anyone wants to write something down that they want to bring up at the end, um Ooh, it's vibrating, that's strange. Oh, God. Right, okay. We just do the best we can. Yeah, you might. Ah. Look at that. Okay. Yeah. Right, um we have new project requirements, um we're not going to be using teletext, um apparently the consumers consider it outdated with the internet now. Um our control is only going to be for T\_V\_, it's not going to be a combined control, which limits you know all of the different things that it limits the cost for us, but it also makes it easier to understand for the consumer. It says for T\_V\_ only, so looks like it's just yeah, I think maybe Sky things like that might be incorporated into it, but I don't know, what do you think? It just said, for T\_V\_ only. But I mean, general T\_V\_ controls do do video as well. I mean you bu well som you get com you get combined T\_V\_ and videos don't you? Mm. I think we assume that it's still got play and stop functions and programming. Mm. Hmm. Mm-hmm. Yeah, bu We do have a budget limitation that we can't control ourselves, so I think when we can take a cheaper option which still does the same kinda thing um because it is something I it needs to be the thing that you use to find it needs to be something that you don't lose, you were saying whistling, maybe on the T\_V\_ you could put like a pack on the T\_V\_ or something so you can't see the remote, you go and press the button on top of the T\_V\_ and it beeps and you're like oh okay it's over there, something like that, but that's that sounds a lot cheaper to me. Um the third thing was that we have to make sure the corporate image is very much incorporated into the handset. Um so we want logo, we want um fashionable, trendy, I mean what you were talking about with the marketing. Um, people paying more for it to look good. Um, we need to focus on that as well. Yeah. Mm. Yeah. Mm-hmm. What about you were talking about the buttons, um the controls that are coming out now have kind of big, rubber buttons, not tiny little one, big, rubber buttons, but what about, I mean, 'cause we got to make it original, what about um you know with the touch screen computers yeah? Um so you it's like a little panel that you touch rather than a button which shouldn't wear out as much either, not sure about the You don't have to press it, you just have to put your thumb onto it. Um, think that might appeal I'm thinking kind of Japan, I'm thinking uh young, um office people, trendy kind of a thing. Um, but quite, um, easily labelled so that anyone can oh yeah that's obvious what that's for and it's not daunting to maybe the older

generations, um Were too big. Mm. I think we have to design one product and then the company can take it wherever they want to uh in the sense that they can make it smaller, or they can make it bigger or they can change the features slightly, um. It's gonna be the same, so we need to focus on just one thing, not get bogged down in lots of different um possibilities, um. Or a speech recognition, which is extremely expensive, I think that's the only way that you kind of avoid that kind of issue. We are we're talking about um the type of company that we're working for as well. That they want um it to be fashionable, they want it to be trendy and you wouldn't automatically assume associate that with the older generations. Now with the baby bo

omers, the older generations are actually larger, they have a greater population than us young people, but I don't think we're focusing on that, I think we are focusing on a sort of mid-range um, business kind of class type people. Mm-hmm. Okay, so the remote control functions. Um we've got the T\_V\_, we've got the video, now there's um I can't remember what it's called, the little code at the end of programme details, yes. We could use that as an alternative to programming in times, things like that, is that I always found that really easy when I discovered it, um because you've got your general record anyway so if you there's a programme on you want to put record on, that's fine, but if you do want to tape something in two days time and you're not sure if you're going to, you put the number in and it's just a number, it's not a date, it's not a time, it's not a channel, it's not when it finishes, it's not anything like that, it's just a number. No. You've already got the numbers for typing in anyway. It is after um if you look in the newspaper, T\_V\_ guide or any T\_V\_ guide there's a five, six digit number afterwards and that's the number you put in and it's recorded that it's going to be on on Tuesdays at ten o'clock on the seventeenth so you don't have to worry about dates and you don't have to worry about times, um and it has been around for quite a long time. No it's not um but I think if awareness was kind of brought to the forefront about that Mm. Okay so Mm-hmm. The functionality of it in the sense that you're sitting there, you're pressing this button and your T\_V\_'s not doing it. Taking your T\_V\_ and your control and saying look this is what I'm doing, it's not working, what should I do? I think so. Um Instruction manuals. But I mean they're there's customer service, there will be a customer service number thing that you can phone up and speak to and that way there's no call out charge, there's no extra, t the person has to walk to a shop on the high street, um. Mm. But we should focus on making the manual as user-friendly as possible because a lot of them are just tiny little writing and lots and lots of pages. It does, you just put it in the drawer until something goes wrong and then you try and search through it, so that should be something we think about. Um, what other functions? We need I'm not sure if we need a design um decision now, but we should think about c 'cause you've got the dilemma between oh batteries, that's what I was thinking about. Mobile phone batteries, what kinda battery is that? Well they la they they last quite a long time, and if you had uh when you th the thing that you get with mobile house phones, you sit it in its charger when you're not using it or t at night or something, but it doesn't really matter 'cause it never really runs out 'cause it lasts a long time once it is charged. Um, something like that should reduce the size of it. Yeah it could be on that yeah, okay. S Yes. Rechargeable with a docking station. So the rechargeable which would be your field. Okay. Yes, which it is cheaper in the long run as well. Um, th the shape you got trendy. I don't wanna big box with lots of things, you don't want a tiny sort of little thing either, because then you have got the repetitive strain injury no matter how many how much you try and make it simple, um They do. Okay so we've got a flip-screen. Um Okay. 'Cause it's kind of moulded to your hand anyway. Okay. Can you look into the company logo? Um, things that are associated with the company in view to trying to incorporate that into the design of the product. I mean for example, if it was a C\_ or something like that, you could have it in a vague C\_ shape that opens up

kind of like a shell, or something, um something along those lines to be able to incorporate it quite um obviously into the design, while also making it quite different from anything else that's there. Well we need to think about how it's gonna look different. Or you could do

um different, like you get with mobile phones, different fascias. You could have different kind of casings. So you could have like psychedelic ones for younger people and sleek ones and Yeah. Mm. Okay. Okay. Okay. Right, I think we have to round it up, um Sure. That was um in cutting down the number that was kinda separate that was cutting down the number of functions, making it simpler so instead of having lots of things you put in for date It's kinda takes the place of having a button to press for the date and having the button to press for the channel, things like that. Um it could be it c It yes, it could be uh adv advertisement feature, um rather than design feature, you know, drawing attention to that. And it also paid um lip service in the instruction manual, 'cause it's very simple so putting it down in words should be helpful. Yeah. Um We've got the buttons but I think we'll work through that with the design of it, um. Yes. Yes. And we've talked about um there being an alarm or something, a beeping for being lost, um. Learning how to use it should be as simple as possible. But there aren't gonna be that func that many functions incorporated into it so it should be fine and the I the instruction manual, I don't know if we deal with that, um. I think Yep, and different from what's out there. Yep, I think that's us. I think you might get guidance, but um I th Instruction manuals, 'cause there tends to be a demonised thing, u um, they're everyone's got like a big pile of them, but no one really uses them. Um. Yes, right. Okay. Right, okay. I think you can email me, if there's any more questions. Um and I'll be able to not answer them. Okay, yeah I'll go first. Can I grab the Thanks. What do I have to press? Oh, F\_ eight? Oh right, yeah. Okay. Maybe Yep there we go. Okay this is uh the working design, presented by me, the uh Industrial Designer extraordinaire. 'Kay, this is where I went a bit mad with PowerPoint so. What the first thing question I asked was what are we trying to design? Well, a device which basically just sends the signal to the T\_V\_ to change its state, whether that be the power, or the channel um or the volume, everything is just um some sort of signal to change the state of the T\_V\_ or other appliance that it's sending the signal to. Um, so I decided I'd have a look at what th other people have designed and try and take some inspiration from that. But uh although we will want to be taking ideas from other people, we wanna make sure that our design stands out and I thought that was something that well it wasn't really my area because I'm dealing with the inside really. So um, yeah I ran out of time so I couldn't do this one as fun as the last one. Um and uh I found out that most uh controls use some form of infrared to send signals to the T\_V\_ presumably because of the cost issue of uh something like uh the same thing that computers use, wireless and, you don't need to send very much information. Um, most of them are powered by some form of battery. Now our one, I'm I'm not sure whether we want to look at the size issue because most of them are powered by triple A\_ batteries but those can be quite bulky so I d I didn't know if you wanted to look at something else um so we could shrink down the size of the control. Yeah sure. Um no no, if you if you look at if you look at most remote controls they're quite they're quite chunky and that's because of the size of the batteries, they have to be obviously this certain size to fit those batteries in. Yeah the the well you can you can get the sort of circular round ones but I'm just wondering about power consumption and how much you need to send the data across. Um, and d which leads sort of onto the next point about 'em being small and easy to carry round. Um, now the ones at the moment are small but I was just wondering if we could look at something a bit smaller. Now the main components I came up with um were obviously the power source for the batteries 'caus

e otherwise it's not gonna work, uh as I said about the w which batteries we were gonna choose, we can uh discuss that later and then you obviously need something to decode the information that you're putting in from from the controller and to turn it into an i uh infrared signal which we're going to use to send the information. Now these have a wireless range of up to about five metres which is sort of suitable for anyone who's watching the T\_V\_ unless they're in a cinema, which not most people do so as we're applying to the most audience that should be fine. And then I was uh just had a quick look at the external design but I d I left that mostly to the uh interface designer. And so this is what I had as the basic idea of what we wanna do. It's not a proper circuit, I'm not sure if it'd work or not, I'm not even confident that those are the real um the real way you'd wire it up but anyway, we've just got the the power going to the infrared bulb with the chip and the uh U\_I\_ interface um which would basically, when you when you pressed anything it would the chip would convert it into some form of I\_R\_ data which could be decoded by the T\_V\_ receiver, which obviously means that we're gonna have to conform to whatever um whatever form of communication that the T\_V\_s are already using and since that that's another use and reason to use that infrared because that's what all T\_V\_s use at the moment. And then finally, um we want uh the it to be available to a wide audience at a low cost so all the components that I've put forward are uh low in cost so that that should be good. Um it should be different enough um from the alternative products to get a good consumer base, we were talking about it before and also just something that I was thinking about, uh because they're small they're also easy to lose so if we could look into some way of d dunno some anti-going down the side of the sofa thing that you could have, I th that was just sort of a general point there. And that's uh yeah. Alright okay, and yeah, that's that's what I came up with there, so if you wanna Ooh. Function F\_ eight yeah. No, no yeah it's just. Yeah. Yeah. Yeah. Yeah sure. There we go, I've got a bit more of the cable. There we go. Uh you should be able to and yeah, there you go. Okay. Huh. T yeah yeah. I d well I dunno 'cause uh the w if you've g Yeah. If yeah and if you got if you got a Sky box, they have one of those plus boxes, you can record straight off the T\_V\_ anyway so on to on to like the T\_V\_ hard drive or so. Yeah. Yeah. Ju um just as an idea on the uh speech recognition thing that pr it'd probably be quite expensive to incorporate an entire speech recognition thing and they're not that great anyway. Alright, okay. Alright, okay. Yeah. Yeah but um on on that again I just thought 'cause you can get those key chains now and you whistle and then it'll let off a loud noise to let you know where it is so I thought that could be quite a Yeah. Yeah. Yeah. Hmm. Yeah. Yeah. Well y yeah you could you could have a number of different designs I mean inside they'd be essentially exactly the same. Just yeah, yeah. 'Kay. Yeah, yeah that's what I was just yeah. No, well no 'cause you wouldn't have to you don't actually have to press them you just Yeah. Yeah. Mm. But also er ergonomics as we're saying with the different designs, ergonomics uh there's sort of physically different things 'cause um if you've ever seen the X\_ Box they had to make two different sized controllers because people in Japan wouldn't buy it because the controller was physically to big because um they're c uh just generally Japanese people have smaller hands so they couldn't get round the controller which is uh so if you I don't know what 'cause you obviously you can have bigger buttons for some countries or something and smaller ones for others. Yeah. Yeah. Yeah. Hmm. Huh. Yeah. Yeah. Yeah. Yeah. Yeah. I yeah I was just thinking about how you could combat that 'cause without without doing

something where you have to move your arm around to change the channel and it becomes yeah. Yeah, speech recognition, but yeah. Mm. Ge uh Yeah. Video plus. Yeah yeah. Just whack in the number. And you w yeah. And you wouldn't you wouldn't need uh a whole host of extra buttons for that, you just need one 'cause you've already got all the numbers there anyway, yeah. It's not Yeah. It's been

been around for a long time it's just it's not very well advertised as to how to use it and things. Mm. Though if y if you've got something like Sky anyway you can just click on it you can just press the button on the programme once and it'll record that programme when it's on and you press it on it twice and it'll record the whole series. So that yeah. But just to have that function would be would be really good. Yeah. Mm. But the only problem is that with a mobile phone you signed for a contract so they um the companies who uh who you deal with have actually they've they've got an obligation to to help you out and also I mean it's it's fair enough to have some sort of help service but I I'm not sure how much the cost would be of having Yeah, I mean I mean instru instruction books I feel c I reckon can cover that. Yeah. Department, yeah. Yeah. And they're yeah, they should be f yeah. Yeah. Yeah. It's the uh yeah. Um they're they're specially made for the for the mobile phones, but they come with a charger, I mean you could you could bundle a charger in with it but Mm-hmm. Yeah. Yeah. Yeah. Yeah and if yeah if you if you had if you had one of those uh just coming back to your other point about pressing the button and setting off the bleeper in the room that could uh Yeah on that as well so. Yeah some sort of docking station or yeah. Yeah yeah th yeah that that'd be fine, and also that would mean they wouldn't have to go out buying batteries all the time. Yeah. Yeah. Yeah. Yeah. Yeah. Mm. Yeah. Mm. Yeah. Yeah. Yeah. Okay. Mm-hmm. Sorry. Yep. Okay. Yep. 'Kay. It can be okay, that's okay with me. further. Oops. Why's it not working? F\_ eight, right? Okay. Mm why's it in the right? Yeah, it's connecting. okay. Yeah. Actually mm some of my points might overlap with what William's just mention, but basically my method was like uh whatever brainstorming we did in the last meeting, just a couple of valuable points and started developing on that and there might be some missing loops in this thing which I think we'll uh take a feedback from the marketing because um, I haven't had some marketing data and basically every product is marketable. So purpose, as William already said, I would put it to simplify the interaction with T\_V\_ to make make it as simple as possible. And to summarise I I would say it's it should be user-friendly by being easy to use, rather than having a lot of complex button because you can have an engineering maybe having hundred buttons and maybe having uh a remote control which has the main features like volume control or channel ch changing the channel or whatever. But we are to to make it unique so that people want to buy it, will this two features together. So what the concept is to have a flip-top model. The main functions such as which are like often used will be on the top and the complex functions which say you you can say like the y young generation or trendy generation want to pr say programme their favourite channels or whatever, can be put in the middle part of the f flip-top. So it's like it could be accessed by a wide ra range of uh audience and we can punch in new f features such as uh added features such as shock proof body and maybe a design to appeal to a lot of people. Findings most people prefer us user-friendly rather than complex remote controls because there are times like uh people have used a remote control for say a year or something and they they are not used maybe thirty to forty percent of the buttons so it's not of no use of punching in the uh trying to put in those things in on the top of the remote c

ontrol and try to confuse the user. As we saw we we have to make a profit also so we we can maybe go for an economies of a higher production mm by fifty million we said? Yeah, with that I think we'll be able to achieve economies of scale also, so we can give in add in more features and make it less costly. Um, that's so this is if you ask me personally, I would make uh flip-top with a trendy uh uh design and s maybe we we should look at also like the buttons whe whether they are like soft or little hard because they are times when the buttons tend to be a bit hard after uh continuous use usage and all that. So in overall a simple and uh user-friendly design. Uh any comments like, if you want? Okay. I think you'll have to You can't It'll have to this can't be pulled. You'll have to push it a bit more. Yep. Yeah this is

more than enough. Okay. Yeah I think you can pull it out now. Yeah. 'Kay. That's fine. Okay. Mm-hmm. Anything about that on the market research or something like regarding whether people want a combined something like that? Ten perc Mm-hmm. Okay. Pens Mm-hmm. Okay. So are we talking of a single model or maybe five, six designs? Sure. Alright. Right. The features could be same and the body could look slightly different. So Yeah. Yeah, uh maybe to as uh it it was indicated that uh uh risk uh of uh repeated use, the injuries, maybe a touch screen could be a better option for that. So, a bigger b okay so y you're dividing designs based on not only segment age groups, you're desi uh dividing it according to the countries also, the market. Maybe for U\_S\_ and all you can have a slightly bigger remote control and maybe in Japan and all you need to have a small, yeah. Mm-hmm. We could focus on the biggest market. If say people between age group of twenty to thirty five are the biggest market? Mm-hmm. Mm-hmm. Mm-hmm. Right. I think it will be too much of an effort for a person to for a phone maybe he might walk down the street, but for a remote he will just refer to the manual and all that. Simple. Mm-hmm. Mm-hmm. So are we talking of a concept of a rechargeable something on the remote? Mm-hmm. Right. Mm-hmm. Okay. What I was thinking of a design which Nokia h uh came up with almost six or seven years back. Basically we have a flat one it it looks like a box, like a chocolate. That's very strenuous because your thumb is slightly up, so they came up with something like this, curled up, so here, and you don't have to you don't bend your thumb too much, so it's like uh you can say a banana shape kind of thing, curled up like a boat. G uh so what happens is you don't have to press your thumb too down like. So it's already curled up so your thumb doesn't y yeah so we can have a s like you know moulded according to your the way you h hold of it's kind of semi-circular in the bottom, something like that. I wouldn't say exactly semi-circular but yeah smooth. Current. Mm-hmm. Mm-hmm. We could look in at that but Mm. What we were talking is to make it more rather than like sea-shells, logo could become as you could put a logo in the corner of uh the model, rather than you know, trying to make it like a sea shell or whatever you were ta telling like. A sea shell? Yeah we could look in at that. Yeah maybe we could come at some say five, six des designs and then choose which are whichever appeals the most like, that could be the most common design. But we can like think of five, six designs. Mm-hmm. Yeah. Yeah. For detection, right. Yep, I think True. Oops. We should f I think it's time for us to get back to



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# Meeting ID: 75

Data Source: Train

## Executive Summary

Welcome to the what should be the last of these meetings the um th the the minutes of the last meeting uh I think we'll take those as read , um the um th the the next uh thing we we we'll have a look at the uh th have a look at the prototypes we basically have the same kinda lay-out here you hold it like this and it gets kinda moulded to the to the shape of your hand , basically . Um on the left we've got the scroll for the volume , on the right we have buttons for the channels up and down and that kinda so you can hold it and scroll , or you can hold it and and push . Uh this is the power key , um it's kinda like the biggest Uh that's the little menu key . This is the infra-red section Uh we got a microphone there which for all the voice commands so you can you know talk to it like that Um the logo is down down there um and has the cover on it the red bit's the cover and it kinda goes over everything and then there's holes for the buttons to come through . Um . And so we figured it would be kind of you know a light weight plastic , just kind of a light non-descript grey and then the covers will be that sort of rubbery material like they make iPod covers , so they kinda just stretch over . spongy like is something that people wanted and it just sort of stretches over But it's also e e easier to put on versus like mobile covers and then the buttons come through each one of 'em on the very end will have the logo with the yellow circle and the R\_R\_ . for some strange re reason I had it in my mind that they'd put them down vertically we could broaden the broaden it out a bit but um as you say you can just make the base a little bit bigger if we just lengthen it I guess so it comes down to the base of the hand The final product would actually stand up , yeah . I think the uh the basic concept i i is absolutely bang on let's have a look at the um f finance . if I get the uh spreadsheet up . this is the company's uh uh costing for for various uh uh aspects of design and I I've treated some of these slightly uh liberally given the constraints placed on us , for instance if if they require us to have it in the corporate colours , then that is not a special colour , we're just simply on batteries , the the one th the one decision I've had to make is that um we're we will have to find a s a regular standard chip to to do this with and I I um I'm I'm I'm certain that they they are around that I don't think is a a serious problem . The uh the the voice sensor is is expensive but we we made a a basic decision that that was absolutely fundamental to the to the design so that that has to stay . Um it's simply made of plastic so th that's uh that's no problem we haven't actually got a scroll wheel we we we got push buttons and and a simple uh um slider I do don't know that they're special colour . the the costings uh come in at exactly on target at twelve point five uh but I thi I think we have a a very strong

case to argue that uh what what we've got is is so innovative and uh and different that um any any slight compromise we have to make on on cost is is offset by the uh you know the uh you know the the the the concept of it being a a fashion accessory and and having the the interchangeable covers if the management expect us to be techno again fail again technologically innovative um that they they have to accept that we we can't operate absolutely within uh the constraints that they give , I I think we can argue that we we have uh come in on on budget . Um . Andrew do you want what do you want to say about um the uh yeah the evaluation Method of evaluation testing the product was to just if it met all the criteria all the conditions that we set out to set out to solve , from the point of view of the the consumer and the management . what I've been asked to do is , on the whiteboard um gauge our team response to these questions . on a scale of one to seven , one being true and seven being being false . And then at the end just take an average look at these questions . Is the device f flashy and fashionable ? I think most definitely . I'd say definitely a one yeah . and also uh technologically innovative ? Yeah , defi yeah , yeah the voice technology indeed . Easy to use ? I don't see we could've made it any easier . Uh suitable for the consumer ? Yeah definitely . I think it made we met all of the consumer Uh is it complicated ? No . Uh functional ? Yeah definitely . found easily . We've b built in the the speech , where are you , function . Does it take long to learn to use ? No , not at all . The R\_S\_I\_ compares to the current standards , Less buttons it is sorta the the handle more ergonomically correct as well . Um will device appeal to all age groups ? I think it will because I mean uh old older people who can't manage the buttons anyway will actually probably like the like like the voice bit so we had the we had the data saying that old people will be less likely to pay extra money but the funct the increased functionality , the e ease of use of the device might make up for that . I I I think it will tend to appeal more to younger aged groups I think we can reasonably say it's another another one , in in in in my interpretation of management's instructions uh is that yes it it meets the requirement it's it's simple to use , um it's it's it's within budget , I I think we've done an amazing job one two three four five six seven eight nine ten eleven . Eleven divided by eleven's one so equals average of one . I think we worked well together and looked really at what the consumers wanted and what we were trying to make th this this slide here I mean the satisfaction with uh room for creativity , seemed to discuss things pretty well I think we've allowed ourselves uh as much creativity as the uh the the the product uh allows . Um I won't comment on leadership , uh teamwork I think we've uh I think everybody's uh worked pretty well together . Um we've just about coped with the whiteboard and digital pens , and new ideas found , um , again gi no given relatively everyday product , I think we've v very uh very effectively come up with a a new uh uh a new approach . Um are the costs within budget ? Yes . Is the project evaluated ? We're we're all happy that it it meets all the criteria , um Thank you very much indeed , Cool , thank you , So I call the meeting closed . Um then again the the the the shape of the case means that it's it's expensive to uh um I to make 'cause of the the th the double curves

## Complete Meeting Transcript

Could have one for your stereo, one for your D\_V\_ player. Yeah I kinda had a a kinda a natural kind of a idea where it's like more of a kind of like a kinda maybe slightly like thinner, yeah, kinda like that kinda like a flower or a plant for the more natural kinda Uh yeah, just click there. Uh the the maximise button. Evaluation. The the product or the project? Um, well well my presentation just now? Sure, uh can I get the Cheers. There we go, oh. Method of evaluation testing the product was to just if it met all the criteria all the conditions that we set out to set out to solve, from the point of view of the the consumer and the management. So what I've been asked to do is, on the whiteboard um gauge our team response to these questions. So, on a scale of one to seven, one being true and seven being being false. Yeah. And then at the end just take an average Yes. So uh. So, look at these questions. Is the device f flashy and fashionable? So uh and also uh technologically innovative? Easy to use? Uh suitable for the consumer? That was um Yeah. Uh is it complicated? Doing pretty well so far aren't we? Uh functional? Um. Where are we? We've b built in the the speech, where are you, function. Uh-huh. Mm-hmm. And uh, what else? The R\_S\_I\_ compares to the current standards, well. We we uh yeah it was our it was a we made an actual effort to Um will device appeal to all age groups? Yeah, uh that's a good call, yeah. Well we had the we had the data saying that old people will be less likely to pay extra money but the funct the increased functionality, the e ease of use of the device might make up for that. Mm. Uh can you just click the my mouse to move onto next page? Uh, yeah and what h did we make the management's Um. Okay. So uh one two three four five six seven eight nine ten eleven. Eleven divided by eleven's one so equals average of one. And that roughly concludes my evaluation of the of the product. Right well. Welcome to the what should be the last of these meetings and uh it looks like we've uh done a good job here and uh we'll just go through the the final uh the final details. Um okay, oh the um th the the minutes of the last meeting uh I think we'll take those as read, um Okay the um th the the next uh thing we we we'll have a look at the uh th have a look at the prototypes and uh look at the uh evaluation criteria and finance and then uh uh just tidy up with production and um and then we can close. Um So f if if you'd like to uh present your your proposals. Uh-huh. Yep, yeah, good, good. Uh-huh. Yep, right. Uh-huh. Yep, yep, mm-hmm. Uh-huh. Yep yep. Yep. showing me age, I don't know what i c iPod covers are like. Yeah yeah. Uh-huh. Okay, yep, right. Okay. Yep. Okay, good yeah. Yep, right. Yeah, yeah. I mean tha it's it's a detailed point, I just wondered I mean h how will people put these down I wonder? Right. Okay for some strange re reason I had it in my mind that they'd put them down vertically but uh uh Yeah, uh no because particularly if they've dif if they're gonna have it as a you know as a fashion item uh I mean it it's uh it it's just I mean it's just a minor detailed point, but um as you say you can just make the base a little bit bigger and uh Yeah and uh it just needs another uh another logo somewhere is is is all it gives gives people the option and if if say if they've got them um because actually have several upon the uh Yeah, well. Yeah but that that's uh but uh no the the the overall uh the overall concept is uh yeah yeah, no no, I mean that's these uh Yeah. But uh yeah but no th but the yeah the the the Yeah, yeah, yeah, I mean it it's uh wouldn't wouldn't do that, indeed yeah. But th th but th yeah th b the these were all minor minor uh minor details, I think the uh the basic concept i i is absolutely bang on and the i it certainly meets our criteria of being uh of you know looking different. Um, so good that's that that's excellent. Um right let us um What's on the next one? Oh right yes, let'

s have a look at the um f finance. Um, now we're given a a clear design brief, uh if I get the uh spreadsheet up. Oh.. Oh right. Ah. Good, this is why we need to make these things simple so that the uh the the the boss can understand. Now I've um this is the company's uh uh costing for for various uh uh aspects of design and I I I've treated some of these slightly uh liberally given the constraints placed on us, um I wouldn't know for in for instance if if they require us to have it in the corporate colours, then

that is not a special colour, that's a that's a standard colour. Uh, so we're just simply on batteries, the the one th the one decision I've had to make is that um we're we will have to find a s a regular standard chip to to do this with and I I um I'm I'm I'm I'm certain that they they are around so, um that I don't think is a a serious problem. The uh the the voice sensor is is expensive but we we made a a basic decision that that was absolutely fundamental to the to the design so that that has to stay. Um then again the the the the shape of the case means that it's it's expensive to uh um I to make 'cause of the the th the double curves but on the other hand because of our overall fashion concept um we we should exceed the the sales targets. Um it's simply made of plastic so th that's uh that's no problem and uh um just because the whole the colour of the the whole thing that's uh uh there's some cost there. Um and uh we haven't actually got a scroll wheel we we we got push buttons and and a simple uh um slider so um and the and the the buttons are uh uh well I do don't know that they're special colour. Anyway the the costings uh come in at exactly on target at twelve point five uh but I thi I think we have a a very strong case to argue that uh what what we've got is is so in innovative and uh and different that um any any slight compromise we have to make on on cost is is offset by the uh you know the uh you know the the the the concept of it being a a fashion accessory and and having the the interchangeable covers so uh um you know the if if if the management expect us to be techno again fail again technologically innovative um that they they have to accept that we we can't operate absolutely within uh the constraints that they give, so uh we we we present this as the uh the company's uh the the company's way forward and uh uh I I think we can argue that we we have uh come in on on budget. Um. Okay, uh. So um. Does anybody want to uh uh Andrew do you want what do you want to say about um the uh yeah the evaluation where where you know well where where we're where where we're at? The the the well the I meant the product. Yeah. Oh sorry yeah um, mm. Mm. More loud clicks in the microphone. Seven being a nice round number to work to. Tr On for true and seven for flase. Yes. Well I think most definitely. Yes the voice technology indeed. I don't see we could've made it any easier. Totally. No. Yeah. found easily. yeah I mean that's that's Yeah. Does it take long to learn to use? Shouldn't. Less buttons so it must be. So yeah, um um. I think it will because I mean uh old older people who can't manage the buttons anyway will actually probably like the like like the voice bit so And it's it's it's well I don't think we're actually charging a particular premium anyway, in the end, so Yeah. Yeah. It will appeal f for dif for different reasons but it's it's uh yeah yeah so I I yeah I Yeah, so I think we can reasonably say it's another another one, why not? in in in in my interpretation of management's instructions uh is that yes it it meets the requirement is t it's television only, it's it's simple to use, um it's it's it's within budget, um I it's uh yes an an any minor points we we we argue. So uh I I think we've done an amazing job in uh coming up with what Need a need a calculator for that. Okay, nick the cable back then. Ooh. Right do um either of you want to uh say anything? Mm. Before I uh No. Yeah. Yeah. Well that's rig

ht, I mean th this this slide here I mean the satisfaction with uh room for creativity, I mean I think we've allowed ourselves uh as much creativity as the uh the the the product uh allows. Um I won't comment on leadership, uh teamwork I think we've uh I think everybody's uh worked pretty well together. Um we've just about coped with the whiteboard and digital pens, uh I think the results speak for itself and new ideas found, um, again gi no given relatively everyday product, I think we've v very uh very effectively come up with a a new uh uh a new approach. Um are the costs within budget? Yes. Is the project evaluated? We're we're all happy that it it meets all the criteria, um Thank you very much indeed, I think that I think that's uh I think we can go f for an early bath. So I call the meeting closed. Not sure how far ahead of schedule we were there. Mm. S And so we figured it would be kind of you know a

light weight plastic, just kind of a light non-descript grey so that people'll wanna buy the covers and then the covers will be that sort of rubbery material like they make iPod covers, so they kinda just stretch over. Yeah, well I I didn't know that but yeah they're kind of it's just kind of a rubbery and that way you know spongy like is something that people wanted and it just sort of stretches over and that way I think probably helps protect it a little bit too as well and just kinda stretch it over and it'll just stay on and then the buttons come through and so and then the each one of 'em on the very end will have the logo with the yellow circle and the R\_R\_. Yeah. Like that. Oh. Yeah. Yeah, just kind of Or just make it little. Somewhere like that so it just sort of Yeah. Bu. fall over. Yeah. Yeah.. 'S a little longer. Yeah. I think it is yeah. Yeah. Yeah. Yeah I think it made we met all of the consumer wants. No. Yeah. Yeah. Yeah. I think so. Yeah. Yeah I think just the simplicity of it and not having to learn to programme and not having you know a million buttons. Under the cost. Yeah,. I mixed up the colours a little bit. I think I all wrong. Mm. Ps I don't think so, I mean I think we worked well together and looked really at what the consumers wanted and what we were trying to make and you know, seemed to discuss things pretty well and come to group consensus and Yeah. Yeah. Alright. Yeah. Okay. Uh okay we basically have the same kinda lay-out here it's just um you hold it like this and it gets kinda moulded to the to the shape of your hand, basically. Um on the left we've got the scroll for the volume, on the right we have buttons for the channels up and down and that kinda so you can hold it and scroll, or you can hold it and and push. Uh this is the power key, um it's kinda like the biggest so you know how to turn on. Uh that's the little menu key. This is the infra-red section so you g it'll be sending rays and if you're you know pointing it like that it can send it, or if you hold it up like that it'll send it. Uh we got a microphone there which for all the voice commands so you can you know talk to it like that and it'll still understand. Um the logo is down down there um and has the cover on it and you can see like it just kinda goes the red bit's the cover and it kinda goes over everything and then there's holes for the buttons to come through. Um. Mm. Mm. Yeah. Mm-hmm. But it's also e e easier to put on versus like mobile covers you actually have to screw them on and stuff and you kinda sometimes have to get someone to do that for you. This is very much you should be able to stretch it over yourself and it'll be fine. Yeah. Yeah. Li that'll be the covers as well, yeah yeah. Yeah it could stand, yeah. Well we could broaden the broaden it out a bit so it would stand like that. Yeah, standing. Yeah, we could just widen it out uh Mm. Mm. Mm, yeah, yeah. Have to if we just lengthen it I guess so it comes down to the base of the hand and then flatten it out and could sit there. Yeah, mm. Yeah. Yeah. We might hav

e to lengthen it so it kinda your hand still holds it and have it there, yeah, yeah, yeah like that, like that. Yeah. Mm. The final product would actually stand up, yeah. Yeah, yeah. Yeah. Wee Mm. Mm. Mm. Yeah I'd say definitely a one yeah. Yeah, defi yeah, yeah Yeah. Yeah definitely. Yeah. Yeah definitely. Yeah. Yeah. Yeah, mm-hmm. No, not at all. Uh Yeah it is sorta the the handle more ergonomically correct as well. yeah. Mm. Mm. Mm. I I I think it will tend to appeal more to younger aged groups just 'cause we have gone with the fashion focus and the younger people tend to would be more conscious of that aspect of it, but um I think it should still appeal on a certain level to everybody, yeah. Yeah, yeah. Yeah, yeah. Yeah. Mm. Yep. Mm-hmm. Mm-hmm. Yep. Yep. Well done us. Excellent. Oh no that's Uh.. Mm-hmm. Mm. Yeah, definitely. Mm-hmm. Mm. Yep. Yep. Cool, thank you,

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# Meeting ID: 94

Data Source: Train

## Executive Summary

The project manager opened the meeting and stated the agenda to the team members. The marketing expert discussed the findings of a survey which indicated that current remotes are ugly, difficult to use, have a number of unused buttons, frustrate users when misplaced, and contribute to RSI. The marketing expert also stated that young users like speech recognition and that users in general want buttons for power, channel selection, volume control, and a few lesser used settings. The user interface designer presented existing remotes to exemplify the need for simpler designs, discussed the use of components such as titanium and a back-lit LCD screen, and discussed other features to consider such as color options. The industrial designer discussed the interior workings of a remote and how to handle universal capability and speech recognition. After the project manager's closing, the project manager recapped some decisions and the team discussed how to handle the issue of locating a remote when misplaced.

## Complete Meeting Transcript

So Of course. Nice stuff Who starts? Oh. Ha. okay. So I dunno if I can do that like this? Yeah? So it's being modified. Do you want yeah, open. Read only. I hope I saved it. So, um yeah, this is my name. So as you know, you I think you already know me, Sammy Benjo. I am the expert in marketing and I want to tell you about what people uh s want and uh like and dislike in remote controls, and I hope this is going to help you to to design it correctly. So next please. Uh-oh. Hmm. Yeah maybe in the full page because i I spent lots of time doing this presentation, so. Uh-huh hmm okay. So basically uh what I suggest is that uh instead of deciding ourself what what could be and what should be a good uh remote control, let's ask people who are users of remote controls how they feel about w the current remote controls, what they like, what they don't like and um and what they do with them by the way because they are supposed to be useful. Don't forget about that. So we've we've conducted a a survey on on the use of uh remote controls and I'd like to show you some of the results we found on this survey. And next please. Yeah, so basically what we found was that uh there are several things that the user don't like in remote controls. First of all, they find it very ugly. Current remote controls as you know they're the

same as this one uh they're not nice colour, not nice shape, I mean they're all the same, and they're not I good looking. Um what is interesting is that in fact it seems that they were people are ready to pay for nice and look and fancy looking uh remote control, so I think we should probably spend lots of time in and effort in that um. And the other thing is that uh the the current remote controls are not so easy to use and it it the the current uh facilities that they offer do not match what people really want to use their remote controls. For instance uh we see that uh they zap very often so I think this is a very uh important uh functionality that it should be easy for them to to zap uh in one way or another. And most of the buttons uh on uh current remote controls are not used, so I think we should design something where some of the buttons which are those that are used should be easier to see and use than others that only a couple of people are using. Um next please. Now people are very frustrated w with their remote controls and they for instance uh they don't even find it it's it's often lost somewhere in the in the in your home and nobody knows where it is. Maybe if we have something where we could ask the remote control please, where are you? Like uh something to to like t I think phones. Some of the phones have some of this kind of s functionality. Uh of course phone you can always phone your phone but you can't phone your your remote control. But why not? Yeah. And because of the fact that there are so many buttons in these remote controls that nobody use, in fact they don't even know how to use them, so most of the the people say they they don't know how to they to use properly their r remote controls. And uh they are bad for R\_S\_I\_ but uh I don't remember what is R\_S\_I\_. So I think they are bad. Mm-hmm. Mm nobody has any idea about that? Well I'll check uh with my Oh, okay, I think it's a technical thing which our Okay. So, it seems that it's a lot of people for a concept that we don't know but we have to take this into account. So anyway that's for what the biggest frustration uh of the user and um what else do I have? Next slide? Ah yeah. So we've listed a couple of uh s uh functions that may be uh used by u the user in the current uh available uh remote controls and uh well the tables look very nice to read but what is important is to understand that the power button is not used often because in general you use it only once per session, but it is very relevant. People want to have a power button. Channel selection is uh o often used very often used and indeed uh very relevant. Ah now I remember what is R\_S\_

I\_ it's repetitivity stress injury. We have to be careful with that word but uh anyway I continue my presentation so yeah, channel selection is um very important, very often used. Volume is not often used but people uh want to have control on volume and that makes sense of course. And n then you have things which are very much less often used like the settings. Audio settings, screen settings, even teletext and channel settings. All of them. they're not often used and they are s more or less relevant. It seems that people find teletext teletext uh relevant, even if I personally never use it but seems that it's average relevant at least, so. I can tell you that uh in a I in a scale between one and ten relevant uh not relevant to relevant people scored a six on this, which is not as uh these these two one were had I think ten I think. But but if you compare with these ones, uh I think they scored a one or two. Not very relevant, so if if there are good reason not to put teletext it's okay but just know that people find it somehow relevant. That's for the main functions I think and uh then we can ask uh ourself uh what people don't have that may be useful. For instance I think net next slide. One of the thing the trend uh that uh you are probably aware of is the possibility the eventual possibility of having speech recognition in your remote control, so you wouldn't have to tap tap in your buttons but just tell your remote control or whatever you need you have what you want. So we've conducted a survey about uh whether people would like or not to have uh this kind of uh functionality in their remote control and as we can see it really depends on the age. Young people, probably because it's a buzz word, find it very relevant. And uh as the age goes up the the relevance goes down. So now it really depends on the kind of uh

targeting uh wha who are we targeting with this remote control? I think if we are targeting young people then uh it's probably something we have to consider. If we are targeting you very old people this is something they really don't know why they this should be so now this is of course, depends on that. And um I don't have any conclusion, I didn't have time the meeting was very tight, so that's basically my findings. And uh, if you have any question? I can go back. Yeah one question, yeah? I am. I think we should aim at the young people. But uh I think they are they are those uh who might be more interested in a in a new device. In general the the early adopters of a new device are young people, less than more than Then teletext is useless for them I think, yeah. Because they they have other means of finding their information. Yeah. But yeah. Nope. 'Kay? So I think it's you, huh? No? No, user requiremen Makes sense. I would say the simplest one as long as there are the uh I find the buttons that I need every time I need a button. Nice. Nice sentence. Mm. Mm-hmm. Hmm. And when does it turn off? Oh so you have a sensing sensor machine that uh knows Tech Mm-hmm. According to your distance to and the angle maybe, if you have a stereo system. Uh I'm not sure about the screen, wha what is the use usefulness of the screen? Uh is it a touch screen by the way? So it gives instructions but uh it has to be with an back light somehow. Okay. Okay. So for instance if I want to go to directly to channel twenty five, how would I do can I do that with this? Yeah mm let's say I am uh on channel eight now. You know these days we have hundreds of channels, that's not so easy to go just next next next when you have hundreds of channels. Or is it? Most people yeah. In fact in in one uh remote control that I've seen, instead of doing that d you could just say these are the cha ch channel three, twenty eight, forty eight and uh sixty four are those that I want to by cycled with my next button. I uh B yeah. Go to channel twenty five. One thing is that as I said in my presentation people really do like to z zap. So even if they are only

watching four or five channels, I think they want to zap out of the one hundred channels, just because this is one kind of thing they do, zapping. And it's only next. Yeah so but you have to Okay. So it would be Okay. Mm-hmm. Alright. Listening more. Mm-hmm. Okay. Well I could could uh have a look at that maybe. I'll check in my department if there's someone specialist in that. Although I don't know. Mm-hmm. Mm-hmm. But uh very very good to sell. Think of a all these young people who would love to say that this remote control only works for them, and ha ha you cannot use my remote control, because it's targeted to me. Whatever. Hmm. Cheap. Millions. Cheap. The user uh will just be able to say uh please can you uh pump up the vo pump up the volume or or it will be something like volume, up, down. Okay. Okay. Couple of words. Okay. Of course uh it has to be Okay. But then I think you you First of all I I think this is not uh functionality that it is going to be instead of using the buttons. It's on top of using the button. Well, I dunno. T\_V\_. Very expensive, no? And volume control. So but uh Sh should we target a a user personalised uh uh remote control? So in in a given room there might be more than one remote control. We would uh have each one and uh with our own personal uh settings. Hmm. Yeah, of course. That's no problem, we will sell more. Yeah exactly. Okay. Thanks. Mm great. Difficult. Mm-hmm. No. Speakers in the remote cont Oh yeah. It just beeps. That would be enough. Something very cheap. But that's ex that's expensive. Uh. Well I I heard of devices where you just uh whistle them and and they because of the the frequency they they just answer to that. You can't whistle. Uh-huh. Or a clap. You can clap. Can you? Clap is good. Tak Just a suggestion. With only one hand? These are not our target people. Mm-hmm. Oh that's e that already exists okay okay. Oh yeah, you do have. Wow. You're trendy. Think about it. Yeah, okay. Okay. Good we're done? Right, thanks. Yeah, it is put F\_ five. The full page presentation, yep. Yeah. Yep. Yeah. Yeah. Yeah. Yeah. You can you are. Hmm. Yeah, it's electromagnetic waves or something kind of maybe uh effect. Yeah, because infrared uses



some electromagnetic technology, and those waves have high Uh. Uh. Yeah it's People really Yeah. Yeah. Uh. Hmm. Yeah. 'Cause Thank you. Mm. Mm. Mm, yep. Thank you. Uh it's techni function of Yeah. I have to do working design so uh. Mm. It's Yeah, yeah. Yeah. Maybe it can be yeah middle of like, between those two li S you should yeah. Mm. Distance. Yeah. Mm-hmm. Mm. Mm. Yeah and it mm. Mm. Mm. Yeah. But even we can have some uh L\_C\_D\_ display, like you can uh de you can just button the number and then it go t because Yeah. But still Yeah. Yeah. Yeah. Yeah.. Yeah. But otherwise like we can put some display on numbers and then they can just press suppose two five they just press two and five and then Yeah. Yeah. Yeah, yeah. Yeah, yeah. Yeah but since we are focusing only on T\_V\_ remote controls so we can have more functions for T\_V\_ uh if you want to go for a universal then we ought to limit for functions for each of our devices. Yeah. Yeah. Two. Yeah, if Sorry. Yeah. Uh as you know, I am mister Ramaro. I am an expert in uh industrial design of all electronic devices and I previously devised many uh like digital calculators and electronic calculators. So now I'll briefly describe the working design of our remote control. Well, as you know the basic function of remote control is sending some message to the the device, like T\_V\_ or V\_C\_R\_ or D\_V\_D\_ player etcetera. So we will have a p portable device which will send message to the the main device like T\_V\_. So we need to have some energy source to do what to do the functions, what we want on this portable device. And usually this so to do these functions we need an interface, which basically some kind of pressing buttons or keys or like moving jack or something like that. And then these messages these key butto

ns can be transferred into some kind of message and then it will process by the chip and then it will generate some information to the main device. It's generally in the form of infrared or some kind of s sensor information. Then we will have the main control in the main device to do the particular action what we want. So, basically we need uh since we are focusing on our interface device remote control we need few components, mainly the energy source like the battery and then we have user interface like uh the keypad and you know buttons we want, and then we have some chip, it's mainly digital signal processing chip because since we are I am one doing mostly digital uh devices we ought to have some kind of processor which take care of all these functions and put it in some digital format. And then we'll have the infrared L\_E\_D\_ source which sends the information to the main device. Then we'll have switch in our main uh um device to do particular operations, and we ought to do different codes for different T\_V\_s, so some T\_V\_s will have different encryption codes for doing s s uh channel changing and these things. Yeah yeah, because the people don't use one particular brand so or at least we have more more than five brands, which are really good. So we need to check their specifications and do their uh encryption that's passing information to the T\_V\_ device. So we need to have particular encryption codes. Then, components, so we have the main uh energy source and then we will have some buttons and then we will have infrared uh source and then we have some inside some chip in the device. Uh since I don't have much time so I'll input the connections to all this components. And since I also want to know feedback from our Marketing Expert and User Interface, so if you want to add some more components we can incorporate them. Yeah. Yeah, I'm sure, because since our User Interface speech recognition and also Marketing Expert for the speech recognition is really handy, so we can have another, like uh s simple speech recogniser on our D\_S\_B\_ chip. Since we have some kind of uh energy this is our this normal battery, so this battery, once you s switch on it will take power and we can have some speech recognition and in our g generally small digital signal processing chip so that and we will put uh the small uh simple speech recogniser and we can also train the speech recogniser for particular user so you just yeah, so that we just use simple recog no but but Yeah. No,

even in you can find even simple mobile device like any mobile brand you can have these voice dialers or these things, yeah. Yeah. Yeah. So Uh maybe we can make uh it in five Euros and even less than that, because we want to have uh millions and in bulk, so we can make really simp and we want to make really simple device because we have only very few words like like power, switch on or some like then we'll have something like this um we'll have volume and then we will have s particular channel, so users can listen. Ye No, yeah, a user can use any kind of sender but they should have this prompt volume and then yeah volume and decrease or increase, so we try to only recognise those words and and because we can't really say user to say same wording then it become more mechanical and yeah. And then we can have channel they can say, okay I want eight, because we don't know like users have different programmes, I mean they don't really follow same channels strict uh so we just want channel number, we don't want like B\_B\_C\_ or C\_N\_N\_ or something else because it will be complicated so we'll have only these three uh main basic uh anyway volume is not really speech recognition problem, it's it it will be take care of our main mm. Yeah actually we we can have one switch to like uh switch on, on and off, this processor and This really, suppose like here we have our main chip which controls power, volume and this part and this D\_S\_P\_s. Again, this to have some interaction like su

ppose people use D\_S\_P\_ then it particularly sends some information to the chip like in some form, like volume and like this key. So it may not be like very expensive, because since we are only focusing on T\_V\_ remote control so and we have only few things here Yeah. Um uh uh this point we didn't consider because it's it's very expensive because v our target is only like twelve point five Euros and Yeah, even automatic on off is also a bit problematic, because it different criteria for different people like so suppose people are really uh they just uh they don't touch the remote and mm y you don't know how much time you need to switch on or switch off and Yay yeah. Yeah that can be possible, especially for power settings, so user can say okay, suppose they're watching a tennis match or something then they can say okay uh after one hour I They can make Yeah we can have Yeah. Uh, not very much, like yeah. Thank you. Yep. Thank you. Can you just yeah. Yeah yeah. Mark will Uh it's in current price, yeah. Yeah. But speech recogniser can be possible. Yeah yeah yeah. Yeah, especially the power, it really consumes because it should be all the time on and Yeah. Yeah. Yeah. Yeah. Yeah I think it's good. But it's a good feature I guess yeah we need to think about more how to incorporate it. Oh. Ah it's Yeah. Yeah. Thank you, thank you very much. So I hope you're ready for this uh functional design meeting. Um so I will take the minutes you mm you three are going to do presentation. Um uh we want to know to at the end to know the new project's requirement so we need uh to know the the user uh needs that we want to fulfil to fulfil the from the technical part we want to know how it going to work and um third part uh I don't remember which is not very good. Ah of course, how to to design this uh this yeah. So um let's go for the three presentations, so first um Marketing Expert. So wait a minute. Mm. Sounds uh Mm uh. Hmm. Okay. F\_ five. Mm-hmm. Mm. Why not? Okay uh tha that's look great. Mm-hmm. Okay. Or something we don't know. Mm-hmm. Okay. I have been told that we uh don't consider teletext, that it's out of date now because of internet. Mm-hmm. Mm-hmm Mm-mm. Okay. Mm I think it's good, okay. You done a good review. Mm-hmm. Mm-hmm mm mm. Okay. That's good point. Okay. So um now I think it's the turn of the the I'm not sure um Of the technical function, so uh what effect Okay. Wait a second. Argh. So you're Okay. Let's go. Oh sorry. Okay. Oh sorry. It's off. It's on. Or you want to go to the kitchen. Mm. Um I see that you target uh several s application not only T\_V\_ but i like we talk about um universal uh remote control. Yeah. Hmm. Mm-hmm. Hmm. S Mm. Since we were targeting a really soon uh uh date for the the the um i issuing of this uh remote control I think we will only concentrate on T\_V\_ for the moment and then maybe m make it more generalised yeah. Yeah it's

it's the same solution, I think. Hmm. Yeah uh on zap it's only next next next next next, yeah. Mm-hmm. Maybe we can make uh different modes for each button and you can change mode zapping mode or uh current chan Yeah. Mm-hmm. Okay. Uh you're finish? Okay. So now the technical aspects of this new device. Mm. You prefer it. Mm-hmm. Okay. To make it quite uh an universal uh device uh. Mm. Okay. Okay. Mm-hmm. Mm-hmm. And from from the discussion we had do you can you make it on the whiteboard, or mm. Mm-hmm. Mm-hmm. Mm. On Uh train it, okay. Mm-hmm. Mm. And what about the price of this component? It mm okay. Mm. Okay. Mm-hmm. Mm-hmm. With a keywords and yeah. Mm-hmm mm. Mm-hmm. Okay. Okay. No, in no not only speech, yeah. I it's an option. Okay. Sho to to train, okay. Mm. And well, what about the idea of automatic on off on the button, yeah. Wouldn't that make uh arguments? I want uh And we can increase this the strength y you can buy one with Mm-hmm. Okay. You have mm something else to say? Uh. No. Okay, thanks. So mm mm I think, okay, we're just on time. Um mm mm. So, we're now

going to I have the lunch break. Then we will work again for thirty minutes individual work, and um we will uh meet again for the next meeting, and uh in this one want to to be more focused on the individual actions the um on the components so uh you will focus on the component concept um uh of course the U\_I\_D\_ Mark will be uh focused on the user interface concept and uh our m Market Expert Sammy Benjo uh on the trend watching. So um of course like before specific instruction will be sent to you by your personal personal coach. Well I think that's all. And we have um maybe we have to we say, only for T\_V\_, not teletext? Uh I think automatic on off control uh it's not possible. Yeah, maybe in the next uh step if we make it work um. Yeah, implemented. O okay, we can think about that. And um do you see something else? Uh yeah that's Or maybe you want to phone him. Since now all yeah? Think Uh-huh. And uh And it's answered. Clap clap clap it's a good I I think it's universal. What about people without hand? Yeah. Mm uh okay. Mm-hmm. Okay. Mm-hmm. Mm-hmm, so let's to think s so that yeah. I think that could be in the component uh concept uh. It yes. Okay. So, yeah, let's go to lunch. Sammy Benjo. I know this name uh. We met before. F\_ F\_ five. Agree. R\_S\_I\_ mm-hmm. No, I don't think so. Okay. But twenty six percent, do you know Twenty five. Every fourth, you know. Every four some of us knows. One of us Mm-hmm. Functions. Mm-hmm. I got one question, uh you are a Market Expert so should we aim at the young people or not? Okay, then teletext is used less. Okay. Mm-hmm. Mm-hmm. Mm. Okay. That's me. That's but this but number three, yes. Mm-hmm. So, my name is Mark Dwight, and um I am responsible for User Interface Design. However, uh mm Project Manager asked me to give you some presentation about technical functions design. Uh, as I'm a more an artist that's gonna be less technical functions but more User Interface and current intentions and everything which is linked with this. So next slide please. And uh a general method which is seems to be very useful for our task is not to forget about uh Occam razor. We should never complicate things too much. We should only make a remote control, nothing more. Nothing more than this, just a remote control. 'Cause current remote controls they are never easy enough to use. So, make a click, please. So here is this remote control. It's quite a standard one, but it's not from a T\_V\_, it's from a much easier device like air conditioning or something. But you know, we can use it for a T\_V\_ easily. Only buttons we need is on off, volume, channels and maybe some options or something else, and please make a click, compared to this one which one would you prefer? I guess this. Sure, sure. Yeah, and our method is going to be, provide simple simple desires into simple actions. Findings. Our question of the style, we should remember that our company puts fashion into electronics and we should never forget about it. Concept. Be simple. Be simple and you'll lean on this market. Market is a of remote controls you know it better, it's very well, it's it's not an easy field to to play, you know? So be simple. For personal preferences I

think that to make a baby-proof remote control it got to be a titanium. It's a really good style, it going to be look like like this. It is unbreakable and it is very universal. W we'll have a screen with a back light which can change colours, and we can put all the options into this screen. We'll need only few buttons. All the other things can be controlled through the screen. And all these buttons should be easy to find and to click, 'cause when you watch a movie and you want to change something, you always try to find a good button and click it, but you should do it by touching it and finding it easily just by touch. So Press I would propose this concept for design, just few buttons, a screen with a back light which can change colours, titanium I think, and uh what else? I got

just very few and good ideas. We need power and volume. And let us include two nice features into this device, first, power on and off can be made fully automatic. When you go to the sofa, take your control and point it to the T\_V\_, the T\_V\_ turns on. When you don't touch the control but you go out of the For for enough time like uh you It's a question to our technical design, our two engineers. And another nice feature that I would like to implement is uh volume control. Suppose you set u you set up some volume and then you move out or you move to the other corner of the room and take your control with you. Like, you want to to change the chair or you want to move to the armchair from the sofa or something, and then the volume changes. It's easy to do, you just control the According to the distance. Yeah yeah yeah. So I think it can be just a menu which can be controlled with a left, right, up, down and enter. So, its main purpose in fact is a back light, which change colours, which makes it easier to find, and each can it can respond for your voice, like it can turn on the light for you just to f find it easily, yeah? So basically that's it. Can be easily done, 'cause you got simple designs, y we should put it to simple actions. Let it be universal, so you want to use it for your hi-fi system. You want to change tracks and you want to adjust volume. Just few actions, a few actions for everything. All the rest, we sh we'll put it into this menu on the screen. Okay, okay. Okay, but it's quite universal you know. We can just extend it to any device. Uh twenty five. Mm-hmm. In fact I would propose another solution. Basically you use just four or five channels, right? Yeah. So uh set up your T\_V\_ set like channels that you use they're one, two, three and five, and you will never have to go to a twenty fives channel. Mm-hmm. Mm. We got these buttons here. Next next. Or say this can be back. Could we carry out some research if we w really need this, like how many people really need to go to channel number twenty five and then to sixty four? Okay. Okay. Alright? Thanks for your attention. Too complex. Okay. Okay. Um. Okay. No you know it's a conceptual question, 'cause now I see th this the picture in front of my eyes like a user taking his remote control and shouting into it, volume up, volume up, and and he's coming you know, he's really annoyed with this, down, up, down. Okay, for this budget like twelve Euros. Mm-hmm. Okay.. Mm-hmm, mm-hmm. Did you consider the r gest uh gesture recognition? Like, if I want to put volume up I like do mm I take my remote control do like something like roll 'em up or roll 'em down. Mm why? That's just We got a really good Market Expert. Let's send more, let's sell more. Okay. Uh, should it be equipped with the uh, with uh speakers? Like, you want to find it, you shout control, and it answers is I'm here? Or Just beeps? I can't whistle. No, no, I can't. Mm. Okay. Just don't interfere with other devices like 'cause like all these people do that their lights are turning on with clapping. Yeah, I got it at my home, like. Oops.

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# Meeting ID: 31

Data Source: Train

## Executive Summary

uh good morning everybody here . And uh I want to introduce myself , uh my name is uh Shrida Daseri and uh I'm a project manager for this new project which we are going to discuss now . So I want to introduce first of all uh the names and the colleagues here . my name is Agnes My name is Ed and I do accounting . Do you also do marketing ? So only accounting ? And I'm Christine , So who is uh marketing , nobody in the market Marketing is uh , is me . So thanks for coming for the meeting first of all , and uh we have a long time , just twenty-five minutes to discuss about uh this project and the the project initiation . First of all I want to ask uh Mister Ed about your uh marketing plan and your product plan and uh Well I think that we'll see that throughout the day in how we're going to put this together as a marketing to to market the product . but uh do you already have like a functional design or a technical design or Uh for the moment not yet . do you have some project plan , something with you or this is like I said that we have to be discussed between all of us and we'll go from there . We'll have to simply we'll have to work on it together . so uh by when you think you can uh give me some kind of uh project plan , okay , Certainly by the next meeting . so there's any questions or uh first of all about uh this project ? What is the goal of the project ? Uh the goal of the project I think maybe I'll uh hand out to the Ed , okay , so to explain uh what is the project because he's in the sales and the accounting . so can you explain uh what exactly the product is ? From what I had in mind we're supposed to be marketing coffee , Oh I think uh , if I'm not wrong , we're making the remote control . 'cause I had two different things . I had a first part of mine was to make a remote control for a new f remote control for television , and afterward I had a discussion about coffee so we'll start with the remote control for television then . So we're have to design something that is very user friendly . Something uh visual that has something that will will draw people to buy the product , because I think everybody's experienced with uh remote controls , we're have to come up with a new idea on how to make it a lot easier to use , 'cause a lot of times uh spend uh half a day through the instruction book trying to figure out how to use it . Christine , what about your uh the industrial design plan ? Are you have a design already on this product or uh you're still working on the design ? Um no , I I have not begun working on the design , I actually didn't know we were designing a remote control , Um the website I went to look at had some announcements about an introduction of a um uh some sort of a seven inch um monitor , and um I understood that that was the project goal . Um I just did s see that we were starting a new project together and there was going to be a four

member team composed of these people , So uh you'll be leading the team for your design team or how many members is working in the team , for the design ? Um well , I would th think that depends on how much money you give us . Um because uh , you know , you can uh you can make it uh you have different choices with different financial models . Yeah , but uh before we talk about uh the finance , okay , uh do you have some idea how we can uh sell this product or project in the market I kind of think that in general you have to do uh um y you have to have something that's very fashionable , that's uh very attractive that um people see and recognize uh its goal , and uh they immediately wanna have it uh have one of their own . So it would really would need to um you know , I don't care what it does , just so it looks cool . but uh uh when you think you can give me like a kind of design on the functional design or the technical design ? Well , uh I've got a lot of other projects I'm doing right now um If they uh go quickly then uh it could be a month . so like uh what's your functional design , what's your technical design , and uh how many people you need for this project , and what's the time frame you're looking , okay , and what is the budget , maybe uh initial budget you're looking , okay , and uh how is going to the market , okay , so you've you've had to meet with the marketing team and how they're going to market and what are the marketing strategic plan , okay , when are you going to introduce , okay , and by the time you introduce the product and uh you know there there would be a competition , okay , so I need some kind of uh uh the plan in the writing from you . because I need to go to the management and uh tell them what we are going to do , and uh what cost is , okay , and what's the time frame and what's the project plan , because uh without any uh documentations , I cannot go to the management and say , so we are going to do this and we need this much money , Uh are there other people who will be contributing to the plan ? if you need some help , uh so let me know . So , who are the people you need uh from the marketing or uh the technical side or uh the administration point of view , okay , to add in any documentation , or some technical point of view , And uh Ed uh so what's what do you think about uh this uh project for the remote control and d do you have some already planned something for your marketing strategy or uh the sales strategy ? Well not yet other than uh doing research and taking remote controls and looking what other companies have to do uh , what they're building , their designs , their ideas , uh also have to pinpoint which market we're gonna go into . It should be a fairly large market because uh the number of people that uh the competition , uh th I agree it has to be something it has to be something new , Whether it works or not , they have to first say I like this , I like the design , and then it's gotta be simple to use . Yes , so what I uh prefer maybe uh you need to interact uh more with the Christine , okay , because you know what she is going to do it , okay , but you are the core because you are in the marketing , okay , So , what I prefer , okay , so you need to interact with the Christine more and uh within her team , okay , who is using the functional design or technical design , okay , and uh you need to come up with some kind of plan , okay , how we are going to do the your sales plan , okay , Do we already have a cost limit on this , th an idea of how much uh we want to market this for , how much it's gonna sell for , that's up that's up to us to decide , eh ? Yes , that's you have to decide , okay , so the best thing is you uh both of uh the Christine and you discuss with yourself , okay , and come up with the cost , and how we are going to compete in the market , okay , in the the technically , or in the sales wise , okay , the commercial wise , okay . Then uh we have to design , okay , how long it will take the whole project , okay , how much is going to cost us , and how much we are going to benefit for the company . Okay , so I think it's uh maybe if we can uh give me

some kind of your uh the sales plan , okay , including the technical what uh she's going to talk to you within the team , okay , then it will help me to discuss with the management for further , okay , and put it in the the proper project plan . Okay , and if you need uh any coordination in between uh compared to the maybe the some technical vendors or commercial vendors , okay , depends if you want to have some uh uh marketing plan or technical plan , okay , so you let me know . or maybe uh , you are my coordinator , am I right ? I mean my job from what I understood was to look at the usability requirements and make sure that the product is usable , it's acceptable to the people who are gonna use it and look at the best ways to do that . because depending on what users want , depends on how you sell it , what tag lines you attach to it , how you try to make it more attractive to users . So I think all three groups will need to interact quite a bit . Okay and please please copy all the mails , okay , all the discussions to me , okay , Yeah , we can C\_C\_ him on any discussions or documents that are passed around . But what I request , okay , keep Ed in the loop , okay , in between your uh meeting and Christine meeting , because uh he should know what's happening . So , the immediate next step is to start determining the functional design , or To come up with the functional design and uh to discuss with Ed , okay , and how it's going to be work , and uh first of all with your user acceptance , okay , how it looks like and how it's going to be work in the market , okay , so then we can discuss about uh further things . Would you mind um at the conclusion of our meeting could could you send us a copy of your slides ? Yes , I will . Yes . And if anything you need anytime so please either you can call me , or just send me email , or uh just come and uh knock my door , okay ,

## Complete Meeting Transcript

Uh sure my name is Agnes and I'm an user usability user interface designer. Um I was wondering Mm-hmm. Mm. Mm. Well, no, not exactly. I mean my job from what I understood was to look at the usability requirements and make sure that the product is usable, it's acceptable to the people who are gonna use it and look at the best ways to do that. So I think I'll have to interact with Christine and discuss with her, so that she's not designing something that my studies will show right off the bat that it's not going to work, and so it's sort of it's a loop that feeds in, but I don't think necessarily that I'm in a coordinating position for it. Yeah. Mm-hmm. Which will also feed into the marketing, because depending on what users want, depends on how you sell it, what tag lines you attach to it, how you try to make it more attractive to users. So I think all three groups will need to interact quite a bit. Um, and then I guess build the plan based on all of that, because I think you need to take all the factors into account. Yeah, of course. Yeah, we can C\_C\_ him on any discussions or documents that are passed around. Sure. No problem. So, the immediate next step is to start determining the functional design, or okay. Mm-hmm. Okay. Mm-hmm. Mm-hmm, yeah, that would be useful. Sure. Okay. Thanks. Thank you. Oops. That's as far as it goes. Do you also do marketing? And I'm Christine, and my role in this uh scenario is to be the industrial designer. But I'm not really one. What is the goal of the project? Um no, I have not begun working on the design, and um I uh I actually didn't know we were designing a remote control, I thought we were designing a new monitor. Um the website I went to look at had some announcements about an introduction of a um uh some sort of a seven inch um monitor, and um I

understood that that was the project goal. So um I'm glad I didn't d do any work um ahead of time because uh I clearly didn't understand the project goal. Um I just did s see that we were starting a new project together and there was going to be a four member team composed of these people, and um that's about uh that's and I I read through the different steps, and what my responsibilities were relative to the steps. Uh for the industrial design? Um well, I would th think that depends on how much money you give us. Um because uh, you know, you can uh you can make it uh you have different choices with different financial models. Well, you know um, I kind of think that in general you have to do uh um y you have to have something that's very fashionable, that's uh very attractive that um people see and recognize uh its goal, and uh they immediately wanna have it uh have one of their own. So it would really would need to um something like the iPod would be good, seems to have caught on fairly well, so um d uh you know, I don't care what it does, just so it looks cool. Well, uh I've got a lot of other projects I'm doing right now um and so I'll have to wait and see how those uh how those go. If they uh go quickly then uh it could be a month. If um if I run into any problems in my other projects it might be six months. Mm-hmm. Mm-hmm. And when would you like that? Uh well if uh if we have enough time uh then d do you think um two weeks is a is close enough? Uh are there other people who will be contributing to the plan? Okay, I'll get back to you on that. Would you mind um at the conclusion of our meeting could you send us a copy of your slides? Thank you. My name is Ed and I do accounting. E\_D\_. Mm. No. Accounting, yes. Marketing is uh, is me. Well I think that we'll see that throughout the day in how we're going to put this together as a marketing to to market the product. We'll have to see on a through discussion on where we're gonna go from here and from with this. Uh for the moment not yet. Good question. No, this is like I said that we have to be discussed between all of us and we'll go from there. We'll have to simply we'll have to work o

n it together. Certainly by the next meeting. I'm in the sales I'm supposed to explain them what to do. We have to define exactly what our product is, from uh From what I had in mind we're supposed to be marketing coffee, is that right? Remote controls, 'cause I had two different things. I had a first part of mine was to make a remote control for a new f remote control for television, and afterward I had a discussion about coffee so we'll start with the remote control for television then. So we're have to design something that is very user friendly. Something uh visual that has something that will draw people to buy the product, because I think everybody's experienced with uh remote controls, and some remote controls are are worth uh throwing out the window. Uh th most of them ar I don't know we're have to come up with a new idea on how to make it a lot easier to use, 'cause a lot of times uh spend uh half a day through the instruction book trying to figure out how to use it. Well not yet other than uh doing research and taking remote controls and looking what other companies have to do uh, what they're building, their designs, their ideas, uh also have to pinpoint which market we're gonna go into. It should be a fairly large market because uh the number of people that uh the competition, uh th I agree it has to be something it has to be something new, it has to be something that that draws people saying eh, I like this. Whether it works or not, they have to first say I like this, I like the design, and then it's gotta be simple to use. Yeah. Mm-hmm. Mm-hmm. Do we already have a cost limit on this, th an idea of how much uh we want to market this for, how much it's gonna sell for, that's up that's up to us to decide, eh? Very good. Very good. No. Hi guys uh good morning everybody here. And uh I want to introduce myself, uh my name is uh Shrida Daseri and uh I'm a project manager for this new project which we are going to discuss now. So I want to introduce first of all uh the names and the colleagues here. And what you're uh drawing? Uh how you spell your name uh? E\_D\_ okay. And? So only accounting? Okay. And? Mm-hmm. Industrial designer. So who is uh marketing, nobody in the market



It's you, okay. So thanks for coming for the meeting first of all, and uh we have a long time, just twenty-five minutes to discuss about uh this project and the the project initiation. First of all I want to ask uh Mister Ed about your uh marketing plan and your product plan and uh Mm-hmm but uh do you already have like a functional design or a technical design or Oh for the moment not yet, okay, but uh what's what's your uh do you have some project plan, something with you or Mm-hmm. Okay, so uh by when you think you can uh give me some kind of uh project plan, okay, a discussion with uh By next meeting, okay that will be great. Uh Okay, so there's any questions or uh first of all about uh this project? Uh the goal of the project I think maybe I'll uh hand out to the Ed, okay, so to explain uh what is the project because he's in the sales and the accounting. Yes, so can you explain uh what exactly the product is? Oh I think uh, if I'm not wrong, we're making the remote control. Yes. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. And uh what abo uh Christine, what about your uh the industrial design plan? Are you have a design already on this product or uh you're still working on the design? Mm-hmm. Okay. Mm-hmm. So uh you'll be leading the team for your design team or how many members is working in the team, for the design? Yes. Okay. That's Yeah, but uh before we talk about uh the finance, okay, uh do you have some idea how we can uh sell this product or project in the market and how much is going to benefit to the company and uh of course it's to the individual also. Mm-hmm. Okay, but uh uh when you think you can give me like a kind of design on the functional design or the technical design? Yeah, but uh I need something in the writing, so like uh what's

your functional design, what's your technical design, and uh how many people you need for this project, and what's the time frame you're looking, okay, and what is the budget, maybe uh initial budget you're looking, okay, and uh how is going to the market, okay, so you've you've had to meet with the marketing team and how they're going to market and what are the marketing strategic plan, okay, when are you going to introduce, okay, and by the time you introduce the product and uh you know there there would be a competition, okay, so I need some kind of uh uh the plan in the writing from you. Okay, and it's po B as soon as possible. Yes I think uh that would be good, because I need to go to the management and uh tell them what we are going to do, and uh what cost is, okay, and what's the time frame and what's the project plan, because uh without any uh documentations, I cannot go to the management and say, so we are going to do this and we need this much money, okay, so then it's it's difficult for me to say, okay, that's the reason I need uh some kind of plan from you, initially, okay, then we can have the further discussion again. Yes, of course, if you need some help, uh so let me know. So, who are the people you need uh from the marketing or uh the technical side or uh the administration point of view, okay, to add in any documentation, or some technical point of view, so just let me know so I can uh coordinate all the teams. Yes. Thank you. Okay. And uh Ed uh so what's what do you think about uh this uh project for the remote control and d do you have some already planned something for your marketing strategy or uh the sales strategy? Hmm. Mm-hmm. Mm-hmm. Yes, so what I uh prefer maybe uh you need to interact uh more with the Christine, okay, because you know what she is going to do it, okay, and you know how to sell it. Okay, because uh she is doing the design, but you are the core because you are in the marketing, okay, so because you need to sell and you're the responsible for the all the money, the finance, okay, tomorrow. So, what I prefer, okay, so you need to interact with the Christine more and uh within her team, okay, who is using the functional design or technical design, okay, and uh you need to come up with some kind of plan, okay, how we are going to do the your sales plan, okay, th Th That that's Yes, that's you have to decide, okay, so the best thing is you uh both of uh the Christine and you discuss with yourself, okay, and come up with the cost, and how we are going to compete in the market, okay, in the the technically, or in the sales wise, okay, the

commercial wise, okay. Then uh we have to design, okay, how long it will take the whole project, okay, how much is going to cost us, and how much we are going to benefit for the company. Okay, of course it's uh of benefit for everybody individually. Okay, so I think it's uh maybe if we can uh give me some kind of your uh the sales plan, okay, including the technical what uh she's going to talk to you within the team, okay, then it will help me to discuss with the management for further, okay, and put it in the the proper project plan. Okay, and if you need uh any coordination in between uh compared to the maybe the some technical vendors or commercial vendors, okay, depends if you want to have some uh uh marketing plan or technical plan, okay, so you let me know. Okay, I can coordinate, or maybe uh, you are my coordinator, am I right? Between uh all the coor Yeah. Th Christine, yeah. Which is Yes. Yeah, so basically you need to interact with Christine more, okay, for the user acceptability, okay, and the testing, okay, then you will Yes. Yes. Yeah. Yeah. Yeah. Yep. But what I request, okay, keep Ed in the loop, okay, in between your uh meeting and Christine meeting, because uh he should know what's happening. Yes. Okay and please please copy all the mails, okay, all the discussions to me, okay, so I need to submit to the management. So any questions fo

r uh time being? Yes. Okay. To come up with the functional design and uh to discuss with Ed, okay, and how it's going to be work, and uh first of all with your user acceptance, okay, how it looks like and how it's going to be work in the market, okay, so then we can discuss about uh further things. So, we'll meet when the we'll discuss on the further meeting. It's okay? Thanks for coming. Yes, I will. Yes. I'll copy, uh le let us keep all the emails and all the copies, okay, share each other, okay, so you know everybody what's happening, okay? And if anything you need anytime so please either you can call me, or just send me email, or uh just come and uh knock my door, okay, so I'm available here. It's good? Okay, thanks for coming and uh I wish you a nice time then. Okay, see you later. Bye.

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# Meeting ID: 56

Data Source: Train

## Executive Summary

The project manager opens this detailed design meeting by going over the agenda. The designers present the prototype, which they decided to make the color and shape of a banana. They demonstrate the remote components, showing how it flips open on the side and features a LCD and scroll inside. The marketing expert gives the product evaluation, which is based on the criteria of attractiveness, whether it matches operation behavior of the user, locatability, intuitiveness, ergonomic design, and how technologically innovative it is. They rate the product using a 7 point scale and come up with an average score of 6.5. The group goes on to calculate the production cost and finds they are over the budget. They have discussion and decide to eliminate the sample speaker locator and the scroll wheel inside. The team discusses the project process- saying that they had to cut out some creativity in order to meet the budget because they had not known the cost of features beforehand. They were satisfied with the leadership but felt rushed for time. They finish the meeting 5 minutes early and the project manager tells them what is left to complete.

## Complete Meeting Transcript

Yeah. Yeah, about four fifteen, yeah. So, you said um are are we starting with the the so will you maybe start with like the mm the shape and things and and then I will explain the the user interface th uh things, like the buttons and the scrolling things and Well, but it's it's just an a approximation. Uh yeah. Rubber. Yeah,. Um it could be made a bit smaller, and and of course it would be and yeah, but um one thing we actually kind of um forgot while designing, that one side was supposed to be rounder, so we said the back side round, yeah. Yeah. Yeah. And it's spongy as well. So so uh the user interface as as we discussed last time uh mm on on the on the cover we just have the very basic things. So we have that n uh channels here starting from um uh one two three there would be numbers in in the on the actual one. So it's four, up to four, up to seven, up to nine and zero, z zero here. Yeah. And then, well this is on off button. It's it's quite standard mm place for it and and also the colour is quite often red, so it's it's kind of user friendly. And then these ones would be for flipping the channels back and like the previous one and the next one. And and we would also have a l little um thing saying here, previous

and ne prevon prevon next. The volume is is scrolling. On the side, this one. Yeah you just do it like this. And and and it's it's on the back is mm cover or back lid, because if you flip it open, you can still do the scrolling here. See? So the volume is you just scroll, but then once you flip it open, okay, there there you have the screen and and you have the mm spinning wheel with options to choose. You can move back and forth and then if you need to m choose something on the screen, you just push the cen mm the middle button. A mute button. Well, we'll have this on the screen, on the display. Well, but the but the mute yeah, the scrolling is kind of you have to scroll all the way to make it mute, right? Okay, yeah, okay. Yeah. And okay, so i so the the voice recognition is also just part of it. You can't really see it in the interface. Yeah. And we do have the logo on it as well. So I think it Yeah. Yeah, I think um we could do l the logo in grey, as it is on the website. In the actual one. Yeah. So if you have questions. Yeah. Yeah, the yeah, it's definitely attractive. Oh, the locatable thing we actually forgot. Yeah. Shall I just prepare it now? It will be red, too. S seven was th the maximum, yeah? I I go for seven. I would think yes, yeah. Yeah, so y so we we might do we might want to do like a uh another m model another another version, which is like exactly the mirror image of this one. Yeah. But then then I think left-handed people are already used to discrimination anyway, so they just Yeah. Yeah, because I mean anyway, right-handed people would be able to scroll with it, so i if the majority are right-handed, it's uh Or maybe six, because it's just one one i one among the issues, I mean. Yeah. Yeah. No, yeah, but mm but we have it nicely with the hinges here yeah. So it won't be a problem, it will be and it will be it won't be heavy. Yeah well yeah, but it's it's a bit long. It's a little bit long. Well, I mean it can be opened like this of course and yeah. S uh slightly smaller. Yeah, but if we flip it open only as much as that. Mm that you stick on T\_V\_. Yeah well w but I but the speak sample speaker is included, so it it has some capacity to mm to do some to make some sounds, so yeah. Yep. Yeah. If uh uh if this means intuitive, if it means the way people kind of are used to finding things and it's I th I think it's Yeah. Yeah. Um uh the ergonom ergonom design well mm I mean I d uh I dunno, I mean the the repetitive stress things, but then who would be really pushing the buttons so much on the on the remote control anyway, yeah? See. Yeah, so it's kinda Yeah. Yeah, it does have yeah. Technologi well Yeah. Well mm we have we have the sample speaker as well, which is yeah, it's kind of new. But

at the same time they are all they are all relatively new. Six. I mean how how far can you go with a remote control, really? It still has to do what i what it has to do. Yeah, isn't it fashionable? Yeah, sure. It's the maximum fashion. Fruit fruit and vegetables are fashionable these days, so. So I think we've done very well, but What's the assessment? The average is about six and something. A little bit over six. No, wait, a little bit under six. No, wait. Oh, three sixes, okay, yeah. Four sevens. Six point something, yeah. Six point five, yeah. Yeah. Yeah. Yep. Yeah, yes. Rubber. I think something coloured, yeah, probably. So I think this is probably special co no? Yeah. Or maybe maybe if you want some kind of pattern thing on it, yeah yeah, okay. Yeah. We have pushbuttons, scro we have scroll wheel as well. S yeah, yeah, we had, for muting, yeah. And we have L\_C\_ display and yeah. Um Yeah, but what do we ha we have L\_C\_ display, but but the wh but the s spinning wheel Yeah. Okay, let's yeah. We have to count all of them, or yeah. But it was very no innovative innovativeness. Well um yeah. Well the speaker uh the sample speaker is is expensive, but we could just have some some very very easy device that just beeps. This would be Yeah, yeah yeah there you record your samples your speech samples and Yeah, then then we would be in the b budget. Yeah b no no, you can push this one, but we don't have a pushbutton uh we ca we don't have this muting mechanism for this scrolling thing. Mm-hmm. But I mean we can put an additional mute button on the top as well. If you Mm. So Mm-hmm. Okay, yeah. Okay. Yeah. Well we're going to have a beeping thing. But yeah, it's it's not like sample

speaker, but it will just beep, so we still have the locate. Which colour, the the colour of the phone or the colour of the But it can be yellow as well. It can come in the same colour as the the case. Yeah mm, as far as creativity is concerned, yeah I think there was there was room for creativity. The only the only problem being that at the end we had to cut some things down because of the the budget we had. Yeah, yeah, yeah. Yeah. Yeah, the m the means were very very good, the means we used. And the pens. Yeah, yeah. Yeah. Yeah, and and and this time also the time limits but actually preparing the Yeah. But yeah, but I mean already just just preparing the slides before before the meeting, yeah. Yeah. Yeah. I was I was satisfied with with the leadership, yeah. Mm-hmm. And then the teamwork I think I think it worked quite quite nicely, yeah. To express them mm mm no. Well it's it's it's pretty new, pretty novel solution for a for a remote control really, all this flipping open thing and Yeah, neither neither do I, but I've never seen anything and and none of my examples were was was like this, actually, so. Yeah maybe w maybe we could have a patent on this one. Patent patent patent. Mm. Mm-hmm. Yes. Yes. And my main difficulty was the the time pressure. Otherwise it's it's all fine. Yeah, yeah, yeah. Yeah. Yeah. Yes. Yeah, it was a pleasure working with you. You can make some animals. Oh, you don't like anim It doesn't? Smells quite nice. Smells very sweet. I made your animal for you. Yeah, that's the one It does look very cool. And then do we get to make a remote control? Yeah. Yeah. You think bananas are a safe thing to use? It's a bit um phallic. Oh, your remote control? Oh that's just bad. Is it to scale, or do you think you can make it a bit smaller? Yeah. It I does look like the curvy and then the whole shape's curvy, so I would say that this curvy does look quite like a vegetable. I wasn't very keen on that, but yeah. So where's the volume? Ah, you did get that in then, mm-hmm. Oh okay,. Cool. Oh, the thing we forgot was like a mute button. Yeah. On the wheel, like if you hold the wheel down then it will mute. Yeah, but it's a scroll and click, isn't it? Okay, cool. So that that solves the whole mute issue.. Yeah.. Yeah, oh, we hold the remote. Oh,

but it it does feel all cold and slimy. I hate Play-Do, it's just minging. But yeah, uh that's cool, cool. Mm-hmm. Okay. Wales. Mm. Cool, okay. Right, okay. Fabulous, yeah. Okay, cool. So what we're gonna do is prefer prepare the evaluation of the new design. Um so we're gonna be using a seven point scale, so one is, you know, yes, it totally meets with that requirement and seven is, no, it really doesn't, we need to go back and start again. Um, you know. Basically, what I did was I went through all the like user requirements and things that we've done and we've worked on and like made a list of them. Um you know, so that we can evaluate each one and like so it was about going back to the start and saying oh yeah, we did manage to do that, or oh no, we really forgot about that. Okay? Cool, so these are what they are. Oh Yes, I did have A\_, B\_, C\_, and D\_ down here, but it seems to have turned into like just bullet points. Okay. But if you can imagine that they say A\_, B\_, C\_, and D\_, then that would be really good. Well, I thought we'd um kinda said that you'd have a little thing to stick on the T\_V\_? Yeah. Cool. Okay. So, be attractive to look at. That's this one. What do you all say? Yeah. Oh we're all so proud of the. Okay, so that'll be a seven for A\_. Could oh no, you can't whilst that's up there. Okay um uh what I've done on the next page is I've set it up so we just put the marks in. Yeah. But that's alright. If you take a note of them, and then I'll put them in in a minute. Okay, so we're all agreeing on seven for A\_? Cool, okay. Does it match the operating behaviour of the user? Yeah. I mean Yeah. I th I think it's not it's not like it's a pen. Yeah, but I mean because it's not like it's a pen, you know, left-handed people can't normally write right-handed, but they can normally do most things right-handed, so I would say it's not such a big issue. Yeah. I mean you can you can use your finger to to scroll rather than your thumb. So I mean that does kind of negate the whole R\_S\_I\_ issue. So maybe we need to put that needs a little bit of investigation, maybe give it a five, I would say? What do you what do you all think? Okay.

Yeah. Yeah. I th I think the alternative is flipping from the top. Yeah um But you were thinking about making it smaller, yeah? Because So you have to keep that side flat. So it works like a mobile phone flipping, but y you know, as long as that side's flat, than that will work. Okay. Um okay, so C\_. Are are we admitting defeat on C\_ or are we saying we're gonna stick a locator on the T\_V\_? There's a locator. Cool, so that means you need a that does mean you need a little speaker on it though, doesn't it? To make it beep. Or a buzzer. Okay. So that's two, so that's seven, yeah. It's locatable? Fabulous. D\_. Yeah. Yeah, and I mean d So, should we maybe say f a five and say it is intuitive, but it's different, so, do you know, I mean it's obvious how to use it, but you might have to think about it first. So we give that one a five, you think? Yep. I'm glad you're accepting this. It has taken a little while, hasn't it? Um intuitive but Sorry, it's really hard to write on those. I just went a bit mad, didn't I? Um okay, cool, E\_, okay. Um I would guess this comes back from this whole B\_ thing links in here, so possibly for left-handed. Investigate. So, should we give it a six? Six? I used to send fifty texts a day, you know, and I never got repetitive strain injury from that, so I find it quite hard to believe to be honest. Okay, so we give that a six, yeah. Okay, F\_. Hang on, how come it's showing up with the things there but it only had bullet points there? That's just Oh okay, cool. Um right, so. Yes, so that's a seven then. Um, cool. Yeah, but I mean you don't They're never been used i they've never been using remote remote control before I don't think.. Yeah, what do you all think? Six? Well, that's it, I mean Yeah, but I mean everything has been used in space before it gets to anyone else real

ly, hasn't it? So, I don't think many peop That's it, they can take it with them. So, we give it seven, and we write There we go. Cool. So, we need the average here, so we got Seven So we've got four sevens, so that's twenty eight, three sixes, eighteen. Two three four Seven eight. Okay, that's pretty good, I think. Um no, that's it, yeah. Cool, there we go.. There we go and there are the marks. Yeah. Yeah, but rubber comes coloured, doesn't it? You know. Yeah, you might end up having to take off the sample sensor.. No. We've got more than one pushbutton though, haven't we? 'Cause then you have That means you can only have twenty five push buttons in total doesn't it? Not counting anything, we'd still be in budget. Twelve point five. No. Well it doesn't, but it uh And L\_C\_ display. This sample sensor. Yeah, the sample sensor will have to go, 'cause that's the most expensive thing on there. Yeah. But that's a bit of a gimmick anyway really, isn't it? We can afford to get rid of it. So that means no locator, does it? I mean does Yeah. Yeah. Okay, yeah. See, I was gonna say the scroll wheel pushbutton thing, 'cause But that's well you would just have to to spin it down. So that's point three. Yeah, I mean that wouldn't actually cost any more. That's the spin wheel though, isn't it? Didn't that come with the L\_C\_ Yeah. Yeah. S so we're point three over. Unless we just take off the scroll wheel altogether and just have pushbuttons for the volume. Could b still put them on the side. But yeah. I mean the scroll wheel's pretty cool, but Yeah. Yeah. Yeah, well we could admit to the single curve, couldn't we? Yeah, but Yeah. Yeah. No. No, I don't think so. Yeah. We just got rid of a gimmick that was never anyway, and the scroll wheel is I mean essentially the two buttons that was it's not a great difference I don't think. Really? Cool. That's not a very exciting colour. I think you should make it more vegetable-like. Oh the the beeper thing. It Yeah, I think Jen wants it to vibrate. You know, your pen vibrates? Yeah. Cool. Yeah. If we'd had that sheet at the beginning should've been like, okay, so we can have that lot, let's just throw it together and do what we can. Yeah. I think 'cause the meetings were so regular, you know. It wasn't like we were alone for very long, so you didn't st go off and think, wouldn't it be great to have a vibrating remote control shaped like a banana, and then, you know, come back three days later and Jen's going look, look, it vibrates and it looks like a banana. Um yeah, so yeah. Uh I like the pens. I want one. That would just be so cool, to d do all your notes and s I don't think you should say that was

the recording. Okay, cover up the microphone. Alright, let's take it. Okay. It is a bit limiting, isn't it? Yeah. Yeah. The thing flew in, you didn't have the whole whooshing thing, 'cause there wasn't time for that, so yeah. Not that you can do that on the board, either. We could make some little Yeah, totally, I mean that was fairly tight anyway, I mean especially with that last-minute alteration. back it, this is just had to be changed. And yeah, so cool. Are we supposed to say nice things about Jen now? Yeah, definitely. You weren't like a dictating leader, so that was always good. I know you've got the pen, you might attack me with it. Yeah. Yeah. I don't know, I don't go shopping for remote controls that often, maybe somebody's already thought of it. Yeah. Yeah. I'll be looking out next time I need to write an essay. That looks boring, I'll see if anyone's made a remote control. Yeah, yeah. I think we'd like to think the ideas were new, but we've got no way of finding out. That vibrates Yeah, but that would just come up with like other things really wouldn't it. Yes. And it's fabulous. It's in the project documents. Yeah, yeah, sometimes it's like a little bit rushed. Yeah, we've got like five minutes left. Yeah. 'Kay. We could draw animals on the board again. I don't like Play-Doh, no. It's just m

inging. It smells so bad. It does. Mm. No, it hasn't been. Do we have to go back into the other room or can we stay in here now? Okay, so the other way. I'm proud of it. Uh-huh. How how much do we have, forty minutes? Yeah. Okay, so. Presentation. Okay. Okay. So um basically going with our trend of vegetables and we selected the colour and approximate shape of banana. Um Yeah. Um Yeah. Um so basically it's the it's the flip open thing again. So now we we have the okay, so Ma Maarika will explain you the user interface there. And it flips open on the side, so it opens like that. And we have the user interface o in here and uh the the L\_C\_D\_ and and the scroll are inside. Um well, everything else is probably user interface, so. Yeah, yeah. Oh yeah. Yeah, it has, yeah. Yeah, well, but i since it's made of rubber anyway. I I think it's it's uh Yeah. Mm. Hmm. It's on the side. Uh no, we we'd not put so on on the cover we have the the bare essentials. Uh on the L\_C\_D\_ we r you know, the main menu will have various options. Mm. Mm. Yeah, it's hidden in there somewhere. Cool. We ran out of resources here, so. You can have a look. Yeah, see the budget. I guess we'll give it maximum points in everything. So? Yes. Okay. But we can we can I can I can take note uh uh Um the the only thing that we were considering was that uh this thing is kind of more for right-handed people than for left-handed people, so if you're left-handed you're kind of left uh scrolling with your finger. But then yeah. Yeah. So bu it's it's not a huge problem, because i i it is operatable. Right. Yeah. Yep. Mm. Mm. One more thing is that i It might be a little clumsy when when it opens up, right, so it opens on the side. So Yeah yeah yeah, I mean yeah. So you guys can decide wh whether Oops. Yeah, but we which makes it kind of really big, yeah. Uh this this kind of uh makes it more and two, it might interfere with the I\_R\_ channel. Okay. Right. Okay. No, we have a locator. Yeah. Yeah. Intuitive, completely intuitive. Intuitive. And uh even the scroll, it's a it's a new technology so m m might be a little more difficult for people to get used to in the beginni so it is kind of not very intuitive but uh it's a good technology, I mean once they get used to it. Yeah. So I Yeah, okay. I'm gonna give a seven in everything, so. Mm.. Yeah. Yeah, unless you are a all the time sitting. Yeah. Yeah, I I think it is ergonomic. Mm yeah. And moreover it it has um L\_C\_D\_ and everything, so that uh you know uh we minimise the pressing of the buttons anyway. Absolutely. So it has voice control. Yep. Anyway it ha yeah, it's the most sophisticated remote that I ever seen. Yeah, but they've been brought together in a remote. Yeah. Absolutely. The carrot banana remote. I think that's a. Yeah. There are how many sixes? One, two, three. Three. And one five. Okay, twenty eight, thirty eight, fo forty six. Forty six and five, fifty one. Fifty one divided by Mm I guess it'll have to wait for a bit. Mm. Advanced, yeah. Yep. Mm anything uh I think which is not more. Yeah. Mm. No uh we we have uh yeah. Mm no. We don't have we're not using any of that. Huh? Wh wh what is the limit?

Uh. Mm I don't think so, no. No it says what what is the kind of interface, if it is pushbutton then you got a zero point five, it's a scroll wheel so we we've put it's pushbutton and scroll wheel and L\_C\_D\_ display, so that's that's the three kind of interfaces that we have. Wh wh what's our criteria? Uh okay. Uh it does not have for voice recognition, but it does have for the feedback speaker. when you say when you press one it says one or it says hello. Mm and the locator also goes away. A also i in the case I'm not sure that you will evaluate this as a curved surface, because it's just rubber, so it's probably a flat surface rubber. Uh I mean uh um yeah. Um So tha that mean that we cannot press how do we how do we make a selection in uh in the L\_C\_D\_? If in the L\_C\_D\_ we can scroll, right? But how do we make a sele

ction if we d cannot push the button. No w w w but ha it's it's the scroll wheel and I thought we were referring to this as a scroll spinning wheel and pushbutton thing. That comes with the L\_C\_D\_? Oh so so the the this is. So we're adding costs for right, okay uh I mean I think this is good. Instead of scrolling here we have two buttons here, up for up and down. On the side. Mm uh it sounds good actually, yeah.. We have, yeah. Not really, no. Because we keep all the features, we keep voice recognition, we keep L\_C\_D\_ display. We instead of having scrolling we we just push the buttons. Um yeah. Yeah. But we lose the locator. So instead of speaker,. 'Kay. I think it mm I think uh n one thing that was lacking uh was that we did not know what the various things cost to begin with. Um we kap kept a adding things randomly. So, had we known Yeah, that or not, yeah. Yeah. So d all the random decisions at the end could have been prevented. Mm. Yeah, mm. Yeah yeah yeah, that's it's it's I wonder what one of these costs. Yeah. Mm yeah. Yeah. Yeah. Mm. I guess it was a fairly small group, so all of us got to express our opinions, yeah. Mm. Hmm. Yeah. Mm-hmm. I thought that was good though, because if you're given too much time then you got nothing to do with your time and um yeah. Although we could have made the R\_s better had we had five more minute. We certainly are, mm. Yeah. Yeah, same here. Mm uh no. I don't think so. Was there a questionnaire already sent? Okay. This is our final meeting, the detailed design meeting. And again I'll take minutes. The what we have to get through in this meeting is firstly the prototype presentation from you two, so you can show us what you've been working on so diligently. Um then then Cat's going to present the evaluation criteria that we're going to be evaluating this against. Then I need to say some st a few things about finance, 'cause we have to check that it's within the finance criteria. Um and then we'll be making sure that our product fits both the evaluation criteria from Cat and the financial limits. Um and then we uh will have a brief evaluation of the whole process of production and design that we've been through. So we've got forty minutes. S 'Cause we missed out. So it's now I guess that we're supposed to start at fifteen thirty five, so we've got until four fifteen. Is that right? Yeah, until about four fifteen. So yeah. Go for it. Do you want Yes. Dual use, perfect. Dual use, perfect. Does it vibrate when you press the buttons? Sorry, sorry. Mm-hmm. Mm-hmm. Wow. And it's the whole thing's made of rubber, is that Mm-hmm. Yeah. Huh. Mm-hmm. Yeah. Six seven eight nine. I like that. Yeah. Uh-huh. Yeah. Mm-hmm. Yeah. Mm-hmm. Mm-hmm. Y or you could have it so you on the wheel if you. But if you hold it in, if it's a scroll and click so you hold it in? no. Mm-hmm, very good. And it's with the the black and yellow you're even in the right colours. Mm-hmm. Very good, let's have a look. Test it out. Uh it's a sort of intermediate colour, I guess. Very good. Okay, so maybe if we go on to evaluation cri criteria and then we'll there I suspect we're gonna have a couple of minor finance issues, but um we'll se I'm sure we can get around them somehow. We'll just send all of our manufacturing to some nice poor country and cut some of the prices that way. Wales, for example. Marketing Expert. Mm-hmm. Mm-hmm. So for each of these we need to give it a one to seven. Is that right? Mm dots, never mind. Yeah, I agree. Yeah, just prepare one now. I reckon it



Yeah. Seven, yeah, it's terribly sexy. Yeah. Ah, okay. Excellent. Except we can't uh we can if we then yeah, I'll take a note, it's fine. Yeah. I think it does. Alright. But that's gonna be a problem, 'cause you don't always have all left-handers or all right-handers in a family. Yeah. Yeah. Mm-hmm. Yeah. Mm-hmm. Yeah. Um Six. Yeah, I think I think for um I mean most people are right-handed, so in terms of our greatest target group, I think it's pre

tty good, but we might want to flag it for management, they want might want to um They Mm-hmm. Yeah. The length is gonna be difficu Mm. No, we're gonna put it like we've got th there's the locator dot. Mm. Yeah. Yeah. I'd say six, 'cause the I mean the the standard layout for numbers is three three three and one, rather than the way you've got it. I really like the way you have it, but it's not the immediate thing that you're used to. So Might be But it and it's something that they will be experiencing in a lot of different places soon. Five? Yeah. I'm happy with five? Yeah. Yep. But otherwise it's superb. Six. Yeah. Well we've banned them from Yeah. Yeah, it's varied. Yeah. Six? Voice control have seven. Ah, that's the second one. So you must have changed it on this one where it's got score, but not on the previous slide. G\_ technologically innovative. But in terms of the actual technology, none of it is actually new. Yeah. All of the components have been used in other things before. But do yeah, yeah. Yeah. What do you reckon, five, six? Yeah. Space remote. Put fashion in electronics. Very good. Yeah, one. Or a seven. Fifty one, one, two, three, four, five, six, seven, eight. Six point point about six point five. Close enough. Now wait until we get to finance and then we'll see if we can afford it. That's all you've got at the moment, or did you have anything more? That's it? Alright. So, finance. And we'll see if we can unscrew this first. Sorry, this is I'm just um Beautiful. Not anymore. Computer no signal? Adjusting. There we go. Okay, so we've looked at the prototype presentation and the evaluation criteria. And now we have to calculate the production costs. So I've got an Excel spreadsheet to help us do that. Can you read that? Almost. More or less. Um I started filling it in, but of course these are provisional, so we have to go down. No hand dynamo, right? One simple battery. No kinetic energy, no solar. The chip, we're going for an advanced chip on print. We also said the sample sensor and sample speaker. Um single-curved surface, so that we can fold it. Case material we said rubber. I don't know what special colour means. It could be Rub rubber comes coloured, it's I would maybe it's like if you want titanium coloured or wood coloured, it's different. Yeah, let's leave it as zero, 'cause it's easy. We we're definitely going to have to so we've got pushbutton, and then we've Scroll wheel with pushbutton we had, no? S for the muting. Yeah. And button supplements. No. No? But the the spinning wheel's not there. I have think maybe it's integrated with the L\_C\_ display? I think the pushbutton oh. I don't know if that's one Yeah. That seems unlikely. Push what uh whether whether pushbutton means that p count by button or do we I don't think that makes sense. No. Yeah. Yeah. Yeah. Yeah. So, as we can see, that's way too expensive down here. Our budget's twelve point five. Yeah, so that has implications though for the. For the locator. Yeah. Yeah. What else does it need? Yeah, 'cause the sample speaker was, I think, more complicated than just a beeping thing. Yeah, okay, so we Uh-huh. Right, so we need one fifty off. Take it down to just a scroll wheel. We could do Yeah. You can have to scroll it straight r roll it straight down for for mute. That's with the L\_C\_ We decided, 'cause it's not on our list. The scroll wheel is on the side. We're point three over at the moment. It's nothing n Yeah, I have Yeah. Rather than having three different things that people have to do. There we go. Oh look, we're way under budget and we'll make huge profits and we'll all get bonuses. Or or that we have to have some sort of special colour. So that's alright. We we'll leave it at that and then I'll take I can send it back to management and say we weren't quite sure about the colour, if that costs extra then we've still got some space for it, yeah. Excellent. Alright. So did we lose um on our evaluation criteria, as a result of doing that?

Mm. Yeah. Yeah. Yeah. Alright then. We're gonna have a beep. Yeah. Yeah. Tha. 'Cause we we won't have run out of our pot of Play-Doh. Yeah, I know I know, my pen vibrates. But only for a very short time. Um okay. So looks like we've designed a banana. Well done, team. Um we need we've just got about ten minutes or so left of the meeting, so it would be good if we could just have a little talk about the project itself and how it went, um so that we can feed back to the management for next time they're designing a product. Feedback? Ideas? Mm-hmm. Mm-hmm. Yeah. Mm-hmm. But in terms of the process of um going and working individually and then coming back to a meeting, that that worked in terms of. Mm-hmm. Mm-hmm. Banana. Mm-hmm, the whiteboard digital pens. We like the pens. Yeah, you could take it to lectures and just write stuff down and have it printed out when you got back to the office. They great? Do you think they'd notice if one went? Oh okay. Yep. Shh. Yep. But that worked well having having a whiteboard that we could draw on as well as having the PowerPoint, 'cause the I find that the problem with PowerPoint often is that it's so static and you can't change it once you're in there, yep. Mm-hmm. Yeah. That's alright, that always irritates me anyway, yeah. Mm. Yeah. Yeah. And presumably you don't you can say nasty things as well. I have no stake in it. You have to say that, 'cause I'm taking the notes. I'll leave the room and you can have another go. Better than that than the banana. I think it worked quite well. Did anyone feel that they were getting sort of covered up and not being able to say their bit? Yeah.. New ideas found. Not quite sure what about. Yeah. Yeah. Mm-hmm. Yeah, that's right. Banana remote. Yeah. Or you can always go to Google and type in banana remote control. Flip. Vibrate. And uh yeah. Nothing that you really want. True. Yeah. Okay. So, costs are within budget, well within budget, including a little what have we got? One Euro left over for bits that we didn't foresee. Um we've evaluated the project. You've got the scores. Can you put that in the project documents file? It's in there already. And the process wheel didn't really have any major problems with. Were there any was there anything that you found difficult, or anything that didn't go as smoothly as you'd hope? Yeah. Okay then. Um I think we're still well within our time. We've got about five minutes left, but if we've finished, then we've finished. We're just too too efficient and you should never drag a meeting on just because you have extra time. So I would say that's the end of that meeting. Thank you, team. It was very productive day and Mm uh no. Right, so we have to complete the final questionnaire and meeting summary when they send it. I don't know if it's already sent or not. Um presumably I have to I don't see why you can't stay here, really. Did I save this one? Production costs. It was supposed to be pink. But it was blue on the board.

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# Meeting ID: 38

Data Source: Train

## Executive Summary

The Project Manager announced that the remote should only control television, and that the marketing should be targeted towards ages 40 and above. The Marketing Expert presented the results of a lab study on users of remote controls, and showed that users want a fancier, less complicated remote that does not get lost easily. The group decided not to use speech recognition or an LCD screen to target the older demographic. The User Interface Designer discussed the button functions and how to make channel-changing easier. The group decided not to include programmable "favorites" buttons. The Industrial Designer presented the internal components of the device. The group discussed having the remote light up when used. He also stressed that the remote must be compatible with all television brands. The Project Manager corrected his target group announcement and announced that the target age group was actually ages 40 and below. The group again discussed the possibility of adding speech recognition and LCD screens to the design but decided that it was not feasible. The group decided to have the remote light up when used and is including teletext. The Marketing Expert was instructed to report on trendwatching.

## Complete Meeting Transcript

I just forgot their name, so uh you're i sorry, I just forgot them all. So I have to write it down. So Do you know them or Yeah. Yeah. Yeah, no, but your b your surname. W\_O\_ da. Okay. Okay. And what's your name? W\_I\_E\_S\_ z Z\_ or S\_? Uh uh zee. Okay. What's your name? Yeah, but your surname. Your surname. Okay, thanks. Yeah, me too, so that's not No no no, I just fi first my So let's have a look, we have forty minutes, so it's it's more than enough. Okay, perfect. So we have Oh no, what's that? So so we have uh forty minutes for this uh for this second meeting, and we have to make uh sure that we going t that we are sure, that we are, that we know what we're going to make uh th what the product is going to like look like. Uh first I have the notes of the last meeting, so I showed uh show them to you. Oh, sorry about that, I just escape this one. How do I escape this? How do I I escape this s uh presentation? Ah okay. And show, sorry. Okay, so let's have a look s at this one. Okay, so the f the f the points we had last meeting was the um Should be a univ uh universal remote control No, that's I uh s I

just got a email from the from the personal coach and it should be a T\_V\_ remote control only. So have you changed that part? Um so yeah, it still has to be uh f a r a remote control for kids and elderly. It's it's still the same. Um All these points uh we have to look at. You all know them. But uh there's another point. The um uh the main uh people of interest of this company are forty plus people. So they're old and not younger people. So we have to look at that as well. 'Specially old people, maybe bi bigger buttons or something, I dunno. Uh so So yeah, that's it, so just you can do your presentation for uh Oh it doesn't matter, just start with the I I didn't read i read it, so it's not for me, I didn't get it uh anyway. It's only for you. Yeah. The last point is quite an interesting So if we Yeah. Yeah, we should have the ten percent on the on the top, then you're you're So we have uh a new uh age of forty plus. People. So yeah, so we just can skip the L\_C\_D\_ r on the remote control, because Yeah. It's too Okay. Because it's too expensive. Yeah, probably. So it has to look uh uh uh unique, but Yeah. But old people are not looking for that. Not really. Okay. Yeah. Yeah. Okay. Thanks. So Paul, you can do the next one if you want. It's on the on the uh net net uh thing, isn't it? So what do you think of only the numbers and the on-off button or Okay. Yeah. Okay. Maybe i maybe it's too complicated, but not sure. It's a good idea, but Uh Uh mayb for me it's If I use my telephone, I never use those buttons to to to call sh Never. So And If I don't do it, maybe old people It's not, it's still not It's not anymore n uh Just on the front as well. No, that's the only th the only thing you need. Just very simple. Uh Yeah, I know what it is, but I think it's all too difficult for old people. And how do you want to uh do it, like if you have a channel above ten? Normally you can press one, zero or A ten plus or Okay. But do we still need a two level remote control? Because if we only have that I only f No. Yeah. Maybe it's still still a good idea, I'm not sure. You'll also have to use a mute button to to Maybe, not I don't know where where you have to put it. Okay. Yeah. Yeah. That's right. Yeah. Does it have to be Uh it has to be uh with different colours or It's like a iMac or something. Just to make it But it looks cheap as well, because it's a small thing. It's only twenty five Euros. It looks very cheap if you make it Oh, you just I dunno what happened. Yeah, we have to look at mobile phones, that's right. Just Yeah. Yeah. Okay, we hurry up a bit, because otherwise we won't make it. Is it fin Are you finished? Okay. So we we also have to have a LED li LED light on it? Yeah, it's I think it's usable. Yeah. Or just a green one, because it's If you use it, it's green or the red, it's r green. Yeah, that's right. But if you Red's I shows

up like something's wrong, and green is like it's okay, you press the button. Yeah, I know. Okay, we make it red. You have to The whole the whole uh remote control becomes uh green if you press the buttons. Uh that's cool. No, we have a recharger in it, so If we can still make that then But it's cool if it was green. Green or red or whatever, it is cool. I just say Can you s just say it again, because I was just looking There's just a short Yeah. Mm-hmm. Yeah. Okay. Yeah. Yeah. Okay. So that's the LED, L\_E\_D\_. Yeah, okay. So we can make the normal one also a normal light. Not a LED light, but as a normal one. To flash up your Yeah. Maybe you have to uh put uh a small light around the button you push. So you see green if you push that button. Yeah, but if you u if you do that, you know that you're uh sending a signal. And it's you also know which button you p Yeah, that's right. But it But does it make any difference for the energy you use? You got still one LED. That looks different, yeah. The same as a telephone, or a mobile phone, or what do you mean? If you push It lights up. Everything lights up. That's a good idea. It it only takes a l a little energy and it's not that much. It's f Yeah. Maybe that's a good idea for old people as well. It's only few LEDs. Only four or something. Four LED. Yeah, that's a good idea, okay. Everything agre Everyone agrees with that, or Okay. Yeah, and then you Okay, yeah. But you have to make a sound device in it then. But Yeah. Okay. Are you almost finished or just Okay. Okay. No worry. Yeah, I just want to talk some about some more. So maybe you have to

Yeah? Okay. So this Oh, sorry. Wh what's that? So uh Oh, sorry. We have some new uh project requirements. We have to have a look what they are. They're still in um Uh teletext has become outdated since the popularity of internet. So a teletext option, maybe we have to skip that one. I'm not sure. I don't think so, but Yeah, and it's it's on your comp it's on your television. It's only one button. So I don't think it is We definitely should use it. Um Yeah, that's uh what I told you. The remote control should only be used for a television. So that's maybe easier. And um the the forty plus people, I already told you. Oh no, sorry. Oh, this is a problem. Oh sorry about that. The new product should reach a new market with customers are the younger than forty. So it should be flashy or just more interesting. I'm sorry about that. I just I just didn't read it well. So does it make some decision about that? That still stays. Yeah. Yeah. Yeah, maybe we have to integrate that as well. If it's possible. But I don't think it's very expensive actually. Why should it? You only have a microphone in it. Nah, maybe Maybe maybe it's too hard to uh to realise that. It We have short time to to put it on the market, so that We have to do a lot of testing before we can do that. We make uh make uh, we can make th th the new remote control very flashy. Yeah. Yeah. I think so. So we have to make some decisions. So you can see on the uh So we have to know what we're going to put on. Do we, do we make uh a light under the under the n under the numbers and everything? Do If you press something, it lights up for a few seconds, so you can see what other but buttons there are, okay? Okay, we just take that one. And what else, we have Yeah, but it's Oh th I thought would, that that would be the same. If you push something, it it all lights up. Or you can switch it on or something. Yeah, that's right. You have to Yeah, that's right. That's what I said. It's the same as the telephone. Yeah. And do we use a a Uh what's it called? Like a iMac, if you can look through it. Or just a normal remote control. Yeah. Different colours. Okay, so y you just make it th through You look through it? Okay. And so the buttons we have, this is, yeah, this is normal. We put in the the simple buttons on the top, and probably the the the more complicated buttons down there. Yeah, maybe you have

you have to Uh when you use teletec teletext, you can press a green or a red button to go to the next one, or to go to the previous one. O but maybe you can put um the g the options of teletext on the second level of the remote control. Because you ne almost never use it. Yeah, that's right. Yeah. For me too, it is. So we just keep it one level then? Okay. Yeah. Okay. Okay. So that's it for toda for We're going to have a lunch lunch break. Um So yeah, you know what you have to do. This is uh this is it. You get your meal and everything, so Yeah. So, we're finished for t for this time. We're going to have some lunch. Yeah. Okay. Fine. The names? For for for my sur um Jens. Uh Damman. D\_ A\_ W\_. Uh uh M\_ M\_. I mean M\_. Double M\_. Oh. Sorry. Okay. Okay. Mm. Uh Okay. Well my name is Jens Damman, but we're in a group, and I I will start it. Wait. Um I've used a marketing report on uh the site. Uh I think you've uh read it too. Uh and uh f and furthermore I uh surfed the o the other site. You didn't read it? Oh okay, I I was the only one who get it. Okay it was uh uh uh um um a report about uh an experiment with uh a lot of users. And uh they had a lot of findings in their report uh with statistical uh uh uh thing uh with statistical uh proof. So I um I had three pages with findings and sev a lot of uh a lot of findings. So we can use this uh to uh create our own remote control. Uh seventy five percent of the users find uh most remote controls ugly. Yeah, I think uh uh that's a lot, so we have to make a beautiful remote control. Uh eighty percent of users would spend when uh a remote control will I uh look fancy. I think this fits uh at the uh what what uh Michael said about uh older people. Older people will uh spend more money uh for uh something uh uh what's good. Because younger people are more critical uh about uh uh where they spend their money money at. Uh seventy five percent uh seventy five percent of the users say they zap a lot. Well okay, that's uh normal. I think uh we we have to make uh good zap

buttons. But that's one of our requirements. Yes, fifty percent of users say they only use ten percent of the buttons. Um Martijn alr already said it. And uh maybe our uh fold open system is is a good one, but I don't think it's uh reachable. Yeah, the ten percent on the top, yeah. That that's a good one. Um uh page two. Remote controls are often lost somewhere in the room. That's exactly what we said about um maybe a home station for uh for it uh to uh recharge the batteries or something. Uh I thought mo maybe we could make a clap system, so when you clap your hands it will beep or something. Uh you must find it uh quickly. Okay, yeah. Yeah, we can uh combine that. Uh it takes too much time to learn how to use a r new remote control. Uh I think we must t uh take a look at this. It's only uh th thirty four of the thirty four percent. But it's uh a tough one. Because if we make a ha whole new product, our own style, we we c uh this is so difficult, uh a difficulty I think. Uh next, remote controls are bad for R\_S\_I\_. Yeah, but only if they zap a lot, and they watch over five hours T\_V\_ or something. I don't We we haven't Uh we mustn't look too much at uh the last point. Okay, last page. Uh the last uh experiment uh was about gadgets, like uh speech recognition. We didn't uh think about that already. And uh an L\_C\_D\_ on the remote control. We already thought about that. Um uh they finally had a conclusion that younger people um uh under an age of f forty five are uh more interested in new features. And but they're more critical. And older people uh want to spend uh more money. But uh they uh they don't want to uh have a lot of uh new features, because they're in their old uh thinking way. And they want to keep the old uh things the old things. But y But you but you already said that the uh company was about uh forty plus uh clients? I I think we can speak, uh we can skip speech recognition uh directly, because it's not reachable

for twenty five Euros. Um then I have my personal uh preference. Okay, that's not very good, because I thought about television, D\_V\_D\_ player, stereo and V\_C\_R\_. I had a question about. But it's already out of the question, this. Um my point is, well, I If we ma uh make a a remote uh control for only television, I think it's hard to uh sell it for twenty five Euros. But it's the exercise. Yeah, only only for television uh On the market you can now buy for twenty Euros a remote control for everything. And we only make it for television, so we mi mm we m must made it make it uh very special. Okay, I told about the home station. Uh it must be simple, because uh our the the elderly people uh needs to use it. And I I found a motto. And we put the fashion in electronics. And that's uh the motto we are uh referenced to uh for our uh our style. We we have to make a a new product. We have to be um Yeah. One of a kind, I think. The company is about our uh th th their own fashion, their own style. Yeah, to k to keep it simple when you Sorry I thought about it, yes. Okay, this was uh my presentation. I don't Yeah. You can ask some questions or something. Mm-hmm. Um Forward. No. Uh It gets some seconds. Yeah, it's it's no it's not a It's what Paul says. It's not a remote control uh uh that um uh makes the T\_V\_ um do one two. It's the T\_V\_ who depends that it must be two seconds or three seconds or one second that you must uh type one or two. It's only for television now. No. Maybe we can give it out in different colours. You can choose blue or yellow or That's fa That's fancy. That's uh fashion. Okay. Mm-hmm. Yeah, that's active. I I think it's in the case that it's active. It's not uh I it's it's just uh the the Mm. Yeah. Empty. Yeah. An automatically search function for each television, or something. Uh I kno Oh, I have a modern one. And the modern one you you uh you type uh search, and the LED began to blink blink blink. And uh uh uh after uh a short time the television turns off. And then you know, oh it it's the right one. And you can stop it, and then it's okay. So you don't have to search for your television or your code. It uh search uh the pattern for itself. Yes. Changing the signal. Yeah, that's the right uh option. Uh if you if you use the buttons, uh both of them works. But one you can't see and one indicates that you use a button. Yeah. Yeah, and Mm I think it's unnecessary power uh you use then. Okay. But then have to be on the in the

all uh remote control have to be LEDs. Everywhere in the r Is LEDs uh beneath the the buttons? Yeah, okay. It must be around it then. Yeah, then Yeah. Not not not not here, but here. Maybe uh Okay. Yeah, I uh Yeah. Maybe what Paul said, uh under the on the on the home station, uh a button to uh to call your uh remote control, that it beeps. Yeah, there must be sound in it. I dunno. Mm uh, twenty five Euros, I think we can make it. Bec Twelve and a half, okay. But but we only have to make it for television, and um we must have something special. So Uh. We have to give our customers some extras. No. Uh. Okay. Changes. Uh L\_C\_D\_ doesn't work for uh twelve and a half Euros I think. Oh. Oh, I'm watching uh the channel one. Okay. No, it's not But uh some of you had uh something to read about um uh speech uh recognition. About you said one and the television turns on one. Is that reachable maybe? That's very That's fancy. That's cool. Twelve and you've got twelve. Only the numbers, only numbers. Uh furthermore nothing. But only the numbers, one to twenty or something. That should be cool. If it's possible, I dunno. I didn't read it. Uh if i if i I didn't have information about that. Ah that's a problem, but Uh only in English. Only in English I think. No, that Yeah, then th we have to think about that. But do do we do it? It's more if we if we do it. Yeah. Okay. Yeah, and uh and uh In uh indeed uh the languages are a difficult thing. Uh because we we have a lot of languages. Yeah. A uh someone says t

hat uh give me one Coke, and the T\_V\_ turns uh to one. Yeah, it's not uh Okay, but th that becomes your f Uh uh because that's very hard for uh speech recognition. Mm-hmm. Okay, no speech recognition. Yeah. Yeah yeah, it it mustn't work all the time. It uh uh it have to work only when you use it. So if you No, if you use one button, it must turn uh on for twenty seconds, and then it must turn off. Oh yeah. A see-through. Mm, that's cool. But you have You had a lot of different buttons. No, I use teletext every day, I think. Mm. Trendwatching. Okay. That's fine. Yo. Mm. Uh. Uh Martijn. What? Uh Abbing. A\_ B\_ B\_ I\_ N\_ G\_. I was a little short on time, but What? Uh Just Yeah. Yeah. Yeah. Yeah. I think the main thing is the usability, that's where we can uh make it a special product. Yeah. Okay. Yeah, but then you have to remember what favourite is what channel. So you might as well remember the number. Or not? Yeah, okay. But um how can you remember what uh channel uh connects to what favourite button? Yeah? Yeah okay. But uh uh for a user to to remember, if I press that button it goes to that channel. Yeah, but isn't it hard to remember? Like favourite one and Mm as as hard as No, neither do I. Yeah, I dunno. Uh uh the p uh next and previous. Previous I know, but next channel? I don't thi Li like a web browser, so Oh, okay. But uh um there's also a button to uh go to the channel you've been before. Like a web browser back button. Yeah, okay. Yeah. Yeah, w wouldn't it be a problem to uh Because you h have to be fast enough. Maybe the elderly people Oh okay. Yeah. Yeah, but that's th mm Okay. Yeah. Yeah. Yeah. Yeah. I I think you ha really have to divide between functions you often use, like um uh m maybe uh switch channels and uh volume and k that kind of things, and uh the menu button. Because you n almost never use menu button. So Okay. Mm-hmm. Okay. Well, the working design. The method I used is uh search the web. Just the web page provided. Um Basically I'm I'm not very technical uh uh educated, but uh I could figure it out. Um basically what happens is you press a button, uh then a circuit gets closed by pressing the button, uh like a switch. And by closing that certain circuit, the chip knows uh what bu button is pressed. So like you press a one, that circuit is closed and uh Then the chip produces a pattern. Like a Morse code to uh And and sends that to the uh L\_E\_D\_. That's the uh light emitting diode, I think. Um and the light emitting diode is uh producing infrared light. That's un uh invisible to the human eye. And uh transmit that uh to the T\_V\_. However it has also an uh a visible uh diode that's uh blinking red if you look in it. And that's uh another diode, I believe. Because infrared is not visible. So that's er uh do two different things but Yeah. I I think so. I I'm not sure if it's the

same thing. Yeah. Yeah, when you press it. So Two? Yeah, I dunno. Ma on on most on most uh uh remote controls it's red. So So I know. I I think uh the batteries will be uh a little Yeah, okay. Uh maybe. Yeah. That it's working. That it's not not the batteries are low. Yeah, I know. Just to indicate it's working. And uh the receptor in the T\_V\_ senses the pattern. So we have to understand what patterns are used to, you know, to make it universal. So that it can be used with all the T\_V\_s. We have to really understand what patterns are used, so we can uh o On the Otherwise it won't work. No. I I uh The chip um uh is producing the pattern. So we have to make a chip that produces patterns to, y you know, to Yeah. That are working. Yeah, or I dunno how it's uh exactly how it works. It wasn't explained there. Yeah? Okay. Ah okay. Okay. Okay, yeah. So it uh We have to make a a s a bit more intelligent chip than the standard one. Because you have to Yeah. Uh okay. Well uh y you have this chip. That's uh when the circuit is closed, it produces the pattern. But uh ma basically for uh brands of T\_V\_ these patterns are different. So like

when you press a one on one T\_V\_ it go go to one. And on the other T\_V\_ it won't work, basically. So uh basically what you have to do is uh get these patterns right. And uh by d uh that can be done by uh just uh cha yeah, changing this pattern all the time. And um What he's doing when he's configuring this pattern, this chip, uh is trying to switch off the television. And when it's uh switched off, you can push a button as uh it's working now, so And then he saves that setting and then um it's working. Okay. Well uh the components. Yeah, that's a bit technical, and I hadn't I w I was a little short on time. Um but I think I understand it. Um the energy source is uh the battery, basically. Um that's connecting to all the components. Because it has to be fed with energy. Okay. Uh the subcomponent is uh w I I think it is uh the button pressed. So basically when you press a button, a switch get closed. Um that's connecting to a chip. So the chip knows what button you pressed. And the chip sends out uh the pattern to the infrared bulb. I didn't put the description by this one. Th this is a normal bulb. So the normal flashing light. Yeah. Yeah, and this is a LED too. But this one is producing infrared light that's invisible. And this one is producing normal light. Yeah Yeah, presu Yeah yeah yeah. Because uh when you button press a button and it doesn't work, it can Basically if the battery is low, it won't work. So you have to indicate that it's Huh, that's a good idea. Hmm. Yeah, but mm like when you push it n n Yeah. You have your finger over the button. So you can see Yeah. Or or m maybe on top of the A green light is flashing or Yeah. There. Yeah. Yeah. Yeah. Mm-hmm. Yeah. Yeah. We'll have enough power to Yeah. Hmm. Yeah. B maybe it's that that's a little too hard to make. Especially for that kind of money. Because it's i it has to be Yeah. Production cost is uh t uh twelve and a half. Yeah, okay. Yeah, okay. Yeah, the the personal preference, I didn't fill it out. Because I was short on time. But um Basically what we could do too is uh have a Bluetooth uh integration. Yeah? Okay. No, and I I think a lot of people use uh teletext, still use. Hmm. Oh. Mm. Yeah. That kinda changes the whole situation. Yeah. Mm ah I I don't y you'll use it often, because you can see on the television wh what channel you No. Yeah. I think you you have to make it a bit flashy and and popular. And uh then the usability is not that required, because the Like in the mobile phones, usability is not that good I think. I didn't read I didn't read any b Yeah. Yeah okay. I I know. Mm. Yeah, I don't know. Yeah. But it has to work. And and and does it have to work only in English, or in Dutch too or And and uh w Yeah? Yeah, it's probably my job to figure that out, but And and do you have to speak in in like in a thing or Yeah, I dunno. Yeah, I think so. And and Yeah, and also if if you have a good speech uh speech recognition, you can just throw the uh the remote away. Mm. Hmm. Mm. Yeah, okay. But Hmm yeah, T\_V\_ one. Yeah. Yeah, that's good. Mm, maybe it's a good idea. Hmm. Hmm. Yeah, but younger people I think um more often use the internet and elderly people often use teletext. So uh Hmm. Okay. Yeah. Yeah. Paul Wiezer. Paul Wiezer. A\_ E\_



Z\_ zee zee E\_ R\_. Uh. Yeah, same here. Uh let's see. Which one was mine? Good. Uh left. So Okay. Yeah, okay. Which one first? Okay. Functional requirements, yeah. No, I didn't think we got it. Yes. Uh. Maybe just a button on the home station. So remote control beeps when you click that button on the home station. Yeah. Yeah, but good usability, so you can use it. Unique. Yeah, I reckon Uh I think mm Uh Yeah. But uh we also have to stand out, 'cause there are already, like you said, so many controls out that support lot of stuff. But we have to make sure that we're better usability, and stand out by just looks of it. So make it just a different colour or different shape, so Okay. Yeah well Uh. There it is. Okay. Tech

nical functions design. Okay, well, so we have s mm uh broad audience. Isn't that isn't true anymore. But um we have elderly people, so we need to keep it simple. Uh the way I want to keep it simple is to use the sen uh standard. So standardised uh methods like uh on all uh remote controls. Not too full, like uh Jens already said, only ten percent is being used. Yeah, I have it on the next page. But yes uh basic functions like numbers and that sort of stuff. Um so the options that we put on there should be easy to use, and 'cause you have more room then, and for elderly people big buttons. Uh an icon on it or text on it, so it's very clear what that buttons does. So it doesn't take much time to figure out uh how to use it. Um a way to find out uh what people use is maybe just to use uh questionnaires on the internet or just ask some random people, elderly people what they use, what they want on a remote control to find out. But there is already in a one done. Of functions I could think of. Uh volume, channels, the the basic according to. Just one two three etcetera. Uh text service options. Um basic on-off. And I found an uh Could I think of favourites? I always look up the same um pages on text and always have to click the number. But if you could make a new option, that you just have to press one button and you get on your No y Well it's It was just a thought. So I'm, I u I would find it handy, I think, when you just press one button and you get on six six six. Well uh what I was reading on the page. Uh a remote control just sends commands, basics commands to uh the television. So switch to channel six. So uh button six says says six. And if you make favourites, it can say six six six in a row. Just numbers. That can be in the in the Well if you said a favourite Well i Never? Oh. Oh are you? Okay now, m maybe not. No, maybe elderly people uh. Right. They don't like new features. So maybe not. Um well play, pause. I dunno if that's usable when Not anymore for T\_V\_. Right, on off. I dunno, miss Did I miss any other buttons, basic buttons? I couldn't think of any other, 'specially not for T\_V\_. Is Just the channel um uh What I mean is uh Six seven eight or five. Um I dunno. I don't have Uh I did Yeah, I don't think you use that. Y only when you want to go to Yeah, just use uh when you wanna switch between channels all the time. Yeah, I think um f Especially for older peo elderly people use standard buttons. So you have that uh Yeah, the ten plus button. Just uh one one pressing, or quickly after each other. To just keep it simple and standard uh features. Uh yeah mayb But I think that's in the T\_V\_ as well. That's how the uh the T\_V\_ T\_V\_ handles it. But you can have a button that says um two two st two stripes. So you have uh like a five seconds period to press those two buttons. So if you have a universal T\_V\_ controller, you needed one button that has two uh stripes. So we have a a period of, I dunno, five seconds to press those buttons, and that And not for elderly people to look, one two uh press and aim and So I I don't think so. Uh I just thought of another one. Most things in modern T\_V\_s are also on the menu. So you also need a menu button. And then uh navigation uh But we can integrate that with volume and previous and next, so you have four arrows. Yeah, okay, but um Yeah, a mute button. Yes. Don't think so. Yeah well, that's that's I think that's the layers that produce. Now I have to figure out what's uh what to put on. What we're gonna use. And later we can d uh do the design. Okay, uh now my personal preferences. Uh using the standards, basic Um I think that we should stand out uh unique, being

unique with the design. So we have to, I dunno, uh make a different shape than usual. So when you are in the shop and you see our T\_V\_ controller hanging, that it stands out. Not just in the row when you see all the same uh remote controls. Um I dunno. Different colours um Yeah. Well why not? Or Yeah. Well, maybe you ca

n look at uh mobile phones. Oh. Who? They they're uh designed very well. And well basically are the same, just a bit smaller. You think you can't make a T\_V\_ controller too small, 'cause then you will always lo always lose it. But uh well, I think that's a good example. Okay, sorry. Well uh Yeah, I I'm finished. I think we discussed everything. Uh j Is Ain't it just to indicate that it's transmitting? So Yeah. Maybe uh Maybe depends on uh Yes. But maybe Well we don't have to make it red. Maybe integrate it in the design as well. Uh Oh, maybe it's it is would an e No. Just uh Oh. Yeah, but it doesn't have to be red. It's just to indicate something's on. Yeah. It's it's not very important, so yeah. So mm So we have to uh make buttons for that as well, to make it uh Okay. Well, I I use a universal uh remote control, and list of all the T\_V\_s you have, etcetera. And you have to put in a number, so it works on your T\_V\_. Okay, so we use that. Yep. No, y Yeah. No I don't think so, but Yeah, i it it will look different, and I think we need to find something else. Yeah. 'Cause otherwise we will just make another standard, and our uh motto also is Yeah, w around the buttons, or in the buttons even. Yeah, then then won't Then you won't see it. Yeah, we're thinking about it. Uh on a mobile phone, in the dark uh everything lights up. Why ain't that on a remote control? Yeah, if uh a mobile phone a phone can do it, it's Yeah, i if you're in the dark, you can't see the remote. No, I dunno. But if we use a battery station, which I think we will use Yep. And also it's Okay, it shouldn't take much Uh I th I think uh you also have uh remote controls with a lot of options. But we lose about ninety percent of those options. So I think you can uh Yeah. I think we will save money with that. Yeah. Okay, that's It changes things. Um Well yeah, then we have to make some nice features. I think uh the thing in the dark is a good way, to make it more like a mobile phone. More modern. That's important I think and And I d I don't don't think it's very usable in a remote control, especially when you only have T\_V\_ functions on it. So Yeah, I tho I think that's not usable. So, but uh Yeah. What other features can we put in? It's very fashion. Mm. Mm. Yeah, I think it's What But uh I dunno how that works then. Uh does your uh Does it lie in the centre of the room and can you scream from wherever uh one to have in channel one? Yeah, I dunno. So, is it very usable? That's what I'm looking at. Is Mm Yeah well It's I d Yeah. I don't think it's uh useful enough to take the effort to design something with uh speech recognition. Yeah. Well yeah, that's the right command. And then you have to say uh T\_V\_ channel one, or something. Not just one, but Well I dunno. But I don't think, it just ain't useful enough. Yeah, I think so. Yep. Also the one in the dark. So uh It lights up when it's dark? I didn't Okay. Yeah, but um Yes, that's what I mean. Or maybe when you yeah. It lights up all. Okay yeah. D Yeah, alright. Yeah. Maybe just as an option, w like we discussed, like iPod. Different colours, uh maybe use even different fonts. Like uh phones. Yeah. Uh as an option maybe. It's the standard Yeah, uh Yeah, we but we don't We don't really have any complicated buttons. Yeah okay, but Yeah, well w I think the buttons are very easy. With just uh standard buttons we just have so little No, I don't need don't need Uh teletext options are only four buttons or something. I use teletext as well. Yeah yeah, one level. And I think, uh 'cause um we don't have that many buttons, I think the design is most important. You can d uh integrate the buttons in the design very much. 'Cause simple buttons. If you put one above it, it's clear. How long is lunch break? Okay. Bye.

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# Meeting ID: 28

Data Source: Train

## Executive Summary

now we are here at the functional design meeting . Um I'll act as secretary for this meeting and just take minutes as we go through , The main the main focus of this meeting is your presentations that you've been preparing during the time , Um then we need to briefly discuss the new project requirements that were sent to us . at the last minute , then we need to , by the end of the meeting come to some kind of decision on who our target group's going to be and what the functions of the remote control You said uh targ target groups , As uh who it is that we're going to be trying to sell this thing to , yeah , we need to have a fairly defined group that that we want to focus on Just before you start , to make it easier , would you three mind emailing me your presentations ? Once we you don't have to do it now but when once you go back , just so that I don't have to scribble everything down . So n uh with uh with regard to the uh working design of this uh uh remote control uh I've identified um a few basic uh components of the remote and uh se uh from the design , functional design perspective um w l c we can now uh know wha what exactly the components are Um the identification of the components , uh and uh since since I'm dealing only with the technical aspects , I would need feedback from the marketing person uh and uh from the user interface person . Uh we'll then integrate this into the product design at a technical level these were the basic findings from today . The last three bullets have been integrated from uh the last minute uh email . as I told you the identification of how the remote control works and what are the various parts to it uh and what are the different processes um and how the parts uh communicate with each other . also uh the remote control should be used only for television , because incorporating other features um makes it more comp complex . And the reason why teletext is outdated because uh of internet and uh the availability of internet over television . also the management wants that um our design should be unique so it should incorporate um colour and the slogan uh that our company um has it as its standard . there's basically an energy source at the heart uh which feeds into the chip and the user interface . Okay , so he he here is a functional overview of the remote control . The user interf interface communicates with the chip , if uh if this is our energy source and this is a cell , uh it communicates uh it feeds energy into the into the chip , which basically finds out h uh how how to do everything . There is a user interface here . So whe when the user presses a button , it feeds into the chip and the chip then generates a response and takes the response to an infrared terminal , Um the there can be uh a bulb here or something to indicate whether the remote is on or communicating . so the output of the chip

is an infrared bit code , whatever new functions that we need to do , um make the chip more complicated uh and bigger , basically . i in my personal preferences um I'm hoping that we can keep the design as simple and clear as possible . This would uh help us uh to upgrade our technology at a future point of time . And uh also if we can incorporate uh the latest features in our chip design , so that our um uh remote control does not become outdated soon and it's compatible with most uh televisions . Do you have any um i idea about costs at this point ? No , I don't have any idea about what each component costs . 'Cause that's something to consider , I guess , if we're if we're using more advanced technology , it might increase the price . we definitely need to operate within our constraints , I think since since we were discussing some um design issues then I I I would like to continue so the blue function key at the bottom and F\_ eight . computer no signal . I don't see anything on my computer now . Okay , that's fine , that's good . So I'm going to speak about technical functions design uh my method was um to look at um other um remote controls , uh so mostly just by searching on the web And then um after having got this inspiration and having compared what I found on the web um just to think about what the de what the user really needs and what um what the user might desire as additional uh functionalities . Um so the findings uh were um that the main function of the remote control is is just sending messages to the television set , And uh w some of the main functions would be switching on , switching off , uh then the user would like to switch the channel um for example just m changing to the next channel to to flip through all all of the possible channels , or then mm uh the other possibility would be that um she might just want to choose one particular channel , so we would need the numbers . And and also the volume is very important . Um um among the findings I found that m m most of the curr mm presently available remote controls also include other mm functionalities um in their design , like operating a V\_C\_R\_ , but they don't seem to be able to deal with D\_V\_D\_ players , but according to the last minute update um actually um we do not want to have all this complicated functions added to our design . So my personal preferences would be uh to keep the mm the whole remote control small um just like the physical size . And then it must be easy to use , so it must follow some conventions um like whereabouts you find the on off button and maybe the colour tends to be red or something . But then um other functionalities um could be just uh there could be a menu button and you could change things on the screen then , um for example brightness and mm similar functions could be just um done through the menu . the last question I had about whether we wanted to incorporate n uh more functionalities , the answer was already no because of the last minute update . but if we had a decent case for that we really think it's important to include video and D\_V\_D\_ , I could get back to them and see . and also it's it's um other question is uh because there are so many different And there are so many different things that could possibly be included because besides video and D\_V\_D\_ there are the mm um video C\_D\_s and whatever , so it might be problematic to to choose between all these possible things . So in the u user interface requirements uh uh uh we we have been able to identify what are the basic buttons that we do want . so so at this stage , uh how we go about implementing those button we will not identify or I mean in we can completely do away with buttons and uh have some kind of a fancy user interface or something like that . Um well , I think the buttons are still mm kind of the most um easy for the user to use , I mean um what other options would you have ? A little screen or something , but this would be really kind of I think a lot of learning for the user and and I mean the user just wants to get um get a result um quickly , not to spend time in like um giving

several orders um I dunno . I think I th I would I would think the put the buttons , Uh I think the co costs will also play a big role when we come to know about them . So well we can probably wait until t we have more knowledge on that . Uh i if the if the costs allow , we can have like an L\_C\_D\_ display because we do want something fancy and fashionable as well . So what I have , wh where I've got my information from is a survey where the usability lab um observed remote control use with um a hundred subjects and then they gave them a questionnaire . What they found is that people don't like how current remote controls are , Um seventy five percent of users find most remote controls ugly . Uh eighty percent of users would spend more to get um you know , a nice looking remote control . Um current remote controls , they don't match the user behaviour well , Um I dunno what zapping is , It's um switching between channels , sort of randomly going through . But you have that little thing that comes up at the bottom and tells you what's on . Um okay , fifty percent of users say they only use ten percent of the buttons , so that's going back to what , you know , we were saying earlier about , you know , do you need all the buttons on the remote control , they just make it look ugly . Um so this is my little graph thing . what it shows is how much things are used relatively so what the graph shows is that , you know , power , channel selection and volume selection are important , and the rest of them , you know , nobody really uses and so that's the the numbers along the top represent their like um their importance , you know , and , you know , channel selection and volume selection are absolutely essential , and the power , well it's not quite so essential , apparently , um and everything else , I think , you know , you can forget about having those buttons on the remote control , so this is what people find annoying about remote controls . Uh that they get lost , that the uh you know , they're not intuitive and that they're bad for repetitive strain injury . you want something with an ergonomic t design that encourages good use of the remote control but that shows how people whether they would pay more for voice recognition software . So you can see from that that , you know , younger people to the age of thirty five are quite likely to pay quite a lot more f well quite are quite likely to pay more for voice recognition software , whereas as people get older , they're a bit more sceptical about it Um so clearly voice recognition is something to think about , but um you know I d I do wonder how well that would work given that a T\_V\_ , you know , tends to be people talking and um , you know , how are you going to stop it from just flipping channels whilst watching T\_V\_ . so these are my personal preferences . So you have sleek , stylish , sophisticated , you know , so something that's , you know , a bit cool . Um you know , functional , so it's useful , but minimalist . so things should either be functional or beautiful or preferably both , Um okay , then a long battery life , like you were talking about earlier and um , you know , I was thinking that solar power would be quite cool because , you know , your remote control just sits there , and you could just sit it in the sunshine and save the environment a bit . so you know , kind of like you have for a mobile phone or Some kind of a ring , Whistle and it screams at you , yeah . So yeah , so maybe something where you clap and then it beeps , Um and then like a locator , So , we've got about ten , fifteen minutes to discuss I think one of the very interesting things that came up in um uh Ka Kate Cat Cat's uh presentation was um uh this this issue of uh uh like voice recognition being more popular with uh younger people . So if we need to have a target group um then uh I think as far as the m motto of our company is concerned , if we want to have something sleek and uh you know , good looking uh we are better off targeting a younger audience then um you know , people who are comparatively elderly . I mean that's the thing is that it didn't say in the survey , you know , whether , you know , these are the

people that will pay more for a more stylish remote control , Bu but but the survey did say that f things like voice recognition are more popular with them , Then again I guess the th where it was most popular was the fifteen to twenty five bracket and the I don't know how often they're buying televisions . I would've thought it's it's more that twenty five to thirty five , when people are really moving out and they've got their first job and they want their nice toys and wh uh um people between twenty five to thirty five , uh how popular was Seventy six point three percent . but I mean it has been proven that that people of that age group have a higher disposable income I mean like it is an age group to target , really , I think . and if we're if we're talking twenty five Euros as a price , that's not unaffordable , even for young people . but the problem is whether people need it , whether they do have a T\_V\_ to use its full and be a bit strange to have a fancy rome remote . I think I think the fact that , you know , ninety one point two percent of fifteen to twenty five year olds are saying yes , I would pay more for a voice recognition remote control , does say quite a lot really . but at the same time I think maybe we can we can just decide to to have both of these groups as our target , because actually I mean they're all still re young people . Yeah , if we ta if we take fifteen to thirty five , but voice recognition itself I'm not very sure about , With um but with a T\_V\_ remote it's gonna be quite limited if we're t saying the main things people want to do is on off channel five , tha that should be relatively simple . y you'd maybe need a code word . but like so you'd just say remote five , you know , remote ten , remote one two nine . but maybe if you wanna look into that just to just to check . w well now the v the voice recognition if it works wonderfully w we could possibly do away with all buttons , but I think this is not really the right moment yet , because people are just so used to buttons What wh uh what I was thinking is that there is this uh separation between what the channels are on T\_V\_ and how they are numbered on the remote control . If we can do with away with that , our product can be really popular uh in the sense that uh a person can say , I want to watch uh I\_T\_V\_ one instead of saying that I want to go onto channel number forty five . So that if that was in the the voice recognition , that would be great . It's more like if you lost it and it's down the sofa sometime , you can yell at it and it'll just change it , you can look for it later , yeah . Yeah but m but on the other hand , remote control isn't as close to you you probably might just just uh speak into it yeah and it might become very difficult from a distance for the television to understand what you're saying because of the noise factor for the remote control No , but I I I was just defending the the fact why why we want to keep the remote control close to us , a and uh not to yell at it from the distance . So uh wh another thing uh that can be used is that uh there can be a beeper button on the T\_V\_ , so you can go and press that button and um and the remote control , wherever it is , it'll beep , so we we can probably come to know where it is . But if we go away with that that kind of general um specification in mind that we're looking at fifteen to thirty five year olds , we want it to look simple , but still have the buttons so it's easy to use , but only those key buttons , the major buttons and then one sort of menu one , and then voice recognition included as an option um but that obviously needs a little bit more working out as to whether it's really feasible and some of those problems we were mentioning um . What we have to do now is to go back to our little places , complete our questionnaire and some sort of summarisation , Send me your presentations so that I can use them to make the minutes , and after lunch we go back to our own little stations and have thirty minutes more work . Um I'll put the minutes in that project documents folder , but I'll send you an email when I do it , so that you know . You'll be looking you'll be looking at the user interface concept , and you're

watching trends to see how we go as to where we're going from here , you're going to look at the components concept . w before lunch we just have to complete the questionnaire and some sort of summary .

## Complete Meeting Transcript

Cool. Do you wanna give me the little cable thing? Yeah. Cool. Ah, that's why it won't meet. Okay, cool. Yep, cool. Okay, functional requirements. Alright, yeah. It's working. Cool, okay. So what I have, where I've got my information from is a survey where the usability lab um observed remote control use with um a hundred subjects and then they gave them a questionnaire. Um so it was all about, you know, how people feel about the look and feel of the remote control, you know. What's the most annoying things about remote controls and um the possibility of speech recognition and L\_C\_D\_ screens in remote control. Not that they actually gave me any answers on the L\_C\_D\_ screens, so I should have taken that bit out, but anyway. Um okay, so. What they found is that people don't like how current remote controls are, so you know, definitely you should be looking at something quite different. Um seventy five percent of users find most remote controls ugly. Uh the other twenty five percent have no fashion sense. Uh eighty percent of users would spend more to get um you know, a nice looking remote control. Um current remote controls, they don't match the user behaviour well, as you'll see on the next slide. Um I dunno what zapping is, but Oh, right. But you have that little thing that comes up at the bottom and tells you what's on. Um okay, fifty percent of users say they only use ten percent of the buttons, so that's going back to what, you know, we were saying earlier about, you know, do you need all the buttons on the remote control, they just make it look ugly. Okay? Cool. Um so this is my little graph thing. Mm k Okay, well, I can send it to all of you. What it is is um it's cones, 'cause I thought they'd be more exciting. Um but ooh where's it go? Back. Oh. Oh yes, cool. Okay, I'm gonna stop playing with the little pointy thing. Um okay, so like what it shows is how much things are used relatively and what you can clearly see from that is the thing that's used most is the channel selection. What you can't see is volume selection, it's a little bit higher than all the others. Yeah, so what the graph shows is that, you know, power, channel selection and volume selection are important, and the rest of them, you know, nobody really uses and so that's the the numbers along the top represent their like um their importance, you know, so on a scale of one to ten, how important is that and, you know, channel selection and volume selection are absolutely essential, and the power, well it's not quite so essential, apparently, although I don't understand how it couldn't be, um and everything else, I think, you know, you can forget about having those buttons on the remote control, 'cause they're just not needed, and they're not used. Okay. This is the bit that the email messed up for me and that's what I was fiddling about with at the beginning of the thing. Okay, cool. So um okay, so this is what people find annoying about remote controls. Uh that they get lost, that the uh you know, they're not intuitive and that they're bad for repetitive strain injury. I think if you're watching enough T\_V\_ to get repetitive strain injury from um you know, watching T\_V\_, then that's the least of your problems, but you know, it's up there. Um that yeah. Okay, so um I mean the the R\_S\_I\_ thing would be that, like when you have the computer keyboards and you keep your wrists up would be something that encourages you want something with an ergonomic t design that encourages good use of the remote control and you know, not straining your wrists watching T\_V\_. Yes. Okay, cool. Right, um sorry this is pink because I was copying and pasting

the table, and I didn't have time to write it out again. Um okay, but that shows how people whether they would pay more for voice recognition software. So you can see from that that, you know, younger people to the age of thirty five are quite likely to pay quite a lot more for well quite are quite likely to pay more for voice

recognition software, whereas as people get older, they're a bit more sceptical about it and they're less willing to try it. Um so clearly voice recognition is something to think about, but um you know I do wonder how well that would work given that a T\_V\_, you know, tends to be people talking and um, you know, how are you going to stop it from just flipping channels whilst watching T\_V\_. Um okay? Cool. Um okay, so these are my personal preferences. So you have sleek, stylish, sophisticated, you know, so something that's, you know, a bit cool. Um you know, functional, so it's useful, but minimalist. Um there's an important thing that, you know, people use when, you know, when you're filling up your home, you know, a lot of people fill up their home with bits of crap, basically, you know, and you've got all this stuff, and you're just like, what the hell is that, who is ever gonna use it? You know, so things should either be functional or beautiful or preferably both, so I think we need to aim for both. Um okay, then a long battery life, like you were talking about earlier and um, you know, I was thinking that solar power would be quite cool because, you know, your remote control just sits there, and you could just sit it in the sunshine and save the environment a bit. Um and then like a locator, so you know, kind of like you have for a mobile phone or not a mobile phone Yeah, that's it, you know. I know, it's weird. My flatmate and I were talking about this on the way into uni this morning and I was like I need to get one for everything. So yeah, so maybe something where you clap and then it beeps, something a kind of sound that you don't often hear on the T\_V\_, you know, 'cause you don't want your remote control beeping every five minutes, 'cause you you'd then deliberately lose it by throwing it out the window or something. So okay? Cool. That's me. Cat's. Ca. Yeah, I mean that's the thing is that it didn't say in the survey, you know, whether, you know, these are the people that will pay more for a more stylish remote control, but I'm assuming, you know, yes. Well, that's when you go to uni, isn't it? So, you know Yeah. Oh, I've unplugged it. Do you want me to Yeah. Seventy six point three percent. Yeah. Yeah, I know I mean I know what you're saying about the fifteen to twenty five year olds, but I mean it has been proven that that people of that age group have a higher disposable income because they don't have like I mean, you know, if you're at university, you're paying your rent, but you don't have a mortgage, you don't have a life insurance policy, you don't normally have a car, yeah, so. You're still learning to drive actually, so that just costs more than a car, but yeah. Um so I mean like it is an age group to target, really, I think. No, I mean that's what, that's like fifteen Pounds? You know, I think Yeah, I don't know many people without a T\_V\_. We didn't have a T\_V\_ last year, and everyone thought we were off our heads, you know. Yeah, I do well we've we've got quite a decent T\_V\_. Yeah. I think I think the fact that, you know, ninety one point two percent of fifteen to twenty five year olds are saying yes, I would pay more for a voice recognition remote control, does say quite a lot really. You know, so I mean that and the disposable income and I don't think it's something to ignore, you know. Is not a massive difference, you know. No, do totally. You do have it in your mobile phone though, don't you? Because you have like I mean every mobile phone now has like call this person and it calls them. I don't know. Yeah. So so you'd maybe need a code word. Do you know what I mean? So like when you say change, except that's being said quite a lot on T\_V\_, so maybe like, you know, remote. I mean how often do people say remote on T\_V\_? Although I only watch Charmed, so really I wouldn't know but like so you'd just say remote five, you know, remote ten, remote one two nine. I don't think there's a



ot of uh voice recognition remote controls. Yeah, that would be another way to do it. Yeah, but then the code word would be even more important, because I mean Sky advertise on every channel, don't they, you know, so then it would be you'd be watching Charmed, and then the Sky advert would come on and it would change to Sky. Yeah, yeah, and that would be really annoying. Yeah. Do you not think that defeats the object of having voice recognition on a remote control though? Yeah, you know, so you have to have the remote control. It's more like if you lost it and it's down the sofa sometime, you can yell at it and it'll just change it, you can look for it later, yeah. Yeah, yeah, I suppose nearer to you but a bit like if you have surround sound then Yeah. Yeah, 'cause it's it's quite important that you don't lose the the bit to locate the remote control. Yeah, definitely, yeah. Oh, so y you want our um PowerPoint presentations in there, hey? Okay. There you go. But is everyone's called functional requirements? Okay, so that's good. That's me done. Okay, cool. No. Mm. Um um wi on on a what? Oh project project documents, yeah, yeah, yeah, okay. Oh okay, yeah. Yes, I think so. Yeah, the last minute, yeah, yeah. Yeah. Um Okay. Hmm. Mm. Okay, yeah, afterwards, yeah, okay. Thanks. I think we need like some general discussion at the end probably. Yeah. Yeah, I think since since we were discussing some um design issues then I I I would like to continue okay, yeah. Thanks. Oh i Okay, I hope wait. Should it just There's just nothing. Oh right, right, right, um Okay. Nothin okay, something is coming up. No signal? Why? Oh. My my computer went blank now. Adjusting. But I don't see anything I don't see anything on my computer now. This is the problem, but Um. Uh now it's okay. No? No. Oh okay. Okay, that's fine, that's good. Okay, let's start from the beginning. So I'm going to speak about technical functions design uh just like some some first issues that came up. Um 'kay, so the method I was um adopting at this point, it's not um for the for the whole um period of the um all the project but it's just at th at this very moment. Um uh my method was um to look at um other um remote controls, uh so mostly just by searching on the web and to see what um functionality they used. And then um after having got this inspiration and having compared what I found on the web um just to think about what the de what the user really needs and what um what the user might desire as additional uh functionalities. And yeah, and then just to um put the main function of the remote control in in words. Um so the findings uh were um that the main function of the remote control is is just sending messages to the television set, so this quite straightforward. And uh w some of the main functions would be switching on, switching off, uh then the user would like to switch the channel um for example just m changing to the next channel to to flip through all all of the possible channels, or then mm uh the other possibility would be that um she might just want to choose one particular channel, so we would need the numbers. And and also the volume is very important. Um um I als okay. 'Kay. Um um among the findings I found that m m most of the curr mm presently available remote controls also include other mm functionalities um in their design, like operating a V\_C\_R\_, but they don't seem to be able to deal with D\_V\_D\_ players, but then there are surely there are many other functionali functions that could possibly be added to them, but according to the last minute update um actually um we do not want to have all this complicated functions added to our design. So my personal preferences would be uh to keep the mm the whole remote control small um just like the physical size. And then it must be easy to use, so it must follow some conventions um like whereabouts you find the on off button and maybe the colour tends to be red or something. Um then yeah, the must-have buttons woul

d be on off and then the channel numbers and then um the one that allows us to go to the next or the previous channel, and then volume has to be there. But then um other functionalities um could be just uh there could be a menu button and you could change things on the screen then, um for example brightness and mm similar functions could be just um done through the menu. And yeah, the last

question I had about whether we wanted to incorporate n uh more functionalities, the answer was already no because of the last minute update. So at the for the time being that's uh that's all. If you have questions Yeah, and also it's it's um other question is uh because there are so many different And there are so many different things that could possibly be included because besides video and D\_V\_D\_ there are the mm um video C\_D\_s and whatever, so it might be problematic to to choose between all these possible things. Um well, I think the buttons are still mm kind of the most um easy for the user to use, I mean um what other options would you have? A little screen or something, but this would be really kind of I think a lot of learning for the user and and I mean the user just wants to get um get a result um quickly, not to spend time in like um giving several orders um I dunno. I think I th I would I would think the put the buttons, but if if you have other mm proposals um. Yeah. Yeah. Mm-hmm. Yep. Uh am I going in the right direction? No. Wait. Okay, here it comes. Okay, here you are. Um that's very good, very interesting. Mm-hmm. Yeah. Yeah, you share a television or something that yeah. It was seventy something, yeah, yeah. Yeah this this is not unaffordable, but the problem is whether people need it, whether they do have a T\_V\_ to use its full Yeah. Common, the students yeah, yeah. The s the stu yeah, and the remote control might not yeah, it might not even function with the old T\_V\_. Yeah, we're still yeah. Or w maybe we can just kind of uh uh Yeah, but at the same time I think maybe we can we can just decide to to have both of these groups as our target, because actually I mean they're all still re young people. Yeah. Yeah. Yeah. Yeah. An Yeah. Yeah. Yeah but uh um Yeah, yeah sure, yeah, yeah. Yeah. Yeah, w well now the v the voice recognition if if it works wonderfully w we could possibly do away with all buttons, but I think this is not really the right moment yet, because people are just so used to buttons and um, yeah it's it's kind of safer, so we we need both, so the voice recognition would be just an extra, it wouldn't really reduce the size of the remote. Yeah but m but on the other hand, remote control isn't as close to you you probably might just just uh speak into it and and the T\_V\_ would be already further away, so it might not pick up the other things coming from there. Yeah, but then the remote control I think I mean um the idea is kind of it's it's not that it's sitting there on on top of the television, because then you could already yell at the television and you wouldn't you you wouldn't need the remote control, so the remote control is still something you keep n near yourself. Yeah, yeah, yeah. No, but I I I was just defending the the fact why why we want to keep the remote control close to us, a and uh not to yell at it from the distance. Okay. Oh yeah, yeah. Okay, yeah, mm-hmm. The major ones, yeah. Mm-hmm. Mm-hmm. Yeah. Did you find it? It's just yeah, yeah. Oh so so we'll just put them i there, we we yeah, w we won't even okay. Yeah. Yeah. Uh something conceptual, yeah. Hmm. Sorry, but um the next meeting um are we going to have it um right after lunch or shall we prepare our To prepare, okay, yeah, that's good. Okay. Cool. Okay, see you. Mm. You said uh targ target groups, what does that mean? Uh okay, 'kay. So are Okay. Alright. I can go first, yeah. Right. Um so f from the Right sure. Uh okay. So n uh with uh with regard to the uh working design of this uh uh remote control uh I've identified um a few basic

uh components of the remote and uh se uh from the design, functional design perspective um w I c we can now uh know wha what exactly the components are and how how they work together with each other. So this is the method that uh I'll mostly be following in my um in my uh role. Um the identification of the components, uh and uh since since I'm dealing only with the technical aspects, I would need feedback from the marketing person uh and uh from the user interface person. Uh we'll then integrate this into the product design at a technical level and uh basically update and come up with a new design, so it's a cyclical process. Okay, so these were the basic findings from today. The last three bullets have been integrated from uh the last minute uh email. Uh I just quickly jotted them down. Um so basically uh

the as I told you the identification of how the remote control works and what are the various parts to it uh and what are the different processes um and how the parts uh communicate with each other. Um okay, so e the mee email said that teletext is now outdated, so we need to do away with that functionality of the remote control. Um also uh the remote control should be used only for television, because incorporating other features um makes it more comp complex. And the reason why teletext is outdated because uh of internet and uh the availability of internet over television. How however, our our remote control would only be dealing uh with the the use for television, in order to keep things simple. Um also the management wants that um our design should be unique uh it so it should incorporate um colour and the slogan uh that our company um has it as its standard. Okay, so he he here is a functional overview of the remote control. Um there's basically an energy source at the heart uh which feeds into the chip and the user interface. The user interf interface communicates with the chip, so I'll basic go over to the Okay. So if uh if this is our energy source and this is a cell, uh it communicates uh it feeds energy into the into the chip, which basically finds out h uh how how to do everything. There is a user interface here. So whe when the user presses a button, it feeds into the chip and the chip then generates a response and takes the response to an infrared terminal, um which then so the output of the chip is an infrared bit code, which is then communicated to the remote site, which h has an infrared receiver. Um the there can be uh a bulb here or something to indicate whether the remote is on or communicating. Um so these are the essent so a all the functionality of the remote control, whatever new functions that we need to do, um make the chip more complicated uh and bigger, basically. Okay. Um so i in my personal preferences um I'm hoping that we can ke keep the design as simple and clear as possible. This would uh help us uh to upgrade our technology at a future point of time. And uh also if we can incorporate uh the latest features in our chip design, so that our um uh remote control does not become outdated soon and it's compatible with mot most uh televisions. That's about it. So anything that you would like to know or No, I don't have any idea about what each component costs. Um yeah. Anything else? Yeah. Certainly, yeah. So so tha yeah, we definitely need to operate within our constraints, but um unfortunately I I do not have any data, so uh I just identified the functional components for that. Yeah, okay. Yeah. Mm 'kay. I it'll take some time. Oh, there it is, yeah. It'll come up, it um uh no signal. Yeah yeah, it says something now, adjusting Okay. Oh, that's strange. Okay. And one more time. Mm. Sorry, cou could you go back for a second? Uh switching on off channel, uh volume, okay, that's great. So in the u user interface requirements uh uh uh we we have been able to identify what are the basic buttons that we do want. Um but um so so at this stage, uh how we go about implementing those button we will not id

entify or I mean in we can completely do away with buttons and uh have some kind of a fancy user interface or something like that. But uh is is there any uh uh any thoughts on that? Right. Yeah, and it'll make the costs yeah. Right. Uh I think the co costs will also play a big role when we come to know about them. So well we can probably wait until t we have more knowledge on that. Uh i if the if the costs allow, we can have like an L\_C\_D\_ display and uh with um because we do want something fancy and fashionable as well. So yeah? Cool. try to press oh, okay, yep. Mm. Right. Mm-hmm. Mm. Right. Mm-hmm. Hmm. Right. Mm. Mm. Mm. Some kind of a ring, some Right. Hmm. Okay, that's great, thanks. Mm. I think one of the very interesting things that came up in um uh Ka Kate Cat Cat's uh presentation was um uh this this issue of uh uh like voice recognition being more popular with uh younger people. So if we need to have a target group um then uh I think as far as the m motto of our company is concerned, if we want to have something sleek and uh you know, good looking uh we are better off targeting a younger audience then um you know, people who are comparatively elderly. Um.

Right. Right. But but but the survey did say that things like voice recognition are more popular with them, so if you want to put in something stylish, then uh it'll certainly be more popular with this i ye with the younger people as compared to older people, yeah. Right, and Right. Mm. Right. But uh still, if if you can go back to that slide and uh, how popular was it? Oh, oh, okay. That's alright, if you can just look it up on your computer, uh um people between twenty five to thirty five, uh how popular was so it was still quite popular amongst them. So even they are seventy six percent, is that high amount? Alright. Yeah. So you're more likely to b Yeah. Yeah. Mm. But but even even in the case of twenty five to thirty five it's quite popular, right? So mm uh are are are Mm. Mm. Um I was having a a general outlook on um m most like sophisticated features, but voice recognition itself I'm not very sure about, because one of the p uh things that Cat pointed out was uh uh how do we go about implementing it? Uh and uh Yeah. But how frequently do we use it anyway and um uh h ho how good is it, you know uh voice recognition softwares are still quite uh Yeah. Right. Right. Okay. O Right. Mm. Right. Yeah. Okay, so it seems like a feasible thing to implement uh for for a limited yeah. Mm. W What uh Mm. What uh uh what I was thinking is that there is this uh separation between what the channels are on T\_V\_ and how they are numbered on the remote control. If we can do with away with that, our product can be really popular uh in the sense that uh a person can say, I want to watch uh I\_T\_V\_ one instead of saying that I want to go onto channel number forty five. Yeah, so if uh if something like that can be incorporated, some kind of Mm-hmm. Alright. Yeah, that's Right. Mm. Mm yeah and it might become very difficult from a distance for the television to understand what you're saying because of the noise factor for the remote control being cl I mean it'll it'll mm. Yeah. Mm. So uh wh another thing uh that can be used is that uh there can be a beeper button on the T\_V\_, so you can go and press that button and um and the remote control, wherever it is, it'll beep, so we we can probably come to know where it is. Right, yeah, yeah, yeah. Alright, yeah. Right. Okay. So where exactly is this i Ah, okay. Yeah. Yeah, yeah in that one, right yeah. No. Right. I guess I'll find out. Wha what was it again that I was supposed to look into? Con components, oh. All hooked up. Okay, so now we are here at the functional design meeting. Um hopefully this meeting I'll be doing a little bit less talking than I did last time 'cause this is when you get to show us what you've been doing individually. The agenda for the meeting, I put it in the sh shared documents folder. I don't know

if that meant that you could see it or not. Did anyone? No. Oh well. Um I'll try and do that for the next meeting as well so if you check in there, there's a shared project documents folder. Um and it should be in there. Project documents, yeah. So I'll put it in there. Is it best if I send you an email maybe, to let you know it's there? Yep. I'll do that next time. Um I'll act as secretary for this meeting and just take minutes as we go through, and then I'll send them to you after the meeting. The main the main focus of this meeting is your presentations that you've been preparing during the time, so we'll go through each of you one by one. Um then we need to briefly discuss the new project requirements that were sent to us. I just sent at the last minute, I'm sorry about that, but we can see how that affects what you were you were doing. Um and then we need to, by the end of the meeting come to some kind of decision on who our target group's going to be and what the functions of the remote control that's the the main goal is to come up with those two things, target group and functions of the remote control. And we've got forty minutes to do that in. So I would say yeah? As uh who it is that we're going to be trying to sell this thing to, yeah. So we need to yeah, we need to have a fairly defined group that that we want to focus on and then look at the functions um of the dem remote control itself. So with that I think it's best if I hand over to you. Does anyone have a preference for going first? You wanna go first? Okay, so we need to unplug my laptop and plug in yours. I assume we just pull it out? Just before you start, to make it easier,

would you three mind emailing me your presentations? Once we you don't have to do it now but when once you go back, just so that I don't have to scribble everything down. Hmm. Mm-hmm. Okay. Do you have any um i idea about costs at this point? Br Okay. 'Cause that's something to consider, I guess, if we're if we're using more advanced technology, it might increase the price. Yeah. That's fine. Are there any more questions, or shall we just skip straight to the next one and then we can discuss all of them together at the end? Yeah, I think that will do. Okay, so do you want to Yes, shall shall we pull this up? I think that has to come out of there. Yeah. Yeah, I thought those last minute things, they're gonna hit you the worst. It ta takes a little Oh, and have you you need to then also press on yours, function F\_ eight, so the blue function key at the bottom and F\_ eight. Now it's coming, computer no signal. Maybe again? Okay, adjusting. There we go, there we go. Oh, if you press if you press function and that again there's there's usually three modes, one where it's only here, one where it's only there, and one where it's both. Okay, so one more time. Should yeah just wait for a moment, adjusting. Okay. Mm-hmm. Mm-hmm. Mm-hmm. Yeah. If I mean that was the the directive that came through from management, but if we had a a decent case for that we really think it's important to include video and D\_V\_D\_, I could get back to them and see. It's w it's just whether it's worth arguing about. Mm-hmm. Yeah. Mm-hmm. Okay. Are there any questions for clarification of Maarika before we go on to the next one? Mm-hmm. Mm. Mm. Mm-hmm. Sure, we can discuss that maybe after the next one. Do you want to yeah. Oh, I'm getting hungry. You set? Uh we need to do the function key thing so that it comes up on here. Hello. Is it plugged in prop it's working? Okay. Excellent. It's um switching between channels, sort of randomly going through. Mm. Ooh, that's a bit difficult to see. If you explain it to us it'll be fine. Yeah. I liked the, I liked the litt ooh come back. No. Okay. Mm-hmm, that's the next one along, yeah? Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. The remote control. Mm-hmm. That's alright. Mm. Keys and things like that, yeah. Whistle and it screams at you, yeah. Mm-hmm. That's you, excellent. Um. I'm

just gonna tick yes. So, we've got about ten, fifteen minutes to discuss Mm-hmm. Yeah. Mm-hmm. Yeah. Then again I guess the th where it was most popular was the fifteen to twenty five bracket and the I don't know how often they're buying televisions. Yeah, but you don't have much money, generally. I would've thought it's it's more that twenty five to thirty five, when people are really moving out and they've got their first job and they want their nice toys and O oh it's on sorry, we unplugged it. Here, let me Yeah. Mm-hmm. Yeah. Yeah, they've got no commitments and usually not a car and all of those things. Kids. Yeah. Yeah, and if we're if we're talking twenty five Euros as a price, that's not unaffordable, even for young people. Yeah. Yeah. But do they But the T\_V\_s are often kind of someone's old T\_V\_ that's blah blah and be a bit strange to have a fancy rome remote. Mm. Yeah. Yeah. Yeah. Yeah, if we ta if we take fifteen to thirty five, but that then does imply that we should try and incorporate voice recognition. Is that gonna have a an implication for the technical specs? Mm-hmm. Yeah. Yeah. With um but with a T\_V\_ remote it's gonna be quite limited if we're t saying the main things people want to do is on off channel five, louder, tha that should be relatively simple. Mm. Yeah. Mm-hmm. Yeah, but maybe if you wanna look into that just to just to check. Um, so if we go for the the fifteen to thirty five age group and then of course we're going to get th anyone who's older than thirty five who wants to look young and hip and trendy and has the money, then they'll they'll still go for the same advertising. Yeah, I think we need both. Yeah. Mm. Uh-huh. Uh-huh. So that if that was in the the voice recognition, that would be great. Yeah. Yeah. Watch Sky and yeah. Mm-hmm. But that's definitely a possibility. Yeah. So that you can yell at it, yeah. Yeah. Alright. Mm. Yeah. Yeah. Yeah. Yeah. Mm-hmm. That's but then if you're buying the remote separately, but y you could have something, but i if it was something that you could like stick onto the T\_V\_ or something, some like a

two p if you bought it in a two part pack, so one part attaches to the T\_V\_. The I Well that's right, but it solves the problem of having different noises. Yeah. Okay, I think we're gonna have to wrap this up um. But if we go away with that that kind of general um specification in mind that we're looking at fifteen to thirty five year olds, we want it to look simple, but still have the buttons so it's easy to use, but only those key buttons, the major buttons and then one sort of menu one, and then voice recognition included as an option um but that obviously needs a little bit more working out as to whether it's really feasible and some of those problems we were mentioning um. What we have to do now is to go back to our little places, complete our questionnaire and some sort of summarisation, which y you'll get immediately by email. Send me your presentations so that I can use them to make the minutes, and then we've got a lunch break and after lunch we go back to our own little stations and have thirty minutes more work. Um I'll put the minutes in that project documents folder, but I'll send you an email when I do it, so that you know. It should be on your desktop, so on the yeah. So I'll put it I'll put them there as soon as I've written them. Yeah, and email them round. Yeah, that would be great. Oh yeah, put them in there. Yeah, then you don't have to email them. No, they're all called something slightly different. Technical requirements and something something, yeah. So, if you put them in there, we'll all be able to see them and refer to them if we need to. Um as to where we're going from here, you're going to look at the components concept. Yeah? Whatever that means. Yeah. You'll be looking you'll be looking at the user interface concept, on something conceptual and you're watching trends to see how we go and surely voice recognition'll fall

off the map or something that um we'll keep keep our options op hmm? Components, yeah. No, we have we have after lunch we have thirty minutes to ourselves to prepare, so that's fine, w before lunch we just have to complete the questionnaire and some sort of summary. Okay? Right on time. Okay, so you can I guess we'll see you for lunch in a sec?

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# Meeting ID: 1

Data Source: Train

## Executive Summary

Uh before I start with the with the meeting I have a few things to tell you about the the setting we're in , uh These are cameras , This thing uh that looks like a pie , are actually all microphones . you must be careful with uh with uh all this . And uh as I can see you uh you have placed your laptops uh exactly on the place where it must be . And that has to do with the camera settings , Welcome at the kick-off meeting . My name is uh Danny Wolfs . uh and uh I think it's very uh good to introduce uh yourself . Uh this is the agenda for today . Uh that will be done uh with a tool training from the he these two uh smart boards . Uh then uh a little bit of acquaintance , acquaintance to uh to to ourselves . Then the project plan . Uh and discussion about that and a little closing at the end . I'm the Project Manager . I'm Juergen Tofts . I'm the User Interface Designer . I'm the Industrial Designer . I'm uh Tim . Um my function is the Marketing Expert . my name's uh . First a little about the project aim . Uh the the aim is to make a new remote control . Uh maybe you have read uh read the website . Uh there must be a new remote control . Uh first of all uh it must be original , uh and trendy . But at the same time uh user-friendly . Uh there are three stages . There is a functional design . Then the conceptual design . Uh because at the detailed design , how , part two , uh we go uh to dig in uh really about how the the te the technical of If it's uh it's possible technical-wise . Uh each stage is uh uh is broken up in two uh two stages , individual work and a meeting . the tool training . We have two smart boards . This one is for the presentations , the PowerPoint presentations or the Word presentation of whatever you uh you had . Uh and this is uh only for uh drawing . This is called a smart board Um and as you uh may have heard , the documents in the shared folder uh can be uh showed on this screen . Not in y the the My Documents . So if you wanna show something , put it in the shared folder . Uh This uh is very straightforward , with the save , the print , the undo , the blank , the select , the pen . I don't uh gonna explain it all , because I think you know uh how it works . We we may not delete anything . So uh if you have uh drawn something , save it . At uh the white board on the left . Every uh every one of us uh must draw our favourite animal , Uh important is that we use different colours , and uh different pen widths . Widths . Widths . Would you start with drawing your uh favourite animal ? I don't know really how it works . Drawing goes with uh this thing . Do not touch your hand on uh this little uh thingy here . And uh wait uh wait a few seconds . you can guess what it is . it's a cat . You have to draw uh push hard on the pen it is a turtle . Uh Tim , what kinda line width did you have ? Uh the big lines were like nine . It's a dog . So I think you can see it's real uh

really a easy programme to use . Not difficult at all . Is it a rabbit ? now we're gonna dig into the to the serious stuff . Uh the selling price for the remote will be uh twenty five Euro , and the production cost uh may not be more than uh twenty and a half Euro . from my point of view , I don't think it's uh gonna be very uh very high tech , high definition , uh ultra modern uh kinda remote , for twelve uh fift uh twelve and a half Euro . Uh the profit we must make with uh the new remote is uh fifty million Euro . Uh I think uh w when the selling price is twenty five , uh uh you got two million , two million remotes . But our marketing range is uh , market range is international . now it's time uh for us to uh going uh to discuss a little uh things . You can think about uh experience with a remote control uh yourself , at home . What you think might be uh a useful uh new feature . what what's the most uh important thing at a remote control ? I think the most important thing of a remote control is that you can switch channels . And my opinion is you should keep it as basic as possible . Uh So not a not a remote control who uh uh which can uh can be used for television and a D\_V\_D\_ and radio I have some uh points from marketing point of view . Um just the standard thing li things like uh intuitive , uh small , fairly cheap . Um I personally think it has to be multi-purpose . And uh by making it multi-purpose , it uh has a new feature , adds a new feature to the market , Um maybe some other technology than infrared . Um think about um sending it over radio waves or bluetooth . And something like an L\_C\_D\_ screen . For what purpose ? It's nice as an added feature feature , that um , when you're on a certain channel , you can see on the L\_C\_D\_ screen uh what programmes are coming up or it must be really uh innovative , technical-wise ? our company is very uh good in making new innovative uh things . So we must focus on things who are really uh really add something to uh to To the current market . Uh at the beginning of such a project , it's it's it's very uh cool to talk about , well , this would be cool , that would be cool . Uh but we must not uh lose uh sight of the the user uh uh friendly uh you uh will have uh individual actions Um the the the Industrial uh Designer has to uh look at the working design . Uh the User Interface Designer has to look at the technical functions . we must first agree on uh what we're going to m going to make . Are we going to use um it it for multiple systems ? We should have some agreement on that before we I I don't think we have to be , we have to agree on that . Uh I figure we could get back to it on the next meeting actually . We can plan further , I think . we uh must uh have a little or kinda uh uh uh Consensus on the , what we're gonna do . Uh a little plan on on what we're going to do . So you don't uh uh come up with the user requirements who don't fit the the the the technical functions at all . if the technical functions have to be designed , I I've gotta know for what kind of machines they will be . we all have a list of uh things that has to b that have to be in it , or how it has to be like . And then in the next meeting we decide we can take it from there . each individually i individually uh must think on what's uh at uh his point of view is the most important . You uh will receive specific specific instructions uh by your personal coach . And I see you in uh thirty minutes .

## Complete Meeting Transcript

Hello. Good morning. Uh before I start with the with the meeting I have a few things to tell you about the the setting we're in, uh because we're uh being watched by uh Big Brother. So um Yeah. Yeah. This uh



These are cameras, so are these. This thing uh that looks like a pie, are actually all microphones. So you must be careful with uh with uh all this. And uh as I can see you uh you have placed your laptops uh exactly on the place where it must be. And that has to do with the camera settings, so we don't have our uh laptops in front of the cameras. And Indeed. So they can see our faces. Okay. Welcome at the kick-off meeting. My name is uh Danny Wolfs. Uh this is the agenda for today. Uh first a little opening. Uh I will introduce myself, uh and uh I think it's very uh good to introduce uh yourself. Uh then uh a little bit of acquaintance, acquaintance to uh to to ourselves. So uh we get to know each other. Uh that will be done uh with a tool training from the he these two uh smart boards. Then the project plan. What we're going to do, and how we're going to do it. Uh and discussion about that and a little closing at the end. Okay uh, my name is uh Danny Wolfs. I'm the Project Manager. What's your name? User interface, okay. Industrial, yes. Okay, thank you. First a little about the project aim. Uh the the the aim is to make a new remote control. Uh maybe you have read uh read the website. It's a very uh, yeah, very uh ambitious uh company. They uh they wanna do something else. I w Uh there must be a new remote control. Uh first of all uh it must be original, uh and trendy. That's two things really uh close to each other. But at the same time uh user-friendly. And they have uh Yeah, that's uh very important uh for them. Uh there are three stages. There is a functional design. So uh what are we going uh to uh to do? What are we going to uh uh make f uh kind of functions in the remote? And why are we going to do it? Then the conceptual design. How are going to do it? And that's uh really global. Uh because at the detailed design, how, part two, uh we go uh to dig in uh really about how the the te the technical of If it's uh it's possible technical-wise. Uh each stage is uh uh is broken up in two uh two stages, individual work and a meeting. So it's uh it's very straightforward. Okay, the tool training. We have two smart boards. This one is for the presentations, the PowerPoint presentations or the Word presentation of whatever you uh you had. Uh and this is uh only for uh drawing. So uh we uh must let it uh stand on this uh this programme. This is called a smart board thing uh Yeah, it speaks for itself. Um and as you uh may have heard, the documents in the shared folder uh can be uh showed on this screen. Not in y the the My Documents. So if you wanna show something, put it in the shared folder. Uh This uh is very straightforward, with the save, the print, the undo, the blank, the select, the pen. Well, I don't uh gonna explain it all, because I think you know uh how it works. Um we must not forget uh everything we draw on here, uh all must be saved. We we may not delete anything. So uh if you have uh drawn something, save it. Never delete it. That's a very important uh thing. Okay. Uh little uh little kinda exercise to uh know each other. At uh the white board on the left. Every uh every one of us uh must draw our favourite animal, and uh tell uh tell us why we uh had uh chosen that animal. Uh important is that we use different colours, and uh different pen widths. Widths. Widths. Yes? Yeah. No no no. It's uh it's uh I I I must do it. Yeah, yeah, yeah. 'Cause we uh really don't know each other, and uh it's kinda new. So getting used to each other, we can uh have a little fun then, before we uh dig in really to the hard stuff. That kind of thing. Would you start with drawing your uh favourite animal? Okay, okay. Yeah, okay. Drawing goes with uh this thing. Do not touch your hand on uh this little uh thingy here. That's uh important. So hold it uh like this. Yeah, kinda. So, um You must p p uh push a little uh Good. Because And uh wait uh wait a few seconds. It's not uh fully real-time, so uh watch it. Oh yeah. Well I'm gonna paint in the red. Oh. That's the background colour. Well, undo. Um The pen? No. One minute please. Yeah, that's the one. Well, five. Okay. My favourite animal huh? Yeah, you can guess what it is. May uh paint uh next. No, it's not an orc. You don't see it uh at the ears? You have an orc at home? Thank you. So it's a cat. Simba. 'Cause uh we have a cat at home and he's called Simba. 'Cause he looks like the uh the the lion from The Lion King. So we uh found it kinda cool to uh name it after a lion. He's happy with

us, so uh he's smiling. No, only the face. Because we have we have twen twenty five minutes. So we uh Yeah. Yeah. Okay, who wants to go next? Yeah? So choose a colour, choose a pen width and draw a Yeah. Save it, okay. Kind of firm touch. Yeah. Because uh my cat is red uh at home. And I have red hair, so uh must be red. It is a turtle. Why a turtle? Why? Tim? You watched it a lot? You watched it a lot? It's a scared turtle. Okay, Tim. Thank you. Jurgen, you want to go next? Format? And then you have the the current colour, you can change. So no red or green. And uh line uh width. I had five. Tim had Uh Tim, what kinda line width did you have? Okay. It's a dog. Okay. Why a dog? You have a dog at home? Had a dog? Yeah? Ah. You have an artistic uh inner middle. So I think you can see it's real uh really a easy programme to use. Not difficult at all. Okay, thank you. Janus? The last one? Yeah. After a cat, a turtle and a dog. I think he's gonna draw an elephant. Uh-oh. No. Better to draw with a with But what is he uh? Is it a rabbit? Do you have a rabbit at home? Is it a white rabbit f It's the white rabbit from The Matrix. Okay, then yeah. Okay. Finishing touch and then we're going further. Yeah? Yeah, a little. Well, I think the dog is the the most uh artistic. Don't choose for yourself. That's selfish. Okay, now we're gonna dig into the to the serious stuff. Uh the selling price for the remote will be uh twenty five Euro, and the production cost uh may not be more than uh twenty and a half Euro. So uh from my point of view, I don't think it's uh gonna be very uh very high tech, high definition, uh ultra modern uh kinda remote, for twelve uh fift uh twelve and a half Euro. Uh the profit we must make with uh the new remote is uh fifty million Euro. So that's a lot. We have to sell uh a lot of uh Uh I think uh w when the selling price is twenty five, uh uh you got two million, two million remotes. But our marketing range is uh, market range is international. So we have uh virtually the whole world we can sell uh we can sell our r remotes to. At least that uh countries which have uh a television. Um So now it's time uh for us to uh going uh to discuss a little uh things. You can think about uh experience with a remote control uh yourself, at home. What you think might be uh a useful uh new feature. What uh what can distinguish our new trendy remote control from all the others. Um so uh let's uh let's uh discuss a little. I'm gonna join you at the table. Well what what's the most uh important thing at a remote control? Okay. So not a not a remote control who uh uh which can uh can be used for television and a D\_V\_D\_ and radio and Or just only If you have them on uh I can uh Okay. Oh, in case you want it This is a dead kind of fly. Between the the the, yeah, the the uh Yeah, be The screens. No no no. Only All the drawings go there, at the left uh Oh, that pen drawings. Uh no, I think uh when it is uh in Word and you have saved it in the Shared Documents folder, you can show it there. Yeah. Yeah. Yeah. Okay. Five minutes. Yeah. Yeah. Yeah. Mm-hmm. Okay. Okay. Okay. So it be uh a multi-purpose uh very technically uh high uh remote? Yeah, it must be really uh innovative, technical-wise? Yeah. So yeah, I I agree with you. So we mu

st focus on things who are really uh really add something to uh to Yeah. No. Mm-hmm. Yeah. Yeah. But we have to keep an eye that it's Uh at the beginning of such a project, it's it's it's very uh cool to talk about, well, this would be cool, that would be cool. Uh but we must not uh lose uh sight of the the user uh uh friendly uh Yeah okay. Yeah. Okay. And that's because we have him. Okay, uh next meeting will start in thirty minutes. So uh you uh will have uh individual actions where I presume uh will be some feedback, uh via the m the mail. Um the the the Industrial uh Designer has to uh look at the working design. Uh the User Interface Designer has to look at the technical functions. So that's the thing we uh discussed. Yeah? Okay. Um wha Yeah. Yeah. But maybe, because uh you are working on the user requirements, you are working on the technical functions, we uh must uh have a little or kinda uh uh uh How do you call it? Uh Uh a little plan on on what we're going to do. So you don't uh uh come up with the user requirements who don't fit the the the the technical functions at all. Some basic things we co we want to going to do. Uh I think that's well uh Yeah. Will come in handy. Okay. W He says Yeah.

Well, th that's that's really a step further. But if you say uh is it uh uh one way or multi-purpose, that's a Why? Why? Yeah. Yeah. Okay. Okay. So uh each individually i individually uh must think on what's uh at uh his point of view is the most important. And uh then we're going to fit uh all the pieces together the next meeting. I must finish off now, so it's over. You uh will receive specific specific instructions uh by your personal coach. And I see you in uh thirty minutes. Thank you. Be careful. Hi. Morning. Hi, my name's uh. I'm the Industrial Designer. By the way, why was your cat uh red? Oh, okay. Oh, yeah, sure. No, it's a turtle. Must be a dog. Yeah. Uh. Hmm. Yeah, sure. Uh thanks. I figure I should do something like that, but I'm gonna do something much more difficult. Exactly. Uh Yes. No. No. Yeah, exactly. So. Uh I figured this is a pretty b good impression of a rabbit. Uh uh Uh well. Where does the pen go? Just uh Uh I figured the rabbit was actually the most uh impressive. Oh, sorry. Twenty million. Two million, oh yeah, two million. Yeah. And and him. I figure we could get back to it on the next meeting actually. Yeah. Yeah, actually it is. Then looking at individual components, so that's actually a f step further. Yeah, we can take it from there. Yeah, I agree uh, we can take it from there. Or edit. Okay, cheers. Hi. Oh. Good morning. I'm Juergen Toffs. I'm the User Interface Designer. Ach. Ooph. Very artistic. Okay. Wow. He does have body uh Huh. You don't have to change the colour and the pen width during uh the drawing. Or You have to draw uh push hard on the pen or uh Oh. Uh hmm. Okay. Oh. It's a very bloody cat. It's a frog. Uh it's an apple. A dog? Huh? Oh, it is a turtle. It's uh inside its shell. You'll be uh finished sooner. Wow. Yes. Okay. Wha Thank you. Yeah. Um How did it work? Performance? And a pen? Um Well, very good. I just uh thought I'd pick the easiest one. Well, we had a dog, a few years ago. And and it, yeah, when it died we didn't get a new one or something. But uh Uh a Graphical User Designer, so Hey. Oh. No. Can work together. Ah colour. Well, it's okay. Yeah. Uh-oh. Oh, he is the artistic design. Remote control animal. Well with the interface, it might be easier to ha to draw here and display there uh. Than on the, with Yeah, I m I mean like uh like on here, drawing drawing uh. And then displaying on screen, but Too expensive, yeah. A green rabbit. There, the g white green rabbit. He's a little bit stoned there. Yeah, how much is it? Hundred million uh remotes or something? Oh yeah. Um well I think the most important thing of a remote control is that you can switch channels. And my opinion is you should keep it as basic as possible. Uh Is it possible to open pen drawings in this uh on

this screen? Uh but um which The ones we made on the Oh, only in Word, okay. For what purpose? We And and the price. Okay. And him. Yeah. Um one thing uh, we must first agree on uh what we're going to m going to make. Do we Are we going to use um it it for multiple systems? Or uh We should have some agreement on that before we Okay. Ah okay. Consensus on the, what we're gonna do. Yeah. Well yeah, if the technical functions have to be designed, I I've gotta know for what kind of machines they will be. Or do we use it a text screen? Or uh will it be with uh with bluetooth or Okay. Mm-hmm. Okay. Sorry. Yes. Yeah. No. Come up. Good morning. By Big Brother? Okay. Mm-hmm. Yeah. Okay. Of our faces. I'm uh Tim. Um my function is the Marketing Expert. Speaks for itself. I have a question. Um this exercise, um did the company board tell you to do it, or uh did you just make it up yourself? It's part of the introduction, okay. Okay. Um, yeah. I don't know really how it works. But maybe you can show us first? You g you get electrocuted or It's like Pictionary? The the one who says it first gets a raise. It's a pork? Mm yeah, I have it at home. What's it called? Ah. Miniature size? Okay. Okay. We have to speed up. Remember you use uh different colours, and different pen widths. I Okay. Save it. You have to save it. I've done it. New? 'Kay. Mm uh Not really. Um That one. Yeah? Okay. Open. Which one is it? Smart board? Okay. And now? Okay. Okay, thanks. 'Kay, I've speed up. 'Kay, that's fine. Line width. It's not an apple. Hmm. Colour. Something like this. Smaller. Um 'Cause I liked Teenage Mutant Hero Turtles. Uh? No, it's uh No no. It's coming up. Mm. Uh. Something like this.

Okay, you know Very artistic. Yeah? Here you go. Uh the big lines were like nine. Uh, it's p It's pretty good uh An artist. Think you uh picked the wrong uh function. Wrong job. Wha That's enough, thanks. I wonder. I'm gonna design a remote uh remote control animal. Oh. Sorry. Yeah. That that might be easier. But at the other hand, uh a pen like that is easy to hold in your hand, and I think it's easier to draw. Yeah. With a pen than with a mouse mouse. Mouth. Oh, okay. Yeah. W with this paper it's too mu too expensive. It's a rabbit with uh broken legs? Yeah. It will do. Project Manager? Uh Have you been uh counting the time? Okay. Let's go on then. It's pretty abstract. Like how much? Yeah. Yeah. I think so. Uh but I have some points. Can I show them on the on the big screen? Maybe? Yeah. Yeah, I can find Uh. Screen? Okay. Okay, I have some uh points from marketing point of view. Um just the standard thing li things like uh intuitive, uh small, fairly cheap. Uh it's pretty cheap, twenty five Euros. Uh brand independent. Um I think, it doesn't have to matter uh which brand your T\_V\_ or other thing is. Um Five minutes? Okay, I'll wrap it up quickly. Um I personally think it has to be multi-purpose. Uh most of the remote c uh remote controls are uh just for one purpose. And uh by making it multi-purpose, it uh has a new feature, adds a new feature to the market, and distinguish from uh from current products. Um maybe some other technology than infrared. Uh I rather find it very annoying um, like when someone is standing in front of the T\_V\_ then you can't switch it. Um think about um sending it over radio waves or bluetooth. That might be a little bit uh expensive. Um And something like an L\_C\_D\_ screen. Um uh like I said here um Maybe it's easy. It's nice as an added feature feature, that um, when you're on a certain channel, you can see on the L\_C\_D\_ screen uh what programmes are coming up or From my point of view, yeah. Yeah, it has to be uh Yeah, our company is very uh good in making new innovative uh things. So i i i i To the current market. Look, you got some cheap uh remote controls there. They just uh Yeah, you got a dozen of 'em. But when you enter a new market with a remote control and uh wanna gain market share you have to do something special, I think. Yeah

. Yeah, of course. But it's But but this is just from marketing uh aspect. I don't know anything about user interface or design. Mm uh I I don't think we have to be, we have to agree on that. Uh I think th that's a pha Yeah. That's a phase further. Ju just uh make some mock-ups, some some general ideas. And and then we can plan Yeah. We can plan further, I think. Mm yeah. I don't know. You decide. You're the Project Manager. Uh tha that's a same step further. Yeah. Uh. Yeah. Like we all have a list of uh things that has to b that have to be in it, or how it has to be like. And then in the next meeting we decide w what it's gonna be. A And then you s then you can delete uh the o the obsolete uh details. I think. Yeah. Yeah. Damn. Success?

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# Meeting ID: 77

Data Source: Train

## Executive Summary

We've got a cool prototype . everything uh that we wanted we wanted it to be ergonomic and to be made out of rubber , Double curved . um but also something that was gonna jump out at people , So uh I think if you put this in the palm of your hand , you'll see what a nice thing we have going here . So , basically , if you hold it like that , the one on your thumb , yeah , the thumb button is the power button . Your index finger is channel up , middle finger is channel down , Um and then then you can also there's a numeric keypad on the top so you can key directly to the to the channel if you want . but we think it's very comfortable and very innovative and it looks different . That certainly does . I have one thing about it , but it's a small thing , but it'd mean we'd have to make a right-handed one and a left-handed one . But , that's I don't see why that's not possible . like I was just thinking if there's left-handers and right-handers in the family , what , they have two remotes ? Yeah , I know I know people who have left-handed and right-handed people in the family and they all use the computer for the whole the same computer the fes family and they have a mouse , and everybody is using right-handed mouse . I think everybody can press a button with their left and right hand so But we can have both uh Have them in stock . I think it's , well , if the R\_R\_ motto is , we bring fashion to to electronics , I'd say that could be quite fashionable . And it's got the b the black and yellow and blue . One thing I do need to do we need to look at , is the costs . I could do you know , I can do this o on my own or I could do it with you , but it's just easy enough to go through it with you , so we're going for the kinetic power . So the case , we've gone for the double curved . and it's made out of rubber . well they're in diff special colours , Special form , We're under budget . That's gonna cost ten ten Euro seventy cents a unit to make . And our target was it had to come in at under twelve fifty . so we evaluate each criteria . And we have to do it on a scale of one to seven , one being true , so it's it's more like it's fits the criteria , and seven being as in it doesn't fit the criteria . So the does remote look and feel fashionable to what we talked about ? I would give it a seven . As in it's not . Oh sorry , one , d yeah . Second criteria , new technology . Well , the kinetic thing , yeah . w every everything else was fairly simple , but the fact that we used the kinetic energy was new . Maybe three , yeah . So criteria three is is it easy to use ? not if you're left-handed it's not . If we're gonna have one left-handed and one right-handed then I would give it a one , but otherwise otherwise a two . 'Kay , criteria four is costs . It's come in under budget . So that's a definite one . Amount of buttons . Contains only the necessary buttons . R\_S\_I\_ is it good against ? Yes . Very good . does it get lost ? I don't think it's gonna

get lost easily . But it is smallish . I mean , you could still flush it down the toilet theoretically , but So that's the evaluation , Number one product . Okay , I I think um I just wanna put in as Project Manager the you know , little bit of praise for everybody here for how they've worked on it , during our design I mean there was some s some heated heated discussion , but we we kept we tried to keep it cool and and um and then come together and worked in , you know , integrally , you know , at the right times , and be you know , has been good communication going on . Now you guys have been a a great team . and I think we've co we have come we've come up with something new , something that hasn't been done before , I think when this meeting's finished like officially , there b we'll get a uh questionnaire to fill in . I mean , since we saved on the on the production cost , do we know how much we're making on profit ? I think actually and one advantage of of this is that after the uh , you know , after this fad of fruit and vegetables passes this will still be c a cool remote , you know . Um how does everyone feel about the technology that's been used in this ? The sort of using of the the pens and writing on these special pads and all that ? I love it . I love it . I think it's cool . Um , but a p a pen with a camera on it , I don't think it's such a new thing . It would be different if it was sort of hand writing recognition stuff , but as it's not it's literally that'll come up on a computer screen as a picture file rather than actual text . I think they do want to do hand writing recognition on that , it's just the first step .

## Complete Meeting Transcript

It's Play-Doh. Because kids yeah. But um, it's it's made edible 'cause, yeah. It's made edible 'cause kids eat it, and if it's wasn't edible then Well, normal babies. Oh yeah it is, yeah. Oh yeah. That is cool. What's the big blue thing? Oh cool. And mute. Oh it's so cute. Yeah, but then but then you can learn to use your right h like I was just thinking if there's left-handers and right-handers in the family, what, they have two remotes? Yeah, I'm sure they'll be able to I mean it's only pressing buttons, you don't have to do anything, you know, extraordinary. I think everybody can press a button with their left and right hand so Yeah, it's not Yeah. Have them in stock. Make 'em more appealing as well.. And all the playing around is uh Yeah, I'm just do you wanna plug in? Okay. Mm. Play-Doh won't last very long everybody'll go like, oops, it's gone. Mm-hmm. Mm-hmm. Well, they'll buy more of them if you eat them,. Yeah. Yeah. It's better for And special material. Well they're rubber, aren't they? We're under budget. It's already saved, I think. Thank you. Mm. Oh, yeah. This is where we all get to I get to write on the, oops, on the board. Right. Oh. 'S function Okay. Mm. Okay. So, evaluation. We're gonna do it all together so we evaluate each criteria. I've got the criterias. And we have to do it on a scale of one to seven, one being true, so it's it's more like it's fits the criteria, and seven being as in it doesn't fit the criteria. And the criterias are, and I'll draw this up on the board so we have a box. And this is false, this is just like to keep you informed. So seven's here and one's here and then you've got in the middle. So the first criteria. Do you all get what we're doing? Okay, cool. Okay, first criteria, look and feel. So the does remote look and feel fashionable to what we talked about? As it is it colour-wise and is it spongy? So what mark should we give for that? As in it's not. A one a one. So I'll just write criteria criteria one we get one. Second criteria, new technology. Have we implemented new technology? As in the new high-tech So it's. So we'll give it a Yeah. I'd say it's about a a twoish? Two. Three. three. So criteria

three is is it easy to use? I think it's a one, I think. Two, so it's But if we make a right-handed and a left-handed then? Yeah. Yeah, okay. 'Kay, criteria four is costs. 's great. Yeah. Like the amount of buttons, 'cause people like a lot le like So it's a one? Um criteria six. R\_S\_I\_ is it good against? Yes. Very good. It's one. And criteria seven, which is the last one, does it get lost? Is it easy to get lost? No? But it is smallish. Mm. I think i it would, could be, could get lost. Mm. Yeah. I mean it's not fully it's not fully like you can't say I mean, it's not a one, definitely. Yeah. The mobiles get lost all the time. But then you ring 'em and you find them. So Yeah. So, that's that. So that's the evaluation, so I'd say Yay. It's like like a number one. Um. Number one product. All done, thanks. We fitted all the criterias. Yeah. Yeah, so So that's that one. been cool. In four diff in in four meetings. Funny, all designer meetings could be this quick. They're using our ideas. Yeah. Just start summarising now. You can reply to the same message. See summary, there. If you just reply to that one. Was it was it fifty or five? Depends how much we sell. We finished an hour earlier. Mm. Mm. Definitely. Yeah. Just don't sh don't throw it at any of the ornaments and break them. No. Yay. Yep. We haven't got the five minute left thing yet. Mm mm. In project. I love it. I love it. I think it's cool. Being all wired up and a vibrating pen and it's cool. Being watched. Um Wow. Mm. Logitech. Yeah. Meeting adjourned. I used to eat it. Yep. We've got a cool prototype. Double curved. Which is ant anti-R\_S\_I\_. Oh right, yeah. Yeah, I know I know people who have left-handed and right-handed people in the family and they all use the computer for the whole the same computer the fes family and th

ey have a mouse, and everybody is using right-handed mouse. Imagine d are you right handed? Imagine you're doing it with your left hand, I don't think it's too But we can have both uh Yeah. I think it does. Yeah. There you go. Play-Doh is very cheap. Chew proof. Oh ho-ho. Yep. Rubber. Yeah.. Mm-hmm. A one. Well, the kinetic thing, yeah. Well so the um Yeah. Yeah. Yeah. True. Two. Yeah. Mm. Yeah. Yeah. Yes s yeah. It's yellow. Two. T Mm. Mm. We've, we've done well. Well. You know It is. Y Oh really? Mm yep. Cool. Glad to hear that. Yeah. Yeah. Play-Doh's edible. Did you know that? It's definitely Yeah. It's it's chew proof. Yeah. Yeah. Right. Everybody everybody ready? Okay, let's have your um let's get have the uh presentation? Nice. Mm-hmm. Mm-hmm. what button? Um. Oh mute. Okay. That certainly does. Mm. Mm. Yeah. 'S great. I have one thing about it, but it's a small thing, but it'd mean we'd have to make a right-handed one and a left-handed one. But, that's I don't see why that's not possible. Yeah. They make left-handed scissors, you know. Yes s Mm. Sure. Sure. Yeah. Yeah. But um other than that, I mean uh and that's um, you know, that's just something, I think I think it's great, yeah, great idea. I think it's, well, if the R\_R\_ motto is, we bring fashion to to electronics, I'd say that could be quite fashionable. Yeah. Yeah. Yeah, very good, yeah. It's come up with what we've you know, the things that's what we've what we were looking at doing, hasn't it, all seems to be there. Well done. Um before we move on I need that cable. Thank you. Yeah. Um. One thing I do need to do we need to look at, is the costs. Well, yeah. um Yeah. Uh right. Okay, now I think we'll do this I could do you know, I can do this o on my own or I could do it with you, but it's just easy enough to go through it with you, so we're going for the kinetic power. And the electronics, we decided on it being just a simple, the easiest thing that's inside it. Ooh. So the case, we've gone for the double curved. Um and it's made out of rubber. The interface is push-buttons. And button supplements well they're in diff special colours, aren't they? So special colours. Special form, yeah, they're a special form there in shapes and stuff. Yep. Yeah. Um. Are they made out of any special material? No they're not. They're not made out of wood or titanium or rubber or anything, they're just simple Okay. Right. So let's see if that comes within budget. And it does. That is gonna cost uh Yeah. That's gonna cost ten ten Euro seventy cents a unit to make. And our target was it had to come in at under twelve fifty. So, this is all

very very good. The bosses will be very pleased. Okay, let's just save this so I can e-mail it to you. Uh. Save it in save it in the uh my documents. Splendid. Okay. So uh, that's done with this with this um doodah, so you're. Gonna do what you were gonna do, your evaluation. F\_ eight. I love the smell of that Play-Doh. I cou. I would give it a seven. Oh sorry, one, d yeah. Yeah.. Yeah, but that's not a technological thing, that's another thing, i that's another marketing thing. So on the technical side of it it Easy to use. I'd say it's I wouldn't not if you're left-handed it's not. I would give it a I would give it a two, 'cause i i i i i it is more geared for right-handed people than left-handed people, but Yeah. Give it a t give it a two. Cost. It's come in under budget. So that's a definite one. Amount of buttons. Contains only the necessary buttons. Yeah. So it's anti-R\_S\_I\_. I don't think it's gonna get lost easily. two. I mean it No, I mean I mean, you could still flush it down the toilet theoretically, but Okay. Alright it's all systems go. We can't fail.. Well done, Reissa. Okay, I I think um I just wanna put in as Project Manager the you know, little bit of praise for everybody here for how they've worked on it, you know, both individually and as a team. You know you've w everyone's come up with their own individual ideas in t heir own different departments, um and then come together and worked in, you know, integrally, you know, at the right times, psp, you know, especially you two. That's all, you know, gone very very well and and and be you know, has been good communication going on. Did you have to go down to the the corporate squash court and bash a few balls about? Fantastic. I think So I I, you know, and I think we've co we have come we've come up with something new, something that hasn't been done before, we haven't we're not just rehashing an old design. Yeah. You know, maybe this isn't a simulation, maybe this is actually so it's like Sony or someone like that they're they're just, yeah, they get Yeah. Yeah, two years' time this will be on the market. Ex exactly that product um thum we'll go, yeah, we designed that and no-one will believe us. But um No, I think when this meeting's finished like officially, there b we'll get a uh questionnaire to fill in. Or six, uh I haven't got message. It gets handed over to another department. What our what our project was was to come up with the product, basically. the for the and just basically is it it come can is it within budget. When it c when it comes to all the other things of how to sell it and, you know, the b the profits and all that that's other departments it's another team that actually work out the mai the oh yeah, the all the guys in the profit sharing, yeah. Um. Yeah, that's it. You know, we've we've we've made i we've made we've designed the product, we've ma we've got the prototype, it's within budget, it's does everything that we wanted it to do. It's new, it's it's um something that uh that isn't out there already. Yeah. Well, this is very marketable in that it is it's it's something that's kind of new and looks a bit quirky for people who want that, it's that it's um, hang on, I wrote it down here somewhere Oh no I thi I put it in one of my e-mails that I sent off. Um that, you know, it's marketable in the sense that it's whilst all these other remotes uh actually do give you repetitive strain injury, our one does the complete opposite, you know, so that's something that's new, which is one of the criteria they asked us to come up with something with something new. Yeah, and if you're not having a good time with the T\_V\_, you can f throw it about, you know. It's fine, it's kid proof. Well, you can break the ornaments, but you won't break that. Yeah. So all in all, I think we've done very well. Well done everybody. Um. Drinks are on the company. In the corporate bar that's next to the corporate swimming pool on the top floor that we're that've all just gained access to. Yeah. That's it. Well, as far as I t as far as I know. Um. No. Anyone wanna play I spy? Yeah, I guess. I mean we're gonna get asked to fill out another questionnaire. Um. It's probably gonna be the same as one we've done before. But I'm not the authority to say that it is. Um how does everyone feel about the technology that's been used in this? The sort of using of the the pens and writing on these special pads and all that? Yeah. I thi you know, I'd I'd n yeah, as we said earlier, I've not never seen that before. something that t the



whiteboard thingy, that's great. Um, but a p a pen with a camera on it, I don't think it's such a new thing. I mean it's i or in such a new idea. It would be different if it was sort of hand writing recognition stuff, but as it's not it's literally that'll come up on a computer screen as a picture file rather than actual text. Yeah. Yeah. Mm. Yeah. I've, I've definitely eaten it before. I didn't know was edible.. Actually that makes sense, because I remember like, peopl I dunno if my Mom ever did it but I remember other people's Moms making like home-made Play-Doh where you just like make the colouring and make some sort of sort of dough. Mm-hmm. Yeah. We've got some. Yeah, it's pretty exciting. So, everything uh that we wanted we wanted it to be ergonomic and to be made out of rubber,

very simple and easy to use, yeah, double curved, um but also something that was gonna jump out at people, something that would be different uh, separate it from the other remotes out on the market. So uh I think if you put this in the palm of your hand, you'll see what a nice thing we have going here. So, basically, if you hold it like that, the one on your thumb, yeah, the thumb button is the power button. Your index finger is channel up, middle finger is channel down, ring finger is volume up, your pinkie is volume down. That's the lock button, has a L\_ L\_ on it and then the M\_ is a mute button. And then it also has digit For muting the uh Um and then then you can also there's a numeric keypad on the top so you can key directly to the to the channel if you want. So it's really basic functionalities as far as what keys are available, but we think it's very comfortable and very innovative and it looks different. So all the, I mean the important keys are right at your f f you know right at uh at a convenient place for you to to access them. So you don't you Yeah. It should be. And it's also conformable to the size of your hand. I mean if that's too big, it's a rubber remote, so you can, you know change that. So d does that uh what mesh with what you guys were hoping and for and expecting or does it Ah, that's good thinking, yeah. Yeah, if we build rocket ships why can't we build left-handed and right-handed uh remotes. Yeah, I didn't I didn't think about that, but I'd yeah,. Uh-huh. Yeah. Do you think it says R\_R\_? Fashion to electronics. Yeah. Yeah. And it's got the b the black and yellow and blue. Plus red, which is sort of a a fruit and vegetable uh uh. So that's that's our end of things wha uh That's Yeah. The costs, was that what you said? But it's edible. That was the main criteria from the last meeting, it had to be chew proof. Yeah. Yeah, I mean, these these ones on the side are curved kind of, so The buttons are rubber. That's cool. Yeah. Yeah. And we're actua actually making a better profit than we expected. Yeah, have some have some. Mm-hmm. Mm. Yeah. Oh, sorry, one. Yeah. That was our main technological innovation w every everything else was fairly simple, but the fact that we used the kinetic energy was new. It's ergonomic, but that's not that's that's a design that's a des that's a design thing, yeah. It's about in the mid in the middle somewhere, maybe, yeah, I dunno. Maybe three, yeah. Yeah. Mm. Okay. If we're gonna have one left-handed and one right-handed then I would give it a one, but otherwise otherwise a two. Yeah. That was great. Yeah. It is very bright, yeah. It's not the kinda thing that's gonna slip like between a couch cushion or something, you know. Maybe it will. Uh. You think it could lost Mm. Okay. Yeah, anything, I mean. Okay. It's bigger than the average mobile, I guess. But, yeah, it can get lost. Yeah. Okay, yeah, two is fine. Yeah, yeah. Yeah. Mm. Yeah. Yeah, during our design I mean there was some s some heated heated discussion, but we we kept we tried to keep it cool and and just just We just had to we just had to squeeze our product a little bit and Now you guys have been a a great team. Think we're the we're the envy of all the of all the other R\_R\_ teams,. Yeah I think they're actually trying to find ideas for a ideal remote. So at this stage, I mean, is this the last meeting of the project? We don't uh have another one after it's gone gone to marke market or something? So there's no way to like predict what our 'Cause we had a we originally had a As far as our financial uh um goals, we had a specific number for profits that we wanted. It was fifty mil fifty million I don't remember. But there's not a

way to compute that, I mean, since we saved on the on the production cost, do we know how much we're making on profit? Uh. Hmm. But we have a vested interest prof profit sharing. I think actually and one advantage of of this is that after the uh, you know, after this fad of fruit and vege

tables passes this will still be c a cool remote, you know. We're not we're not you know, tying tying our cart to that one horse. Mm. Mm. Mm. It make watching T\_V\_ healthy. Uh. Right, you too. Mm. That's it. I guess it's probably better that we wrap it up than have five minutes of silence. Should we call the day then? Uh, right. Mm-hmm. Your moment to shine. Right, I think they do want to do hand writing recognition on that, it's just the first step. I guess we should end this, since we're off off topic. So. Shall we Right.

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# Meeting ID: 36

Data Source: Train

## Executive Summary

I was a little short on time , Yeah , same here . we have uh forty minutes for this uh for this second meeting , and we have to make uh sure that we going t that we are sure , that we are , that we know what we're going to make uh th what the product is going to like look like . Uh first I have the notes of the last meeting , so I showed uh show them to you . the f the f the points we had last meeting was the um Should be a univ uh universal remote control I just got a email from the from the personal coach and it should be a T\_V\_ remote control only . it still has to be uh f a r a remote control for kids and elderly . All these points uh we have to look at . The um uh the main uh people of interest of this company are forty plus people . So we have to look at that as well . 'Specially old people , maybe bi bigger buttons or something , I've used a marketing report on uh the site . Uh I think you've uh read it too . Uh and uh f and furthermore I uh surfed the o the other site . I didn't get it uh anyway . I I was the only one who get it . it was uh uh uh um um a report about uh an experiment with uh a lot of users . And uh they had a lot of findings in their report uh with statistical uh uh uh thing uh with statistical uh proof . I um I had three pages with findings and sev a lot of uh a lot of findings . Uh seventy five percent of the users find uh most remote controls ugly . so we have to make a beautiful remote control . Uh eighty percent of users would spend when uh a remote control will I uh look fancy . Older people will uh spend more money uh for uh something uh uh what's good . Because younger people are more critical uh about uh uh where they spend their money money at . Uh seventy five percent uh seventy five percent of the users say they zap a lot . I think uh we we have to make uh good zap buttons . The last point is quite an interesting fifty percent of users say they only use ten percent of the buttons . And uh maybe our uh fold open system is is a good one , we should have the ten percent on the on the top , Remote controls are often lost somewhere in the room . That's exactly what we said about um maybe a home station for uh for it uh to uh recharge the batteries or something . Uh I thought mo maybe we could make a clap system , so when you clap your hands it will beep or something . Uh you must find it uh quickly . Uh . Maybe just a button on the home station . So remote control beeps when you click that button on the home station . we can uh combine that . Uh it takes too much time to learn how to use a r new remote control . Uh I think we must t uh take a look at this . It's only uh th thirty four of the thirty four percent . But it's uh a tough one . Uh next , remote controls are bad for R\_S\_I\_ . Because if we make a ha whole new product , our own style , we we c uh this is so difficult , uh a difficulty I think . Yeah , but only if they zap a lot ,

and they watch over five hours T\_V\_ or something . Uh we mustn't look too much at uh the last point . Uh the last uh experiment uh was about gadgets , like uh speech recognition . We didn't uh think about that already . And uh an L\_C\_D\_ on the remote control . Um uh they finally had a conclusion that younger people um uh under an age of f forty five are uh more interested in new features . but they're more critical . And older people uh want to spend uh more money . we have uh a new uh age of forty plus . But y But you but you already said that the uh company was about uh forty plus uh clients ? so we just can skip the L\_C\_D\_ r on the remote control , I I think we can speak , uh we can skip speech recognition uh directly , because it's not reachable for twenty five Euros . I have my personal uh preference . that's not very good , because I thought about television , D\_V\_D\_ player , stereo and V\_C\_R\_ . But it's already out of the question , this . Um my point is , well , I If we ma uh make a a remote uh control for only television , I think it's hard to uh sell it for twenty five Euros . On the market you can now buy for twenty Euros a remote control for everything . so we mi mm we m must made it make it uh very special . I told about the home station . Uh it must be simple , And I I found a motto . And we put the fashion in electronics . The company is about our uh th th their own fashion , their own style . But old people are not looking for that . I think the main thing is the usability , that's where we can uh make it a special product . 'cause there are already , like you said , so many controls out that support lot of stuff . But we have to make sure that we're better usability , So make it just a different colour or different shape , Technical functions design . But um we have elderly people , so we need to keep it simple . Uh the way I want to keep it simple is to use the sen uh standard . So standardised uh methods like uh on all uh remote controls . Not too full , like uh Jens already said , only ten percent is being used . what do you think of only the numbers and the on-off button or But yes uh basic functions like numbers and that sort of stuff . the options that we put on there should be easy to use , and 'cause you have more room then , and for elderly people big buttons . Uh an icon on it or text on it , so it's very clear what that buttons does . Um a way to find out uh what people use is maybe just to use uh questionnaires on the internet Of functions I could think of . Uh volume , channels , the the basic according to . Just one two three etcetera . Uh text service options . Um basic on-off . Could I think of favourites ? I always look up the same um pages on text and always have to click the number . But if you could make a new option , that you just have to press one button but then you have to remember what favourite is what channel . So you might as well remember the number . Maybe i maybe it's too complicated , I would find it handy , I think , when you just press one button and you get on six six six . But um how can you remember what uh channel uh connects to what favourite button ? If I use my telephone , I never use those buttons to to to call If I don't do it , maybe old people They don't like new features . Right . play , pause . I dunno if that's usable miss Did I miss any other buttons , basic buttons ? that's the only th the only thing you need . Uh uh the p uh next and previous . Li like a web browser , Six seven eight or five . But uh um there's also a button to uh go to the channel you've been before . Like a web browser back button . but I think it's all too difficult for old people . just use uh when you wanna switch between channels all the time . I think um f Especially for older peo elderly people use standard buttons . Yeah , the ten plus button . Just uh one one pressing , or quickly after each other . w wouldn't it be a problem to uh Because you h have to be fast enough . But I think that's in the T\_V\_ as well . That's how the uh the T\_V\_ T\_V\_ handles it . So you have uh like a five seconds period to press those two buttons . It's the T\_V\_ who depends that it must be two seconds or three seconds or one second that

you must uh type one or two . So if you have a universal T\_V\_ controller , you needed one button that has two uh stripes . Most things in modern T\_V\_s are also on the menu . So you also need a menu button . And then uh navigation uh But we can integrate that with volume and previous and next , I I think you ha really have to divide between functions you often use , like um uh m maybe uh switch channels and uh volume and k that kind of things , and uh the menu button . Because you n almost never use menu button . Maybe it's still still a good idea , I'm not sure . You'll also have to use a mute button I don't know where where you have to put it . now my personal preferences . Uh using the standards , basic Um I think that we should stand out uh unique , being unique with the design . So we have to , I dunno , uh make a different shape than usual . Does it have to be Uh it has to be uh with different colours Maybe we can give it out in different colours . It's like a iMac or something . That's fa That's fancy . That's uh fashion . But it looks cheap as well , because it's a small thing . maybe you can look at uh mobile phones . They they're uh designed very well . You think you can't make a T\_V\_ controller too small , 'cause then you will always lo always lose it . But uh well , I think that's a good example . the working design . The method I used is uh search the web . Just the web page provided . Um basically what happens is you press a button , uh then a circuit gets closed by pressing the button , uh like a switch . And by closing that certain circuit , the chip knows uh what bu button is pressed . Then the chip produces a pattern . Like a Morse code And and sends that to the uh L\_E\_D\_ . Um and the light emitting diode is uh producing infrared light . And uh transmit that uh to the T\_V\_ . we we also have to have a LED li LED light on it ? Ain't it just to to indicate that it's transmitting ? Red's I shows up like something's wrong , and green is like it's okay , on most uh uh remote controls it's red . The whole the whole uh remote control becomes uh green if you press the buttons . I I think uh the batteries will be uh a little we have a recharger in it , If we can still make that then It's just to indicate something's on . That it's working . And uh the receptor in the T\_V\_ senses the pattern . So we have to understand what patterns are used to , you know , to make it universal . So that it can be used with all the T\_V\_s . We have to really understand what patterns are used , Otherwise it won't work . we have to uh make buttons for that as well , The chip um uh is producing the pattern . So we have to make a chip that produces patterns to , y you know , to An automatically search function for each television , or something . I dunno how it's uh exactly how it works . I I use a universal uh remote control , And you have to put in a number , I have a modern one . And the modern one you you uh you type uh search , And uh uh uh after uh a short time the television turns off . And then you know , oh it it's the right one . We have to make a s a bit more intelligent chip than the standard one . That's uh when the circuit is closed , it produces the pattern . But uh ma basically for uh brands of T\_V\_ these patterns are different . what you have to do is uh get these patterns right . What he's doing when he's configuring this pattern , this chip , uh is trying to switch off the television . And when it's uh switched off , you can push a button as uh it's working now , And then he saves that setting Um the energy source is uh the battery , basically . Um that's connecting to all the components . the subcomponent is uh w I I think it is uh the button pressed . when you press a button , a switch get closed . So the chip knows what button you pressed . And the chip sends out uh the pattern to the infrared bulb . So that's the LED , L\_E\_D\_ . we can make the normal one also a normal light . Not a LED light , but as a normal one . Uh if you if you use the buttons , uh both of them works . Maybe you have to uh put uh a small light around the button you push . So you see green if you push that button . Mm I think it's unnecessary power uh you use then .

But does it make any difference for the energy you use ? i it it will look different , Is LEDs uh beneath the the buttons ? Yeah , w around the buttons , or in the buttons even . The same as a telephone , or a mobile phone , or what do you mean ? It it only takes a l a little energy and it's not that much . Maybe that's a good idea for old people as well . It's only few LEDs . Only four or something . Four LED . But if we use a battery station , Yeah , that's a good idea , okay . Maybe what Paul said , uh under the on the on the home station , uh a button to uh to call your uh remote control , that it beeps . But you have to make a sound device in it then . maybe it's that that's a little too hard to make . Especially for that kind of money . twenty five Euros , I think we can make it . Production cost is uh t uh twelve and a half . But but we only have to make it for television , and um we must have something special . I think uh you also have uh remote controls with a lot of options . But we lose about ninety percent of those options . Uh . We have to give our customers some extras . the the personal preference , I didn't fill it out . Because I was short on time . Basically what we could do too is uh have a Bluetooth uh integration . We have some new uh project requirements . We have to have a look what they are . Uh teletext has become outdated since the popularity of internet . So a teletext option , maybe we have to skip that one . I'm not sure . I don't think so , and I I think a lot of people use uh teletext , still use . and it's it's on your comp it's on your television . It's only one button . We definitely should use it . Um The remote control should only be used for a television . And um the the forty plus people , I already told you . Oh , this is a problem . Oh sorry about that . The new product should reach a new market with customers are the younger than forty . So it should be flashy or just more interesting . that's It changes things . I just I just didn't read it well . That kinda changes the whole situation . then we have to make some nice features . I think uh the thing in the dark is a good way , to make it more like a mobile phone . More modern . L\_C\_D\_ doesn't work for uh twelve and a half Euros I think . And I d I don't don't think it's very usable in a remote control , I I don't y you'll use it often , because you can see on the television wh what channel you I think you you have to make it a bit flashy and and popular . because the Like in the mobile phones , usability is not that good I think . But uh some of you had uh something to read about um uh speech uh recognition . Yeah , I tho I think that's not usable . That's very That's fancy . That's cool . Only the numbers , only numbers . Uh furthermore nothing . But only the numbers , one to twenty or something . Yeah , maybe we have to integrate that as well . If it's possible . I don't think it's very expensive actually . I didn't have information about that . And and and does it have to work only in English , or in Dutch too or that's a problem , Uh only in English . Only in English I think . it's probably my job to figure that out , Does it lie in the centre of the room and can you scream from wherever then th we have to think about that . Maybe maybe it's too hard to uh to realise that . We have short time to to put it on the market , In uh indeed uh the languages are a difficult thing . I don't think it's uh useful enough to take the effort to design something with uh speech recognition . A uh someone says that uh give me one Coke , and the T\_V\_ turns uh to one . And then you have to say uh T\_V\_ channel one , or something . Not just one , Okay , no speech recognition . Do we , do we make uh a light under the under the n under the numbers and everything ? Yeah , I think so . If you press something , it lights up for a few seconds , It lights up when it's dark ? If you push something , it it all lights up . it it mustn't work all the time . It uh uh it have to work only when you use it . if you use one button , it must turn uh on for twenty seconds , and then it must turn off . It's the same as the telephone . Yeah . Different colours , uh maybe use even different fonts . so y you just make it th through You look through it ? Uh when you use teletec

teletext , you can press a green or a red button to go to the next one , or to go to the previous one . but maybe you can put um the g the options of teletext on the second level of the remote control . Uh teletext options are only four buttons or something . Because you ne almost never use it . but younger people I think um more often use the internet and elderly people often use teletext . I use te teletext every day , I think . And I think , uh 'cause um we don't have that many buttons , we just keep it one level then ? We're going to have a lunch lunch break . Um you know what you have to do . Trendwatching . we're finished for t for this time .

## Complete Meeting Transcript

I just forgot their name, so uh you're i sorry, I just forgot them all. So I have to write it down. So Do you know them or Yeah. Yeah. Yeah, no, but your b your surname. W\_O\_ da. Okay. Okay. And what's your name? W\_I\_E\_S\_ z Z\_ or S\_? Uh uh zee. Okay. What's your name? Yeah, but your surname. Your surname. Okay, thanks. Yeah, me too, so that's not No no no, I just fi first my So let's have a look, we have forty minutes, so it's it's more than enough. Okay, perfect. So we have Oh no, what's that? So so we have uh forty minutes for this uh for this second meeting, and we have to make uh sure that we going t that we are sure, that we are, that we know what we're going to make uh th what the product is going to like look like. Uh first I have the notes of the last meeting, so I showed uh show them to you. Oh, sorry about that, I just escape this one. How do I escape this? How do I I escape this s uh presentation? Ah okay. And show, sorry. Okay, so let's have a look s at this one. Okay, so the f the f the points we had last meeting was the um Should be a univ uh universal remote control No, that's I uh s I just got a email from the from the personal coach and it should be a T\_V\_ remote control only. So have you changed that part? Um so yeah, it still has to be uh f a r a remote control for kids and elderly. It's it's still the same. Um All these points uh we have to look at. You all know them. But uh there's another point. The um uh the main uh people of interest of this company are forty plus people. So they're old and not younger people. So we have to look at that as well. 'Specially old people, maybe bi bigger buttons or something, I dunno. Uh so So yeah, that's it, so just you can do your presentation for uh Oh it doesn't matter, just start with the I I didn't read i read it, so it's not for me, I didn't get it uh anyway. It's only for you. Yeah. The last point is quite an interesting So if we Yeah. Yeah, we should have the ten percent on the on the top, then you're you're So we have uh a new uh age of forty plus. People. So yeah, so we just can skip the L\_C\_D\_ r on the remote control, because Yeah. It's too Okay. Because it's too expensive. Yeah, probably. So it has to look uh uh uh unique, but Yeah. But old people are not looking for that. Not really. Okay. Yeah. Yeah. Okay. Thanks. So Paul, you can do the next one if you want. It's on the on the uh net net uh thing, isn't it? So what do you think of only the numbers and the on-off button or Okay. Yeah. Okay. Maybe i maybe it's too complicated, but not sure. It's a good idea, but Uh Uh mayb for me it's If I use my telephone, I never use those buttons to to to call sh Never. So And If I don't do it, maybe old people It's not, it's still not It's not anymore n uh Just on the front as well. No, that's the only th the only thing you need. Just very simple. Uh Yeah, I know what it is, but I think it's all too difficult for old people. And how do you want to uh do it, like if you have a channel above ten? Normally you can press one, zero or A ten plus or Okay. But do we still need a two level remote control? Because if we only have that I only f No. Yeah. Maybe it's still still a good idea, I'm not sure. You'll also have to use a mute button to to Maybe, not I don't know where where you have to put it.

Okay. Yeah. Yeah. That's right. Yeah. Does it have to be Uh it has to be uh with different colours or It's like a iMac or something. Just to make it But it looks cheap as well, because it's a small thing. It's only twenty five Euros. It looks very cheap if you make it Oh, you just I dunno what happened. Yeah, we have to look at mobile phones, that's right. Just Yeah. Yeah. Okay, we hurry up a bit, because otherwise we won't make it. Is it fin Are you finished? Okay. So we we also have to have a LED li LED light on it? Yeah, it's I think it's usable. Yeah. Or just a green one, because it's If you use it, it's green or the red, it's r green. Yeah, that's right. But if you Red's I shows

up like something's wrong, and green is like it's okay, you press the button. Yeah, I know. Okay, we make it red. You have to The whole the whole uh remote control becomes uh green if you press the buttons. Uh that's cool. No, we have a recharger in it, so If we can still make that then But it's cool if it was green. Green or red or whatever, it is cool. I just say Can you s just say it again, because I was just looking There's just a short Yeah. Mm-hmm. Yeah. Okay. Yeah. Yeah. Okay. So that's the LED, L\_E\_D\_. Yeah, okay. So we can make the normal one also a normal light. Not a LED light, but as a normal one. To flash up your Yeah. Maybe you have to uh put uh a small light around the button you push. So you see green if you push that button. Yeah, but if you u if you do that, you know that you're uh sending a signal. And it's you also know which button you p Yeah, that's right. But it But does it make any difference for the energy you use? You got still one LED. That looks different, yeah. The same as a telephone, or a mobile phone, or what do you mean? If you push It lights up. Everything lights up. That's a good idea. It it only takes a l a little energy and it's not that much. It's f Yeah. Maybe that's a good idea for old people as well. It's only few LEDs. Only four or something. Four LED. Yeah, that's a good idea, okay. Everything agre Everyone agrees with that, or Okay. Yeah, and then you Okay, yeah. But you have to make a sound device in it then. But Yeah. Okay. Are you almost finished or just Okay. Okay. No worry. Yeah, I just want to talk some about some more. So maybe you have to Yeah? Okay. So this Oh, sorry. Wh what's that? So uh Oh, sorry. We have some new uh project requirements. We have to have a look what they are. They're still in um Uh teletext has become outdated since the popularity of internet. So a teletext option, maybe we have to skip that one. I'm not sure. I don't think so, but Yeah, and it's it's on your comp it's on your television. It's only one button. So I don't think it is We definitely should use it. Um Yeah, that's uh what I told you. The remote control should only be used for a television. So that's maybe easier. And um the the forty plus people, I already told you. Oh no, sorry. Oh, this is a problem. Oh sorry about that. The new product should reach a new market with customers are the younger than forty. So it should be flashy or just more interesting. I'm sorry about that. I just I just didn't read it well. So does it make some decision about that? That still stays. Yeah. Yeah. Yeah, maybe we have to integrate that as well. If it's possible. But I don't think it's very expensive actually. Why should it? You only have a microphone in it. Nah, maybe Maybe maybe it's too hard to uh to realise that. It We have short time to to put it on the market, so that We have to do a lot of testing before we can do that. We make uh make uh, we can make th th the new remote control very flashy. Yeah. Yeah. I think so. So we have to make some decisions. So you can see on the uh So we have to know what we're going to put on. Do we, do we make uh a light under the under the n under the numbers and everything? Do If you press something, it lights up for a few seconds, so you can see what other but buttons there are, okay? Okay, we just take that one. And what else, we have Yeah, but it's Oh th I thought would, that that would be the same. If you push something, it it all lights up. Or you can switch it on or something. Yeah, that's right. You have to Yeah, that's right. That's what I said. It's the same as the telephone. Yeah. And do we use a a Uh what's it called? Like a iMac, if you can look through it. Or just a normal remote control. Yeah. Different colours. Okay, so y you just make it th



through You look through it? Okay. And so the buttons we have, this is, yeah, this is normal. We put in the the simple buttons on the top, and probably the the the more complicated buttons down there. Yeah, maybe you have

you have to Uh when you use teletec teletext, you can press a green or a red button to go to the next one, or to go to the previous one. O but maybe you can put um the g the options of teletext on the second level of the remote control. Because you ne almost never use it. Yeah, that's right. Yeah. For me too, it is. So we just keep it one level then? Okay. Yeah. Okay. Okay. So that's it for toda for We're going to have a lunch lunch break. Um So yeah, you know what you have to do. This is uh this is it. You get your meal and everything, so Yeah. So, we're finished for t for this time. We're going to have some lunch. Yeah. Okay. Fine. The names? For for for my sur um Jens. Uh Damman. D\_ A\_ W\_. Uh uh M\_ M\_. I mean M\_. Double M\_. Oh. Sorry. Okay. Okay. Mm. Uh Okay. Well my name is Jens Damman, but we're in a group, and I I will start it. Wait. Um I've used a marketing report on uh the site. Uh I think you've uh read it too. Uh and uh f and furthermore I uh surfed the o the other site. You didn't read it? Oh okay, I I was the only one who get it. Okay it was uh uh uh um um a report about uh an experiment with uh a lot of users. And uh they had a lot of findings in their report uh with statistical uh uh uh thing uh with statistical uh proof. So I um I had three pages with findings and sev a lot of uh a lot of findings. So we can use this uh to uh create our own remote control. Uh seventy five percent of the users find uh most remote controls ugly. Yeah, I think uh uh that's a lot, so we have to make a beautiful remote control. Uh eighty percent of users would spend when uh a remote control will I uh look fancy. I think this fits uh at the uh what what uh Michael said about uh older people. Older people will uh spend more money uh for uh something uh uh what's good. Because younger people are more critical uh about uh uh where they spend their money money at. Uh seventy five percent uh seventy five percent of the users say they zap a lot. Well okay, that's uh normal. I think uh we we have to make uh good zap buttons. But that's one of our requirements. Yes, fifty percent of users say they only use ten percent of the buttons. Um Martijn alr already said it. And uh maybe our uh fold open system is is a good one, but I don't think it's uh reachable. Yeah, the ten percent on the top, yeah. That that's a good one. Um uh page two. Remote controls are often lost somewhere in the room. That's exactly what we said about um maybe a home station for uh for it uh to uh recharge the batteries or something. Uh I thought mo maybe we could make a clap system, so when you clap your hands it will beep or something. Uh you must find it uh quickly. Okay, yeah. Yeah, we can uh combine that. Uh it takes too much time to learn how to use a r new remote control. Uh I think we must t uh take a look at this. It's only uh th thirty four of the thirty four percent. But it's uh a tough one. Because if we make a ha whole new product, our own style, we we c uh this is so difficult, uh a difficulty I think. Uh next, remote controls are bad for R\_S\_I\_. Yeah, but only if they zap a lot, and they watch over five hours T\_V\_ or something. I don't We we haven't Uh we mustn't look too much at uh the last point. Okay, last page. Uh the last uh experiment uh was about gadgets, like uh speech recognition. We didn't uh think about that already. And uh an L\_C\_D\_ on the remote control. We already thought about that. Um uh they finally had a conclusion that younger people um uh under an age of f forty five are uh more interested in new features. And but they're more critical. And older people uh want to spend uh more money. But uh they uh they don't want to uh have a lot of uh new features, because they're in their old uh thinking way. And they want to keep the old uh things the old things. But y But you but you already said that the uh company was about uh forty plus uh clients? I I think we can speak, uh we can skip speech recognition uh directly, because it's not reachable

for twenty five Euros. Um then I have my personal uh preference. Okay, that's not very good, because I thought about television, D\_V\_D\_ player, stereo and V\_C\_R\_. I had a question about. But it's already out of the question, this. Um my point is, well, I If we ma uh make a a remote uh control for only television, I think it's hard to uh sell it for twenty five Euros. But it's the exercise. Yeah, only only for television uh On the market you can now buy for twenty Euros a remote control for everything. And we only make it for television, so we mi mm we m must made it make it uh very special. Okay, I told about the home station. Uh it must be simple, because uh our the the elderly people uh needs to use it. And I I found a motto. And we put the fashion in electronics. And that's uh the motto we are uh referenced to uh for our uh our style. We we have to make a a new product. We have to be um Yeah. One of a kind, I think. The company is about our uh th th their own fashion, their own style. Yeah, to k to keep it simple when you Sorry I thought about it, yes. Okay, this was uh my presentation. I don't Yeah. You can ask some questions or something. Mm-hmm. Um Forward. No. Uh It gets some seconds. Yeah, it's it's no it's not a It's what Paul says. It's not a remote control uh uh that um uh makes the T\_V\_ um do one two. It's the T\_V\_ who depends that it must be two seconds or three seconds or one second that you must uh type one or two. It's only for television now. No. Maybe we can give it out in different colours. You can choose blue or yellow or That's fa That's fancy. That's uh fashion. Okay. Mm-hmm. Yeah, that's active. I I think it's in the case that it's active. It's not uh I it's it's just uh the the Mm. Yeah. Empty. Yeah. An automatically search function for each television, or something. Uh I kno Oh, I have a modern one. And the modern one you you uh you type uh search, and the LED began to blink blink blink. And uh uh uh after uh a short time the television turns off. And then you know, oh it it's the right one. And you can stop it, and then it's okay. So you don't have to search for your television or your code. It uh search uh the pattern for itself. Yes. Changing the signal. Yeah, that's the right uh option. Uh if you if you use the buttons, uh both of them works. But one you can't see and one indicates that you use a button. Yeah. Yeah, and Mm I think it's unnecessary power uh you use then. Okay. But then have to be on the in the all uh remote control have to be LEDs. Everywhere in the r Is LEDs uh beneath the the buttons? Yeah, okay. It must be around it then. Yeah, then Yeah. Not not not not here, but here. Maybe uh Okay. Yeah, I uh Yeah. Maybe what Paul said, uh under the on the on the home station, uh a button to uh to call your uh remote control, that it beeps. Yeah, there must be sound in it. I dunno. Mm uh, twenty five Euros, I think we can make it. Bec Twelve and a half, okay. But but we only have to make it for television, and um we must have something special. So Uh. We have to give our customers some extras. No. Uh. Okay. Changes. Uh L\_C\_D\_ doesn't work for uh twelve and a half Euros I think. Oh. Oh, I'm watching uh the channel one. Okay. No, it's not But uh some of you had uh something to read about um uh speech uh recognition. About you said one and the television turns on one. Is that reachable maybe? That's very That's fancy. That's cool. Twelve and you've got twelve. Only the numbers, only numbers. Uh furthermore nothing. But only the numbers, one to twenty or something. That should be cool. If it's possible, I dunno. I didn't read it. Uh if i if i I didn't have information about that. Ah that's a problem, but Uh only in English. Only in English I think. No, that Yeah, then th we have to think about that. But do do we do it? It's more if we if we do it. Yeah. Okay. Yeah, and uh and uh In uh indeed uh the languages are a difficult thing. Uh because we we have a lot of languages. Yeah. A uh someone says t

hat uh give me one Coke, and the T\_V\_ turns uh to one. Yeah, it's not uh Okay, but th that becomes your f Uh uh because that's very hard for uh speech recognition. Mm-hmm. Okay, no speech recognition. Yeah. Yeah yeah, it it mustn't work all the time. It uh uh it have to work only when you use it. So if you No, if you use one button, it must turn uh on for twenty seconds, and then it must turn off.

Oh yeah. A see-through. Mm, that's cool. But you have You had a lot of different buttons. No, I use teletext every day, I think. Mm. Trendwatching. Okay. That's fine. Yo. Mm. Uh. Uh Martijn. What? Uh Abbing. A\_ B\_ B\_ I\_ N\_ G\_. I was a little short on time, but What? Uh Just Yeah. Yeah. Yeah. Yeah. I think the main thing is the usability, that's where we can uh make it a special product. Yeah. Okay. Yeah, but then you have to remember what favourite is what channel. So you might as well remember the number. Or not? Yeah, okay. But um how can you remember what uh channel uh connects to what favourite button? Yeah? Yeah okay. But uh uh for a user to to remember, if I press that button it goes to that channel. Yeah, but isn't it hard to remember? Like favourite one and Mm as as hard as No, neither do I. Yeah, I dunno. Uh uh the p uh next and previous. Previous I know, but next channel? I don't thi Li like a web browser, so Oh, okay. But uh um there's also a button to uh go to the channel you've been before. Like a web browser back button. Yeah, okay. Yeah. Yeah, w wouldn't it be a problem to uh Because you h have to be fast enough. Maybe the elderly people Oh okay. Yeah. Yeah, but that's th mm Okay. Yeah. Yeah. Yeah. Yeah. I I think you ha really have to divide between functions you often use, like um uh m maybe uh switch channels and uh volume and k that kind of things, and uh the menu button. Because you n almost never use menu button. So Okay. Mm-hmm. Okay. Well, the working design. The method I used is uh search the web. Just the web page provided. Um Basically I'm I'm not very technical uh uh educated, but uh I could figure it out. Um basically what happens is you press a button, uh then a circuit gets closed by pressing the button, uh like a switch. And by closing that certain circuit, the chip knows uh what bu button is pressed. So like you press a one, that circuit is closed and uh Then the chip produces a pattern. Like a Morse code to uh And and sends that to the uh L\_E\_D\_. That's the uh light emitting diode, I think. Um and the light emitting diode is uh producing infrared light. That's un uh invisible to the human eye. And uh transmit that uh to the T\_V\_. However it has also an uh a visible uh diode that's uh blinking red if you look in it. And that's uh another diode, I believe. Because infrared is not visible. So that's er uh do two different things but Yeah. I I think so. I I'm not sure if it's the same thing. Yeah. Yeah, when you press it. So Two? Yeah, I dunno. Ma on on most on most uh uh remote controls it's red. So So I know. I I think uh the batteries will be uh a little Yeah, okay. Uh maybe. Yeah. That it's working. That it's not not the batteries are low. Yeah, I know. Just to indicate it's working. And uh the receptor in the T\_V\_ senses the pattern. So we have to understand what patterns are used to, you know, to make it universal. So that it can be used with all the T\_V\_s. We have to really understand what patterns are used, so we can uh o On the Otherwise it won't work. No. I I uh The chip um uh is producing the pattern. So we have to make a chip that produces patterns to, y you know, to Yeah. That are working. Yeah, or I dunno how it's uh exactly how it works. It wasn't explained there. Yeah? Okay. Ah okay. Okay. Okay, yeah. So it uh We have to make a a s a bit more intelligent chip than the standard one. Because you have to Yeah. Uh okay. Well uh y you have this chip. That's uh when the circuit is closed, it produces the pattern. But uh ma basically for uh brands of T\_V\_ these patterns are different. So like

when you press a one on one T\_V\_ it go go to one. And on the other T\_V\_ it won't work, basically. So uh basically what you have to do is uh get these patterns right. And uh by d uh that can be done by uh just uh cha yeah, changing this pattern all the time. And um What he's doing when he's configuring this pattern, this chip, uh is trying to switch off the television. And when it's uh switched off, you can push a button as uh it's working now, so And then he saves that setting and then um it's working. Okay. Well uh the components. Yeah, that's a bit technical, and I hadn't I w I was a little short on time. Um but I think I understand it. Um the energy source is uh the battery, basically. Um that's connecting to all the components. Because it has to be fed with energy. Okay. Uh the subcomponent is uh w I I think it is uh

the button pressed. So basically when you press a button, a switch get closed. Um that's connecting to a chip. So the chip knows what button you pressed. And the chip sends out uh the pattern to the infrared bulb. I didn't put the description by this one. Th this is a normal bulb. So the normal flashing light. Yeah. Yeah, and this is a LED too. But this one is producing infrared light that's invisible. And this one is producing normal light. Yeah Yeah, presu Yeah yeah yeah. Because uh when you button press a button and it doesn't work, it can Basically if the battery is low, it won't work. So you have to indicate that it's Huh, that's a good idea. Hmm. Yeah, but mm like when you push it n n Yeah. You have your finger over the button. So you can see Yeah. Or or m maybe on top of the A green light is flashing or Yeah. There. Yeah. Yeah. Yeah. Mm-hmm. Yeah. Yeah. We'll have enough power to Yeah. Hmm. Yeah. B maybe it's that that's a little too hard to make. Especially for that kind of money. Because it's i it has to be Yeah. Production cost is uh t uh twelve and a half. Yeah, okay. Yeah, okay. Yeah, the the personal preference, I didn't fill it out. Because I was short on time. But um Basically what we could do too is uh have a Bluetooth uh integration. Yeah? Okay. No, and I I think a lot of people use uh teletext, still use. Hmm. Oh. Mm. Yeah. That kinda changes the whole situation. Yeah. Mm ah I I don't y you'll use it often, because you can see on the television wh what channel you No. Yeah. I think you you have to make it a bit flashy and and popular. And uh then the usability is not that required, because the Like in the mobile phones, usability is not that good I think. I didn't read I didn't read any b Yeah. Yeah okay. I I know. Mm. Yeah, I don't know. Yeah. But it has to work. And and and does it have to work only in English, or in Dutch too or And and uh w Yeah? Yeah, it's probably my job to figure that out, but And and do you have to speak in in like in a thing or Yeah, I dunno. Yeah, I think so. And and Yeah, and also if if you have a good speech uh speech recognition, you can just throw the uh the remote away. Mm. Hmm. Mm. Yeah, okay. But Hmm yeah, T\_V\_ one. Yeah. Yeah, that's good. Mm, maybe it's a good idea. Hmm. Hmm. Yeah, but younger people I think um more often use the internet and elderly people often use teletext. So uh Hmm. Okay. Yeah. Yeah. Paul Wiezer. Paul Wiezer. A\_ E\_ Z\_ zee zee E\_ R\_. Uh. Yeah, same here. Uh let's see. Which one was mine? Good. Uh left. So Okay. Yeah, okay. Which one first? Okay. Functional requirements, yeah. No, I didn't thing we got it. Yes. Uh. Maybe just a button on the home station. So remote control beeps when you click that button on the home station. Yeah. Yeah, but good usability, so you can use it. Unique. Yeah, I reckon Uh I think mm Uh Yeah. But uh we also have to stand out, 'cause there are already, like you said, so many controls out that support lot of stuff. But we have to make sure that we're better usability, and stand out by just looks of it. So make it just a different colour or different shape, so Okay. Yeah well Uh. There it is. Okay. Tech

nical functions design. Okay, well, so we have s mm uh broad audience. Isn't that isn't true anymore. But um we have elderly people, so we need to keep it simple. Uh the way I want to keep it simple is to use the sen uh standard. So standardised uh methods like uh on all uh remote controls. Not too full, like uh Jens already said, only ten percent is being used. Yeah, I have it on the next page. But yes uh basic functions like numbers and that sort of stuff. Um so the options that we put on there should be easy to use, and 'cause you have more room then, and for elderly people big buttons. Uh an icon on it or text on it, so it's very clear what that buttons does. So it doesn't take much time to figure out uh how to use it. Um a way to find out uh what people use is maybe just to use uh questionnaires on the internet or just ask some random people, elderly people what they use, what they want on a remote control to find out. But there is already in a one done. Of functions I could think of. Uh volume, channels, the the basic according to. Just one two three etcetera. Uh text service options. Um basic on-off. And I found an uh Could I think of favourites? I always look up the same um pages on text and always have to click the

number. But if you could make a new option, that you just have to press one button and you get on your No y Well it's It was just a thought. So I'm, I u I would find it handy, I think, when you just press one button and you get on six six six. Well uh what I was reading on the page. Uh a remote control just sends commands, basics commands to uh the television. So switch to channel six. So uh button six says says six. And if you make favourites, it can say six six six in a row. Just numbers. That can be in the in the Well if you said a favourite Well i Never? Oh. Oh are you? Okay now, m maybe not. No, maybe elderly people uh. Right. They don't like new features. So maybe not. Um well play, pause. I dunno if that's usable when Not anymore for T\_V\_. Right, on off. I dunno, miss Did I miss any other buttons, basic buttons? I couldn't think of any other, 'specially not for T\_V\_. Is Just the channel um uh What I mean is uh Six seven eight or five. Um I dunno. I don't have Uh I did Yeah, I don't think you use that. Y only when you want to go to Yeah, just use uh when you wanna switch between channels all the time. Yeah, I think um f Especially for older peo elderly people use standard buttons. So you have that uh Yeah, the ten plus button. Just uh one one pressing, or quickly after each other. To just keep it simple and standard uh features. Uh yeah mayb But I think that's in the T\_V\_ as well. That's how the uh the T\_V\_ T\_V\_ handles it. But you can have a button that says um two two st two stripes. So you have uh like a five seconds period to press those two buttons. So if you have a universal T\_V\_ controller, you needed one button that has two uh stripes. So we have a a period of, I dunno, five seconds to press those buttons, and that And not for elderly people to look, one two uh press and aim and So I I don't think so. Uh I just thought of another one. Most things in modern T\_V\_s are also on the menu. So you also need a menu button. And then uh navigation uh But we can integrate that with volume and previous and next, so you have four arrows. Yeah, okay, but um Yeah, a mute button. Yes. Don't think so. Yeah well, that's that's I think that's the layers that produce. Now I have to figure out what's uh what to put on. What we're gonna use. And later we can d uh do the design. Okay, uh now my personal preferences. Uh using the standards, basic Um I think that we should stand out uh unique, being unique with the design. So we have to, I dunno, uh make a different shape than usual. So when you are in the shop and you see our T\_V\_ controller hanging, that it stands out. Not just in in the row when you see all the same uh remote controls. Um I dunno. Different colours um Yeah. Well why not? Or Yeah. Well, maybe you ca

n look at uh mobile phones. Oh. Who? They they're uh designed very well. And well basically are the same, just a bit smaller. You think you can't make a T\_V\_ controller too small, 'cause then you will always lo always lose it. But uh well, I think that's a good example. Okay, sorry. Well uh Yeah, I I'm finished. I think we discussed everything. Uh j Is Ain't it just to to indicate that it's transmitting? So Yeah. Maybe uh Maybe depends on uh Yes. But maybe Well we don't have to make it red. Maybe integrate it in the design as well. Uh Oh, maybe it's it is would an e No. Just uh Oh. Yeah, but it doesn't have to be red. It's just to indicate something's on. Yeah. It's it's not very important, so yeah. So mm So we have to uh make buttons for that as well, to make it uh Okay. Well, I I use a universal uh remote control, and list of all the T\_V\_s you have, etcetera. And you have to put in a number, so it works on your T\_V\_. Okay, so we use that. Yep. No, y Yeah. No I don't think so, but Yeah, i it it will look different, and I think we need to find something else. Yeah. 'Cause otherwise we will just make another standard, and our uh motto also is Yeah, w around the buttons, or in the buttons even. Yeah, then then won't Then you won't see it. Yeah, we're thinking about it. Uh on a mobile phone, in the dark uh everything lights up. Why ain't that on a remote control? Yeah, if uh a mobile phone a phone can do it, it's Yeah, i if you're in the dark, you can't see the remote. No, I dunno. But if we use a battery station, which I think we will use Yep. And also it's Okay, it shouldn't take much Uh I th I think uh you also have uh remote controls with

a lot of options. But we lose about ninety percent of those options. So I think you can uh Yeah. I think we will save money with that. Yeah. Okay, that's It changes things. Um Well yeah, then we have to make some nice features. I think uh the thing in the dark is a good way, to make it more like a mobile phone. More modern. That's important I think and And I d I don't don't think it's very usable in a remote control, especially when you only have T\_V\_ functions on it. So Yeah, I tho I think that's not usable. So, but uh Yeah. What other features can we put in? It's very fashion. Mm. Mm. Yeah, I think it's What But uh I dunno how that works then. Uh does your uh Does it lie in the centre of the room and can you scream from wherever uh one to have in channel one? Yeah, I dunno. So, is it very usable? That's what I'm looking at. Is Mm Yeah well It's I d Yeah. I don't think it's uh useful enough to take the effort to design something with uh speech recognition. Yeah. Well yeah, that's the right command. And then you have to say uh T\_V\_ channel one, or something. Not just one, but Well I dunno. But I don't think, it just ain't useful enough. Yeah, I think so. Yep. Also the one in the dark. So uh It lights up when it's dark? I didn't Okay. Yeah, but um Yes, that's what I mean. Or maybe when you yeah. It lights up all. Okay yeah. D Yeah, alright. Yeah. Maybe just as an option, w like we discussed, like iPod. Different colours, uh maybe use even different fonts. Like uh phones. Yeah. Uh as an option maybe. It's the standard Yeah, uh Yeah, we but we don't We don't really have any complicated buttons. Yeah okay, but Yeah, well w I think the buttons are very easy. With just uh standard buttons we just have so little No, I don't need don't need Uh teletext options are only four buttons or something. I use teletext as well. Yeah yeah, one level. And I think, uh 'cause um we don't have that many buttons, I think the design is most important. You can d uh integrate the buttons in the design very much. 'Cause simple buttons. If you put one above it, it's clear. How long is lunch break? Okay. Bye.

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# Meeting ID: 123

Data Source: Train

## Executive Summary

Tod uh for this meeting I will take the notes and do the minutes . Uh so we will see our three presentations . Um we will start with the uh Manager Expert wi who will talk about uh user re requirements , whats user needs and what it desire for this devi device . Okay , so basically I'm gonna present some findings of a study we conducted uh into uh what users want in this remote control . So basically um the major things we found out was that um basically users don't like the look and feel of of most remote controls that are currently on the market . seventy five percent of the people we we uh did the experiments on , found that rem remote the remote controls that they'd used in the past were ugly . Um they they didn't match the operating behaviour of the user , Um and thirdly they say that w half of the users that we um tested said that they only used ten percent of the buttons that uh are on remote controls . And from this we basically came up with the figure that the channel buttons , the channel selection buttons are the most by far the most used buttons on the remote control . And basically they came they said the channel , volume , and power buttons had the highest relevance to users , And fifty percent of the users said that uh what frustrates them is losing the remote control um somewhere in the room and not being able to find it . In particular , do they want an L\_C\_D\_ d display , and secondly , do they think speech recognition uh is a useful feature to have on a remote control . Um basically our findings are that um amongst a younger age groups uh the answer is umv overwhelmingly yes . So I guess it depends on where we're focusing our our market . And speech recognition in remote unit , it will be very e expensive . And our production cost of twelve fifty Euros per per unit is fairly high I think , so I think we can afford to to add these sort of features into our remote . Okay , so here is my presentation about technical function design . Uh first is remote control have sh ha should have some electric circuits uh making interface with uh keyboard and uh r reading uh keyboard and reading the keyboard uh commands . And then there should be uh an electronic circuit making uh electronic signals according to these commands and uh finally there is a transmitter which is a cord or a a diode making uh making uh waves to transmit through the air Okay , uh about what I found about uh different uh these different blocks are uh , usually there are two different methods uh to for designing a remote control . They are based on infra-red uh waves or uh uh radio waves . uh uh uh uh certainly a remote control with uh working with radio waves is uh preferred because uh you can pr you can take it in any direction and you don't need to tune it any way . And uh uh again , using bigger buttons and less number of buttons are also

preferred , as I see . Do you think radio waves um will interfere with other appliances in the home ? Uh , I don't think so , And what happen with uh radio waves when two neighbours have the same have our remote control , for example ? but one solution can be something like putting uh p password or something inside the wave , so the only your T\_V\_ can understand it I have only a couple of things because I had I struggled a bit with the software that I'm supposed to use in this uh uh in this company . so I have to look what what is a v a v available on the market for for the communication for the I\_R\_ circuits and so on , And uh I wanted to ask you m maybe afterwards , after after our discussion , if we have some contacts in some companies , so , which can report on what is going on there , So , I know that uh the user interface people and these speak about radio frequency waves but you know , when you are not close to the T\_V\_ you probably won't need to to change the program and so on and so I am I am voting for s to stick to the um infra-red control instead of R\_W\_ well , L\_C\_D\_ it's okay because it's common nowadays to use L\_C\_D\_ , But the speech recognition we have to compare whether the price and the what does it offer , you know . If we decide to use the speech recognition , then we probably could struggle And And the price is fairly cheap for this . because I mean all the other remote controls on the market have infra-red , so people don't expect anything other than infra-red . But I think , based on my usability studies I th I feel that users are prioritise the look and the feel and the trendiness above , you know , the difference between infra-red or radio waves . So um I have to inform you I receive an email from the management bon board today and they have new requirements for the for the remote control . Um Because of the internet popularity and everybody has internet at home , and actually it's not useful to have teletext . Um the second thing is uh they suggest that that we should uh use the remote control only for T\_V\_ , not for D\_V\_D\_ and other devices , the third one is uh about the the the image of the company . It's That mean we should use the colour of our company and maybe put somewhere the s the slogan of the company , which is uh , we put fashion of in electronics . So now we we should take the decision what we are going to what function we will have on this uh on this remote control . Well , should we start with just the core , the basic functions that we need . And then we can move on to the more advanced features . I think we should stick on very useful functions , because we want less button . So , turning channel , of course . Volume setting . will we use only two buttons , or or like numbered buttons ? Because it's many buttons and we were speaking about lowering the number . so so we keep all these all these buttons . Maybe we could have key buttons , like uh discovery channe like documentary channel , and movies channel and If you want to see a movie you click on the movie button so you have all the movie channels and after you've you plus plus plus . So it requires the use of L\_C\_D\_ probably , to to tell you We could maybe also c um incorporate Petre's idea of the um slider for the volume , with the channel . So we've got channel and volume . Um . I mean there's always we can always have these I less often used functions hidden somewhere , We should hide them somewhere . I mean a power button's obviously uh required . This I was thinking . Do we need a power button at all ? Uh , well I think when they say power button they mean to turn the T\_V\_ on and off . Should should shouldn't we do it like sleep mode after five minutes of not using it ? Okay , so we should keep this button . so we we could p what we could probably do is to keep also to keep uh keep the L\_C\_D\_ and all the buttons and stuff , Should we make it a button , or some some something which would be A button is better . What about things like the clock and um timers ? If we if we add the time , we have to have maybe a bigger display or something like that , I mean , are users wants to have



the time on the on the remote ? Probably not . W In my opinion we should have only useful thing So , um . So now we are going for for a small lunch . And uh after we have uh thirteen minutes to to do indevel individual works . And uh you are going to work on your individual works . And uh you will receive as usual your specific instruction and so on .

## Complete Meeting Transcript

Yeah, that's it. Well, okay, yeah. Yeah, but the user user interface is responsible. Okay, so. You're scaring me with L\_C\_D\_ man. And speech recognition in remote unit, it will be very e expensive. Yeah. Yeah. At least we have couple of months t to work on it so so it will be cheaper finally. Because you cancelled it. Yeah. Yep. You still want me the presentation. Yeah, it should be okay. Yeah f uh I know about this, since it's my it's exactly my field, so. It's uh kind of handshaking, uh, when starting to uh when you start to communicate with the your T\_V\_ then then it's like an handshaking protocol with your your remote. So so if two two devices are trying to go to communicate with the T\_V\_ set then the the the one which has the more energy in the wave is chosen. Well it can be a problem sometimes, but most of the time it works okay. Yeah but we we don't have to think uh about this because I think as a function designer that we will use the already made uh circuits which we probably bu buy. It's worth to buy. And they have these problems solved so. So we don't have to think about these. Yes. I have only a couple of things because I had I struggled a bit with the software that I'm supposed to use in this uh uh in this company. I was used to use Linux before, so. But I tried to tried to break through this too, I guess. Mm. Ah. Okay. How to make it big? Slide show. Okay, thanks. Okay. Oh so I will speak about working design. That's the first slide. Uh what uh I have to do? A look at what the other company Okay so uh presently I am looking what is possible to use, what circuits to use and stuff like that because uh I didn't work uh with these uh circuits so far so I have to look what what is a v a v available on the market for for the communication for the I\_R\_ circuits and so on, so I'm currently looking what is available on the web. And uh I wanted to ask you m maybe afterwards, after after our discussion, if we have some contacts in some companies, so, which can report on what is going on there, so, I would be glad if you can tell me about them. So, you know. Uh, okay findings, that's the point that I'm working on currently but uh so far I I was uh looking what what are the blue circuit, I mean radio wave radio frequency circuits are available now, but the prices I read are high. So, I know that uh the user interface people and these speak about radio frequency waves because you can you can uh you can make the T\_V\_ do what you want even if you are in the bathroom or so on, but you know, when you are not close to the T\_V\_ you probably won't need to to change the program and so on and so I am I am voting for s to stick to the um infra-red control instead of R\_W\_ but we will discuss it later maybe. Uh. Components to use, I'm not exactly sure what I will use for the design of the circuit. It depends uh on whether we will use the L\_C\_D\_ and mainly the speech recognition, because the speech rec Yeah? No no no no no. This we this we buy I think, because it's rather cheap nowadays and it's not worth to construct ourselves. Exactly. But I'm not sure about the circuit which is responsible for speech recognition. This I prefer that we should make ourselves. But it depends whether we take a decision to use it. Same thing. It's fairly expensive to use these circuits. So, speech recognition well, L\_C\_D\_ it's okay because it's common nowadays to use L\_C\_D\_, so I agree on using any kind of L\_C\_D\_, less buttons good for me as a as a designer of the circuit. But the speech recognition we have to compare whether the price and the what

does it offer, you know. Yeah, I'm Oh. I was not thinking too much about the price. But if we use the L\_C\_D\_ uh even the radio frequency communication with the T\_V\_ set and the backlight and uh related things like the photo diodes and stuff, it should be okay. If we decide to use the speech recognition, then we probably could struggle but we'll see afterwards. It depends of you if if the M\_E\_ or U\_I\_D\_, I'm sorry

about the names, I don't really know, uh want to have it like in metal or in plastic, these things, it it depends on you not Because the the the electronic device's price is not not so big in comparison to the overall shape and stuff like that, so. We will discuss it afterwards. Oh, this is nothing. This is just my notes on what to use. And uh my personal preference is yes, I would like also preferably to use R\_W\_ circuit, but from the point of view uh of the design and price, I would stick to I\_R\_s. That's my opinion. Uh I mean if infra-red uh circuit not not the radio frequency. Because because the the range where you can use it is fair. It's okay I think. And the price is fairly cheap for this. Well, depends. Jus just the price. Otherwise I don't care what I put there because it's the chip which I buy or which we buy. So I I I think it's o y o. Well, three to three to five. N not ten times, but it depends what what we Yeah. Th they are used to use it when they can see the T\_V\_ so, I don't know. You the user interface, and management man, uh Uh okay, that's it for me. 'Kay. I agree. Okay, so the available things are L\_C\_D\_, the buttons and everything. Uh radio frequency depends. And, well the recognition it depends on you guys. You should probably speak. Okay. Uh just one note to the chan channel changing. Do we will we use only two buttons, or or like numbered buttons? I mean those nine plus one or two? Because it's many buttons and we were speaking about lowering the number. Okay so so we keep all these all these buttons. Like ten plus, five plus, one plus, one minus or something. Or using the names and the keyboard I dunno. You mean like hierarchical structure. Okay, so s Oh sorry. So it requires the use of L\_C\_D\_ probably, to to tell you Okay, so I'll make a note on L\_C\_D\_. Yeah. Like roller for the Yeah. Okay. So we are still s speaking about the common devices or we are inviting the new one? On the screen, you mean? Not on the control, but on the screen. Well, this would avoid L\_C\_D\_, then. Oh. W I I think it it would be better to to stick to the remote control and not to bother the T\_V\_ to to print these things. Well it wi it will be still more expensive, but for the L\_C\_D\_ and this stuff is no problem in the price. Two T\_V\_s. Like ma We we could have for example two buttons like simple mode and advanced mode. Or I dunno. Or like children and grandfather's mode, and the, well the the user not the user, the man mana T\_V\_ manager mode. Ah, I dunno. Uh. Yeah. Hide them, okay. Um. Yes. This I was thinking. Do we need a power button at all? Should should shouldn't we do it like sleep mode after five minutes of not using it? Because generally Yes. Well I I uh You don't need to every five minutes to keep it alive. Uh probably. Okay, so we should keep this button. Okay, so we we could p what we could probably do is to keep also to keep uh keep the L\_C\_D\_ and all the buttons and stuff, we could make it like a opening opening style that if you open it you are you just turn on the T\_V\_ and if you close it, it will turn off the T\_V\_. If if you like this, Because, well it's maybe question for you t Yeah. I mean like the Yeah but since we have the L\_C\_D\_, we didn't need too much button too many buttons. Um, okay, just um the decision of the power button. Should we make it a button, or some some something which would be Uh power button. If it if it's a button or Okay. Okay, one nice big button. Old fashioned button, to satisfy the grandmothers. Hmm. Mm. Do we still have the time? I I just wonder. Okay. Oh. Well what w what was the question? Yeah but since we want to control all the televisions, and and it would probably be worth to to set the timing on the remote, no? Because if if the T\_V\_ turns on itself, it well you know, if the time The timer should be there. Ah, yeah. Did you did you ever use the like the timing of turning on the T\_V\_, well And based on your Yeah but it can be on the display in in a corner all the

time on

the remote. Yes yes. Yeah but we we should be careful about the battery life, then. If we use the speech recognition. Yeah. Okay. B you think uh I I'm User Interface Manager. Okay. Okay. If I could go there with this cable. Sh okay. Where's delete button? Okay. Oh I'm sorry. Okay. Oh. Presentation three? Oh. Okay, so here is my presentation about technical function design. I will talk about different components and s of system and how they react together. Okay, uh, first what is a remote control? Simply it's a device, as you know, for uh, for sending some commands by some waves to uh another device to to tell different commands uh with this device. And the main idea we don't use any cable and we can rec react simpler with the device. Uh i it has different blocks, different blocks. Uh first is remote control have sh ha should have some electric circuits uh making interface with uh keyboard and uh r reading uh keyboard and reading the keyboard uh commands. And then inter then make uh these keyboard commands, uh in interpret these int uh keyboard commands. And then there should be uh an electronic circuit making uh electronic signals according to these commands and uh finally there is a transmitter which is a cord or a a diode making uh making uh waves to transmit through the air and uh uh this air this uh wave uh will be received by the by the other device like a television or whatever, to uh r to realise the command. Okay, uh about what I found about uh different uh these different blocks are uh, usually there are two different methods uh to for designing a remote control. They are based on infra-red uh waves or uh uh radio waves. There are two different uh uh solutions I mean. This is uh this can be uh uh the the differences the th between different kind of waves, infra-red or radio waves. And uh also as uh I understood, and uh I think it was a part of uh Bob, uh uh presentation, people prefer to have uh to have uh the remote control with less button. So for the electronic part, working and interfacing, with button, we should we should try to t try to design a remote control having uh some some simpler buttons or some rolling buttons to just to just to search between different options, and showing o something on T\_V\_ and putting less lesser stuff on the uh on the remote control. And uh personal preferences, uh uh uh uh certainly a remote control with uh working with radio waves is uh preferred because uh you can pr you can take it in any direction and you don't need to tune it any way. And uh uh again, using bigger buttons and less number of buttons are also preferred, as I see. Okay. That was my presentation. Uh-huh. Uh, I don't think so, because uh we can make uh we ca we can make this wave in a specific frequency. So they can be in a range which is not inter interfering with the with other devices inside the home. Uh no but as I know, there is a range for uh for this uh f for for uh for this stuff, for designing this circuit. We can we can we can tune our uh transmitter to work in this range, and for this range we don't need to ask any permission. Uh for this I'm not uh I I don't know the solution, but one solution can be something like putting uh p password or something inside the wave, so the only your T\_V\_ can understand it Yeah, identification code inside the The password may simply uh or uh i identification code may simply solve this problem. A specific uh remote control has a specific f Mm. Mm-hmm. Five. Mm-hmm. Mm. Mm. Mm. Yes. Yeah. Mm-hmm. Mm. Yeah. Yeah yeah, at least nine, ten button. Or Or something. Mm-hmm. Okay. Like categorising channels. Mm-hmm. Okay. Mm-hmm. Okay. So uh we don't have any uh we don't have uh we should just design the remote control and we sh we don't have any access to the to the T\_V\_ design or we can change some design. Because one solution for this um uh uh ch changing channels is to see a summary of all channels, some some preview of all channels and then you can Yeah. Yeah b Not on the

control, on the screen, on the T\_V\_ screen. And then Mm-hmm. Mm-hmm. Mm-hmm. Yeah. Mm. Mm-hmm. Mm-hmm. Mm. Settings. Yeah. Mm-hmm. Mm-hmm. Yeah, they can yeah they can be hide somewhere by a cover or something like this. Like covering cu. Yeah, like mobile phone covering. A

button is better. Yeah. Mm. Clock or Yes. Mm. Mm. Yes. Mm. And uh do we need to include anything about the speech recognition and the speech commands, or? I I thin I think it will not take lots of place, we just need a microphone and the software, so, and it sh and it will be a little bit new and interesting, so people may be attracted to buy this stuff and it's not very difficult to uh put a software inside the the electronic device and put a microphone. It doesn't take that much place and also that much It doesn't cost that much. Mm-hmm. Thanks. Okay, can I have the laptop over here, or? Okay. Have to get up. Excuse me. Okay. Okay. Okay, so basically I'm gonna present some findings of a study we conducted uh into uh what users want in this remote control. Um so first of all we what we did is we um conducted a an experiment with a hundred test subjects. Um we put them in a in our um usability laboratory and got them to, you know, um play with remote controls, and also to complete, after they'd done that, to complete a questionnaire uh to tell us what they like and what they don't like in remote controls. So basically um the major things we found out was that um basically users don't like the look and feel of of most remote controls that are currently on the market. Um they, you know, seventy five percent of the people we we uh did the experiments on, found that rem remote the remote controls that they'd used in the past were ugly. Completely ugly. Um they they didn't match the operating behaviour of the user, that is, you know, the the way users use remote controls when they're watching T\_V\_. Um, that the layout of the remote controls didn't match they way that they used it. Um and thirdly they say that w half of the users that we um tested said that they only used ten percent of the buttons that uh are on remote controls. Um so we collect we also some collected some usage statistics uh based on how these test subjects were using their remote control. And from this we basically came up with the figure that the channel buttons, the channel selection buttons are the most by far the most used buttons on the remote control. Um and you can see they're used a hundred and sixty eight times per hour on average, um, while the user's watching T\_V\_. Um the closest button that was used, well the cl the button that was used that was closest to the channel button was the teletext button, um which was used fourteen times per hour, followed by the volume button, which was four times per hour, um, all the other, all the other um buttons, such as ch um audio and picture selection um configuration buttons and things were used, you know, I approx well less than or equal to one times per hour. Um we also asked users um which buttons had the most importance to them, you know, which which buttons they felt were the most important buttons on on the remote control. And basically they came they said the channel, volume, and power buttons had the highest relevance to users, um note that only power was very infrequently used, it only had a b a a fr usage frequency of about one times per hour, but users ranked it as having a very very high relevance. Um and the audio and picture settings had a very that well the users thought that um w the audio and picture settings were very uh weren't very important to them um, and they used them very infrequently a as well. So we asked users what what um frustrates them the most about um current remote controls. And fifty percent of the users said that uh what frustrates them is losing the remote control um somewhere in the room and not being able to find it. Um they also said that it um it takes a lot of time to learn a new remote control, especia

lly when there's many buttons and it's a, you know, a c a a unintuitive interface. Um and then thirdly, they some users commented on the fact that the the you know the way that you have to hold and press buttons on a remote control ar are bad and um cause u repetitive strain injury. We also asked some users about some specific features that they'd like to see in the on the remote control. In particular, do they want an L\_C\_D\_ d display, and secondly, do they think speech recognition uh is a useful feature to have on a remote control. Um basically our findings are that um amongst a younger age groups uh the answer is umv overwhelmingly yes. They want these features, they want these high technology

features. Um for instance, ninety one percent of people aged between fifteen and twenty five said yes, they want these features. Whereas um the trend was as users as users um became older and older uh they were less likely to want these sort of features in a um in a remote control. So I guess it depends on where we're focusing our our market. Um and as our company motto is putting fashion in electronics, um I think we're focusing on the younger younger um target demographic, and so maybe we should think about adding these sort of high technology features into our remote control. That's my dic that's my presentation. Thank you. Yeah, it's true, but, you know, they're features that users want, so it's And our production cost of twelve fifty Euros per per unit is fairly high I think, so I think we can afford to to add these sort of features into our remote. It is true. That's the wrong one, I think. Okay. I have a question. Do you think radio waves um will interfere with other appliances in the home? Okay. Okay. Okay. Mm-hmm. Are we um are we planning to take an off the shelf an O\_E\_M\_ component for the radio wave circuit, or are we planning to construct our own circuit board? Okay s So we just buy a circuit board and Okay. Okay. Okay. What how much more expensive? Are we talking three times more expensive? Or ten times more expensive? Or Okay. Yeah yeah. That's still a lot. I think it's it's probably not worth spending the extra money, because I mean all the other remote controls on the market have infra-red, so people don't expect anything other than infra-red. So it's not worth spending the extra money. Yeah. Yeah. But I think, based on my usability studies I th I feel that users are prioritise the look and the feel and the trendiness above, you know, the difference between infra-red or radio waves. So I think we're better off spending money in the usability phase. Okay. Mm. Well, should we start with just the core, the basic functions that we need. And then we can move on to the more advanced features. Okay, well, I mean the obvious one is changing channels. Yeah. Yeah, okay. Yeah, I Ah yeah. To have some feedback. Yeah. We could maybe also c um incorporate Petre's idea of the um slider for the volume, with the channel. So we c you could quickly just through many channels. For the channels, perhaps. So we've got channel and volume. Um. I think so. I think basically the core functions we want, and then more advanced ones. Yeah. I don't Oh, I don't but I don't think we're we're the ones. I mean this remote control we're developing is a generic control for all T\_V\_s, I think. Okay. But then you don't want to make the L\_C\_D\_ display too complicated at the same time. I mean there's always we can always have these I less often used functions hidden somewhere, under a cover or at the back of under a slide or some Yeah. Yeah. Okay. So we have five minutes left. Um. So I think s the settings we th we are agreeing are agreed that they're required. It's just how to a Yeah. Okay. Yeah. Uh, okay, what else? I mean a power button's obviously uh required. Uh, well I think when they say power button they mean to turn the T\_V\_ on and off. But if you're watching T\_V\_ for two hours, you don't want your T\_V\_ to turn off after five five minute

I mean based on our usability studies again, um pe um people said that the power button was v a very relevant button. Um, you know, it was nine out of ten re relevance. Okay. B Okay. I think we need to concentrate on the, you know, the major usage of the th of the control, which is you sit down, you turn on your T\_V\_, you change channels, you change the volume, you turn the T\_V\_ off. Um and all the other f functionality is not used very often. Yeah. I think a button. I think it should be a bu Its own button on the front. Okay. S What about things like the clock and um timers? Uh um, you know, some func some features on the control to display a time, or t to display Probably not. It's a questi yeah, it's a trade-off. 'Kay. Okay simple. Very, yeah okay, very occasionally. But I do use the I do use the display of the time quite often, but Yeah. Yeah that's okay, that's true. Okay, so no time button. Okay. Okay, cool. Okay Thank you. So um nice to see you again. Uh. So, uh. Tod uh for this meeting I will take the notes and do the minutes. Uh so we will see our three presentations. Um we will start with the uh Manager

Expert wi who will talk about uh user re requirements, whats user needs and what it desire for this devi device. Yep. Oh, I don't think so. I think you have to come here. I dunno. I think it should stay. Should stay in the square here. Oh, maybe. Oh, you can put it here. Oh that's okay, it's jus Hmm. Thank you. So, um maybe now we can talk about a user interface and uh about the technical function of this device. So uh Pet Peter, can you talk say something about that? No. Ah. Sorry, I'm Sorry. Sorry. Yeah, it's still Bob Morris. Yeah you should have put yes. Click on yes. yeah. So can we use any any frequency? We have the right to use any frequency? Okay. And what happen with uh radio waves when two neighbours have the same have our remote control, for example? And so do they have the same frequency, or? Okay. A kind of identification, okay. So Yeah. So Okay. Hmm. Okay. So, maybe you can talk about the function, and Open. Slide show. It should work, so you can. Mm. Yeah. Hmm. Yeah. Yeah. So what do you think would be the price, it would be out of range? Or it would be maybe feasible? Okay. Mm. Why? Because it's simpler? Yeah. Mm. Okay. It's a a price matter. Yeah. Mm. Okay. Hmm. Yeah. Yeah. Well I, oh On the other side, we want to have something new. You know, where we want to to have something new and So we I think we should still thinking about it. But maybe. Okay. Okay. Yeah. Okay, thank you Peter. So um I have to inform you I receive an email from the management bon board today and they have new requirements for the for the remote control. Um first um, they say that's uh about something about t teletext. Uh apparently it becomes from according to them it becomes out of date. Out-dated. And uh Because of the internet popularity and everybody has internet at home, and actually it's not useful to have teletext. Um. So I think we can avoid the teletext. Um the second thing is uh they suggest that that we should uh use the remote control only for T\_V\_, not for D\_V\_D\_ and other devices, because it make it it makes it's too complex and uh because we have not much time for this project we should stay on T\_V\_ on the only specific T\_V\_ remote control. The third the third one is uh about the the the image of the company. So um uh we should we should keep uh The the product should be recognisable. Uh, uh It's That mean we should use the colour of our company and maybe put somewhere the s the slogan of the company, which is uh, we put fashion of in electronics. So, when people see the the remote control, they should say oh it's from Real Reaction and he s they should recognise the company. So, um So now we we should take the decision what we are going to what function we will have on this uh on this remote control. So, mm, are we going to use L\_C\_D\_, speech recognition? Uh. Yeah. Maybe, maybe. Yeah but first maybe what is what

are the usual function of a standard remote control? I mean what do Yeah. Yeah. I think we should stick on very useful functions, because we want less button. So, yeah. So, turning channel, of course. Volume setting. Yeah. I think it would be a b Yeah. On the other side we have more and more channels, and if you want to pass through all the channels to get the channel you want, it's Maybe maybe we could think of something more between, like uh Yeah. Maybe something like that. Uh. Maybe Oh I don't know. Oh. Maybe we could have key buttons, like uh discovery channe like documentary channel, and movies channel and And inside this this thing you can move, maybe switch. If you want to see a movie you click on the movie button so you have all the movie channels and after you've you plus plus plus. I It just an idea. I don't know what you think about that but. Yeah, probably, yeah, yeah. Okay. Anything else? Yeah. Yeah. What about the settings of the T\_V\_? Because it's button we don't use very often, but it's we need it anyway. So Yeah, yeah. I don't know if it's possible to to watch something on T\_V\_ Yeah. Yeah. So, what are we doing with the settings? Because settings if we want to do settings we need buttons for that and we want less buttons, so. Maybe with the L\_C\_D\_ we can do something with less buttons, but Mm. Yeah. Oh yeah. Oh, the. Yeah. Yeah. We should hide them somewhere. In the menus of the L\_C\_D\_ or in the back of the remote control, or something like

that. It's it's a kind of setting, I think. It should fit in those settings functions. Because it's not a very current useful function. No, I think it's after after five minutes or something a timer I I think, no? Oh okay, yeah. Yeah. Yeah. Yeah. Yeah. So s yeah. Yeah. On the back, or For what? Ah oh yeah, yeah. Yeah a button, yeah I guess so. So, any other suggestions or functions? Yeah, we have still one or two minutes to talk, yeah. Usually it's already on T\_V\_ or something like that. Yeah. Yeah. Yeah. If we if we add the time, we have to have maybe a bigger display or something like that, and is it very useful? I mean, are users wants to have the time on the on the remote? This is the question. Is it useful? W In my opinion we should have only useful thing and Because apparently they want The simpler it's is better. No time on. I think Yeah. So maybe we think we can think more about that, and discuss that maybe last time next time. And uh yeah, now the meeting room is busy. Somebody booked the meeting room just for at one P\_M\_, and so we should leave. Uh. So, um. So now we are going for for a small lunch. It's uh funded by the company. And uh after we have uh thirteen minutes to to do indevel individual works. And uh I will do the minutes. And uh you are going to work on your individual works. And uh you will receive as usual your specific instruction and so on. Thank you everybody.

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# Meeting ID: 79

Data Source: Train

## Executive Summary

The project manager opens the meeting by stating the agenda. Then the industrial designer and interface specialist present the prototype, showing where they placed each button, function, and the company logo. Then they talk about the material they chose, which is light gray colored and light weight plastic so that people will want to buy covers. Next they take a brief look at the finance by examining the materials used, chip required, shape, and color. They are exactly on target at twelve point five. Next the marketing expert administers the product evaluation, and the group talks about whether the device is flashy and fashionable, technologically innovative, easy to use, suitable for the consumer, complicated, how long it would take to learn to use it, and its appeal to all age groups. They come up with an average of 1 for the evaluation. They briefly discuss the project process and agree that they worked well together, had excellent teamwork, and created an effective product that meets the budget cost. They close the meeting by thanking one another.

## Complete Meeting Transcript

Could have one for your stereo, one for your D\_V\_ player. Yeah I kinda had a a kinda a natural kind of a idea where it's like more of a kind of like a kinda maybe slightly like thinner, yeah, kinda like that kinda like a flower or a plant for the more natural kinda Uh yeah, just click there. Uh the the maximise button. Evaluation. The the product or the project? Um, well well my presentation just now? Sure, uh can I get the Cheers. There we go, oh. Method of evaluation testing the product was to just if it met all the criteria all the conditions that we set out to set out to solve, from the point of view of the the consumer and the management. So what I've been asked to do is, on the whiteboard um gauge our team response to these questions. So, on a scale of one to seven, one being true and seven being being false. Yeah. And then at the end just take an average Yes. So uh. So, look at these questions. Is the device f flashy and fashionable? So uh and also uh technologically innovative? Easy to use? Uh suitable for the consumer? That was um Yeah. Uh is it complicated? Doing pretty well so far aren't we? Uh functional? Um. Where are we? We've b built in the the speech, where are you, function. Uh-huh. Mm-hmm. And uh, what else? The R\_S\_I\_ compares to the current standards, well. We we uh yeah it was our it was a



we made an actual effort to Um will device appeal to all age groups? Yeah, uh that's a good call, yeah. Well we had the we had the data saying that old people will be less likely to pay extra money but the function the increased functionality, the ease of use of the device might make up for that. Mm. Uh can you just click the my mouse to move onto next page? Uh, yeah and what h did we make the management's Um. Okay. So uh one two three four five six seven eight nine ten eleven. Eleven divided by eleven's one so equals average of one. And that roughly concludes my evaluation of the of the product. Right well. Welcome to the what should be the last of these meetings and uh it looks like we've uh done a good job here and uh we'll just go through the the final uh the final details. Um okay, oh the um th the the minutes of the last meeting uh I think we'll take those as read, um Okay the um th the the next uh thing we we we'll have a look at the uh th have a look at the prototypes and uh look at the uh evaluation criteria and finance and then uh uh just tidy up with production and um and then we can close. Um So f if if you'd like to uh present your your proposals. Uh-huh. Yep, yeah, good, good. Uh-huh. Yep, right. Uh-huh. Yep, yep, mm-hmm. Uh-huh. Yep yep. Yep. showing me age, I don't know what i c iPod covers are like. Yeah yeah. Uh-huh. Okay, yep, right. Okay. Yep. Okay, good yeah. Yep, right. Yeah, yeah. I mean tha it's it's a detailed point, I just wondered I mean h how will people put these down I wonder? Right. Okay for some strange re reason I had it in my mind that they'd put them down vertically but uh uh Yeah, uh no because particularly if they've dif if they're gonna have it as a you know as a fashion item uh I mean it it's uh it's just I mean it's just a minor detailed point, but um as you say you can just make the base a little bit bigger and uh Yeah and uh it just needs another uh another logo somewhere is is is all it gives gives people the option and if if say if they've got them um because actually have several upon the uh Yeah, well. Yeah but that that's uh but uh no the the the overall uh the overall concept is uh yeah yeah, no no, I mean that's these uh Yeah. But uh yeah but no th but the yeah the the the Yeah, yeah, yeah, I mean it it's uh wouldn't wouldn't do that, indeed yeah. But th th but th yeah th b the these were all minor minor uh minor details, I think the uh the basic concept i i is is absolutely bang on and the i it certainly meets our criteria of being uh of you know looking different. Um, so good that's that that's excellent. Um right let us um What's on the next one? Oh right yes, let'

s have a look at the um f finance. Um, now we're given a a clear design brief, uh if I get the uh spreadsheet up. Oh.. Oh right. Ah. Good, this is why we need to make these things simple so that the uh the the the boss can understand. Now I've um this is the company's uh uh costing for for various uh uh aspects of design and I I I've treated some of these slightly uh liberally given the constraints placed on us, um I wouldn't know for in for instance if if they require us to have it in the corporate colours, then that is not a special colour, that's a that's a standard colour. Uh, so we're just simply on batteries, the the one th the one decision I've had to make is that um we're we will have to find a s a regular standard chip to to do this with and I I um I'm I'm I'm certain that they they are around so, um that I don't think is a serious problem. The uh the the voice sensor is is expensive but we we made a a basic decision that that was absolutely fundamental to the to the design so that that has to stay. Um then again the the the shape of the case means that it's it's expensive to uh um I to make 'cause of the the th the double curves but on the other hand because of our overall fashion concept um we we should exceed the the sales targets. Um it's simply made of plastic so th that's uh that's no problem and uh um just because the whole the colour of the the whole thing that's uh uh there's some cost there. Um and uh we haven't actually got a scroll wheel we we we got push buttons and and a simple uh um slider so um and the and the the buttons are uh uh well I do don't know that they're special colour. Anyway the the costings uh come in at exactly on target at twelve point five uh but I thi I think we have a a very strong case to argue that uh what what we've got is is so in innovative and uh and different that um any any slight

compromise we have to make on on cost is is offset by the uh you know the uh you know the the the the concept of it being a a fashion accessory and and having the the interchangeable covers so uh um you know the if if if the management expect us to be techno again fail again technologically innovative um that they they have to accept that we we can't operate absolutely within uh the constraints that they give, so uh we we we present this as the uh the company's uh the the company's way forward and uh uh I I think we can argue that we we have uh come in on on budget. Um. Okay, uh. So um. Does anybody want to uh uh Andrew do you want what do you want to say about um the uh yeah the evaluation where where you know well where where we're where where we're at? The the the well the I meant the product. Yeah. Oh sorry yeah um, mm. Mm. More loud clicks in the microphone. Seven being a nice round number to work to. Tr On for true and seven for flase. Yes. Well I think most definitely. Yes the voice technology indeed. I don't see we could've made it any easier. Totally. No. Yeah. found easily. yeah I mean that's that's Yeah. Does it take long to learn to use? Shouldn't. Less buttons so it must be. So yeah, um um. I think it will because I mean uh old older people who can't manage the buttons anyway will actually probably like the like like the voice bit so And it's it's it's well I don't think we're actually charging a particular premium anyway, in the end, so Yeah. Yeah. It will appeal f for dif for different reasons but it's it's uh yeah yeah so I I yeah I Yeah, so I think we can reasonably say it's another another one, why not? in in in in my interpretation of management's instructions uh is that yes it it meets the requirement is t it's television only, it's it's simple to use, um it's it's it's within budget, um I it's uh yes an an any minor points we we we argue. So uh I I think we've done an amazing job in uh coming up with what Need a need a calculator for that. Okay, nick the cable back then. Ooh. Right do um either of you want to uh say anything? Mm. Before I uh No. Yeah. Yeah. Well that's rig

ht, I mean th this this slide here I mean the satisfaction with uh room for creativity, I mean I think we've allowed ourselves uh as much creativity as the uh the the the product uh allows. Um I won't comment on leadership, uh teamwork I think we've uh I think everybody's uh worked pretty well together. Um we've just about coped with the whiteboard and digital pens, uh I think the results speak for itself and new ideas found, um, again gi no given relatively everyday product, I think we've v very uh very effectively come up with a a new uh uh a new approach. Um are the costs within budget? Yes. Is the project evaluated? We're we're all happy that it it meets all the criteria, um Thank you very much indeed, I think that I think that's uh I think we can go f for an early bath. So I call the meeting closed. Not sure how far ahead of schedule we were there. Mm. S And so we figured it would be kind of you know a light weight plastic, just kind of a light non-descript grey so that people'll wanna buy the covers and then the covers will be that sort of rubbery material like they make iPod covers, so they kinda just stretch over. Yeah, well I I didn't know that but yeah they're kind of it's just kind of a rubbery and that way you know spongy like is something that people wanted and it just sort of stretches over and that way I think probably helps protect it a little bit too as well and just kinda stretch it over and it'll just stay on and then the buttons come through and so and then the each one of 'em on the very end will have the logo with the yellow circle and the R\_R\_. Yeah. Like that. Oh. Yeah. Yeah, just kind of Or just make it little. Somewhere like that so it just sort of Yeah. Bu. fall over. Yeah. Yeah.. 'S a little longer. Yeah. I think it is yeah. Yeah. Yeah. Yeah I think it made we met all of the consumer wants. No. Yeah. Yeah. Yeah. I think so. Yeah. Yeah I think just the simplicity of it and not having to learn to programme and not having you know a million buttons. Under the cost. Yeah., I mixed up the colours a little bit. I think I all wrong. Mm. Ps I don't think so, I mean I think we worked well together and looked really at what the consumers wanted and what we were trying to make and you know, seemed to discuss things pretty well and come

to group consensus and Yeah. Yeah. Alright. Yeah. Okay. Uh okay we basically have the same kinda lay-out here it's just um you hold it like this and it gets kinda moulded to the to the shape of your hand, basically. Um on the left we've got the scroll for the volume, on the right we have buttons for the channels up and down and that kinda so you can hold it and scroll, or you can hold it and and push. Uh this is the power key, um it's kinda like the biggest so you know how to turn on. Uh that's the little menu key. This is the infra-red section so you g it'll be sending rays and if you're you know pointing it like that it can send it, or if you hold it up like that it'll send it. Uh we got a microphone there which for all the voice commands so you can you know talk to it like that and it'll still understand. Um the logo is down down there um and has the cover on it and you can see like it just kinda goes the red bit's the cover and it kinda goes over everything and then there's holes for the buttons to come through. Um. Mm. Mm. Yeah. Mm-hmm. But it's also e e easier to put on versus like mobile covers you actually have to screw them on and stuff and you kinda sometimes have to get someone to do that for you. This is very much you should be able to stretch it over yourself and it'll be fine. Yeah. Yeah. Li that'll be the covers as well, yeah yeah. Yeah it could stand, yeah. Well we could broaden the broaden it out a bit so it would stand like that. Yeah, standing. Yeah, we could just widen it out uh Mm. Mm. Mm, yeah, yeah. Have to if we just lengthen it I guess so it comes down to the base of the hand and then flatten it out and could sit there. Yeah, mm. Yeah. Yeah. We might hav

e to lengthen it so it kinda your hand still holds it and have it there, yeah, yeah, yeah like that, like that. Yeah. Mm. The final product would actually stand up, yeah. Yeah, yeah. Yeah. Wee Mm. Mm. Mm. Yeah I'd say definitely a one yeah. Yeah, defi yeah, yeah Yeah. Yeah definitely. Yeah. Yeah definitely. Yeah. Yeah. Yeah, mm-hmm. No, not at all. Uh Yeah it is sorta the the handle more ergonomically correct as well. yeah. Mm. Mm. Mm. I I I think it will tend to appeal more to younger aged groups just 'cause we have gone with the fashion focus and the younger people tend to would be more conscious of that aspect of it, but um I think it should still appeal on a certain level to everybody, yeah. Yeah, yeah. Yeah, yeah. Yeah. Mm. Yep. Mm-hmm. Mm-hmm. Yep. Yep. Well done us. Excellent. Oh no that's Uh.. Mm-hmm. Mm. Yeah, definitely. Mm-hmm. Mm. Yep. Yep. Cool, thank you,

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# Meeting ID: 63

Data Source: Train

## Executive Summary

Hello you all read what we are going to do or not ? We're gonna make a remote control . I just made a a simple uh presentation . that's my name , . Uh we're going to make uh a remote control , are we going to uh this agenda of our meeting . You know , this is about twenty five minutes , this meeting . it has to be original , trendy , user-friendly Uh first we have uh uh three steps of uh making the the remote control . Fir the first thing is th the functional design , We have to look what the needs are , the effects of the functional design , and and how the mm the the remote control works , so that's where we're going to look in the functional design , The the second thing is the conceptual design , that's uh the spe the specifications of the components and the properties and the specifications of the user interface . And we have to look what uh the market is doing for what kind of uh remote controls are in the market . And the third thing is uh the detailed design it's exactly how it looks and whatever . these are two smartboards , with the uh f uh s an introduction of that one . And you already saw you know all that that you here can put uh things in the the red project uh map . what we're going to do first is um You have to uh draw uh a favourite animal on the whiteboard and we have to uh use a different pen colours and different thickness of the pen . and um and say why it's your favourite animal . first have to show you , maybe you can come here to have a look how it works . Use pen format . and a different colour can use here line width ten . Just draw slowly , because otherwise it won't work . It's a very nice elephant , you can see . It's a bit slow you can see , this is a bit annoying . and then uh what's the colour ? How do I do It's in format . Just make a new blank new blank page . Maybe you should hold your pen a bit more to the back , let's make it um a dog . I make a cat of it . I just draw too quick I think . I thought these pens would be just um uh you write it down and you download it to Word , but you actually got to write on the paper . but I d I I thought it would be just in in in uh typed words in Word , but it's just a picture . Y you can you can't edit in the edit it in Word . it's not that cool as I th thought it would be . Now we just have to save everything , what we know is that we have to sell this uh remote control for about twenty five Euros . And uh we have to make a profit of fifty million Euros , so we have to uh use a big market in Europe . The production cost are about half the price of selling price , can someone make a a calculation about how many we have to sell of these to make fifty million , we're gonna have a little discussion about um what experience are with a remote control the and everything , You have to put it exactly on the on the My laptop is crashing . Uh actually my laptop doesn't work , Okay . I think it works . How

does this work ? Press F\_ eleven . my first question was does it have to be a a universal remote control ? that's a good question . Because we sell it uh uh uh lonely from the t and not with the television , we sell it uh apart . Yeah , it probably would be universal . I don't think you can buy a a a universal uh remote control for twenty five Euros , I know uh you can buy a re a universal uh control for uh only twenty uh Euros we we just say we just say that's universal remote control . And uh also for the V\_C\_R\_ and uh D\_V\_D\_ player so a lot of buttons on the remote control . what what what's a remote control , it's just a black thing with some buttons on it , we can try to make it special . Um if we uh control the V\_C\_R\_ and the D\_V\_D\_ player player with it uh it has to be clear , And how big should it be ? It shouldn't be too big , but I don't think we can make it too small , We can't make it smaller than the things we see now I think . Or we have to make something uh like uh mobile phones that you can uh fold it open . maybe more trendy . Fold open , where you can see uh more options . I think something uh on top , just dren general things like volume and T\_V\_ channels and inside things you don't use that often . O or you could th think of an uh uh a small touch screen on the remote control . Why should you use a touchscreen on a remote control ? or um maybe to keep it uh easy and uh small . But it's not t t t too expensive to put a touchscreen on it . And we have to care for uh the strength of the remote control , because uh uh remote controls are most uh things in the house that falls down on the ground and it get often uh broken . And if you have a touch screen in it , it's definitely too too fragile uh fragile . You can put games on your remote control . Whatever . And uh how about the batteries ? Uh should you put it in a recharger Ma maybe a home station . but yeah , we have to look at the price now I think . uh how much is your uh standards uh mobile phone recharger ? if you buy it uh separately from your phone it's probably expensive , but I don't know what the project uh projection costs are for such a thing . because maybe it's too expensive . Uh if you th look at the market , it's probably it's still the best way just to put batteries in it , but a home station is uh a really good idea , because uh lots of people are uh lose their remote control and don't know where it is , Maybe uh use it as a separate option . Sell it uh separately . and and you just have normal batteries that you can recharge and just put it in the station , or you can change your batteries , The option , just the option , that's cool . Uh I I set something on paper already , size , looks , uh usable , uh the buttons on usable places , uh the the on off button must be on top , uh it has to lay good in the hand , does it has to b have to be um uh like a different form than a normal remote control uh if if we want to make it special , we probably have to do a lot of testing , if it really works . you can um have uh the basic things on the same place , like on off button on top and the T\_V\_ channels one two three four as a block , and then the volume uh obviously on t on top , so you can see . But the rest is uh you don't use that often , so if you have a clear button with an good icon on it , it should be clear as well . And what we have to think about too is uh uh buttons that you use often are um maybe uh like when you fold it open , Uh on on top are the the basic options on top , basically when I'm watching T\_V\_ I'm just using like five buttons or so , maybe it's very hard to to make it fold open and to I look like it's very uh uh Mm . If you if if you make to fold open it's or also an uh the strength uh is not s as good as a normal uh remote control . So maybe we have to to uh keep it like mm a square , just normal remote control . Just think about it . We have to close this uh to finish this uh meeting , We have uh another thirty minutes , so then we're going to meet again . Um for m for me uh the Marketing Expert , the user requirements uh specification , do I need to think as a user , what's in the market , I think this if you you have to n know if it's for s a T\_V\_ , a D\_V\_D\_ player , all that things . uh what kind of

uh buttons do you have . There's already a document in the folder about it . I already wrote some down , some ideas . see you in thirty minutes .

## Complete Meeting Transcript

Hello. Hello. You have to put it exactly on the on the yeah. I took your mouse. Yeah just yeah, no, that's for me, I just have to make some notes. I got my uh mouse. yeah. Uh actually my laptop doesn't work, switch it on again. Oh no. So you all read what we are going to do or not? Okay. Yeah, that's right. I just made a a simple uh presentation. So you put some things in it. Okay. How does this work? I dunno. This one? Ah cool. Okay. So that's my name,. Uh we're going to make uh a remote control, you already know that. Just have a look, are we going to uh this agenda of our meeting. You know, this is about twenty five minutes, this meeting. So um the thing we have to know is you already know what we're going to do, you also read what this the things or, not yet, okay. So um, yeah, it has to be original, trendy, user-friendly that's what we're going to design. Uh first we have uh uh three steps of uh making the the remote control. Fir the first thing is th the functional design, that's very important. We have to look what the needs are, the effects of the functional design, and and how the mm the the remote control works, so that's where we're going to look in the functional design, it's for the f next meeting. The the second thing is the conceptual design, that's what it that's uh the spe the specifications of the components and the properties and the specifications of the user interface. And we have to look what uh the market is doing for what kind of uh remote controls are in the market. And the third thing is uh the detailed design um and that's exa yeah, you know what it is, it's exactly how it looks and whatever. Okay so uh no, this is a these are two smartboards, with the uh f uh s an introduction of that one. And you already saw you know all that that you here can put uh things in the the red project uh map. Folder, okay. So no okay have a look at that one. Okay. So uh what we're going to do first is um so you can read. You have to uh draw uh a favourite animal on the whiteboard and um and say why it's your favourite animal. So and you have this is just to try it out and we have to uh use a different pen colours and different thickness of the pen. So okay, so first have to show you, maybe you can come here to have a look how it works. Yes? Okay. This a new page, it's okay. Use pen format. and a different colour can use here no I just take the pink. You take oh there's no pink, okay, oh just purple, okay. No blue. And uh line width ten. Okay uh just take what I'm going to draw is an elephant. Just draw slowly, because otherwise it won't work. It's a very nice elephant, you can see. I dunno what it looks but it doesn't matter. I just h Something like this? Oh no Yeah, okay. Because I like uh okay. Just takes so long, okay. Whatever, just. You erased this one. It's a bit slow you can see, this is a bit annoying. Okay, so just for you guys just one of you can draw a painting if you want. Just don't um yeah, just u use it like that, yeah. That's okay. It's in format. Yeah. Just No it has to be an animal, so if that's it's it should be a shna snake or something. Okay. Okay okay. Okay. Okay, cool. Hmm yeah, that's nice. Uh do you have to write down why uh that doesn't matter, just it's to get used to the whiteboard, but it's okay. Just make a new blank new blank page. Yeah, not too far to the to the t pen top. Maybe you should hold your pen a bit more to the back, so that no, to the yeah. No, it's a dog. Uh we d only have twenty five minutes, so. Use your fantasy. Just hold it more more to the back then you don't have okay. No, that's okay, thank you. I thought these pens would be just um uh you write it down and you download it to Word, you already did it or no? No, not yet, okay. But it's just Sorry? Yeah, I know, but I d I I thought it would be

just in in in uh typed words in Word, so that's not just it's just a picture. So it's not that cool as I thought it would be. No. I don't know, what time did we start this meetin

g, I'm not sure. Half past. Okay. Okay, perfect. Yeah, thank you. Now we just have to save everything, so. Oh this is definitely the best one. Okay, so uh what we know is that we have to sell this uh remote control for about twenty five Euros. Okay, that's. And uh we have to make a profit of fifty million Euros, so we have to uh use a big market in Europe. The production cost are about half the price of selling price, sorry. So can someone make a a calculation about how many we have to sell of these to make fifty million, I dunno. Uh so we're gonna have a little discussion about um what experience are with a remote control the and everything, so just have a look how it we think about remote controls. Oh yeah, that's a good question. I think it's I'm not I'm not sure, it's not mm I think I don't think you can buy a a universal uh remote control for twenty five Euros, so not sure, but Okay, so we we just say we just say that's universal remote control. Okay, perfect. Yeah, everything just so a lot of buttons on the remote control. No, just everything.. so yeah, what what what's a remote control, it's just a black thing with some buttons on it, it's not nothing very special, but um yeah, that's right. So do you have any ideas how it has to look for for usability or user Hmm yeah. That's right. Should be a good point. Just big enough for the buttons we have, that's that's it. But you you you you think about uh uh one you can fold open. Okay, yeah, that's cool. Maybe for the D\_V\_D\_ pla player or something, if you just okay. Yeah. Why should you use a touchscreen on a remote control? There are buttons on it. Okay. But it's not t t t too expensive to put a touchscreen on it. Yeah. Yeah. So. And if you have a touch screen in it, it's definitely too too fragile uh fragile. No. You can put games on your remote control. Whatever. Oh maybe that's a good idea, just to put it on your television and just s recharge, you never have to use any batteries. Yeah, how m how mu how how expensive uh is a normal recharger? I dunno. Uh if you th look at the market, it's probably it's still the best way just to put batteries in it, because maybe it's too expensive. Yeah, that's right, yeah. The option, just the option, that's cool. Yeah. Has it be has does it has to b have to be um uh like a different form than a normal remote control or Yeah Yeah. Yeah, just for the T\_V\_ and just the normal function, that's fine. But maybe it's maybe it's very hard to to make it fold open and to I look like it's very uh uh what's it's called? Maybe it's hard t No, that's right. So maybe we have to to uh keep it like mm a square, just normal remote control. Just think about it. We have to close this uh to finish this uh meeting, so. There's some more things. We have uh another thirty minutes, so then we're going to meet again. So you know what you have to what you have to do? Yeah. Yeah, I think this if you you have to n know if it's for s a T\_V\_, a D\_V\_D\_ player, all that things. Also from a user, but all these things together. Yeah, everything. Yeah, no maybe not not uh, that's not a f that's something for for for yeah. That's not for you. Just if what's in the market, what's normal, uh what kind of uh buttons do you have. Yeah, it's alright. Yeah, just is that okay? Okay. So see you in thirty minutes. For the next time you have to uh put it exactly on the square, so your laptop. No, sorry. Good morning. Okay. Good morning. Should I bring my uh pen too? Or Okay. I do. My laptop is crashing. Cr Help help help. Test test. Yes, it's working. I think my laptop is a bit etchy. Uh p Okay. Wow. Wow. Take it easy. I I was gonna make a cat too. Okay. Nice, eh? Uh. Excuse me. Yeah, it probably would be universal. Hmm, maybe, I don't know. And uh also for the V\_C\_R\_ and uh D\_V\_D\_ player and okay. Yeah, probably. Okay. And how big should it be? Yeah. Yeah. Yeah. Yeah n Yeah, or you c O or you could th think of an uh uh a small touch screen on the remote control. Uh maybe be uh

it's it's Yeah, or um maybe to keep it uh easy and uh small. Uh like a a to have Yeah, maybe it would. Kid-proof. And uh how about the batteries? Uh should you put it in a recharger or a just Mm yeah. Yeah, I dunno. Yeah, if you buy it uh separately from your phone it's probably expensive, but I don't

know what the project uh projection costs are for such a thing. Yeah. Yeah. Yeah, but I have a mouse that's uh uh also uh Yeah, and and you just have normal batteries that you can recharge and just put it in the station, or you can change your batteries, so. Yeah. N uh if if we want to make it special, we probably have to do a lot of testing, if it really works. Yeah. Yeah. And what we have to think about too is uh uh buttons that you use often are um maybe uh like when you fold it open, when you have it closed, you can still uh do the th the functions. Yeah. But n yeah, but uh i basically when I'm watching T\_V\_ I'm just using like five buttons or so, so. Yeah. Okay. Okay. Okay. Two. Good morning. Mouse. Come on. There we are. Let's just check one more time. Mm. Yeah. One uh most to the right. Yes that one. Yes. Yes. Yeah. Purple. Looks very nice. A pink elephant. The water is important. Yeah. Yeah. Like this? Okay. Um let's make it um a dog. Ooh. Ah okay. A pig? I can make a dog. Um 'Kay, I make a cat of it. Oh, not too quick. No I have it. I just draw too quick I think. Okay, that's it. More. It's just to get used to it. Yeah, that's right, it but you actually got to write on the paper. You really got to write on that paper. Yeah, but it's just a picture. You really No. It's a donkey. Uh I think it was uh Yeah. Piece of cake. Uh easy. Universal. And only television? Or more devices? Ah okay. Not just a T\_V\_. Okay. Well we can try to make it special. Well Yeah. Nothing N It shouldn't be too big, but I don't think we can make it too small, 'cause it has to have a lot of functions, so. We can't make it smaller than the things we see now I think. Yeah. Or we have to make something uh like uh mobile phones that you can uh fold it open. Maybe then you can make it s smaller and uniquer, maybe more trendy. Fold open, where you can see uh more options. I think Yeah, something uh on top, just dren general things like volume and T\_V\_ channels and inside things you don't use that often. Yeah b I wanted No you can make an uh manual in it. But that's Yeah, I think it's much uh too expensive. Yeah, too fragile. Yeah. Yeah. Maybe that's a good idea, but yeah, we have to look at the price now I think. Well uh how much is your uh standards uh mobile phone recharger? Maybe have uh Yeah, 'cause well Yeah. Maybe uh use it as a separate option. Sell it uh separately. Rechargeable. Yeah. Yeah. Well I think we have to look at that, 'cause well you can do the standard way, but then you won't Well you can um have uh the basic things on the same place, like on off button on top and the T\_V\_ channels one two three four as a block, and then the volume uh obviously on t on top, so you can see. But the rest is uh you don't use that often, so if you have a clear button with an good icon on it, it should be clear as well. So it doesn't matter what place it is on the remote control I think, so you can do something unique with that. Yeah, yeah. Yeah. That's what I meant. Uh Okay, but yeah. No, what you want to do with it. Yeah, I also wrote down some stuff that you want on a Technical fun fu What do you want to do with your remote control, what do you need on your remote control. I already wrote some down, some ideas. Yep. There's already a document in the folder about it. Okay. I will. It didn't say that. Your fault. Bye bye. Hello. Ah. Plate? Uh I also forgot my mouse, but I don't need my mouse, I think. Damn computers. Can you hear me? Hello? Test. I dunno. Check. Okay. I think it works. Mm-hmm. We're gonna make a remote control. Press F\_ eleven. Folder, yes. Ah I can see it now. It look like a dinosaurs. Okay. Let me try one. Okay. Mm. Okay and then uh what

's the colour? How do I do Ah. I'll take this one. Uh there has to be water, but Yeah yeah, but it's an animal it's an animal that lives in the water. So I first uh draw the water. Uh. Okay, and now I make the animal. It's a fish. Mm-hmm. So. Um This is a worm. Okay, who next? Uh Okay. Well Paul? I think it's a pig. Or a dog. A sheep? No. Yeah yeah, it's a real pen. Oh. Y you can you can't edit in the edit it in Word. Oh, okay. Half past ten. Brilliant. Yep. Yeah, my first question was does it have to be a universal remote control? Because we sell it uh uh uh lonely from the t and not with the television, we sell it uh apart. So I Because Yeah, I know uh you can buy a re a universal uh control for uh only twenty



uh Euros Yeah, I think. Okay. Well I th I thought about um making it the same uh style as the television, we don't have uh the same television uh all the time, so uh that's no matter. Um if we uh control the V\_C\_R\_ and the D\_V\_D\_ player player with it uh it has to be clear, because uh kids and uh elderly are gonna use it, so uh it's not only for the uh technical persons. Um I think it must be a very good control, so you can uh uh uh act uh use it from uh everywhere in your room, the the infrared uh thing must be from very good quality. No. Yeah. I dunno um Yes Ah that's that's Ah right right. Oh that's good, yeah. Yeah. Yeah, but Yeah but it's not reachable I think, touch screen. And we have to care for uh the strength of the remote control, because uh uh remote controls are most uh things in the house that falls down on the ground and it get often uh broken. Yeah and a lots uh uh lots of kids use it and touchscreen is not uh kids uh Um Ma maybe a home station. Yeah. Ah yeah. Yeah, but a home station is uh a really good idea, because uh lots of people are uh lose their remote control and don't know where it is, and now you can put it always at the same place. Maybe it's Therefore it's a good idea, but maybe it's expensive. Yeah. You can yeah, you can buy it with it. Oh yeah. Uh I I set something on paper already, size, looks, uh usable, uh the buttons on usable places, uh the the on off button must be on top, uh it has to lay good in the hand, you you have to uh Yeah, I don't I don't know I don't know if we You can make it very special, to create our own um looks, but it's very hard to Nah. Yeah yeah, what Paul already said. Uh on on top are the the basic options on top, and if you fold it open Mm. If you if you make to fold open it's or also an uh the strength uh is not s as good as a normal uh remote control. Okay. Um for m for me uh the Marketing Expert, the user requirements uh specification, do I need to think as a user, a as a a only the looks and the Okay. Yeah, it's also about strength and uh for everything uh. Okay. Yep. Okay. Yeah, me too. Okay, well done. Oh Paul. Ciao. Bye bye.

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# Meeting ID: 112

Data Source: Train

## Executive Summary

The Industrial Designer presented the functional components that will appear in the prototype, and discussed with the group the high cost of the wheel sensor and the possibility of incorporating speech recognition. The User Interface Designer presented existing remote controls to help show the interface of the prototype. He showed how the new design will be more simple and ergonomic than the models he displayed by eliminating extra functions. The Marketing Expert presented news about trends in fashion and in the market that will be incorporated into the design. A fruit and vegetable theme and spongy materials are popular trends that will be used in the design. The group finalized which features they wanted to integrate into the design. They decided to make the remote shaped like a banana and spongy, to have the buttons lighted, to have a wheel sensor at the top of the device, and to use only a standard chip and battery that would not accommodate speech recognition. The Project Manager instructed the User Interface Designer and the Industrial Designer to construct the prototype, and announced that the prototype would be evaluated in the next meeting.

## Complete Meeting Transcript

Okay, I can go? Can I? So now the recent investigation we we have done fo of the remote control um. So, the most important aspect for remote controls is to be fancy look and feel and not current functional look and feel. And um the second aspect is uh that the remote control should be uh technological innovative. And the third most important aspect is to to is that the co remote control should be easy to use. So, are things we are we have uh speak about before. Yeah. And um so you you can go after. And there is a fashion watchers in Paris and Milan that have detected the following trends, uh fruits and vegetables will be the most important theme for clothes, shoes, and furnitures. So, maybe if our remote control have to be a fruit form or vegetable form something like that, or And the mm the material is expected to be spongy. Uh I don't know which material can be spongy, and if you Mm-hmm. Okay It's robust, yeah. Not good. An and and uh this uh you can yeah you can say that. You ca uh you can go uh before, before, yes. And you know here the more iz important aspect is the fancy look and feel, after is uh technological innovative, and after the easy to use. Yeah that's why Yeah that's why I think we have

to keep that if it's possible. Innovative. Mm. Yeah. Mm. Oh, colour, yeah. Oh i i I thought about a pear, for example. You know the pear, is like that and it's it's easy to to have in in hand and uh Yeah. Or a fruit like that. I dunno. Yeah. But you don't have Yeah. Mm-hmm. Abdul al-Hasred is my name. Mm-hmm. Yeah. Mm. Yeah. Also have to say Did you receive the email about the voice recognition? No? Yeah. You we uh an email from the manufacturing division that they have basically a voice recognition chip already developed. Says Yeah. It says that ri right now they just use it to uh to record uh answers to particular questions. But I guess it could be I guess it's possible. I mean instead of recording the answers you can just uh record uh something simpler like a command. Yeah you reco recognize commands and you can record new commands and stuff, so if they already have it as uh as a chip then we we could use it. Okay. Mm-hmm. I have a question about that actually. Um, what is the purpose of the light? Is But But in th in the dark uh Yeah but is going to be always turned on, the light? But if you move it then you have it, you don't need to find it. You can see the buttons better, of course. Yeah. But if you move it then you have to have some sensor to when you move it to detect your movement. Yeah, but you need another sensor for that, right? Yeah no it's too expensive. Okay. Mm. Extra. Yeah, okay. Mm. Yeah, but I expected also the wheel would be cheap but you tell me that it is very expensive so, yeah. Mm. Mm-hmm. Mm. Okay. So uh my one, it uh should be in the shared folder. So. It was last time I saw it. Okay. So, just move to the next slide. So basically want very simple, right? That's the major idea, as simple as possible. So I just look at some current designs uh on the web, of usually more complicated remote controls. And let's look at two of them because uh th even though they have many buttons they look quite simple. And in our case we just uh reject the buttons what we don't need and it become even simpler. Um. So. Yeah. Well this these uh these remotes are quite big, so go to the next page, so. We have all these buttons as you can see, but most of them, we just need the ones in the middle. So, from the bottom or whatever is there, uh the uh the numbers and then the top, uh until the ten also, this middle part, and on the left one is exactly the same. So it's basically more or less how we would like it, with a big volume control, big channel control, and mute and power, yeah? These are the basic thing. So basically, w software we will build will look more or less the same as these two. Yeah, if you have, for example I think that the volume and the buttons that are there on the top are not very easy to reach with your

thumb. It could be on the right side, for example. Yeah. Because we don't have these input buttons and this other stuff that they have. And I think that the plastic cover is not very good uh idea because you open it, it can break, you ca you can do various things. Uh you just need to put the channel numbers somewhere a bit out of the way. So that they're separate a bit, yeah. Uh and it's easy to press the other the big buttons, but uh, it's not that difficult to press the the channel buttons either. Mm. Yeah, I think that if you put the cover it will be even more difficult for the user. Alright, you won't yeah. Usually what I have noticed that people put the plastic cover on things that you normally don't mess with, like buttons for t uh tuning the channels and stuff like that. Yeah. That you want to protect a bit. And I think it's uh it's reasonable. So, I don't think Yeah, this is just the the wheel. We could use the some wheels can be pushed down, could use the push down of the wheel for the record if we want. Uh so we could just basically use one just wheel and uh user could use just the wheel to do everything with the channels in that case. Yeah, I guess the market researcher will tell us all about that. Mm-hmm. Well, wou wou I think we can certainly just put the electronics in a spongy thing, it it would work, right? Yeah. You can throw it to the television. Hey that's a cool one. We could say that if you throw it, you have a sensor, and you throw it and hits the television and turns it off. When it d uh takes a shock. Yeah. How do we make it look cool is the question. Yeah. Well the obvious thing is a banana, I guess. The banana is also

ergonomic. Is there any fruit that is spongy? Yeah. You can make it um It's not hard, the metal. Plastic. Mm. Yeah. Two of the button, yeah. Yeah. Yeah. Yeah so you can just have uh just have this curve, yeah, and you move uh your hand here to press the buttons and then you move uh on the other side. So you can have it on on two sides and it'll be cool, no? You can put also vibrator inside. Ah-ha. You can also take into account the fact that the banana fits with the colour scheme of our company. Yeah. I hope the students of management die, but anyway. Now who are recording this meeting? The only th Yeah. Y Yeah that can be in inside th in the structure. But uh the thing is that the buttons and the wheel have to be I mean if it's spongy then the buttons and the wheel have to I mean if it's spongy then it's going to move, right? So, it's going to be bend a lot. So if we try to push the buttons, it You think it's possible? Okay. Yeah. Well, usually hold 'Kay, we want it to be good also for the left-hand users, right? Uh Yeah but okay. Sa let's say that th o It has to be basically you can only take two sides, one on ths this side where is the thumb and the other side where there is uh yeah also the thumb. Basically. Or you could use use this one, but I don't know if it's very comfortable, to use this one for the wheel. This for the wheel and then this for the buttons? Should have the two sides. So if the left, we have the op Wheel Wheel buttons. Yeah, the problem is if you have buttons and wheel then when you turn it around, the buttons are on the other side. So you cannot see them. Yeah. So the buttons have to be here and the wheel has to be Y Yeah I know, but uh if you hold with your left hand, and the wheel is here, and the buttons are here, then when you turn it around the buttons will be on the other side. Okay. Okay. Maybe. Yeah. Yeah. Mm-hmm. Yes master. No. Yeah. Yeah. No. Maybe you can make uh uh mm okay. Uh, I\_D\_ you want? Yeah. I only v have three slides, so. I just look at the mm um just this. On some web pages to find some documentation and I think a remote control is, as I s mentioned previously, you just have a a very simple chip and the mm the user interface is just done usually by push button and in our case we are using a um a wheel control. So uh uh I was looking basically

for that chip, which is uh very very standard, and uh I just looked for the wheel sensor and the standard push button. And um yeah we can change directly. In fact I have the number of that element which is very standard for remote control. The push button are usually extremely cheap, but I just have one problem and this is related with the wheel sensor, which seems to be quite expensive. And I think we if we could just talk about that if we really need a wheel sensor or if we can not if we could combine something with the push button. Uh a wheel sensor is fifty time the price of a a push button. Yeah. Yeah I I th But I don't think that uh we should We should talk about uh the design of the box also which needs some money. But Um that's all yeah. I haven't chec Mm-hmm. Yeah but I think it's yeah Sorry, I haven't written my personal references. Um the I I just want to mention the the problem of the the r wheels sensor which is much more expensive than any push button, and if we could reduce that. We we have already some good things uh with um um with the backlight of the push button. Just to to make something which is uh slightly more design that uh a squarey box with a rubber Yeah. Actually. As soon as you thought to move the the remote control you have the light. Yeah. Again. I don't think that this is really expensive, but at the end this is plenty of unexpen eh very cheap devices but uh the bill starts to be First of all I was thinking to have a a continuous light and you w when t you you you you press the on button you have the light on your remote control, when you want to turn off your device Yeah, a little bit. A little bit. Yeah. Yeah. Mm-hmm. Mm-hmm. To s Mm-hmm. I support an apple. Yeah. Yeah. Yeah. Me too. Ah it's okay. I know that they do that for alarm clock also. Yeah. Mm-hmm. What about um And for maybe look and feel, what about a a piece of ice, with blue L\_E\_D\_ inside? Yeah. Yeah. Yeah. Yep. Yeah. Banana I think, it's a nice idea. Because But You y you don't use the banana when the banana is curving like that, but when the banana is curving like that, with the wheel on the top and to control, and

here you have a a push button to Yeah. And everybody knows what is a banana. Basically. If you if you start with uh fancy fruits and fra s and tha Oh, yeah So So we will just use a a standard battery? And uh the chip we chip imprint we know exactly which one we are going to use. Uh what do you mean by case? Yeah. Uh I mean for me if we use a a spongy banana case, doesn't matter. I just want to have so something to prin to to fix my my components onto that box, and that's it. Yeah yeah. Yeah. Spongy also. Oh no I think it's possible. Yeah. Yeah. This is uh like the Mm-hmm. Wheel on the top. Button, where do we want some buttons? Yeah. Yep. Yep. Mm-hmm. Mm-hmm. Mm-hmm. Yeah. Thank you. Okay. So we are here for the concept design meeting. So, we will first start by summarizing the mm the previous meeting and the decision we've taken. Uh I will take notes during this meeting so uh that you can uh look at my uh folder to see the summary of this meeting afterwards. So each of you will uh show us the various investigation they've done during uh previous uh hours. We'll then t take decision in concert and then uh uh we will uh define the nest next task, to have to be done before the next meeting. So, last time we decided to have a simple interface. We also decided to have a wheel to change channel previous channel button. Channel digit uh buttons should be uh protected by plastic cover or something for the remote control to look very simple. We have also button for volume, and to switch on off the T\_V\_. We have also uh the lightening feature for the remote control to be easy to find, and for fast developement and low cost we have decided to have no L\_C\_D\_ no voice features. So now uh we will have three presentations. So the conceptual specification by Industrial Designer, the specification of the U\_I\_ by or U\_I\_ okay. And

uh the last point is uh trend watching by Market Expert. So maybe we can start with uh industrial design. So this is the presentation. Maybe I can switch slide uh on your request. Yeah. Yeah. Okay. Okay. But is it a significant price on the whole remote control? Because we can afford up to twelve Euros for the price of the remote control. So will will will this with uh including all possible things, so buttons, wheel and the chip, be uh lower than twelve Euros to produce? Okay You received something Hmm. And could it be adapted? Okay and there can uh recognize some commands and stuff? Okay. Yeah. Okay maybe we can just uh listen to this presentation and then take decision later on according to those news. Okay. You can easily find the button in the dark or so? It will be turned on when the when the user move the remote control I think, no? Hmm. Yeah. Yeah. Yeah. True. But it can be uh battery consuming, no? To have the light always on? Well we will discuss that after maybe the other presentations. Yeah. And it is. Okay. Yeah. Yeah. Yeah. And also does it uh fit well in hand? Because it was uh th your wrist problem with the usage. Yeah. Yeah. Yeah. Yeah. Yeah. So it's only the central part. Yeah. With a maybe a more ergonomic design on on the bottom part. Yeah. Okay. Okay. Okay. S Okay. Will be down or Okay. Okay. Okay. Okay. Mm. Yeah. Maybe the wheel will be a good advantage over our competitors. Because otherwise it's pretty standard apart the fact that it's very simple. So maybe it's worse to uh to have more expense on that's that aspect. Okay. So we can move to the Is there any question? For designer of user interface? or we can move to the next part, maybe, and discuss afterwards? Okay. Yeah. Okay. Yeah. Yeah. Okay. Yeah. This is good also for Yeah. I think it is good also f to have a spongy material, yeah. Yeah, because it's robust. Yeah uh sorry? No. Yeah. Before? Yeah. Yeah. Yeah. I think it's innovative to use the mm the wheel because I think no one else has. Has it? Yeah. I think it's it makes it both easy and both innos innovative. So I think it's a good aspect and it should be kept. Cool, fancy? We have to make it I look like a fruit or vegetable. Maybe uh um a colour that remember some fruit uh, things like that. Maybe yeah. Yeah, and it's ergonomic as well. A pear. Yeah. Maybe pear yeah or something like that. Yeah. We can discuss that uh. D D Is there anything you want to add? I don't think so. I think we we can have like yeah a pear is good, fit

well, or banana as you told. Something like that. But that's not in the trend.. The trend is spongy, and vegetable fruits. I think p spongy is good because it it will be robust as well. So, I think we can keep the wheel because it's uh easy, it's innovative, even if the cost is a bit higher, and we also have to find a, so, a fruit like pear or banana wit uh any others idea you have. What kind of fr fruit would you like to control your T\_V\_ with? Odi Banana is also yellow so you you can't lost your remote control then. I think it's a good idea, yeah. Yeah. Yeah. I think it's a good design and it's innovative as well then. Maybe we can keep the banana. And it will be very easy to find. Yeah. Yeah it's really uh really a good point. I think it So One second. So we have to take some decision on this aspect. So, uh so for sorry, for uh component, so we have to think about those aspects, sorry. Yeah. I think it's the box that should be spongy, banana's shape. But No the button would be In fact it it should be something odd shaped, with a spongy cover. Okay odd shape with spongy cover. And standard battery okay, a chip imprint, there's no specific problem. So we agree to put the wheel So it have to it has to be symmetrical. Yeah maybe the thumb is more comfortable. Yeah I think it's okay for both right and left. Mm. I think you can turn it this way also. You can do both with both hands. I think it's okay. Well, you you will get used to it. And moreover, th the button ar

are lighted so you you immediately identify the right side, because you have light on buttons. Yeah. No you you I think you will use it only on the right or left hand, whether you are righty or lefty. I think for lefty it's okay. I can do this movement, and for righty as well. I think this doesn't change that much. Yeah? So, for interface we said also that we have uh this banana shape with button on the s on the side. And and uh a wheel on the top. So the colour is yellow. I think it's uh we defined everything according to what we should what the decision we should take, yeah. So maybe we can um we can uh work on those aspects uh until next meeting. So have the final uh look and feel design according to the decision. And have the the user interface design and uh then evaluate the prodyuc the product. That is to say, uh check if it fit the the requirement uh given by the users, but according to uh your presentation it seems to be okay. It seems to be fancy, innovative, and easy to use. So so to prepare the prototype I would suggest that the Industrial Designer and the User Interface Designer uh work together. That would uh be better, I think. And uh And so uh you will receive further instruction by emails, as usual. So do you need to add anything? You feel okay? You feel uh free to express what you want to say? You don't feel too constrained? You don't feel free to answer this? Okay, so See you.

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# Meeting ID: 43

Data Source: Train

## Executive Summary

I suggest we start the meeting uh without Matthew uh he's uh obviously late for some reason . Today uh we will uh talk about uh conceptual design . I hope uh you both did some uh some work uh concerning a uh conceptual design . Um this will be the uh agenda for the meeting uh . Uh I will take some minutes uh again . Um we will have the presentations of y of you different team members , and then try to come to decisions uh about the concepts uh you have presented . we have some uh forty minutes uh to complete this uh . do you ha Anna do you have your presentation ready ? I think yeah the Matthew it is it's important that Matthew yeah is here there is Matthew . this is just a presentation on uh the trends that we're gonna use to make the product stand out from the rest of the products out there at the moment . we have to work out a way what we can do with our product to make it stand out and make it so people wanna buy it . We basically used um some focus group surveys and um some research on the current design um and fashion trends that are out there at the moment um , The important aspects that came out were things that we've already discussed really . The most important by far was the look and feel of it . It needs to be something that's very different from everything else out there . It needs to stand out . It needs to be not functional like the rest of the things out there at the moment . we need to have something that looks interesting , that looks exciting , that will stand out . That was twice as i important as the next item on here which is that it has to be technologically innovative People have to then think about it and say got something there that I want . That's a really cool feature , Third on the list , and again innovative was twice as important as this last um aspect , it has to be easy to use . So they have to be able to be able to look at it and have some intuitive idea of how to use it um . Drawing on the fashion trends at the moment , uh fruit and vegetables um . This is basically talking about just the the feel of it , so probably not the smell of it , but the bright colours , um eye-catching , really bold designs , and a spongy feel . Um I had a talk to the design people about this , but having a remote that's tactile , that feels different , that would be really cool . spongy is the current thing . Spongy is the current texture , can you repeat and be more precise about what you just said ? but basically there are no reports no remotes at the moment which are spongy or tactile at all , so if we make it like maybe furry or soft or something , that'll be something that sets it apart , rather than just bare plastic which they all are at the moment . going with the fruit and vegetable idea , we've got the bright colours , so makes it stand out , the oranges and the the bright yellows and the florescent colours , part of the fruit and vegetables um . Going back to

the idea of taking inspiration from mobile phones , a lot of them have the changeable covers , so they can choose what colour the outside is . Textured feel we just talked about . So if it's part of the the changeable covers then may maybe they can choose a different texture , a spongy one or a soft one or something like that . Yeah that's a very good idea , yeah . still taking the inspiration from the mobile phone design so functionality , the way the mobile phones work , the way the keypad looks . Um we talked about having a way of finding a remote control if it's been lost , There are other aspects like L\_C\_D\_ screens and speech recognition which weren't I don't think , in my personal opinion , gonna be worth the extra expense and the extra effort that will go into them . I think we're better doing something basic like this and very will be a really cool feature to put in . maybe we just , the basic idea of having your core functions big and at the top maybe , by themselves , and then th th the finer details of buttons you don't use as much either hidden away or completely separate . Yes the the the there are changeable covers , but on the other hand I I don't know whether my superiors would be so glad with it because you have to introduce a complete uh uh new I line of uh of supplies uh it would be uh very complicated uh organisational we can afford to have two or three different designs at least . I mean those covers could go for for three , five Euro . then the the idea of uh having a remote is generally you have uh different keys and uh different structures , different forms , and uh they could be like buttons and um they could be of uh a varying sizes if you want to to uh basically emphasize a particular key more than the other , and uh maybe like you can have different colours for example having the r red for the on off switching on and off the button . So what I have found was that uh currently uh the they are mostly that the T\_V\_ , V\_C\_R\_ , music system operated ones actually , for example if you want to follow the V\_C\_R\_ and if you want to follow the uh g uh s some uh soundtrack on the w w see they have the common thing actually you can have I like the idea though of having speech recognition for like the n the name of a channel like B\_B\_C\_ , rather than having to remember the the number of it on the keypad . because uh as more and more channels come then you have more and more problems to remember the v v exact channel numbers ex exactly , There is also um a speech recognition to store channel information , names , if you have a multiple functionality , say T\_V\_ , V\_C\_R\_ or something I say it to the T\_V\_ and the T\_V\_ , and you can programme the keys if you want to , certain keys are even the channel information . In the present market I saw it that says something like they are looking for eighty word thing , eighty word , which shouldn't be th that difficult to implement , like eighty to hundred word . Basically you want you don't want to store all the channels in the remote control , you want to st store your favourite channel . Maybe ten channels , yeah at the most . like the remote with L\_C\_D\_ display for browsing because you have multiple functionalities for example you are watching a movie , and uh uh you are having a universal remote control and you want to uh you don't know really which functionality is now , for example I can use a simple toggle switch , and a display , so I press it so the display says , okay , I'm in T\_V\_ or D\_V\_D\_ or whatever it is , instead of having three keys separately for four keys , there can be children friendly where you can programme your remote so that they they are not allowed uh to browse certain channels which you can block them , and you can operate them . I personally would look at things like having a u universal remote , instead of having unusual ones for all of them you can think of having , um with multiple functionality possibly with speech recognition . I got a mail from the the coffee machine interface unit that uh they have uh integrated the s speech recognition into a into the coffee machine , and so if you say hello



coffee machine , it say hi Joe , or something like that , But a coffee machine , there's not too many words they'd be using with that it's a small vocabulary . so it's a limited vocabulary mm thing , and very isolated word and it's uh it is interesting , and basically storing the channel through voice or other ways of programming your keys , on the display for the browsing and maybe having something like a blinking thing , like uh it could indicate you're uh it it could indicate what is cal like the uh whether uh you you have enough battery in your in your uh remote , the blinking . At the same time , if it's a dark room , it can be used to locate the remote also y you want to let the user to programming the keys ? Some of them ? Yeah you can let them to do that . And uh isn't that too difficult I don't know if we still want the um R\_C\_ to be easy to use , it d depends on the easiness like the user how much effort he can put . You can have it so it's easy they can pick it up and use it straight away without doing anythi without customizing it , or if they want to they have the option of using these extra features . because I I'm not sure whether that that we can implement that for twelve Euro and fifty cents . I'm sorry to have Every time I have to come down on this price again so this might be a little limiting for your creativity , do we think these ideas an and my uh sp speech recognition , I mean maybe it's possible for for twelve Euro but then then it will be at cost of other functionality we might implement like the uh uh the the the furry uh uh case of the I would say that for programming uh keys , you said , uh it could be uh easily uh done within the the package of twel twelve Euros , i if it's a low vocabulary it's already implemented , and w how much it's cost , maybe with a f cheap chip . I like the idea too of being able to use the remote in the dark , so either having the buttons so you can feel the difference between them or if they if they light up or something . maybe if you added little bit of display , you might need the to che keep checking the battery , so you really need a some kind of indicator , so it could be a blinking option of L\_E\_D\_ like if you have an L\_C\_D\_ display and all those things it's not going to be the standard remote , uh which need just uh six six volt uh th sorry three volts um of D\_C\_ . so y you you may need to check your battery usage and then you need that , some functionality to indicate the battery limit . And then if the battery limit is indicated , if it could be ind indicated through a blinking something what I'm gonna present here is very uh um yeah basic knowledge about the all the the components that are inside a a R\_C\_ a remote control , and how is it manufactured h what is the process , just to explain you . there is a a set of components in a in a remote control the the components in themself do not cost a lot there are two uh different types of uh um Two different ways of using the the components for making a a remote control . Uh the basic way is to use a an integrated circuit and some uh transistors with an that aims at communicating uh uh the message and to to send the message to the um to the led that will uh transmit to the receiver . the other components and the circuit board buttons , infrared , led , etcetera , for the components just to say that the chip can detect uh when a key is pressed , and then it translate to the key , to a sequence , something like morse code , as you know , uh with a different sequence for each key , electronic parts are assembled onto uh printed boards uh because it's easier to mass produce and assemble . I think for our design we want some b uh programmable uh you know V\_ V\_L\_S\_I\_ or F\_P\_G\_A\_ uh high technology , and also we'll use uh yeah like in any uh high-tech uh devices a chip of fi fibreglass to them and connect them . my personal design we need to find a solution what um what is the material of the cover we want to use . If it's plastic m m maybe m maybe we can give the uh the uh the case a very uh uh normal a v very normal case but , with the changeable covers to fancy it up . So like a normal cheap plastic case which can be

covered up in , for instance , a wooden case . they also emailed me that uh they have available a bunch of different buttons , a scroll wheels , integrated push buttons s such as a computer mouse . And uh very cheap L\_C\_D\_s , so liquid crystal displays , so I'm wondering , I think we might be able to integrate L\_C\_D\_ into our R\_C\_ . And the final point okay is um we have yeah there are some uh compromise to to do . we have to know that the push button requires a simple chip , but the scroll wheel uh and that kind of higher high-tech stuff needs more money um which is a higher price range And the display requires an advanced chip , which in turns is more expensive than the regular chip , but I think uh with twelve Euros um and if it's uh uh made for mm four million uh items , then I think w we could be able to handle that . And uh for the designing of the cove uh uh cover layout then it's better to to to maybe see that with uh the the U\_R\_ exp U\_R\_I\_ Expert so that we can it's really a team-working for example uh I wanted to know like if you want to have a a fo if you want to have the L\_C\_D\_ display over there , or if you want to store a programmes with a keys it's kind of um simple pro progra programmable device , and we have to insert . I think we could insert one that could underlie several functions How f cost effective it would be to put that car chip into it and do the programmable things . I think we we should come to some decisions now uh a about this . I understand uh when we want a display we need a expensive chip , but when we want a scrolling wheel w we also need the expensive chip , so can we use same chip , so with one expensive chip we can uh implement several complicated uh or advanced features . Exactly yeah that's a very good idea , when the more expensive chip you mentioned there is is possible in the in the given budget , uh maybe we should go for for the more expensive chip , I don't know if it'll fit into our cost of twelve point five Euro you know . I think both uh if we had a budget of twenty twenty uh Euros , it will be okay , maybe we need specific costings then . do maybe two designs and then cost them out and see which one is gonna fit in our budget better . wh when you make a a design ca you can next meeting you can give an quite an exact cost price . like what will be the each individually the cost of it . uh 'cause it's I think it's m much easier to use a plastic or a rubber rather than wood . It will be much ch much expensive I think uh I think we can just use more cheap plastic for a kind of basic edition , but i it's a detailed uh yeah yeah uh plastic versus uh wood , and we need maybe to centre our description on uh the the really the what buttons what uh functionality we want to offer to the user , and maybe with uh graphs or I don't know uh Let let's say next meeting w you produce two designs , one one one less advanced and one more advanced and with the cost price . We now can concentrate on the on the basic remote control . We can give them smooth keys , The the problem most of the time we've seen , the keys is that it's small , for example , as I was if you make them big , it may change the look of the thing also to the people . and not too m too many keys of course yeah . one I've had before , a r r remote control we have at home is one that's actually got a cover on the bottom so the bottom bit is just , covers half the keys most of the time , So maybe it's possible uh , I don't know whether you can can indicate this , that you can elsewhere open your remote control and on the inside are uh buttons you don't use that much . can we think about maybe having a a non-recta non non-rectangular one , so with not just the straight little box maybe we need to also to make a decision on how how how big we want to be and how many buttons like n we should dec decide numbers or I think we might be out of time out of time for this meeting . Ju just make two designs , and the we we can decide decide between th those designs . Maybe it would be interesting if you could look um for the cost inventories of other devices , if you're using speech recognition or something like that . is there anything else

I need to do from a marketing point of view for the next meeting ? uh , I don't know whether that's possible , maybe you can start evaluating uh their work somehow . is this me designing a way to evaluate it I don't know whether that's possible uh in the given time but as far as possible . you two will be together w working on a o on two prototypes and further instructions will be uh will be sent to you by uh by email . One for like cost and the one with like higher-end so that then we can be easily comparing them let's call this to an end .

## Complete Meeting Transcript

Right first time this time. Nu There we go. It's not that complicated, but I get it wrong every time. For Matthew, yep. Mm-hmm. Mm-hmm. Mm-hmm. Yep. Mm-hmm. I have a presentation, I'm just making this Okay I'll just email you this file, my presentation. Mm-hmm I'm just emailing it to you. Okay it should've gone through to you. Mm-hmm. Okay so this is just a presentation on uh the trends that we're gonna use to make the product stand out from the rest of the products out there at the moment. Um can I just put this on? So we have to work out a way what we can do with our product to make it stand out and make it so people wanna buy it. Um. This is to do this I will not remove my microphone. We basically used um some focus group surveys which I went through with you last time, the main results of that, and um some research on the current design um and fashion trends that are out there at the moment um, and as part of this The important aspects that came out were things that we've already discussed really. The most important by far was the look and feel of it. It needs to be something that's very different from everything else out there. It needs to stand out. It needs to be not functional like the rest of the things out there at the moment. Most people find remote controls boring at the moment, we need to have something that looks interesting, that looks exciting, that will stand out. People will wanna buy it. Um That was twice as i important as the next item on here which is that it has to be technologically innovative has to have something else, apart from just the look of it. People have to then think about it and say got something there that I want. That's a really cool feature, and it has to make them wanna buy it again. Third on the list, and again innovative was twice as important as this last um aspect, it has to be easy to use. So they have to be able to be able to look at it and have some intuitive idea of how to use it um. Drawing on the fashion trends at the moment, uh fruit and vegetables um. This is basically talking about just the the feel of it, so probably not the smell of it, but the bright colours, um eye-catching, really bold designs, and a spongy feel. Um I had a talk to the design people about this, but having a remote that's tactile, that feels different, that would be really cool. That would make it stand out. Um. Well ma make it not necessar sp spongy is the current thing. Spongy is the current texture, but basically there are no reports no remotes at the moment which are spongy or tactile at all, so if we make it like maybe furry or soft or something, that'll be something that sets it apart, rather than just bare plastic which they all are at the moment. So as far as the design goes, the very most important aspect was the design, to the customers. So going with the fruit and vegetable idea, we've got the bright colours, so makes it stand out, the oranges and the the bright yellows and the florescent colours, part of the fruit and vegetables um. Going back to the idea of taking inspiration from mobile phones, they've all got those a lot of them have the changeable covers, so they can choose what colour the outside is. That's one way of looking at it um. Textured feel we just talked about. Maybe it's another way of doing that. So if it's part of the the changeable covers then may maybe they can choose a

different texture, a spongy one or a soft one or something like that. So they can choose it li as they want to to maybe to fit in with their decor in their living room, or just what they like, their sports team or whatever. Um and yeah, still taking the inspiration from the mobile phone design so functionality, the way the mobile phones work, the way the keypad looks. Also just the way that a lot of industrial design is going into mobile phones at the moment. They're big selling items. People put a lot of thought into that so we can leverage off that, and we can start using some of their ideas. Um back to te

chnological in in innovation, not quite as important, but still a big issue. Um we talked about having a way of finding a remote control if it's been lost, uh that's one thing we could look at. There are other aspects like L\_C\_D\_ screens and speech recognition which weren't I don't think, in my personal opinion, gonna be worth the extra expense and the extra effort that will go into them. I think we're better doing something basic like this which is very important and very will be a really cool feature to put in. And use. I had no real specific ideas for this, maybe we just, the basic idea of having your core functions big and at the top maybe, by themselves, and then yeah and then th th the finer details of buttons you don't use as much either hidden away or completely separate. Yep and that's the presentation. So does anyone have any comments or ideas on that? I think you Hmm. Well we're selling so many units of this. This is gonna be a mass marketed product, we can afford to have two or three different designs at least. Mm mm. Mm. Mm. Mm-hmm. Mm. Mm-hmm, yeah. Mm-hmm. Mm-hmm. Mm. Mm. Mm. I like the idea though of having speech recognition for like the n the name of a channel like B\_B\_C\_, rather than having to remember the the number of it on the keypad. That's a good idea. Mm. Hmm. Mm. Yeah I really like that idea. Mm-hmm. Mm. Maybe ten channels, yeah at the most. Mm. Mm-hmm. Mm. Mm. Mm-hmm. Mm b But a coffee machine, there's not too many words they'd be using with that it's a it's a small vocabulary. Mm. Mm. Mm. Mm. Two thirty five supposed to finish. Hmm. Hmm. Mm. Yeah. Mm. I think you can do it both ways. You can have it so it's easy they can pick it up and use it straight away without doing anythi without customizing it, or if they want to they have the option of using these extra features. Hmm. Hmm. Hmm. Mm. Hmm. Mm. Hmm. Mm. Hmm. I like the idea too of being able to use the remote in the dark, so either having the buttons so you can feel the difference between them or if they if they light up or something. Mm. Mm. Hmm. Mm. Hmm. Mm. Mm-hmm. Mm. Mm-hmm. Mm-hmm. Mm just have a yeah Just the veneer on it, yeah. Hmm. Mm. Mm-hmm. Well maybe we need specific costings then. Actually do maybe two designs and then cost them out and see which one is gonna fit in our budget better. Mm. Mm. Hmm. Mm yeah sure. Mm-hmm. Mm. Mm. Mm. So is there any of these that you're looking at particularly or is this just ideas? Mm-hmm. Hmm. Mm. Mm. Mm yeah. You see? Yeah. Mm well one I've had before, a r r remote control we have at home is one that's actually got a cover on the bottom so the bottom bit is just, covers half the keys most of the time, and then you can slide the cover back to get to the the more advanced keys. Mm. Mm. Yeah. Um yeah I've seen that before too. Anoth another like b it flips up and then you've got another layer of buttons underneath. Mm. But I've seen also with keys and buttons on the top of here as well. I like this one. I like the shape of this one. Can we have can we think about maybe having a a non-recta non non-rectangular one, so with not just the straight little box that's a maybe curved or something. Mm mm 'kay. Is this for the next meeting though? I think we might be out of time out of time for this meeting. Yep. No. So is this is there anything else I need to do from a marketing point of view for the next meeting? Mm. Okay well is this me designing a way to evaluate it so Thinking about how to set up test groups and things? Mm. Okay. Yep. Mm. Hmm. Mm-hmm. Mm 'kay. Thanks guys. Okay so we are just waiting for Matthew. Mm 'kay. Yep. Mm-hmm. Yeah I think yeah the Matthew it is it's important that Matthew yeah is here because it's really a a team uh project with a team and if someone

is not here then we cannot but it's okay it's good. Mm-hmm. So can you repeat and be more precise about what you just said? Uh about the feeling yeah uh yo Okay. Yeah. Yeah that's a very good idea, yeah. Yeah. Mm-hmm. Yeah very clear.

To let the people choose, you mean? Yeah. Yeah a range of uh yeah, a set of three, four different aspects. Sure that fits the Yeah. Yeah yeah I agree. Yeah. And your part is very related to mine because when you suggest something then it has to be integrated inside. Yeah.. Yeah. So what functionalities do you suggest for that? For facing this problem? Okay. Mm-hmm. Oh yeah yeah yeah mm. Mm. Mm-hmm. Yeah. And you want okay for coming back to one point y you want to let the user to programming the keys? Some of them? And uh isn't that too difficult for the we want w I don't know if we still want the um R\_C\_ to be easy to use, that's the compromise. Yeah. Yeah. Yeah. A standard. Yeah. Yeah. Yeah. Mm-hmm yeah like I would say that for programming uh keys, you said, uh it could be uh easily uh done within the the package of twel twelve Euros, but for the A\_S\_R\_ system, uh I'm not sure if it's feasible to have this or We Exactly yeah i if it's a low vocabulary it's already implemented, and w how much it's cost, maybe with a f cheap chip. Yeah. Yeah. Yeah. Mm. It's true. Mm-hmm.. I don't know how if I have time to talk about the Okay. So what I'm gonna present here is very uh um yeah basic knowledge about the all the the components that are inside a a R\_C\_ a remote control, and how is it manufactured h what is the process, just to explain you. So the method is ther there is a a set of components in a in a remote control like, and uh what cost the the components in themself do not cost a lot but the the way to assemble everything costs obviously, and I will uh show you my preferences uh uh at the end. So there are two uh different types of uh um Two different ways of using the the components for making a a remote control. Uh the basic way is to use a an integrated circuit and some uh transistors with an that aims at communicating uh uh the message and to to send the message to the um to the led that will uh transmit to the receiver. And uh yeah the other components and the circuit board buttons, infrared, led, etcetera, for the components um. So you finding, just to say that the chip can detect uh when a key is pressed, and then it translate to the key, to a sequence, something like morse code, as you know, uh with a different sequence for each key, and uh uh that's, with the components we will use, we will have different uh messages, different sequences, and the chips sends that signal signal to the transistor that amplify to make it stronger um. So electronic parts are assembled onto uh printed boards uh because it's easier to mass produce and assemble. And uh so I think for our design we want some b uh programmable uh you know V\_ V\_L\_S\_I\_ or F\_P\_G\_A\_ uh high technology, and this is important, and also we'll use uh yeah like in any uh high-tech uh devices a chip of fi fibreglass to them and connect them. So my personal design we need to find a solution what um what is the material of the cover we want to use. If it's plastic or you said that yeah you had some ideas uh like fruit, veg or I dunno. Yes. Yes. Yes. Yeah like they do in with cars I think. Yeah inside the car yeah. So they also emailed me that uh they have available a bunch of different buttons, a scroll wheels, integrated push buttons s such as a computer mouse. And uh very cheap L\_C\_D\_s, so liquid crystal displays, so I'm wondering, I think we might be able to integrate L\_C\_D\_ into our R\_C\_. And the final point okay is um we have yeah there are some uh compromise to to do. So we have to know that the push button requires a simple chip, but the scroll wheel uh and that kind of higher high-tech stuff needs more money um which is a higher price range alright. And the display requires an advanced chip, which in turns is more expensive than the regular chip, but I think uh with twelve Euros um and if it's uh uh made for mm four million uh items, then I think w we could be able to handle that. So to to sum up um we need yeah so I I just said that the components uh the li

st of components uh has to be uh yeah listed and um and um assembly is a an important process that has to be taken into account. And uh for the designing of the cove uh uh cover layout then it's better to to to maybe see that with uh the the U\_R\_ exp U\_R\_I\_ Expert so that we can it's really a team-working uh. So I I cannot design something without your agreement, right? Yes. Yeah it's kind of um simple pro progra programmable device, and we have to insert. I think we could insert one that could underlie several functions of Exactly yeah, for customizing and yeah. Okay. Yeah. Yeah good idea. Yeah. Exactly yeah that's a very good idea, we could have uh one main chip uh that could handle, uh it's called F\_P\_G\_A\_ chip, that could handle both uh like scrolling wheels as well as uh L\_C\_D\_ and yeah. Yes. Yeah also thinking, I think both uh if we had a budget of twenty twenty uh Euros, it will be okay, but uh. Yeah that's an excellent idea. Yeah yeah. Yeah because right now I don't have price in in head but for next meeting I'm sure yeah be able to do that. Yeah. Okay. I agree on that. Yeah. Yeah but i it's a detailed uh yeah yeah uh plastic versus uh wood, and we need maybe to centre our description on uh the the really the what buttons what uh functionality we want to offer to the user, and maybe with uh graphs or I don't know uh User Interface Designer you could maybe uh help us on that. Yeah. Perfect yeah. Yeah. Yeah customized. Yeah. I agree yeah, and not too m too many keys of course yeah. Yeah. Mm. That's what you mean? Yeah I like also this one. Yeah, the point is w maybe we need to also to make a decision on how how how big we want to be and how many buttons like n we should dec decide numbers or Okay. Yeah yeah yeah. Perfect. Exactly. Yeah. Two or three prototypes? Two? Okay. Yeah and find maybe a compromise. Perfect yeah. Thanks. Mm. Uh So I suggest we start the meeting uh without Matthew uh he's uh obviously late for some reason. Good. Um. Today uh we will uh talk about uh conceptual design. I hope uh you both did some uh some work uh concerning a uh conceptual design. Um this will be the uh agenda for the meeting uh. Uh I will take some minutes uh again. Um we will have the presentations of y of you different team members, and then try to come to decisions uh about the concepts uh you have presented. So and that uh will uh we have some uh forty minutes uh to complete this uh. So um who has the fir do you ha Anna do you have your presentation ready? Okay. Ah there is Matthew. So. Good. Do presentation ready? Oh okay. So did you manage uh Oh yes I see him, good yes. No. Okay mm yes I have it. Mm. Mm. Hmm. Spongy feel? Mm. Okay. Mm-hmm. Mm. Yes well maybe Matthew can can give some more information on the Mm. Okay good, that's very clear. 'Kay. Um. Uh Maybe we yes well we maybe can decide later on um the l the the look and feel of uh I've it was a good idea maybe to to Yes the the the there are changeable covers, but on the other hand I I don't know whether my superiors would be so glad with it because you have to introduce a complete uh uh new l line of uh of supplies uh it would be uh very complicated uh organisational Hmm. Mm-hmm. Yes. Mm-hmm. Yes and of course it will be a we we get a if it works we can get uh after-sales I mean that would would be very good I mean those covers could go for for three, five Euro. That's a very good idea um And then uh maybe uh we can go a th Matthew's presentation because the Together indeed uh, because you ma might have some some information on the the easy to use, what you were already mentioning. Um yes but but I do maybe you can give a hand to us because I I'm not sure whether that that we can implement that for twelve Euro and fifty cents. I'm sorry to have Every time I have to come down on this price again to so this might be a little limiting for your creativity, but it's it's it's the real We have to consider it. S so do we think these ideas an and my uh sp speech recognition, I me

an maybe it's possible for for twelve Euro but then then it will be at cost of other functionality we might implement like the uh uh the the the furry uh uh case of the Mm. Mm mm. Hmm. Hmm. Mm. 'Kay good. Mm yes um I would Yes yes you can you can still. We have time. Nice. Mm-hmm. Well well m m maybe m maybe we can give the uh the uh the case a very uh uh normal a v very normal case but, with the

changeable covers to fancy it up. So like a normal cheap plastic case which can be covered up in, for instance, a wooden case. I mean just what Mm-hmm. Mm. No of course. So So I f I think we we should come to some decisions now uh a about this. Um so I understand uh when we want a display we need a expensive chip, but when we want a scrolling wheel w we also need the expensive chip, so can we use same chip, so with one expensive chip we can uh implement several complicated uh or advanced features. Yes. Mm-hmm. Mm-hmm. So when the more expensive chip you mentioned there is is possible in the in the given budget, uh maybe we should go for for the more expensive chip, so all features uh which you mentioned can be implemented based on the same chip. Do you think that's feasible? Uh You th you think it's possible. Hmm. Mm yes wh when you make a a design ca you can next meeting you can give an quite an exact cost price. That w that would be a very good idea. Mm. Good good. Yes but I can I think uh I think we can just use more cheap plastic for a kind of basic edition, and then people can fancy it up with with more expensive materials which which come with a with another price. Do do you agree? Ma I I think uh for next meeting we c you two can present a real design. Uh so drawing it on the board. And then we now sh only have to t to decide the general function uh. So um Let let's say next meeting w you produce two designs, one one one less advanced and one more advanced and with the cost price. Uh furthermore we go for the for the uh basic plastic case which can be later uh fancied up with uh with addit uh additional uh, how do you call them, these like like mobile telephones you can put a cover over it. But that that that that can be done later. We now can concentrate on the on the basic remote control. Um. Mm. Mm-hmm. Yes yes yes bi big keys is is good thing I think. No no. Mm mm mm. Mm w but then you have still have uh when you don't use it you have such a a an extent of your remote control which you don't use. So maybe it's possible uh, I don't know whether you can can indicate this, that you can elsewhere open your remote control and on the inside are uh buttons you don't use that much. Yes. Yes I I th that's what I mean so I mean something like like a book. Mm. Ju just make two designs, and the we we can decide decide between th those designs. I think that would be a good idea. So anyone uh any questions for now? Um yes I come to that uh uh Yes well m maybe uh, I don't know whether that's possible, maybe you can start evaluating uh their work somehow. I don't know whether that's possible uh in the given time but a as far as possible. So uh you two will be together w working on a o on two prototypes and further instructions will be uh will be sent to you by uh by email. Two. I Mm and then Hmm. Yes okay. Okay let's call this to an end. Sorry. So Yeah I sent you the slides, you didn't see them? Okay.. So 'Kay. You can Yeah. Voila. Yeah. Yeah s then we could discuss later like we can put all ideas together. It should be easier with that. Yeah. So Yeah. Yeah so I'll I'll go with that actually so um Okay so m so then the the idea of uh having a remote is generally you have uh different keys and uh different structures, different forms, and uh they could be like buttons or like and um they could be of uh a varying sizes if you want to to uh basically emphasize a particular key more than the other, and uh maybe like you can have different colours for example having the r red for the on off switching on and off the button. So this this is the g

eneral trend to ha the method they do. So what I have found was that uh currently uh the they are mostly that the T\_V\_, V\_C\_R\_, music system operated ones actually, and they are very specific to each other, but there are some common keys for example if you want to follow the V\_C\_R\_ and if you want to follow the uh g uh s some uh soundtrack on the w w see they have the common thing actually you can have and uh There is also um a speech recognition to store channel information, names, like You can basically if you have a multiple functionality, say T\_V\_, V\_C\_R\_ or something I say it to the T\_V\_ and the T\_V\_, and you can programme the keys if you want to, certain keys are even the channel information. Yeah yeah so you you you can just uh because uh as more and more channels come then

you have more and more problems to remember the v v exact channel numbers ex exactly, even if you arrange it by however you arrange it, you still have the problem to remember exactly which channel you want to So it it's like it limited one. In the present market I saw it that says something like they are looking for eighty word thing, eighty word, which shouldn't be th that difficult to implement, like eighty to hundred word. Basically you want you don't want to store all the channels in the remote control, you want to st store your favourite channel. Yeah some ten twelve channel information. You know you don't want to st store all the hundred channel information into that. And uh basically uh it depends like the remote with L\_C\_D\_ display for browsing because you have multiple functionalities for example you are watching a movie, and uh uh you are having a universal remote control and you want to uh you don't know really which functionality is now, so I am using the T\_V\_ so every time I use it, it could be like, for example I can use a simple toggle switch, and a display, so I press it so the display says, okay, I'm in T\_V\_ or D\_V\_D\_ or whatever it is, instead of having three keys separately for four keys, to model the functionalities will increase actually, and for you and you might want you don't want separate keys for all of them. You can't. And uh well there can be children friendly where you can programme your remote so that they they are not allowed uh to browse certain channels which you can block them, and you can operate them. So these are the things presently which are seen in the market scenarios at present. I personally would look at things like having a u universal remote, is uh um is a good idea, like instead of having unusual ones for all of them you can think of having, um with multiple functionality possibly with speech recognition. I got a mail from the the coffee machine interface unit that uh they have uh integrated the s speech recognition into a into the coffee machine, and so if you say hello coffee machine, it say hi Joe, or something like that, you know, and uh Yeah you you won't be using it, so it's a limited vocabulary mm thing, and very isolated word and it's uh it is interesting, and basically storing the channel through voice or other ways of programming your keys, on the display for the browsing which is again and maybe having something like a blinking thing, like uh it could indicate you're uh it it could indicate what is cal like the uh whether uh you you have enough battery in your in your uh remote, the blinking. At the same time, if it's a dark room, it can be used to locate the remote also or Yeah you can let them to do that. N no but the if you give it d depends on the easiness like the user how much effort he can put. Like for example uh I would like to store in certain way, so if you want to give the full freedom to the user or you want to keep some constraints and let the user use it with that constraint. So it de So So Yeah. Yeah. We well we can still look at we can talk with the coffee unit and you can uh check how much how much they yeah yeah yeah. Maybe we can come we we can talk to them, and we can co

me with that, you know. And also well you can think of having uh since you have a you know something maybe if you added little bit of display, you might need the to che keep checking the battery, so you really need a some kind of indicator, so it could be a blinking option of L\_E\_D\_ it could actually be used to detect also. If it's in a dark room you can basically detect it also. So No actually i if i it is like you know it tells you um, it can be for two purposes, like if you have an L\_C\_D\_ display and all those things it's not going to be the standard remote, which is having uh which need just uh six six volt uh th sorry three volts um of D\_C\_. It may need more actually, so y you you may need to check your battery usage it and then you need that, some functionality to indicate the battery limit. And then if the battery limit is indicated, if it could be ind indicated through a blinking something and it can change the colour depending on your uh how much is the battery, well that is good enough to even locate even if you want to. You know. Yeah so You you have time some more? Yep. Sure you can you know. Hmm. Mm-hmm. Yeah mm mm-hmm. Mm-hmm. Yeah. Yeah. Sorry. Yeah so of course for example uh I wanted to know



like if you want to have a a fo if you want to have the L\_C\_D\_ display over there, or if you want to store a programmes with a keys What kind of things you'll need inside your thin inside W wh what W what Okay. Okay. Okay so in that case you can even look at the technology what the mobile phone is trying to use with the card. Yeah where they do all the wi with with them actually. How f cost effective it would be to put that car chip into it and do the programmable things. D well Well I don't know if it'll fit into our cost of twelve point five Euro you know. Is it possible to fit in to that? Sorry. Yeah that's uh that's something which I wanted to ask you also, like what will be the each individually the cost of it. For example if f if you want to put wood I wouldn't suggest for wood uh 'cause it's I think it's m much easier to use a plastic or a rubber rather than wood. It will be much ch much expensive th though it's the most natural thing, but Yeah. Yeah it's uh Yeah we we can give a preference to them, but it is but with plastic or the rubber or whatever it is it's much better with that rather than going for Yeah. Yeah. Yea Okay. Yeah sure. Yeah we will uh Yeah. Uh. Yeah.. Okay. We can give them smooth keys, you know. Smooth keys with bigger s uh So that you know The the problem most of the time we've seen, the keys is that it's small, and every time we have to be very but if i the if we if we go to a different ways of designing those keys, then you can merge them together to Oh you can actually, for example, if you see, they are they are quite small over here, and uh now you can, for example, as I was if you make them big, it may change the look of the thing also to the people. At the same time, it is m more uh like it would be more interesting for people who are having this R\_S\_I\_ and all problem. Uh big keys may better for them actually and uh Yeah. Yeah. Yeah. Yes. Yeah so it's something like this, the model here s you can put the keys Yeah. Yeah. Yeah. Yeah, mm. We should make a Yeah that yeah next meeting we should be Yeah that would depend upon us actually. Yeah okay. No no. I don't have. Maybe it would be interesting if you could look um for the cost inventories of other devices, if you're using speech recognition or something like that. Mm. Two. One for like cost and the one with like higher-end so that then we can be easily comparing them or you know find a compromise between both of them, yeah that's how it is. Yep. Okay. So we are done for now..

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# Meeting ID: 109

Data Source: Train

## Executive Summary

The Industrial Designer gave her components concept presentation, which presented the components that will be used and how they will be integrated into the functional design. She announced that their only choice for casing material was wood, so she suggested an idea of having customizable wood cases. The User Interface Designer gave her presentation on the user interface concept for the product, and gave a basic layout of the remote's key functions. The Marketing Expert presented the marketing concept and discussed including a display to facilitate use. The group discussed the unique, custom design of the remote, and quickly talked about finding a manufacturer that could make the custom cases cheaply that still paid fair wages. The group also discussed whether or not to incorporate the display into the design, and decided to wait until the cost of adding that feature was known before adding it to the design. The Industrial Designer and the User Interface Designer were instructed to begin building a prototype, and the Marketing Expert was instructed to work on the marketing strategy as well as research the cost of the display component.

## Complete Meeting Transcript

Okay. So uh, if you could open the PowerPoint presentation. I'm number two. Components design, there we go. So uh can we put it in slide show mode? Yeah. Right here, is that little that one, yes please. Thank you. I'll take the mouse. So uh we were looking he specifically at the components uh the following components, uh the case, the power supply, uh the means of communications with the television set. In instance we had talked about using some sort of speech recognition, you have to have microphone well no you don't actually I haven't have to have microphone in the device, but um maybe you do have it a a way it has to it has to hear the speaker and um, so it could be in the television set, could be in the device, but somewhere you have to put the microphone, um and a w a way of making beeps or sounds so you can find it when it's gets lost. Um so the other w thing that we So. Our method for going about this is we've looked at uh the histo hi historical record, what's worked, what hasn't and then we also um we wanted to evaluate some new materials and we contacted manufacturing for their input because, course, we m might come up and choose the material that then manufacturing didn't

have the technologies or capabilities to offer us, so uh this is the approach that we took during our um our research. So um for the case, um we told we were making a specifica specific assumption that it would be curved in design. Course, you know, I wanted it to be expandable and shrinkable, but um that uh doesn't seem to b be one of the choic non-option we can uh we can really seriously explore, so then we were thinking about um rubber, but um unfortunately that's been eliminated because of the heat uh factor and th um there might be some problems with the m uh how it's uh goes with the board. Uh and uh then th plastic also has this problem of melting and it's brittle it gets brittle after a while, so um we still had titanium and and wood available, but um unfortunately uh uh titanium's also been eliminated uh, the m people in manufacturing said that you couldn't make d curved cases out of titanium, although how Apple did it with th PowerBook I'm not su quite sure but uh nevertheless um they've eliminated all of our options except wood. So, this is our finding. And a as she said, it's an environmentally friendly uh material, so we're we're currently uh proposing, uh we'll get to all my personal preferences in just a second. So then there's this other matter of the chips and um well we could use a simple design on the board, but uh these simple chips, but that's only works for the bu you don't get very much um intelligence with this simple one. And um then there was the regular which I regret that I've forgotten exactly why I'm eliminating that one. Uh the other option was this advanced chip on print, and uh we liked th we we found that it it includes this infrared sender, which w 'member the beam was that was an important component of finding the right chip. And uh manufacturing has told us that they've um uh recently developed a uh a sensor and a speaker that would uh be integrated into this advanced chip on print, so uh we we uh now jumping right to our personal preferences um I I'd really think we should, you know, use some of uh some really exotic woods, like um, you know uh, well you guys come from tropical countries so you can kinda think of some trees and some nice woods. I think that people will might really want to design their own cases, you see, they could do sort of a this um three-dimensional design on the internet, and then they could submit their orders, kinda like you submit a custom car order, you know, and you can choose the colour and the size of the wheels and the colours of the leather and things like that, and then I uh think we should go with the solar cells as well as the um microphone and speaker on the advanced chip. So this is the findings of our research and my recommendations um for the new remote control w um would

be to have um have it be made out of wood. Do you have any problems with that? I'm not sure, how do I Oh, I know, let's see. Let's go back up here. I think it's um um a multiple uh chip design um and it's uh maybe printed on to the circuit board. Uh I could find out more about that uh before the next fi next meeting. I don't know, but I'll find out more at our next meeting. Sounds good. Because um it gets brittle, cracks Um We want we expect these um uh these remote controls to be around for several hundred years. So. Good ex Good expression. I don't know, speak for yourself, I'm planning to be around for a while. you're what? You think? And you could you could sell oils with it, to take care of it. Well I'm glad you Okay, good. Sorr having a hard time keeping wi control over my face. Mm-hmm. Mm. She works in the cubicle next to me so she's uh she was already a little bit prepared for this. Luckily Ed was not. Mm-hmm. Yeah, you wouldn't wanna have to have splinters in your hand while you're using your It's really good if your dog gets ahold of it, they can use it for teething. Yeah, they do it with other materials as well, yeah. Oh, I'm sorry. Right, my hand is uh different size than yours for example. Mm-hmm. Mm-hmm. Mm. Mm-hmm. A hinge. Be like a copper hinge or you know. Mm-hmm. Mm. Mm-hmm, mm-hmm. Mm-hmm. Mm. Mm-hmm. Sure. No, f go to findings. Context-sensitive instructions, depending on what the tel what mode the T\_V\_ or the D\_V\_D\_ or something else is in. You know, maybe what you could do is when somebody orders the device id you could send them like

um a uh uh b some sort of a foam rubber um ball, and then they would squeeze it, and it would take the shape of their hand. To t an and then you would know like um what the geometry of their hands would be and uh Yes you'd know what kind of wood to get. That's right, that's right, you wouldn't wanna go too far down that. Oh that that actually would uh increase the um the revenues we could expect, yeah. Mm-hmm. Right, mm. We'd also have to wor um consider that uh who we were gonna get to make these custom cases in terms of manufacturing processes, we might wanna um learn about um labour laws. You know in different countries and stuff wher so we can do it cheap, but you don't wanna exploit uh labour in um third world countries. So actually you could turn it y turn around and say that you're uh par the reason the cost is high for the device is because um you're paying a a working wage to the person who made the device. Cost of living is low. Good, well th that'd be something that manufacturing would have to um explore more and to where Mm-hmm. Yeah. Mm-hmm. Hmm. Hmm. Hmm. Mm-hmm. What do you think Ed? Do you he liked the display in one of the concepts that you showed, um, do you know how much it costs, um, to to add a little display like this uh? Do you wanna take an action item to go find out? Okay. Sorry about that. So the the advanced chip on print is what um what we've we've deci we've determined and the uh engineering industrial design is the recommendation, and um I think we've kinda come to some agreement regarding um this concept of a wooden case. A customisable and Uh I don't think so, no, I think they could be rubber like they are now, so you have that tactile experience of So um are we done with this meeting? And a marketing strategy. Wow, good expression. Well after us. Actually, I'm ready to sell it. I'm ready to sell it. No y no no no, the o the only w the only wood you can use are the ones that are hard, extremely hard wood, but there are some very pretty woods out there. That's actually very innovative idea. Well, it's actually a very innovative n different idea that uh you know you can choose your colour of wood, your type of wood. I mean it's each person is gonna have their own personalised, individualised speech recognition remote control in wood, that's not on the market. In turns of wow. Wood? They do that anyway with the rubber and plastic, so, and chew '

em up. And chew 'em up. No. Hmm. Simple design. It's what consumers want. It's almost like, Houston, we have a product here. Problem is obviously gonna be cost. Okay, I also have a f very simple presentation, because for the marketing point you have to see what the consumers want. I also have uh copied a different type of remote. If you can find me, where I'm at. There should only be one in here. trend watch. It's being modified. They're stealing our product. We've been giving simple questionnaires in different areas because th obviously we have to see what the com consumers are looking for today, 'cause uh trends change very very quickly. In six months maybe this idea is already gone out the window, so it's gonna be a question how fast we can act. Uh they already erased the rest of mine, huh. No no, no no. 'Cause I had another comment there. Uh the market trend. This is what we know from the last uh from the questionnaires from the the all the p surveys we've done, fancy and feel-good, that's what we've been looking for, something that feels good in the hand, that's easy to use. Looking for next generation of innovation, because all the remotes out there now, they're all very similar, they all do the same thing, we have to have something completely different. Okay? Easy to use, has always has become has become another major interest that uh, with the whiteboard we can see that it's a remote that's easy to use. And I think this is another thing that's interesting is the consumers actually willing to pay the price for exciting tel technology. So even if we have a product that may be more expensive, if it comes out right, if they look it looks and feels good and has technology. The second two, you can see the last one is a very easy simple design. The second one, there is about uh forty-five thousand different buttons on it, which makes it fairly hard to read, uh very hard to use. The first one, I see that

they put in a display. Now there's something else uh with the little flip-up, now we're adding all kinds of things in, but with the little flip-up, if you have a little display on the flip-up that when you close it everything is locked. Maybe the display also makes it easier to use, because sometimes when you're looking for buttons, maybe if you see a display Okay Because I've seen mostly the standard ones, yeah. Now you have it now you have one with the very simple also. The idea is simple, but with a display, so you can see what you're doing. So maybe if we can incorporate the easiness of use, trendy, fancy, feels good, uh with a display, wood, designer wood, designer colours, we might've Mm-hmm. How hard they squeeze? Resistance resistance, right. No, but incorporating the three uh obviously it'd be something totally new on the market, totally different and from Although, what it was it uh it was uh Nokia that came out with this changeable colours. Right, you take it apart, and put on another face, take it off and put on another face and then they sold millions, millions. So. So say with the f with the findings, with the research, easy to use something totally new. We have to come up with something totally new that is not on the market. Where w Where it would be manufactured is is another step. We're here to design, come up with a nice product. No. No no p spec It's 'cause we have to find out cost on it. Um, no that's no problem. I'm here for the pushing it after it's made. I will market it. Once we get a price on it then we can market it. Nice beautiful mahogany red wooden case. And marketing strategy, thank you. Fired. Uh welcome back after lunch, I hope uh you had a good lunch together. For uh this meeting the main agenda okay uh to discuss about the conceptual design meeting. Okay and the agenda will be the opening and uh that's uh the product manager or secretary that's me and uh the presentations from the Christine and uh Agnes and from Mister Ed. And finally in this meeting we have to decide and we are to take a deci

sion on the remote control concept and uh the functional design So we have forty minutes, I think it's uh little bit uh low, but I I hope we can finish it up so I'll handle to the the functional team, to the Christine, okay, to discuss about uh the components concept. You're number two. 'Kay The next one. Can you go back uh one slide? Yes, uh question, uh, what's mean exactly, advanced chip on print? What's the meaning of that? Mm-hmm. Yeah, is it means it's on the yeah is it on a micro-proc micro-processor based or uh Okay, tha that would be great, so if you find out from the technology background, okay, so that would be good. So so you're not convinced about the the wood, yes. Yeah, so it it's looks good the the design the functional design uh, what about yo you? Yes, in t yes, in term in terms of comments first Okay then, uh, let's move to Agnes. S you're You are in participant three. This one? So what's your, uh, the comments or uh s Okay Mm-hmm. Yeah. The Yeah. I hope so. Yeah. Yeah, but we can get a production in, uh, countries like, uh, India yes, yes, countries like India or China or Malaysia, so you can go a better features and better price and you can sell more. So Yeah, yeah, so Yes. So Yeah, so Yes uh, but uh that that we can that we can talk about the production later, okay, depends on the the quantity, okay. So we don't need to have our own uh fabric factory or something, so we can have a tie-up with who the do the fabric, okay, for the different uh electronics items, then we can have a business tie-up and to get to cut the cost, okay, to sell more. So, but uh le let's decide first about the components concept and uh interface concept, okay, if is acceptable for both of you, what uh Ed was talking. And your design whether you want with the display or without display or just a simple, so Yeah. Yes. I don't think so. Yes. Yes. Don't looks nice uh. Yeah, so uh what we'll do is, uh, we will stick with the the simple design for time being until uh th Ed find outs about the how much it's cost to the extra, in case we go for the display. Okay. So maybe what you can do is uh, both of you, you can come up with the the prototype, okay, the model. Okay? Yeah, I hope, if is it okay if uh they will come up with the prototype design, okay. Then they can show you how it looks like, and then we can uh submit to the I

will submit to the management. Okay? Then meantime you can come up with the price, how much it's cost as extra for uh the display. An and the marketing strategy, that's very important, okay. Yes. How much you can how mu how much how much you can sell extra. Of course you'll make money too, so it it's not only pay-out, you make money too, your commission. Okay, so, any questions? So, by next meeting, so, please come up with the the prototype, okay, then uh, then we can proceed from there. It's okay? So thanks for all your uh efforts and coming for the meeting again, and see you soon then. Okay? Thank you. Mm-hmm. At least it's environmentally friendly. Thank you. Yeah. Why was the plastic eliminated as a possible material? Mm-hmm. Whic Which Although I think I think with wood though you'd run into the same types of problems, wouldn't you, I mean it chips, it if you drop it, uh it's I'm not su I think if you re if you use really good quality wood, then it might work, but you can't just use Yeah, exactly, yeah. The stain. Um, in terms of comments on this or in terms of my own Y yeah. I think we can get the quality materials then it shouldn't influence the design principles too much, which you'll see with my presentation. One thing we'd have to check though is what the users whether how quickly the novelty wears off of having uh Yeah, for example. So, have to see how kid-friendly it is and and all that, but Sure. One point three, yeah. Uh, yeah. I think so, yeah. Yeah, that's the one. So, it's a very short presentation, 'cause I'm actually gonna draw you the layout on the board so if you want to just go straight to the

second slide, um, which basically shows, sort of I took the ideas that we were talking about last time um and tried to put that into the remote control so the things that y you can actually see on it are the on off switch, volume and channel control, the menu access button, ergonomic shape, which I completely agree with Christine's idea to have it sort of molded, so it's slightly more ergonomic and comfortable to hold than the r standard very straight remote controls. And actually the other thing with the wood if we take your customising idea, is that people can actually do sort of quasi-measurements on their hand size, so if someone has larger hands, you have a wider remote control. So, that's actually a really good idea for customi customisability. Um, one thing I thought might be kind of interesting is to put a flip screen on it, just like you have on flip phones, so that you don't have this case where someone sits on the remote control or accidentally puts their hand on it, especially if you have little kids around, they're not pressing the buttons while you're trying to watch a T\_V\_ show and accidentally change the channel or turn it off. And also um you had issues with the batteries running out, so I thought maybe we could put a little battery life-light on it that kind of goes dimmer and dimmer and dimmer as your battery is starts to die. And in terms of invisible features, audio and um tactile feedback on button presses and, like you said, speech recognition. So, in terms of what this thing would actually look like Despite working in interface design, I'm not the greatest artist in the world, so you'll have to forgive me. You'd have something like this with an on-off switch fairly big, sort of in the corner and by itself, so you don't accidentally turn your T\_V\_ off while you're trying to manoeuvre other buttons. And then you have sort of one of those toggle displays for, oops, channels and volume, sort of for surfing channels and then volume, so the volume would be the up and down, 'cause volume goes up and down and then channels left to right. And then here you'd have your sort of standard, telephonish number pad. And then on one side you would have an access to the menu on your T\_V\_ and on the other side a way to turn off the voice control. So that if the user doesn't want to use their voice, they can just turn it off and you don't have the remote control accidentally changing things on you. Um, so again you can have a little L\_C\_D\_ light somewhere, the flip thing and Have I forgotten anything? I don't think so. So, as you can see, it's a very very simple design, which is one of the things I really wanted to keep, is keep it simple, not have too many buttons, not have too many functionalities thrown into it. Think the design can pretty

much carry over to everything, although with the wood the flip screen might have to do something slightly different. Yeah. But you also have to start watching out for the weight, 'cause depending on how much the flip screen will add to the weight of the remote control, you don't want it to start getting too heavy. But that's the general layout with the general functionalities, if we come up with something else. As you can see, there's still lots of space on the actual remote control and if you do it customisably, you can make this thing fairly small or fairly large, depending on personal preferences. So, that's pretty much all I had to say, I mean, everything else in terms of design issues. Um the centering of the key pad and the channel is just depending on where your thumb is and you tend to use the volume control and uh the browsing more than the actual number pad, so that would be sort of in direct line of where your thumb goes when you are holding the remote control, the number pad a little bit lower 'cause it's used less frequently. So once we decide exactly what we want, then we can figure out the exact positioning, but more or less I think it should go along those

lines. Mm-hmm. Yeah. No, no. Mm-hmm. Yeah. Right. Especially you might need something like that for training the speech recognition and yeah. Mm-hmm. Mm-hmm. Oh yeah. Yeah, so it's really molded to to your specific But then for that you'd also have to do sort of an average across families and things like that if unless everyone has their own personal remote. The sales, yeah. Yeah. Well, already the customisability is a really good sort of new gimmick. Yeah. Yeah. And that took off, yeah, yeah. Mm-hmm. Mm-hmm. Mm yeah. Mm-hmm. Mm-hmm. I think it depends, I mean I think it's a good idea, but we need to really think about how useful it's gonna be because theoretically with the T\_V\_ you already have a big display right in front of you. So, if we're trying to keep costs down, then maybe sacrificing the display is a way to go. I mean it depends on how much putting a display costs and what it would be used for very specifically what it would be used for, 'cause if it's only used for one little thing, then putting in a big display case or a big display that's probably expensive just to do the training on the chip for the speech recognition or whatever, may not be the most cost-efficient way to go, but that's just sort of speculation, I mean. Mm-hmm. What about the buttons, would the buttons be wood too, or Mm-hmm. Okay. Sure. No. Okay. Mm-hmm. Okay.

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# Meeting ID: 110

Data Source: Train

## Executive Summary

The first prototype for the remote control was made of single-curved rubber with a total of 16 rubber buttons (some of them in a slide-out panel) with a cherry design on top. It uses kinetic energy and has a sample sensor for the speech recognition. The initial cost was calculated at 13.70 Euros. Although over budget, the team decided to evaluate this prototype before making any changes. On a scale from 1 (true) to 7 (false) they rated it on the basis of the following criteria: fancy design (2), technological innovation (2), ease of use (1), incorporation of fashion elements (2), and brand recognition (2). Changing the rubber case to plastic reduced the cost and allowed for an extra button-form and colour. The team were reasonably satisfied with the project in terms of teamwork and creativity, although they thought that the flow of information was sometimes disjointed. However, the idea of designing a remote control seemed unexciting, especially since the requirements restricted it to TV only, and the budget was too small. Finally, some new ideas were also found in the form of kinetic energy source and use of speech recognition.

## Complete Meeting Transcript

So is Why not save that. Do you want to replace existing file, no. I actually tried to transfer it to My Documents, but spreadsheet. Yeah, but I've ta uh right, I'll just re-do it. That's the easiest way. Right. R right. Um, all these things have cost implications. And so when I done my thing on cost a I had assumed that the only uh button that would be a different colour would be the uh the red apple button. So However, I've now. But um, yeah so uh but there would be a cost implication on that, and uh as I suppose that so whether wanted to put in all these colours, would be uh open to debate, I suppose. An important consideration. Right, okay so um And the second one underneath would be the idea for the Right, okay. So we've got um detail design meeting. Right. So So, we've got prototype presentation, which we've just done, evaluation criteria, um and finance, so I guess w we have to evaluate if that meets the various uh aspects that we're looking for uh from um our previous meeting. So other than the fact that it doesn't have the second layer, but um obviously obviously it would. But other than that, we got the red apple. We got the buttons and the only thing that has really changed is the is the colouration



of the buttons, and the bit after the evaluation criteria is uh is the finance. And the and the cost implication. The only snag about this is that uh the cost is probably kind of important. So um, and then the production evaluation, as to how easy that would be to uh to manufacture. Um, and whether it would uh Right, so uh as far as the the finance of it would be concern would be to make sure that the cost aye the production cost 'cause you may remember that was one of the first uh considerations was to be in d under um uh twelve fifty or two and a half uh twelve and a half Euros. So, there's no redesign. So that should uh Right, so, seems to me that the thing that I have to do is is quickly find that uh Right. Okay. Right.. Okay, so, by the fact that we've got uh the simple chip and the uh kinetic energy source, we've got a single curved case. We've got a rubber uh case materials supplements. So, we had decided that we're having rubber buttons and Okay. W the button supplements. Well, originally, I thought there would just be uh one in there because it was the one red apple. But So the so the real w the real question then would come in. Do you make all the buttons O Well, so we've got one special button form, which was the apple. Everything else is gonna be a standard. We've got special material, rubber, wood, titanium, et cetera and that, so, I was originally, I was thinking rubber wasn't special, but according to this, maybe it is. So And the r I mean effectively we've got sixteen buttons that we're gonna have on there. W I don't know is is is the sort of answer, is that meant to be all sixteen buttons, and therefore I mean, what's the op The option was maybe not to have rubber buttons, but just to have the one that was soft and spongy, and therefore Whereas it would be the special colour would be for the So you would only have the one special button that was rubber, whereas the rest would be hard plastic. Mm. I would Every design change is uh I dunno, um Okay, um, if we just had all the buttons as standard, except for the one red apple, then that would take care of that, I guess. We'd have one special colour and one special button form. And when I plugged that in last time remember it has to be under twelve and a half. As far as I know, that um that took care of the uh of the various supplements. And if What happened? Now, right. Okay, so, but the point would be that if we uh if we just did special Sorry, you were saying that it would be that one, that you would put in one there. Okay. So it Well, is it s is no, it's nine point seven I've got. Okay. So, that would that would work out fine if uh uh as assuming your correction are are assuming that that one change covers all the buttons, then that would be fine. And th

ere's nothing else as far as I can see that we we had uh planned to put on. Uh-huh. Well, hold on. Um, if we Okay, that gives us twelve point seven But remember that the idea was to keep it the colour of the Oh, I see, so just take out the special colour for the apple and And go for battery instead. That would give you one less. But you reckon that i I mean the thing is that you wanted to a appeal to people and not have to replace batteries. Mm-hmm. But which do you think or which do we think is the more important of the options? In a sense, at the moment, we've got a total which we need to reduce down by one point two. At least. Remember that was a minimum requirement. The other option if we're planning on just going for something cheap and cheerful, would be to um make it originally, we're gonna make it a simple product. Mm-hmm. Makes sense.. Sorry, do you want that back up? Right. Okay, but remember the main the only reason we were planning on having the voice recognition was so that they could find the remote if it got lost. Go for one. Yep. Okay. Yeah, why not not, m m maybe nearer three. Two three. Well, it's just that uh saying something remember that when you look down, we've got solar power, we've got uh various other things you could have, and we're not going for these options. Mm-hmm. Okay. No. 'Cause you can't afford that w we took that out too. Didn't you? Or Well, wait a minute. In thirteen point seven we do have kinetic. The problem is we have to reduce down from there to get it down to twelve point five. And one way of doing that would be to take out the kinetic. So,

it's very much dependant on what you do with your options. And if you're definitely going for the sample sensor and sample speaker, then because that the other functions we've got in are more at the The special material, the rubber, wood, titanium, et cetera, if you go for that, th that's at the high end 'cause that's point six, whereas down at uh just special colours uh is point two. Now you're trying to lose one point two, so it seems to me that if you're going for the sample sensors speaker, you're basically then having to go for the cheaper options on everything else. And and the simple way to do it would be to have a battery, to have your uh sample sensor speaker, and then you're looking to uh take out uh point two, which would be come from the button supplements category. Um, interface type um, well plastic rather than rubber. That that that would make the significant difference. You could either you could have it If you have a in plastic rather than rubber, then that would uh enable you to get you could keep kinetic then, you could keep your sample sensor, and you'd be looking to take out point two. So you could uh fiddle that down your special form at the bottom, or your special colour at the bottom. And that would enable you to to do it. Yeah. Ye Well, okay, but It's rubber as it is, yes. We got we've we've got thirteen point seven and we've got it in at the moment and if and basically, we're going to reduce down from that. But the current one, you'd say would be fancy, would be too Mm-hmm. I would've said about a two as well. Oh. The next on Well, I can just sing about. Easy to use. I would've said yes. I would go for a one on that at this point in time. Um, incorporates elements of fashion to attract buyer. Well, yeah it certainly has some.. Yep. I don't know. Yep. Yeah, I woulda said two would seem reasonable. The product is a recognisable real r uh reaction product? Oh. S Okay. So we're going for a two, three? Sure. Right, okay. Two. Right, come on. That's that decided. Right. So So we're now on to changing it to get it to fit in with the budget requirements, and then About a two. Two. Yep. Two b two b two, yeah. Yes. Well, you can lose one point two and still meet the requirements. Okay, well I put it back on. Yes, I would've thought so. Okay, so what was it, control uh F\_ eight, wasn't it? Oh. Oh. How kind. Right, okay. So, you c

an see there that the If you want to keep kinetic, right, you've got a choice there of going down to battery, which would save you one. You've got the sample sensor and and sample speaker, which is your big item. That's right. Which gets you Yes. Alright. Okay, so So we're going for plastic, yes? Yep. Well, uh w uh there was debate as to how you would count them. You got special colour. Well originally I was assuming we had the red apple, and therefore, that was the special colour. Well, we've got special form. Now that would be one button, and the question was was that all buttons or is that just one button. 'Cause our plan really was to have one button only with a special So so no matter how you look at that, that would be the same. The other thing would then be special material, rubber, wood, titanium. Alright. So, special colour, you want three in there. Okay. That makes sense. Okay. Okay. Yeah, I would agree with that, I think. So special colours, two. And we've got special form is the one apple. The rest are all standard, although you could argue that should maybe be You were making these buttons down the bottom, I was presuming, bigger than the other ones, or were you? Was that the idea? Uh-huh. I would have thought that's probably about r well. Right. Yep, that makes sense. Yep. I woulda said so. Yeah. So you'd maybe put fash fan uh fashion at three rather than two. Real Reaction produ I'm not quite sure, what does that mean? Yep I would s You mean of Well you could argue you might do it once a year, you would change, because at the moment you're making a red apple. So next year you could make next year's model the same, but have it as a a yeah whate whatever, a lemon. Yeah, I a lemon lemon or something. And that amount Yeah, we've the main thing we've changed really is the casing isn't it? We've Well, ease has certainly stayed. Yeah. And the speech feature. How it would play out, yeah. Oh. Well, but you've got the company logo on there, which would effectively be a

stick-on badge. So you're in a sense, you're comparing the product without the company logo. And then y but you've got the space for it to stick it on. Don't think so. But but i but in the sense that, as you saw with um the Windows logo badge, it doesn't really matter. There's virtually n The way that you frame, you know, the Windows badge on there, it really doesn't matter what colour it is, so long as our company's logo is framed w in the same way as that with a like a black outline. Fact, they've got black and white or black and silver. So basically, even if you had a silver the same colour of silver on your display, because you've got effectively a double edging on the uh on the logo, it means that it splits off what your logo is from the from the product. And that's actually quite a sneaky way of doing it. You could put in another Well, in this one, you've actually got three colours of buttons. Well, we decided that the blue ones were the um the standard colour. So you were talking about uh um We're assuming that all the buttons on the second panel, the hidden away panel, would all be standard. Which m may or may not be the case. Well, yeah. Bu but but uh was the was there not a button that you were thinking of on the um on the other opt you know, on the second page, as it were, that uh you were thinking of maybe having as a different colour? Yeah, well Alright. Okay. So we just add that to profitability in effect. Right, so we're meant to finish up in five minutes. Mm-hmm. So we're okay this way around. Until the design team comes in and says, get off. But you are the design team. So what bit are we on to? Yeah. I th I th Oh. Right, okay. Oh drats, I've botched that, haven't I. Right, okay um What's happened here? Right, okay um Mm. Right, okay um, Right. So we got So we've done the the finance bit and the Excel project and the We've done the redesign. So we're now on to project process. Now satisfaction with, for example, room for creativity, leaders

hip, teamwork, means, et cetera, whiteboard, digital pens, et cetera. So, we're actually now uh, in a sense, on to the evaluation of the course rather than the evaluation of the project is m my understanding of it. So what did you and remembering that nobody's just over the curtain. So, um So I suppose the easiest way of doing it is to put some notes down, which I will do. So, uh I think I have to finish that page. Right, okay, so Project evaluation. So, um Creativity. Did you feel you got a chance to express yourselves well enough? Well um Individual meetings. How do you mean? In you on your own. Um Mm, The only thing you find is in a manufacturing process, you would normally, you go to a meeting, you decide, right, you do this, you do that, you do that. Then you go away. You find out information. You then come back. You then discuss it. You then go and change things around, and then go back. So Whereas, this time, you're really getting it from a database source, so it's not uh well uh Anyway, so, what do you want to put down? I've put, seemed okay. Creativity, seemed okay. Um um flow of information on on any given subject given subject um sometimes disjointed. Um Have could have used a different example pel to increase create Creativity. You have to do it within a set time frame is the other thing, so I th I uh d But the other thing is that uh they're I'm guessing that they're trying to use this um software to to demonstrate how you could uh do a project. I mean, m my wife at the moment, for instance, is uh acting as a computer um for um you normally, you got a problem, so you go to your tutor and find out information to see how to get it fixed. So what she's doing is she's having to spend a day at the computer terminal at one end so that any student that comes along can uh ask whatever question. And then you or the idea is that the whichever uh person's at the other end can point them in the right direction, show them where to either give them directly give them help, or secondly, point them in the right direction, either at the library, or uh or or come back, or go and see Joe Bloggs, or whatever. So uh, and that was a project I suspect similar to this, because they they were actually trying to debug the uh computer software to enable um to enable it to work. And of course, you had the machine crashing and various things going wrong. So Alright, so we've got uh New ideas

found, did we find any, no. Alright. Leadership, teamwork. Does You've got voice recognition computers, that's not remote controls. Mm-hmm. Okay, so how do you reckon teamwork went? To uh go uh reasonably well. Okay. Bit bit arbitrary. Mm-hmm. So, we're m we're meant to comment on leadership and the means, E\_ G\_ whiteboard, digital pens, et cetera. And and new i new ideas found was the the other thing. Now, I'd much rather be in marketing but I certainly didn't get this uh computer to work as well as I would have liked. However, um Alright uh means, so whiteboard um so really, it's uh equipment. Oh. Right. New ideas found, so one or two. um and uh voice uh, was it voice activated um recognition. Right, so, uh are the costs within budget, yes. Is the project evaluated, yes. Uh, don't forget to complete final questionnaire and meeting summary. Then celebration. Yeah. Uh, so we don't re So really I tried to save this the last time at twelve point three, and it didn't seem to have saved anywhere. Mind you, the the figure last was was different, but it should be poss No, you'll ha have to open it up from elsewhere. Yeah, you have to you have to close that window. 'Cause that's the save one isn't it, so And then find it. You pass it round to have a look. Mm very nice. Mm-hmm. Mm-hmm. Mm-hmm. So it is, yeah. Cherry would be alright actually. Yeah. Mm-hmm. Copyright, yeah. What's this this one? What's that one there? Oh, okay. Right. Uh-huh. Okay. Mm-hmm. Mm-hmm. Yeah. I'll see if I can find them. Have Mm-hmm. Mm-hmm. Right. So if you had to do a presentation or w

ill you just work it on the prototype? That's the pr Okay. we should plug it in. Do you wanna plu do you wanna plug it in into the the back of that one. We could do it as we d go along, the production costs, looking at the prototype. Well do we'll do it on the prototype, so do two, see how much it is. Yeah. Mm-hmm. Mm-hmm. Yeah. I think you just do one, don't you, for the I think I think it's just it's just a one. Else I thi I think I think the button supplement i is just a supplement for all the buttons made in a different material, rather than per button. I don't know though. Hmm. Mm-hmm. Mm-hmm. You've just gone off the window into another one. It's on the bottom row. Yeah. Yeah. Mm-hmm. Mm-hmm. Mm-hmm. Yeah. Yeah. Yeah, we have to have it Yeah. Yeah. Mm-hmm. Mm-hmm. Yeah. Shall we shall we evaluate the prototype as we've got it now first, and then sort of make decisions about what needs to be changed after? Okay. Right um, I have a little thing. So, we've all got a note of it's thirteen point seven, isn't it, with everything we want on. Yeah, I just had a presentation to do. Mm-hmm. Mm. Right okay um, This is about the evaluation criteria that we use for the the prototype we've got here. And so the method is that the design team makes a prototype, and we evaluate the prototype against some criteria that we've formulated. And those ones are gonna be in response to sort of market research, and also finance, I guess. And do that on a scale from say true being one and false being seven, so if it's neither true nor false, then that's four. So, I got a set of criteria just based on the marketing that we need to add in a financial one as well, at the end. Um so, We have to say whether it's true or false that the product looks and feels fancy. Um The whether the product demonstrates technical innovation. Whether it's easy to use. Whether it's incorporating sort of the fashion element to attract the buyer. And whether it's a sort of recognisable Real Reaction product. And I have to go up onto the whiteboard and do this apparently, so I'll go over here. Right. So the first one is um, does the product look and feel fancy. So if we do a sort of a one So Yeah. Okay. Yeah. Yeah. Yeah. Of but I think What Is one false, or is t one true? I forgot. One's true, and okay. Seven's fal Four is neutral, okay. So Right. Okay. Right. I gonna put underneath so I've got some more space. So, false is seven, true is one, and So uh say about a two for fancy, you think? Okay. Okay, well d you do an average at the end, I don't know. Um Uh-huh. This this is just this is just for like the look. Does it sort of look fancy rather than functional. So Yeah, so that so sh should we go for a a two on that? 'Kay. And I mean, how much does the product demonstrate technical innovation do you reckon? D yeah. Okay. So, what about the

pr The prototype as it is, we've got we've got the speech recognition on it, haven't we. But not the kinetic. Alright, so So it doesn't It's pretty The prototype as it is isn't sort of um fulfilling the Okay. Yeah. Right, okay. Mm-hmm. S I'm just gonna check my email. I'm just gonna check exactly what it said in the email for um the product. Okay. But I Okay. Yeah., I just read the email again and it sort of says it's evaluate the design sort of as it is, I think, so I think we need to think about finance after we've sort of evaluated that design. I don't know whether we're doing it in the wrong order or something or. So, I mean does this need to go up a bit or something, 'cause we've got both the both the um the speech Yeah. Yeah. Um, for for innovation, so we've got the speech the speech thing, and Do you reckon a two? Okay. Two. And the next one is I'll have to get it back up now. Okay. Um Say about a three maybe? It's a two. Yeah, this is This Yeah. So this is about sort of the corporate image of like new sort of sleek technology and all that sort of thing, as well as having the logo on and all that. So sort of Is it sort of a recog

nisable product. Does it fit in with our other other products, which uh are sort of coffee makers and spacecraft. What do y Yeah. Uh-huh. So Two or three? Yeah. Two or three. How Two. Okay. Right. Yeah. Yeah we s yeah, I think we sort of add them up so sort of at an average is gonna be I'm just gonna do this in my head. One point eight isn't it or something. I think, anyway. So yeah, pretty close to a two. So So it's I mean it's pretty good at the moment, but it's gonna get worse, isn't it. But we've gotta try and make sure it doesn't get too bad. Yeah. Do you wanna plug it into yours so we can get up the the finances I'm not sure. Yeah. it's come on already. Mm. Yeah. Different different colours, yeah. Yeah, I was I was thinking that because maybe maybe the sort of rubber case is a bit less in sort of the corporate identity than the sort of you know sleeker plastic case. Lose a little bit on the fashion, yeah, but And then Yeah. Yeah. Well I thin I think you you you just need two for the special colour 'cause it's just two supplements, you know. One original colour and then sort of two supplements, I think maybe. Okay. So we only ne we only need two for that. 'Cause I mean these these are moulded. The one colour's gonna be moulded out of a piece of plas uh of rubber, isn't it. Right. Yeah, that Yeah. Okay, so tha So shall we do a Well, um Yeah. Yeah, so Uh So it's w if we've if we've put in for another special form on a button, then maybe they could be a different shape. Like we got a cherry one. Maybe other ones could be something else shaped. I don't know. That would be poss seeing as seeing as it's cheaper to make them a different seeing as we've got, you know, we've made it a a special form, so And that would sort of maybe keep us close on the sort of the fashion type one. And it would sort of, you know, keep it quite fancy as well, I don't know. Well you could Yeah. Yeah, I mean the volume buttons could be lemons or something, maybe. Okay. So, we've what have we what have we rid of. We got rid of the plastic. Is it The rubber. Yeah. Yeah. But uh So I mean, we've got we got rid of the rubber case, but we've now s we now sort of got an extra form, and an extra colour for the buttons. So maybe in terms of sort of fanciness and fashionability, we're pretty much the same, maybe. So, I mean we could maybe put two again on them. Yeah. Yeah. And what about the sort of innovation? Do you think Okay. And then, the corporate identity. Yeah. Whether whether that's considered to be sort of part of the corporate identity, I don't know. I mean, it's maybe not. I mean Yeah. Yeah. Yeah. Okay, well I mean We cou Mm-hmm. Yeah. Yeah. Hey, what what what's the company colour? Did you get told what the company colour is or Oh right. Hmm. Mm-hmm. Mm. Okay. Uh-huh. 'Cause you've got sort of we've got point two to play with if you really wanted to. Another colour. Or would that be t Yeah. Okay. Yeah. Yeah. Shall we save the point two for profitability then? Hmm. Yeah. I mean it's the sort of thing that, I mean, you wanna pick up the controller and just hit a button quickly to change the channel or volume. So, if it's dead obvious, then that's fine. But if you're opening the panel and you're looking and

you're tuning, then you're paying a bit more attention. So it may be sort of different colour buttons isn't so important. 'Cause you Yeah. So Yeah, I mean so we've dropped the cost, but Same sort of function? The criteria? It's alright. Just made a load of money. Well, but I think we said that w Because you got rid of the rubber, we put an extra an extra sort of fruit um shape on one of the buttons. le lemon sh I think well, we could have lemon shaped ones with the volume ones or something. Or something like that. Yeah. Did did you have to have a rubber case, though, for rubber buttons? Or was it the other way around? Right, okay. Yeah. So that so we've saved Saved two Euros on that. Mm-hmm. Well, we're aiming for um one for all of them. M but it

really has to fit into the budget, so I guess we just have to adjust things to get it i in the Which is fair enough. Yeah. Yeah, I think most Yeah. Yep. I don't know. What's on the agenda? Uh-huh. Finish your meeting now. Yeah. Okay. Oh. I thought some of the divisions though between sort of the individual meetings were a bit arbitrary. Yeah. Well, we were finding out various things in in be in-between the meetings, and they didn't the one meeting didn't always follow on for the other one, you know, sort of we had things thrown in at the second meeting where, you know, you'd looked at the remote controls and seen the curviness, but in the first one you'd also looked at some remote controls and looked at the buttons, and I don't understand why it would be in separate meetings that you'd do that. You know, you'd sort of you'd probably present it at one or something like that. Yeah. Uh-huh. Yeah. Yeah. Yeah. Yeah. Yeah, the thing itself. Yeah. Yeah. Mm-hmm. Yeah. But think like it was a bit restrictive just to say that you have to design a television remote control, in a way. I mean it depends what sort of business you're in, I guess. I mean this one seems. From the website it looks it's quite innovative, but we're coming up with some bucket shop product aren't we that's, you know, fifteen quid. Yeah. Mm-hmm. Hmm. Mm-hmm. Yeah. I mean if you look at their products on their website here, Real Reaction, I mean it's all pretty high-tech and cutting edge. And Yeah. Yeah. we did find a new idea, I mean sort of a kinetic remote control. I've never seen one of them before. batteries, I think. So Mm yeah. Yeah. Mm. That went okay, yeah. Mm-hmm, yeah. I don't think sort of the budget um allowed us to do anything Well, I mean I don't think it I just don't think it fitted in with the rest of their products. I mean, they've got all these sort of, you know, high definition D\_V\_D\_ and portable seven inch d um lightweight computer screens, and uh I'm thinking, do you know, one cheap remote control doesn't really fit in. Surely they they should produ Yeah. Yeah. Yeah. Yeah. It worked. Comput computers could be a bit difficult at times but I think there's a little there's a little um chi There's a little there's a little chip, I think you must plug it into something and it produces a I don't know. Whether it just produces a big image of sort of everything you've written or something, and Page after page. Yeah. Kinetic powered remote control. Um, what was the other one? Vo yeah. Voice recognition, yeah. S Almost. To fill in these fill in these questionnaires Oh no. Hmm? I think that we've got two questionnaires and a report on the last meeting. Well we've made our prototype anyway. We can have a good look at that. Mm-hmm. Y no, it's a slightly curved around the sides. Um, it's almost curved like up to the main display as well. And the little line at the bottom indicates the bit the panel that you pull down. And the extra function buttons are below that panel on the little line. And we've got the stick on the button with the company logo on. Yeah, it's a bit more fun, isn't it? And it's kinda not really at a kind of you think apple, you think computers, like Apple Mac. Yeah, and cherries are fun, summery. Ah, that's the mute. It it'd probably have to be labelled mute. But um, we didn't have anything small enough to write. Yeah. Uh, we just chose simple shapes for all them. Um, the important ones are the volume ones. So we made them a bit bigger. The mute could possibly be a bit smaller. Mm-hmm. Yeah, and we chose a V\_ plus and V\_ minus. Well the colours wouldn't like that's they wouldn't be too important, but we didn't have

any white Play-Doh. So that's where the colour buttons came from. Uh, that's it. Maybe if you just minimise that one in the top right-hand corner of the little box. Yeah. S Um,. D wouldn't you have to keep the simple chip there as well? You know how you turn that one to a zero, wouldn't the chip and the sample speaker be separat

e things, so you need both of them? I think the voice recognition. But I do think uh the v uh voice recognition thing would be more impressive than the fact that it's got no battery. Yeah, I'd maybe give it a a two. One's true. And a four is neutral. Yeah, 'cause we haven't got the double curve, so we can't like say it's completely true. But it's pretty close. We've got almost everything we can. Yeah. Yeah, I suppose that might be in the technical innovation bit. Maybe a three. I would give it more than a four. How much of a difference would it make if we made the case in plastic? Because we did say that we don't wanna follow the fashion too much. If the buttons are rubber that might be spongy enough. And then it stand the test of time better. Mm-hmm. Well, I suppose it's rubber as it is, isn't it. Yeah. Yeah, two or three. I'd be happy with a two. Yeah. Yeah, I would say so as well. Yeah, it's got the cherry and the sponginess. Maybe two? Yeah, that's a bit rough at the minute. Uh, well it's got the same um speech feature as the coffee machine. Yeah, two or three. Well, the logo would be more um recognisable on the actual thing. It's just that the pen wouldn't really write on that paper. But um, I think the logo would definitely be recognisable. And it does have attributes that other products do. Two? Aye. Go for it. What does what do all them numbers mean then? Do we add them up and rate or anything? we'll probably have to re-rate it. Ah it's on. Yeah, I think that'd be fine. Because that was just a trend, and we do have rubber buttons anyway. Yeah. Yeah, I think we should just imagine white buttons. Yeah. Yeah, the volume ones should stand out a bit. Real Reactions? Yeah, I don't see how we could make it any more. Um, apart from maybe doing the whole thing in the kinda light shade of blue, like the casing. But then what colour would you make the R\_s? No, I just We got the logo off the web browser. Mm-hmm. Um, I don't think they would really need to be. I think if they were just all small round blue buttons, it'd be fine. Needs to be an enter button, but could just be the same as well. Mm-hmm. Shouldn't we maybe lose a point on fashion, go to a three? 'Cause we've lost the overall spongy feel. 'Cause it doesn't seem right that it just hasn't changed at all. Alright. Did we decide what that was, which button it was? On the volume ones? Right. Um, can I just check if that's a cherry or an apple? Did we decide against the apple because of Apple Mac? And did we make it a cherry officially? Right. So were we aiming for a certain target on that scale? Right. So do we have anything else to discuss? Huh. Yeah. I think it maybe could have been a slightly more creative project. I mean a remote control isn't the most um kind of fancy thing that you could imagine designing. I can't think of a better example at the minute. Well it's a different application of it. Yeah. Well leadership's a bit of a funny one, isn't it. But we can't really all fairly comment on leadership because you are the Project Manager. You were the leader. So our experience of leadership wasn't really as much as yours. Yeah, very nice. But I mean, I d I don't I'm not sure I see the value in these. I mean, they record what you're writing, and then what do you do with it? Where do you get the recording? Do you plug the computer or something? Right. I think you watch a video of it kind of. Voice um recognition thing. Pretty much. We also have a apple slash cherry design at the top. Yeah, yeah, we might get a For the M\_. They're thinking For the first time, well it was hard to get the h um the actual labelling on the individual buttons. Hum, you separate off in colour the volume related buttons from the channel related buttons, so you've got the volume in orange on design there, and the the channel is in blue. Yeah, sis Yes, we'll have the slide-away. Bottom. Mm-hmm. Yes, yes. Okay. Mm-hmm. This this is a yes, this is our presentation of the prototype. Mm-hmm. Could we g

et this on the board just so we can see or do you mean do you have the figures there? 'Kay, Alice. So, sh 'Kay this should be then. Mm-hmm. Have a push button interface. Um Um Yeah. And then we'd have So that's nine point one there so we've got some 'Kay. Just give us a bit of I switching around those th um on the electronics we got the sample sensor. At the moment we've just got the simple chip, which costs one. Um, I guess the sample sens sample speaker would be the voice recognition thing, which puts up to four? We should be slightly over our budget but if we gather something else down to slightly lower standard, and maybe go with the one the special form buttons, then we could have the speech So uh maybe if we got rid of like the maybe one of the special colours, kept them all the same colour, then we could have the voice recognition without Yeah, yeah. Um Oh possibly, yeah, yeah maybe. Maybe um we'd be giving up on the kinetic. Um We should Yeah, that would save us one, though we'd still be slightly ov Yeah, yeah. Well, since it's the through the whole technology type thing, um, you were saying in the market research that people like kind of interesting gadgets in them. Um, whether they would figure the the s uh sample senor and the sample speaker, voice recognition be sort of a worthwhile thing to have. And then still have the batteries, or whatever they would prefer not uh You know what I mean? The the problem was the battery's running out and losing the um losing the remote. So you gotta decide which of those is more important to them. Yeah. Okay. Okay. Okay, well we have a single curve, which was maybe like the feel of the product's quite good. So uh Um, then we have the rubber kinda spongy feel, which was in at the time. Um, sorry that'd be considered fancy. So maybe maybe a two. Yeah. Um, deciding between the kinetic power or um the speech recognition, and if we had either of those for our budget, they both show a reasonable amount of speech recognition. Um But not the kinetic. Like the power. No, we c ca yeah, we can't afford both. No may is maybe about neutral plus it it's got something, but it hasn't got Right. Okay. 'Kay. Okay. Um Mm-hmm. So it says if we make a slightly more fancy, then we lose points innovation, and if we make it more innovative innovative, then we lose points on it being fancy, so Yeah, yeah. Um It does, yeah. Yeah, m um Yeah, it was just doing it quite well. Um, I think we're gonna have to lose some of these, but the moment, as it stands, it's um Uh the sensor using all of its all of its products, all of its buttons, and it's got a fairly big label on the bottom saying where it comes from. Okay. Also it's kind of spongy rubberiness is maybe bit more kinda comfortable than kinda sleek and new age. Um, it depends which way you look at it. Maybe a kind of three? Uh d Yeah, so it's So should we get So are definite Was it thirteen point seven was the definite price rule if has. Okay, so we need to So I guess this Is this the last stage once we sort out the finances part of it? Yeah, yeah we'll make the adjustments and then see how are rates are going. Oh actually we just have a plastic case, then we lose two points, which gets us um In right within the budget range. So that's eleven point seven, and then we could make sure we definitely had all the button supplements. Possibly, yeah. Um And that would allow us to have all the technical innovations. So we'd lose a little bit on the maybe kind of Oh yeah, and that would now be Yeah, that's that's within the budget. Um Do we actually have Do we just have one special uh special forms down here? Um And we we've we've got we've got enough for another we've got nought point eight left, so we've got enough for another Yeah, um But the but but but the I think maybe the special colour, we've got three now just because the volume buttons are different, I guess we'd have the ones which are blue at the moment would would just be the standard colour. Yeah,

which I think we should Yeah, they'll still be fine for the for the price. Okay, uh that's probably it. Ne uh Maybe that'll be a second supplement. Then there's a spe a second special form. Um Well you got you got twelve. So I think that should still be okay. Yeah, that's twelve point three, so we're still within budget on that. Um So decide we've lost a little bit on the fashion and lost a bit on the fancy kinda side



of it, but generally speaking, we've kept the other attributes to the That's without Yeah. And specially it definitely could fits the the real product What was the what's the company name? R yeah. Yeah, yeah. I mean it still seems definitely fit that p so that's like if that's the new age kind of um inno innovative c type company, then um having the kinetic feature and the voice recognition is p quite high up on Um Mm-hmm. Yeah so it's a Whatever fruit was in fashion next year. That yeah, that was uh that was just about all. I think we've saved quite a bit because we've just got the push-button interface, which is by far the cheapest. Um So maybe in a sense not having that, maybe we've lost some maybe lost something on the innovation side? I dunno. And that is like the most standard type of button. Yeah. And everything else has stayed pretty much the same, so Yeah, plus if anything that is special forms makes it slightly easier to to use. Um, well we've still got the kinetic energy. Um Yeah, the speech feature. I think we've cut just about the same. We've maybe lost Hasn't it It's hard to tell how the rubber the rubber casing would really affect Um But I think more the the features of the actual control will be more important than maybe than the the actual aesthetics, but But either way, I think we've made it fairly close to what just the the company logo. So maybe there's like a set design which we get printed off. Okay. Yeah, yeah. I'm still not quite sure we've established that. Yeah. Um Yeah, maybe we've m Maybe for the the one they're gonna see all the time, we make it look good, and um, fit the kind of idea of what they want. And then for the more functional buttons, we don't worry too much about that and just have that as like a plus it's hidden away anyway, you're not gonna see it at the start. Yeah. 'Kay. Uh,. That's good. Definitely lemon shaped. You had to have rubber buttons if you had the rubber case. So I think we can we're okay. Then we say it's fine, so it's all good. Just in case we need that point two for lawsuits and such like. And we seem to have least something in each criteria. We haven't completely left anything out, so As an overall product which has to be quite cheap, we've just about achieved everything. We've got the closing. We should just go through this quickly and then Um, yeah. Yeah. Yeah, I suppose and then be going out and finding more information each time and then diff things will be relevant. Is this go It kinda kis fits the purpose that it was something everyone knows about and then something we can at least look at and think how we can improve on. one of those things. Like uh, companies can have like a range of products and I don't know how it works but I guess that something got sent out and have like a brief to kind of Yeah. Well, sh we look at the last slide, see if it's got anything else. I think there's one one more to go. It was quite good with this um the white board, having that and the digital pens. Like, that's something that made it a little easier. voice recognition, especially not could Yeah. Yeah, so it's just like the same products, but just put together in a different way. Um Yeah, I guess we all had separate ideas and then discussed them. So it's not just for us, it's for the experiment as a whole, so Should we quickly look at the last slide? Sh. Is that everything?

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# Meeting ID: 136

Data Source: Train

## Executive Summary

This is our functional design meeting . our agenda today um Um . I'm gonna do an opening , did you all get the minutes ? I e-mailed them to you . I'm also putting 'em them in the shared folder . So um then I we'll talk about our general objectives and have your three presentations . Um I'll talk about the new project requirements I've just received , and then we have to make a decision on our remote control functions . Uh we need to keep in mind the user requirement specification , what needs and desires are to be fulfilled , the functions design , what effects the apparatus should have , and the working design , how the apparatus actually works to fulfil its function . I don't know if you guys are able to get access to um the report that was online or if I'm the only one who is . How do I hook my screen up ? there's a wee a wee plug just just that one there And then you have to press function F\_ eight I I think you just have to push it in really hard . we're just gonna talk a little bit about the functional requirements that people specified when they were asked . They had a hundred subjects and their usability lab and recorded the frequency that they used particular buttons and the relevance that those buttons had . Focusing on their desires , um people specifically said that they thought remotes were ugly , seventy five per cent of the a hundred subjects noted that more importantly though , eighty per cent said that they would be willing to pay more for a fancier looking remote . and found that the desire for voice recognition was inversely related to age , so younger people were more inclined to want something with voice recognition , That being people k um frustrated with losing their remotes . I think , over fifty percent of the people mentioned that that was their biggest frustration . People are also frustrated with the difficulty it is to learn how to use a remote and I think that ties back to what you were saying before just that there's too many buttons , It also mentioned something called R\_S\_I\_ and I was hoping someone might be able to inform me as to what R\_S\_I\_ is , Repetitive strain injury . So I guess sort of the carpal tunnel type thing , people do not like that , Um looking at the needs people specified , the problem right now is that people's remotes are not matching their operating behaviour . People are only using ten per cent of the buttons that they have offered to them on their remote . People also zap like to change the channel , about um sixty five per cent during an hour of use . So we really just need to focus in on those volumes and channel changers rather than things like the audio settings , the screen settings and the channel settings , the idea of an L\_C\_D\_ screen was brought up although they didn't have any details on what people's preferences on that were , also just the phenomenon that less is more when it comes to the

buttons on the remote make sure that , you know , something like an audio setting isn't given as much importance and visibility on the remote as something like channel changing that's used a lot more often . And basically in order for us to win over to the consumer we just need to focus on what it looks like , I'm gonna talk about the technical technical functions design of the remote control um . it sends a message to the television First thing to do is to come up with the design specifications . so we need a a clear idea of exactly what this product does , and what the end-user is gonna want from this product . a way I'd suggest that we could go about this is by designing uh several different prototypes of user interfaces for this product , um and then uh trying to get some feedback uh about h how well these particular prototypes work , When a users using a remote control , he or she expects the buttons to be in certain places . So in some sense we're gonna we're gonna have to aim for a device which is fairly conventional in design But I think within that there is also room for us to introduce novel ideas Um also in in designing the user interface we need to consider practicalities . Uh the first of these is is technological uh we need to find a balance between features and price . things like voice recognition would would add to the price uh but it would also im improve the design of the product . I had a look on the on the web uh to see if I could find a few examples of existing television remote controls . In analysing these we can consider what what things what's good about them , um how we can improve on the designs that that that I found Here's two examples uh probably at the extreme ends of the spectrum . Um on the left here we've got uh an engineering-based design for a remote control , so it's one that's got lots of buttons , The one on the right is a lot more basic . It would be a lot quicker to learn to use it , Uh there's a lot of features that are missing from that remote control . everything you might possibly want to do is there , Um personally wa what I want from a remote control is a device that's simple , uh it's got big buttons for doing the things I do most often , changing the volume , changing the channel . that's ergonomically designed . I think there's there's certainly a market for technology that looks cool . did it let you go on the Internet Uh that was just on the d on the company web site , yeah . and then I'm like wait it won't let me google . this is our working design presentation . Um I had a bit of some issues with this , because I wasn't able to find everything I needed , what we're trying to do as a working design is figure out how the aparata apparatus can fulfil its function . Um one of the examples that kept coming up for me is that a coffee grinder . because it converts electrical energy to grinding the beans because of the combination of electrical energy and then the other things that are brought in to make it work . So you make a schematic of the way that the the energy is converted tsh towards this practical function . the findings that I got uh very just very briefly is that you have a choice of the way that the information is projected to the receiver and in my opinion infra-red is the best way to do that Um the user interface is critical here , because a lot of the things that happen in a remote control happen through the chip that controls that converts the electrical energy into data , the components that we find here are the energy source , you know the battery or whatever that's gonna m make it work , then the chip , which converts the data , the user that's controlling the chip , and the infra-red bulb that's gonna let us move the data to the receiver . And personal preferences , besides the fact that I can't spell , we need a long-lasting energy source , We need a chip that works well with the user interface , and we need a reliable and clear infra-red signal , requirements . We have a couple new requirements but we're not gonna work with teletext We didn't bring it up yet , or at all in the meetings so far , What's teletext ? Uh , it's a British thing . I suppose it's kind of similar to a very very basic web browser

. this this kind of index appears on the television screen with just some some text and some very blocky looking graphics on it . and it gives you information , mostly rather boring stuff like what's on T\_V\_ next and share prices and that kind of thing . It's earl it's pretty old technology . like your question earlier um whether this is going to be t for television , video , or etcetera . Just for television . That's what we're focused on . Um otherwise becomes to complex , Um and finally there's more marketing , I think , um , our corporate image has to be recognisable . while we're gonna make it look pretty we need to use our colour and our slogan i in the new design . It's It's kind of yellow colour with uh we put fashion in electronics . and we have that the emphasis on the R\_s in um Looks like , yeah , kind of a yellow and black It's like double R\_ . we need to talk about our functions and our target group . You um in your analysis of different market um of the marketing , you identified that different groups wanted different things if we're gonna say that function um fashion we put the fashion in in electronics then you automatically , I think , a sort of younger group that that's who's gonna be attracted to this . I do think , who's gonna have the money to buy that also , that one ? at least right now what we're doing is um deciding on just the remote itself , The only break-down that I was given in terms of age was the voice activation so it's like basically fifteen to thirty five that think that that's a good idea . that's probably uh a population w quite a little bit of disposable income for use on technology anyway , that's all specific for speech recognition . Are we gonna use that as one of our functions ? I I would say no , because it's gonna add too much to the price . And I wonder if we can get voice recognition into that twelve and a half Euros without having to make too many other compromises . but why are we why are we aiming for a technological advancement ? Everything we're talking about is ease of use and simple If someone's looking to buy a new remote , don't they want like an upgrade ? or we can look at um user-friendly . And we also need to talk about if we're only gonna have the very simple ones or also have the other ones just separate somehow like if it was just a simple , either this way or this way , that had like the main buttons and then you could like pull something out , 'Cause then 's like people who don't wanna ever look at them , never even have to see them what are we emphasising ? I what in this project ? Si simplicity and fashion . which includes um an emphasis on making the infra-red very functional , What can you do to like make the infra-red more functional , I think it's a lot to do with battery , So 's just the quality of the chip . So our target group , we're saying , fifteen to thirty five ? I dunno how useful that number is if we're not doing S voice recognition , And if the whole idea is you're using a remote then why would you have voice , like you know what I mean and then it's like you wouldn't need a remote It's for , like , the ultimately lazy people , I mean if I get m more numbers , I'll e-mail you before the next meeting in terms of ages . but I th I think regardless we're we're aiming for the under sixty five or something . can we narrow it down to maybe um teenagers and families ? It's it's hard to narrow it down . I think the product appeals across a quite a broad range of ages . so it's going to appeal to people , maybe people who have problems with technology , you know , people who get scared by having lots of buttons , maybe we don't have to defi define the target group by the demographic of age , So maybe it's more useful to d d to define objectives like fashion and simplicity than to find specific target group as far as age is do we want some kind of thing to find it if it's lost ? Like a button on a T\_V\_ you can press It would be relevant to like the overall goal I think , Um so we want something to keep it from getting lost . And we want um we want large buttons for the essential things . We want a possibility to um to get um a possibility to get the extra functions . Which are kind of hidden away in some way Battery ?

Do we need a long-life battery ? We should maybe investigate whether it needs a battery at all . But you could maybe have it in a little charging station like a mobile phone , or like a little cradle for your iPod . Yeah , that's that's possible . Yeah . that might contribute to less people losing it too if it stays in one place . that's that's a good idea , Um after the meeting we're gonna each complete a sks um a questionnaire and a summaries summary . After that we have thirty minutes of individual work . Um I'll make sure to put up um the minutes and the project documentation and including these PowerPoint slides . If everyone could do that as well , that'd be great . I\_ um I\_D\_ Industrial Design you've your components concept , User Interface , the user interface concept , market trend wa watching . And as as per last time you'll get specific incrat instructions from your personal coach e-mailed to you . And hopefully , I hope , next time you'll be able to access more of the web site Be sure to note any frustrations or any um issues that come up in your um in your um summary . were you able to like put yours in the group folder ? Hopefully it is there for people . in there we have technical functions presentation , working design presentation and the functional requirements .

## Complete Meeting Transcript

Yep. Well there's a wee a wee plug just just that one there Ah that's it, yep. And then you have to press function F\_ eight I think it is on your laptop. That's it. Repetitive strain injury. Repetitive strain injury. So if you Cheers. Here we go. Right so I'm gonna talk about the technical technical functions design of the remote control um. We need to start by considering what a remote control actually is. It's a device that allows us to produce certain effects on our television, so i it's basically a communication device. We we tell the remote control what we want to do, it sends a message to the television saying change the channel, change the volume, uh yeah, adjust these settings, adjust the brightness. Um how do we actually go about designing a new television remote control? First thing to do is to come up with the design specifications. We need to know what our final product is gonna be like, so we need a a clear idea of exactly what this product does, uh how it works, and what the end-user is gonna want from this product. Um. Oh, a way I'd suggest that we could go about this is by designing uh several different prototypes of user interfaces for this product, um and then uh trying to get some feedback uh about h how well these particular prototypes work, uh sorta find out what people think of 'em. Um using a remote control is is quite a subjective experience. Um, and different different people sort of prefer different things. Um we should remember that remote controls are a a fairly standard piece of equipment. When a users using a remote control, he or she expects the buttons to be in certain places. So in some sense we're gonna we're gonna have to aim for a device which is fairly conventional in design uh so that we're not completely shocking people. But I think within that there is also room for us to introduce novel ideas uh and to make something that's that's perhaps a little bit different, something that stands out. Um also in in designing the user interface we need to consider practicalities. Uh the first of these is is technological ye uh what can we do with the current state of technology as it is. The second is is economic, uh we need to find a balance between features and price. So as you mentioned things like voice recognition would would add to the price uh but it would also im improve the design of the product. So I had a look on the on the web uh to see if I could find a few examples of existing television remote controls. In analysing these we can consider what what things what's good about

them, uh what things do they get right, what's bad about them, what's wrong with 'em, um how we can improve on the designs that that that I found and what can we do to make our product stand out from from the large majority of remote controls. Here's two examples uh probably at the extreme ends of the spectrum. Um on the left here we've got uh an engineering-based design for a remote control, so it's one that's got lots of buttons, it's it's fully featured, everything you might possibly want to do is there, you know, it's got forward, backwards, up, down, channel numbers, volume, uh freeze frame. Yeah, it's it's fully featured and it might take a while to get to learn to use it, but once you've learned it you can you can do whatever you want with your T\_V\_. The one on the right is a lot more basic. It's just got the essential functions of the T\_V\_ changing the channel, play, stop, volume. It would be a lot quicker to learn to use it, but again th it's it's swings and roundabouts. There are disadvantages, you can't use it say to to freeze the television picture. Uh there's a lot of features that are missing from that remote control. So we've got to to find our find a way of striking a balance between the two. Um as I said before, remote controls are subjective, different people want want different things. Um personally wa what I want from a remote control is a device that's simple, it it's easy to use, uh it's got big

buttons for doing the things I do most often, changing the volume, changing the channel. It it does everything that I need it to uh, as I said before, I'm quite lazy, I don't wanna walk across the room just to adjust my television. I also want something that that looks cool, um and that that feels good, that's ergonomically designed. I think there's there's certainly a market for technology that looks cool. And I think that's that's why companies like Apple've 've 've made a lot of progress. Uh that was just on the d on the company web site, yeah. What's up? Lefty loosey. Uh. Never heard that before, that's good. I'll think of that every time now. You don't have it in the States? Oh, I didn't realise. Um yeah, it's like a I suppose it's kind of similar to a very very basic web browser. Um you have like you have uh numbers on your remote control, uh y and you type in the page number you want, so like you type a hundred on your remote control and this this kind of index appears on the television screen with just some some text and some very blocky looking graphics on it. And you just type numbers to go to different pages and it gives you information, mostly rather boring stuff like what's on T\_V\_ next and share prices and that kind of thing. Yep, news headlines. It's earl it's pretty old technology. It's like nineteen eighties. Right. So what's our corporate image like? It's It's kind of yellow colour with uh we put fashion in electronics. It's like double R\_. Yeah. Is it is it something that's gonna be sold separately from the television or is it something that comes w with a television? 'Cause that would affect the way that we market it. Right. Right, okay. Yeah. Um. I I would say no, because it's gonna add too much to the price. Especially if we are marketing it as a separate product, people are gonna be paying uh, well, uh we've got a price limit of was it twelve twelve and a half Euros for to produce it? And I wonder if we can get voice recognition into that twelve and a half Euros without having to make too many other compromises. Yeah. Yeah. Yeah. The remote There are remote controls like that, yeah. Like some T\_V\_s they have a sort of uh a sliding screen on the remote control of it that hides all the complicated buttons. So if you wanna do something complicated like programme your television or re-tune it, then you you open up this little hatch or or slide the screen down and there's all the all the special buttons. Yeah. Yeah. I think that's a good idea, yeah. Yeah. Si simplicity and fashion. Yeah. Yeah. Yeah. It's, yeah, it's pretty it's pretty high-tech. It's for, like, the ultimately lazy people, who can't even be bothered to pick up the remote. Yep. I think the product appeals across a quite a broad range of ages. I mean, we we said simplicity is is one of the features, so it's going to appeal to people, maybe people who have problems with technology, you know, people who get scared by having lots of buttons, and that might be older people, but then we've also got fashion, which is something that definitely appeals to

younger people. Yeah. Yeah aim for a an income group. Yeah. Yeah. Yep. Yeah. Yeah. Which are kind of hidden away in some way or well not hidden but they're uh they're not as prominent as the main features. We should maybe investigate whether it needs a battery at all. I suspect the remote control does need a battery, but I dunno if you can Yeah. Yeah, without the energy, yeah. Yeah, that's that's possible. Yeah. Yeah. Yep. Mm shall we go in the order that you just did it? I dunno. How do I hook my screen up? Where does it go? Mm-hmm. Hmm, I'm not supposed to move this, but Where's function? No signal. Ah, wait, 's screw in. Push the screw. Mm alright I've never attached to anything. Alright, so, I don't know if you guys are able to get access to um the report that was online or if I'm the only one who is. But, I don't even know how to play this. No. Alright. So we're just gonna talk a little bit about

the functional requirements that people specified when they were asked. Um I guess Real Reaction did some market research. They had a hundred subjects and their usability lab and they watched them watch T\_V\_ and recorded the frequency that they used particular buttons and the relevance that those buttons had. What they found was they analysed people's desires and needs. Focusing on their desires, um people specifically said that they thought remotes were ugly, seventy five per cent of the a hundred subjects noted that and that they more importantly though, eighty per cent said that they would be willing to pay more for a fancier looking remote. I don't know anything beyond what fancy means, but that's particularly of use to us, I think. Um also they did some questions on voice recognition and found that the desire for voice recognition was inversely related to age, so younger people were more inclined to want something with voice recognition, whereas the older people in the like sixty and above segment or so did not really think that they would pay more money for voice recognitions. Um people also had certain frustrations, that I think that we could try to take into consideration with our design. That being people k um frustrated with losing their remotes. I think, over fifty percent of the people mentioned that that was their biggest frustration. People are also frustrated with the difficulty it is to learn how to use a remote and I think that ties back to what you were saying before just that there's too many buttons, it just needs to be easy to use. It also mentioned something called R\_S\_I\_ and I was hoping someone might be able to inform me as to what R\_S\_I\_ is, because I don't know. What? Ah. There we go. Wow. People do not like that. So I guess sort of the carpal tunnel type thing, people do not like that, um the repetitive use, I guess, caused a strain. Um looking at the needs people specified, the problem right now is that people's remotes are not matching their operating behaviour. People are only using ten per cent of the buttons that they have offered to them on their remote. And what people do most often is changing the channel and changing the volume. People also zap like to change the channel, about um sixty five per cent during an hour of use. So we really just need to focus in on those volumes and channel changers rather than things like the audio settings, the screen settings and the channel settings, because they're used much more infrequently and probably just complicate what's going on. So I think that some things that we might wanna think about, the idea of an L\_C\_D\_ screen was brought up although they didn't have any details on what people's preferences on that were, so I dunno know if that's coming to me later, or something like that. But something for us to consider also just the phenomenon that less is more when it comes to the buttons on the remote or what we wanna make easiest to use, make sure that, you know, something like an audio setting isn't given as much importance and visibility on the remote as something like channel changing that's used a lot more often. And basically in order for us to win over to the consumer we just need to focus on what it looks like, that it has a fancy appeal and that it's not ugly and that it feels like the way they're gonna use it, so it doesn't give them any hand injuries or things like that. Hmm. Yeah, have I unscrewed it? Here we go. Mm-hmm. And I think that's in the shared, if I did it right, if anyone wants to look at it. No. A fashion

fashion remote. Mm-hmm. Yeah. So wait, did it let you go on the Internet or was that just what it let you see? Okay. 'Cause I was like googling and then I'm like wait it won't let me google. Yeah, that's a good one it'll stick with you. What's teletext? Oh. Oh, so Mm-hmm. Oh. That explains a lot. That's good. Mm-hmm. Mm-hmm. Yes, I do think, who's gonna have the money to buy that also, that one? The only break-down that I was giv

en in terms of age was the voice activation and basically there's a big jump, after thirty five people don't really care if it has voice, so it's like basically fifteen to thirty five that think that that's a good idea. I dunno I'm gonna be given any other numbers broken down in terms of age later, but if that's sort of the only quality that we have that is divided into age then we would wanna stick between the fifteen and thirty five range. But what else are we gonna put, I mean not that I'm really gung-ho about it, I don't know what else you can put in a remote to make it technologically advanced though. So like other than just making it look good, how is it I mean it can look really great and still have the same up-n-down buttons and why's anyone gonna buy a new remote? Mm-hmm. If someone's looking to buy a new remote, don't they want like an upgrade? I dunno. Mm-hmm. Mm-hmm. Can you like I mean this may be too complicated, but, I wish I had something to explain it, like if it was just a simple, either this way or this way, that had like the main buttons and then you could like pull something out, kind of and like you got the rest the buttons, but the rest of them like went in. Do you know what I'm saying? Mm-hmm. 'Cause then 's like people who don't wanna ever look at them, never even have to see them and if you like get the instruction manual that comes with it and you just don't even read it then you'll never even know that those things can pull out. And you're a happy person and everyone else doesn't have to have like two remotes, one that has the easy ones and one that has more complicated ones, but 's all still in one. Yeah. I think simplicity, fashion. Mm-hmm. What can you do to like make the infra-red more functional, like why would it not be? I'm just wondering. Okay. So 's just the quality of the chip. Okay. Well, I dunno how useful that number is if we're not doing Yeah. Yeah. I don't. And if the whole idea is you're using a remote then why would you have voice, like you know what I mean and then it's like you wouldn't need a remote you'd just talk to your T\_V\_. Mm yeah. Maybe I mean if I get m more numbers, I'll e-mail you before the next meeting in terms of ages. But this doesn't divide up anything and there was only a hundred subjects also, which isn't, I mean, really isn't that representative, especially if it's a hundred subjects that th they then can subdivide into age groups that means there's very few in each age group, so Twenty to like fifty five. I dunno. Well maybe we don't have to defi define the target group by the demographic of age, maybe we can define it by like the demographic of like h t how much money they have to spend or something like that, like, well obviously it has to be someone who owns a television, and like how recently have they bought their television like that sort of thing. Yeah. H I mean, like I said before, fifty per cent of of the fru f like frustration someone can have that was the biggest one and half the people said that happened and we all mentioned it before we knew about it. And if we're talking about making something easy that sort of goes along with it so it wouldn't be like a random thing to sort of add in. It would be relevant to like the overall goal I think, so Hmm. on your coffee table, it's not like an eye sore, that kind of thing. Yeah. So you never have to change the battery. Mm. It's good. Did you um were you able to like put yours in the group folder? Okay. Yep. Where is that? Yours is I only have three, I just have like our three. Yeah. No, but that's 'cause I think yours is in the e-mail separate, like it's not on the server. But if I open it and then save it, probably will be there. Oh wait, never mind you can't save it to the Okay. Right. I think, you might have to disconnect Rose. Yeah. I I think you just have to push it in really hard. Oh, got it. Mm, neither have I. Alright. Hmm. 'Kay. Hmm. Hmm. Mm 'kay. Okay, great. Hmm. Yeah. I think that could be our



selling point. Right. Hmm. Right, I really can't see what I'm doing, so does anyone have a Ah-ha, look at that, showing up already. Yeah. Alright um No, how do I play again? Ah. Okay. So this is our working design presentation. Um I had a bit of some issues with this, because I wasn't able to find everything I needed, but I guess that's we're still in early stages. Um so, yeah, this is this. Though the thing about working design is the what we're trying to do as a working design is figure out how the apparatus can fulfil its function. Um one of the examples that kept coming up for me is that a coffee grinder. It works because it converts electrical energy to grinding the beans and then you put the bean through a filter and that filters out, and then you get coffee at the end that's nice and hot because of the combination of electrical energy and then the other things that are brought in to make it work. Don't know if I'm explaining that very well, but how do I get to the next s ah. So the method as um working designers figure out what you need to make it fulfil this practical function, what what needs to be done and how do we convert all the elements to make that done. So what the easiest thing to do is to break down all the points at which you need something to happen. So you make a schematic of the way that the energy is converted towards this practical function. And then I think the easiest thing to do is gonna be work on each task separately. So um Uh. Uh. So the findings that I got uh very just very briefly is that you have a choice of the way that the information is projected to the receiver and in my opinion infra-red is the best way to do that 'cause you don't need a sight line. So that's one thing we're gonna work on. Um the user interface is critical here, because a lot of the things that happen in a remote control happen through the chip that controls that converts the electrical energy into data, which then goes through the infra-red, so the the chip that uh I think Ian is designing, is gonna be crucial. And really it all comes down to the to the user, because they're the one that's controlling most of the working design. So the components that we find here are the energy source, you know the battery or whatever that's gonna make it work, then the chip, which converts the data, the user that's controlling the chip, and the infra-red bulb that's gonna let us move the data to the receiver. So you have four main components and they are designed sort of like this. You have your energy source right there which then um brings uh energy or information to the chip, which is also controlled by the users. You have energy going to the user who's controlling the chip ooh 's not what I wanted to do uh uh. Previous. Sorry about that, guys. Oh. No, no, no, no, no. Okay, let's just get back to my schematic here. W yeah, yeah. I think it's frozen. Here. Don't show me that tip again. There we are. Sorry about this, guys. I'm kind of pathetic with things like this. Um alright. So you have your energy source, your user interface who's controlling the chip, the chip also uses the energy, and the chip through the use of the user interface is gonna control the switch which will work your infra-red bulb, which will then bring the data to the receiver. So hopefully that makes sense for everyone in my kind of garbled way. This is the the parts of the working design that need to be figured out. And personal preferences, besides the fact that I can't spell, we need a long-lasting energy source, people don't wanna be changing it a lot. We need a chip that works well with the user interface, that isn't too complicated. We need a straightforward interface, like Ian was saying, simple, not overwhelming it with information and we need a reliable and clear infra-red signal, so that you're not waving your remote around and having to get frustrated and go do it by hands. So that's pretty much it for the working design. Rose, do

you think you can give me a hand with this? Yeah. Yeah. It's gonna stick in your head. Mm. Ooh, no signal. Okay. Uh, it's a British thing. No. S Lottery numbers and sport scores. But if you ever see the T\_V\_ saying like go to page one sixty on Ceefax now, that's what they're talking about. I have no idea why we don't have it, but 'Kay. Mm. Okay, so we want something that looks good and is yellow. Okay. Well if we're gonna say that function um fashion we put the fashion in in electronics then you

automatically, I think, a sort of younger group that that's who's gonna be attracted to this. Mm-hmm. Mm-hmm. Yeah, that's probably uh a population w quite a little bit of disposable income for use on technology anyway, so that might be a fairly good target group for us. Mm. To produce it, yeah. Hmm. But right. Well but why are we why are we aiming for a technological advancement? Everything we're talking about is ease of use and simple and that doesn't necessarily mean more technology, in fact it could use it could mean, not. If they might be overwhelmed with with remotes that have too many buttons and too much technology. Yeah, simplification. They could have a crap remote that came with their T\_V\_ that's just impossible to use, or maybe it broke, or maybe they're just missing it. Hmm. Ooh. Ooh. Mm-hmm. Yeah, that's a good idea. Mm. Good point. Yeah. Yeah mm. The battery and that I think that the chip takes the data and presents it well, without sort of scattering. Yeah. I think so. The quality uh quality of all the components really, I mean, we can't really do anything shoddy work, 'cause it's gonna be visible down the line. Mm-mm. Yeah. Ooh. Yeah. I Mm-hmm. Yeah, but I th I think regardless we're we're aiming for the under sixty five or something. Or like single professionals or something. Yeah. It's really hard to figure out right now. Yeah. That's a good point. Yeah. Mm. Yeah, t probably. Mm. Mm. Yeah, that'll probably be good. Yeah. Yeah. Mm-hmm. Yeah. Alright. Battery battery use. Yeah, but I think that goes in with simplicity and ease of use really. Yeah. Yeah. Mm. It I think it does. I don't I don't think of a way you can operate a chip and convert that much data without without one. But you could maybe have it in a little charging station like a mobile phone, or like a little cradle for your iPod. You could we could maybe do that instead. So you don't ha you got like a rechargeable battery. I dunno, that might contribute to less people losing it too if it stays in one place. Mm. Yeah. That's just off the top of my head. Yeah, who knows. Okay Sounds good. Yes, I just did that. Hopefully it is there for people. Yeah? Yeah. Okay. Technical. So in there we have technical functions presentation, working design presentation and the functional requirements. At least that's what I have in. Yeah, that's what I have as well, R Rose So. Yeah. Okay. Good to see you all again. Let's see if that comes up. This is our functional design meeting. Um. Just a sec while my PowerPoint comes up. Et voila. Okay. Mm um we put the fashion in electronics. Let's start. Okay, our agenda today um just check the time, it's twelve thirteen. Um. I'm gonna do an opening, talk about um did you all get the minutes? I e-mailed them to you. I'm also putting 'em them in the shared folder. So um then I we'll talk about our general objectives and have your three presentations. Um I'll talk about the new project requirements I've just received, and then we have to make a decision on our remote control functions. Finally we'll just close. We're starting this meeting at approximately twelve thirteen and we have forty minutes. So First of all the functional design objectives. Uh we need to keep in mind the user requirement specification, what needs and desires are to be fulfilled, the functions design, what effects the apparatus should have, and the working design, how the apparatus actually works to fulfil its function. Okay, three presentations, um you can go in

any order you choose um. Sure, please do. Yes I do. Yeah. Function, F\_ eight, yeah. The blue one, F\_N\_. Is it plugged in all the way and you screwed it in and Mm 'kay. It's taking it a little bit 'Kay there you go. Press the little presentation. It's the um it looks like a Y\_ kind of over there above Draw. There, that one, there you go. Thank you very much. That was that was great. Um 's move on to the next presentation um on effects. Was that you? Great. Push. User interface, right. Interface. Mm 'kay, thank you. Okay. Hmm. Hmm. Mm 'kay. Thank you very much. That was very useful. It's funny to see the drastic difference between those two remotes. Um. And neither of them were very pretty, you know? Mm. Mm. You there it is. Lovely. Hmm. Um the it's right above Draw. There are three thingy if it's way at the bottom. Under three icons and it's the one that looks like a desk. Yeah, that one. There are Y\_s.

You just press yeah, just click. That'll be fine. Um yeah use that thing you can go back, previous. Pardon. Oh, well. Okay. Ye Double click on it. With the right with the left hand one. There we are. Mm-hmm. Mm-hmm. Excellent. So, um. Yes, absolutely. Ah I can never tell which way to turn these things. Lefty loosey, righty tighty, right? Lefty loosey, righty tighty. Oh yes. Mm 'kay. Um I have nothing on my screen. Just a sec. Here we are. Okay, yeah, it's fine. Okay, requirements. We have a couple new requirements that I was just e-mailed right before the meeting and that we have to keep in in um in mind as we're creating this. We didn't bring it up yet, or at all in the meetings so far, but we're not gonna work with teletext because um well it that's been taken over by the internet, so we're not gonna worry about um we're not gonna worry about that. Um. It no. W d could would you care to explain it? How? Okay. Interesting. Okay um, well, we're not gonna the management has decided we're not gonna work with that. Um Okay um and we're also gonna w like your question earlier um whether this is going to be t for television, video, or etcetera. Just for television. That's what we're focused on. Um otherwise becomes to complex, we wanna get this out um very quickly. We only have a a short amount of time. Um and finally there's more marketing, I think, um, our corporate image has to be recognisable. So while we're gonna make it look pretty we need to use our colour and our slogan i in the new design. Looks like, yeah, kind of a yellow and black and we have that the emphasis on the R\_s in um mm-hmm. But it's, yeah, we put the um fashion in electronics. So we gotta keep that in that in mind. Yep. Yep. Yeah, or ha maybe some buttons could be yellow. Like, we can we can play around with it a little bit. Um. Okay, we need to talk about our functions and our target group. We need to decide who our target group is. You um in your analysis of different market um of the marketing, you identified that different groups wanted different things or had certain preferences, for example that um that older people didn't really care for um voice recognition, but younger people did. Um and so who are we aiming this at? Mm-hmm. It's gonna be twenty five Euro remember, so um it has to be avai marketable to um whomever it is. Well at least right now what we're doing is um deciding on just the remote itself, so it will probably be sold separately, twenty five Euro by itself. Now, those are that's all specific for speech recognition. Are we gonna use that as one of our functions? Mm-hmm. Mm. To produce it, yes. Mm. That's a good thing to keep in mind. Upgrade? Well, we can look for we can look at upgrade or we can look at um user-friendly. Simplification, so Uh-huh, mm. And we also need to talk about if we're only gonna have the very simple ones or also have the other ones just separate somehow or Kind of pull out of the side. Mm. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Um we have to be careful that that that doesn't impede um the chip transmitting information, but

um that's gonna be mostly technological thing. Um. Okay um, so what are we emphasising? I what in this project? Simplicity and fashion. Okay, those are very good goals, I think, um that we have to keep in mind in with everything we do. Simplicity and fashion and, yeah, or usability speci however you wanna say that, which includes um an emphasis on making the infra-red very functional, so that you don't have to travel around a lot. Um. I think it's a lot to do with battery, but that's just my Mm-hmm. So our target group, we're saying, fifteen to thirty five? S voice recognition, which I kind of I kind of feel like voice recognition is not necessary in a remote control, like it might be necessary for a T\_V\_ but not for the remote c, you know. Seems a little bit Mm-hmm. Yeah, and it might be too expensive. Mm-hmm. Yeah. Mm-hmm. Under sixty five, okay, that's a good start. Um. I'd say we're uh can we narrow it down to maybe um teenagers and families? 'Cause that would go up to like fifty? Okay, single It's it's hard to narrow it down. Mm-hmm. Okay. Mm-hmm. Right. Mm-hmm. Mm-hmm. So maybe it's more useful to d d to define objectives like fashion and simplicity than to find specific target group as far as age is because, yeah, things so different will appeal to different people, but Okay. Um oh, there're a couple

functions do we want something so that do we want some kind of thing to find it if it's lost? Like a button on a T\_V\_ you can press and it'll ring or something, I don't know like or beep? Mm-hmm. Mm. Okay, we have to we have about four minutes left to define our functions. So let's do that quickly. Um so we want something to keep it from getting lost. And we want um we want large buttons for the essential things. Large, accessible buttons for the essentials. We want a possibility to um to get um a possibility to get the extra functions. Mm-hmm. Um, yeah, hidden way. And we also want it to be fashionable, which I'm not sure if that's a function so much as a um yeah Mm-hmm. Okay, do it. Any other essential functions that we need? Battery? Do we need a long-life battery? But we might as well. Yeah, I would imagine. Just 'cause it is an electronic device, the Charging. Mm-hmm. We have to think about um space in living-rooms, too, like 'cause they're I mean, would you put it on top of the T\_V\_? I don't know, just think okay, that's that's a good idea, we'll keep it. Think it's And maybe fun. Okay. Um 'kay we're gonna conclude now, has everyone said their functions and 'kay. Um after the meeting we're gonna each complete a sks um a questionnaire and a summaries summary. I don't know what summarisation. Um and then we'll have our lunch break. After that we have thirty minutes of individual work. Um I'll make sure to put up um the minutes and the project documentation and including these PowerPoint slides. If everyone could do that as well, that'd be great. Um you each have individual actions, I\_ um I\_D\_ Industrial Design you've your components concept, User Interface, the user interface concept, market trend wa watching. And as as per last time you'll get specific incrat instructions from your personal coach e-mailed to you. And hopefully, I hope, next time you'll be able to access more of the web site that they they seem to tell you that you could. It's kinda frustrating, but um Be sure to note any frustrations or any um issues that come up in your um in your um summary. Mm 'kay? Great seeing y'all. Looks like there are um looks like there's a second one kind of of mine that's that I didn't do, it's from like an earlier project, I think so um Under the shared folder, I don't know it might not even be under yours as well. Projects. Okay. You don't have mine? S Mm. Okay. Well I'll figure that out in the meantime. Okay.

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# Meeting ID: 70

Data Source: Train

## Executive Summary

The project manager opened the meeting by stating the agenda and then introduced the upcoming project to the team members. The team members then participated in an exercise in which they each drew their favorite animal and discussed why they liked the particular animal. The project manager briefed the team on the production and selling costs of the remote they are to create. The project manager also briefed the team on the profit aim and discussed how many remotes must be sold in order to reach the profit aim of 50 million Euro. The team then discussed their experiences using remote controls and what features in terms of functionality and appearance to consider in making the remote.

## Complete Meeting Transcript

Uh yeah, if I can pick up with all these bits and pieces, hang on. Uh right, so you want an animal and the characteristics of that animal. Do you have to be able to recognise what animal it is? Um Only animal I could thin I could draw. Its a sort of bunny rabbit cat. You can tell it's not a bunny rabbit by the ears. Um I suppose it should have a mouth as well, sort of Right, yeah. Um the favourite characteristics of the cat um the whiskers I think, um because they're the easiest to draw. In fact, I'll give it some more Oh, and the tail Yes. Um sure it's not to test our artistic It's a mouse. No it's not a mouse. It's a wombat. A what? A webbed foot. Webbed f Oh right. Gosh, why didn't I think of fish? That's even easier to draw than cat. That that that's the sorta product we're talking about, one that will work for a in a home environment, for a T\_V\_s and I think one that works would be good. Mm. Mm-hmm. Mm-hmm. 'Kay. Are we all gonna draw a cat? That's not a mouse-y, no. It's a ratty. A ratty. It's clothes. That's it's clothes. It's a ratty with a with a with a very long tail. I love whiskers. Uh they're intelligent and they're cheeky and uh fantastic pets and very friendly. And they sit on your shoulder and whisper the answers to your homework in your ear when you're doing your homework. A shark? It is true that you always sit around you know, you're sitting on your sofa and you wanna change something, there's five different remotes, and one for the D\_V\_D\_ and one for the video and one for cable and one for whatever else. But I presume this is t I presume this is just for television. I think one in b bright colours would be good. I think one that doesn't have lots of superfluous functions. Like I've got one at home that has well, apart

from the obvious, channels, channel up, channel down, volume, you know, subtitles, mute, there's a lotta buttons that I've got no idea what they do, like. Mm. Ooh, closing the meeting. That was quick. Mm-hmm. Uh yeah. Fine now. Oh, it's not liking us, it went that-a-way. Computer adjusting. Oh. Uh. Okay. So. Right. You ready back there? Uh okay. Welcome everyone. Um this is the kick-off meeting for the day. Um we're the new group uh to create a new remote control for Real Reaction. As you can see our agenda is to open up the meeting, um become acquainted with each other, um have a little training on tools, uh create a plan, discuss things and and we only have twenty minut twenty five minutes total. Okay. The new remote control is to be original, trendy and user-friendly. That, Steph, is your part, is the user-friendliness. The originality um is gonna take all of us. Um the trendiness we'll probably go look at for some marketing research information from you, Sarah. Um and we'll get on with it. Okay, so we'll have a functional design individual work um with meeting and then conceptual design t and then detailed design. Okay? Right. Everybody's supposed to try out the whiteboard. Kate, why don't you try it first, if you can either bring your things with you, I guess And while you're doing that we'll try and figure out how to hook these things on as well, 'cause we're all gonna have to be able to walk around. Uh I do not think so, I think it's just to try out the whiteboard. Ah. Uh-huh. Okay. Great. And the characteristics? Uh-huh. Okay. Fantastic. Since you're handy as well, why don't you do yours next, Steph. I think it's to get us used to using the pen. Uh no. A mouse-y? Oh. Argh. Rat. Not a mouse, a rat. And your favourite characteristics of that animal. Oh. Okay. Kate? Oh, a fish. Oh, okay. Fine. Favourite characteristics? 'Kay. So they have team elements. I'm afraid I'm with Steph. And I think your pen's running out of whatever. But I'm afraid I take the coward's way out, and the cat's looking the other way. He's hiding. Um cats are sometimes very independent. My parents had cats. Uh and they can mm decide for themselves what is best. Okay. Now um we have to get down to the nitty-gritty of

how to make this and this remote control has to be sold um we're to sell it for twenty five Euros, with a profit aim ultimately of fifty million Euros. That tells you something about how many um we have to sell on an international scale. Um would be an awful lot of these, would be like what, a hundred million of them um to make twenty five Euros on each one and to make a total profit of fifty million. Um the production is to only cost twelve and a half Euros per item. Now if they cost twelve and a half, you're selling it for twenty five, you're making twelve and a half Euros each. Um and we're to make a profit of fifty million, that's t uh can you do the maths and how many are we selling? Mark-up? Okay. Yes, 'cause our market um is international and your problem is has to do with marketing of you know, you gotta know how many we're going to be selling to know how big a market you have to target and who is that. To give you a pretty good idea of where you're looking. Something like that? Okay. That's fifty million Euros. In order to make fifty million Euros, and you're only getting twelve and a half each That's a lot of selling. Two four To be fifty, be four million. You'd have to sell four million. Okay? Right. Experience with a remote control. Any of you use of remote control for a television or D\_V\_D\_ or something? You're both nodding, all three. Well I've seen some remote controls that are for more than one device at a time, but I also have heard about them not working well or not well co-ordinated and you wind up working with this one for thi this three and then this one over here for another. And they don't always talk to each other. Don't know. Okay. Are there any um ideas for the remote? What would it be for and what group would be be for? We have to think about that one. Okay. Mm. Okay. Yeah. Um I know this sounds like it was very quick, but the I think that's the industrial design is the first one, that's Kate, for the working design. And user, that's you S Steph, for the technical functions design, and for marketing the user requirements specification. I think there's going to be a lot of we have to help each other and work through this as a group, and I think we all, you know, we like our kitty-cat and our rat

and our fish, but I think we all have to like each other um to get this done. Uh as it says, we're gonna get individual instructions, but uh I don't think they allowed a lot of extra time, so I think a little bit of less of this and more at do will set us in good stead. Do you all agree? Alright. Um then I don't see any reason to prolong it and f we should finish this meeting at ni right now and go into other things. Alright, so this is the end of the first meeting. Thank you all. Is this okay? I know. Thanks. Mm this is very representational fish. Um I like them because they're sleek and they have a lot of freedom but they also do n uh swim in groups, so. Do you have a favourite one? Uh yeah. I was just wondering if that's the um If fifty percent is normal B yeah. Um I would think would be more like sixty percent. But um let me I have two thoughts. One hundred, fifty percent. And and your question is how many do we have to sell? At twenty five. Mm-hmm. Yeah, that's um So that's four million of them? Yeah. And if we make Mm-hmm. Yeah. Four million. Hmm. Yeah. Mm-hmm. Y yeah. We could make a Hello Kitty themed remote. Yeah. We could totally go for the Japan-a-mation. Well I mean there's also the cachet that um uh the Japanese make great products. Electrical their industrial design is very good. Yeah. Well, that's a really good point, because I think one of the things that being somewhat computer literate, we tend to um go to menus and then make choices, you know, so if it's like an uh volume button, you know, you can go in and say mute or or volume. We don't need to have like the I the numbers if we also have uh uh channel up channel down. Mm. We can make it smart like an iPod, you know, make everything menus.

Okay.

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# Meeting ID: 114

Data Source: Train

## Executive Summary

There are some new requirements for the project: the device will have to be for TV only, they should ignore the teletext function, as it is dated, and, also, the remote should be recognisable as a Real Reaction product. The target group will be people below 30. It transpires that customers are willing to pay more for fancier looking remotes, especially if they include LCD screens and speech recognition. Functions like zapping are very prevalent, as well as complaints about remotes being difficult to learn and easy to lose. The function of the remote is relatively simple: by pressing a button a current is passed to the chip, and defines what signal is to be sent to the receiver (the TV) via infrared. The team agreed to follow a user-centred approach and simplify the design by somehow minimising the number of buttons. They plan to include an LCD screen to display relevant information. Other functions are served by push buttons: OK, menu, screen sizing, AV, settings buttons, mute, digits 1-9, power, volume control, channel up/down with the last three types being prominent on the device. The exact design and placement of the components will be decided in the next meeting.

## Complete Meeting Transcript

Mm. Well, yeah. No. Oh. We have forty minutes for this uh discussion? Alright. Huh? Yeah. Mm-hmm, now it's right. It's meant to be easily wiped out, yeah. Mm-hmm. I I disagree, but uh it's not uh t it's not my place to disagree I guess. Oh, alright. Yeah, we are a real fashionable company. I read uh I read it on the I didn't know what company we were, but we we design uh especially trendy uh trendy trendy stuff. So it has to be uh a modern design. That's important to know, uh when you design a thing of course. Yeah. The order? No. You can zap away. Yeah. Oh. Oh? Mm-hmm. I think our uh user uh expert should also consider manual a manual for the remote, of course. Uh I didn't read it? Oh, alright. users to uh add one? Do you think? Mm-hmm. Yeah alright. Because they don't use it? Alright. Well maybe for the If you don't recognise a button who d who d who do I call uh wh when I don't know it? Isn't it part of the of the u No. No. Never mind. Consider the m Yeah. Mm-hmm. It's going to be expensive. Yeah. Well we'll uh consider it uh. We'll think abo we'll think No, we'll look we'll look into that



later. Alright? We have very demanding clients. Yeah, yeah, alright. Well we'll consider both and and see what uh what what we can find, I think. We don't rule them out uh yet. Shall I give a technical talk? Alright. Well uh it is my task to uh explain uh or to point out a working design. We have that here. Okay, how do you enlarge it, so that you can have the F\_ F\_ five. Yep. Well, the working design, that's my uh Well alright uh, you know who I am and what I do. So uh we have this. It's a bit uh unclear because I wanted to copy paste something. It was originally in black and white but it became black and purple. But I think you can read it. Um well um I think it's important uh for you to realise the basic function of a remote control. Uh well you can see uh And I then can select I can select on the dings It goes to the next page. Well, you can read it, it's not too difficult. Meanwhile, this is a schematic uh um view of uh how a basic remote control works. You have uh basically uh the energy, the power of the of the remote control, uh and the sender, w which is the LED, the the the the the the the the the bulb that sends the the infrared beam to the, no, to the set. And uh the source is of course the user. Uh the user interface is um uh the the the buttons of course. And the the user interface sends uh the the different signals of the different buttons to the chip, and the chip uh sends it to the LED, and the LED sends it to the receiver. That's the that's the basic idea. Very basic. Um well I have uh uh put it in a in in in a a couple of basic steps. Uh the remote uh is basically just waiting for a user to press a key. It does nothing until uh of course uh the key is pressed. The key a signal to a chip, uh the chip senses the connection. uh and recognise the key. So well you understand. The chip uh produces Morse code, um a specific code to indicate that specific button that is pressed, of course. And it uses transistors in the in the remote control to amplify and to send uh that signal again to the to the LED, which is the bulb, of course. Now the LED produces an infrared beam and signals the, well it's uh very simple, and signals the uh signals to the sensor on the T\_V\_ set, and the T\_V\_ set uh also recognises the the the signal, and performs the assigned task. Ah bu Yeah, but we don't. Uh we No no, but Yeah. Exactly. Uh well this is uh the basic uh function of a remote. I've some couple of pictures here. It's a very basic one. And uh if we if we're going to add an uh an uh L\_C\_D\_ screen to it, it uh won't look anything like this, but This is very basic uh basically the the shape of um of a remote control. It has uh very little buttons and But it it uh it's quite um Yeah, you can easily recognise the buttons. They're uh far enough apart and an anything. It's not very um uh not very high-tech uh indeed, and it's not very user-fri

endly. Uh if you look at the shape, it's uh just a simple long box uh shape. So we have to uh change a little bit uh to that, uh so that uh it becomes more user-friendly, and that uh problems like uh R\_S\_I\_ and uh those kinds of thing don't don't oc don't occur. Yeah. Mm-hmm. Yeah, because they are the the most important buttons and you can immediately You don't have to look and and search for them. Well you you can't have any uh every button under the thumb, of course. Yeah. Well,. But in e in any case the the basic function should be uh indeed, and as you say at the thumb. I think that's a good idea, and uh and that the less important uh buttons, like the the the different channels, uh the numbers one two three four five as well, should be uh yeah well not in reach, because uh they don't use it uh all the time. Well it's uh pretty pretty basically uh as you said. And I have some pictures of the inside workings, but uh I don't want to get too technical, because uh that's not uh very uh useful for you. So yeah exactly this is uh how it uh looks from the inside. And uh well that's about it I think. Oh yeah, I still have this. Oh I had to delete this, but I had to make a schematic uh of the of the new But I had too too little time, but uh don't uh don't look at it please. I I think it's it's clear uh how it works. Alright. That's the most important thing. Alright. Uh Right. Yeah, uh there are different uh We have all have different home pages, with different links. Yeah. Mm-hmm. You can't really see uh the differ from different sides. But I think uh Uh you can draw it if you Yeah. We can put it on the on the back side. Yeah, so that you don't replace the

symbol, yeah. Mm-hmm. Mike, uh can you put uh that picture from me on the in the Word documents file? In Map? The younger uh Mm-hmm. Mm-hmm. I think uh the most functions uh underneath that uh uh No um mm usually But Yeah I think m most Most uh Mm-hmm. Uh. Yeah. Our competitor. Yeah. Yeah. Yeah. So it it just signals the the different uh sig uh the different symbols on the screen you have, uh because if you change to s channel two you have two on the screen and two on your on your um on your L\_C\_D\_ screen. But should it uh really be uh clickable, uh or or just integrate inside to try to make it d more trendy. But that's of course uh a bit more uh expensive than uh the basic uh calculator design, with the scrolling text and that kind of thing. Alright. Shouldn't we start with the most important parts? The L\_C\_D\_ screen alright but we should start with the power button? Uh Huh? And then uh Maybe we should uh centralise the discussion here. I dunno what uh you were talking about but we are busy with something. Uh-huh. Why do you think it's better at the bottom? But you just can put uh the the the the whole interface a bit down, so that there's room for the for the interface. Uh-huh. And and we can Bottom. Well that's a bit exaggerated. Well, I agree with you. It's it's also more recognisable. It looks more like a calculator to people, if you have the I the the the thing on top. Yeah w well, but uh you don't have to throw uh um important aspe important aspect like familiarity uh completely away, uh because I think it's uh I think it's still important to have it at the top, because it's uh it's more familiar that way. A little a little bit. Maybe you should another pen. Maybe that's uh better. You e you only have one pen for that screen. Yeah. Yeah. I I agree. Well I'm the I I'm the designer, so um Yeah. Uh we uh we were busy with that. Uh yeah we should uh summon the the different uh aspects of the thing. So, we have the power button. Yeah of course. Uh it's uh. Yeah. W wh While you have to agree, I can say it's like this and you must agree. Yeah. Channel, yeah. Volume control. Um Well let's look at your uh design. Uh Uh-huh. Yeah. But th th on this remote th these controls are for something else, a D\_V\_D\_ player or something. So Yeah, it's it's also not good to completely stay

in one position constantly with one hand. Y Yeah. It's good to move uh from time to time. Yeah. No but now y W would we have to choose a way in middle? Mm-hmm. Oh. Far apart? I think you can have the two buttons of up and down close together, but you don't have uh have to have volume control and and zapping button close together. Yeah. C c can you make you make We can use uh the drawing board now, I think. Uh it it doesn't work well but But it it would be pretty pretty uh nice if we could just draw a simple thing. Mm. Alright. Well uh yeah I I still think it's it's quite important though to uh to have it at the top, so Yeah. You say familiarity isn't important but Yeah d Yeah. As we we we we agreed, we do have a L\_C\_D\_. So that's that's enough. Yeah. There's one two three four five six six seven eight nine zero. Oh, like that. Um They'd recognise it. Th that's the most That that's very easy. Yeah. I think these are the the most important functions. basic function. Oh yeah. Uh just two just two under uh under uh I I think uh But you you can put uh two or three buttons under uh another section. Uh that's that's too complicated. You can just put it somewhere They they aren't used much, not as much as those other, so you can put it somewhere Yeah s bit smaller and s Well uh and and I think more at the bottom. Yeah. Yeah or at the top, yeah. What do you think uh those those buttons? Above or down? And w where? Well we design it later. We have it, and we design later where everything goes. Yeah. The the video channel uh? No no not always. Ze yeah zero is a different channel than uh the the video channel. But it's easy to go If you are at uh at channel uh fifty five and you want to uh go immediately to the video channel, you do you have to push a to to get below zero. It's more easy to get to uh where the specific uh video channel button. Yeah well uh d different screen settings a Yeah, sk Yeah y you you you you have screen width. Yeah to uh oh yeah of course to configure the programme the Yeah. Yeah. You should Yeah. I think that's important. Uh And and the settings to change the brightness the settings

to change the brightness and the contrast. Channel, yeah. Chief? Chief? Th the menu menu button is also important. Then you can uh Where? I don't see it. Oh Menu, alright. In the menu. And you can uh then adjust it with the zapping buttons or something. Because uh the zapping buttons aren't used then if you are in the menu. Yeah. Or the volume, yeah. Yes chief. Yeah this is this is your thing. I am hungry. See you later mate. Great man. Who starts? Alright, great. Alright. Mm-hmm. Yes. 'Kay. Yeah. No. You're the only one. Alright. 'Kay. Alright. Right. Yeah. Okay. Okay. Alright. Yeah. But let's forget about it. It's just time-consuming, so we uh have to go on. Yes. Mm. Right. Yeah. Yeah. I think I have to start. Oh no, no problem. I I just have to uh to think which file's mine, 'cause I was uh bit in a hurry. I think it's this one. But I'm not sure. Hmm? Yeah. S Right. Yes. This is it. Well, I'm going to tell you something about functional requirements. Um to start with these points. Uh next sheet? Um at first I tell you something about what people dislike about the current uh controls, because it's uh a smart thing to exclude those things. Uh, furthermore it's very important what they do like and what they do use. Um then I tell something about um the most important issues. So we have to focus on those three thing three things. And in the end I'll um show you our target audience or our target product users, customers. Well, um the first findings are that people um think most controls are very kind of ug ugly. That's seventy five per cent of the current users. They don't like it, so we might think about fronts in that section. Um They also say, that's about uh I thought it was fifty per cent, uh that more money will be spent on uh better looking controls. So it's very important that you design a a nice looking control. Um the current

user uses his machine just about well all of the time for a few functions. Uh, almost every user uses it d the the control for just ten per cent of its capacity. So it's really important to make the the buttons for the common uh tasks kind of big or kind of uh flashy. Furthermore, it's uh seventy five per cent of the users uh zaps a lot. Thus it might be uh might be smart to make a a big uh zapping button or something in the middle, so you can reach it with your thumb. Yeah, yeah right. Right. A lot of losers um users lose their controls in their in their living room. So it might be sensible to make some kind of a button on your television, that's your um your control beeps or something, that you can find this very easily. I dunno, maybe that's an idea. 'Cause it's uh a big I think fifty per cent of the users loses his its control, within the same room. So Yeah but what if you lose your click-on device? Yeah but if someone d somebody else uses it in ano other room or something? Nee but it it specifically says it's uh the the control is lost in the same room. So Well a beeping device would be Uh furthermore the learning time is a problem. Uh thirty four thirty four per cent um thinks it's it's too uh too difficult to learn. So the the learning curve should be very short uh for the dumbest people should be able to use it. Yeah but people don't read manuals. No. I think you should put more time in the in the design of uh pick up and use, than a manual. Yeah. Right. And it should be consistent with consistent with older remotes. Alright. And we don't have much time. So it's better to uh put our attention to the the design. So you can pick up and use it, than I think. Yeah right, right. Next point. Um R\_S\_I\_. Well that's about twenty per cent I thought. But uh the designer should uh take it uh should uh Wie zeg ik dat? Yeah, consider the consequences of using your remote. It should be a good in your hand. Right, this is the most important part. Um, we're Like the requirements said, we're gonna specify of we're gonna target a younger audience. Um, that's about sixty per cent of the market, so it's uh quite important. Um research shows that they like to have a little L\_C\_D\_ screen on their on their uh zapping uh device. Uh I thought it was the age between sixteen and twenty, ninety nine per cent of uh the people like that. So it's very important we should definitely have that in our uh designs. Yeah but they think it's really important. So if we want to s If we have a big If we make lots of uh of the stuff, maybe we can uh buy it very cheap, I dunno. We have to uh Yeah, I don't know. I don't

have any information on that. So Right. And uh another thing is uh speech uh recognition. They also like that, but research is very uh costly. So Yeah, but it might be important for the sale. Well I do think L\_C\_D\_ is more reachable than the speech recognition. So we might consider L\_C\_D\_ screens. Alright. Alright. Um, I think that's it. Um I think it is sensible to u uh to take this take these points into the notes. So you can Right. Yeah. Right. Alright. Next button. Oh right. Purple. Yeah, yeah, yeah. A bit. Maybe you can select it. So it uh inverts. the p the whole picture. Nah, uh never mind. Yeah. Alright. Right. Can I say something? Um I have a table here about uh the l the relevance of the buttons. Uh the power button is used very much, channel selection, volume and teletext. Well teletext is not an option, so that uh But I think it's very important to make um the power, channel and volume buttons uh near to the thumb, so you can't have R\_S\_I\_ uh consequences. Right. Make them big, make them easy to uh to press. Right. Yeah, right. Right. Yeah, that's right. That's right. That's right. We But Yeah. That's very important. And But is that is that useable? Do people, uh when they pick up a remote, know that they have to do that? It's a f it's a new feature, you can make make a double feature I like a button on the top and under it. Yeah,

he feels it immediately. Yeah, that's right. Yeah. Right, continue. Sorry. Yeah, that's right. Alright. Alright. Yeah, it's clear. I dunno. I think uh w About twenty minutes ago? Losing time losing time. Yeah right. So I don't think so. Yeah right. These are already in use? Alright, okay. Well Yeah, me too. Mm. But we have to reject that, because of the requirements? Alright. Yeah, right. Yeah. But it Yeah, that's right. Yeah, that's a must. We must have that. We can make a symbol of the company right here. And if you put a front on it, there's a hole on the front. So the symbol's always on Yeah. Yeah, yeah. But let's not focus on the front. Alright. Yeah, I agree. I've I've got another point. Um there are two target audi audiences, and we've uh chose for the younger one. Um, research has shown that um it's a high interested uh in features. They are high high interested in feature. But they are more critical. Fo Yeah, critical. So The younger audience. So we must um must design uh a control that really speaks to the people. Mm-hmm. Clip aren't used much. Yeah right. Yeah but Yeah. Here, look at these numbers. The newest features are, like I said, are uh L\_C\_D\_ and uh speech uh control. Our audience, these people, are very like these uh features. You see? So we must build in something, or they will to uh go to the concurrent. The concurrent? Competitors, right. So, I do think we have to uh have some features. Even though they cost a little more. Right. Right. Like a ticker-tape. Which programme you are I watching or something. Yeah, right. Yeah right. No not clickable. Nah, no no no. Yeah, just at at the top. So when you s you sit like this you can can watch. I think it should be at the top. Yeah right. It's a ticker-tape idea. Well it's just one script. Yeah, five minutes of ja ja for programming. So I don't think that's the issue. Alright, we go with the L\_C\_D\_ screen? 'Kay. Right, I don't know if I can find that, but Next time. Yeah right. Yeah, I understand what you're saying. We should have a general idea of how it's gonna look. Right. At the top. I think the top is more uh When you s How do you zap? You just sit in your chair? With the remote? Yeah but that's where your hand ball might be. Yeah, I dunno. We'll draw two, and then we'll see uh No Um he thinks Yeah, right. He thinks it's better to put the L\_C\_D\_ at the bottom, and I think it's better at the top. But your Yeah. The the ticker The L\_C\_D\_ is like like small. It's it's wide. It's not not high. But Yeah right. But We're making a remote with with a few functions you know. We High-tech. Width. Th that's not a problem. When I draw here it Oh. Huh? Yeah, it's off. It it needs to be calibrated again. Well Where? Alright, we have to make a decision now, because we don't have much time. Um I think we have uh a few functions, and we can put uh the L\_C\_D\_ above it, and still have lots of room at the bottom, where you can put your hand. At the bot So We are two uh V\_S\_ two. Right. Great. And moreover I think that you two should be uh come to consensus about the

L\_C\_D\_ s. It's uh your it's your job. Yeah, right. Alright, let's keep it central. Mm. Right. You should put that uh power button, channel and volume should have the most uh importance. Yeah, but what he said about R\_S\_I\_ was t kinda true. When when you uh put them all in the same place, the most used buttons, you're doing the same thing all the time, and that's just what R\_S\_I\_'s all about. So it might be smarter to put them a little more away from each other. Um Frequency of uh button use. Um channels are uh most uh is most used within the hour. You can see. So the the channel uh channel buttons should be far far apart, I think, up and down. You thinking uh about R\_S\_I\_? Y look at uh look at the frequency. Nei not too much, but Nei nei nei n I I totally agree. But just Yeah. Right. Yeah. I agree. And should and should be red. Right, just make some decisions. The most important things we have to uh I do think you

have to keep you have to keep it central now. Just uh you decide that, you decide that, and ready. Yeah. Nei. We're No We're deciding now, so Top or bottom? Okay. Yeah, right. Okay. Yeah, okay. No. Do you still have the pictures over there? Yeah, that's about it. You do need the uh multi Or did uh No, like this one. You do need them? Yeah, I know. But are we Alright, alright uh Now okay. Right. Yeah, it's most useable this way. Yeah. Right. I do think we have to put that underneath a clip. Yeah. Okay, right. Well if you you take those th If you Yeah, but you can z you can zap t you can you can zap to the video channel from zero to uh Yeah, but when you zap down zero you get to A\_V\_. Ah uh well whatever,. Yeah, but if we're choosing to uh incorporate these buttons, you have to have uh channel setting, if you wa if you have a new T\_V\_. You have to set the channels. Right all th these uh different buttons you have to Ah, I do. Right. That's the only one we put uh in there. For a screen uh fu uh channel setting. Programme, right. Uh Ah. Great. Alright. Ah. Okay. Get into my belly. Mm. Oh. Oh. Oh, that's a shame. Yeah. Yeah. Mm. Yeah. Yeah. No. I don't think Yeah. Yes you should You should could take a look at it and and and know how it how it's supposed to work. Yeah but nobody reads a manual about a remote control, I think. Yeah right. It sh it should be there, the manual. But but not to explain how the remote works. Only Hmm. No. I think that's uh difficult to realise also. No and we have customers in multiple uh countries I think. Yeah. No. Oh you go. Yeah, go ahead. High tech. You can also like Yeah, I was thinking you can Are some of the the the um Maybe you can make, for for channel changing, two little buttons on the side of the remote, so you can just do like this. Like some uh little uh Gameboy things or some Hmm? Well Yeah alright, but Yeah, but if you s say them up and down, they they'll understand it, I think. Eighty per cent would. Yeah that's true. Yeah but Mm. Well I thought um everybody on the website uh would see the same thing, but obviously that's not the case. Yeah. For instance you couldn't see this. Um Yeah. Well I'm Mike, User Interface Designer. The the method? Well I used my own experience with remotes, took a good I look uh at the remotes on the corporate website, which are these two. Um Yes, these are from from another uh manufacturer. Um This one is engineering-centred, so this one has the most functions and um things. This one is user-centred. Um I like user-centr centred uh uh also the best. Um Well, I thought uh that we uh reduce the the option to control the D\_V\_D\_ also, and teletext and that kind of stuff. Uh so I thought we we we would use more or need more buttons than this one. But Yes. Th that's why this mm is not relevant any more I feel. Um I think this is about the maximum number of buttons uh we'll need. I um I kinda like the shape. I think this is what we talked about. But No I've Well I showed it somewhere. Um Oh yeah. I think we should go further with the idea of a removable front. So we can can uh yeah customise the Mm? Yeah. It's a front. It's not the the whole remote that changes, of course. You can Mm. Or you can you can can put the same symbol on on every remote. So I like Ericsson does every uh S something like this. It's recognisable. Um Yeah? Yeah yeah. Something like that, in the Yeah. Yeah. Um Well so uh uh like I

said I thought we'd we'd use more function. If we we had to include more functions. But we don't. So um Yeah. I think this is about the maximum number of buttons we need. Maybe some less. Like eject we don't need, and some other buttons we don't need. I think uh Yeah, I will. I think uh for the remote um uh less is more. The less buttons the better the design. Um We should go with that concept I think. I know. Mm. Yeah, but what kind of features? Like L\_C\_D\_ screens and voice recognition. But I've Yeah, that's nice. Yeah, we should keep that simple too. It will No, it

should be uh integrated. I think Yeah, something like on um some radios in car. You Where it's, yeah, walking to Yeah. Wa Yeah. Yeah well we we we still need to know how much that will cost. Or maybe you will get that information uh Yeah. At the top or at the bottom? Yeah but Yeah but with with the L\_C\_D\_ screen on the top it gets a bit unnatural. 'Cause most remotes have some space left at the bottom. Yeah, no Mm. Uh well because most uh remotes have um some space left at the bottom, and that way you can keep the shape recognisable for everybody. I c Well I d I think that's that's ugly but I th Yeah. Power button always Yeah. Yeah. Yeah, y you gotta zap like this or you want to Yeah. Yeah you don't want You want uh Yeah it it it must be a remote. Yeah. At the bottom? In a few minutes Oh yeah, oh yeah, I totally agree. Yeah. He's the boss. No it's our job. For all of us I think. The ten numbers? Yeah? Volume? I think we we should use something like this um to um The the channel up and channel down button? Yeah, in circle, you know? And and a volume control also in it. Yes, as I already said, we could drop some of these buttons. Yeah. I think these should be in one big circle in the middle. Yeah but people don't like it when their buttons are all over the place. They they need to be centred. Volume hardly. No I don't think. Yeah but Yeah but No. The other the other two uh frustrations are far more important. So Well they are used four times an hour, so Power bu button should be left at the top. Mm. Yeah. Well consensus, um We we can put it in the middle, so Alright. No. Well just when you push a one one and No, if you On most T\_V\_s if you uh press two numbers shortly after each other, d it Yeah. Yeah. Yeah. Yeah. We we can make make uh a little row of like four buttons down here. Or at Yeah alright then. Oh, they can be small or round like buttons. Why go to video? That's just zero. Yeah. Yeah, but you can can zap down Yes, I think th No, then you press ninety nine. I think go to video is an irrelevant button, but Yeah well y you must have. Yeah you yeah you have one one button from s set frequency o or something, and then with plus and min minus you can uh adjust the uh Yeah, alright. I think things like uh contrast and brightness should be um in the menu, yeah. Yeah, the Or the volume or something like that. Your pen. I thought we'd uh lunch uh right now, or not? Yeah, lunch break. Well I'll uh start just with another presentation, so then we can uh look at th at the agenda uh for this meeting. Okay. I've put some uh new things in the in the map. Uh oh. This is it. I don't know the shortcut, so Ah F\_ five. Well our functional design meeting, that's the stage we're in. And you also ha all three of you have uh prepared something about it. Well um in we'll uh just have a look at the at the notes from the previous meeting, what we uh thought we had dec decided. But uh Uh then we'll uh look at uh the three uh presentations uh from you. I think you have prepared uh all three uh? Um we'll look at th the new project requirements we uh I dunno. Y you also have uh received that mail, the new project requirements from our bosses? Oh I've received a mail with uh some additional requirements, and I'll have a look if Well I think we should show them before your presentations, because it's not really uh smart uh to uh to include some things uh we can't, because of the new requirements. Well um then we can make some decisions about our remote control functions. We have to deb we have to decide it in this meeting what our function will be. And then uh we can discuss uh some more closely. Uh Uh yeah, I think so. Well uh the closing uh we'll not uh look at it yet. Um now I'll look at show this board. Um Well uh notes, first meeting. Now. I gave a disc a a presentation. Uh we familiarised ourself with the

boards and then we discussed some first ideas. So we said that uh we have to merge the strong points from our uh competitors, and uh lo

ok at their uh remote controls. We should make it uh compatible with our new D\_V\_D\_ and other releases we have, our technical releases. Uh not too many one buttons. One recognisable button in the middle, where you do the most important functions with. And um well they can have two functions, because uh you have a D\_V\_D\_ and a television. Um the design has to fit the hand, be original, but also be familiar. It's uh one of our ideas. Yeah well that wa It's just thirty minutes ago, so it's not quite uh But well I have to do it. The materials uh well should be hard plastic with rubber from, and uh well the labelling of the buttons should be indestructible. It should be uh recognisable at all times. Yes. Well fronts were to be just like mobile telephones. And uh the technical aspects um And also labelling of the buttons, the functions should be universal standards. Well that's just uh some ideas from the first meeting. It's quite logical al all of it. Um now the new project requirements, I'll just show them. I got this mail from uh our bosses. Well, teletext goes out. We will not use teletext. Maybe a new sort of thing, but n but not teletext. Well the second is a bit sh pity because we just said we wanted to d include the D\_V\_D\_ and they don't want it, because of our time we have for this project. So that's a shame, because uh especially for the third requirement we want to reach people under the thirty years. Because uh we don't have those customers a lot at th at this point. Um well it's a bit pity because it's just those people want to have uh one remote control for all those technical devices they can uh reach it. Yeah. Well and uh our corporate image should stay rec recognisable in our products. So uh we have to uh use uh maybe a slogan, maybe a colour, and um Yeah well uh on our remote controls the design has to be uh, well as we already said a actually, uh familiar. Uh not only just uh the shape but also our company. Yeah. Yeah. Yeah. Okay. Yes. I I uh noted uh our uh slogan that we have, our company. It's uh we mm put the fashion in electronics. So maybe that's a slogan we can put uh somewhere on our remote control or something. Alright then um we're going to uh have three presentations. You want to start? Oh you have to start? I didn't see anything about uh who had to start. Well s then start. Okay. Well uh You already uh opened uh PowerPoint. Yeah. Mm-hmm. Yeah. Well It should actually uh It should actually be loose from the television, because it can also be used for other televisions. So if you deliver a small uh click-on device that you can put on your television, that bleeps to your remote control, everyone can use it. No you can click it on your television. Yeah in another room, yeah. Well yes. Yeah. Well we'll have a look at it, yeah. Yep. Well there sh should always be a menu, but it c can be very short. Yes okay. Well we are a design team, we can say to some uh writer uh make a manual point. So Well we'll have a look. Um yes? Yep. Well Well with twelve Euro fifty as production cost, we can't uh afford an L\_C\_D\_ uh Yeah. Well Yeah well uh it's your your task to uh look into the costs uh of those uh Nigh I know. It's not yet a standard uh development uh those so We sh Yeah absolutely. Yep. 'Kay. Alright. Yes. Well you I c I can uh still see your presentation. It's in the Well uh next um I dunno who is next. You uh got uh Yes. Well go ahead. Yip. F\_ five. F\_ five. Click. Yep. Yeah. So it is also why we have to have a button that says uh I'm now busy with a D\_V\_D\_ uh if we had done that. And a button for T\_V\_. So Well but but if you have um the most used buttons all in one place, and you keep making the same um well moves. But if y if you would put it at a different place, then you have to move your hands, and that's on of the things about R\_S\_I\_. No but the most important buttons m maybe you can just put them a bit apart so you would reject R\_ R\_S\_I\_ R\_S\_I\_. Yes I've saw that on m on mi mobile telephones they also h

ave uh those buttons. Well it it's Well also i if someone puts picks up his uh remote Yeah. If someone puts up i uh picks up his remote, and he picks up it he he touches the side then he's a already on the

next channel. That's very irritating, I think. Well. No. Yep. Mm-hmm. That's your part of the job. Yep. Okay. Well we understand. We understand. Oh right, no. Nice. Then uh Mike can uh give the third presentation. How late is did we start his presentation uh? Wha Yeah. Well then we have still the time, so But we do have to come to a decision, right later on. So Oh yeah? Uh? Okay, yeah well. Mm-hmm. Yeah. Yeah. I like user-centred. Yeah. We also do that. Yeah. Mm-hmm. Well absolutely, but i th they all have to have something about um the recognition from our company. So we cannot just uh make someone w No but that's th the side they look uh look at is the front. So if y if you make a a front with just a a tiger on it, then uh our recognition is totally gone. Yeah, we must. Yeah well and and Yes. 'Kay. Yeah yeah yeah. Or the th the the lowest part of the remote isn't changed by the front. Those kind of things. Yes. Okay. Mm-hmm. Yeah. Alright. Yeah? Well what if we um I at I at home have a remote that has um the most familiar uh buttons on the top, and the bottom side of the front has a little clip, a f a little uh You can click away and then you have f much more functions that most people don't use but s some do do. Well but because you say they their features are important, they want m um a lot, but not Yeah. Competitors. Yeah. Well maybe w we could uh s On um some uh calculators you have lo those little little L\_C\_D\_ th that you can click on or something, or that you can click uh out uh of the remote. And if if that's gives you a little bit of sta status information. Yeah. Those kind of things, uh because you also have those uh those program recognition for your V\_ V\_C\_R\_s. And uh well if y if your remote picks that up also, you they can display which programme you're currently watching. Yeah. For example. It it could be such a little uh th that you can click in and out and you and you have it. Yeah. Well maybe. Yeah. Yeah. R\_D\_S\_s or something. Well I think it's you got It just means it's a script that's uh keeps it uh rolling, and it's not uh That's five minutes off uh implementing time I think uh Yeah. No. Uh well I think so, yes. Um We're g No but we're we'll have to look into that. Um we can use this board again, I think. Uh we can put some um decisions about um the controls we want, th the issue. Where is my presentation? Uh Uh Well I mean we're all here now, I think. These I've already given you. So we have to decide on the different remote control functions. So we want to have a small L\_C\_D\_ screen that's special. Yes. Yeah. That thing is terrible. Uh Well Well I th I think Mike Mike has a point, because um when when uh when I use a remote I I I hate the buttons but buttons at the at the bottom. So and and I I like to use the ones on the top. So when I u when I have to have an L\_C\_D\_ s scr window Yes but we we we we don't want that. We don't want them to look like a calculator. We want to look it like our original but familiar Yea Maybe a bic uh better uh white uh We White? Width. Uh format yeah format? Line width? Width? Yeah? It's a bit off. Well. Well uh let's uh talk about that later uh It's special pen. Yeah. No. I think it should be at the button, bottom. Bottom. The L\_C\_D\_. Yeah. Well but uh what what if we we first decide the different functions, and then look at the design. Because we have to decide this. Yeah. Yes. Well we have a power button. Guys? Guys? We have a power button, setting buttons, L\_C\_D\_ window, the number buttons Uh Yes. Uh the mute button. I h love that one. Yes. Yeah. Yeah yeah yeah. Well that's that's also design. Yes. Um Well h ho Yes. Yes. They are for some uh video uh Apart. So people have to move their hand. And they get less uh complaints of R\_S\_I\_. That's what I always do, because

all my i important buttons are the same place. Yes? Well not Yes. Uh-huh. Up and down far apart from each other? Well not too much. Well for example the power button, you can If someone is constantly z zapping, it's not going to miss, that it that the power button is not right beside it. Because I have someone But the buttons is way. So that one can be put away. The power button can uh be uh uh Yes. Oh man, five minutes. Yeah, well five minutes left. Yep. Um how are we going to do it with those numbers? Well I have it here. Yeah well that's going to take too too much time. Yes. Yes. Well the



L\_C\_D\_. Um you are Industrial, you are User Interface. So I think it's going to go to Mike. But you will have to make consensus with. Well Well it's a bit hard, because we are going to be uh individually. That's a bit uh Yes. Yes it is. Well what if we're going to now decide about the functions, and the design comes into the next round? Plus the d th the design round is still to come huh? Alright these functions. The number f Well yes, that's alright. W the number function. Are we going to uh do it like uh on Mike's screen with uh one button that says I'm going to do a t two number digital? How do you want it to do then? It it has to r recognise one as there could still come more. Yes. Alright so no button for that. Okay uh anyone any uh oth other functionalities of our uh remote? So No, we'd uh just said we didn't uh Well uh Um well because we can't integrate it with any other uh remotes, all those buttons on those pictures are uh irrelevant. So just for a television is that all we need? Teletext is gone. So all those buttons that ar are to do with teletext Oh screen placing. We'll have uh those uh buttons about uh And uh the two important ones we're I f forgetting. Uh there's um screen. You can make it wider and less wide. And the button that you can go to A\_V\_ for your video. Those two? But it's just two, and we make a clip? Th that's a bit uh waste. Yes. Or at the top. Your L\_C\_D\_ screen is going to go. Yes. Yeah Well I think they should in an in an isolated part of the remote. Yes? Yes. Yes. Well any other uh Go to video, that's always on your remote control. To A\_V\_ uh to A\_V\_ A\_V\_ A\_V\_. Well I n no not at not at my remote. Yeah. Yes. I don't. I go to ninety-nine. Th that's the button uh No. No you can ch push zero. Yeah. Yeah, I I think that one button is uh I use it uh Yeah? These buttons, I don't have buttons for channel setting uh especially on my remote. It's it's incorporated with p m plus and down, uh those So we still have one uh four? Ch ch Okay. Oh the Okay button? Oh you always have in the centre an Okay button, for your menu. Menu button. Channel, setting, menu. We have to go. Okay. So um Save. Yes see. Yes I have put it in. Here. Alright. Guys? We're going to uh go to our uh rooms, and uh we'll have to decide s things on our own I think. So Well see you uh W w we have lunchtime, by the way, now uh so uh Lunch. Ah. We didn't exactly do everything but So

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# Meeting ID: 105

Data Source: Train

## Executive Summary

The project manager opened the meeting and read the minutes of the previous meeting. The industrial designer and user interface designer presented the prototype they created, which was designed to look like a banana. The marketing expert conducted an evaluation of the prototype. The team found that, although the overall design of the prototype was attractive, its yellow color was ugly. The team rated the prototype highly on its ease of use and felt that its yellow color and shape detracted slightly from its ability to be misplaced and that a feature which causes the remote to make noise based on its proximity to a television needed to be added. The team thought the prototype was fashionable and not technologically innovative or spongy. The project manager led the team in calculating the production costs of the remote and ensuring that they aligned with the project budget. The costs were over budget, so the team opted to exclude the LCD from their design to meet their budget. The team conducted an evaluation of the project process and found that they performed well and were somewhat satisfied by the resources available to them.

## Complete Meeting Transcript

Yep. Soon as I get this. Okay. This is our last meeting. Um I'll go ahead and go through the minutes from the previous meeting. Uh and then we'll have a, the prototype presentation. Um then we will um do an evaluation. Uh or we'll see what, what we need to have under the criteria for the evaluation. Then we'll go through the finance and see if we fall within the budget. Um then we'll do the evaluation, and then we can finish up after that with um any changes that we'll need to make, or hopefully everything will fall right in line. Um let's see, minutes from the last meeting. Um we looked at uh the the trends. We had uh the fashion trends that people want a fancy look-and-feel. It was twice as important as anything else. Um they liked fruit and vegetables in the new styles. Um and a spongy feel. So we were talking about trying to incorporate those into our prototype. Um they wanted limited buttons and simplicity. Um then we looked at the uh the method for coming up with our own remote. Um looking at other other devices. Um the iPod, we really liked the look of that. Um we also had uh the kid's remote for a simple idea. Um a two part remote, which was what were were originally looking at. Uh and then um there was

talk of spee uh speech recognition um becoming more uh predominant and easier to use. But I think we've still decided not to go with that. Then we looked at the components um the materials for the case, the different energy sources, the different types of chips, um and made a decision on what we were going to use to make our remote. Um and basically how, what were making for the prototype. So I'm going to leave it at that and let you guys take over. The prototype yeah. Do you need a this? Okay. Very nice. Mm-hmm. What but what's that button? Uh, 'kay. 'Kay. Would you like to uh Well done. Well luckily we are going to find out. Or not luckily. Um do you have a marketing presentation for us. I think it's definitely different than anything else out there. So if they think that what is out there is ugly, then yes I would say, I would say most definitely. It's bright. It still has your traditional black. Yep, not angular. Mm. Yep. Yeah something more modern to go a a modern colour to go with the modern form. Yeah. I would say four. Very non-committal, four. Yeah. Mm-hmm. S scrolling through and selecting a few. I think that's a one. So if we incorporate speech recognition into it then it could And it is quite bright and Uh Yeah. But if we do go with the, with the speech recognition, then it, then our scale goes up quite a bit I think. Probably two. You know. If we eliminate the fact that you know it's impossible to guarantee that it's not gonna be lost then I'd say two. With the speech recognition, which of course may be changed depending on budget. Which, which may be cheaper than speech recognition if it were just a Some sort of proximity Pray that you don't accidentally lose that piece. Okay. Two. It's But there's not a lot of yellow, there's not a lotta yellow. Course that wasn't really we were kinda forced to take that colour. I don't know that we are that innovative, to tell you the truth. If we added the screaming factor then we go up. Um I would say we're probably at four. We have some spongy, yeah. No. Yeah. Because it's only got what, these parts are the grips and perhaps the back side the bottom the underneath on the back. Probably a four at most. Possibly even a five. If your fashion is b is Carmen Miranda, you betcha. It's true. Seven is Two point two point four? Something. And what what is the acceptable criteria? Is there like a scale that we have to hit? Alright then. Okay. Well, let's see. Now we get to do the budget numbers. You didn't know that you were gonna have a budget. But we do. Okay. So I have here an Yeah. We want a fifty percent profit on this. Oh you can't really see that very well. Twelve and a half Euros is what supposed to cost us. Okay, so Well let's see. The f the Wonder if I can make this W

hat the Oh it won't let me do that. Okay. Alright so at top, I don't know if you guys can read that or not. I can't 'cause I don't have my glasses on, but so we've got the energy source. There's uh four, five, six categories. We have energy source, electronics, case. Then we have case material supplements, interface type, and then button supplements. Okay so Uh first of all energy source, we picked battery. Um and how many batteries do we think this will probably take? Probably some e either two or four. Two? Like it. Excellent. This is consumerism. Alright so for the electronics our choices are simpl simple chip-on-print, regular chip-on-print, advanced chip-on-print, sample sensor, sample speaker. 'Kay, we have one of those. 'Kay then the case is a Probably it's double curved. Case materials are plastic. Um I guess it's two, since one for the top, one for the bottom. Is that right or is it just one? Maybe it's one because of the 'Kay. I guess it doesn't matter 'cause the price on that one is zero, which is nice. Special colour? Interface type. We have pushbutton, scroll-wheel interface, integrated scroll-wheel pushbutton, and an L\_C\_D\_ display. So we actually have the L\_C\_D\_ display and then is it the integrated or is it Yeah. 'Kay. Button supplement? Special colour? Um special form? Special material. Or titanium. They cost us all the same. Well we only have one button so really we shouldn't be charged, we shouldn't be charged anything for the the button supplements. Um Okay. We're gonna leave that one blank because we run on a L\_C\_D\_ and scroll. So our total is fifteen point five. Which I believe is by three Euros over.

So the only thing better than um a banana-shaped remote is one that you shake. Yeah 'cause the Well 'cause we have to have both right? Mm-hmm. So we may not need the L\_C\_D\_ display? Well there we go. Twelve point five. Okay. So we just remove our screen here. Besides look at what the L\_C\_D\_ does to our lovely remote. Back to the design room boys. Okay so the costs under twelve point five Euro. Was no. We redesigned it. Now it's yes. Next slide. Project evaluation. Uh project process, satisfaction with, for example, room for creativity, leadership, teamwork, means, new ideas found. Um So I guess that Let's see here. I think that perhaps the project evaluation's just supposed to be completed by me. But I'd like to hear your thoughts. Uh h what did you think of our project process? Good. Yeah I think we st we started off a little little weak. Our leadership was quite weak in the beginning. Um um But as the day went along we had more idea of what we were doing. Um room for creativity? There was that. Um I think we tried a lotta different things and um I think it was um interesting as you guys brought up more um information and studies that we were right on with a lot of those things. Um you guys worked together well as a team. And um the means? Which was the whiteboard and the pens. I had some problem with the pen I think, but minus your p Well Have a we have a list of employees that you would like fired. Okay. N new ideas found? Um Yes for the remote. Maybe no not f for technology. Alright. Closing. Costs are within the budget. Project is evaluated. Um complete the final questionnaire and meeting summary. That's it. And I still have to do my minutes for the last meeting. Actually. Um so there will probably be another questionnaire coming up. And then we'll have to check with the main boss whether we can, what goes on after that. But that's the end of our meeting. Can try to plug that in there but Right. That's what we have there. That's plastic. Plastic covered with rubber. We might uh add some more underneath here. Maybe give it, give it a form. I mean you're supposed to hold it like that, but um just if you grab it, take it from somewhere, so yeah, you have some rub yeah. Exactly, use both. Might as well think about Th think about the button as well. Like either put either one one on either side or not do it

at all. It's a quick on-off button. That's um yeah I think it's pretty important. So you don't have to fiddle with that. Right? Um that's not um I'd say a bit smaller would probably be nice. You wanna play with that over there. There you go. Right.. I'd say, when it comes to the ergonomics, the form and stuff, yes that's definitely more beautiful than your average. However the colour, we don't have a say in that. That has been, that has been dictated pretty much by the company. So uh to answer that honestly I would rather say like uh, we have not solved the problem completely with the ugly remote because the colour is ugly, definitely. 'S nothing you can say about that. I mean I much prefer something like brushed chrome with that form. But Right. Right. It's different. You don't want your uh three feet huge L\_C\_D\_ display in your living room that's hanging from the wall to be controlled with something like that. Yeah. Yeah. It's very intuitive, I think yeah. S give it a one. Right. Right. So that's a one. Something that big and that yellow you just don't lose anymore. Oops. Hmm. Well what S Mm. Oh yeah. You probably Mm. Y you could add an extra feature actually. Which makes this thing raise hell when you remove it too far from the television. We could add that but that's nothing we have thought of so far. Yes. It's it's Um the it's based on this anti anti-theft technology for suitcases and stuff, where you have one piece that's attached to your luggage, another piece that starts beeping. That can't cost much. So that can also easily be integrated because these things are small enough to to hide, so you have one piece, you have to glue somewhere behind your stick it behind your T\_V\_ and the other Right. That'd be tough then. Well also your remote would uh alarm you if somebody stole you t your television, yeah. Ran off with it without taking the beautiful remote control. Let's add one of those features and say yes. Two. Uh It's all just It's all just stolen technology when it comes down to right right right right. Yeah not really.

Right. Yeah well you have that, kind of, sort of. It's not a one though. One would be the whole thing to fold and stuff. Yeah. So that's a four at most. Y yes. More Well the recent fashion is rather displayed in the in the L\_C\_D\_ and the way you operate it than the form and the colour, but it definitely is. I'm impressed. I can't do that without a calculator. Fifty percent, you're kidding. P It's too much. Um Uh Battery. Two. At four it's gonna be too heavy, so that that's not our problem. People can change it every month. They won't know until after they bought it.. That's the advanced chip-on-print, yeah. Double curved, yes. Plastic. N no. No that's just one. It's just one mo single mould, we can do that. Exactly, right. That's not a special colour. It's a specially ugly colour, but it's not special. S Yes unfortunately. We could of course make the buttons wood. Say mahogany or so Mm-hmm or titanium. Uh just Yeah that's too much. It's hard to believe. So we'll go for the hand dynamo huh? I mean let's let's face it, it also depends on the software on the on the television. You can have the the information that this thing transmits be being displayed on the on the screen. So s yeah let's take away the Yeah. Yeah. Right. Right. We may not need it. There you go. Perfect. Okay, the So we can just take away a heck of a lot of the there you go. central? Oh that's just yeah. There you go. Oops. There you go. One more criteria. Fair enough. Great. Yeah. Just half a day, you have a remote. There you go. Super super. Well that's not my fault. That's obviously the people I work for uh that work for me, uh they've just you know Heads are gonna roll, believe me. Yes yes.. Pretty impressive. Kind of a banana. I do. Okay. You guys are gonna help me do an evaluation of the criteria. Um. Okay. So first I'll just discuss some of the criteria that I found. Just based on the past trend reports that I was looking at

earlier. And then we'll do a group evaluation of the prototype. And then we will calculate the average score to see how we did. Um so the criteria we're gonna be looking at are the complaints um that we heard from the users who were interviewed earlier. So we're gonna be doing it based on a seven point scale. And one is going to mean true, that we did actually achieve that. With seven being false, we did not achieve that.. Okay. So for the first one, we need to decide, did we solved the problem of the users who complained about an ugly remote? Mm. Mm. Yeah I think the colours detract a little bit. That's true. Yeah. Um okay so, do you think, since we This was a a sign criteria, do you think maybe we should put it somewhere in the middle then? Does that sound good? What do you think? Three? Four? Five? Four is fair. Okay. Okay, the second one. Did we make it simple for new users? One, 'kay. Okay. Um, do the controls now match the operating behaviour of the users? I'd say that So one? Yeah? Okay. Okay um the fourth one. How about the problem of a remote being easily lost? One of the number one complaints. Whether you want to or not, you're not gonna lose it. Okay. That's true. Mm. Annoying alarm or something? Yeah. So. Are we adding one of these two features? gonna say okay. So we're back to a one? Or a two? Two, 'kay. Okay. Are we technologically innovative? From iPod yeah. But for remotes yeah. Two? Three? But how many remotes do you see like this? Not so many. Really? Okay. That's gonna hurt us. Okay. Um spongy material? 'Kay. And lastly, did we put the fashion in electronics? I'd say we did. 'Kay. Alright. Now we just gotta calculate. Six eight twelve sixteen. Seventeen divided by s Eight. Well I haven't done math in years. What two I dunno. Okay we'll say two point four two. Right? How does that look? It's been a while. Oh no. They just told me to pick my own criteria and have you guys evaluate it basically. So that's that. Oh my god. Okay. Yeah we'll go with that. Not too shabby. Right. Oh. Bright yellow. It'd look really lovely. Yeah. Leave it blank. Perfect.. What's the blue part? Oh that's the batteries. Okay. Looks more like a banana. Trying to fill in some time there. Good teamwork. Minus your PowerPoint fiasco. No I know. I'm yeah. Incom Mm. Kinda. We might have a while though. The prototype discussion. No. There is our remo the banana. Um yeah basically we we st went with the colour yellow. Um working on the principle of a fruit which was

mentioned, it's basically designed around a banana. Um but it would be held in such a fashion, where it is, obviously it wouldn't be that floppy 'cause this would be hard plastic. These would be like the rubber, the rubber grips. So that's so that would hopefully help with grip, or like the ergonomics of it. Um but all the controlling would be done with this scroll wheel. You have to use your imagination a little bit. And this here represents the screen, where you, where you'd go through. And the the simplest functions would be um almost identical to an iPod, where that one way ch through channels, that way th other way through channels. Volume up and down. And then to access the more complicated functions you'd you sorta go, you press that and go through the menus. It's that that simple. That just represents the infrared uh beam. That's a simple on and off switch. Um I don't know, we could use the voice. T that blue bits should be yellow, d that that'd be where the batteries would be I suppose. And um that's about it. It's as simple as you, we could make it really. Is there anything you want to add? Yeah. Doesn't make much make much difference. You could work left-handed or right-handed I suppose. T the actual thing might be smaller. Yeah. Just the on and off. Yeah. It's you know it's flimsy 'cause it's made out of heavy Play-Doh, but And whether or not it would fall into the cost everything I suppose. With the scroll and the L\_C\_D\_. Yeah. I would. It's bright. It's It's curved. I

t's not there's no sharp angles to it. Some people might say it. Yeah. Yeah. Yeah. Yeah. Yeah. I think that was the main aim, one of the main aims that we had. Uh yeah. 'Cause we've we've brought it down to basically four controls most common, which are channel and volume. And then the other ones are just a matter of just going, just scrolling further. Yeah. Yeah. It's bright yellow. Bright yellow's hard to lose. But um if we were to, if we were, that, the speech recognition. That, we could maybe just use that solely for the the finding thing. That was what we'd we'd mentioned. Just just to use, to find it when it was lost. But like I said, like I don't think you'd lose something so yellow so easily. And it's not gonna fall, like a rectangle would slip down behind things. That's gonna be a difficult shape to Yeah. Maybe in the middle again, three or four or something? I mean you know loo losing things is one of those things that people can lose, I mean a million ways. You can pick it up and walk away with it and then you've lost it. Yeah. Yeah. Yeah. Yeah. Yeah true. But I mean d just those whistling, clapping key rings you have. They're cheap. So it can't be that expensive. Yeah. Yeah. stick it on the T\_V\_. Yeah. Two. I'd say so. Uh don't get many mo remote controls with screens on. Yeah it's stolen technology. But we have. Fa 'cause it's stolen. No maybe not. Yeah as much as as needed, I think. Yeah. Yeah. Yeah. On the Yeah. Be what we were told, and they'd say yeah, definitely.. Is that some long division? No. Just, I'm sure there's a. No I can't do long very impressive. Yeah. Yeah so. You'd been going a long time dividing that. It's two point four two eight five se it just keeps going on. Two point four two basically. Charge about three hundred quid for it. We're advanced chip are we? Yeah yeah. S That's Yeah. And then I'd say the integrated. Mm. remote control. No that's getting a bit tiny. Yeah. I'd ignore that. If it w What if we completely took out the the one single button we've got on. And just had a scroll wheel interface. And the L\_C\_D\_ display. I suppose the L\_C\_D\_ C\_ display's the one that's pushing it up a bit though. Yeah. Yeah. Yeah you could maybe take out the L\_C\_D\_ dis display even, if it if it comes up on the computer itsel on the T\_V\_ itself. Uh that is possible yeah. There we go. Screen. Make it a bigger dial. Easier to use. Even easier to use then. That was just we ran out of yellow. There you go. Even simpler. Yeah. For all those fruit lovers out there. Yeah. I think we did yeah I think we did quite well. Um Yeah. Right from the start of the day. We sort of knew where we were going straight away I thought. Yeah. We've used the whiteboard. Technology used. Excellent.

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# Meeting ID: 4

Data Source: Train

## Executive Summary

I think to sum up the last meeting , would be to say um the requirements that we've um set out . Those are we were going to go for what seemed to be a fairly minimal design based on uh a small joystick , L\_C\_D\_ and a couple of other buttons for navigation um with power being I suppose one of the main single purpose buttons . Um we were also going to use novelty of being able to locate the remote control again via a small transmitter with any luck , and also because of the minimal design um looks like we'll be able to be fairly adventurous in the actual physical shape of our remote control with any luck . This uh meeting is the conceptual design phase And is to cover things like um what the parts might be made of , um , The case uh le that's what I wrote first of all , could be plastic our plastic . Uh but later on we found out that um it can be rubber as well , or titanium or even wood . we decide what it's gonna be . Probably plastic . Uh we need the infra-red transmitter . Uh joystick we'll probably if we're gonna use it , um could be plastic w or rubber even as well . Um three different types of batteries . Um can either use a hand dynamo , or the kinetic type ones , you know that they use in watches , or else uh a solar powered one . Um the bat uh the battery for a a watch wouldn't require a lot of power , would be my one query . Is a kinetic one going to be able to supply enough power ? And solar cells , I dunno about that . Uh . We should probably just use conventional batteries . Um , just like in usual remote controls . Um . And these are three different types of or two different types three different types of shapes you can have . Uh one is a flat one , and then more original ones are single curved one or one with a double curved . but uh you can't have a titanium one for a double curved , the single curved and double curved , would you be able to give an example ? Double curved . It probably means this is probably double curved . Uh whereas a single curved would be like that . it looks better than the single curve , but uh you can't have it in titanium , and for the buttons , um it can have the scroll wheel Uh but um it requires a more expensive chip to use , and if you wanna use L\_C\_D\_ it's even more expensive . there's trade-offs there . Um you have to decide , if you have a double curve uh control and it's rubber , then you have these rubber buttons as well . I reckon you're gonna have to have uh key a number keypad anyway for the amount of channels these days . like when we're saying that we'd need an advanced chip for an L\_C\_D\_ , does that in shoot the cost up by a drastic amount ? Or ? We have to look into the costs of those . Uh the previous slides just explain what's in the internal components of the uh remote control . And uh then the next slide just shows how the uh copper wires uh interact with the buttons , the rubber buttons

, uh to uh get sent to the chip . translate the key press into an infra-red signal and this is received by the T\_V\_ . in the information that you've been supplied , how feasible would you say that the idea of using an L\_C\_D\_ looks ? Um I think we can do it if uh we use conventional batteries and not have solar cells or kinetic . Um and then maybe use single curved uh case . Um I'm actually gonna be bold and go oo go straight for rubber um for reasons I'll go into uh in more detail . I also have a preference for rubber . Uh um I was given a an H\_T\_M\_L\_ file giving um various ideas from uh from other previous remote control designs , and pretty much decided to just dump them all . I wasn't very impressed by them uh nothing I saw seemed to meet the sorts of design specifications that we're going for today . rather than looking at other remotes , uh ra oomp be better to simply look at the human hand . um so that if r a if so that the finger is e each finger or thumb is wherever it needs to be already . Um and what we've basically decided on was the the um the joy uh the joystick , two function buttons and the L\_C\_D\_ , I don't actually think we need the um the numeric keypad because one of the menus that we could have available um v via via the L\_C\_D\_ is one where you scroll through channels , You must have two two modes , basic mode , where um the joystick's uh left right left right for channels , up down for volume , um and the uh uh and the menu mode for uh further functions . Um now the reason I was particularly interested in using rubber for this is that if we're going to have a highly ergonomic design , um it needs to be ergonomic for left or right handed people . That would suggest the double curved design's probably going to be most appropriate , then . And also this is a rather nicer de uh design gimmick that the the um you know the whole thing you know it should have sort of organic feel to it that it should be , you know , soft to touch the um the joystick unit should rest over the uh the joint of the f of the uh four finger Um and it would need t there would need to be a it would need to be articulated just below that so that it could be switched around for uh left or right handed users . And you then have , at the uh at the bottom , the L\_C\_D\_ , and this would need to be articulated as well . the t uh the top function button in basic mode would be the on off switch and menu mode would be the enter button . And then the bottom function buttons switches between between modes . Programming them can be a right pain . So I thought th the simplest way around that would be to have um a cable to connect it to the computer some some fair iv fairly fairly simple software on the computer just so that you on your computer And you could download programs for it from uh for uh T\_V\_s from all sort of main manufacturers . We compared uh whether people want the remote control to do a lot of stuff or they want it to look cool . And then we we research uh fashion trends in Europe , Uh we found , in order of importance , people want the remote control to look cool more than they want it to to be cool . As in they want it to do a lot of good s and if it does do a lot that's a bonus , but they don't care so much , Technology technical technologically innovative . People want it to be that , but s still they care more about the way it looks than what it does . like the interface is really important . And easy to use , it it just so happens that uh from the second point to the third point is twice as important I mean the second point is twice as important as the third point . The fashion , now this is seems a bit odd to me , but fruit and veg is the new is the new black for furniture , for clothes , for shoes . How that relates to a remote control I don't know . Spongy . If it's the type of rubber that you can squeeze , you know , it's spongy , then can I skip the rest ? The uh rubber material is the type of stress ball material , not just normal rubber . kinda spongy material . Um we want something fancy and techni technologically innovative , obviously . But what we what we need is something that looks like it's from the future Um now the fruit and



veg options , either we go in that direction or we stay totally away from it . but if we're gonna go along with it then it doesn't necessarily have to be like an apple or something like that , or a kiwi fruit . Few questions about a spongy remote control . I've never seen one before . if we want something strong and sturdy , I say stay with plastic or titanium , but if we go with spongy , we can stress that you can drop this as many times as you want , I just don't know how the L\_E\_D\_ and the lights are gonna fit into a spongy material If we're gonna use spongy material we have to think of how practical it is , And also , this was this year . things change all the time , every year Seems like a a lot of the components could be off the shelf , um having the use of the L\_C\_D\_ and the joystick would probably allow you to manipulate enough channel numbers if you've got a lot of channels , the number keypad can be quite annoying as well , what it looks like to me is we'll use a large number of standard components , um , say something like um lithium ion battery , Looks like we going for a double curved design . Um I don't know what cost implications there are in that . Um , looks like we're pretty much decided on some kind of flexible rubber . Though I'd have to say depending on how flexible it is , we might need to have some kind of inner frame . there would be basically two points of articulation . W um one below and one above the m the uh the main sort of grip . Do you think there's any way we could maybe remove the articulation ? but it could be a weak point in um the structure , do you think ? If you then have a sort of outer skin of mm flexible , spongy rubber then you have something that is you know very much you know organic , if we take some of the ideas why don't we make the damn thing yellow to incorporate the des the colour of the logo ? Sure , yeah . Make it harder to lose , as well . The noise for when you lose the banana , um f yeah , for when you lose the remote control , it could be like a a monkey noise or something like that , rather than a standard beep beep . y you lose the banana , you press a button , and you hear like monkey screams or something like that to direct you towards the banana . I was gonna talk about the programmable remote control . Now I think it'd be cool if you had one remote control that could work with all T\_V\_s , you s you click a button and it finds the frequency that works with your particular television . e each manufacturer will have a partic will have a particular command set that uh the T\_V\_ responds to . But if we had um some sort of hook-up to your computer as an option , then if you've got a computer you can avoid that rather irritating thing . An interesting point is that if the person doesn't have the computer , we can still make the process easier because instead of having to look up codes , maybe we can have it that one of the options they have is that they look up the name of the company on the L\_C\_D\_ you've got yourself and the Industrial Designer gonna be working quite closely at this stage looking from prototyping of some des description using clay . um mo most of the sort of layout design decisions are are made , I would say . Um but then again , the um the menu structure to to a considerable extent that's gonna vary according to the model of television , and also any customisations that the user might wish to incorporate . product evaluation , doesn't that come after actually seen a product prototype . At this stage we still have no no target audience I think the target audience is pretty much anybody under the age of say maybe sixty or something ludicrous . Um your idea of the U\_S\_B\_ would I think would largely depend on the cost . U\_S\_B\_'s definitely one of the cheapest interfaces out there , programming it to use your T\_V\_ , you might hook it up to the P\_C\_ . The the idea was that maybe it could connect up for um allowing a software interface on the P\_C\_ for a larger programming I'm not sure , but I'm thinking maybe that the additional cost of the U\_S\_B\_ might be prohibitive . Um you're gonna look at product evaluation . Um looks like we're gonna

need a maybe a kind of prototype in clay . they're going with the fashion thing , like the design , spongy rubber . I think we've got an idea of where we need to go for the next meeting , though maybe we could have options for colours as well . like I said before I I think we should have the R\_R\_ on the uh on the top function button . So we always need to remember that somewhere we're meant to be getting the slogan on . Possibly I'm think I'm not sure but I'm seeing a little bit of space around maybe the joystick area which could be used . Um .

## Complete Meeting Transcript

Uh uh okay. I'll just Uh I have a presentation I just saved it in the uh the folder. Uh. It's uh Components design.. Alright. So Uh. The case uh le that's what I wrote first of all, could be plastic our plastic. Uh but later on we found out that um it can be rubber as well, or titanium or even wood. So uh we decide what it's gonna be. Probably plastic. Uh we need the infra-red transmitter. Get that off the shelf. Uh joystick we'll probably if we're gonna use it, um could be plastic w or rubber even as well. Um if you go on to the next slide. Uh If you go on to f uh findings, it's like two or three slides down. Right. So, this is what I found we can use. Uh three different types of batteries. Um can either use a hand dynamo, or the kinetic type ones, you know that they use in watches, or else uh a solar powered one. Um. Yeah. Uh. Yeah, I don't think it would. Um. And solar cells, I dunno about that. Uh. We should probably just use conventional batteries. Um, just like in usual remote controls. Um. Yeah. Um. And these are three different types of or two different types three different types of shapes you can have. Uh one is a flat one, and then more original ones are single curved one or one with a double curved. Um the materials are tha there as you can see, but uh you can't have a titanium one for a double curved, uh which would be Yeah, and light. Uh, i think so as well, yeah. They make mountain bikes out of that, don't they. So it's really light as well. Um. T yeah. Uh. Well for a curved, well I was thinking to f for to sit in your the palm of your hand. Uh maybe like this, with the uh joy pad here. Joystick here. And maybe um an okay button around here, so that the thumb can uh use it quite easily. Um I don't exactly Double curved. It probably means this is probably double curved. Uh whereas a single curved would be like that. I guess. Or not necessarily. Yeah like that. Whereas this is two curves. Um so I guess that's what they mean by uh double curve. Um which obviously it looks better than the single curve, but uh you can't have it in titanium, which is uh a nice material. Uh and for the buttons, um it can have the scroll wheel which they use in mouses for com P\_C\_s. Uh but um it requires a more expensive chip to use, and if you wanna use L\_C\_D\_ it's even more expensive. So you have to decide, there's trade-offs there. Um if you want the buttons to be oh yeah, if you have a double curve uh control and it's rubber, then you have these rubber buttons as well. But you're gonna ha I reckon you're gonna have to have uh key a number keypad anyway for the amount of channels these days. You wouldn't want to just have to scroll through all the channels to get to the one you want. You wanna enter just the number of it, if you know it. So um I reckon we're gonna have to have a number keypad anyway. Do you think? Yeah. So, depends where gonna spend the money if you want the f fancy L\_C\_D\_ display. Yep. Yeah i Um Uh the previous slides just explain what's in the internal components of the uh remote control. If you go to the one before that uh so it just says what it does, translate the key press into an infra-red signal and this is received by the T\_V\_. Uh the chip just needs to detect the signal or detect the key press and then uh it'll send it to the tr the amplifier. And uh then the next slide just shows how the uh copper wires uh interact with the

buttons, the rubber buttons, uh to uh get sent to the chip. So that's just how the control works inside. Um we have to decide on what buttons we're gonna use.. Um I think we can do it if uh we use conventional batteries and not have solar cells or kinetic. Um and then maybe use single curved uh case. Because we might need it to be curved for the uh thumb to use the joyst joystick easily. Um and then you'll need the advanced chip obviously for the L\_C\_D\_. Yep I'm finished. Ah, okay. Oh yeah, I forgot to mention that. The uh rubber material is the type of stress ball material, not just no

rmal rubber. Forgot to say that. Yeah. If you're going with the fruit and veg thing, looks like a banana. F if you wanna design it that way. Yeah. Okay. Yeah. monkey. The U\_S\_B\_ for which? Oh right, okay. But didn't they just say it's just for T\_V\_, or are we gonna Okay, yeah. they're going with the fashion thing, like the design, spongy rubber. Yeah. Alright, yeah. crack on. Okay so we'll start off with a quick overview of the minutes. I think to sum up the last meeting, would be to say um the requirements that we've um set out. Those are we were going to go for what seemed to be a fairly minimal design based on uh a small joystick, L\_C\_D\_ and a couple of other buttons for navigation um with power being I suppose one of the main single purpose buttons. Um we were also going to use novelty of being able to locate the remote control again via a small transmitter with any luck, the idea to try and separate us and also because of the minimal design um looks like we'll be able to be fairly adventurous in the actual physical shape of our remote control with any luck. Um that pretty much sums up the last one. So we'll just crack on, um like to maybe start with the Industrial Designer if it's possible. Um uh the con today is the concep today. This uh meeting is the conceptual design phase and is um Sorry about this.. And is to cover things like um what the parts might be made of, um, can we uh outsource these from elsewhere, um will we have to construct any items ourselves? Yeah, okay well I'll just uh I'll load it up then. Um. Which one do y Oh, interface concept? That's you. We've got trend watching, that's you. Components design. Okay. Okay. Okay. Now, the kinetic one, we've 'cause that's the ones where like you the movement causes it. Um the bat uh the battery for a a watch wouldn't require a lot of power, would be my one query. Is a kinetic one going to be able to supply enough power? Do you think? W Which I suppose as well would allow us to go off the shelf again, you'd say? Um. Um. Curious. Um, I don't know if you'd be able to off the top of your head or not, the single curved and double curved, would you be able to give an example? Um could you maybe draw something? I you don't doesn't have to be perfect, it's just 'cause I'm not quite sure if I understand the difference between the two. So it might literally just be okay. Alright. Mm. Okay, that was definitely something we can talk about. Um so you've got a little bit about the the chip that we might require as well? Um, do you have any idea so far, like when we're saying that we'd need an advanced chip for an L\_C\_D\_, does that in shoot the cost up by a drastic amount? Or? Well I think compared to say just pressing buttons. if you press a button that sends a certain transmission through the infra-red, whereas I think if we're controlling the L\_C\_D\_ we definitely require a much more powerful chip. Just compared to the chip you would use for pushing buttons I think is the the point being made. If I've not over-stepped. Yeah? Okay, um should I go on, or go back? Well we'd also be relying on the um the bulk buying in producement and such. I assume. We have to look into the costs of those. So, sorry. Okay. Okay. Um.. So in the information that you've been supplied, how feasible would you say that the idea of using an L\_C\_D\_ looks? Um I mean that sounds like quite a good requirement to me. Um conventional battery would seem to make sense. Um I'm not sure if there's any cost differences between single and double curved and I'm I don't know about anybody else, but plastic or rubber as a traditional form of casing would seem to be a good way forward?. Okay. Okay, well um Yeah, well will we move on to user interface, and yeah? Um sorry, as long as were you? Yeah. Okay. Um and d d d interface concept. Yeah. Can I just jump in slightly there?

That would suggest the double curved design's probably going to be most appropriate, then. okay. Mm. Okay. Um, yeah. Just to let you know we'll pr

obably be quite tight for time as well, because I think you've probably got a lot you'd like to say, I guess. Okay. Excellent, right. Um uh. File open. Trend watching. Okay. Okay. Mm-hmm. Mm-hmm. Okay. Well, um I would say that the most you could probably hope for is gaining a year's lead on most people anyway. You always have to bring out new designs, so if we can get next year then that's possibly a good place to start anyway. Um. Seems like a a lot of the components could be off the shelf, so I don't exactly what cost would be incurred. Um I can see your point about the number keypad, but I've I would say that we can probably incorporate it into the menu system if you need to do traversal of a large number of channels. My feeling would be that even if at a later date this was to be taking control of um boxes as well um having the use of the L\_C\_D\_ and the joystick would probably allow you to manipulate enough channel numbers for you to be Mm-hmm. Okay. So what it looks like to me is we'll use a large number of standard components, um, say something like um lithium ion battery, the kind that you find in most um small hand held devices now. Um Looks like we going for a double curved design. Um I don't know what cost implications there are in that. Um, looks like we're pretty much decided on some kind of flexible rubber. Though I'd have to say depending on how flexible it is, we might need to have some kind of inner frame. Do you think there's any way we could maybe remove the articulation? I can see why it looks appealing, but it could be a weak point in um the structure, do you think? That would be a worry of mine. Yeah, we won't add that functionality. However, one interesting point is, I don't know how serious you were there, but we if we take some of the ideas why don't we make the damn thing yellow to incorporate the des the colour of the logo? I dunno. It's an certainly a different colour from your average um That's true. Was there anything in your research Mm-hmm. An interesting point is that if the person doesn't have the computer, we can still make the process easier because instead of having to look up codes, maybe we can have it that one of the options they have is that they look up the name of the company on the L\_C\_D\_ and then they maybe look up different names of um different actual units that have been produced. Or we have the remote control just go through them until it's like does this do the correct function, and such. Doesn't have to be used very often that's right, yeah. Okay, this just to give us a rough idea of what we're meant to be doing for the next stage. I'm pretty sure that you got that anyway. This is the conceptual one. Um. I think we've come up I think we've covered everything we need to here. Um I think we've decided on what, you know, decided on standard items for most of um rubber and such, so we're now looking at the detailed design and what we need to be doing for the next meeting. Um So for example, um I'll just start at the top, you've got yourself and the Industrial Designer gonna be working quite closely at this stage 'cause it'll be hard not to, obviously. Um looking from prototyping of some des description using clay. Um I suppose you'll be told a lot more about that as uh progress. Um The user interface design, They're kind of it looks they're the idea I've pushed forward so far is maybe more of a physical one there, whereas possibly be more interested in maybe how the L\_C\_D\_'s going to incorporate, do you think? Or do you s perceive that most the design design decisions still need to be based on the physical layout? Mm-hmm, that's very true. Um. Okay. Um got product evaluation as well. Um. I I think we'd be yeah, no, it'd be more a case of how do we envisage us performing the product evaluation once we have a model to test with. Um so it'd be a case of do you think that just bringing users in to have them test it out, uh maybe putting a certain number of products into the field in c

ertain places which I suppose is quite similar. Or just kind of hitting the streets and you know saying this is a new remote control, what do you think of the look of it? Um I think the target audience is pretty

much anybody under the age of say maybe sixty or something ludicrous. Um the reason I'm saying that is we're just looking at a replacement remote control, something that's stylish, so maybe you're even just maybe you're narrowing down your target audience simply by saying if they're buying it that often or they're maybe looking to replace something then, they've got a bit of free cash, so that puts them potentially in the younger age bracket. Maybe even single, just for the reasons of um uh excess cash flow. Although of course I mean at twenty five Euros, I don't think we're looking at charging the earth for the uh device. Think that's well within the normal bracket. Um your idea of the U\_S\_B\_ would I think would largely depend on the cost. U\_S\_B\_'s definitely one of the cheapest interfaces out there, but it might push the cost of the overall unit up 'cause it would require not just the connection but the chip for communicating with the rest of the system. That one might have to be based on The the idea was that maybe it could connect up for um allowing a software interface on the P\_C\_ for a larger programming due to the fact that we've gone for such a nice, easy minimal design, normally. Um. It's just for T\_V\_, but for programming it to use your T\_V\_, you might hook it up to the P\_C\_. I I'm not sure, but I'm thinking maybe that the additional cost of the U\_S\_B\_ might be prohibitive. We don't know unless it would make sense to. Mm-hmm. W It would make sense to. I would say to. Um and we'd better be careful about the time as well. We've already had the five minute warning, so. Um. I would say yeah. International would make sense. Um you're gonna look at product evaluation. I'm I'd better start writing up a hell of a lot of crap. Um you're gonna look a bit more at the kind of the physical make up you say. Um looks like we're gonna need a maybe a kind of prototype in clay. Uh we'll see how that goes. Um. So um do I think we've got an idea of where we need to go for the next meeting, would you say? Yeah, I would s that would be my my feeling. We seem to have quite a general consensus that the idea of the the r rubber could be quite Yeah. So we always need to remember that somewhere we're meant to be getting the slogan on. Possibly I'm think I'm not sure but I'm seeing a little bit of space around maybe the joystick area which could be used. Um. Okay. And I think that says it all really. Right. See everybody in a half hour. Uh. Cost is Yeah. Yeah. yeah. Titanium, the really strong metal, titanium? Is it not also it's expensive? Two curves. Need an advanced chip for the L\_C\_D\_. Is that did I Advanced, like three eight six advance. Okay. Okay, sure. Mm, if we only have twelve Pounds fifty, twelve Euros, not even twelve Pounds. Twelve Euros, what's that, like eight pounds or something like that, nine Pounds? Okay, that's good point. I also have a preference for rubber. Based on my research. digital. Is this the joystick? Okay. Mm. Mm. 'Kay. We go. Okay. So uh to gather my research, two basic methods. We compared uh whether people want the remote control to do a lot of stuff or they want it to look cool. And then we we research uh fashion trends in Europe, what's what's the new black, you know, as it goes. Next slide please. Uh we found, in order of importance, people want the remote control to look cool more than they want it to to be cool. As in they want it to do a lot of good s they want it to look like it does a lot, and if it does do a lot that's a bonus, but they don't care so much, you know. They want it to be that's sounds a bit like a contradiction. Technology technical technologically innovative. People want it to be that, but s still they care more about the way it looks than what it does. So like the interface is really important. And easy to use, it it just so happens that uh from the second point to the third point is twice as important I mean the second point is twice as important as the third point. People want it I is it has to be cooler than easy to use, you know, if it has the newest features, even if it's difficult to use, prefer it to have the newest features. And if it's easy to use that's a bonus. The fashion, now this is seems a bit odd to me, but fruit and veg is the new is the new black for furniture, for clothes, for shoes. How that relates to a remote control I don't know. But I I see I come on to that in the next in the next slide. Spongy. I've als I've been saying everything's the new black. Well spongy's the new black as well.

So we have the choice between rubber and plastic. If it's the type of rubber that you can squeeze, you know, it's spongy, then can I skip the rest? Okay. Okay, so kinda spongy material. So um so my personal opinion? Um we want something fancy and technologically innovative, obviously. But what we what we need is something that looks like it's from the future that looks cool, that's that's different, you know, that's everyone has a white remote control, black remote control, you need something cool. Like, titanium is cool but it's expensive. And maybe it's a bit of overkill for a remote control. Um now the fruit and veg options, either we go in that direction or we stay totally away from it. Um I mean the research did come up with fruit and veg, so maybe it is important for it's the up to the interface guy. So if we stay away from it, s you know stay away from it, but if we're gonna go along with it then it doesn't necessarily have to be like an apple or something like that, or a kiwi fruit. It could be something like, I say potato peeler but I'm sure you guys have a have a much cooler idea than I do. So I think cool is the key. Few questions about a spongy remote control. I've never seen one before. I've seen plastic remote controls. I think maybe they were I don't know, back in the day when they first came up with remote controls, they had a reason for it being sturdy, you know. For being strong and sturdy. So um if we want something strong and sturdy, I say stay with plastic or titanium, but if we go with spongy, we can stress that you can drop this as many times as you want, it doesn't matter, it's spongy material, it's not gonna break, you know. I just don't know how the L\_E\_D\_ and the lights are gonna fit into a spongy material because it's not gonna be completely squeezable. So how do things fit it? And if we are gonna use spongy, we can say it's long lasting, you know it's damage resistant and stuff like that, so. So just to summarise, people want stuff that's cool, that's that looks like it's cool, and if it is cool then that's a bonus doesn't have to be um people like fruit and veg. We can either go down that alley or stay totally away from it. People like spongy material. If we're gonna use spongy material we have to think of how practical it is, and how we can further promote that idea. And also, this was this year. So, things change all the time, every year you know they they always talk about this year, this is the new black. Well next year something else is gonna be the new black and we're stuck with last year's fruit and veg type stuff. 'Kay. That's me. That's a good point. You can incorporate names into the menu. Okay. Even news, music. Like they do on uh sky digital kinda. Yeah.. Okay. Course not. Sure, yeah. Sure. The noise for when you lose the banana, um f yeah, for when you lose the remote control, it could be like a a monkey noise or something like that, rather than a standard beep beep. Y you know, you lose the monkey the banana, y you lose the banana, you press a button, and you hear like monkey screams or something like that to direct you towards the banana. S oh, I was gonna talk about the programmable remote control. Now I think it'd be cool if you had one

remote control that could work with all T\_V\_s, you know you s you click a button and it finds the frequency that works with your particular television. But why you'd need to program it like as as a standard feature, I I don't know. Yeah. Mm-hmm. Mm-hmm. That's because televisions, they don't give the remote control any type of feedback when you send it. Okay. Is it is it actually a book of names to digits, or is it like a few pages? I was just thinking, if we were to store this information, some type of mapping. This person probably need to use this feature like once, you know, when you first buy the remote control, or whenever they buy a new television, so once every s Yeah, and it's Mm. Mm. Mm. Yeah, you see I don't some of these things kinda logically follow the others. How can t product evaluation, doesn't that come after actually seen a product prototype. Oh, that's the okay, sure sure. Mm-hmm. Okay, sure. At this stage we still have no no target audience or 'Kay. And it's stylish. Mm-hmm. Mm. Yep. Okay. Programmable memory as well. For the remote control. We've w definitely talking some type of Different. But you're gonna need some type of flash memory or something. Well

something that doesn't you wouldn't have to redo the whole thing once the batteries are changed, you know, once you turn off the power. Yeah. Different languages, uh different skins and stuff like that. Sure. I if it was customisable as in different languages and stuff, that does open it is supposed to be international, right? So. It would make sense if you could Okay. Yeah. The fruit and veg. This one. Yeah. Yeah. Yeah. Sure. I mean we are trying to promote a remote control, but we wanna keep the company brand as well, so. I think so too. Sa Yeah, that's me. Mm. There's also a watch moves around a great deal more. Mm. Mm-hmm. Mm. Um I'm actually gonna be bold and go oo go straight for rubber um for reasons I'll go into uh in more detail.. Mm. Yep. Now I'm gonna have to work between the uh the slides and the uh and the white board 'cause I actually I have some fairly concrete things this time. Uh um I was given a an H\_T\_M\_L\_ file giving um various ideas from uh from other previous remote control designs, and pretty much decided to just dump them all. I wasn't very impressed by them and they didn't seem to re uh nothing I saw seemed to meet the sorts of design specifications that we're going for today. Um so what I ra rather than looking at other remotes, uh ra oomp be better to simply look at the human hand. Um and try and f um and try and figure out a way of laying out the elements we've already decided on, um so that if r a if so that the finger is e each finger or thumb is wherever it needs to be already. Um so uh next slide, if you please. Um and what we've basically decided on was the the um the joy uh the joystick, two function buttons and the L\_C\_D\_, just keep it paired down to the absolute minimum. I don't actually think we need the um the numeric keypad because if you m because one of the menus that we could have available um v via via the L\_C\_D\_ is one where you scroll through channels, so if there's something f and be bear in mind since this isn't meant to work for um f f f for di for digital or um or for or for cable, whatever, you're basically looking at four or five terrestrial channels, and then um your V\_C\_ uh and then the channel through your V\_C\_R\_ and or D\_V\_D\_ player. And or um box. So it's not I'm not really excessively concerned about that. You must have two two modes, basic mode, where um the joystick's uh left right left right for channels, up down for volume, um and the uh uh and the menu mode for uh further functions. Um now the reason I was particularly interested in using rubber for this is that if we're going to have a highly ergonomic design, um it needs to be ergonomic for left or right handed people. Um, so you Mm-hmm. Yes, absolutely. Um, basi basically what I basically what the what be having um, I would say, the th

e whole thing articulated at two points, so that if you if you're handing it from a lef uh left or right handed user you can adjust it so that the um the L\_C\_ the L\_C\_D\_ and the uh The joystick would be in the right place. And also this is a rather nicer de uh design gimmick that the the um you know the whole thing you know it should have sort of organic feel to it that it should be, you know, soft to touch and can be moved around all nice. Um okay on to on to the next uh to the next slide. Okay. Yeah, 'kay basically um I can add pretty pictures to this. The um Assuming the hand the hand to be in about sort of this position, um hol uh holding the remote, the um the joystick unit should rest over the uh the joint of the f of the uh four finger so that it's directly accessible for the thumb. Um and it would need t there would need to be a it would need to be articulated just below that so that it could be switched around for uh left or right handed users. So. You then have a grip section that can be more or less the same irrespective of handedness. You just have big two big buttons that cover most of the area so it can in the upper part, one for the four finger, one for the middle finger. Um, and that Th this part here is the joystick. This would be the actual grip. Probably where you'd want to have the battery as well. That would be probably the bulkiest part. And you then have, at the uh at the bottom, the L\_C\_D\_, and this would need to be articulated as well. And basically I'd want this to rest here, right at the base of the wrist. So it would fit just nicely in the hand. And again, this part could be rotated, so it can So so so that it can be

adjusted to either left or right handed user. Um So the t uh the top function button in basic mode would be the on off switch and menu mode would be the enter button. And then the bottom function buttons switches between between modes. Um now programming it actually thi this is one thing I've found with um the replacement remote control. Programming them can be a right pain. So I thought th the simplest way around that would be to have um a cable to connect it to the computer some some fair iv fairly fairly simple software on the computer just so that you on your computer just so that you could um pr program it at a rather in a rather more comfortable interface. And you could download programs for it from uh for uh T\_V\_s from all sort of main manufacturers. Um though you i it would be necessary to have uh have a m uh have a ha have a mode for programming it without the computer, uh just in case there are there are still people left out there who don't have them yet. Um. But uh. Yeah. That's that's my idea. Mm-hmm. Mm-hmm. Yeah, actually if you've got a lot of channels, the number keypad can be quite annoying as well, becau it's you know if you're trying to remember what uh, you know, what number's the discovery channel or whatever. It's just irritating. But if you h but but but if you have a me but if you have a menu structure, then you can sub-group them. So you Yeah. Yeah, I I would say definitely, I mean I mean I mean the the idea of having it sort of articulated i th there would be basically two points of articulation. W um one below and one above the m the uh the main sort of grip. So Mm. I d I don't thi I don't think that it would be a a structural weakness, I mean if you have a firm s sub-structure, you can then incorporate articulation into that. If you then have a sort of outer skin of mm flexible, spongy rubber then you have something that is you know very much you know organic, and I think would look rather co I mean mi rather cool. I mean my drawing there doesn't doesn't do it justice, it makes it makes it look more a little bit more like a vibrator than a than a uh than a remote control, but uh. Mm-hmm. Make it harder to lose, as well. I th uh I mean if it I think that's something that could perhaps be programmable, though maybe have monkey as default. Um. Mm-hmm. Well basi

basically the um for f for uh I mean e each manufacturer will have a partic will have a particular command set that uh the T\_V\_ responds to. It's not simply a matter of frequency. So um usually what's done is you have this big booklet full of different possi you'll have all of them sort of programmed in to the uh remote, and you'll have this little booklet of codes you then find your um ma uh find your manufacturer and try the different codes that come under that manufacturer's name 'til you find the right one. It's Yeah, that's right. So that's that's quite annoying and we probably would still have to do that. But if we had um some sort of hook-up to your computer as an option, then if you've got a computer you can avoid that rather irritating thing. Yeah. Yeah. Um booklet. Some pages. Yeah. Yeah. But it's a but it's a nuisance. And it's a nuisance very close to the to um to actually purchasing it, so it's something that you're likely to be thinking about. If you if there's w i if there's one in the shop that's that says it can avoid much of that nuisance, you might be favourably inclined towards it. Um mm. Mm. Um well I I think other than ge getting a sort of more aesthetically pleasing form for it, um mo most of the sort of layout design decisions are are made, I would say. Um but then again, the um the menu structure to to a considerable extent that's gonna vary according to the model of television, and also any customisations that the user might wish to incorporate. So um and one of the nice things about having an L\_C\_D\_ and a menu structure is that there is that flexibility to it. Yeah. Mm. Yeah, I mean it's Yeah. Yeah. The other thing I mean it I mean it would need to ha it would need to have um some sort of on board memory anyway. Um f for one for one thing because I do think that the menu system should be um uh I mean although you know, it's not going to be terribly complicated if it's just controlling one device, the menu system ought to be um o ought to be customisable and uh Mm-hmm. How uh how uh how you want say the um the the menu structure for flicking through channels if you've got lots of channels. That sort of



thing. Yeah. Are we going to be supplied with the clay is what I want to know. Where is the clay?  
Mm-hmm. Mm. I th I think I would largely want to actually steer clear of the whole sort of fruit and veg  
thing. Bu but um but the spongy idea I like. I like it a lot. I having it i having it sort of br bright yellow I  
think that's quite a good idea, though maybe we could have options for colours as well. and again this  
has the advantage of being harder to lose. Mm-hmm. Mm. Yeah. I was like like I said before I I think we  
should have the R\_R\_ on the uh on the top function button.

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# Meeting ID: 97

Data Source: Train

## Executive Summary

When the meeting begins the project manager lists the agenda and then describes the project, which is to develop a new remote control that is original, trendy, and user-friendly. The group practices using the smart board by choosing an animal to draw and then explaining why they picked it. The project manager goes over the product budget and they proceed to have discussion. They each identify their individual tasks during each phase based on their role in the group. They briefly discuss characteristics of a desirable remote, including medium size buttons, small unit, and work within a good zapping range. The team again discusses their individual responsibilities and move on to ponder whether the remote will be multifunctional or only for the TV. They decide to first assume it is only for TV and video, but allowing the possibility to add more features. They close the meeting upon establishing what each person will do.

## Complete Meeting Transcript

We're the first. Marketing Expert, yes. Yes. Bling bling. Yeah. Right. Uh where has my screen gone? Hmm. Yeah. My screen is gone. Oh. Yeah. Yeah. Very nice. Yeah. Mm. Yeah. Yeah. Draw. Alright. 'Kay. Don't take up too much space. Should it be one Giraffe's yellow. Can you use one blank sheet per drawing? Or so y you must save it at the end and then Okay, then m make a new one. It's more like a dinosaur. Uh. Some leaf to eat. Yeah. Thanks. Yeah. Uh Yeah. Alright. It's not that fast. Yeah. I see. It misses the spot. I say good guess. Uh Because it's slow. Yeah I was a bit slow too. So Uh some other line uh width uh No. I dunno. Does it have legs? Yeah? It's more like a tank. Yeah that's fins but I don't know where. Some spots. Ah some eye. Yeah that's a fr friendly turtle I guess. Yeah well I think it's uh fair enough. Right. I don't know what the position is. Does it have ears? No. Oh okay. Can you erase ears or Yeah? Alright. Eraser. So I dunno. I it just came into my mind. So there's no particular reason I pen. Yeah. Well I'm guess I'm done. That's my turtle. How to select the next or here. Yeah. Here you go. A fox yeah. Firefox. A cat who had an accident or Yeah. Okay. Great. Yeah. Yeah. Yeah. Yeah. Yeah. Yeah. So that's very common. Yeah. Yeah. Uh well from a marketing uh perspective, um well the function des design phase uh consists out of the user requirements. Um what needs and desires are to

be fulfilled? So there are a few means to reach that um by by doing research uh to see what existing products are there out in the market. I mean, what functions do they have. Um especially what are their shortcomings? Are there any new functions uh which can be added to our product? Um therefore we have to to do some internet search. For example for um well what kind of applications do current remote controls support, and what are f featur features of uh current and future televisions? So we can see uh what needs to be supported. Um and we can interview current users and future users. What w what would they like to see uh on a new remote control? Um especially for future users, uh I'm thinking of early adopters, because they they use new technology first, and they play with a lot of tools and stuff so maybe they have some good ideas to uh to add. I think I can get that information, yeah. So yeah. No n not specifically. More to how to get them and Yeah? Yeah. Yeah. Yeah. Yeah. From the other end of the room or something? Yeah. Any more points to discuss? Alright. 'Kay. Thanks. Yeah. The pro okay. Yeah. Okay. Uh. I guess so. Yeah. We're just working the three phases. Okay. Better make it Yeah. That is my question also because like new new functions Requirements. Yeah. Yeah. Unit. Yeah. Yeah well I I was Yeah well like I li like some like some some remotes who are out there, which I know, there's one button which is very easy to switch between devices. So you can switch to your video and then the same buttons control your video. And another function I'll think of switch to your media centre, because that's getting very popular. And then use your Windows media centre under your T\_V\_ with the same remote control. So with the switch, one single switch S Yeah records and stuff like that. No. Yeah. Yeah. In the project uh Yeah. Yeah. Yeah. Yes. Half an hour. You're fired. No. Alright let's move on. Yeah. Yeah see you later. Well good luck. Hi. Oh yeah, we have to talk in English, huh. I'm afraid I'm a bit slow for this stuff uh. I'm afraid I'm a bit too slow. I don't know how much preparation you guys did, but not a lot. Mm-hmm. Not yet. Operations. Different pen widths, how do you do that? Oh okay. Are you serious? I in the file option menu. How much time do we have to draw anyway? 'Cause I can take forever on this. Is this part of our a acquai or introduction to each other? Alright. Uh. Your line broke. I'm guessing a turtle. No. I'm kidding. Because of its shell. Dude you're a good drawer. Do you have a turtle pet? Uh okay. Yeah yeah ye

ah. Stumpy stuff. They kind of I look like mole legs. With sharp nails on. A little tail maybe. Uh no. The little holes maybe. And why did you choose this animal? Alright. Alright. Colours were under format right? Let's see. How am I gonna do this? Um Mm uh. Not quite actually. No. Aye. It's a cat. Not quite yet through. Uh yeah I dunno. They're my favourite pets. Uh I have colour already. Yeah I'm not so good at drawing with this kind of st Oh shit. Um Excuse my language. I don't know how to draw its face. But you get the idea. It's a cat. It's my favourite uh pet animal, 'cause they're cute, they're independent and cuddly, I dunno. That's it. Or do I need to use more colours and Alright. Yeah. So we have to s Yeah. Mm-hmm. I guess so. Yeah. True. Well I started making an overview for myself, um what I had to do, 'cause we have three design steps and in every step I have a s specific task to perform or whatever. So I had to uh, I dunno, make an overview for myself about what I have to do, and kind of let it work in to get ideas about well how I have to fill it. Well I started I started with the first phase, I think was the functional. And uh let's see I had to focus on the working design, which you said. How does the apparatus work? And well I basically had two points. Uh according to the coffee uh machine example, I have batteries to supply energy, and we ye use button presses to activate or deactivate certain functions on the T\_V\_. And that's basically all I have so far. Alright. Yeah. Yeah. Yeah I kept it global 'cause that it activates or deactivates specific functions, 'cause I wasn't thinking yet about that. I mean, you wanna ch ch flip the channel but you might wanna use teletext also. I dunno what the word is in English. Uh Yeah. Obviously. Whoa. Is that you or alright. Alright. Alright. Well no I'm just a bit

wondering what we're gonna do the next uh session? Yeah okay. We'll do our best. I am gonna work on the conceptual design already 'cause yeah it's fairly important to know what kind of components we want to put in. Do we I mean, is it gonna be a multimedia control centre? Do we want to be able to use the video recorder with it? Yeah. True. But but we need good communication about this stuff, 'cause I have to f put the components into the design. So if I don't know what components to put in, it's kind of hard. Yeah so Okay. Yeah I I know what you mean, but you'll ne need several other buttons for a video player. You need a play and a forw fast forward and a stop function. And you you don't need that for a T\_V\_. And and for a t uh teletext you need additional buttons as well, so I kind of need to know what we uh need. Whatever, I'll just put my ideas in uh in here and then we can discuss it with the next uh meeting. Okay. Okay. Alright. Yeah. I understand. Yeah. Alright. Yeah. Thanks. Alright. See you later. What the Mm. So you found your spots. Okay. It's called black. Okay. You see this beautiful presentation. Okay let's get started. Uh I sort of prepared this. Uh opening acquaintance, tool training, uh how to use the things here. Uh project plan discussion, and yeah then the rest of the meeting. Um we're supposed to develop a new remote control, that's both original, trendy and user-friendly. So, hope you have good ideas. I don't. Um we're work we're working uh from top to bottom. Uh functional design, then we do some in individual work, then we have a meeting to discuss the results, etcetera etcetera. And at the end of the day we should have a prototype drawn up. Uh we have available the smart board and the whiteboard. Um uh we should take some practice. I have some instructions now to do that. Uh well you know how to the documents work. So Uh this for toolbar. You see it next. Um we have a pen. And we can use this pen to perform. Yes. So It doesn't always work. Yes. Okay so you can draw. Okay and in the format menu you can select colour and line width, etcetera etcetera. Okay? Uh Okay. Each of you can uh take

some practice and you should draw an animal. Uh you should explain Uh with different colours and with different pen widths. And you should explain why you draw that particular animal. So, Julian. Uh with the format menu. And use different colours etcetera. And what's that supposed to be? Oh yeah. Oh yeah four legs. Uh-huh. Yeah. Yeah you can press the next button, which is uh yeah. I'll show you. Yeah. In file menu. Yeah. Yeah. What is it? A giraffe okay. Yeah I see a long neck but Okay. That's nice of you. Okay. Yeah pretty good. Uh could you press the next uh Okay. Then uh. Yeah sorry, introduction and get acquainted and That's the idea, so Yeah it's a bit slow, so Yeah. pressure. Why a turtle? It's slow. You were slow too so Yeah sure. Yeah not exactly legs but More like fins or Yeah. Yeah it's I looks very friendly. Yeah okay. No. Yeah yeah yeah. There's a a gum, gum to. He said it was slow. I like it. Okay. Your turn Niels. The next yeah. Makes new paper. Yeah. Orange. Kangaroo. Dog. Cat. It's a cat. Why a cat? You have some uh? The pen, yeah. Sure. Yeah. Alright. Okay. Yeah. I think it's okay. You get idea right? Okay um we have a financial aspect to this project. Um we can sell them at twenty five Euros. Uh the aim is to reach uh uh to sell as much as fifty million Euros. Uh that's quite a big amount of money. And the production cost should be the half of the selling price. Okay now it's time for some discussion. Uh Yeah. We should get started. Uh I'm taking notes. Um we each have a specific task, as I saw in my mail. I didn't know if you received the same mail. Yeah? Okay so the um uh this industrati Industrial Designer should produce a working design. Am I correct? Okay. Uh the User Interface Designer should specify the technical functions. Right? Yeah? And the Marketing uh Expert should come up with user requirements. Uh did any of you already do some work on this part or Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. And do you have any ideas about the product uh so far? Mm-hmm. Mm-hmm. Yeah. Mm-hmm. Okay. Yeah I got another point. It uses infrared light to communicate the signal to the T\_V\_ apparatus or stereo. Same I believe. Uh and what did the

Marketing Expert do? Mm-hmm. Mm-hmm. Mm. Mm-hmm. Mm-hmm. Yep. Yes. Okay. Okay. Mm-hmm. Okay. And you can get that information? Okay. That would be very handy. Um but have you any idea so far as what uh the user requirements are? No? No okay. Yeah? Of course. Big, mm-hmm. Uh what do you mean by that? Okay um Well I don't think I have anything more to add at the moment. Um I think the best is to go to work. Yeah. Okay. Yeah. I think we can go ahead with what we have. I will summarise the things we discussed and put it in the project folder. Uh the use of the Industrial Designer can work on the working design, etcetera etcetera. And it seems you get more information by email. So that was it for me. Uh Yeah, in the project folder. Yeah. I'm writing very fast. Hope it's readable. Okay um anything more you want to add to the discussion? Yeah. Because then we have a Yeah. Y you do some individual work, we have meeting, individual work, meeting. And at the end of the day we have a final meeting. And then I have to prepare uh I have to defend our design, so make it good. I depend on you. Yeah? If you can mix it it's okay. Mm-hmm. Yeah. Yeah. Well I think that is the user requirements part. As to what they want. Uh do they want all those functions on that small Yeah. Mm-hmm. Yeah I understand. You can always add a few Yeah. Hmm, the C\_D\_ player. Yeah. Yeah. Okay. Mm-hmm. Okay. You need additional yeah. Yeah. Uh Yeah. Yeah. We could just start with the assumption that's only for T\_V\_ and video. And um reserve the possibility to add other features. So we have a basic starting point and you can always extend that so make sure it's extendible. Yeah. Th the least amount of functions possible so it's easier to get to know how it works etcetera. Yeah? Okay and uh I'll see you again uh when the computer

tells us to. Yeah, you're di dismissed. Not yet. Okay. Let's see what we got to do. Yeah. Yeah. Thank you. Mm uh. Mm. We're the first ones. Move to the meeting room. Okay. Hello, good day. Yep. Kick-off meeting, wow. It's uh looks uh nice. Hmm? Yeah. No, it's it was uh not enough. I did my best. Okay. Um yeah. It's a giraffe. Yeah. Okay. Uh it needs some uh some yellow uh Oh format. That's some spots. No. Okay. Do I have to explain uh why I chose this uh this animal? I think it's a it's a great animal. It's a it's a giraffe. Yeah, that's a Um Okay I'll will give it an uh an eye. Hey. Come on. The next? Yes. Here you go. Hmm. 'Cause it's so 'cause it's green. No. A rabbit I think. Kangaroo. Fox. Mm. Okay. What uh what uh do you want to discuss? Yep. Yep. Yeah. Wireless uh huh. Uh it's uh some buttons for for the on off function. You d you already told that. And for the changing up to the to all the channels and changing the volume. That are the the basic options for a remote control. Okay, yeah. Yeah. Yep. I got some uh requirements it has uh it has to be user-friendly. Uh really easy to use buttons, not not uh very small buttons, but not the the also the big big buttons, but just normal buttons. It has to be a small unit. It has to be uh yeah, you can take it with you uh everywhere in in your house. So it has n has not to be I yeah, gigantic uh machine. Uh and a and a good uh zapping range. Uh the distance uh from your television to your uh remote control has to be, uh yeah um yeah, quite a big distance. It has to be capable for zapping uh Yeah. Okay. Are you going to put the the notes on the Okay. Yeah. Yep. Yeah. Do we only have to to do uh phase one, the functional design uh? After that we are going to the conceptual uh Okay. I would first m Yeah. I I think we have first to start with the basic functions and we can uh expand them. Yeah. Yeah. Yeah. Yeah it has yeah it has to be user-friendly. So it's hasn't it's yeah. Yeah. Okay. Yeah. Can we leave now or Mm. Okay. Good luck.

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# Meeting ID: 5

Data Source: Train

## Executive Summary

Hi Um I'm Mandy and I'm the Project Manager . And I know all your names again , Courtney , Fenella and Amber . Okay , here is our agenda for this meeting . Um tool training , we're going to , I guess , figure out what to do on this project with our individual roles . Um we're gonna make a project plan and then have some time for discussion and close up the meeting . We're gonna make a new remote control that's um original , trendy and also user-friendly . We're gonna have discuss the functional design first , how is it gonna be used , what's the actual goal here , it has to operate T\_V\_ , blah blah blah . And then the detailed design , just more in-depth , get the actual schematics of the remote . First we're gonna start off by using our tools . I think we should forgo the whiteboard since we can't actually see what we're writing . Um right now so we're all gonna draw our favourite animal and then sum up our favourite characteristics of that animal . Um the selling price for our remote is going to be twenty-five Euro , and our profit aim is fifty million Euro . We're going to make this an international product marketed in the States , in Europe , in Asia . And um our production cost to make that profit is gonna be a max of twelve fifty Euro per remote . Um here are some topics that we might be able to discuss . Expe our experiences with remote controls um , our first ideas about this new remote , anything that you can bring to the table for this project . Well , we wanna make a multifunctional remote , It needs to be compatible 'cause universal remote controls are never universal . and um another thing that I think is important is the d the design of the product , how it feels in your hand . They want the ergonomic ones . If it's just flat and kind of boring th those don't Nobody wants to buy those any more . What kinda battery would we want to use ? Double A\_ . So double or triple ? it's okay , we don't have to decide about it now , you're going to think about the working design . And U\_I\_D\_ , the technical fun functions design , And the marketing person , that's Courtney , is going to do the user requirements specification .

## Complete Meeting Transcript

Just do it on the arrow. Fine. No, I kne I knew. Yeah. Ah. In my next life. Um, I drew a badger. Well, yeah. Uh I dunno, they're grumpy and nocturnal and Well, a little bit like the Yes. Um. And then, if you

know Wind in the Willows badger. Yeah and then uh I don't know if you know Brian. He's Liverpoolian writer. Um, that kind of books. Badgers are cool in that one too. Now? And everything being Wait, we have what, sound system, T\_V\_, D\_V\_D\_, V\_H\_S\_, uh TiVo? But it's still there, so if po if we're gonna do it Or if it's not like a Sony, if it's like a I don't know. But at the same time are simple. Just bad ones. Um. D Double A\_. Some but Yeah, I guess then it's If we need to do triple A\_ we can, but most people usually have double A\_s around. Right. Mm-hmm. Okay. Hi everybody and welcome to our kick-off meeting um for our new product that we're gonna be designing. Um I'm Mandy and I'm the Project Manager. And I know all your names again, Courtney, Fenella and Amber. Alright. Okay, so first let's go through this PowerPoint. I wonder what button I press? Yeah, or how about I just click? Okay, here is our agenda for this meeting. Um we're gonna start with our opening which was our introductions. We're gonna get to know each other a little bit better. Um tool training, we're going to, I guess, figure out what to do on this project with our individual roles. Um we're gonna make a project plan and then have some time for discussion and close up the meeting. Okay, here is our project. We're gonna make a new remote control that's um original, trendy and also user-friendly. And how we are going to do it is each of us is going to um We're gonna have discuss the functional design first, how is it gonna be used, what's the actual goal here, it has to operate T\_V\_, blah blah blah. And we're going to do individual work on that and then meet. Same thing with conceptual design. Just the basic overview of the project and then we're going to do individual work, meet. That's pretty much the the whole process for today. And then the detailed design, just more in-depth, get the actual schematics of the remote. Okay. Alright. First we're gonna start off by using our tools. And the whiteboard thing, do you guys wanna give that a try even though the ink wasn't working or do you wanna do it on here. Alright, let's go forward then. Um right now so we're all gonna draw our favourite animal and then sum up our favourite characteristics of that animal. Even if you are not a good drawer like me. Alright. Um. Bless you. Oh do I. 'Kay, about one more minute. Okay. Okay. And who would like to start us off? Alright. Only if they're piranhas. Alright. Who wants to go next? No, it looks like a cat. I love cats, too. I'm a cat person. Uh. If you're around one I had a roommate who was um allergic, but if she was around my cat forever she became used to it, you know, it's weird. Okay. Okay, Fenella? Badger. Good choice. Why a badger? Alright. Okay. And I'm last. 'Kay. Look at my sad sad giraffe. No, no, no, it ends up looking like some kind of a dinosaur, but whatever. I don't know even much about giraffes, but I just love the way they look. They're just such odd creatures, you know. I like that they're so unique and individual, I guess. I don't know much about their behaviour or anything, though. Only seen a couple in zoos. Yeah, but you can appreciate the way they look. Okay. Alright. Guess we're getting straight back into business here. Um the selling price for our remote is going to be twenty-five Euro, and our profit aim is fifty million Euro. We're going to make this an international product marketed in the States, in Europe, in Asia. And um our production cost to make that profit is gonna be a max of twelve fifty Euro per remote. Okay. So we're gonna talk for a little while. Um here are some topics that we might be able to discuss. Expe our experiences with remote controls um, our first ideas about this new remote, anything that you can bring to the tabl

e for this project. So. Yeah. You wanna start us off? Anybody have anything to offer? Right. TiVo. They're never universal. That's right. Esp e especially if you buy a a not big product, D\_V\_D\_ player, say, usually it doesn't work if it's not one of the Yeah. Yeah. Something from Sam's club. Yeah. Yeah. 'Kay, and um another thing that I think is important is the d the design of the product, how it feels in your hand. If it's just flat and kind of boring th those don't Nobody wants to buy those any more. They want the ergonomic ones. Yeah. Ones that ones that look high-tech, too. Right. So that people like my mother can use it. Yeah. 'Kay. Anybody have any experiences with remote controls that they can

remember that Yeah. That's true. Do some of them use triple A\_s though? Okay. Okay. Yeah. But that has to do with the size of it too. Well, w as long as we know that issue is Here we can Triple A. But it's okay, we don't have to decide about it now, just as long as we remember battery type and size is important. Hey. Anything else? Alright. Moving along. Oh, we're closing the meeting. Next meeting is gonna start in thirty minutes. Here's what we're going to do. Um the I\_D\_, which is who? Okay, you're going to think about the working design. What do you think that means? Okay. And U\_I\_D\_, the technical fun functions design, making sure it does everything that we need the remote to do, the functionality of it, operating all those different things. Okay. And the marketing person, that's Courtney, is going to do the user requirements specification. I guess that means specifying um what exactly the user is going to be looking for. Right? I would think so. Okay. And you're gonna get more specific instructions emailed to you in just a little while. Okay, so does anybody have anything they wanna say before we close the meeting? Okay. This meeting is officially over. Yep. I think we should forgo the whiteboard since we can't actually see what we're writing. Artistic skills, nil. I draw like I'm in grade five. I'll go. I drew a kitty. It's pretty much impossible to tell that's a cat, but I love cats. I love cats because they're independent, uh they pretty much know what they want, they get it, they move on. I'm allergic to cats, too. I still can't sleep with them in my room. Yay. Are you trying to suggest something? Well, we wanna make a multifunctional remote, right? One remote for everything. Um. I think they'll be phasing V\_H\_S\_ out shortly. Okay. So we'll have to figure it how to cover all the different variances in signals. What about something with the curvature like that matches the curvature of a hand? What kinda battery would we want to use? Because battery changing is usually Okay. Yeah. Can you with a small lithium battery? Yep. We could Yeah, we could on here. Oh, thanks. I'll go. Um this is my picture. I drew fish I like fish, because uh, you know, their whole water-vascular system thing. It's pretty cool, and um they've got a pretty good habitat and they are pretty sometimes, sometimes vicious but that's okay. Yeah. Yeah, they they're easy, you know. Yeah. No I I see it. Yeah, it does look like a cat. I'm allergic to cats. Oh, okay. Yeah, yeah, if you're around them for a long period of time Oh, yeah, this summer I, oh I had to live with cats. It was crazy. Yeah. Cool. Oh, okay. No, that's good. You don't really have to, I mean, if you like 'em Right. Yeah, TiVo. It needs to be compatible 'cause universal remote controls are never universal. And what we need an insanely good instruction booklet, because you always have to reconfigure all your contraptions to go with the remote anyways. They want like the flashy lights. Oh like this came from Las Vegas. Mm yeah. Double A\_. Yeah some use triple A\_s. So double or triple? Yeah, if we want it to be more thin, then we'd probably wanna go with a triple A\_. Right.



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# Meeting ID: 39

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## Executive Summary

Um the goal of this meeting is to reach a decision at the end on the concept and I think the last time we talked about an a lot and we had a rough idea of what is going to be , we will have again three presentation , from all of you , Okay . Um so basically I just want to presented to you present to you some recent results we've had from um looking at uh um some remote control market research and some fashion trends around the world . Um so f from our market research basically we've come to the conclusion that a fancy look and feel , um as opposed to a functional look and feel , is our number one priority . Secondly um that our remote control needs to be technologically innovative . Um and third thirdly the easiness of use is the um is is important as well , From our f fashion people in Paris and Milan , um we've discovered that this year um fruit the fruit and vegetable motif will be the most important thing in in clothes , shoes and furniture . And also um the feel of material this year um is expected to be spongy . I think the biggest struggle will be the easy to use feature . Okay Um generally , generally uh this remote control uh uh should be should be something , in my opinion , uh the first feature is just to be easy to use . So , the more frequent buttons should be larger , they should be placed in a good position uh uh inside the remote control . And uh s uh I can conclude like this , that we shouldn't need to learn how to use it . Uh the shape of remote control should be in a way which can which should be taken easily in hand . And uh also f uh uh m because because customers doesn't like to buy lots of battery , it should not uh consume lots of energy . so we can cover these buttons which are not used or uh number buttons for the for the for the can channels , Uh . And also uh I think if we put some some some some some buttons inside of the remote control it can be used easier . And uh I dunno but uh I think usage of a speech recogn uh r recogniser can be good . but if we do it in some way that it asleaps when there is no sound and when it detects some sound it may consume less energy . that our company uh developed a s a seven f seven fingers seven seven inch T\_ T\_F\_T\_ screen , which is good news for us , since we wanted to include a display there . So there will be some circuit uh for the power . Uh the main energy will be taken from batteries And if we decide to use the speech recognition stuff there , we must use additional source of energy , which I found the best is to use the solar cells which can which can uh supply everything . Uh the main board with all the circuits will take at least seven to seven centimetres , And on the main board we have the um interface to the microphone , which is somewhere , Can you fit any uh for example a T\_F\_T\_ or any electronic device in a spongy thing , or is there any problem for that

? A all these things in in uh in this box are okay to put in in any shape , basically . Well , sponginess . Maybe it a good feature , since it takes if it's around the T\_F\_T\_ then it's good , because it's just keeps it safe , Well maybe it can have two shells , a hard shell inside and a spongy shell outside . Maybe put electronic in a box and a spongy thing around . Uh uh have we decided that we're gonna use this T\_F\_T\_ screen ? how big is it in reality ? Usually when they say seven inch I think it's the diagonal . But I I think we can we can cut it . So so for the same price we have four screens now . Seven to seven to at least well some three millimetres or something . Even from my perspective seven t seven centimetres by seven centimetres is still Yeah , but we wanted the big buttons and stuff like that , you know . I thought that it should fit in the hand or something . so I think we have to do some work to finalise our idea and take decisions . Uh first I think energy it's a key problem If we use the batteries , and the additional so solar cell , then it's okay for L\_ uh speech recognition and L\_C\_D\_ , so no problem in energy , I think . So if we use s solar cells , um where is the sun if someone's watching T\_V\_ inside ? I think uh seven centimetre by seven centimetre is a little bit large . Could you re could you redesign your board ? I've I s I think the easiest thing would be to have a smaller L\_C\_D\_ , if it's possible . Okay , so five to ten , I I think it's it's feasible . So using some L\_C\_D\_s we can touch , so we can remove uh keys and just uh having uh , I dunno the name , L\_C\_D\_ responding to fingers . So let's go for a small L\_C\_D\_ . My first idea is because our colour is more yellow , and the it should be easy to take in a hand , I thought about banana , or something like that , which is fruits , and Well it's it's definitely the obvious choice , with the colour of our company . I dunno if it can fit with the technology . The screen has to be square ? But if you want some shape then we can only get like two screens out of seven to seven inches , so . So we are agree with the banana thing ? It's like more more expensive to have shape like that . I think that's more important than saving a bit of money on on the T\_F\_T\_ screen . So , the last point we decided it's infra-red , I guess . should should discover the other buttons , which are hidden . Yeah , peeling of the banana . Is it is it possible to do that ? I think if we if we have a spongy layer on the outside of the banana then it's easy to make that , If you see it's like peeling . You open a plastic cover and you see some U\_S\_B\_ interfaces , some some interfaces for adaptor . it can be a plastic cover uh sticking to the to the all the stuff like uh with magnetic p uh magnetic uh magnetic uh materials in the border , so it's it sticks like refrigerator door , completely . And what would be the matter here of the first layer I mean ? Mm . Likes . Soft plastic , or So we add also the speech recognition device . Um , so uh the the Industrial Manager uh will uh will work on the look and feel design . The User Interface uh uh Mana uh Manager will work on the user interface device . And the the Marketing Expert will do the first project evaluation . uh I think you should work together , s you uh Hamed and Peter , to work uh in a in a first prototype ,

## Complete Meeting Transcript

Hello. Okay. Okay, I'll start. Can you open my presentation, please. I'm number four. Trend. Yep. Can you pass the mouse, please. Oh okay, that's fine. Okay. Um so basically I just want to presented to you present to you some recent results we've had from um looking at uh um some remote control market

research and some fashion trends around the world. Um the fashion trends we got from talking to our contacts in the fashion industry based in Paris and Milan. Um so from our market research basically we've come to the conclusion that a fancy look and feel, um as opposed to a functional look and feel, is our number one priority. Um fancy is is is is the, you know, highest priority. Secondly um that our remote control needs to be technologically innovative. Um so this is the number two priority but it's two times less important as the fancy criteria. Um and thirdly the easiness of use is is the um is is important as well, but again two times less important as the technological innovativeness of the remote control. From our fashion people in Paris and Milan, um we've discovered that this year um fruit the fruit and vegetable motif will be the most important thing in clothes, shoes and furniture. So, I'm pretty confident that our remote control fits into the furniture category. And also um the feel of material this year um is expected to be spongy. Um so hopefully our remote control reflects that in some way. Uh sort of um squishy. Um. Yeah soft, like a uh like a sponge. I don't know. Yeah. Um so in conclusion, we need a our remote control needs to be something that's really fancy, um has lots of technology tech technology in it. Um somehow would be good to have it related to fruit and vegetables with a spongy feel. And that it's easy to use and from our last meeting our you know Fabian told us that you know one of the requirements is that we have to reflect the look and feel of our of the Real Reaction company. Um. That's it. Less important. So um fanciness first and then two times you know, half as important as that is technology technology, and half important as technology is easy to use. So. Inch. So So Can I ask a question. This seven inch T\_F\_T\_ screen, how big is it in reality? So like that. That's quite big. Uh uh have we decided that we're gonna use this T\_F\_T\_ screen? But I mean even even that is like this big. Yeah. You can cut the T\_F\_T\_ screen. Okay, so Okay. So, what's the size of the device? Even from my perspective seven times seven centimetres by seven centimetres is still Is it Can you hold that, or? Yeah, a small control that they can hold in hand. But is something that's seven centimetres square easy to hold? Okay. So if we use solar cells, um where is the sun if someone's watching T\_V\_ inside? Okay. Okay. It's it's quite innovative, yes. And if you watch T\_V\_ outside it's very useful. Which is the same area. Could you re could you redesign your board? Oh, five five centimetres by ten centimetres. Yeah. Mm, touch screen. So Well it's it's definitely the obvious choice, with the colour of our company. I mean what other what other fruit and vegetables Do you know of any any other fruit and vegetables that are yellow? Well I'd like a shaped screen. I think that's more important than saving a bit of money on the T\_F\_T\_ screen. Yeah, banana's good. Okay. I think if we if we have a spongy layer on the outside of the banana then it's easy to make that, you know, to manipulate that to have a cover that you can pull off and I think for sure. Definitely. The softer the better. Yeah. We could use Velcro. Or uh maybe a magnetic thing. Yeah, I imagine some sort of vinyl thing. In a in a sort of a with a suede sort of feel. Maybe. Mm. So you're saying is it possible to have a solar cell and this removable cover and And a and a banana. Yeah. Okay. I think it's important. I think One of our priorities is tech technology. And Mm-hmm. Yeah. Okay. Okay. Thank you. Hello, uh this meeting we are

and it should be focused on the conceptual design of the remote control. Um the goal of this meeting is to reach a decision at the end on the concept and I think the last time we talked about an a lot and we had a rough idea of what is going to be, but uh in the end of this meeting we have to reach a decision. So, uh we will have again three presentations, from all of you, and uh I hope it will be fast because I would like to have time for long discussion and decisions. So, who wants to start? Okay. So start, uh Uh. This one? Turn. Hmm. Okay. Like a sponge. Yeah. Yeah, uh yeah. Easy to use, is it uh as much as important than technology or fancy thing. It's less important, right? Yeah yeah.

Okay. So, Hamed, can you. Mm-hmm. Um. Number? Three. This one? So it's not this one. Okay. Yeah. This one, yeah. Oh,. Oops. Can you fit any uh for example a T\_F\_T\_ or any electronic device in a spongy thing, or is there any problem for that? For example, put electronic card on a spongy thing, I can I can imagine it could be a problem. Yep. Okay. So Okay. Maybe put electronic in a box and a spongy thing around. maybe after. Yeah. No, I don't think it's seven by seven, I think it's seven the diagonal is seven. Usually when they say seven inch I think it's the diagonal. Yeah. I dunno I dun I dun One each. But, yeah,. Let's go. So let's cut the T\_F\_T\_. Mm. These technical engineers, huh. What user wants. He wants a small remote control, or? Uh uh with big buttons. It's difficult. A sm So maybe you can finish your presentation, and afterwards we will discuss about all this. That's it. Okay. So. No. Uh, so I think we have a lot We have to take decision today, so I think we have to do some work to finalise our idea and take decisions. Uh first I think energy it's a key problem because uh it depend what can we have as feature if we use only batteries, for example, or something like that. Because can we have L\_C\_D\_ and speech recognition with battery, and it's also r related to the size of the of the devi of the device? Okay. So Okay. Uh like but using how many batteries, for example? Are are what Maybe what is the size of the battery Okay. Uh one two Okay. The television lights. At least when there is T\_V\_ you can get light from the T\_V\_. I dunno. Okay. Mm. At least it's new and maybe technology New technology. Yeah. Um. So I think before talking about the other thing, it's important thing it's the case. Uh what what are gonna be the size, because its weight drives the other what we are going to use as features and so on. For example for the for the L\_C\_D\_, if we choose to have a small device, we cannot use this um a such a a screen. Oh. I've I s I think the easiest thing would be to to have a smaller L\_C\_D\_, if it's possible. Okay. So we are agree with a small L\_C\_D\_. Yeah. Tactile or something, yeah. Touch screen, yeah. Yeah. The problem is we have a limit in a month of time, so we cannot do something very new. So let's go for a small L\_C\_D\_. Yeah okay. So, five by s ten. Um so what about, so the case we talked about. Um something easy to use, you said something easy to use but how does that fit in a fashion way, like with fruit and vegetable, and about the colour and logo of the of the company and so on, now, can we do that? My first idea is because our colour is more yellow, and the it should be easy to take in a hand, I thought about banana, or something like that, which is fruits, and A big banana. Um. Yeah. Yeah. But it's just an idea. I dunno what you think about, but Yeah. I dunno if it can fit with the technology. You are the specialists of that. So Yeah, and The screen has to be square? Or it can be like a a shape, quite, uh with curves. It could. Yeah. Okay okay. Yeah. Yeah, it should remember banana, but it's not doesn't have to b to be uh uh really the size and exactly the shape of a banana. So we are agree with the banana thing? Okay. So, the last point we decided it's infra-red, I guess. Everybody's agreed. Uh, so that's it I think about the concepts. You have other thing to add to this point, or uh no? So, uh about the user interface, so we are going to use L\_C\_D\_. In the last meeting we talked about uh hidden buttons. I don't know what we are going to do with that. You talked about the buttons on the side Mm what? Yeah. Okay. And you mean the first layer would be spongy. So Is it is it possible to do that? It would be a great idea, but is it possible technically? Like doing a spongy layer of the banana, and you open it. Yeah. Yeah. Yeah. Yeah, but do you see that as a rigid thing, or like like a banana, something very soft, you can open like banana, or. Yeah. So, I dunno what you think, Bob, but it would be great for users I think, and very good for marketing. Yeah. Yeah. Um. And setting buttons hidden in. Mm, other remarks, or something, or. Something we didn't talk about yes yet, or. I think we are almost there. Uh maybe, how can we, if we have a soft thing, like this, and to open it we have to attach it somewhere, I dunno how to do that technically, or. And how Yeah, maybe. Ma magnetic oh. Okay. Okay. And what would be the matter here of the first layer I mean? Mm. Likes. Soft plastic, or Yeah, yeah, yeah. Hmm.

And something we forgot, maybe, uh about the speech recognition system, are we going to use it, or not? It i Yeah, it seems feasible, and it would be something very great. So we have the de design, the a good shape, new and so on, and we have also the technology thing w will be. And even the easy to use thing, so it will be perfect. So we add also the speech recognition device. So, that great. We have decided everything. And think we are on a good way. So, um uh the next meeting will start in thirty minutes. Um, so uh the the Industrial Manager uh will uh will work on the look and feel design. The User Interface uh uh Mana uh Manager will work on the user interface device. And the the Marketing Expert will do the first project evaluation. So, I hope you can do that in thirty minutes. And uh, yeah, I uh I think you should work together, s you uh Hamed and Peter, to work uh in a in a first prototype, and uh more about the shape and so on and how you can manage to put everything together. And um as usual you will receive some specific instructions on. So thank you all everybody, and see you in thirty minutes. Mm-hmm. Hmm. What does it mean, spongy? Like soft, or something? Okay. I will see. Okay. I think the biggest struggle will be the easy to use feature. We'll see. Exactly. Uh okay, so good news from me uh uh for me from Hamed, but bad news from Bob obviously, because spongy design, I don't like it as Okay, so could you please, Fabien, open it. I'm person two. And which one, uh probably the first one. I'm not sure but check the first one. I Most of the things I have to write myself on the board, but Yeah, that's it. Just It's only this slide? Yeah. This this is just uh one thing I wanted to mention and show you that I just uh I just found this, that our company uh developed a s a seven f seven fingers or I'll just Yeah, seven seven inch T\_F\_T\_ screen, which is good news for us, since we wanted to include a display there. Uh so I I probably draw it down raw scheme. This is this is the stuff that I can use to Okay, so the this will be like the overall scheme or overall requirements from the engineering point of view. Uh first thing is uh this will be the overall shape, no uh I'm not speaking about the real shape of the device, but the shape of the inside of the device. So there will be some circuit uh for the power. So, say power circuit here. Uh the main energy will be taken from batteries that we can uh uh And if we decide to use the speech recognition stuff there, we must use additional source of energy, which I found the best is to use the solar cells which can which can uh supply everything. I was computing all the all the things related to the speech recognition, and it's okay to use just uh two batteries and solar cells, so. So no problem. There can be also solar cell. Uh the main board with all the circuits will take at least seven to seven centimetres, so this is my like hard requirement for the guys from the design. So at least seven to seven. It depends where you put your screen, because the screen is uh seven inch, so it depends on you where where you put it. It doesn't matter. Um it's just one cord from from the main board to the screen which can be elsewhere. So this will be T\_F\_T\_. And on the main board we have the um interface to the microphone, which is somewhere, say here. Interface to the microphone. Then the graphical card uh for the T\_F\_T\_ and the third unit is the I\_R\_. The good news is that we can uh we decided to use the infra-red unit because our company has also developed the chip for communication by the infra-red, including all the stuff inside, so it will be very cheap for us. So infra-red here. So the once again the overall requirements, seven to seven centimetres for the board, which has to be which can be spongy but has to be this size, and the T\_F\_T\_ which is seven inches. Um I have to check what I wanted to Uh from my point of view I don't care about the about the material used for the overall des uh ov all the device. A all these things in in uh in this box are okay to put in in any shape, basically. But we have to take care of the T\_F\_T\_. Well, sponginess. Maybe it a good feature, since it takes if it's around the T\_F\_T\_ then it's good, because it's just keeps it safe, I dunno. Well, it's maybe related to the U\_I\_. A Yeah, that's all from me. Yeah? Well, seven to seven inches. Yes. Yeah but To be honest, I was Yeah, honestly speaking I was thinking that it was seven centimetres initially, but it's seven inches.

But I I think we can we can cut it. Yeah, no no problem, because because because then the size of the graphic card will be one fourth. So Yeah, but no problem to to me to cut the screen. So so for the same price we have four screens now. Ah well this is like this is almost nothing. Seven to seven to at least well some three millimetres or something. Yeah, but we wanted the big buttons and stuff like that, you know. Because if it's t too small we can we can lose it, at home, you know. I thought that it it should fit in the hand or something. W I I think so. I if the roller buttons are on the side you don't have to catch it like that, but just like this, and you know follow follow Well, that's that's no task for me, but well seven to seven at least yeah, but Oh, okay. Okay thanks. Not J uh just a point to the energy th things. If we use the batteries, and the additional so solar cell, then it's okay for L\_ uh speech recognition and L\_C\_D\_, so no problem in energy, I think. But we have to use the solar cell. Otherwise not. Yeah I was thinking just common A\_A\_ cells. So like three to five centimetres, I dunno exactly, but. S Uh d doesn't need to be sun. It it's just the daylight, you know. Yeah well I I suppose that I suppose that uh that this remote control won't be in the in the room like this, where there is light only when when there are people, but. Yeah from the T\_ I don't think it's enough, uh. Ah it's a it's a compromise, no? Yeah, that's why I wanted to to include the speech recognition, because you wanted all the new things. Uh the s the screen is okay, but the board, uh that's the problem. Well what what would you guess as a shape? Or what what would be the shape? Mm. Okay. Okay. Five to ten. Well that Yeah, right. Yeah, I think it's feasib Well one um um How could we do it? We could put the board next to, well, under the L\_C\_D\_ and for example make the L\_C\_D\_ be totally unrelated to the thing that you hold in your hand. Like holding something, and the L\_C\_D\_ to be just on top of it, you know somehow. Well But maybe let's stick to the s spongy thing, like one unit. Well fi five to ten it would be feasible. Okay, so five to ten, I I think it's feasible. I'll make it. Fo Five by ten. Mm-hmm

. Okay, so Yeah, so so just just give me the the the five by ten numbers that you find the best and send it me and I will work it out. Hmm. Seven to ten banana. Okay. Rather mango or something or. You mean banana. Well, but If it's If it If the banana is big enough. Then, yes. But if you want to look at the screen, no. Well Well, it can be whatever you want. But if it's square then we get four screens out of one by cutting just. But if you want some shape then we can only get like two screens out of seven to seven inches, so. It's like more more expensive to have shape like that. But I don't care. You know, if we fit this requirement. Okay Yeah, m maybe the banana could be like a bit uh fatter than than the c c common one. But Like modified banana, okay. Well it we'll stick to banana, or? Okay. Mm-mm. Yeah, yeah. Sure. Like like peeling of the banana you s It would be cool, yeah. Peeling of the banana, you know, should should discover the other buttons, which are hidden. First layer obviously spo Yeah, w It's it's like silly, but the people will really appreciate it, yeah I think. Well is it possible to make it soft? So I think if it's so then it's cool? Cool. Honestly speaking, I cannot imagine it, so far, but it will be terrible. Mm. Pof. Well since since the since the things like the like the screen and um how to say that, solar cell has to be has to be like kept kept in the shape, we cannot b uh So we need that the that the peeling uh I dunno but we should we should take care of these two two things. So, if if uh the solar cell won't be visible while the banana is closed, then the material must be able to put the light inside, you know. So that we can reach the energy out of it out of that. It is possible, but, well if it I dunno. I dunno how to how to do it if if t if to if it's better to put the solar cell to the t to the peeling or outside it, or or inside. But then it must be some window there, you know. Yeah. I agree. Okay. Okay. Hello. I s No, no, you you can start. Yeah. The second one. Could you please show the presentation number three. Yeah. Three. Yes. Just Could you please check if it is the first one or the second. Uh, n n no, it's the first one. The second one. Uh yeah. Okay. Okay. So I am going to talk about a little bit about how this remote control should

be appear to be more easy to use. I think uh I think the feature easy to use is more important than being fancy, but okay, we can discuss about it uh later. Um generally, generally uh this remote control uh uh should be should be something, in my opinion, uh the first feature is just to be easy to use. So, the more frequent buttons should be larger, they should be placed in a good position uh uh inside the remote control. And uh s uh I can conclude like this, that we shouldn't need to learn how to use it. It should be we shouldn't need to es open a a t book and uh start reading and uh learning how to use this uh this uh remote control. Okay. So what I found out that uh as I said uh I think it's better to put uh more frequent uh uh uh ke uh buttons which are used more in the middle of the remote control, and they should be bigger in size. Uh the shape of remote control should be in a way which can which should be taken easily in hand. It should not be completely like uh a cube. It should be it should have round edge, so uh then it's easier. And maybe uh just like some toys, some joystick which is easier to take inside the hand. And uh also f uh uh m because because customers doesn't like to buy lots of battery, it should not uh consume lots of energy. Okay. And my personal p uh preference is uh, as I said, uh just putting this buttons in a special places and covered some buttons which are not used uh that much like settings button, like mobile phone. Usually some mobile phone cover the dialling number part, so we can cover these buttons which are not used or uh number buttons for the for the for the can channels, and just put uh volume change or s ch can u

h channel change buttons uh uh in the remote control. And if the user needed to do some more complex task uh he he can open the cover and then change settings or something like this. Uh. And also uh I think if we put some some some some some buttons inside of the remote control it can be used easier. Not on remote control. I dunno if I can explain well. But uh just inside. For example, a sliding or rolling uh uh d uh stuff, if we put it inside then we can easily manipulate with uh thumb. So it can be another uh preference. And uh I dunno but uh I think usage of a speech recogn uh r recogniser can be good. I know that it consumes lots of energy, but if we do it in some way that it asleaps when there is no sound and when it detects some sound it may consume less energy. And I think it's good because it's something new and usually young people like something new. So it may not be very useful but because it's new, people may buy it. Uh I personally think there should be a big difference between uh between something. Otherwise they prefer to buy something which is coming from a famous company, or. Okay. That's mine. Mm-hmm. Well maybe it can have two shells, a hard shell inside and a spongy shell outside. Yeah yes. Mm. Uh. Yes. Maybe this. So but Mm-hmm. Yeah. Hmm. Mm. I think I think their being uh large or small is not important. The only important thing is to be able to take it in uh inside hand easily. So let's say an average size, okay, and it should not be very heavy also. And I prefer to is it shouldn't have a uniform shape, so in the middle it should be a little bit thinner, maybe maybe. So we c it's like like some joysticks. You can take uh some some joystick you can take inside hand easier because it's it's designed for your f uh taking into account your finger shape and your palm shape. So the general shape should be like this. I think uh seven centimetre by seven centimetre is a little bit large. So uh seven not seven but let's say five by ten it's I think it's that's my opinion. It's easier. Yeah. Mm-hmm. Mm. Or uh or I don't know but I don't want to now invent something new, because we didn't discuss about it. So using some L\_C\_D\_s we can touch, so we can remove uh keys and just uh having uh, I dunno the name, L\_C\_D\_ responding to fingers. Touching the screen. Something like Mm like tactile. So But for now if we don't want to use such kind of screens I I think we using a a smaller screen is better, because A smaller s Okay. I think this is not good. Mm. Mm. Okay. Yeah, I think infra-red. Yeah, peeling of the banana. Yeah. Mm. Yeah. Uh Mm-hmm. Yeah, some Something like a plastic cover covering uh some interface, U\_S\_B\_ interface as in the in uh digital camera. If you see it's

like peeling. You open a plastic cover and you see some U\_S\_B\_ interfaces, some some interfaces for adaptor. So keys can be uh buttons can be covered like this, with a plastic cover and uh when uh and when you open this cover it's like peeling a banana. So, something like this. Yeah, yeah, yeah it's a lic like a plastic cover, so. Mm-hmm. Yes, yeah it's a good idea. Magnetic. Mm. Yeah or a Yeah it can is it can be a plastic cover uh sticking to the to the all the stuff like uh with magnetic p uh magnetic uh magnetic uh materials in the border, so it's it sticks like refrigerator door, completely. And when you try to open it, it will be opened easily. So you you can be sure that it will not be open while you're uh while while uh you are commonly using uh buttons on the banana. Mm. Mm. Mm. Yes, I think. I think so. Mm. Mm-hmm. Mm. Mm. Thank you.



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# Meeting ID: 128

Data Source: Train

## Executive Summary

The project manager opened the meeting and then the marketing expert discussed user requirements. The marketing expert also found that younger users want an LCD display and a remote capable of speech recognition. The interface specialist discussed the interior workings of a remote and stated a preference for using radio waves over infra-red technology. The industrial designer discussed particular components that a remote could include. The project manager briefed the team on some new requirements and initiated a discussion in which the team discussed and decided on various features to include in the remote they will produce.

## Complete Meeting Transcript

Yeah, that's it. Well, okay, yeah. Yeah, but the user user interface is responsible. Okay, so. You're scaring me with L\_C\_D\_ man. And speech recognition in remote unit, it will be very expensive. Yeah. Yeah. At least we have couple of months to work on it so so it will be cheaper finally. Because you cancelled it. Yeah. Yep. You still want me the presentation. Yeah, it should be okay. Yeah f uh I know about this, since it's my it's exactly my field, so. It's uh kind of handshaking, uh, when starting to uh when you start to communicate with the your T\_V\_ then then it's like an handshaking protocol with your your remote. So so if two two devices are trying to go to communicate with the T\_V\_ set then the the the one which has the more energy in the wave is chosen. Well it can be a problem sometimes, but most of the time it works okay. Yeah but we we don't have to think uh about this because I think as a function designer that we will use the already made uh circuits which we probably buy. It's worth to buy. And they have these problems solved so. So we don't have to think about these. Yes. I have only a couple of things because I had I struggled a bit with the software that I'm supposed to use in this uh uh in this company. I was used to use Linux before, so. But I tried to tried to break through this too, I guess. Mm. Ah. Okay. How to make it big? Slide show. Okay, thanks. Okay. Oh so I will speak about working design. That's the first slide. Uh what uh I have to do? A look at what the other company Okay so uh presently I am looking what is possible to use, what circuits to use and stuff like that because uh I didn't work uh with these uh circuits so far so I have to look what what is available on the market for for the communication for the I\_R\_ circuits and so on, so I'm currently looking what is available on

the web. And uh I wanted to ask you maybe afterwards, after after our discussion, if we have some contacts in some companies, so, which can report on what is going on there, so, I would be glad if you can tell me about them. So, you know. Uh, okay findings, that's the point that I'm working on currently but uh so far I I was uh looking what what are the blue circuit, I mean radio wave radio frequency circuits are available now, but the prices I read are high. So, I know that uh the user interface people and these speak about radio frequency waves because you can you can uh you can make the T\_V\_ do what you want even if you are in the bathroom or so on, but you know, when you are not close to the T\_V\_ you probably won't need to to change the program and so on and so I am I am voting for s to stick to the um infra-red control instead of R\_W\_ but we will discuss it later maybe. Uh. Components to use, I'm not exactly sure what I will use for the design of the circuit. It depends uh on whether we will use the L\_C\_D\_ and mainly the speech recognition, because the speech rec Yeah? No no no no no. This we this we buy I think, because it's rather cheap nowadays and it's not worth to construct ourselves. Exactly. But I'm not sure about the circuit which is responsible for speech recognition. This I prefer that we should make ourselves. But it depends whether we take a decision to use it. Same thing. It's fairly expensive to use these circuits. So, speech recognition well, L\_C\_D\_ it's okay because it's common nowadays to use L\_C\_D\_, so I agree on using any kind of L\_C\_D\_, less buttons good for me as a as a designer of the circuit. But the speech recognition we have to compare whether the price and the what does it offer, you know. Yeah, I'm Oh. I was not thinking too much about the price. But if we use the L\_C\_D\_ uh even the radio frequency communication with the T\_V\_ set and the backlight and uh related things like the photo diodes and stuff, it should be okay. If we decide to use the speech recognition, then we probably could struggle but we'll see afterwards. It depends of you if if the M\_E\_ or U\_I\_D\_, I'm sorry

about the names, I don't really know, uh want to have it like in metal or in plastic, these things, it it depends on you not Because the the the electronic device's price is not not so big in comparison to the overall shape and stuff like that, so. We will discuss it afterwards. Oh, this is nothing. This is just my notes on what to use. And uh my personal preference is yes, I would like also preferably to use R\_W\_ circuit, but from the point of view uh of the design and price, I would stick to I\_R\_s. That's my opinion. Uh I mean if infra-red uh circuit not not the radio frequency. Because because the the range where you can use it is fair. It's okay I think. And the price is fairly cheap for this. Well, depends. Jus just the price. Otherwise I don't care what I put there because it's the chip which I buy or which we buy. So I I I think it's o y o. Well, three to three to five. N not ten times, but it depends what what we Yeah. Th they are used to use it when they can see the T\_V\_ so, I don't know. You the user interface, and management man, uh Uh okay, that's it for me. 'Kay. I agree. Okay, so the available things are L\_C\_D\_, the buttons and everything. Uh radio frequency depends. And, well the recognition it depends on you guys. You should probably speak. Okay. Uh just one note to the chan channel changing. Do we will we use only two buttons, or or like numbered buttons? I mean those nine plus one or two? Because it's many buttons and we were speaking about lowering the number. Okay so so we keep all these all these buttons. Like ten plus, five plus, one plus, one minus or something. Or using the names and the keyboard I dunno. You mean like hierarchical structure. Okay, so s Oh sorry. So it requires the use of L\_C\_D\_ probably, to to tell you Okay, so I'll make a note on L\_C\_D\_. Yeah. Like roller for the Yeah. Okay. So we are still s speaking about the common devices or we are inviting the new one? On the screen, you mean? Not on the control, but on the screen. Well, this would avoid L\_C\_D\_, then. Oh. W I I think it it would be better to to stick to the remote control and not to bother the T\_V\_ to to to print these things. Well it wi it will be still more expensive, but for the L\_C\_D\_ and this stuff is no problem in the

price. Two T\_V\_s. Like ma We we could have for example two buttons like simple mode and advanced mode. Or I dunno. Or like children and grandfather's mode, and the, well the the user not the user, the man mana T\_V\_ manager mode. Ah, I dunno. Uh. Yeah. Hide them, okay. Um. Yes. This I was thinking. Do we need a power button at all? Should should shouldn't we do it like sleep mode after five minutes of not using it? Because generally Yes. Well I I uh You don't need to every five minutes to keep it alive. Uh probably. Okay, so we should keep this button. Okay, so we we could p what we could probably do is to keep also to keep uh keep the L\_C\_D\_ and all the buttons and stuff, we could make it like a opening opening style that if you open it you are you just turn on the T\_V\_ and if you close it, it will turn off the T\_V\_. If if you like this, Because, well it's maybe question for you t Yeah. I mean like the Yeah but since we have the L\_C\_D\_, we didn't need too much button too many buttons. Um, okay, just um the decision of the power button. Should we make it a button, or some some something which would be Uh power button. If it if it's a button or Okay. Okay, one nice big button. Old fashioned button, to satisfy the grandmothers. Hmm. Mm. Do we still have the time? I I just wonder. Okay. Oh. Well what w what was the question? Yeah but since we want to control all the televisions, and and it would probably be worth to to set the timing on the remote, no? Because if if the T\_V\_ turns on itself, it well you know, if the time The timer should be there. Ah, yeah. Did you did you ever use the like the timing of turning on the T\_V\_, well And based on your Yeah but it can be on the display in in a corner all the time on

the remote. Yes yes. Yeah but we we should be careful about the battery life, then. If we use the speech recognition. Yeah. Okay. B you think uh I I'm User Interface Manager. Okay. Okay. If I could go there with this cable. Sh okay. Where's delete button? Okay. Oh I'm sorry. Okay. Oh. Presentation three? Oh. Okay, so here is my presentation about technical function design. I will talk about different components and s of system and how they react together. Okay, uh, first what is a remote control? Simply it's a device, as you know, for uh, for sending some commands by some waves to uh another device to to tell different commands uh with this device. And the main idea we don't use any cable and we can rec react simpler with the device. Uh i it has different blocks, different blocks. Uh first is remote control have sh ha should have some electric circuits uh making interface with uh keyboard and uh r reading uh keyboard and reading the keyboard uh commands. And then inter then make uh these keyboard commands, uh in interpret these int uh keyboard commands. And then there should be uh an electronic circuit making uh electronic signals according to these commands and uh finally there is a transmitter which is a cord or a a diode making uh making uh waves to transmit through the air and uh uh this air this uh wave uh will be received by the by the other device like a television or whatever, to uh r to realise the command. Okay, uh about what I found about uh different uh these different blocks are uh, usually there are two different methods uh to for designing a remote control. They are based on infra-red uh waves or uh uh radio waves. There are two different uh uh solutions I mean. This is uh this can be uh uh the the differences the th between different kind of waves, infra-red or radio waves. And uh also as uh I understood, and uh I think it was a part of uh Bob, uh uh presentation, people prefer to have uh to have uh the remote control with less button. So for the electronic part, working and interfacing, with button, we should we should try to t try to design a remote control having uh some some simpler buttons or some rolling buttons to just to just to search between different options, and showing o something on T\_V\_ and putting less lesser stuff on the uh on the remote control. And uh personal preferences, uh uh uh uh certainly a remote control with uh working with radio waves is uh preferred because uh you can pr you can take it in any direction and you don't need to tune it any way. And uh uh again, using bigger buttons and less number of buttons are also preferred, as I see. Okay.

That was my presentation. Uh-huh. Uh, I don't think so, because uh we can make uh we ca we can make this wave in a specific frequency. So they can be in a range which is not inter interfering with the with other devices inside the home. Uh no but as I know, there is a range for uh for this uh f for for uh for this stuff, for designing this circuit. We can we can we can tune our uh transmitter to work in this range, and for this range we don't need to ask any permission. Uh for this I'm not uh I I don't know the solution, but one solution can be something like putting uh p password or something inside the wave, so the only your T\_V\_ can understand it Yeah, identification code inside the The password may simply uh or uh i identification code may simply solve this problem. A specific uh remote control has a specific f Mm. Mm-hmm. Five. Mm-hmm. Mm. Mm. Mm. Yes. Yeah. Mm-hmm. Mm. Yeah. Yeah yeah, at least nine, ten button. Or Or something. Mm-hmm. Okay. Like categorising channels. Mm-hmm. Okay. Mm-hmm. Okay. So uh we don't have any uh we don't have uh we should just design the remote control and we sh we don't have any access to the to the T\_V\_ design or we can change some design. Because one solution for this um uh uh ch changing channels is to see a summary of all channels, some some preview of all channels and then you can Yeah. Yeah b Not on the

control, on the screen, on the T\_V\_ screen. And then Mm-hmm. Mm-hmm. Mm-hmm. Yeah. Mm. Mm-hmm. Mm-hmm. Mm. Settings. Yeah. Mm-hmm. Mm-hmm. Yeah, they can yeah they can be hide somewhere by a cover or something like this. Like covering cu. Yeah, like mobile phone covering. A button is better. Yeah. Mm. Clock or Yes. Mm. Mm. Yes. Mm. And uh do we need to include anything about the speech recognition and the speech commands, or? I I thin I think it will not take lots of place, we just need a microphone and the software, so, and it sh and it will be a little bit new and interesting, so people may be attracted to buy this stuff and it's not very difficult to uh put a software inside the the electronic device and put a microphone. It doesn't take that much place and also that much It doesn't cost that much. Mm-hmm. Thanks. Okay, can I have the laptop over here, or? Okay. Have to get up. Excuse me. Okay. Okay. Okay, so basically I'm gonna present some findings of a study we conducted uh into uh what users want in this remote control. Um so first of all we what we did is we um conducted a an experiment with a hundred test subjects. Um we put them in a in our um usability laboratory and got them to, you know, um play with remote controls, and also to complete, after they'd done that, to complete a questionnaire uh to tell us what they like and what they don't like in remote controls. So basically um the major things we found out was that um basically users don't like the look and feel of of most remote controls that are currently on the market. Um they, you know, seventy five percent of the people we we uh did the experiments on, found that rem remote the remote controls that they'd used in the past were ugly. Completely ugly. Um they they didn't match the operating behaviour of the user, that is, you know, the the way users use remote controls when they're watching T\_V\_. Um, that the layout of the remote controls didn't match they way that they used it. Um and thirdly they say that w half of the users that we um tested said that they only used ten percent of the buttons that uh are on remote controls. Um so we collect we also some collected some usage statistics uh based on how these test subjects were using their remote control. And from this we basically came up with the figure that the channel buttons, the channel selection buttons are the most by far the most used buttons on the remote control. Um and you can see they're used a hundred and sixty eight times per hour on average, um, while the user's watching T\_V\_. Um the closest button that was used, well the cl the button that was used that was closest to the channel button was the teletext button, um which was used fourteen times per hour, followed by the volume button, which was four times per hour, um, all the other, all the other um buttons, such as ch um audio and picture selection um configuration buttons and things were used, you know, I approx well less than or equal to one times per hour. Um we also asked users um which

buttons had the most importance to them, you know, which which buttons they felt were the most important buttons on on the remote control. And basically they came they said the channel, volume, and power buttons had the highest relevance to users, um note that only power was very infrequently used, it only had a b a a fr usage frequency of about one times per hour, but users ranked it as having a very very high relevance. Um and the audio and picture settings had a very that well the users thought that um w the audio and picture settings were very uh weren't very important to them um, and they used them very infrequently a as well. So we asked users what what um frustrates them the most about um current remote controls. And fifty percent of the users said that uh what frustrates them is losing the remote control um somewhere in the room and not being able to find it. Um they also said that it um it takes a lot of time to learn a new remote control, especia

lly when there's many buttons and it's a, you know, a c a a unintuitive interface. Um and then thirdly, they some users commented on the fact that the the you know the way that you have to hold and press buttons on a remote control ar are bad and um cause u repetitive strain injury. We also asked some users about some specific features that they'd like to see in the on the remote control. In particular, do they want an L\_C\_D\_ d display, and secondly, do they think speech recognition uh is a useful feature to have on a remote control. Um basically our findings are that um amongst a younger age groups uh the answer is umv overwhelmingly yes. They want these features, they want these high technology features. Um for instance, ninety one percent of pe of people aged between fifteen and twenty five said yes, they want these features. Whereas um the the trend was as users as users um became older and older uh they were less likely to want these sort of features in a um in a remote control. So I guess it depends on where we're focusing our our market. Um and as our company motto is putting fashion in electronics, um I think we're focusing on the younger younger um target demographic, and so maybe we should think about adding these sort of high technology features into our remote control. That's my dic that's my presentation. Thank you. Yeah, it's true, but, you know, they're features that users want, so it's And our production cost of twelve fifty Euros per per unit is fairly high I think, so I think we can afford to to add these sort of features into our remote. It is true. That's the wrong one, I think. Okay. I have a question. Do you think radio waves um will interfere with other appliances in the home? Okay. Okay. Okay. Mm-hmm. Are we um are we planning to take an off the shelf an O\_E\_M\_ component for the radio wave circuit, or are we planning to construct our own circuit board? Okay s So we just buy a circuit board and Okay. Okay. Okay. What how much more expensive? Are we talking three times more expensive? Or ten times more expensive? Or Okay. Yeah yeah. That's still a lot. I think it's it's probably not worth spending the extra money, because I mean all the other remote controls on the market have infra-red, so people don't expect anything other than infra-red. So it's not worth spending the extra money. Yeah. Yeah. But I think, based on my usability studies I th I feel that users are prioritise the look and the feel and the trendiness above, you know, the difference between infra-red or radio waves. So I think we're better off spending money in the usability phase. Okay. Mm. Well, should we start with just the core, the basic functions that we need. And then we can move on to the more advanced features. Okay, well, I mean the obvious one is changing channels. Yeah. Yeah, okay. Yeah, I Ah yeah. To have some feedback. Yeah. We could maybe also c um incorporate Petre's idea of the um slider for the volume, with the channel. So we c you could quickly just through many channels. For the channels, perhaps. So we've got channel and volume. Um. I think so. I think basically the core functions we want, and then more advanced ones. Yeah. I don't Oh, I don't but I don't think we're we're the ones. I mean this remote control we're developing is a generic control for all T\_V\_s, I think. Okay. But then you don't want to make the L\_C\_D\_ display too complicated at the same time. I mean there's always we can

always have these I less often used functions hidden somewhere, under a cover or at the back of under a slide or some Yeah. Yeah. Okay. So we have five minutes left. Um. So I think s the settings we th we are agreeing are agreed that they're required. It's just how to a Yeah. Okay. Yeah. Uh, okay, what else? I mean a power button's obviously uh required. Uh, well I think when they say power button they mean to turn the T\_V\_ on and off. But if you're watching T\_V\_ for two hours, you don't want your T\_V\_ to turn off after five five minute

I mean based on our usability studies again, um pe um people said that the power button was v a very relevant button. Um, you know, it was nine out of ten re relevance. Okay. B Okay. I think we need to concentrate on the, you know, the major usage of the th of the control, which is you sit down, you turn on your T\_V\_, you change channels, you change the volume, you turn the T\_V\_ off. Um and all the other f functionality is not used very often. Yeah. I think a button. I think it should be a bu Its own button on the front. Okay. S What about things like the clock and um timers? Uh um, you know, some func some features on the control to display a time, or t to display Probably not. It's a questi yeah, it's a trade-off. 'Kay. Okay simple. Very, yeah okay, very occasionally. But I do use the I do use the display of the time quite often, but Yeah. Yeah that's okay, that's true. Okay, so no time button. Okay. Okay, cool. Okay Thank you. So um nice to see you again. Uh. So, uh. Tod uh for this meeting I will take the notes and do the minutes. Uh so we will see our three presentations. Um we will start with the uh Manager Expert wi who will talk about uh user re requirements, whats user needs and what it desire for this devi device. Yep. Oh, I don't think so. I think you have to come here. I dunno. I think it should stay. Should stay in the square here. Oh, maybe. Oh, you can put it here. Oh that's okay, it's jus Hmm. Thank you. So, um maybe now we can talk about a user interface and uh about the technical function of this device. So uh Pet Peter, can you talk say something about that? No. Ah. Sorry, I'm Sorry. Sorry. Yeah, it's still Bob Morris. Yeah you should have put yes. Click on yes. yeah. So can we use any any frequency? We have the right to use any frequency? Okay. And what happen with uh radio waves when two neighbours have the same have our remote control, for example? And so do they have the same frequency, or? Okay. A kind of identification, okay. So Yeah. So Okay. Hmm. Okay. So, maybe you can talk about the function, and Open. Slide show. It should work, so you can. Mm. Yeah. Hmm. Yeah. Yeah. So what do you think would be the price, it would be out of range? Or it would be maybe feasible? Okay. Mm. Why? Because it's simpler? Yeah. Mm. Okay. It's a a price matter. Yeah. Mm. Okay. Hmm. Yeah. Yeah. Well I, oh On the other side, we want to have something new. You know, where we want to to have something new and So we I think we should still thinking about it. But maybe. Okay. Okay. Yeah. Okay, thank you Peter. So um I have to inform you I receive an email from the management bon board today and they have new requirements for the for the remote control. Um first um, they say that's uh about something about t teletext. Uh apparently it becomes from according to them it becomes out of date. Out-dated. And uh Because of the internet popularity and everybody has internet at home, and actually it's not useful to have teletext. Um. So I think we can avoid the teletext. Um the second thing is uh they suggest that that we should uh use the remote control only for T\_V\_, not for D\_V\_D\_ and other devices, because it make it it makes it's too complex and uh because we have not much time for this project we should stay on T\_V\_ on the only specific T\_V\_ remote control. The third the third one is uh about the the the image of the company. So um uh we should we should keep uh The the product should be recognisable. Uh, uh It's That mean we should use the colour of our company and maybe put somewhere the s the slogan of the company, which is uh, we put fashion of in electronics. So, when people see the the remote control, they should say oh it's from Real Reaction and he s they should recognise the company. So, um So now we we should take the decision what we are

going to what function we will have on this uh on this remote control. So, mm, are we going to use L\_C\_D\_, speech recognition? Uh. Yeah. Maybe, maybe. Yeah but first maybe what is what

are the usual function of a standard remote control? I mean what do Yeah. Yeah. I think we should stick on very useful functions, because we want less button. So, yeah. So, turning channel, of course. Volume setting. Yeah. I think it would be a b Yeah. On the other side we have more and more channels, and if you want to pass through all the channels to get the channel you want, it's Maybe maybe we could think of something more between, like uh Yeah. Maybe something like that. Uh. Maybe Oh I don't know. Oh. Maybe we could have key buttons, like uh discovery channel like documentary channel, and movies channel and And inside this this thing you can move, maybe switch. If you want to see a movie you click on the movie button so you have all the movie channels and after you've you plus plus plus. I It just an idea. I don't know what you think about that but. Yeah, probably, yeah, yeah. Okay. Anything else? Yeah. Yeah. What about the settings of the T\_V\_? Because it's button we don't use very often, but it's we need it anyway. So Yeah, yeah. I don't know if it's possible to to watch something on T\_V\_ Yeah. Yeah. So, what are we doing with the settings? Because settings if we want to do settings we need buttons for that and we want less buttons, so. Maybe with the L\_C\_D\_ we can do something with less buttons, but Mm. Yeah. Oh yeah. Oh, the. Yeah. Yeah. We should hide them somewhere. In the menus of the L\_C\_D\_ or in the back of the remote control, or something like that. It's it's a kind of setting, I think. It should fit in those settings functions. Because it's not a very current useful function. No, I think it's after after five minutes or something a timer I I think, no? Oh okay, yeah. Yeah. Yeah. Yeah. Yeah. So s yeah. Yeah. On the back, or For what? Ah oh yeah, yeah. Yeah a button, yeah I guess so. So, any other suggestions or functions? Yeah, we have still one or two minutes to talk, yeah. Usually it's already on T\_V\_ or something like that. Yeah. Yeah. Yeah. If we if we add the time, we have to have maybe a bigger display or something like that, and is it very useful? I mean, are users wants to have the time on the on the remote? This is the question. Is it useful? W In my opinion we should have only useful thing and Because apparently they want The simpler it's is better. No time on. I think Yeah. So maybe we think we can think more about that, and discuss that maybe last time next time. And uh yeah, now the meeting room is busy. Somebody booked the meeting room just for at one P\_M\_, and so we should leave. Uh. So, um. So now we are going for for a small lunch. It's uh funded by the company. And uh after we have uh thirteen minutes to to do indevel individual works. And uh I will do the minutes. And uh you are going to work on your individual works. And uh you will receive as usual your specific instruction and so on. Thank you everybody.

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# Meeting ID: 29

Data Source: Train

## Executive Summary

The project manager opened the meeting and introduced the project, describing what the project would involve, the role of each participant and the agenda for the first meeting. He demonstrated the equipment the group would be using, and the group practiced using the SMARTboard by drawing their favourite animals. The project manager then went over the project budget. The industrial designer gave a brief presentation about his role and his initial ideas for the project, suggesting that the remote should be used for multiple devices and that the group should consider using bluetooth rather than infrared. The project manager then asked the others about their initial ideas. The user interface designer agreed that the remote should control multiple devices. They also discussed having glow in the dark buttons, using bluetooth instead of infrared and using a display and/or a joystick instead of conventional buttons. However, they were unsure about what the budget would allow. The project manager suggested that the remote should be rechargeable or not use much power, but this might be difficult if using bluetooth. The project manager closed the meeting.

## Complete Meeting Transcript

Okay. Good morning. Okay. Um green. An animal. Okay. Um Uh a wee rabbit. Yeah. Yeah, I think I think they're right, yeah. Uh I think most most things have already been said, like uh control multiple devices. And uh, yeah, infrared might be an issue. Uh well, he said about n abo what he said about pointing. But uh lots of devices already use infrared. So we'll probably have to implement that. Yeah. Good morning, Mister P\_M\_. How are you today? How was your business trip to Boston? Is there a schedule for this meeting? I shall close the door. That's correct. Okay. Um is there any room for a little presentation? Uh maybe during the discussion uh section? Okay. Alright. I'm just uh guessing what should be my favourite animal. Well, I'll give it a try. Mm. Very good. I was very good in drawing. Well, I guess you uh get the idea. Beautiful. Yes, um I have some technical uh issues which I would like to present to you uh before we start the discussion, because uh there might be some uh influatons influences. Okay? Okay. Um first about my role, role of the Industrial Designer. I would like to think about uh the implementation of uh of things, and the technical possibilities and impossibilities. So if



someone of you comes up with uh ideas, uh I'll try to translate them in technical functions, but uh there might be some impossibilities. So that's one. Uh I also will propose some uh um uh some implementations for that, but well, these are quite the same. Sorry about that. Um and I also will remind people of some new technical possibilities which are available and which might be interesting to implement in our product. I have some uh initial ideas about some things um which are maybe nice to take with you in the upcoming uh discussion. One thing about uh interopera operability. Um I think a modern uh remote control should uh control a diverse subset of equipment. Uh for instance, uh D\_V\_D\_ players, cell phones, video and audio equipment. So one re uh one remote control for all your equipment. Well, there should be some interoperabi interoperability between them. I think it could come in handy. We should discuss that. Um and we should think about the way how these things uh should communicate with each other. We're not uh living in the uh nineteen eighties anymore, so infrared is not uh is not really uh hot uh technical stuff anymore. But you should uh think about the things like uh Bluetooth. Mm-hmm. But it's cost-effective. Yes. Mm-hmm. Well, not all, not all. So that's the point. So Maybe, but that's uh something we should discuss and uh about every everybody should think about it. So that's just my role, I'll just uh give you uh everybody some technical input, and I think now the time is to have a little discussion about what uh the product should be and how it should look, but take these things into account when you start the discussion. Yes, so one thing uh one remote control should uh control one or more uh pieces of equipment, and the way of communicating with these equipments. Okay. That's it. Yes, I think it should be something like that. We're not developing this product for a specific vendor, are we? No, we're just developing this product, and we want to sell it to a very broad uh public, so it should fit to every device. Yeah. Mm-hmm. And you you see uh the buttons as a as a means of doing this? Or are there any o other controls? Are there only any other cont Well, I've seen these remote controls with uh this little stick uh which you can move forward, sideways. You know these things. And um it's very easy for a user to to switch w yes, to to switch b uh between uh channels or uh change uh between tracks on a on a C\_D\_, on on a chapters, you know, on a D\_V\_D\_ player. So maybe that's an idea, I don't know. Mm-hmm. Okay. Mm-hmm. Uh is that uh are there restriction for the range, the operating range too? So when you're not able to point at the device um the range is very limited. Mm-hmm. Mm-hmm. Mm-hmm. Okay. Okay. Okay

. Do do you Um well yes, I had, uh about three minutes ago, but I've seem to forget them forgot them. Um oh yes, I remember. Um you said something about visibility in the dark. Um uh would it be nice for a user to have display on this uh remote control, on which you can see functions? Which makes it easier to operate it. I I don't know. Mm-hmm. Okay. Mm-hmm. Okay. Okay. Yes, but there's a cost limitation too. Well, that's more So that's a big problem, I think. I think the the financial part of this project uh implicates that it's not going to be a high high-end product. The cost price is very low. Um Okay. Very good point. Yeah. Okay. Mm-hmm. Okay. Okay. Hmm. It's use uh a lot of uh well Well, cell phones have uh integrated Bluetooth also and, well, it's it seems to work uh quite okay. So uh technically it will be possible. No, you cannot. Okay. Okay. G good morning. Oh yeah. Are you ready? You should put the laptop uh right into the square. For i for the cameras, yes. Good morning, Sebastian. I'm fine. Um well, actually I didn't go, didn't feel like it. So Do you want to open it as read-only. Um I guess I should close it here. Okay, the waiting is for our Marketing Expert, Ruud. Um project kick-off. Yes, there is actually. Um I will li list the agenda for today. For this meeting. Good morning, Ruud. Uh it's important um yeah, great. It's important that the laptops are um exactly on the square, um for the cameras. Okay. Okay. Um we're here to develop uh a new product. Um I'm sure you've had a mail from our account manager about it. Um and um this is the first meeting to to generate some uh uh some ideas about it.

Um you are here in a specific role. Uh Ruud is here as the Marketing Expert, Roo is here as the User Interface Designer and Sebastian is here uh in the role of Industrial Designer. Is that correct? Okay. Um we're going to do um uh uh a little tool training uh for the tools we are going to use uh during uh the meetings we are going to have here. Um then I will tell you a little bit about my idea of the project plan, uh and we will have a discussion. Uh this meeting should take no more than twenty five minutes, so we should keep that in mind. There is? Yeah, there is. No problem. Um okay, this new product we are are g are going to develop, um it's a remote control, a television remote control. Um and first of all it should be original, it should be trendy and user-friendly. Those are kind of easy um uh uh goals, um and I'm sure we can find more goals for the for the product we are going to develop. Um we will discuss uh later on more ideas about uh how the remote should look and how it sh it should function and all those kind of things. The market, we should have a look at the market. Um we are going to use a a pred a project method uh during uh this development, um which consists of three different design stages. Uh the functional design, the conceptual design and the detailed design, um all of these stages um um mean that we do some individual work, prepare, and then uh meet to discuss our uh uh the the the progressions, yes. Um the first stage, the functional design um we are going to search for the user requirements, and we will um make a specific uh specification of that. Um the second is the technical functional design, um what effect should the remote have? Well in this case control t the the television I think. Um and the last one is the working design. How exactly does it work in the technical sense. Um the other design stages, uh we will discuss that later. So we'll kop it keep it with the functional design. Okay, um before we think about remote control we will um work with some of the tools we have uh here. Um as you see now I can give a presentation. Um it's also possible to use this one as well. You can uh uh display pr uh two presentations if you want to. Um to um presentate, to show us uh a file you'll need to uh place it in your project documents folder, which is on your desktop, at least it should be. U

m then we have this electronic white-board system. Um yeah, I will show that now. Um you can draw on the board using this pen. There are little um uh sensors, so do not grab it here, but a lit more a little bit more to the uh to the end. Um well, it it's on the um eraser now, so we click the pen button. Okay, so not too fast writing. Um you can insert a new um slide or or white-board uh uh file um by either using the insert function or by clicking the next button or the blank button. It's quite the same. Um all our um whi um uh SMARTboard um notes should be kept in the same file. So do not m make a new file. Just use this one uh during the day. Um you can use the eraser to make something go away. Yes. Yeah. Yeah, in the meetings, only in the meetings. It's really like like a regu regular whiteboard. Um you can choose the format, um sorry. Uh Let me see. Um Well I guess it's maybe because I'm not s uh pen selected. Yep. Current colour, you can choose another colour. And um for example black, and you c I can choose the line width. Um so now I d have a different line width and uh colour. Okay. Quite easy, if you uh do have any questions, just c ask me. Um to um oh well, I'm I wrote down the documents uh should be in the project documents folder if you want to uh discuss it with us. Um as a little training um I will ask Ruud first to draw uh uh your own animal on a new slide uh with uh a different colour and a different line width than the one uh now selected. A rabbit. Okay, well great. Um Roo, could you do the same please? But a different animal with a different colour and a different line width. Sebastian is thinking about the animal. Okay. It it should be a cat. Okay? I'm guessing a horse. Yes, okay. Beautiful. Okay, so um you can use this at any time during the presentation if you want to. Um any questions well, just just let me know. Um okay, back to our project. Um the remote control we are going to develop um will have a selling price of about twenty five Euros. Uh the profit we are looking for for this product is

fifty million Euros, which is quite a number. Um we uh we will focus this internationally, so the product will be sold um, if there is market uh interest, uh in in more than one country. And um the production costs should not be more than uh twelve Euro fifty, so we should keep that in mind by uh w w during the development, um because uh, well, those are important numbers. Um then the discussion, maybe the time for Sebastian to show his presentation. Limitations. Okay. Okay, great. Yeah. Okay, so the the main por uh the main points you are uh telling us are focus on the inter uh operability, and Okay, and and uh Okay. Okay, good. Um that was your presentation? Okay, okay. Um okay. Great. Um I'll go back to my own presentation. Um Mm. Okay. Um I I do think it's time now to to discuss uh mm some things. Um Sebastian told us a few things about the technical implemen uh implications. Um there are other things like um how to make it trendy, which is I think uh um most uh Ru uh Ruud's uh role. Um the way how it should be controlled by the user, which is uh Roo uh r uh during this part. Um so let's start with you. H how do you think the remote should um function for the user? Yep. Okay, so we're we're going business to consumer, not we're we're it's not a No. No. Yeah. Uh Ruud, y do you agree? Okay. Okay. Yeah. So is that ease of use or uh is that more like um Okay. Uh-huh. Maybe not even pointed. Yeah. Okay Uh Okay, gentlemen, um uh just a reminder, we d we have five minutes left for this meeting um okay. Okay, s yeah. Yeah. Okay. Uh I'll write down glow in the dark. Is tha Okay. Okay, um uh I just want to hear uh Ruud's um input for this meeting. Um do you have anything already w um ab idea about how the market uh will respond to the such a product? Or what we should take um in account when developing such a product? Mm-hmm. Because? Mm-hmm. Okay. Okay. Okay, Sebastian, did you have any other ideas? Okay. Yeah, yeah,

okay, because because we wa we want to develop a trendy product. So Yeah, twelve Euro fifty, yeah. Okay. Okay, okay. Okay, um I ha I have one point f um which which comes in mind now. Um uh d I think the device should either be rechargeable very easily um or it should not consume too much um power. Because it's very annoying if you need to change the batteries every s uh uh every other week. So um maybe we could um for example uh only light the buttons that are um uh applicable at that moment or yeah. I dunno, it's uh that's more Sebastian's uh um Well does it? I'm not sure. Uh Yeah. Okay. Gentlemen, I'm afraid we do not have any more time. Um so we will go back to our own uh work. Um next meeting starts in thirty minutes and um, well, you know your o your individual actions or your personal coach will probably email you about th it. Um so this was it. See you in thirty minutes. Good morning, Flores. Marketing Expert. Right. For the cameras Alright. Geez. You have the same message of uh Windows cannot um sen oh stand-by. Close the the window. So That's right. Ruud. Mm-hmm. Mm-hmm. Alright. Okay. Progressions. It's for the vision. Yeah. Sensors. But we all use the same white-board file So we can work together on it while we're or should we only use it in the in the meetings? Yeah, okay. Yeah, alright. Yep. It's a bunny. But of course, Flores. Blank. Yeah, I'm think about it too. Format. Well, it looked more than a bunny than a cat, but it works, right? With a very small legs. You should feed that uh that animal. Okay. Okay. And for a cell phone? Yeah, okay. Yeah. But Yeah, but the infrared, it's uh, well, a little bit old-fashioned, if you would call it like that. But all the T\_V\_s are uh equipped with infrared, so y you you can Most of them. Or you shou sh use a you should equip infrared and Bluetooth together in one remote. Yeah. Mm-hmm. Well, I had a few uh things in mind. Um well, the interoperability, just like uh Sebastian said, um the remote should work on different T\_V\_s or even different uh um Yeah uh, what is it, devices? Um so i i I think it's a universal remote control for customers to buy just new in uh a store. It's not for uh for uh for uh Philips or whatever to buy our remote for their own product, right? Yeah, I do I don't know that. It's no I have uh don't have the information for it. No, okay. Yeah. Um Well, the techni fu technical function uh what you said is just by

pressing the button you should change the state of the T\_V\_. That's just the basic f technical function. So that was my really my part for uh this session. Um Well, that's just the fu the technical function is pure what should the remote control do, wh what is his task uh as an uh as an uh device. It just should change the T\_V\_'s state. So that's it. Um but furthermore Yeah. Yeah, with buttons. Yeah, or maybe you want a touch-screen or But Yeah. They're very vu vulnerable. Yeah. Yeah. And for other user interface I had um, well, it's more industrial thing. Uh point at a T\_V\_, I think it's it's quite disturbing when you always have to point directly to the T\_V\_, so you must point everywhere, so maybe infrared is Yeah, just don't even point it, so in that case infrared should uh maybe uh be restriction to that. Yeah, if you g if you go to radio or or yeah. For T\_V\_, you're always in in the neighbourhood of a T\_V\_, so I don't think think the range should be a problem to that, but if you want to uh get it working with a radio, and you're in outside your garden with just one uh speaker, then maybe the range should be uh But Yeah. Two more things. Um You should able to feel the buttons without uh it mis um you have to know what you do without looking at the buttons, so it should be as user interface um for feeling should be uh good to understand. You must feel the buttons for volume or whatever, I think. And of course you don't always know where all buttons are, so it should be visible al um in dark too. So when it's dark Those are two really uh user

interface Yeah. That's perfect. Yeah. Yeah. Well, maybe I um but it it can be quite simple, you can just have white buttons with a black mark on it. The uh the the digits in black. Uh then it's already visible in dark. So it it don't have to be a lightning or or a fancy well, it can be for design, of course. Just remind something. The digits of uh the the painting on the buttons should not fade. You have a m uh Always have s the soft buttons, always uh clear the the the paint on it. The marks. Yeah. But um Necessary, yeah. Yeah. But then Bluetooth uh might be problem. 'Cause I think Bluetooth uh Yeah, I know it from the cell phone. But you can't you can't use Bluetooth all the time, twenty four hours a day. Does it It's over? Okay. Great.

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# Meeting ID: 84

Data Source: Train

## Executive Summary

just to try and roughly go over what we agreed in the last one , um Um something that looks good 'cause that seems to be in preference to actual functionality in the end , Uh many of our components are gonna be standard , off the shelf , but it seemed like we were gonna require at least an advanced chip and we were still very much for the idea of using an L\_C\_D\_ display . Um other things were we were hoping to use rubber , most likely gonna be double curved , etcetera . due to your hard work , we might as well let the uh two designers go first , and uh show us the prototype . Quite how the best way to do this is , I'm not sure , I think if we both step up and uh outline our ideas . do uh doing the prototype gave us a bit more insight into the ergonomics of the design . Um for one thing , it turned out that the only point at which it needs to be articulated for handedness is um is h i is down here for the uh L\_E\_D\_ . As it turned out , the whole thing transfers from the right to left hand fairly well from the point of view of operating the uh function buttons and joystick , You could simply have a slightly ovoid shaped joystick that could then just be turn uh twisted round , But as you as you see with the uh with holding it in the left hand , the L\_ uh the L\_C\_D\_ is nowhere useful , so that would need to be articulated uh if we're going to retain ergonomic design . this design could be done with um with uh plastic casing . Though I would recommend around the grip part here in the middle , having maybe just a rubber grip over that which would allow for a slightly more sort of bio-morphic form , and a bit more ergonomic as well . I I got your note about uh keeping the cost down . As for the um as for the single curve , um well this edge and this edge , like I say it would be nice to have some curvature to it , Really the curve that's most needed is the underside Um and you have the uh transmitter here and a wee speaker for the uh for the uh for the uh fi uh for the remote control finder . Um obviously it's gonna be bulkier than how it looks , And it's plastic as well , so it won't be as comfortable on the hand . if we could if we could still do the rubber , I though of was to have the uh rubber extend beyond the end of the uh of the rigid substructure . So it has a wee sort of tail that you just drape over your wrist Basic point uh have a list of criteria that we need to rate the prototype by . it's a seven s um seven seven step kinda evaluation process . seven scale . after we've finished doing all the ratings for each criteria , we average that And uh the criteria based on Real Reactions' kinda goals and policies , marketing strategies , and also those I put together from the user requirements phase . those are the criteria . And uh perhaps I could have put 'em a bit better , but you notice a few things that we've totally abandoned , which means that uh the product will

score very badly on some of those points . we have to go through each point . and just give it a score . uh how well have we realised the dream of being able to stop remotes from from being lost , or to be able to find them once they are lost . I mean , uh is the homing thing still the locator , is that still Yeah , that's still part of the design . I mean I don't think anybody could actually stop a remote being lost , Mm . And making it a bright colour helps we still have that noise thing , on a scale of one to seven , how would you guys rate it for finding finding it once it's lost ? I'd say number one . just before we go through all of the steps here , um well what we'll do is um if we can look at the criteria you're gonna evaluate , and then we'll come back to the product evaluation is there anything here that you that you wanted to cover as in the criteria that you've covered ? is that Real Reactions has a a goal strategy that all of the products be inspired by material fashion , and clothing fashion . Something I neglected from my initial research That is why fruit and veg being popular in the home and in clothing was important And then we'll come back pretty much promptly to this . And uh this bit is this one easy to use for visitors or for anybody ? I guess it's just the same as saying easy to use interface , And we can come back to it , you said . Slight problem we had was that we have an amazing four Euros over budget for what we were hoping to do . Um most of it stems from the use of the L\_C\_D\_ which I think in the end accounted for about half of our expenditure Um the only way to get this down was either to ditch the a L\_C\_D\_ , at which point we've removed a large part of how we were gonna interface , Or what we did was that we um we as in I as I was quickly going over it was altering the actual structure . Um changing it to plastic and a solid unit with a single curve design would allow us to come back into the um proposed costs we've got point two of a Euro left over there . Even then as well , um there was no criteria technically defined for a joystick so I've used what I think's appropriate . It blows a lot of our really good ideas kind of slightly to one side , for example the possibility of having a U\_S\_B\_ connection is definitely not viable now . Um . We've got an advanced chip , we've got the use of the L\_C\_D\_ . I really think as much as it pains me is that we might have to go with plastic and some kind of solid design , possibly meaning that the L\_C\_D\_ wouldn't be in this perfect place . Mm-hmm I suppose o one thing that could be done is h is have it um circular Do you have any data on how much um different prints cost ? I mean can you get the entire thing printed with a design um ? You now have as much information as I do . Um . I've said single curved . We really do need it to be that way for the ergonomics of it . Um plastic for some reason incurs no cost , if I've read this thing correctly , then we can save point five of a Euro here in that it's not per push button . As you can see , the use of an L\_C\_ display um advanced chip and what would determine the scroll wheel here as well because it's an integrated scroll scroll wheel push button that wasn't quite what I think they had in mind with a joystick . I'm very much open to suggestions of where we go , this one comes in under price as you can see , but this was the one that sacrificed the material for the case and for the actual case design . uh what about speakers and transmitters and stuff like that ? Have we factored that in ? Uh no , we haven't , not Transmitter , receiver , speakers . Plus the extra device itself that's gonna be on a T\_V\_ . That's too expensive Mm . I think if we remove the the L\_C\_ display then there was absolutely no point to any of these meetings If we remove the L\_C\_ display , we could save ourselves If we could've increased the price we could've manufactured that and we could've got something far closer to what we were hoping to . Um but for the purposes of this meeting , I'm we're gonna have to stick with these figures . I would say that it would seem like the general opinion is we're gonna keep the L\_C\_ display are people maybe not happy with , but are willing to go

ahead with this in going for a plastic solid case , to keep the L\_C\_D\_ ? I mean ho uh how much extra would it be to keep I mean keep the um the articulation ? Um I would say that you're at least gonna take double curved , it can still be single curved , Could we could we not get rid of the curvy the curvuous the curvaceousness and focus on the menu being the best interface ? so I mean for the purposes of this meeting maybe we can state that single curve still allows articulation . Sample speaker ? What is a sample speaker ? that's that voice response thing that we got the email about . But I thought it was just completely pointless . B i basically it was saying that our labs had come up with a chip and it would say hello back in a friendly female voice . it looks like we're gonna get rid of the whole loca locator thing . One point five of a Euro for one push button doesn't sound quite right . I let's say that and then we can have our special coloured case I quite like that colour that you're fetching there , Yellow . make it glow in the dark even better . we'll come back to uh your evaluation Just to give you an idea , um you want to go maybe a bit quickly as well , Ability to stop remotes from being lost or to find them once they are lost . Three . I think we can do three . Reduce the number of unused buttons . I'd say we're doing well there . Easy to use interface , buttons menu , menus we're not doing so badly . Um easy to use let's forget that one . Fancy looking . It doesn't get much fancier . Technologically innovative . we're getting rid of the locator thing Mm . I'd give it a three for this for that . I mean the menus thing is something you don't normally see on um on a remote , Materials that people find pleasing . Sponginess is what they really would have wanted , apparently . Plastic , it sucks . Mm-hmm . I'd s I I'd give it a six , to be honest . that's totally thrown everything off balance . Inspired by the latest interior and clothing fashion . I I I would sa I would say give a s give a selection of colours . Um we went with yellow we went with yellow for the prototype Leopard print would be cool . But um by this I think it's more a case of fruit and veg , It would also help keep the the product placement Is this like a banana type colour ? it's not shaped like a banana is I I think s I I think this isn't not particularly fruit and veggie . Um . I mean it's probably more fruit and veg than most other things out there bar fruit and veg , Mm . I'd I'd I don't think fruit and veg is the sole criterion . Is the sole criterion for being um fashion fashionable or inspired by current fashions . and we can make it yellow , and that's pretty much banana like . Yeah , I'll go with five . we have one , two , three , four , five , six , seven . So five , seven , ten , sixteen , twenty one . Which gives us an average of three . it's it's not bad . considering the price we had to get this in , to have a positive you know , even based on the four of us being heavily biased , um are people really gonna shell out twenty five Euros for something that's only marginally good ? which which kind of people would be more likely to buy it ? Probably the people technologically . I think if sh if my mum saw a remote control like this with only two buttons and a joystick , I mean that'll probably be the first one she decides not to buy , I think it's totally uh radical to have a remote control with no no numbered buttons , Um quickly we'll pop onto project evaluation . Um . we've got these uh four criteria here for uh satisfaction . Does anybody want to um um do you have any opinions on any of them ? Um people made good use of the uh pen and paper ? I'm not quite sure what the advantage for us using a digital pen might be . I think this is a I think the digital pen's mostly for the benefit of the uh of the researchers studying this . Though it would have been nice to be able to transfer the um transfer our n our paper notes onto the uh computer ourselves . How are people satisfied with the teamwork we've managed to display today ? Good . yeah I liked it , Leadership . As much as can be leadered in this uh thing . Very good . Um last one we've got is room for creativity . Unti uh uh until uh until accounts came along ,

We're burs bursting with creativity . We we're not lacking in ideas , Not so much that we weren't full of ideas , but of ones that are gonna allow us to actually build the thing . I think of in the end , ideas that can be used sadly . I think we needed a larger budget . Mm . I mean I th I mean I think to r retaining the s the more sort of bio-morphic form in the articulation would gain more in s uh would gain more profit in sales than it would lose in uh I I think it's gone okay today , considering the information that we've had at our disposal , and um such . Maybe the counts wou woulda been better if we had a list or more Yeah , to begin with . It is very much a pity to um get so far into the stage and then find out that maybe some of your ideas are just a bit too expensive . I mean something that could perhaps be part of the product mm the um m product testing market research process would be to uh produce mock-ups of both versions and see just how much of a difference the over going over-budget um m would make to sales . is there anything else that anybody would like to to add , um before I quickly write up a final report . we think we can maybe stick onto the the market and sell . but we've got something unless anybody's got anything they'd like to add , we can maybe round this up slightly earlier than we'd need to and then we can finish up the writing and such . I was actually kind of upset you know at the budget , and that we had to cut a lot of stuff .

## Complete Meeting Transcript

Um obviously it's gonna be bulkier than how it looks, because it's gonna be flat on one side, so the L\_C\_D\_ will be s sticking down like this, won't it? 'Cause it you can't get it curved. Uh because of costs. And it's plastic as well, so it won't be as comfortable on the hand. Yeah,. One. Yeah. What about what if the the volume on the T\_V\_'s turned up massively and uh you just wanna turn down the volume can't find remote. Suppose you have to go to the T\_V\_ and do it manually. Mm. Like y you wouldn't hear the speaker. Mm. That's too expensive isn't it? Yeah. Fashion. So basically the only new thing is the L\_C\_D\_ on the remote now. Oh, and joystick, yeah. So The L\_C\_D\_ basically is the big selling point of the remote. But that's what makes it uh original though, isn't it? It can be s yeah, it can still be single curved, but You just. That's what we need for the joystick I think though. Costs four. Yeah. Are we going for a special colour at all? Well I was for a case. Or had you already incorporated that? Think it's ten minutes left. Special colour. Three. Are we going one on? I'd say we go two, 'cause like f the fanciest would be the double curved. Wouldn't it? With the articulators. With bells on it. No need for teletext. five? Six? Six,. Put a leopard print on it. Yeah we gotta. I'd say the colour of the border there world you'd find that, that's that'd stand out. Logo, brand. Mm 'kay. Yellow courgette. Well this this what we're gonna t this is their motto, like. And we're we're not doing well on it. Yeah, I'll go with five. 'S bad design, that thing. Mm, yeah. Well, it depends who your who's what the target people are, like you'd say maybe the fashion conscious women would be going, oh look at that, 's cool, it looks like a it's yellow, looks like a banana, it's cool it's gotta look good in the sitting room. Rather than the L\_C\_D\_ whereas uh more technical like like more uh people in with the latest technology it's good, it's got an L\_C\_D\_ screen 's only got two buttons and a joystick. So, which which kind of people would be more likely to buy it?. Yeah. Yeah. Yeah. Good. Very good. We're burs bursting with creativity. And the price was like it was twice the w assembly cost. And would it have to be twice that? It could be like coulda had the assembly like maybe fifteen Euro. We'll still settle for twenty five. Maybe. In the beginning, yeah. That



should hopefully do the trick, um. 'Kay. Sorry about the small delay. Falling a little bit behind schedule. And that's uh fifteen twenty five. Okay. So just to try and roughly go over what we agreed in the last one, um we're gonna go for something uh uh how was it? Uh The new black, I believe. Um something that looks good 'cause that seems to be in preference to actual functionality in the end, though we should never avoid functionality, of course. Uh many of our components are gonna be standard, off the shelf, but it seemed like we were gonna require at least an advanced chip and we were still very much for the idea of using an L\_C\_D\_ display. Um other things were we were hoping to use rubber, most likely gonna be double curved, etcetera. Okay. So um due to your hard work, we might as well let the uh two designers go first, and uh show us the prototype. Quite how the best way to do this is, I'm not sure, but Okay. I'm afraid yeah. We'll go into that a bit more, but please go on. Mm. Okay, yeah. Great. Um. Yeah, okay. Excellent work. Um. Yeah, I believe so. So I mean I don't think anybody could actually stop a remote being lost, 'cause that would mean doing something about the human element, but I'd like to think that we've done something about finding the damn thing once we have. Mm. Um just before we go through all of the steps here, um well what we'll do is um if we can look at the criteria you're gonna evaluate, and then we'll come back to the product evaluation if that's alright. Yeah, is that Um so is there anything here that you that you wanted to cover as in the criteria that

you've covered? And then we'll come back pretty much promptly to this. I is there any of these criteria that need any explaining? Or is there anything that you thought that really would stand out compared to the others? Okay. Okay. No and which we will do very very shortly. Um. Okay. Slight problem we had was that we have an amazing four Euros over budget for what we were hoping to do. Um most of it stems from the use of the L\_C\_D\_ which I think in the end accounted for about half of our expenditure because of course we required a chip as well. Um the only way to get this down was either to ditch the a L\_C\_D\_, at which point we've removed a large part of how we were gonna interface, require more buttons, etcetera. Or what we did was that we um we as in I as I was quickly going over it was altering the actual structure. Um changing it to plastic and a solid unit with a single curve design would allow us to come back into the um proposed costs and we're just scraping it in, we've got point two of a Euro left over there. So we're just managing it really. Even then as well, um there was no criteria technically defined for a joystick so I've used what I think's appropriate. With any luck that won't mean that we've incurred more cost than we can actually afford to. It blows a lot of our really good ideas kind of slightly to one side, for example the possibility of having a U\_S\_B\_ connection is definitely not viable now. Um. That should still be viable. We've got an advanced chip, we've got the use of the L\_C\_D\_. So being able to communicate in multiple languages is still very much a possibility. Um but what's something we need to decide on is how we're gonna go from here. We do need to try and come up with an idea which could be continued with other people if need be. Um. We can I can bring the excel up sheet up and uh show you if you wish um. I really think as much as it pains me is that we might have to go with plastic and some kind of solid design, possibly meaning that the L\_C\_D\_ wouldn't be in this perfect place. It might be stuck like slightly between what would be good for left handed and what would be good for a right handed person. Okay. It very much is about making concessions, unfortunately. Um. Um b b b da is you mean on the plastic, or? Let's have a look. You now have as much information as I do. Um. So as you can see here, for example, the battery really not very little choice in that one. We've gone for one of the cheaper options as well. Unfortunately we require the advanced chip if we're gonna do what we're needing to. I've said single curved. We really do need it to be that way for the ergonomics of it. Um plastic for some reason incurs no cost, which I've had to very much make advantage of, despite the fact that rubber's only got a value of two Euros per unit. Problem comes here as you can see in the

interface. Um if I've read this thing correctly, then we can save point five of a Euro here in that it's not per push button. That might make sense, because then a numeric keypad would come in at um what, four point five Euros, which is an awful lot, so that could well be wrong. Even if we save point five there, it would just mean that we're most likely placing it in actually just gaining a colour for the unit, which has had to be put to one side. As you can see, the use of an L\_C\_ display um advanced chip and what would determine the scroll wheel here as well because it's an integrated scroll scroll wheel push button that wasn't quite what I think they had in mind with a joystick. I that's something you'll have to take up with the bean counters. Um as you can see I mean that's taken up well over half of the price. So um I'm very much open to suggestions of where we go, but because we need to shed what was four Euros off of the um the price of for what we really desired, this one comes in under price as you can see, but this was the one that sacrificed the material for the case and for the actual case design. Uh n

o, we haven't, not That'll it literally would just be a button. We might have to It looks like almost nothing Mm. Oh good call, I missed that. that's a very valid point. So if we're gonna go with the L\_C\_ display, then that's I believe so, yeah. That would probably not be in keeping with the um the fashion statement and such, yeah. Being manipulated by the joystick, yeah. Which I'm defining as scroll wheel. Um. Yeah it's just because there was no actual definition for what a joystick might be, that that's what I've labelled it for the purposes of this evaluation. If we remove the L\_C\_ display, we could save ourselves a fair amount. Which you could It's a shame. We should possibly have If we could've increased the price we could've manufactured that and we could've got something far closer to what we were hoping to. Again, you'll have to argue with the accountants on that one. Um but for the purposes of this meeting, I'm we're gonna have to stick with these figures. So, I would say that it would seem like the general opinion is we're gonna keep the L\_C\_ display 'cause it's about what really separates us, despite the cost it's gonna incur. Um are people maybe not happy with, but are willing to go ahead with this in going for a plastic solid case, to keep the L\_C\_D\_? It's hard to tell. Um I would say that you're at least gonna take double curved, and even then I'm not quite sure if that's incorporating the idea of articulation. Single curved with articulation? But the curves all o over hand, is it? We wouldn't actually save a lot by reducing it anyway, so I mean for the purposes of this meeting maybe we can state that single curve still allows articulation. Um unless we hear otherwise we could go ahead with that proposal. Which is what we can get onto now. As long as so are we gonna say w we have to keep an eye on the time as well, but we're gonna say um single curved design It could well be, but at a cost of Okay, yeah we'll definitely won't go with that one. Yeah, that's voice recognition, so. Um. So, okay yeah, battery definitely, It looks like it unless we can manage to put it in under point two Euros, um. Maybe even slight well oh yeah, pretty much point two Euros, I'd say. So we'll leave that one for now. we'll just have It's uh a case of um I'm uh slightly unsure. One point five of a Euro for one push button doesn't sound quite right. So maybe it's a case of a push button is maybe one or more. Um. At which point if Well you got point five there. It's literally a case of whether or not this is correct. I'm not quite sure if they're I don't think they mean point five Euros per button. So There we go. Black's probably the normal colour you'd say, yeah. I quite like that colour that you're fetching there, it's uh definitely for make it glow in the dark even better. So will we go with that then? It's not and we can see we'll come back to uh your evaluation which you're probably now going to pan us but there we go. Just to give you an idea, um you want to go maybe a bit quickly as well, I'm not sure how much time. We've not hit the five minute mark warning yet, but. Ten. Mm mm four? Three? Mm. Okay. Two buttons. Yeah. I'd say we're doing well there. Mm-hmm. As he models the I'd Yeah. Which is a shame. Mm. I'd be tempted with three, yeah. We'll get panned on the next one, anyway. Yeah, w It is, yeah. Don't blame them. Um because of the way that

we've minimalised the number of buttons and such. Plastic, it sucks. But it's no worse than any of the other pl remote controls we have. Like yellow, yeah. It would also help keep the the product placement s yeah. Is it inspired by clothing fashion? Yes. It's kind o it probably Well I mean it's probably more fruit and veg than most other things out there bar fruit and veg, so, what, four? Is that being too generous? Oh dear,. What would you think yourself? Well, it's kind of curved and we can make it yellow, and that's pretty much banana like. Si it's got a curve to it. Am I do you think I

'm stretching the uh the use of the banana? It's not bad and considering the don't pick the pen. Um. Y oh and you've knocked batteries out. Um right okay it's considering the price we had to get this in, to have a positive you know, even based on the four of us being heavily biased, um it was gonna be quite hard to get anything standing out I'd say possibly, based on um the the cost features. Maybe it's been targeted Hide it in the fruit basket. Probably the people technologically. They're usually the ones that buy pointless stuff. Mm-hmm. Okay. Um don't know how lo much longer we've got. At least five minutes I think. Um quickly we'll pop onto project evaluation. Um. So, we've got these uh four criteria here for uh satisfaction. Does anybody want to um um do you have any opinions on any of them? For example um we'll work backwards I suppose. The ability to work on this project using the technology we've been presented with. Um people made good use of the uh pen and paper? I would say I'm not quite sure what the advantage for us using a digital pen might be. Mm. It must It does seem like the paper's still a heavy consideration for taking notes. So maybe this is literally just a way around it. Um I dunno. How are people satisfied with the teamwork we've managed to display today? Leadership. As much as can be leadered in this uh thing. Um last one we've got is room for creativity. Now, I think we got Yeah I think of in the end, ideas that can be used sadly. Not so much that we weren't full of ideas, but of ones that are gonna allow us to actually build the thing. It's a bit of a pity. Um I would have to agree on that. I think we needed a larger budget. If you're going to aim your a um product maybe at the technological kind of sector, then you can afford to maybe jack the price up slightly from what it is. Because they will pay outrageous cash to first on the market. Mm. It could even That's true, yeah. Um I suppose these are all that will have to be taken up with a at a different group at I guess. As to a the costs involved. But I mean we've got a a prototype. So I dunno, I I think it's gone okay today, considering the information that we've had at our disposal, and um such. Probably would have mean we could have come up with a lot more solid design in the end, I would have to agree. It is very much a pity to um get so far into the stage and then find out that maybe some of your ideas are just a bit too expensive. Always hard to tell until you know the costs. Um. Okay. Are the costs within budget? Well, they are now that we have our slightly less than capable product. We've evaluated it, and we can say that we came out with a value of three. It's yeah? And then the final one where you get to call it Hal. But we'll go into that later. Right um is there anything else that anybody would like to to add, um anything they think that's not been covered, before I quickly write up a final report. Um I dunno, I mean we've got a product. We maybe aren't as happy with it as we'd like to be, but we've got something we think we can maybe stick onto the the market and sell. And of course something we have been avoiding talking about 'cause of we've no information is selling them directly to the manufacturers. There is a huge market. I mean we've briefly touched on it but we've no more knowledge then there's little we can say on that. Yeah. So um unless anybody's got anything they'd like to add, we can maybe round this up slightly earlier than we'd need to and then we can finish up the writing and such. Yeah? Uh thank you for your participation. That a question we can ask. . Right. Yeah I've got a if you load up my evaluation document. Mm. Uh evaluation. Basic point uh have a list of criteria that we need to rate the prototype by. Um then we will it's a seven s um seven seven step kinda evaluation process. So um not seven steps, seven scale. So

after we've finished doing all the ratings for each criteria, we average that and that will give us

some type of uh confidence in our prototype. And uh the criteria based on Real Reactions' kinda goals and policies, marketing strategies, and also those I put together from the user requirements phase.

'Kay. Um if you flip the So, those are the criteria. And uh perhaps I could have put 'em a bit better, but you notice a few things that we've totally abandoned, which means that uh the product will score very badly on some of those points. Put it mildly. So we have um true? One, t Seven, eight, oh. Fourth. Okay, so we have to go through each point. If we imagine it's actually straight, and just give it a score. So um how well would you say the prototype is uh how well have we realised the dream of being able to stop remotes from from being lost, or to be able to find them once they are lost. I mean, uh is the homing thing still the locator, is that still Sure. And Adam, we can keep that in? Okay. Sure. T Sure. Mm. Bright colour. So we still have that noise thing, yeah? Os on a scale of one to seven, how would you guys rate it for finding finding it once it's lost? Number one? Okay. Number number one for the first criteria. Yeah you can tell what room the mobile is Yeah. Yeah. Mm-hmm. You wanna say something? That's fine. Oh that's that's fine. What do you mean cr is there anything I wanna Um, a few. Something I neglected from my initial research is that Real Reactions has a a goal strategy that all of the products be inspired by material fashion, and clothing fashion. That is why fruit and veg being popular in the home and in clothing was important and they want all their products to be somehow inspired by current trends in fashion. So they say we put the fashion in electronics, well they really mean it they they're very big on fashion, so. That's this bit right here. And uh this bit is this one easy to use for visitors or for anybody? I guess it's just the same as saying easy to use interface, so it's kinda condensed into one. And we can come back to it, you said. So. Different languages? Yeah. Mm. Do you have any data on how much um different prints cost? I mean can you get the entire thing printed with a design um?. Yeah, yeah. Why would why would that be more expensive than an individual push button and scroll wheel together? That's quite significantly expensive.. Yeah. We don't even have uh speakers here. The like uh we uh what about speakers and transmitters and stuff like that? Have we factored that in? Transmitter, receiver, speakers. Plus the extra device itself that's gonna be on a T\_V\_. Is that gonna be a button, or Yeah. I I mean it's not on here, but um. Did they s do we have to use an advanced chip for the L\_C\_D\_? Okay. Well that's yeah. What's a hand dyna dynamo? You have to wind it up? Technology. Yeah. Okay. And we couldn't replace the joystick, right? Because we would need four extra buttons to replace it, up down left and right, and that would be more expensive than a but is a scroll wheel not just back and forward? Yeah. Yeah. Yeah. Um. Uh k Does this does this bear in mind that I mean it's a bit ridiculous that they're gonna charge us what is it, like this much money for three million if we're gonna buy three million components, you know. Mm. 'Kay. I think so. Yeah. Could we could we not get rid of the curvy the curvuous the curvaceousness and focus on the menu being the best interface? 'Cause like we do we have re restrictions on software? Oh but there has to be joystick. Okay. Sure. Okay, my bad. So I think the product is not gonna perform so well for my criteria. Oh, wait a minute. Sample speaker? What is a sample speaker? Is that somewhat similar to what we want? Yeah. You got a email about voice response? I did not, so. We won't go with that one, did you say? I mean I we Okay, okay. So it looks like we're gonna get rid of the whole loca locator thing. Okay. Okay. Oh, special colour for the case. Mm-hmm. W what's the default colour? White or black? Right. Yeah. Yeah. Sure. Okay. Okay. So uh Right okay.

Okay. 'Kay. Ability to stop remotes from being lost or to find them once they are lost. Um. Okay. Special colour. Uh uh four. Three if we're being generous, I feel. Think we're being generous here with three. Mm. Yeah. Okay. Reduce the number of unused buttons. We're down to t two buttons, is it? Okay, so

that's a one. You know, where that's Okay, that was good. Easy to use interface, buttons menu, menus that's yeah that's good. 'Kay that's we're not doing so badly. Um easy to use oh okay, let's forget that one. Fancy looking. Sure. And we could do whatever we like with the L\_L\_C\_D\_. Yeah let's just assume it's a good L\_C\_D\_ display. Maybe I was panicking for no reason. Yeah, w maybe you'd be a bit too yeah. There we go. Yeah, that's m that's that's better too. More accurate numbers. Technologically innovative. Well, we're getting rid of the locator thing which which yeah. 'Kay. Yeah, mobile phones. And y what you're doing is moving the menu from the television to the remote control, so it's You say three? I might go as far as two on that. Three. Three. Okay. Okay. Materials that people find pleasing. Sponginess is what they really would have wanted, apparently. Yeah. That's true. It's not a step backwards. Yeah, okay let's give it a six. Okay, that's totally thrown everything off balance. Inspired by the latest interior and clothing fashion. W we could. What colour were we gonna make it? I know, but But um by this I think it's more a case of fruit and veg, Yeah. Mm. But Th th they're referring to the fruit and veg thing. Is this like a banana type colour? Could we stretch no still, it's not shaped like a banana is Oh is that 'cause it's flat? What is what fruit or veg is flat? Yeah. Or we might have to suffer badly for this one as well. Four? Oh that's it's very ambitious, yeah, um. Sure. Inspired by. Yeah. This is their strategy. I m imagine we actually had some money invested in this and the amount that we invest is gonna be proportional to the marks. Might we might wanna be a bit more skepible sceptical about this one. I would say I mean it's it's not at all, right? In any way or shape or form. We didn't m Okay, the the yellow banana like thing is I think is okay. Right five. Is that sound reasonable? Five. Yeah. 'Kay, so we have one, two, three, four, five, six, seven. So five, seven, ten, sixteen, twenty one. Which gives us an average of three. It's well this would be in the middle. So we it's it's not bad. It's in the good section. Oops. Sorry. I'm I'm sorry. Mm-hmm. Yeah. Even if we were to increase this entire thing by by seven, we were to go down a grade to to four, we would have to do I mean we didn't we weren't that kinda optimistic too optim overly optimistic. You know like we didn't we didn't add we didn't subtract a whole seven points from these things, so I think we're definitely on the good bit. Even if we gave this one seven and this one seven, that's still only three extra points over seven. You know, it's yeah, we did it w it was okay. It was good. Mm-hmm. I think so. I mean my mum still has not learnt how to use text messaging on her phone, and she's had it for a long time, you know. She uses it to make phone calls and that's it. Yeah. So I think if sh if my mum saw a remote control like this with only two buttons and a joystick, I mean that'll probably be the first one she decides not to buy, you know. She'd be like is this a remote control, I don't how do you use it, and stuff like that. So even if it is really user friendly to us, but we're used to using menus all the time. Yeah. Yeah. I think it's totally uh radical to have a remote control with no no numbered buttons, yeah. But like radical good, maybe. Wrote nearly a page, but not. I think tracking. Yeah, that woulda been pretty good. I'd yeah I liked it, yeah. I li yeah, top marks. Well yeah. We we're not lacking in ideas, you know it's that was not the problem. Mm-hmm. Yeah. Maybe the counts wou woulda been better if we had a list or more Yeah, to

begin with. Yeah. Yeah. Okay. Yeah. And like response from consumers. Sure. Yeah. Yeah. Yeah. Okay, let's Thank you. I was actually kind of upset you know at the budget, and that we had to cut a lot of stuff. It's like man, we we can't have the locator thing. And s yeah that's just bad. Do you think maybe the prices were were made? Okay, it's a I think if we both step up and uh outline our ideas. Okay. Now do uh doing the prototype gave us a bit more insight into the ergonomics of the design. Um for one thing, it turned out that the only point at which it needs to be articulated for handedness is um is h i is down here for the uh L\_E\_D\_. As it turned out, the whole thing transfers from the right to left hand fairly well from the point of view of operating the uh function buttons and joystick, though it might be an idea

to be able to adjust the positions for the base of the joystick just a little bit for uh ju just a thought. You could simply have a slightly ovoid shaped joystick that could then just be turn uh twisted round, so that the uh sticky uh so that the bit that sticks out a bit more is on one side or the other. But as you as you see with the uh with holding it in the left hand, the L\_ uh the L\_C\_D\_ is nowhere useful, so that would need to be articulated uh if we're going to retain ergonomic design. Um now I I got your note about uh keeping the cost down. Yeah. this design could be done with um with uh plastic casing. Though I would recommend around the grip part here in the middle, having maybe just a rubber grip over that which would allow for a slightly more sort of bio-morphic form, and a bit more ergonomic as well. As for the um as for the single curve, um well this edge and this edge, like I say it would be nice to have some curvature to it, but it's not absolutely necessary. Really the curve that's most needed is the underside so that the jo so that the joystick rests over the the edge of the hand like this. Um and you have the uh transmitter here and a wee speaker for the uh for the uh for the uh fi uh for the remote control finder. So. Any further comments? Mm-hmm. Yeah. Yeah, I mean the uh Yeah. Yeah. I mean with the with the rubber design it could i you know it could pretty much mould very much to the to the user's hand. One nice wee feature if we could if we could still do the rubber, I thought of was to have the uh rubber extend beyond the end of the uh of the rigid substructure. So it has a wee sort of tail that you just drape over your wrist so it stays in position nicely. Mm. Lovely. Um. Okay. Yeah, that's still part of the design. Mm. Mm. And making it a bright colour helps with the personally I would have gone for purple. Mm-hmm. I'd say number one. I think w if it was just the sounder then th I mean something I've found with uh w w with say tr trying to find uh a cordless phone or a m mobile, you can hear it, but you can't quite pin it dow pin down where it is. Bu Yeah. Mm-hmm I suppose o one thing that could be done is h is have it um circular and have it s so that the uh the pink actually goes a bit over the pinkie finger. Mm. So that uh th Mm. Mm. yeah. Mm. Mm. I think if we remove the the L\_C\_ display then there was absolutely no point to any of these meetings and we just we could just put our branding on any other remote control. Mm-hmm. Um yeah I mean one thing, I mean ho uh how much extra would it be to to keep I mean keep the um the articulation? This is what I'm wondering. Oh no, I think I I it d that it needn't require it to be double curved. It's uh it's just it's just it's just that the case would come in t would be made in two parts and then joined together with an articulation. Mm. Yeah, I mean and I mean the uh I mean if you look uh if you look closer at the uh at the prototype here, the lines here along the grip are actually quite straight. Um I mean yeah, on the on the L\_C\_D\_ I mean although we've done it with a curve it could just as easily be done um without curves. The curve tha

t's really needed is up here, to put uh to keep the joystick in a good ergonomic position for it to have it rest on the top of the hand. Mm. Mm no that's that voice response thing that we got the email about. But I thought it was just completely pointless. Yeah. Alright. B i basically it was saying that our labs had come up with a chip that you could, you know, say hello to, and it would say hello back in a friendly female voice. Mm-hmm. Mm. Okay, well I let's say that and then we can have our special coloured case and then we at least have make it a little harder to lose. Because most m most remotes are a fairly dingy colour that gets camouflaged under any pile of crap in a living room. Or grey. Yellow. Okay. Three. I think we can do three. Th the special colour doesn't would I think make a difference. It makes it stand out from you know it's lost in a big pile of crap, it stands out from the rest of the crap. Two buttons and a joystick. Totally. It doesn't get much fancier. Mm. Mm. I'd give it a three for this for that. Yeah. I mean the menus thing is something you don't normally see on um on a remote, but you see it in a lot of other places. Mm-hmm. I'd give it a three. Mm-hmm. I'd s I I'd give it a six, to be honest. Well I I I would sa I would say give a s give a selection of colours. Um we went with yellow we went with yellow for the

prototype 'cause we had yellow. If I were buying one, I'd go for purple. Leopard print would be cool. That's kinda i it won't be when it's been budgeted. I I think s I I think this isn't not particularly fruit and veggie. Um. Mm. I'd I'd I don't think fruit and veg is the sole criterion. Is the sole criterion for being um fashion fashionable or inspired by current fashions. Um I'd g I'd rate I'd rate this fairly highly from that point of view actually. Mm. Mm. Personally, I think given that the product um only replaces a single remote control that you've already got, are people really gonna shell out twenty five Euros for something that's only marginally good? Mm-hmm. I s I suppose one thing is that b because it's technically innovative, um for someone who's sort of technophobic, the fact that it simply looks unfamiliar would be daunting. Um. Yeah, got notes and doodles. Well I think this is a I think the digital pen's mostly for the benefit of the uh of the researchers studying this. It's all p goes into their corpus. Though it would have been nice to be able to transfer the um transfer our n our paper notes onto the uh computer ourselves.. Unti uh uh until uh until accounts came along, squish. Yeah. Mm. I mean I th I mean I think to r retaining the s the more sort of bio-morphic form in the articulation would gain more in s uh would gain more profit in sales than it would lose in uh in added expense. Such as it is. Actually I want th one thing I would say I mean something that could perhaps be part of the product mm the um m product testing market research process would be to uh produce mock-ups of both versions and see just how much of a difference the over going over-budget um m would make to sales. And we could even you know, market two versions. Wee cheapie version with the nice bio-morphic rubber. Yes. Mm. And I can get my bus. Okay. Thank you.

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# Meeting ID: 104

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## Executive Summary

For uh this meeting the main agenda okay uh to discuss about the conceptual design meeting . and uh the presentations from the Christine and uh Agnes and from Mister Ed . and we are to take a decision on the remote control concept and uh the functional design we were looking he specifically at the components uh the following components , uh the case , the power supply , uh the means of communications with the television set . In instance we had talked about using some sort of speech recognition , you have to have microphone well no you don't actually I haven't have to have microphone in the device , it has to it has to hear the speaker so it could be in the television set , could be in the device , and a w a way of making beeps or sounds so you can find it when it's gets lost . Our method for going about this is we've looked at uh the histo hi historical record , what's worked , what hasn't and then we also um we wanted to evaluate some new materials and we contacted manufacturing for their input because , course , we m might come up and choose the material that then manufacturing didn't have the technologies or capabilities to offer us , So um for the case , um we told we were making a specifica specific assumption that it would be curved in design . Course , you know , I wanted it to be expandable and shrinkable , but um that uh doesn't seem to b be one of the choic non-option we can uh we can really seriously explore , so then we were thinking about um rubber , but um unfortunately that's been eliminated because of the heat uh factor and th um there might be some problems with the m uh how it's uh goes with the board . Uh and uh then th plastic also has this problem of melting and it's brittle it gets brittle after a while , so um we still had titanium and and wood available , but um unfortunately uh uh titanium's also been eliminated uh , the m people in manufacturing said that you couldn't make d curved cases out of titanium , nevertheless um they've eliminated all of our options except wood . So then there's this other matter of the chips and um well we could use a simple design on the board , uh these simple chips , but that's only works for the bu you don't get very much um intelligence with this simple one . And um then there was the regular which I regret that I've forgotten exactly why I'm eliminating that one . Uh the other option was this advanced chip on print , we found that it it includes this infrared sender , which w 'member the beam was that was an important component of finding the right chip . And uh manufacturing has told us that they've um uh recently developed a uh a sensor and a speaker that would uh be integrated into this advanced chip on print , now jumping right to our personal preferences um I I'd really think we should , you know , use some of uh some really exotic woods , like um , you know uh



, well you guys come from tropical countries so you can kinda think of some trees and some nice woods . I think that people will might really want to design their own cases , and then they could submit their orders , kinda like you submit a custom car order , you know , and then I uh think we should go with the solar cells as well as the um microphone and speaker on the advanced chip . and my recommendations um for the new remote control w um would be to have um have it be made out of wood . question , uh , what's mean exactly , advanced chip on print ? I think it's um um a multiple uh chip design um and it's uh maybe printed on to the circuit board . but I'll find out more at our next meeting . Why was the plastic eliminated as a possible material ? Because um it gets brittle , cracks we expect these um uh these remote controls to be around for several hundred years . I think with wood though you'd run into the same types of problems , I mean it chips , it if you drop it , So so you're not convinced about the the wood , yes . I the o the only w the only wood you can use are the ones that are hard , extremely hard wood , Well , it's actually a very innovative n different idea that uh you know you can choose your colour of wood , your type of wood . One thing we'd have to check though is what the users whether how quickly the novelty wears off of having uh you wouldn't wanna have to have splinters in your hand while you're using your have to see how kid-friendly it is and and all that , So , it's a very short presentation , 'cause I'm actually gonna draw you the layout on the board I took the ideas that we were talking about last time um and tried to put that into the remote control so the things that y you can actually see on it are the on off switch , volume and channel control , the menu access button , ergonomic shape , which I completely agree with Christine's idea to have it sort of molded , so it's slightly more ergonomic and comfortable to hold than the r standard very straight remote controls . And actually the other thing with the wood if we take your customising idea , is that people can actually do sort of quasi-measurements on their hand size , so if someone has larger hands , you have a wider remote control . So , that's actually a really good idea for customi customisability . Um , one thing I thought might be kind of interesting is to put a flip screen on it , just like you have on flip phones , so that you don't have this case where someone sits on the remote control or accidentally puts their hand on it , especially if you have little kids around , they're not pressing the buttons while you're trying to watch a T\_V\_ show and accidentally change the channel or turn it off . And also um you had issues with the batteries running out , so I thought maybe we could put a little battery life-light on it that kind of goes dimmer and dimmer and dimmer as your battery is starts to die . And in terms of invisible features , audio and um tactile feedback on button presses and , like you said , speech recognition . You'd have something like this with an on-off switch fairly big , sort of in the corner and by itself , so you don't accidentally turn your T\_V\_ off while you're trying to manoeuvre other buttons . And then you have sort of one of those toggle displays for , oops , channels and volume , sort of for surfing channels and then volume , so the volume would be the up and down , 'cause volume goes up and down and then channels left to right . And then here you'd have your sort of standard , telephonish number pad . and on the other side a way to turn off the voice control . Um , so again you can have a little L\_C\_D\_ light somewhere , the flip thing and So , as you can see , it's a very very simple design , which is one of the things I really wanted to keep , is keep it simple , not have too many buttons , not have too many functionalities thrown into it . although with the wood the flip screen might have to do something slightly different . Be like a copper hinge or you know . But you also have to d start watching out for the weight , 'cause depending on how much the the flip screen will add to the weight of the remote control , you don't want it to start getting too

heavy . As you can see , there's still lots of space on the actual remote control and if you do it customisably , you can make this thing fairly small or fairly o large , depending on personal preferences . Um the centering of the key pad and the channel is just depending on where your thumb is I also have a f very simple presentation , because for the marketing point you have to see what the consumers want . I also have uh copied a different type of remote . We've been giving simple questionnaires in different areas because th obviously we have to see what the com consumers are looking for today , 'cause uh trends change very very quickly . Looking for next generation of innovation , fancy and feel-good , that's what we've been looking for , something that feels good in the hand , that's easy to use . Easy to use , has always has become has become another major interest that uh , And I think this is another thing that's interesting is the consumers actually willing to pay the price for exciting tel technology . The second two , you can see the last one is a very easy simple design . The second one , there is about uh forty-five thousand different buttons on it , which makes it fairly hard to read , uh very hard to use . The first one , I see that they put in a display . Now there's something else uh with the little flip-up , now we're adding all kinds of things in , but with the little flip-up , if you have a little display on the flip-up that when you close it everything is locked . Maybe the display also makes it easier to use , So maybe if we can incorporate the easiness of use , trendy , fancy , feels good , uh with a display , wood , designer wood , designer colours Context-sensitive instructions , depending on what the tel what mode the T\_V\_ or the D\_V\_D\_ or something else is in . Especially you might need something like that for training the speech recognition and You know , maybe what you could do is when somebody orders the device id you could send them like um a uh uh b some sort of a foam rubber um ball , and then they would squeeze it , and it would take the shape of their hand . But th for that you'd also have to do sort of an average across families and things like that if unless everyone has their own personal remote . Well , already the customisability is a really good sort of new gimmick . it was uh Nokia that came out with this changeable colours . Right , you take it apart , and put on another face , take it off and put on another face and then they sold millions , millions . We'd also have to wor um consider that uh who we were gonna get to make these custom cases in terms of manufacturing processes , we might wanna um learn about um labour laws . You know in different countries and stuff wher so we can do it cheap , but you don't wanna exploit uh labour in um third world countries . So actually you could turn it y turn around and say that you're uh par the reason the cost is high for the device is because um you're paying a a working wage to the person who made the device . Yeah , but we can get a production in , uh , countries like , uh , India We're here to design , come up with a nice product . but uh that that we can that we can talk about the production later , okay , depends on the the quantity , okay . So we don't need to have our own uh fabric factory or something , but uh le let's decide first about the components concept and uh interface concept , okay , And your design whether you want with the display or without display or just a simple , so I mean I think it's a good idea , but we need to really think about how useful it's gonna be So , if we're trying to keep costs down , then maybe sacrificing the display is a way to go . because theoretically with the T\_V\_ you already have a big display right in front of you . I mean it depends on how much putting a display costs and what it would be used for do you know how much it costs , um , to to add a little display like this uh ? Do you wanna take an action item to go find out ? Once we get a price on it then we can market it . So the the advanced chip on print is what um what we've we've deci we've determined and the uh engineering industrial design is the recommendation ,

and um I think we've kinda come to some agreement regarding um this concept of a wooden case . A customisable and What about the buttons , would Would the buttons be wood too , or I think they could be rubber like they are now , what we'll do is , uh , we will stick with the the simple design for time being until uh th Ed find outs about the how much it's cost to the extra , in case we go for the display . maybe what you can do is uh , both of you , you can come up with the the prototype , okay , the model . Then meantime you can come up with the price , how much it's cost as extra for uh the display . An and the marketing strategy , that's very important , okay . So , by next meeting , so , please come up with the the prototype , okay , then uh , then we can proceed from there .

## Complete Meeting Transcript

Okay. So uh, if you could open the PowerPoint presentation. I'm number two. Components design, there we go. So uh can we put it in slide show mode? Yeah. Right here, is that little that one, yes please. Thank you. I'll take the mouse. So uh we were looking he specifically at the components uh the following components, uh the case, the power supply, uh the means of communications with the television set. In instance we had talked about using some sort of speech recognition, you have to have microphone well no you don't actually I haven't have to have microphone in the device, but um maybe you do have it a a way it has to it has to hear the speaker and um, so it could be in the television set, could be in the device, but somewhere you have to put the microphone, um and a w a way of making beeps or sounds so you can find it when it's gets lost. Um so the other w thing that we So. Our method for going about this is we've looked at uh the histo hi historical record, what's worked, what hasn't and then we also um we wanted to evaluate some new materials and we contacted manufacturing for their input because, course, we m might come up and choose the material that then manufacturing didn't have the technologies or capabilities to offer us, so uh this is the approach that we took during our um our research. So um for the case, um we told we were making a specifica specific assumption that it would be curved in design. Course, you know, I wanted it to be expandable and shrinkable, but um that uh doesn't seem to b be one of the choic non-option we can uh we can really seriously explore, so then we were thinking about um rubber, but um unfortunately that's been eliminated because of the heat uh factor and th um there might be some problems with the m uh how it's uh goes with the board. Uh and uh then th plastic also has this problem of melting and it's brittle it gets brittle after a while, so um we still had titanium and and wood available, but um unfortunately uh uh titanium's also been eliminated uh, the m people in manufacturing said that you couldn't make d curved cases out of titanium, although how Apple did it with th PowerBook I'm not su quite sure but uh nevertheless um they've eliminated all of our options except wood. So, this is our finding. And a as she said, it's an environmentally friendly uh material, so we're we're currently uh proposing, uh we'll get to all my personal preferences in just a second. So then there's this other matter of the chips and um well we could use a simple design on the board, but uh these simple chips, but that's only works for the bu you don't get very much um intelligence with this simple one. And um then there was the regular which I regret that I've forgotten exactly why I'm eliminating that one. Uh the other option was this advanced chip on print, and uh we liked th we we found that it it includes this infrared sender, which w 'member the beam was that was an important component of finding the right chip. And uh manufacturing has told us that they've um uh

recently developed a uh a sensor and a speaker that would uh be integrated into this advanced chip on print, so uh we we uh now jumping right to our personal preferences um I I'd really think we should, you know, use some of uh some really exotic woods, like um, you know uh, well you guys come from tropical countries so you can kinda think of some trees and some nice woods. I think that people will might really want to design their own cases, you see, they could do sort of a this um three-dimensional design on the internet, and then they could submit their orders, kinda like you submit a custom car order, you know, and you can choose the colour and the size of the wheels and the colours of the leather and things like that, and then I uh think we should go with the solar cells as well as the um microphone and speaker on the advanced chip. So this is the findings of our research and my recommendations um for the new remote control w um would

be to have um have it be made out of wood. Do you have any problems with that? I'm not sure, how do I Oh, I know, let's see. Let's go back up here. I think it's um um a multiple uh chip design um and it's uh maybe printed on to the circuit board. Uh I could find out more about that uh before the next fi next meeting. I don't know, but I'll find out more at our next meeting. Sounds good. Because um it gets brittle, cracks Um We want we expect these um uh these remote controls to be around for several hundred years. So. Good ex Good expression. I don't know, speak for yourself, I'm planning to be around for a while. you're what? You think? And you could you could sell oils with it, to take care of it. Well I'm glad you Okay, good. Sorr having a hard time keeping wi control over my face. Mm-hmm. Mm. She works in the cubicle next to me so she's uh she was already a little bit prepared for this. Luckily Ed was not. Mm-hmm. Yeah, you wouldn't wanna have to have splinters in your hand while you're using your It's really good if your dog gets ahold of it, they can use it for teething. Yeah, they do it with other materials as well, yeah. Oh, I'm sorry. Right, my hand is uh different size than yours for example. Mm-hmm. Mm-hmm. Mm. Mm-hmm. A hinge. Be like a copper hinge or you know. Mm-hmm. Mm. Mm-hmm, mm-hmm. Mm-hmm. Mm. Mm-hmm. Sure. No, f go to findings. Context-sensitive instructions, depending on what the tel what mode the T\_V\_ or the D\_V\_D\_ or something else is in. You know, maybe what you could do is when somebody orders the device id you could send them like um a uh uh b some sort of a foam rubber um ball, and then they would squeeze it, and it would take the shape of their hand. To t an and then you would know like um what the geometry of their hands would be and uh Yes you'd know what kind of wood to get. That's right, that's right, you wouldn't wanna go too far down that. Oh that that actually would uh increase the um the revenues we could expect, yeah. Mm-hmm. Right, mm. We'd also have to wor um consider that uh who we were gonna get to make these custom cases in terms of manufacturing processes, we might wanna um learn about um labour laws. You know in different countries and stuff wher so we can do it cheap, but you don't wanna exploit uh labour in um third world countries. So actually you could turn it y turn around and say that you're uh par the reason the cost is high for the device is because um you're paying a a working wage to the person who made the device. Cost of living is low. Good, well th that'd be something that manufacturing would have to um explore more and to where Mm-hmm. Yeah. Mm-hmm. Hmm. Hmm. Mm-hmm. What do you think Ed? Do you he liked the display in one of the concepts that you showed, um, do you know how much it costs, um, to to add a little display like this uh? Do you wanna take an action item to go find out? Okay. Sorry about that. So the the advanced chip on print is what um what we've we've deci we've determined and the uh engineering industrial design is the recommendation, and um I think we've kinda come to some agreement regarding um this concept of a wooden case. A customisable and Uh I don't think so, no, I think they could be rubber like they are now, so you have that tactile experience of So um are we done with this meeting? And a marketing strategy. Wow, good

expression. Well after us. Actually, I'm ready to sell it. I'm ready to sell it. No y no no no, the o the only w the only wood you can use are the ones that are hard, extremely hard wood, but there are some very pretty woods out there. That's actually very innovative idea. Well, it's actually a very innovative n different idea that uh you know you can choose your colour of wood, your type of wood. I mean it's each person is gonna have their own personalised, individualised speech recognition remote control in wood, that's not on the market. In turns of wow. Wood? They do that anyway with the rubber and plastic, so, and chew '

em up. And chew 'em up. No. Hmm. Simple design. It's what consumers want. It's almost like, Houston, we have a product here. Problem is obviously gonna be cost. Okay, I also have a f very simple presentation, because for the marketing point you have to see what the consumers want. I also have uh copied a different type of remote. If you can find me, where I'm at. There should only be one in here. trend watch. It's being modified. They're stealing our product. We've been giving simple questionnaires in different areas because th obviously we have to see what the com consumers are looking for today, 'cause uh trends change very very quickly. In six months maybe this idea is already gone out the window, so it's gonna be a question how fast we can act. Uh they already erased the rest of mine, huh. No no, no no. 'Cause I had another comment there. Uh the market trend. This is what we know from the last uh from the questionnaires from the the all the p surveys we've done, fancy and feel-good, that's what we've been looking for, something that feels good in the hand, that's easy to use. Looking for next generation of innovation, because all the remotes out there now, they're all very similar, they all do the same thing, we have to have something completely different. Okay? Easy to use, has always has become has become another major interest that uh, with the whiteboard we can see that it's a remote that's easy to use. And I think this is another thing that's interesting is the consumers actually willing to pay the price for exciting tel technology. So even if we have a product that may be more expensive, if it comes out right, if they look it looks and feels good and has technology. The second two, you can see the last one is a very easy simple design. The second one, there is about uh forty-five thousand different buttons on it, which makes it fairly hard to read, uh very hard to use. The first one, I see that they put in a display. Now there's something else uh with the little flip-up, now we're adding all kinds of things in, but with the little flip-up, if you have a little display on the flip-up that when you close it everything is locked. Maybe the display also makes it easier to use, because sometimes when you're looking for buttons, maybe if you see a display Okay Because I've seen mostly the standard ones, yeah. Now you have it now you have one with the very simple also. The idea is simple, but with a display, so you can see what you're doing. So maybe if we can incorporate the easiness of use, trendy, fancy, feels good, uh with a display, wood, designer wood, designer colours, we might've Mm-hmm. How hard they squeeze? Resistance resistance, right. No, but incorporating the three uh obviously it'd be something totally new on the market, totally different and from Although, what it was it uh it was uh Nokia that came out with this changeable colours. Right, you take it apart, and put on another face, take it off and put on another face and then they sold millions, millions. So. So say with the f with the findings, with the research, easy to use something totally new. We have to come up with something totally new that is not on the market. Where w Where it would be manufactured is is another step. We're here to design, come up with a nice product. No. No no p spec It's 'cause we have to find out cost on it. Um, no that's no problem. I'm here for the pushing it after it's made. I will market it. Once we get a price on it then we can market it. Nice beautiful mahogany red wooden case. And marketing strategy, thank you. Fired. Uh welcome back after lunch, I hope uh you had a good lunch together. For uh this meeting the main agenda okay uh to discuss about the conceptual design meeting. Okay and

the agenda will be the opening and uh that's uh the product manager or secretary that's me and uh the presentations from the Christine and uh Agnes and from Mister Ed. And finally in this meeting we have to decide and we are to take a deci

sion on the remote control concept and uh the functional design So we have forty minutes, I think it's uh little bit uh low, but I I hope we can finish it up so I'll handle to the the functional team, to the Christine, okay, to discuss about uh the components concept. You're number two. 'Kay The next one. Can you go back uh one slide? Yes, uh question, uh, what's mean exactly, advanced chip on print? What's the meaning of that? Mm-hmm. Yeah, is it means it's on the yeah is it on a micro-proc micro-processor based or uh Okay, tha that would be great, so if you find out from the technology background, okay, so that would be good. So so you're not convinced about the the wood, yes. Yeah, so it it's looks good the the design the functional design uh, what about yo you? Yes, in t yes, in term in terms of comments first Okay then, uh, let's move to Agnes. S you're You are in participant three. This one? So what's your, uh, the comments or uh s Okay Mm-hmm. Yeah. The Yeah. I hope so. Yeah. Yeah, but we can get a production in, uh, countries like, uh, India yes, yes, countries like India or China or Malaysia, so you can go a better features and better price and you can sell more. So Yeah, yeah, so Yes. So Yeah, so Yes uh, but uh that that we can that we can talk about the production later, okay, depends on the the quantity, okay. So we don't need to have our own uh fabric factory or something, so we can have a tie-up with who the do the fabric, okay, for the different uh electronics items, then we can have a business tie-up and to get to cut the cost, okay, to sell more. So, but uh le let's decide first about the components concept and uh interface concept, okay, if is acceptable for both of you, what uh Ed was talking. And your design whether you want with the display or without display or just a simple, so Yeah. Yes. I don't think so. Yes. Yes. Don't looks nice uh. Yeah, so uh what we'll do is, uh, we will stick with the the simple design for time being until uh th Ed find outs about the how much it's cost to the extra, in case we go for the display. Okay. So maybe what you can do is uh, both of you, you can come up with the the prototype, okay, the model. Okay? Yeah, I hope, if is it okay if uh they will come up with the prototype design, okay. Then they can show you how it looks like, and then we can uh submit to the I will submit to the management. Okay? Then meantime you can come up with the price, how much it's cost as extra for uh the display. An and the marketing strategy, that's very important, okay. Yes. How much you can how mu how much how much you can sell extra. Of course you'll make money too, so it it's not only pay-out, you make money too, your commission. Okay, so, any questions? So, by next meeting, so, please come up with the the prototype, okay, then uh, then we can proceed from there. It's okay? So thanks for all your uh efforts and coming for the meeting again, and see you soon then. Okay? Thank you. Mm-hmm. At least it's environmentally friendly. Thank you. Yeah. Why was the plastic eliminated as a possible material? Mm-hmm. Whic Which Although I think I think with wood though you'd run into the same types of problems, wouldn't you, I mean it chips, it if you drop it, uh it's I'm not su I think if you re if you use really good quality wood, then it might work, but you can't just use Yeah, exactly, yeah. The stain. Um, in terms of comments on this or in terms of my own Y yeah. I think we can get the quality materials then it shouldn't influence the design principles too much, which you'll see with my presentation. One thing we'd have to check though is what the users whether how quickly the novelty wears off of having uh Yeah, for example. So, have to see how kid-friendly it is and and all that, but Sure. One point three, yeah. Uh, yeah. I think so, yeah. Yeah, that's the one. So, it's a very short presentation, 'cause I'm actually gonna draw you the layout on the board so if you want to just go straight to the

second slide, um, which basically shows, sort of I took the ideas that we were talking about last time um and tried to put that into the remote control so the things that y you can actually see on it are the on off switch, volume and channel control, the menu access button, ergonomic shape, which I completely agree with Christine's idea to have it sort of molded, so it's slightly more ergonomic and comfortable to hold than the r standard very straight remote controls. And actually the other thing with the wood if we take your customising idea, is that people can actually do sort of quasi-measurements on their hand size, so if someone has larger hands, you have a wider remote control. So, that's actually a really good idea for customi customisability. Um, one thing I thought might be kind of interesting is to put a flip screen on it, just like you have on flip phones, so that you don't have this case where someone sits on the remote control or accidentally puts their hand on it, especially if you have little kids around, they're not pressing the buttons while you're trying to watch a T\_V\_ show and accidentally change the channel or turn it off. And also um you had issues with the batteries running out, so I thought maybe we could put a little battery life-light on it that kind of goes dimmer and dimmer and dimmer as your battery is starts to die. And in terms of invisible features, audio and um tactile feedback on button presses and, like you said, speech recognition. So, in terms of what this thing would actually look like Despite working in interface design, I'm not the greatest artist in the world, so you'll have to forgive me. You'd have something like this with an on-off switch fairly big, sort of in the corner and by itself, so you don't accidentally turn your T\_V\_ off while you're trying to manoeuvre other buttons. And then you have sort of one of those toggle displays for, oops, channels and volume, sort of for surfing channels and then volume, so the volume would be the up and down, 'cause volume goes up and down and then channels left to right. And then here you'd have your sort of standard, telephonish number pad. And then on one side you would have an access to the menu on your T\_V\_ and on the other side a way to turn off the voice control. So that if the user doesn't want to use their voice, they can just turn it off and you don't have the remote control accidentally changing things on you. Um, so again you can have a little L\_C\_D\_ light somewhere, the flip thing and Have I forgotten anything? I don't think so. So, as you can see, it's a very very simple design, which is one of the things I really wanted to keep, is keep it simple, not have too many buttons, not have too many functionalities thrown into it. Think the design can pretty much carry over to everything, although with the wood the flip screen might have to do something slightly different. Yeah. But you also have to d start watching out for the weight, 'cause depending on how much the the flip screen will add to the weight of the remote control, you don't want it to start getting too heavy. But that's the general layout with the general functionalities, if we come up with something else. As you can see, there's still lots of space on the actual remote control and if you do it customisably, you can make this thing fairly small or fairly o large, depending on personal preferences. So, that's pretty much all I had to say, I mean, everything else in terms of design issues. Um the centering of the key pad and the channel is just depending on where your thumb is and you tend to use the the volume control and uh the browsing more than the actual number pad, so that would be sort of in direct line of where your thumb goes when you are holding the remote control, the number pad a little bit lower 'cause it's used less frequently. So once we decide exactly what we want, then we can figure out the exact positioning, but more or less I think it should go along those

lines. Mm-hmm. Yeah. No, no. Mm-hmm. Yeah. Right. Especially you might need something like that for training the speech recognition and yeah. Mm-hmm. Mm-hmm. Oh yeah. Yeah, so it's really molded to to your specific But th for that you'd also have to do sort of an average across families and things like that if unless everyone has their own personal remote. The sales, yeah. Yeah. Well, already the customisability is a really good sort of new gimmick. Yeah. Yeah. And that took off, yeah, yeah.

Mm-hmm. Mm-hmm. Mm yeah. Mm-hmm. Mm-hmm. I think it depends, I mean I think it's a good idea, but we need to really think about how useful it's gonna be because theoretically with the T\_V\_ you already have a big display right in front of you. So, if we're trying to keep costs down, then maybe sacrificing the display is a way to go. I mean it depends on how much putting a display costs and what it would be used for very specifically what it would be used for, 'cause if it's only used for one little thing, then putting in a big display case or a big display that's probably expensive just to do the training on the chip for the speech recognition or whatever, may not be the most cost-efficient way to go, but that's just sort of speculation, I mean. Mm-hmm. What about the buttons, would the buttons be wood too, or Mm-hmm. Okay. Sure. No. Okay. Mm-hmm. Okay.



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# Meeting ID: 57

Data Source: Train

## Executive Summary

The project manager opened the meeting by explaining how to locate his minutes from the previous meeting. The Industrial Designer briefly explained the internal workings of the remote, and mentioned his preferences for power source and case material. He also suggested mobile phone-like changeable covers, and the group discussed the profit in this. The User Interface Designer very briefly mentioned some features a remote should have and suggested it should be multifunctional. The Marketing Expert present the findings of the usability study. The group then discussed their target group, and what features they might include to attract them. The manager introduced new requirements to the project, insisting they were to be followed. The group then discussed what buttons they might need, which included menu, numbers, channel and volume changing arrows and mute.

## Complete Meeting Transcript

. Desktop. Yeah. Okay. Well. Make it. Hmm. Hmm. Will this will this add to the cost? Yes but you have to m uh be able to change it. D does it make it more difficult to design? Not much. 'Kay. Um Mm. Yeah. Yes. Okay. Uh um m Yeah. Um yeah okay. This bit too far. So So I'm uh gonna have a presentation about um the market, about um yeah what people think. Uh we did a usability lab-test with a hundred persons. And we looked at uh several um things. Uh among them design, uh d d how d did they like the use of it, uh what frustrations they had while using remote controls. Uh well what what will be our market. And uh we asked them if we had some new featu features. If um that would be a good idea or not. Well our findings. Uh our users, they disliked the look and feel of current remote controls. Um uh they especially found found them very ugly. And um th they also found them hard to to learn how to use it. Uh well they also zap a lot. So uh zapping uh should be very easy. And uh fifty percent of the users only use ten percent of the buttons. So a lot of unused buttons. There is more findings. Uh on the buttons. Which uh buttons find users uh very important and which which not? And how much would they use them? Well uh the most used button is the channel selection. And uh we asked them how uh relevant they think uh the buttons are. The power, volume and channel selections are very relevant. Uh teletext is uh less relevant but also important. Uh not important they found the audio, uh that's not the

volume but uh specific the the pitch, or the left or right. Uh the screen and the brightness. And uh channel settings. Uh th and they also are not used very often. Then we have a few um graphs about the market. Uh here we can see what the market share is of uh several groups. Um as you can see, most users are uh between thirty six and forty five. Um the the the younger group between sixteen and twenty five is not very big. And to come back on the the swapping uh things, uh I don't think uh, I I think the younger will be most interest in it. But uh they are not a very big group. Um in the we asked them, uh how would you like a s a new feature. If you have an L\_C\_D\_ on the remote control, what would you think of it. Now you can clearly see young users say. I will that would very nice. And older user think uh they will be scared of change I think. And they won't like it. And another thing, how would you like to have a speech recognition on it. Well here we see the same. Young users uh think that's an interesting idea. And old users not. Uh well we uh found out that there are two several markets at which we can aim. Uh the first are the younger, the age between sixteen and forty five. Uh they are highly interested in the features, as you can see uh here. And um they are more critical on their money spending. Uh the second group is the older group. Aged between forty six and sixty five. They are less interested in uh new features. But uh they spend their money more easily. Now if we look back at this graph, we can see that among the first group is about um sixty percent. And the second group about forty percent. So the the first group is bigger. Well then I come to my uh personal preferences. Uh yeah the first question is uh also we have to ask is at the which market do we aim at. Uh of course n uh saying we aim at the young group doesn't say that old people won't buy it. But less of them will buy it. Um well I uh Okay. What I thought, um even young people say it's hard to use, remote control. So if you make a remote control that is uh very easy to use, that's especially aimed at this group, even uh the young group will also be more interested. And um we can make special features. But uh I think it looks nice in the first time. But when use it, uh I don't know what's uh good thing of speech recognition. Um well th uh that's my second point. Uh less important functions should be discarded from the remote control. It's about discussion we had earlie

r. Um You can find most functions on a T\_V\_ set. So uh you don't have to have a lot of audio options, or screen options to change the brightness. And such things. Um well the design is very important. One thing I did not say I think, is that a lot of users also said then I would uh buy a good looking uh remote control if there will be one. But they found most remote controls very ugly. So the design of our remote control is very important. And uh yeah it should be very zap friendly, as most users use it for that. That were my findings. Yes. No. Okay. Yeah maybe we can first have a discussion uh on the the product requirements you just uh said. The the requirements you just said, maybe we should first have a discussion about that. I uh personally think uh teletext is a good option. Uh not everyone um who is looking T\_V\_ can go to internet when they want to see the latest news. Okay. Okay sorry. Then uh Mine? It's the functional requirements. D Yeah. Do we make a menu? Uh I think it will be um q quite easy to use, to have uh uh four arrows. Up-down for channel selection, and left-right uh for volume. And uh a menu uh button. And if you press the menu button you get into the menu, and you can use the same buttons. But the then to scroll through the menu and to change the options. Uh well yeah that depends on if you have uh the menu on the T\_V\_. Or you get the menu on the L\_C\_D\_ screen on the remote control. Yes. 'Kay. But well if you aim at the younger market, um a as they as uh s uh as we seen in the usability uh lab, uh they will buy a nice looking um remote control. And also to find the easy to use uh part very important. So if we have a L\_C\_D\_ sh uh screen, and uh not too many buttons, I think that will incre uh uh even when it's a bit more cost, it will still sell. Mm. Yeah. Okay. Good idea. Mm-hmm. Mm. Yeah it's a good idea. But If if it Yeah, I don't I'm not sure if it will make profit enough to

uh But it's uh yeah it's uh original idea. No. Oh. That's me. Uh Come on.. Ah. Yes well uh uh I shall give a short talk about the the technical function design. Um I thought the the the technical function design was uh to uh for a remote control to to to have some influence on the T\_V\_ set. Uh both audio and video uh in a cordless way. No cords attached. And uh well, it all by pushing a button on the remote. That was from my own experience and uh and uh the previous meeting. Uh I find some uh some interesting quotes on the web. Uh well the same idea here. Uh message to the television. And uh and and and well basic uh operations like on and off, and uh switching channels, and uh and maybe uh teletext or something like that. Uh well these are two uh remotes, and that's our uh our dilemma I think. Uh We just heard from the Industrial Designer how uh difficult it is. But uh shall we make a basic remote control, uh just uh swapping channels and volume and uh power button and well nothing much more. Or uh uh more functions on the remote. Uh maybe more devices you can influence. Uh a radio or a v a video recorder, uh V\_C\_R\_. Yeah well that's our dilemma. Um any ideas about that? Basic or multifunctional? Okay yeah. Yeah well the that was just on my mind. So uh I didn't know what uh what way we would go. Mm yeah well that was my uh functional uh talk. Mm-hmm. Mm-hmm. No. And I don't uh I don't think twenty five Euros for a remote is really cheap or something. So it's Yeah, it's hard to uh get the younger group. Mm-hmm. Just the L\_C\_D\_? Mm-hmm. Well a power button? Uh the well um I think separate channels. So But then both the the separate channels. So so uh zero to nine or something. Uh volume. Oh mine. Technical. Mm yes. Mute. Um Yeah but then it's always uh more than one uh thing to do. Okay. So welcome back. What do do we have to do? So first. I want to say I'm the secretary, so I make the minutes. You find them in your in the map in the From the group. There's the minutes from the first meeting. You'll find the next minutes also t

here. Then I wanna hear from you, what you've done. And after that I have some new product requirements. So And after that we have to make decisions, what we will do. And then we're ready. We have forty minutes for this meeting. After that we'll have lunch. So first I wanna ask the Industrial Designer to tell what he did. So Yeah on your computer, or the What's the name? What's the name of it? It's the technical function or the functional requirements. Working design. Working design. What is this? Product documents. On the desktop. Up. up. Up. Up. Up. Yes. My Documents. Nope. Gone. Well you Um Nah. Nah, nah, nah. PowerPoint. Working design. And Presentation of working design. Save as. Uh it's Project. Save. Very good. Okay. So Now have ten minutes to tell it. Okay. Oh oh. Two questions. The battery. You say one battery is cheaper. Why? Yeah but when you use two, you can use it two times longer. Okay so it's the size of the remote control. Okay and the buttons. When you use it on the television, you've you need the television, wh which can use it. S Okay. I think we have to use it also on other televisions though. So Yeah but I don't I think it They are two different things though. We have to choose one. It has to work on o uh all televisions. Okay. Yeah. Good idea. Mm-hmm. Yeah but there are much more Nokia telephones than um these ones. Yeah but are their profits bigger than their cost? Yeah but there are also design cost. I don't think When you have a remote control, do you change the cover? Would you change the cover? No. N yeah but I think that too less people would change it for good profit. So Yes it is but I don't think we have to do it. Okay. That's clear. Okay thank you. So now the User Interface Designer. We'll got back on that later. 'Kay, thank you. Then it's your turn, the marketing expert. Okay thank you. Yes. I think uh the L\_C\_D\_ is cheaper than speech recognition. So I think that can be an d good option. L\_C\_D\_. Yes. Only the L\_C\_D\_. So But we'll come back on that. Now Oh, go on. What d d d um Um Uh we go back on the decisions later. Now we have a few new product requirements. First, teletext. We have internet now so we don't need the teletext anymore. So not necessary. Next. Only for the television. So we don't look at the other things like the

radio or something. Only the television. Third. We look at the age group of forty plus. Uh no, younger than forty. Is a g big group, and like you showed, n not very much people buy our stuff. Fourth point. Our corporate colour and slogan must be used. Very important for the design. So you can see it on our site. Next. Um no. We have to make our decisions, what we want to do. So like you said, we need the. Maybe it's good to put it in a document. Now we have to decide what controls do we need. So maybe you can tell us. Sorry? Yes. Yes, it's okay. Yeah but we don't use it. It's a new requirement. So, it's not my requirement. We have to do this. No. So what controls do we need? Who first? Okay. Uh power. Uh mm channel. Channel Zero to nine. Volume. Maybe it's easy to pick. What was w your one? Techno Okay. We had w uh no no no no. Where was that example of the Johan. That was the the the the the technical Hallo. Okay. What do we need? On-off. Zero to nine. Yeah that's the channel. Menu? Uh yes the n newer televisions ha do have menus. Uh M Menu. I think um the only one or two numbers. And Hello? That's ch Yes. On the L\_C\_D\_ screen, you mean? Think it's better to have it on the remote control, 'cause it has to work on all televisions. So we need N Yes. But if we have this So now we don't have a lot of buttons. Is this enough? Mute. Maybe in the menu? Mute. Mm-hmm. Okay. Maybe more? No. Well. Then that's all. This will be the buttons. And I think that's enough for the next phase. So we can go on to Yes. No that's for the next phase. Um Phase two is the conceptual design. So then we'll have the concepts. That's for the So uh next point. Now we have lunch-break. After that

we have t thirty minutes for work. And you can find the minutes in the Project Documents folder inclusive the uh buttons. No. Your individual action, you can find them in the email. So now it's time for lunch. Thanks for coming. That's my task. Okay. Uh I've Where have I put it? My Documents or not? Hmm. I've save it on my computer, my presentation. But where? Uh uh uh It was about the working of the remote control. Nope. Not a of Wait. The working design. But I've saved it. But now I don't know where it is. Hmm. Yeah. And I import this until One more. What the fuck is this? Yeah that's the empty one. I had one. Uh-huh. Open it. Okay here it is. Project. Okay. A little later but here it is. So okay. It's a little difficult what I'm gonna tell you. It's about the working of the remote control. I just had an half an hour j to study it and I don't get it. Ten minutes to tell it. Okay. I think it will be a few minutes and First uh I will tell you something about the findings, what I discovered about the remote control. The working bout it uh of it. Uh then I'll have uh some kind of map, and it's the top of the remote control. With a little bit of science, uh you I will show that uh in in a few minutes. And then uh what I'll think about it. First, the findings. The remote control is a very difficult uh thing to uh to explain to just all of you wh who haven't seen a remote control uh inside. Uh there's a lot of uh plastic on it, um because its uh not so expensive. And there are uh a lot of uh wires, uh which um connect the components in it, the battery, and there are um switches and things like that. There's a lot of small uh electronics. So it won't be um uh too expensive to build it. Only twelve Euro fifty I think uh we will make it. Now And here I have the top of the remote control. Uh here's some kind of chip. Uh on top of this, there are uh the numbers. Uh you have all on your remote control. And uh the teletext uh button. And uh here's the battery. And when you push the button, it will uh will be sent to the chip. And the chip will um send it to all kind of sub-components. That's what I said, it's very difficult. And after that it will be sent to the infrared. And that will send it to your television. That's a short h uh how it works. Uh I think I can uh make it uh difficult, but we all we all don't get it. My preferences? It's uh it won't be uh We shouldn't make it too big. Uh also for the cost, uh we should only put one battery on it. A long-lasting battery. Uh also for the cost, uh use only plastic. Not other materials. Also because of the cost, uh not too much buttons on it. We can also make uh a button uh with a menu uh button. And then um that that you will see it on the T\_V\_. And on the T\_V\_ you can uh switch into the menu. That's I think it's easier. And the bleep signal, y uh

you told us. Uh but we can also use it uh a bleep like something, when the battery's empty, then there is a bleep. Then you'll have to change it in a in a week or something. And also the bleep, when what I told you about uh when you lost it, and you push a button, and then you hear bleep bleep, and we will find it. This is uh just uh Yeah. Yeah. If we w if we use only just one uh small pen-light, then it will be cheaper than when we use two. Yeah but then we'll have to make the um remote control uh long lasting. Just Yeah. Yeah. But uh I think this our remote control is for the televisions we uh we sell in our company? Or is it also for other company uh for other televisions? Then this is an option. Maybe just a menu button to use it on our televisions. And then we make it easier uh for our televisions. And on the other tele televisions, you can also use it, but then we won't use the Yeah? Okay. Then I think uh the menu button uh will only work on the newer televisions. And we will uh look forward and don't make a remote control which for the older televisions. And I just uh have one more idea. Uh maybe it's one of your tasks. But Uh, to have a

trendy remote control, we can also um make something like the Nokia um mobile phones. To change covers. So if you have uh a trendy half with all red, uh yellow and something. And then you can put a red cover on it. And also different things. Yes. Uh then it won't be uh will have just one cover on the uh original one. And then you can buy the covers. I think it will be a little more difficult, but not too much. Just like with the Nokia uh mobile phones. Just one. Yeah but then we'll have to to just um put five covers on it, and see if it works. If it won't works then we'll get something else. Then we uh won't g uh go further with it. Uh a p a a cover made in uh in China, it it won't be I guess so expensive I think. Maybe. I wi I won't. But maybe I think trendy people or like children where you can paint on it, and uh the the children think, oh this is my remote control, uh I made a picture on it. Uh Yeah. Okay. And the other people? What do you think about it? Okay. Okay. You're the Project Manager. Yes. That's it. 'Kay. Yeah. I have uh one question. If we aim for the younger people, um and there will be uh a lot of features like L\_C\_D\_ or the the the speech uh f recognising, uh the cost will be a lot of h uh a lot higher. Uh I think we don't have that in our budget. Do you think? Like No. No. Uh-huh. 'Kay, we'll just have to do that. Okay. No discussion about it. Okay. Unfortunately. To change to the next channel, just one button. To move up, move down. But then we come to the costs. But now we have only the buttons. And uh we don't yet have to decide what the remote control would look like? Or Okay. Okay. Okay. Okay.

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## Executive Summary

Matthew it is important for him to be here uh . but still I think uh it would be in very important if the uh as um main designer . I think we can put on the here . we will just we just have to continue . just for record I I will take uh notes again . first thing uh I was uh uh I got an email from uh from my superior again that we really should stay within the budget of the uh twelve Euro and fifty cents . when you stay in it's good , when you don't stay in you have to redesign . maybe Anna , you can have your presentation . we can't do evaluation 'til we have a design . Matthew . Nice uh you are here . ma maybe then you can start now with mm presenting your uh your designs . I will start by the the basic one that uh fits into uh eight Euros actually , right , seven eight Euros , first for both they have um a special shape , but uh it's like a surf board . And also it's not too far from um a mobile . So people are used to that kind of shape , Don't take care too much about the colour Now we are supposed to give some oper offers right now . the on-off button , in red . Here would be the volume . On the on the left , so you can go up and down the channels , How can you change from V\_C\_R\_ to uh T\_V\_ , by the way ? this is a standard T\_V\_ one , and then we have usually there twelve keys but we know that we rel that we have only ten digits . The extra two are for uh having or giving an option for uh having more than one channel . And the other one is for the teletext or something you want to browse through from that . Actually . It's a very basic minimal thing Exce except for the for the special shape , the surfing board , it has a quite a a conventional layout of buttons uh . uh i i i it is a very futuristic , it's like uh it's like a brain machine interface and all this stuff we are thinking about in the future , it can come . Yes it really feels like like like a mobile phone . then the this is the a more a little uh smooth and it gives a lot of functionality , uh in this way , uh th you see there are only six keys , they are ma they are doing the job of twelve keys actually here . And so they have more space actually and uh it's easy to uh use this and then you have a power button , which I volume , what you have , and then other than that you have uh channel up and down and uh f slow pause or s slow lo Play , pause . yeah s pause or stop , you have a L\_C\_D\_ display , here and uh y this is a functional thing which can change it's a toggle switch which could change the function From D\_V\_D\_ player to television or something . and and and then you get feedback via the L\_C\_D\_ you can have a integrated microphone over here , This is the orange button , the microphone . you want to do a speech recognition and uh that channel a lot of information can be di displayed here directly on the um on your on your display . And here is a small L\_E\_D\_ which tells you like uh are you running out of the battery ,

and which is can be useful for the locating as I was talking earlier then we have a cover when you need you can use it , and this gives additional functionality but but but but uh i in there uh when this is closed , will it also uh cover up the L\_C\_D\_ screen ? Yeah . Actually when you are watching the T\_V\_ , when you are watching anything or listening to them , you hardly care about what is getting displayed here , and this gives a protection to the L\_C\_D\_ actually , giving a cover to that actually . Gives a protection It's low weight . You have to see yeah yeah the the components we put inside is very low weight . So the the cost is actually a bit more , Sixteen Euros . So it's well outside the budget then . But the the main point we we talk about that with our uh manufacturer . And they say basically that the S\_R\_ system would be uh something like three Francs per item Three Euros . That's on top of the sixteen , or is it part of that ? part of that , yeah . So that takes it down to thirteen Euros without the speech recognition . if you have new more ideas we can add new more uh some more keys we should stick with uh a number of keys it it should not be cluttering up everything . I like the shape of them , I do like the the size and the the shape . Be before ta talking about the money and what's possible and what is not possible , maybe Anna you can uh give our uh give us your um And maybe we run the evaluation on both of the products , both of these two . and also the evaluation criteria , so what what is important to look at . it's just a shortlist of criteria on um the things that we've identified as being important to selling the product . Um we just go through these and rate them as a group and then at the end we'll make an evaluation based on that , These are the things we identified as being important . Um the three things were look and feel , innovation and ease of use , were the three important components um appealing to the correct demographic so using those things in the right way to appeal to our demographic . And then goin following the company motto , following the fashion trends and putting that into the product as well . do you wanna go through and put through those on the the two products now or do we wanna discuss them further and then evaluate them ? why not why not discuss uh discuss it now , just go through onto the whiteboard I guess . look and feel , innovation And now it easy to use . you following the idea of using the um removable covers on these ? w w we can still discuss that . and together with evaluating this uh we we might come with new ideas um I've received uh a framework which we can do this . the first one was really very far below budget , would you want to take the price down of the end product according to that or just have the high profit on it ? my my personal view is uh w when when this one is eight Euros we must think how can we improve it . because th th th the the selling price is already prite fik uh uh quite fixed on twenty five Euros this is these are the the the latest prices of our production uh uh production unit for several components , so we can uh see whether the the price is is within the twelve Euro uh fifty cents uh . Th th this is the first design . Um w one's bad and seven's the best . one's true and seven's false . Look and feel . In i in my opinion purely feel is is is very good , is very good in your hand , so I I I would consider two or or may maybe even one for feel . we should also consider look , and then i it looks quite conventional . On the scale u it's between functional and fancy basically we're looking at , Ma ma ma ma maybe say say five but uh still I will give four in that case the way we have designed it's like the surf as you say we we designed the two uh items . If you press like this not like this C can you get the batteries ? isn't it the ink ? I think it's lost a battery . Because we'll be able to see it still even if it wasn't working , but it wouldn't be picked up on the the actual whiteboard . And the other one ? I think it's slightly better , um , which which 'll be covering in a curve actually this is this is not going to protrude actually , The other thing is , is the left hand one protruding

? 'Cause if people are left handed they want to use the other hand , maybe it won't work so well . I'd say two or three for that one , personally . So so I would also say this is four . because right uh for example if you press it quite inside now like this , now it's embedded one . So I will say two . it's d it's definitely more fancier than that one . Basically there is no innovation in the first one compared to what exists in the market , No but except for the design of the surf . Are we including like a location kind of thing like trying to find it ? I think it's more of the feel . But th is there any there's no actual innovation in that at all , And the And the second one is really uh state of the art , uh in terms of innovation . So I'd be up for seven for innovation . And um with many more functionalities , and can open and close the the bottom part . And all the scrolling uh buttons and menu and pro programmable device behind this . A and the L\_C\_D\_ screen is That's that's that's well it's quite innovative . Uh could put it at one or two I would say . Personally . Th th there were different options we discussed then , we discussed the one that was in budget and the one that was out of budget . and then we will will try to get it in the budget . We just diske discuss it as you designed it Innovation for this one is two ? One ? the speech recognition is a very good innovation I believe it , then it's I think one . Ease of use ? the first one is really standard , so everybody i including our grandmothers can use it , So that's maybe a a two for ease of use . Um , the other one is quite easy , tho though . Uh , though it has more functionality So maybe a three or a four . maybe sometimes people get uh scared with the number of buttons . because it's n uh it's not like a big one with uh one hundred buttons or so , actually the user has to put some effort to do use that actually , So so I think th three is good . Yeah . uh how well it goes to the target demographic . we're d we're still thinking twenty to forty year olds ? I would I would give this model to the old people actually . So sh completely changed our demographic there , exce except for the surfing shape . I mean that's that's something which which has an appeal on this group I think , If it was the very bottom price range or it was like between this and another one we did the same thing then I can imagine it being applying to the the demographic Mm w w w we after this we can consider uh for instance , making this more attractive to to the demographic 'Cause we have got room , we've got some budget there to add a few things to it , But as it is now , I w would say mm , six , something . because it's so important it's i it was written that it really so important , the um the the look and uh taking care of its it targets , the right range of people , but but if you sell it in the market it's going to be cheap , actually . we have a constraint that we need to sell at twenty five Euros . There's nothing that would make me spend an extra k few Euros on that one rather than another one . So in that case well it's fine then . and the demokraphi demographic of the second one ? It's got the got the the toys in it , it's got the L\_C\_D\_ screen if we we wish to to sell four millions of this , I think for this audience we need absolutely the L\_C\_D\_ screen . I think especially if we're gonna n have an L\_C\_D\_ screen on a low range product then that's good . I'd probably go with three again for that one . Or even Even one and two . Or two . Yeah two yeah . because you can add lot of sophistication on that . And especially I guess 'cause this has the speech recognition as well , and that makes it more appealing , the final point , trends . the trends were the fruit and vegetables and the spongy feel . as it is , not really doing either of them . Spongy , uh , that means that it goes in in the water . the spongy could be part of the the feel of the buttons as well , have you tried the mobile phones that have got the kinda spongy buttons that feels kinda spongy . but I'm thinking one of the Nokias that's got like you ca it hasn't got individual buttons Yeah . We we we we we yeah , it's the way they are going to be , actually . the maybe in the colour we can



make it uh fruit and and veggie . But that's if you're using the covers . uh uh is it possible do you think , to to make a cover for s such a phone ? they make it for mobiles , it can't be that much more complicated . just with the with the flexible plastic uh So you got the option of having different colours or different textures . Yeah I think yeah it should be possible like what we do with the mobile phone , yeah . we can put the the the fancy f look of vegetables for instance , to to these covers I think the if we do the cover that's really going with the company's philosophy of having the fashion in in electronics , even next year when fruit and vegetables might be out , you'll still be able to put a new cover on it look at this computer , th this laptop , it's all black , and uh it's quite conventional , and sometimes people don't like too much flashy colours like this one presented here . So maybe we could do like in the range the set of what we propose a black one , very standard one , that meets the the requirements of th such people that want really standard uh things . And then you have the option of having the different colours , different covers . Although it is more with the spongy buttons on the um on the other one . 'Cause that's the that's the feature that could be included in either of them . Say , say one and two . One and two . the average of that is three six nine divided by five , so five mm nine by five , one point s eight ? One point eight yeah . Four point Uh four point two . Very good . But we still got a very different price for those two so they're not really comparable yet anyway . or we just have to choose . And adapt . Because , when we choose for this one we have to we have to make it more attractive We we must try to get them closer . it's easier to just make that one cheaper by just taking the speech recognition out . That'll basically take us down to the budget . Uh unfortunately we didn't see this chip , uh Matthew , so maybe we have to recap with this one . and w when we to d for this one we have to make it more cheap . let's let's try to to model this this phone in this sheet , Maybe we ought to reconsider everything with this , yeah . uh what kind of energy source uh It's a it's a normal battery , or maybe you might use a A\_A\_ battery actually . given speech recognition I think w you should go for the less fancy chip . Uh sample speaker , yeah . Double curve . Uh , plastic would be the material . Are you talking about this or that ? but they have the same shape , Uh special colour , now we leave it to the covers . now we're either going button or L\_C\_D\_s , L\_C\_D\_ display . It's okay . Just say L\_C\_D\_ . So it would need twelve buttons . we might need a scroll wheel , right , for that ? but for this one it's twelve Euro . So this comes to eighteen . And that's without any special button supplements . we'd have a special colour , special form and special material on all of them . it's not it's not double curved , it's single curved , it's like it's curved on the sides and curved on the top and bottom as well , that's what I thought . we've got those the scroll wheel on the side I'm I'm no I'm no I'm not sh sure . The bt buttons , we have twelve buttons , are you sure ? We've got a scroll wheel for the volume this is even more than the um than the cost you gave , the sixteen Euros . That is the sample sensor and sample speaker . We just need that actually . We need one . We We could go for the for the for the for the for a simple chip , but then we can't have the the speech recognition , this would this would be cutting the speech recognition . but if you have the near the L\_C\_D\_ you can um choose select between um you know like uni universal between audio , T\_V\_ and V\_C\_R\_ , and this needs a needs a advanced chip . I think yeah regular , today we you can do that with regular chip . and we still on fifteen , And what about the number of buttons buttons uh my Matthew ? when we just want to uh to cut the number of buttons we have to make seven to to fit in in twelve twelve fifty . But that's seven basic buttons right , seven buttons without any adds-on , without special colours or form or material . the L\_C\_D\_ display is is three Francs , sorry three Euros , by itself . We

we really want a L\_C\_D\_ other otherwise we wouldn't get the market . So we're gonna have to scale this down to get within budget , So what what each of us think about the because it's measure point the L\_C\_D\_ , um Or we could even replace them by buttons actually . Because sometimes when you watch the T\_V\_ in fact , you have a big display A actually it depends , it depends what kind of functionalities you want to add into it , for example if you add two more functionalities then better you add two more buttons , or and you'll have L\_C\_D\_ display which is that is going to bring the cost by two two Euros at least . I think , unless we can really drive these prices down we need to get rid of the L\_C\_D\_ display . Okay so we can get rid of it and then add a couple of buttons . and it's looking like we can't afford the L\_C\_D\_ display , there's no way we can get it in there . So who thinks the the L\_C\_D\_ display should be in it ? I think I'd like it to be in but I can't see it happening . I can't see it fitting in . having an L\_C\_D\_ s display is just uh uh have very very limited amount of buttons . So having seven buttons , instead of twelve . uh actually we could in fact we move these three buttons and have three uh possibilities for each of the three here . Here one , at the middle , and at the bottom . I think we should cut the L\_C\_D\_ screen . That that's that's my opinion . The speech recognition is out . Because of the budget , yeah . are we basically back to the original one now , back to the first version ? Which turns out to be on budget exactly , pretty much . With these new costings . and that that now twelve Euros is the is is the price , My supervisor will be glad that it's fifty cents cheaper than he expected . we can go back and I talk to the suppliers maybe and see if we can drive the prices down to add a few more things in but that's all we can do with the restrictions we have at the moment . Thank you . That was it . Thanks .

## Complete Meeting Transcript

Did you get my email with the slides? Ah. Tricky. Dunno. Maybe they're supposed to go over the seats. Might be seat floor rather than person. Yeah, put it back. Yep. Yeah. Jo's making faces at me. Mm-hmm. Mm. Mm, object tracking. Okay. Well we can't no we can't do evaluation 'til we have a design. Mm-hmm. Mm 'kay. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Oh yeah. Mm-hmm. Yeah. Mm-hmm. Okay so it's it's a very basic remote then, it's only Mm. Mm. Can I see? Thanks. Okay I like the volume control, that's good. Uh-huh. So it doesn't actually have buttons. Did you wanna see? Mm. It won't talk back. Right. Mm-hmm. Mm-hmm. Mm. So it's well outside the budget then. That's on top of the sixteen, or is it part of that? So that takes it down to thirteen Euros without the speech recognition. Mm-hmm. Mm. What's this one on the side? Ah okay. Mm-hmm. Mm 'kay. I like the shape of them, I do like the the size and the the shape. Mm-hmm. Okay. And maybe we run the evaluation on both of the products, both of these two. Okay. Basically this is what we've talked about already, um, from the marketing point of view. We just wanna make sure that we've taken into account Yep. So it's just a shortlist of criteria on um the things that we've identified as being important to selling the product. Um we just go through these and rate them as a group and then at the end we'll make an evaluation based on that, so just average the score of those items, so These are the things we identified as being important. Um the three things were look and feel, innovation and ease of use, were the three important components um appealing to the correct demographic so using those things in the

right way to appeal to our demographic. And then goin following the company motto, following the fashion trends and putting that into the product as well. So well do you wanna go through and put through those on the the two products now or do we wanna discuss them further and then evaluate them? Okay. So f just go through onto the whiteboard I guess. Not sure how this is gonna come out. So the first one was really very far below budget, would you want to take the price down of the end product according to that or just have the high profit on it? 'Cause if we're only going to make it for eight Euros then we have a Mm-hmm. Mm-hmm. Yep. Mm-hmm. Okay so look and feel, innovation Mm-hmm. And trends. Oh, you following the idea of using the um removable covers on these? Is that part of both of them or? Okay. Mm-hmm. Mm-hmm. Mm-hmm. No. Mm-hmm. Okay. Okay. Yep. So it's the pink. And the other one's green. Okay, so look and feel? Where um one is I've broken the pen again. S yeah. Get that one. Um w one's bad and seven's the best. Sorry, one's true and seven's false. One's the best. So on a scale of one to seven? Mm-hmm. Mm-hmm, yeah. Mm-hmm. Mm-hmm. Mm-hmm. Mm. On the scale u it's between functional and fancy basically we're looking at, so Mm-hmm. Four? Okay. Mm-hmm. Mm. No that's the ink's dried. Battery's low, isn't it the ink? The b that's the that that one? battery there. Mm. No I think it's lost a battery. No it's It would still write but it wouldn't pick it up with the sensors. You got a second? Well we won't be able to tell. Is that working? Did it come out? Good. Okay. Because we'll be able to see it still even if it wasn't working, it's just a normal whiteboard marker but it wouldn't be picked up on the the actual whiteboard. And the other one? I think it's slightly better, um, it's hard to tell from just the plasticine, but Mm. Mm. Okay. Mm-hmm. Yeah. Yeah. The other thing is, is the left hand one protruding? 'Cause if people are left handed they want to use the other hand, maybe it won't work so well. Okay. I'd say two or three for that one, personally. Probably more towards three than two. Okay. Mm, okay. Yeah it's d it's definitely more fancier than that one. Okay. So, consensus? Two or three? Two? Um, 'kay. Innovation. The first one, not really muc Mm. Yeah. Do we Mm

. What What features are we actually including? Are we including like a location kind of thing like trying to find it? There's nothing like that? But th is there any there's no actual innovation in that at all, it's just a straight-out remote control. Okay. Okay. So there's no this uh look and feel thing, though that's not a technological innovation. So I'd be up for seven for innovation. Okay. So what is it, what are the innovations with this? Got the L\_C\_D\_ screen. Is that in this one though? Is this 'cause this is the Th th there were different options we discussed then, we discussed the one that was in budget and the one that was out of budget. Okay. So the cost for these were what was the cost for the first one? Eight Euros? And this one was sixteen Euros. Okay. So. Innovation for this one is two? One? Two? Mm. Well the speech recognition is a very good innovation I believe it, so Give it a one? Yep. Okay. Ease of use? Mm. Yeah. Yep. So that's maybe a a two for ease of use. Okay. So maybe a three or a four. Mm. Okay. Consensus? Three or four? Three? Okay. Mm-hmm. Okay. So three's uh how well it goes to the target demographic. So we're d we're still thinking twenty to forty year olds? That's Mm. So sh completely changed our demographic there, it's not part of the the funky young thing. Yeah. If it was the very bottom price range or it was like between this and another one we did the same thing then I can imagine it being applying to the the demographic yeah. That's it's still Ye Mm. 'Cause we have got room, we've got some budget there to add a few things to it, that's right. Mm-hmm. And Mm. But it's going to be cheap whatever though, it was set with i we've got a set price. Yeah. There's nothing that would make me spend an extra k few Euros on that one rather than another one. Okay. Um and the demokraphi demographic of the second one? It's got the got the the toys in it, it's got the L\_C\_D\_ screen and Mm. Yeah. Mm-hmm. Yeah. I think especially if we're gonna n have an L\_C\_D\_ screen on

a low range product then that's good. Mm. Okay. I'd probably go with three again for that one. Mm-hmm. Okay. So, two, yeah? Mm-hmm. Yeah. Yep. And especially I guess 'cause this has the speech recognition as well, and that makes it more appealing, it's more of a new fun toy. Mm-hmm. Okay. And following the trends. So the trends were the fruit and vegetables and the spongy feel. So as it is, not really doing either of them. Well, the spongy could be part of the the feel of the buttons as well, I know some have you tried the mobile phones that have got the kinda spongy buttons and not not exactly spongy but I'm thinking one of the Nokias that's got like you ca it hasn't got individual buttons it's got just a one bit on it and so you can that feels kinda spongy. So it's sort of, yeah. Mm. Okay. But that's if you're using the covers. Or is it just one Well they make it for mobiles, it can't be that much more complicated. So you got the option of having different colours or different textures. Mm. Mm. Mm-hmm. I think the if we do the cover that's really going with the company's philosophy of having the fashion in in electronics, it lets people have the latest fashion even next year when fruit and vegetables might be out, you'll still be able to put a new cover on it and then it'll still be in fashion. Mm. Mm. Mm. Mm. Yep. Yep. Mm. And then you have the option of having the different colours, different covers. Mm. There's n yeah. 'Cause that's the that's the feature that could be included in either of them. Although it is more with the spongy buttons on the um on the other one. Okay. So. Two and three, or one and two? Mm-hmm. Okay. Okay so the average of that is three six nine divided by five, so five mm nine by five, one point s eight? This one, eleven thirteen nineteen twenty one, divided by five is four point two yep. Okay. But we still got a very different price for those two so they're not really comparable yet anyway. Yep. Yep. Mm-hmm. Well

it's easier to just make that one cheaper by just taking the speech recognition out. That'll basically take us down to the budget. Mm. Yeah, it's gonna be more than just the biggest case, definitely. Either of them. Mm. They're both going to be not basic cases. Mm-hmm. Yeah. The basic one, yep. So now we're either going button or L\_C\_D\_s, L\_C\_D\_ display. Is that price per unit, or for the whole thing? So it would need twelve buttons. Mm. And that's without any special button supplements. So we'd have a special colour, special form and special material on all of them. They're not just standard buttons. But I thought it would be curved on two it's like it's curved on the sides and curved on the top and bottom as well, that's what I thought. You talking about concave curves? You think a single curved? Mm. We have more, we've got those the scroll wheel on the side and yeah The sc Mm. We've got a scroll wheel for the volume don't we, or is it some other thing that's not on there. 'Kay we've only got five minutes left guys so we need to wrap it up pretty fast. So this is even more than the um than the cost you gave, the sixteen Euros. But that's seven basic buttons right, seven buttons without any adds-on, without special colours or form or material. Well So the L\_C\_D\_ display is is three Francs, sorry three Euros, by itself. Mm. So twelve Euro fifty, we got two off of the battery, we can't do anything about that, so ten fifty, if we want an L\_C\_D\_ dispra display, that's seven fifty um, so we've got seven fifty to use for the case and for the buttons. And the chip. Sorry the chip's up there already. So we're gonna have to scale this down to get within budget, there's no doubt about that. Mm. Yep. Mm. Yeah. I think, unless we can really drive these prices down we need to get rid of the L\_C\_D\_ display. For the price, it's gonna be what we can afford, and it's looking like we can't afford the L\_C\_D\_ display, there's no way we can get it in there. Mm. Mm-hmm. I th I'd like t it to be in but I can't see it happening. I can't see it fitting in. Bu y you're a power voter uh veto anyway as Project Manager. well we have to make a decision now, that's it. Mm. I think then we we're really losing ease of use. Okay. Okay. So L\_C\_D\_'s out, is speech rec out now? We've Yep. Yep. So are we basically back to the original one now, back to the first version? Which turns out to be on budget exactly, pretty much. With these new costings. So just look at forget that one

and look at that one now. Mm. Yep. Okay. Well that's that's Yep. So. Mm. Yep. So we can go back and I talk to the suppliers maybe and see if we can drive the prices down to add a few more things in but that's all we can do with the restrictions we have at the moment. Mm-hmm. Okay. I guess I have to change the pen otherwise. Will be completely different. Yeah. And do you think it's. Yeah. Yeah. So what can you? Yeah we will yeah, so I will be able to to summarize uh our meeting, but still I think uh it would be in very important if the uh as um main designer. I think we can put on the here. Uh basically we yeah we designed the two uh items. Um, can we have a phone, can someone it's really well designed. Yeah. 'Kay. Yep. Great. Yep. So I will start by the the basic one that uh fits into uh eight Euros actually, right, seven eight Euros, and uh well first for both they have um a special shape, maybe the designer can uh explain better than me, but uh it's like a surf board. And you you are supposed to surf to browse to surf T\_V\_, maybe the web, and uh it's kind of interesting shape because um unconsciously people want to surf when they see this stuff. And also it's not too far from um a mobile. So people are used to that kind of shape, right. Don't take care too much about the colour because we yeah we don't take yeah. So here would be basically the the the infrared uh uh led yeah L\_A\_ L\_A\_ L\_E\_D\_, the on-off button, in red. Here would be the volume. On the on the left, okay, so ea

sy to turn on t and off. And um so this is a very cheap version so there are maybe you can carry on uh Matthew. How can you change from V\_C\_R\_ to uh T\_V\_, by the way? Okay yeah. Yeah yeah. Yeah. Seven, eight, ei eight Euros. Yeah. Yeah. Yeah. Yeah actually, yeah. Play, pause. Exactly yeah. To audio and to video on demand. Yes. This is the orange button, the microphone. An yeah. Yeah. Yeah. Crazy designer, okay. Yeah yeah yeah yeah. Yeah. Oh actually well. It's low weight. You have to see yeah yeah the the components we put inside is very low weight. So the the cost is actually a bit more, it's uh it's it's sixteen Francs. Sixteen Euros sorry. Then it's out of budget. But the the main point we we talk about that with our uh manufacturer. And they say basically that the S\_R\_ system would be uh something like three Francs per item so three Euros sorry. And um No no no, part of that, yeah. Yeah, yeah. Well I think th th yeah we should stick with uh a number of keys because if we add too much then it's too Locati. Location. Yeah. Mm-hmm. Functionality. Easy to use. target. No. Yeah. Yeah. Four maybe. Uh. Yeah. If you press like this not like this then you But Okay. Try a Perfect. Yeah, yeah. Yep. Wow. 'Kay maybe It's not a button it's a led, it's a Ac actually yeah it should be embedded. Yeah. Oh you can push push it again, you can push it. Yeah. And the L\_C\_D\_ makes it better. Yeah. So I will say two. I would say two, three. Yep. Basically there is no innovation in the first one compared to what exists in the market, right? Yeah. The surf uh design. Yeah. Yeah. Yeah. You're right. Yeah. And the And the second one is really uh state of the art, uh in terms of innovation. And um with many more functionalities, and can open and close the the bottom part. Yeah. And all the scrolling uh buttons and menu and pro programmable device behind this. Uh could put it at one or two I would say. Personally. Uh Yeah automatic speech recognition. Yeah. So Eight. Well actually we have yeah to check again yeah. Sixteen. W W un to be one what would do we nee actually, yeah, I don't see okay, one would be without buttons,. Bu Yeah. So maybe we can put one. It's using speech recognition, yeah. Yeah, one, yeah. So the first one is really standard, so everybody i including our grandmothers can use it, right? Yeah. Um, the other one is quite easy, tho though. One me um we hope maybe sometimes people get uh scared with the number of buttons. And there is a like I would say three. Or maybe four. Yeah, yeah because it's n uh it's not like a big one with uh one hundred buttons or so, This one would be uh for grandmothers. No. Yeah, grandmothers, yeah. Yeah that's true. Yeah. Yeah. Yeah. Yeah because it's so important it's i it was written that it really so important, the um the the look and uh taking care of its it targets, the right range of people, right? Yeah. But w Yeah. But for us it's yeah we have a

constraint that we need to sell at twenty five Euros. Yeah. Yeah. Yeah. And if you want to target yeah if we wish to to sell four millions of this, I think for this audience we need absolutely the L\_C\_D\_ screen. Yeah. Or even Even one and two. Or two. Yeah. Two yeah. Yeah. Spongy, uh, that means that it goes in in the water. Uh okay. But this one includes this feature, right? Spongy buttons. So Uh the maybe in the colour we can make it uh fruit and and veggie. Yeah. Yeah. This is possible. Yeah exactly like Nokia phones. Yeah. 'Cause sometimes look at this computer, th this laptop, it's all black, and uh it's quite conventional, and sometimes people don't like too much flashy colours like this one presented here. So maybe we could do like in the range the set of what we propose a black one, very standard one, that meets the the requirements of th such people that want really standard uh things. Yeah. Yeah, so a a point better for the for the number two. Okay. Yeah, the blue one uh spongy. Nine. Very good. Yeah, it's right, yeah that's right. So

I I give yeah I just give a call with the manufacturer uh and uh I explained them and they told me this could be possible for sixteen Fr Euros. Uh unfortunately we didn't see this chip, uh Matthew, so maybe we have to recap with this one. For this one it's a normal battery. Uh sample speaker, yeah. Sample, yeah, this one. So So which one are we talking to? Well Yeah. Is it zero Franc? L\_C\_D\_ is. It's okay. Just say L\_C\_D\_. No but for this one it's twelve Euro. There are twelve? Wait a minute, it's not it's not double curved, it's single curved, right? Because it's there is no like. Well it's you know this curve like this so, it's w there is only is is there is nothing like y you know in the other stuff there are yeah concave. So I think we can put um the single curved in the sixteen. That makes uh seventeen. And what are just The bt buttons, we have twelve buttons, are you sure? Yeah. So I had a bad uh bad estimation. No no no. Yes, a kind of scroll wheel. Okay, so based on that, yeah, um where is the es okay sample speaker But still, yeah it No we cannot, yeah. So But the um Yeah but if you have the near the L\_C\_D\_ you can um choose select between um you know like uni universal between audio, T\_V\_ and V\_C\_R\_, and this needs a needs a advanced chip. Right, Matthew? Or regular chip? I think yeah regular, today we you can do that with regular chip. Yeah. Okay. Okay. So. And what about the number of buttons buttons uh my Matthew? When you look at this w, this u uh item, But You cannot make a phone to your boss saying twelve fifty is really really low, no? And uh we don't want to to change that right? We we really want a L\_C\_D\_ other otherwise we w wouldn't get the market. It's evident. Yeah. And I dunno So wha what what each of us think about the because it's measure point the L\_C\_D\_, um Do you think it's important? Because sometimes whe when you watch the T\_V\_ in fact, you have a big display and maybe you don't need one more in your hands? I dunno, I'm just asking. Yeah, it's true yeah. But uh, do we want that? On the market point of view, yeah. What do you think uh, L\_C\_D\_ is a major feature, or? You assume, you want a democratic voyt vote, right? Okay. Okay. We need to be. Yeah.. Yes. Because one yeah th show me that uh actually we could in fact we move these three buttons and have three uh possibilities for each of the three here. Here one, at the middle, and at the bottom. Okay,. Okay. The speech recognition is out. Because of the budget, yeah. Yes. Yeah. Actually yeah, we we we will not need the really uh expert designers um because the amount, yeah. Thanks. Okay. So. Matthew is uh late again. Probably an important man. Um. So well it is important for him to be here uh. He he he You did work together didn't you? Yes. Yes. Yes. Mm. Um yes but w we Yes, maybe we should phone him. Um well Um, when he is not here we will just we just have to continue. Um so just for record I I will take uh notes again. And um well first thing uh I was uh uh I got an email from uh from my superior again that we really should stay within the budget of the uh twelve Euro and fifty cents. It's uh well he said to me well uh when you stay in it's good, when you don't stay in you have to redesign. There is no uh no negotiation uh possible in this matter. So we have to consider that.

Good. Um so maybe Anna, you can have your presentation. Okay Matthew. Nice uh you are here. Great. Great. Oh ma maybe then you can start now with mm presenting your uh your designs. Mm. Eye. Uh-huh. Yes. Ah, okay. Mm-hmm. Yeah. Yeah. Yeah. Mm. Exce except for the for the special shape, the surfing board, it has a quite a a conventional layout of buttons uh. Mm-hmm. Yeah no you can carry on, I just look how it feels all. Yes it really feels like like like a mobile phone. Just I'm I really want to talk to it. But. So but but continue with your uh mm-hmm. Mm. Mm-hmm. Mm-hmm. From D\_V\_D\_ player to television or something. Yes. Mm. Yes and and and then you get feedback via

the L\_C\_D\_ yeah. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm. Yeah but but but but uh i in there uh when this is closed, will it also uh cover up the L\_C\_D\_ screen? But but the L\_C\_D\_ screen I mean is a very uh well an eye-attracting feature which shouldn't be shouldn't be That th that's true. Mm. Mm-hmm. Mm-hmm. Yes. Yes, more robust. Yes okay. Mm-hmm. Okay. But w Mm 'kay. Hmm. Mm-hmm. Mm-hmm. Well well Mm. Be before ta talking about the money and what's possible and what is not possible, maybe Anna you can uh give our uh give us your um Yes. Evalua evaluation and also the evaluation criteria, so what what is important to look at. Mm-hmm. Well just do it quickly if if we al already. Mm-hmm. Mm-hmm. Um, n no why not why not discuss uh discuss it now, Mm, well my my personal view is uh w when when this one is eight Euros we must think how can we improve it. And then I mean w w w you must just see it we can still spend this four and a half Euro and to r because th th th the the selling price is already prite fik uh uh quite fixed on twenty five Euros so we just have to offer as much as as well value for the for the customer uh he can have for twenty five Euro. Mm. Um well w w we can still discuss that. So um, and together with evaluating this uh we we might come with new ideas I mean adding things or uh removing uh of options because they are too expensive, but um I've received uh a framework which we can do this. I mean did you have this this Excel sheet? No okay, this is these are the the the latest prices of our production uh uh production unit for several components, so we can uh see whether the the price is is within the twelve Euro uh fifty cents uh. So maybe we can start with this, uh, calling this one. Th th this is the first design. Yes. Uh there is another pen. Okay. 'Kay. Okay. So. Look and feel. Well you already feel that uh pretty much I think. In i in my opinion purely feel is is is very good, is very good in your hand, so I I I would consider two or or may maybe even one for feel. But that's just half, we should also consider look, and then i it looks quite conventional. Don't you agree? So maybe two. Hmm. Hmm. Ma ma ma ma maybe say say five I It's my opinion, but I don't know what what Four, four. Now we th th then we settle on four. 'Kay. Can you maybe fix the other Mm, try it, just try it. Oh it will not ri mm, mm. Yes, it it has a mm. Good. Good. Okay. So then then Ah. Mm. I I I When we want to include I I I'm doubting about this this component. It it it it breaks in your Mm, yes I see, mm okay. Well r r Mm. I think the look is better but the feel is is is worse. So so I would also say this is four. But w w do you what do you think? Mm. Mm. Yes. Yes, it basically is the same shape. Mm-hmm. Mm. Yeah. Yeah. Yeah. Yes, okay. Two? Mm. Two's good yes. Mm. Mm-hmm. Mm-hmm. The only innova innovation is the shape. S so that Mm. Yes. A and the L\_C\_D\_ screen is That's that's that's well it's quite innovative. Mm. Yeah. Mm. Mm. Mm. Mm. We just diske discuss it as you designed it and then we will try to get it in the budget. Eight. Yes. Two. Why it is one. A man w w Yes. This this is it w with the speech recognition? Well. Gi given that that it works, then it's I think one. Mm. Hmm. Three, I would. Three. No. Yeah. Yes but then when when he is used to it, i i it is quite easy. So so I think th three is good. Yeah. Good. What's the next? So Twe twenty to forty, yes that's Mm-hmm. Well exce except for the surfing shape. I mean that's that's something which which has an appeal on this group I think, but Mm w w w we after this we can can consider uh for instance, making this more attractive to to the demographic Mm. But as it is now, I w would say mm,

six, something. Do you agree? Mm, yeah, indeed. Th t t Ju just think, twenty five Euros, I mean it's not going to be cheaper. Mm. Mm. Okay. Yeah tha tha tha tha tha that's I think it's better, because of the L\_C\_D\_ screen which is really an appeal on the on the on the on the and on

the Mm. So, the L\_C\_D\_ screen uh attracts, yes. Because it Mm, ma maybe that's something to consider, yes, so. Wh what what No s say t two. Two? Okay, the final point, trends. Mm. Mm. I think Mm. Mm. And the then we can al yes. We can we can consider uh uh is it possible do you think, to to make a cover for s such a phone? I mean Well just with the with the flexible plastic uh I th I th I think O o or just two things which can be put on each other. Yes, exactly like it. Uh, so Maybe we can but we have to decide it, we can put the the the fancy f look of vegetables for instance, to to these covers and s now try to invest in the in in the features. Mm. Mm mm mm mm mm. Mm-hmm. Mm-hmm. Mm. Mm. Yes. So so so that that would make the trends equal, so we we we really have don't have, I mean Mm. Yes, indeed. Yes. Say, say one and two. One and two. So le le let's see. So d this one has spongy but buttons? Mm, I see, yes okay. Good. Just add it. You know. Three, six, seven. Mm-hmm. We we must try to get them closer. Both in i i or we just have to choose. And adapt. Because, when we choose for this one we have to we have to make it more attractive and w when we to d for this one we have to make it more cheap. Yes, well But I'm now did y did you work with the same prices that I have here? Mm. Mm, tha Well yes, well uh re reconsider it. So let's let's try to to model this this phone in this sheet, uh what kind of energy source uh I I we didn't speak about that. It's a it's a normal battery, or Yes. Just so one battery. 'Kay. Electronics. given speech recognition I think w you should go for the less fancy chip. Yeah, yes, or sample sensor, yes. Yes, this one. Okay. Case? Um, I see I Double curve. Mm. Oh yes, we are talking about, but they have the same shape, but, actually bu So th th this would be double curves? 'Kay. Uh, plastic would be the material. Uh special colour, now we leave it to the covers. Push. Mm, yes, but Yeah th now this is per per unit, this number of components. So, one, two, three, four, five, six, seven, eight, nine, t Yes. Twelve I believe. So this comes to eighteen. So So I think but th do you agree th that thi Yes I Yes I'm I'm no I'm no I'm not sh sure. Yes I kno undes I understand what you mean, yes. Uh-huh. Both. Yes. Uh W d we have we haven't talk about a, but that's no a is very exp inexpensive I believe but it is not in the list. W ho h is this a scroll wheel or is this a a a sort of button which can be pressed on two sides uh so for higher and lower? Mm. Mm-hmm. So um We're We We could go for the for the for the for the for a simple chip, but then we can't have the the speech recognition, yes? Yes? So so w when we w a this would this would be cutting the speech recognition. Transti Say say it's regular, regular chip, and we still on fifteen, so Yes but that maybe Well we can just say one. Ca I we are just when we just want to uh to cut the number of buttons we have to make seven to to fit in in twelve twelve fifty. So is it possible? Mm-hmm. No no, he he he I I Mm-hmm. Mm-hmm. Otherwise y you ha you have a s ve very normal uh thing like this. Mm. Mm-hmm, mm-hmm. A Mm Mm. I I think we have to come to a decision now, just I I think we we what we just do i is vote about the uh the L\_C\_D\_ uh display so Yes. Yes. Yes. One man one vote. S so who thinks the the L\_C\_D\_ dispaly display should be i should be in it? Mm. Mm-hmm mm-hmm. Mm-hmm, I know, but Yes. So uh uh having an L\_C\_D\_ s display is just uh uh have very very limited amount of buttons. Is that acceptable? Ca can I have can the functions be implement in an You've you you agree. So hav hav having seven buttons, instead of twelve. So that wou would be cutting cutting suh say about these buttons. Mm. Mm. So um I I think we should we should cut the L\_C\_D\_ screen. That that's that's my opinion. Just Uh where, L\_C\_ Okay w we now we can just uh Yes. Yes. I th I th I think w we just go for this one and that that now twelve Euros is the is is the price, okay. My m my



supervisor will be glad that it's fifty cents cheaper than he expected. Okay. Okay, good. Then we the same. Thank you. That was it. Or browse. Mm. Now we are supposed to give some oper offers right now. I yeah. L\_E\_D\_. Mm-hmm, hmm. Also so you have uh uh browsing the channels, actually so you can go up and down the channels, uh, if you have a video or something you can forward, back. Oh no no no, this is a single this this is a model with just the T\_V\_ one. No no just sorry, this is a standard T\_V\_ one, we are not talking about that. So and then we have usually there twelve keys but we know that we rel that we have only ten digits. The extra two are for uh having or giving an option for uh having more than one channel. And the other one is for the teletext or something you want to browse through from that. Actually. It's a very basic minimal thing which you can which is which is also available in the market, actually that's what it that it i and would cost us to build it about eight Euros. Yeah. Yeah. So this one model and uh yeah. Sure. Th this is a magic one but I know we don't want to talk about that, you know like uh i i i it is a very futuristic, it's like uh it's like a brain machine interface and all this stuff we are thinking about in the future, it can come. So that uh then what we look t yeah. This is a model, yeah. Yep. Uh so well then the this is the a more a little uh smooth and it gives a lot of functionality, uh in this way, so all we have uh th you see there are only six keys, but don't worry they are ma they are doing the job of twelve keys actually here. And so they have more space actually and uh it's easy to uh use this and uh you have um so this is a standard uh uh infrared eye, and then you have a power button, which I volume, what you have, and then other than that you have uh channel up and down and uh f slow pause or s slow lo yeah s pause or stop, and uh then uh you can uh you have a L\_C\_D\_ display, here and uh y this is a functional thing which can change like it's a toggle switch which could change the function say, y you press it Yeah. I really can change it, so Instead of having many switches, y The L\_C\_D\_ can display what is that on that, and uh well you can have a integrated microphone over here, or in the button th here, so which can uh basically you want to do a speech recognition and uh that channel a lot of information can be di displayed here directly on the um on your on your display. And here is a small L\_E\_D\_ which is like blinking one, which tells you like uh are you running out of the battery, and which is can be useful for the locating as I was talking earlier okay. And uh well then we have a cover basically, basically you don't need much of the time this, when you need you can use it, and this gives additional functionality that tomorrow you want you can add a tactile thing to this cover you know. Design enter. Yeah. Yeah. It's basically to do that. Actually when you are watching the T\_V\_, when you are watching anything or listening to them, you hardly care about what is getting displayed here, you know, uh you want to uh and this gives a protection to the L\_C\_D\_ actually, giving a cover to that actually. Gives a protection because when it falls down or something it is it is is it gives a protec it's more robust that way. Uh yeah. And you have very good chances Yeah. Yeah. It Sixteen Euros. Yeah. Three Euros. Part of that. Yeah. Well uh if you we can have if you have new more ideas we can add new more uh some more keys if you want to you know Yeah it it should not be cluttering up everything. Ah that's for the it's kind of a L\_E\_D\_ for indicating your battery and as well as it's like a blinking one you know you can keep it aside. Yeah. And now it easy to use. No. Mm yeah. Well I will give it maybe we have anyways the way we have designed it's like the surf as you say you know. It though the look is fine but uh still I will give four in that case you know. Four yeah that Yeah.

I will gi yeah. No. C can you get the batteries? No no the battery has fallen down, that's i Yeah. No no it's not that, it's how to close a battery. Okay? Now it should be. Is there another battery there? Oh yeah. No actually this is this is not going to protrude actually, it it's n i it is jus It's a led actually which which 'll be covering in a curve It's will be embedded there so it won't be really you know protruding or something. Yeah. Yeah. Yeah. No you it it not protruding actually, it will go in better into that Uh it's fine

I think. My just that um the feel is that um you right now you you don't see the feel because right uh for example if you press it quite inside now like this, now it's embedded one. This is how embedded one will Yeah. It's a bas basically the same thing actually. You will be Except that in this c Yeah. And you might have a slight thing for to forward and Yeah, yeah. Yeah. looking like No but except for the design of the surf. You should be rea Uh no I think it's more of the feel. Yeah, yeah. Yeah. Say about that. Yeah. Yep. Yeah, it gives it Yep. No, we ha Yeah, eight Euros yeah. Sixteen Euros. It's a two, I would say two. Yeah. Okay yeah. Uh He is used to it act They are used to it actually. Here there may Uh, though it has more functionality I think it shouldn't be for the user to learn it actually. It shouldn't be diffi Uh yeah, actually in fact I think it will be Yeah Yeah but y Well we have reduced the keys actually you see. Three is fine with me. Yeah it's a actually the user has to put some effort to do use that actually, it's not so easy, like this one the normal. Is quite easy yeah. Initially there there is a lot of effort, yeah. Mm. Oh no, this would I I would I would give this model to the old people actually. Yeah. And Oh yeah,. I Well I think Yeah. Uh yeah but but if you sell it in the market it's going to be cheap, actually. So And people can still decide to use the cheaper one instead of a Okay. Okay. So in that case well it's fine then. We can yeah. And the demographics of Yeah I think it's uh it has more market actually. Y yeah, you know two. Yeah two yeah. Because tomorrow this will be more appealing because you can add lot of sophistication on that. Because then you you have it uh d you have lot of things which you can include for the people to We have to practically test it. The field test will tell you how good. The trends. Mm-hmm. Yeah I know. Yeah. We we we we we yeah, it's the way they are going to be, actually. But why do you want to cover that actually? In that uh w in the mod Uh uh y are you sure? Yeah I think yeah it should be possible like what we do with the mobile phone, yeah. Yep. Yeah, it's one. Yeah, it says a One point six, one point One point eight yeah. Four point Uh four point two. Wow. Yeah. Yep. Maybe we ought to reconsider everything with this, yeah. Mm-hmm. Yeah, it migh It it'll need uh more than a conventional one, it won't be uh just maybe you might use a A\_A\_ battery actually. What do you say, Mael? Yeah. Curved. Double curved yeah right. It's uh Are you talking about this or that? Mm-hmm. Yeah. A special colour? Uh Ah good. Yeah, we might need a scroll wheel, right, for that? No, for that one also. Yeah that's a scroll. Yeah, one scroll wheel you might need. Uh Bad estimate, right? That is the sample sensor and sample speaker. We just need that actually. We need one. S Oh I i it I think it's going to be y y yeah it's th with the regular chip, yeah. Yeah. Uh Yeah. That'll be then we have uh have to ask the user to press it several times. Uh Or we could even replace them by buttons actually. A actually it depends, it depends what kind of functionalities you want to add into it, for example if you add two more functionalities then better you add two more buttons, or and you'll have L\_C\_D\_ display which is that is going to bring the cost by two two Euros at least. Okay so we can get rid of it and then add a couple of buttons. I think but Yeah but the only

thing is that what is the multiple functionalities you want to include with that. Yeah. W I I I just Yeah. That will create another problem. For the people to use it. It's not going to be easy. Doing that. No, it's okay, you uh cut the L\_C\_D\_ screen and introduce two more buttons. Yeah. Yeah. Okay. That's it. Cool.

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# Meeting ID: 66

Data Source: Train

## Executive Summary

The project manager briefed the team on some new requirements to consider when designing the remote. The user interface designer presented two existing products and discussed what was wrong with each product. The team discussed how to create a remote which did not include the problems present in the existing products presented by the interface specialist. The marketing expert presented consumer preferences and requirements and the team discussed who their target demographic should be and whether to include speech recognition in their product. The industrial designer discussed the interior workings of a remote and the team discussed various options for components and energy sources. The team then discussed features to include in the remote and what they could do to figure out how to categorize them.

## Complete Meeting Transcript

I'll go first. Alright um, can I steal this from the back of your laptop? Uh so this is the technical functions design. Um Right to do the um the design I have I've had a look online, I've had a look at the homepage, which has given us um some insp inspiration from previous products. Um I've had a look at the previous products to see what they offer and um I would like to ask you guys for um your ideas about the design at the end of the meeting. Um unfortunately we're not allowed to talk outside the meeting room, so Um, having a look at the existing products, I found out that um it tends to come in sort of two extremes, there's either um a very complicated one that's got lots of buttons, lots of colours, very confusing, you don't know what you're doing. Um in that case the the labelling tends to be very bad. Um there's an example I'll show you at the end, um sh show you now. Uh here um the button there and there. This one's prog. Sorry. That one's perg and that one's prog, and it doesn't really tell you what it does. Um, not sure if you had a a look at the other um control in that example. Um it's a very simple one. It's got only the basic functions mm but um it's the same size as the the hard to use one. Uh it looked a bit clunky. They're very big and not very much use for buttons. Um, and it's just very hard to access the advanced functions. There's there's nothing for instance for a slow motion button. Um, my own preferences, I prefer the the clunky one. Um it's very easy to use. Um but unfortunately it does lack

the advanced functions which I quite like having on the controls. Um so I believe the the advanced functions should maybe be hidden in a drawer, or something like that from the bottom of it. So, now I'd like to ask for your preferences. Um not sure of how long we've got, uh Um, the clunky one is the one on the right. Um I think it's supposed to be the same size, but um it's got much fewer buttons. It's, you know, it's very spread out and kind of you know, I get the idea it'd be sort of about this size. got very few buttons on it and Um, do we have any functions that um we'd want on it? I mean so far I've got um on and off, um switch the channel up and down, and put the volume up and down. Um they're just the the very basics you could use for a T\_V\_. Okay. Um, you say that's a h a required one or a requested one? Would you like um the channels like the the numbers on thing, um Um, yeah. Um Uh, to start with um sort of a bit both, um we need to find out exactly what we have to have um and after that we can add things if they're possible. There's um on and off, um volume and channel, and skip to certain channels with the numbers. Do you want to switch places? Just just switch them. Think maybe the the wire in the back might be loose. Um Well, did you not say it was the the adults that were going for the the voice recognition? Sort of the the older group. Uh f Yeah. I reckon one problem with speech recognition is um I've actually seen one of them used and uh the technology that was in that one wasn't particularly amazing, so you end up yelling at the control for hours. Channel up. Um I think it'd probably quite expensive to put in. Um. I think we just say that it was gonna be the the most basic stuff possible. Um on off, up and down channels, up and down volume and uh skip to a channel. Ta. Um I think we include mute, but apart from that um I think we just we'll go for the simpleness. Yeah. Um just about the three buckets, um what would go in the the device functions one? Um Is that alright now? Okay. Sorry? Okay, everybody all set to start the meeting? Okay, we've got half an hour for this one um to uh discuss the um functional design. All ready to go? Okay. Um so hopefully you've all been working away, and I've put the minutes of the last meeting in the project folder. Um so I guess just to to recap on uh what we did last time. Um kind of uh got to know each other a little bit and uh got familiar with all the equ

ipment and started to discuss um a bit about the project, you know, cost-wise how much how much money we had to s Um just want to tell you that you have three new requirements, um which is the The first one is that um uh the company's decided that teletext is outdated uh because of how popular the internet is. Nobody uses teletext very much anymore, so we don't really need to consider that in the functionality of the of the remote control. Um they've also suggested that we um we only use the remote control to control the television, not the V\_C\_R\_, D\_V\_D\_ or anything else. I think the worry is that if the project becomes too complex then it'll affect um how long it takes us to get it into into production, the time to market. So um, we're just gonna keep it simple and it'll just control the T\_V\_. And the other thing was that the company want the corporate colour and slogan to be implemented in the new design. Um I'm not entirely sure what the corporate colour is. It might be yellow, because there seems to be a lot of yellow everywhere. Well that's the thing, I'm I'm not sure um uh th because on the the company website, uh what does it say Uh something Yeah, I mean do they Is that something they want actually written on it, 'cause it's quite long. Um or yeah, just the idea, but I'm not sure. So that's something we can discuss as well. So those are the three things, just not to worry about teletext, uh only control the T\_V\_, and um and uh incorporate the uh colour and slogan of the company. Um so is everybody okay with any of that, or do you want me to recap at all? Right um, time for presentations then. Who would like to go first? Okay, cool. Oh yeah, of course, yeah. G go on ahead. Mm-hmm. Okay. Alright. Oop. Um. Well we can chat away for uh for five minutes or so I think at at most. Just a couple of minutes anyway. Mm-hmm. Shall we sh well we'll stick to kind of your area for now. Yeah. Looks kind of Yeah. Well I think it's a valid point. I mean like the one on the left looks quite um quite complicated, and that

P\_R\_T\_ p P\_R\_O\_T\_ thing is incredibly confusing. Um so I see I see why you know you might prefer the simpler design, but yeah you don't want to lose out on, you know, what it does, so maybe you know you know you get a lot of remote controls where you kind of flip the thing open, I think that's a good idea. I think it's a good idea. Mm-hmm. Uh-huh. Uh-huh, and then actual numbers for channels as well, yeah. God, I would say that's required, I mean there's no way anybody's gonna buy a remote control these days when if you can't actually individually select channels, I mean would anybody disagree with that? Um, what else, uh So don't need to worry about teletext, don't need to worry about V\_C\_R\_, uh any kind of like display controls at all do you think we need to worry about, you know like brightness and contrast? Mm. Yeah. I think are you are you maybe kind of thinking what we absolutely have to have and what would be nice? Mm-hmm. Okay, right. Well, do you wanna maybe just, at this point decide on what we absolutely must have as a p as a function of this. Um, so so far, just to recap you've got volume and channel control and Right okay. Um Mm-hmm yeah. Oka Mm-hmm. Okay. Uh well, just to to wrap up quickly on this this little section Have I just lost Oh no. Um, uh do you think maybe that's the only kind of uh essential requirements, and then maybe just things that would be nice if it could do would be things like audio set up and display set up and things like that, maybe like a mute button, that sort of thing. Any of you anything to add to that at all? No. Okay, right. Um okay, if we can move on to next presentation then please. Um Do you wanna Probably not, actually. Yeah. bit complicated. It'd be nice if everything was wireless, wouldn't it? Right. Oh, like overlap between what you said? Oh well, for all you know that that'll happen. Mm hard to know what where your role ends, yeah. Okay. Uh pr yeah, press fun

ction and F\_ eight, yeah. Mm. Yeah, you wanna Oh oh here we go. There you go. Um Okay. Right. Can you um Right, okay. Yeah. Mm-hmm. Mm-hmm. Repetitive strain injury. Mm-hmm. Okay. So want something that looks good and is easy to use, big priorities. Okay. Mm. So if you wanna group all the different kind of types of functions together, you know. That's I think it's a good idea. Mm-hmm. Okay. Mm-hmm. Okay. Right. Well, um one of the things that we have to decide on by the end of the meeting is who we're gonna be um who's our our target audience, our target market. Um, so if we want something that that looks good and is easy to use, but has y is fairly powerful product, whatever, who do we really want to aim that at? I mean Yeah, who wou who would have the money to spend. Well i if if like twenty five Euro is our is our selling price then you can imagine, well I don't I'm not really sure how much that will retail at. But you want it's somebody who's not gonna just use the remote that comes with their telly, I suppose, they're gonna actually go out and buy one. So, who do you think we're aiming this at? It's about sixteen, seventeen pounds, I think. Yeah, okay. Okay. Okay. Yeah. Yeah, yeah. Okay Okay. Yeah, so do you think we're we're aiming at a fairly young market then? Yeah, okay. Um do you think then uh voice recognition is something we should really seriously consider? What what do you think, Craig? N yeah. I think we are gonna have to narrow it down, to say let's target these people and give them what they want and 'cause you know, there needs to be some kind of selling point to it. So um anybody anything there to add Just kind of young professionals, uh th like if we are going to include speech recognition, it's kind of between fifteen and thirty five seems to be like a really high response to that. So we could say that was our target. Yeah. Mm-hmm. Okay, so fifteen to thirty five, look fairly young. You know, they have bit of expendable income to spend on this sort of thing. Yeah. Yeah. So Yeah. Yeah. So they'll not sh not shy away from something quite high-tech. That that's that's a good point. Um okay, so um so shall we make the decision uh to include speech recognition if we can. Okay. Why is that? Okay. Where you can activate it and deactivate it? Yeah. Okay. Okay. Uh-huh. Okay. Uh okay, well do you wanna um give us your presentation and then then we can I don't know um might

have been a good idea to all deliver our presentations and then discuss, but this is this is how we're Yeah, exactly, yeah. Oh it's something that's just occurred to me as well is if we make it um speech reco if we incorporate speech recognition, that's appealing to people um maybe with a physical disability as well. Um. Yeah. Yeah. Mm-hmm. Really? Do you think maybe we need like further advances in that kind of area until it's worthwhile incorporating it though? Mm. Course not. There you go. Right. Mm-hmm. Mm-hmm. Mm-hmm. Uh-huh. Hmm. Mm-hmm. Mm-hmm. Okay. Okay. Uh. Well, do you want to finish up your whole presentation then? Are you all done? Mm. Okay. Okay. Right. Okay. Mm-hmm. Mm-hmm. Oh. So this just show how we're kind of modularising the whole thing. Okay. Mm-hmm. Yeah. Mm-hmm. Okay. Okay. Okay. Well well a worry that was expressed in the new requirements was that if we made this too complex it would effect um how long how long it took us to get this to market, so I th suspect it might be a good idea just to restrict our kind of our creative influence on this on the user interface and not worry so much about uh how we transmit it um because I mean it it's tried and tested intra-red, so we could stay with tha Mm-hmm Oh, yeah. Yeah, mm-hmm. Okay. Mm. Mm. Yeah. Okay. Okay. W Yeah. W Well well we've um In the new requirement spec they said just to focus on the T\_V\_, so that's what we should do for now I think. Something I was wondering about was the power. Um, is it worth considering like having like a

charging unit as opposed to just regular batteries? I mean is that something we really want to go into, do you think, or should we just consider running on regular batteries? Uh-huh. Uh-huh. Yeah. Okay. Okay, so Yeah. Yeah. Okay, so just stick to to regular Okay. Um, right. So basically the um I'm just gonna just recap uh what I said at the start, was that um the the whole point of this meeting was to f absolutely finalise who we're gonna aim this at, and what exactly the product's gonna do. So um just to recap on Are we all happy about the idea of um aiming the product at um the fifteen to thirty five bracket? Um and also the funct the the actual functions of what it's gonna do. Do you wanna recap on that, Craig? Okay, right. Okay. Yeah, it's as optional functions. Okay. Mm-hmm. Mm-hmm. Mm-hmm. Yeah. Okay, right. Um, okay well I gotta kind of got five minutes to wrap up now. Um next thing we're doing is having lunch. Whoohoo. Um and then we're gonna have thirty minutes of working on the next stage. Um so I'll be putting the minutes of this uh this meeting into the project documents folder. Um so uh I guess just to just to confirm that we know what we're doing in the next well in the thirty minutes after lunch anyway, um for uh our Industrial Designer, you're gonna be thinking about the components concept. Um User Interface Designer gonna be thinking about our user interface, and marketing you're gonna be thinking about trend watching. Um and you'll all get specific instructions as well. So um I dunno, just just to to ask now if you've got anything else you've thought about while we've been talking. Um, do you wanna start with David. Anything else to say at all? No, okay. Andrew? Yeah, yeah I think that's definitely a good idea. Uh-huh. Yeah. Yeah. Okay. Yeah. Okay. Okay. Okay, so you're gonna have um audio which is gonna be like you know your bass settings and actual volume hi Okay. Okay, and then visual Okay, so brightness, contrast, things like that, and then just actual device things, like what channel you're watching, turning on an off, stuff like that. Okay, um Mm-hmm. Yeah. Okay. Okay. Okay. Um so yeah, I guess just things to think about are you know like the fact it's gotta look good, because of who we're we're, you know, targeting this at. Um something maybe kind of quirky in design maybe. Make it kind of ergonomic kind of to hold, you know, things like that. Um, so I guess I guess that's it. That's the meeting over. Whoohoo. Mm yeah. Nope, we're all set. Which which is the clunky one, the one on left or on the right?.. Okay. No. I'll add it later, I guess the presentation. No. No. Um function F\_ eight. Function, the blue button. Next to the control on the left. Yeah. You have to push it

together. Yep. Nope. Try that again. Wait. Yep, there we go. Increase that 'cause we can't see the That's much better. There you go. Bouncing on top. Is installing a new remote control something that people Um, I think it'll be the mid range to the high end market, in terms of people. 'Cause twenty five Euros for a remote, how much is that locally in pounds? Is that too is that a lot of money to buy an extra remote or a replacement remote? Right. Um so maybe not the high end range, but maybe middle, middle up-ish. Kind of. You know how much? I dunno I guess you pay, what, ten ten quid for a remote? Like a simple replacement, right. I mean if you lost your remote and the first thing you just wanna go out and get, would you how much would you pay? Yeah. Yep. I I think twenty five to thirty five is is is fair to add that in as a group as well because that's more than half your group of people who are willing to at least try and use your technology. Yeah. I think perhaps that age group is significant as well because those are people who use the computer, who are familiar with their with computers in in their everyday work. I think people who are maybe about I wouldn't say thirty five, but people who are about forty-ish and above now w

ould not be so dependent and reliant on a computer or a mobile phone or something like that. So these are people who are gadgety, right? People who are u growing up used to, you know in schools and in universities, when you go on to their working lives, people who would you know regular Yeah. Yeah. Mm. I I think one thing we should try not to avoid is not to say we have to use speech recognition right now, because um, based on what you've go y everybody's saying, right, you want something simple. You want basic stuff and you want something that's easy to use. Speech recognition might not be the simplest thing for somebody to use. Um, but what I'm saying is that we're we're trying to lock ourselves into a s particular kind of technology, rather than focusing on on exactly what are the features that we're gonna say, and then, you know, say speech recognition is good for this, speech recognition is not good for this. So maybe we should I suggest that we think about speech recognition, anyway it's a it's something that can be used to fulfil a function, but at end of the day we don't look at the technology, but we look at the function first. Okay, sure. Sorry, do you mind passing me my notepad. Thanks. Cool, um. Okay. Um. Well this is just the working design um. Well this is just what how I would go about it. Um I guess I try to define like what we're doing now, try to define what we're trying to get done. Um I think in a practical way, we kind of know what it is. We've used it, we're familiar with it, but we're we can't n we haven't narrowed down um exactly what the things we're trying to fulfil, like Besides the basics, I think back in the back of our minds we know what the basics are. Has to change channels, has to change volume, but in like specifics, right, which one of the basics are you trying to target. Um are there certain parts of the basics that are more important or less important than the basics? Um and I just the idea is just to get everybody to um I usually have a have have a design that's there as a basic, so, you know, things that to start everything going. But I guess everybody does have some idea, so I don't think um there's a need for that. Um okay this finding things is a little bit confusing, so I'll go into the diagram first. It just explains how the process goes through, from a from the basic technology point of view, the basic steps that you need um in the diagram and in this slide probably works better. Um okay, you need some power source. 'Kay, a battery or something, to keep it going. Um and that power source is important because it ties you down to um how long the device will last. Um it ties you down perhaps a bit later on in terms of the technologies um how far you can transmit the signal or the complexity of the functions that you want. Like for example, voice recognition, right. That might be constrained because that you might need to power a microphone, you might need to power other things, so that's one perhaps constraint there. Um Th Okay, the basic thing is there's a user interface where people punch a button or talk into it or smile to it or blink their eyes, whatever. You know, and that um picks up an input

from a user, um uh a logic a series of logic has to decide what the user is telling the device, and the device has to r you know, based on you push button A\_, so I will do something with button A\_. So maybe button A\_ is the power button, okay. Um and then it needs to be able to send the signal out to the device itself which is the receiver here. Um and I think that's about it in terms of my design um. It's fairly general, um and I guess the purpose of this is also not to restrict you in in the way you're thinking, like um voice recognition, right, um, if it's something which is important then we just add more power rather than having a thing that we don't have enough power. So it's not really a constraint in that sense, but I mean these are functionally, you know, the base, what the technol

ogy has to do. Um so I guess the rest of it I think we should maybe you you wanna go back to what the functions are? I think that's more relevant to a discussion? Yeah, w I'm done. More or less. Yeah. Ps Oh, it's just putting the rest of it into words, but it's essentially the same thing. Um you have a transmitter, an input device, logic chip, you know, stuff like that. Um I guess this would be Yep. Um, these these aren't technology options in that sense. This is just um a basic principles and basic components that are needed. For example, if you needed um if you needed to add uh a voice recognition, right, then your user interface would be split, broken down into more components, right, which you have a microphone, the V\_R\_ and stuff like that. Uh Yep. Yep. So each component represents one function, but I think the basic functions are the logic, the transmitter, um and the receiver, okay, and the power are things that you won't have to care about. Um and those are things that based on what your user interface requires then we'll add more functionality to it. Um there might be one other consideration which would be that the the transmission between the remote control and the T\_V\_ for example. Okay, um are we gonna restrict ourselves to using the traditional technologies of infra-red thing? Because that's something you need to actually be physically be pointing to. Right. Yep. There might be one other problem with the transmission, um in particular right now, since we're talking about voice recognition. Um if somebody's gonna h talk to the device, you ideally want them to hold it to them. I it you may not require that, but you know, um it's it's it's something very natural, I guess, you know, to hold it, to signal to the user, and push a button maybe to start s talking about it. Then you need to send the signal out, so because if you're using infra-red, the line of sight um say the T\_V\_'s at that chair, and I'm standing in front of here and the transmitter is here, it blocks it. So in that sense, there's not really a restriction but it's something which you may have to think about later on in the process. Not so much further down. There's there's not much specific specific information, but I think that um one indication of infra-red mean that you're just targeting traditional devices. Because infra-red is something which everybody has. There's a there's Okay, from from a from a component point of view there's added complexity, and you add cost to it, um and then there's probably the fact that you need another physical component. You need a docking cradle, for example, for you to put it in to charge. Or you need to get the user to plug it in. Um and most users are very f use already used to the idea of buying batteries and putting it into the controller. But unless the controller's gonna consume a lot of batteries, like he's gonna run through like twenty batteries a month, then I don't think rechargeable is something we should you know, we really need to care about. Um. Okay, I think Another thing that you were saying about categorising the controls? Um maybe I could suggest we we break them down into three simple categories. One would be audio controls, one would be video controls, and the other one would be a device. Um this may not map very well to advanced functionality especially, but I think that um from a manufacturer's point of view, from a person designing the device, but I think from a point of view of a person using the device, you know a T\_V\_ is something they see and something they hear, um it's something they do other things to like turn it on and turn it off. I mean like so what we could have is like



three buckets, right, where we could throw things into, like if we want this feature, let's throw it into there, and then from there decide whether it's basic, or it's non-basic. I mean it might help with the visualisation. And it would actually help with the component build as well. Mm no, not really. Mm. Um things I

like on off. Because they don't have anything to do with what you see. I mean in terms of picture and the entertainment value, you know, um so um And channel. Because the on off also goes, you know, like on off like power, not on off sound. Not on off video. Although you don't turn off the video on your T\_V\_, but um you might wanna you know turn off the sound, say you wanna pick up the phone, there's a mute button, right, so you you have you have a choice of putting it on to um others or a device. Device is basically anything which we can't categorise, right. We put it out. Yeah, anything to do with what you hear, right. You you put that into audio. And then video is anything that you can see. Um. Yep. Yep. Yep. Like random which we have no other place to put, but we need it somewhere there. Um even even if it doesn't map very clearly what happens is that people at least have some in their mind. It's easy to use, I think that's one thing that um and I guess from the component point of view it's easy to build as well 'cause things are like fixed. Could you plug me in? Okay. Thanks. Okay. 'Kay. Okay. And the slogan, like the actual written slogan, or just to embody the idea of the slogan? 'Bout putting the fashion in electronics. Sure. Right. Mm-hmm. M yeah, like a lot of a lot of what I've um read and prepared for this meeting fits in really closely with what with what Craig's just gone over. So in part I could I could give you some of my personal preferences but I could also th add some to this which is just about sort of um sort of market research. But anyway, um we might come to that later. Um clunky in what sense, like um h heavier? Larger? I see, so it's more just basic. Right, okay. Yeah. Yeah. Sure. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Which was that? Up the numbers, or the up down? Yeah. Yeah. We don't? No? Yeah. Well I think I think es essentially what we're doing right now is we're categorising. We're saying well we want this to be a product that offers all the sort of more tricky features but we want them to be in another area? Is that right? Is that what we're we're doing? We're kind of like sorting them an Or are we actually eliminating things we just don't want the product to have? Yeah. Yep. Well, one one way I would look at this um would be that we a approach the different controls in terms of um like control types, so that for the user it's very clear what they want to do where they go. Uh and also think maybe a little bit about sorta w w what would just wanna be acc easily accessible. For example if we had audio controls, those could be something people set up very rarely. Maybe they're un they're they're they're in a little area but covered up um, things like channel and volume um are used all the time, so we just have them right out on top, um very just very sort of self-explanatory. Um so maybe we need to think about having three or more groupings of controls, you know like one which are just the the habitual ones that should be right within your natural grip. And others that are uh also available and then others that are concealed. Something like that. Yeah. Mm-hmm. Yeah. Sure. Can this can this pl reach? Can this plug come across? No. So why don't I just pick up and move then. Here, I'll just Why don't I just Mm er, can you go up behind me? Kinda This is so This I'm all in a knot now. Okay. Um. So I can I can say already, I dunno whether this is for good or for bad but there'll be a lot of kind of uh redundancy in the in the the issues and the the uh the things. Yeah, yeah. Which is ma not necessarily a bad thing, but may what I've already started doing is cr I created a slide in in my presentation here so um so that we kind of think well what's the cumulative effect of what we've taken from your ideas and and mine, because certainly I I have a hard time separating separating things completely. Obviously obviously what you've just told me what you've just told me impacts a lot on what um like market research

mm that that I've been So how do I how do I get this up? Okay. Okay. Alright. So F\_ eight? Oh, and F\_ eight. Okay. Mm-hmm. Okay, I think that that's doing it now. Uh, again? Okay. Um, okay great. Okay. Just um Before I bring this up what I'll just say is um what I've what I've done is tried to collect some information so that I can then relay this to to you guys so that it's now becomes a collective thing. And then kind of lead us in the direction of deciding, 'kay what what are our options, what should we decide and do you know what I mean, so. Okay. Okay. Alright. That would be Okay. So um does that make sense? So what I basically got is I just looked into some information and sort of th tried to think about how how we could review it and how we could and what kind of decisions we could take away from it and then maybe by the end of just looking at some of these things we can think about what are our priorities. 'Cause certainly there's lots of different information to go through. So um I'm thinking here about uh primarily about customer needs, that we start with the customer, and w you know, what they want and what are issues with with um existing products. Uh to think about trends and also about try and connect that as you see with the company vision which is about fashion in electronics. Um and then, as I say uh w we'd like to prioritise our design features from this and um Dunno. Okay. Um. So this is what I've found here, um a lot of this is new to me, so we'll just read through together. Um, users dislike the look and feel of current remote controls. So they find them ugly. Most people find them ugly. Um the vast majority would spend more money for it to look fancy as well, we'll see later, the vast majority would spend more money for um slightly more intuitive control, such as voice recognition. Okay I'm gonna we'll look at that in a second. Um most people use only a f a very slim portion of all the controls. So I guess what we're looking at here is people want this h technology, they tend to use the most simple controls and overall they find remote controls to be something they don't doesn't really appeal to them. So I think what we're doing is we're trying to take like if for me this is sorta like three different different um inspirations, you know, one is that we want uh something that's high-tech but we want it to seem easy. And in spite of the primitive side of it and the very high-tech side, we want it to just be an appealing piece of equipment in people's hands. Um, frustrations. They get lost a lot, s as it came up in our last meeting. Um, takes time to learn how to use them. This is uh why I mention when Craig was uh showing us some ideas that we actually try and group controls, so d it doesn't just look like a big panel, kinda like when you you look at, you know, a new computer keyboard, or something that is quite explanatory. If you want audio, if you want visual, then you have those. Um and I will admit I don't know what R\_S\_I\_ stands for. Uh, no, that did not come up at all. Um so here here is another um sort of a review here of the main things. I also found that most people would uh adults at least would pay more for voice recognition. Now apparently we do have access to all the tech cutting edge technology in remote control. So I dunno if that's possible we might consider getting into it. Um. And and again here as we sort of move m sort of thin start thinking about how we wanna sell and market this, I think a recurring theme here is the company wants it to be wants us to make something that's fashionable and sleek and trendy. Um people uh additionally aren't aren't liking the appearance of their products, so we wanna think about as we take all the sort of the techie features how we can um put that into a unit which is which people like. You know, they like the aesthetics and the ergonomics. Yeah. Yeah, so you know just c looking at what what Craig um Craig's i uh ideas are s sorta tell me that maybe w

hat we wanna do is try and um separate the different things that we wanna include in this. So if we do say well we want there to be all the technology will we try and make that almost be like optional technology. You know, it's like like I find a lot of T\_V\_s these days, something really like about 'em is if you wanna just turn 'em on and off you can, but they have little panels where you click and there's just like tons of features you go through. Yeah. Yeah. That's s that's sort of the um But I I'm my hope here is

that I'm putting out this information so that we can then say okay, well how do we collectively move on with it. Um I I haven't brought out one specific marketing idea, although my sense is that what we should try and think about is what are the current trends in materials and shapes and styles, and then use that. But not let that confine us technologically. So Alright? Any um comments on all of that? That's uh Yeah. Okay. Where's the money, maybe. Yeah. And who watches T\_V\_. Mm-hmm. Mm. Mm-hmm. Yeah. Mm-hmm. Yeah. This this kinda touches on your comments there, David. These are the age groups which we have information on and these are this is a table of h what people would pay more for a certain feature. Just gives us a rough idea of where the w the will to spend money on T\_V\_ equipment is. Mostly focused around the twenty five age group. Sort of young professional, kind of. Mm-hmm Uh, yeah, it's the Yep. It does it does fit with the market that we're sort of identifying, in terms of Okay. Yeah. Sure. Sure. Yeah. Mm-hmm. Mm-hmm. Yeah. Yeah, yeah. Yeah. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. But yeah. Yeah, sure. Mm-hmm. Yeah. If we can. Yeah. Right. Could it be an on off thing? Like if you want it on Yeah. Yeah. Yeah. Sure. Sure. Yeah. Sure. Yeah. Sure. Yep. Yep. Yeah, it's good well it's good to get ideas out while they're fresh in mind. Um Not Yeah. And not losing. And also it helps in terms of people not losing this, you know they they're saying oh it's I lose it in the couch. like we're kind of what we're b sort of getting in into here is mating different uh design features together that they Right. Oh really, you've seen one before. Right. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Okay. Mm-hmm. 'Kay. Sure. Sure. Yep. Right. And like on the means b Since we're on the topic of the technology, uh are there any like what are our options? Alright, what's what i in Is this the only way that we go about it, or are there other thin Right. The basic principle of 'Kay. Right. Okay. Okay. Mm-hmm. Mm-hmm. Okay. Right. Right. Right. Right. Okay. And um just a clarification before we finish this. Uh does c is our controller is it have the option of being um on a standard uh frequency as all of the other equipment, so that the one controller can control several pieces of equipment? Okay. Just to T\_V\_, okay. Okay. Mm-hmm. Mm-hmm. Yeah. Okay. Okay. Yeah, that's good. And is it going to include any of the uh the more advanced features, or are we gonna eliminate those? Okay. R is it is it is it s is it not an option still that we include some things just as a sort of under like sort of under a door or some 'Cause what what I'm I'd be a bit worried about is if someone was h had previously developed habits of expecting to control surround sound or this and that with their controller and then and then they, you know, w they get ours and w it's doesn't have that. I dunno if that'd be a problem. Yeah. Okay. Okay. Yeah. Right. Yeah. 'Kay, okay. Like that. Okay. Mm-hmm. Mm okay, great. Mm-hmm. Mm-hmm. Um yeah, just I just wanted to ask then before we wrap up, shall we agree for sake of um sort of clarity and when we when we r resume that we'll u use this idea David's proposed, where we think of these three sort of buckets and anything anything we discuss about them is sort of, okay, we're talking about this. Shall we do that, then? Okay, great. And and channel. Right. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Colour, yeah. Sure. Sure. Ok

ay. And then k I suppose quite likely what would happen is in the d device category there might be some which are just like the habitual standard and then others which are maybe a bit more Yeah. Sure, okay. Okay. Okay. Mm-hmm. Mm-hmm. Great. Then we get to go find out what was picked up for lunch for us.

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# Meeting ID: 23

Data Source: Train

## Executive Summary

First I will introduce myself . I'm Bart , My name's Frank . let's start off um with a little presentation . Uh Now first I'll tell you a little bit about the setting . You can see there are a few cameras here . They'll record uh our actions and you'll have wires and microphones that will record your voice . is there a project documents folder ? There are some notes in it already I see , some documents . I don't know if you've noticed , but uh we're working for Real Reaction . We put fashion in electronics , uh we put a lot of effort in design and in the product itself . This is our agenda . Uh we have our opening acquaintance , tool training , project plan description closing . then Maybe you can take the minutes once in a while . but just uh if you hear something uh you can write down , just write it down . Um have you all seen the corporate website already ? Have you seen any flaws in it ? I think I found one . But um on the corporate information side there's a th uh there was Real Remote instead of Real Reaction . Uh our project aim is as you can see a new remote control . It has to be original , trendy , and user friendly . Uh project method um is uh there are three phases we are going through . First is functional des uh design , individual work , meetings . After the functional design , then the conceptual design and the detailed design . The Industrial Designer is going to work on the working design , uh components design and a bit of the look and feel design . Uh the User Interface Designer is going to do the technical function design , user interface concept and user interface design . And the marketing expert is doing a little bit of user requirement specification , trend watching and project uh product ev evaluation . But that will be all worked out in uh other meetings . As you can see we've got the smart boards here and here in the white board . Um in the white board here there's a little tool bar on this side . Here are some functions . You can save . uh these functions we don't have anything to do with , only undo , you can undo a little uh piece of drawing . A blank new document for each person . Uh select a pen , eraser . Uh then we've got our pen . This pen . It's really funny You can also select the current colour and the line width . and it's easy to uh draw your findings and drawings on there . We've got our shared folder , But all you will found that already because there are a lot of documents in it already , so if you have a document you wanna show , just open it from the folder . Here is a simple tool bar . it's save , print , move back or forward one page . You can switch between the different drawings . And then we're going to try out the white board . We're going to uh draw animal . And uh just sum up a few of its favourite characteristics . Um the only thing we have to uh look after is that we use different colours , and different line width .

You can use this pen by holding it like a little child . Because if you hold it like this , the sensors will get blocked Another thing is you have to be uh a bit slow . 'Cause if you're going to draw like really fast then um the pen won't hold up . we choose form of current colour uh I think grey is appropriate . Now you'll see my drawing capabilities . you have to do it real slow . I was trying to draw a dolphin , And then you can undo Maybe you have to hold it a bit upside-down . now I'm gonna hand over the pen on the new blank sheet to you . Gonna use a different line width . Maybe it's easier to draw the smaller line width , I think . You have to go really slow when you're writing . Um I'm just gonna draw its uh head , I was gonna draw a cat too , it's pretty skinny cat . everybody knows how to work with the white board now ? Yeah . move along to the project finance . Um as you can see , we um for our remote control , a selling price is uh twenty five Euros . Our selling price . Uh our profit aim is fifty million Euros . Uh we can do it international , so we have to focus on different kind of users , different kind of cultures , and different kind of trends as well . Our production cost um can be maximal twelve and a half Euros , just try to remember these points . Selling price twenty five , profit aims fifty million um , but more important is the int international market we're trying to focus on . And production cost uh maximal twelve and a half Euros . that's leads us to our little discussion . does everybody has um experiences with uh remote controls , and I mean not the ordinary mote controls , but also a little bit different ones ? Like you can use for other ? No , me neither . kind of broad T\_V\_ at home , and a D\_V\_D\_ player , so we got like a lot of remote controls , one for the T\_V\_ , one for the video recorder , one for the D\_V\_D\_ player . And I think it's it would be best to just make one remote control that can operate them all . I've I've got one at home . And you can uh program I think eight different devices in it , I think that if you can put different kind of devices in one remote control , it makes it a lot easier as well . we've we want different functions uh and we can maybe see if we can do something with the infra-red . And it also operates on infra-red , and then you can operate it from the third or th or second floor . so you have to got the little device inside your room , Think it has to be shock proof Sure , yeah . my remote control tends to fall a lot . Waterproof , Um I will put the minutes from this meeting uh in our project folder . Thought it might be handy to put a battery status display on it . how much is left in the battery . But they'll also really drag up the production costs , so think we'll have to see about that too . But maybe just a little LED , then I'll put the minutes from this meeting in the project folder , And we can all work uh on our own projects . then I'll meet you in about a half an hour , I think .

## Complete Meeting Transcript

Morning. I'm. Yep. Hmm? Okay. Yeah. Yep. Hmm. Okay. Yeah. Okay. Sure. Yeah. Yeah. Okay. Hmm. A sheep. Okay. Um I'm just gonna draw its uh head, but mm Let's see. Mm. Uh. Okay. Yeah. You know what that is? Or who? Ah okay, yeah. Just a Mm. Guess. So uh Yeah. That's enough. Um, you say a blank, or Okay. Five minutes, okay. Mm? Mm. Oh really? Huh. It's a Sure. Yeah. Okay, yeah. Yeah. Okay, yeah. Hmm. Oh. Mm-hmm. Oh. Mm. Mm-hmm. Sure, yeah. Waterproof, or uh Uh, you never no know uh, I w I mean uh 'Kay. Okay, yeah. Mm. Mm. Yeah. Okay. Yep. Morning. Mm-hmm. Garfield. Well I was gonna draw a cat too, so. I'll just try something else. Something different than Garfield. Mine

is a bit more skinny. But uh Well, it's supposed to be a cat. I like cats because uh they are uh independent. The pen. So. The pen. No, me neither. Nope. They were all mentioned, so Okay. So uh good morning. I see you all find your places. Is everybody sitting on the right place? Yeah? I guess so. So Let's see. First I will introduce myself. I don't know if uh if everybody knows me, so I'm Bart, hello. Hello. Bart. Hello. Hello. Bart. Welcome. Uh let's see. Uh let's start off um with a little presentation. Uh Now first I'll tell you a little bit about the setting. You can see there are a few cameras here. They'll record uh our actions and you'll have wires and microphones that will record your voice. Uh there are also some microphones there but th um you don't have to pay a lot of attention on those, because it will uh disappear when you don't attend to it. So is there a project documents folder? There are some notes in it already I see, some documents. Uh I'll start with the presentation kick off. Is being modified by the administrator. Uh okay. Let's do it read only. Well I don't know if you've noticed, but uh we're working for Real Reaction. Uh it's a company in uh electronics. We put fashion in electronics, uh we make it work, uh we put a lot of effort in design and in the product itself. I'm Bart the project manager so I'll direct you through the project. This is our agenda. Uh we have our opening acquaintance, tool training, project plan description closing. Uh maybe I can sit down, then I can take some notes or Let's see. Maybe you can take the minutes once in a while. I dunno it's not a lot of work, but just uh if you hear something uh you can write down, just write it down. Uh as you can see uh it's the opening, acquaintance tool training. Acquaintance is a point we've done a bit. Um have you all seen the corporate website already? Yeah. Have you seen any flaws in it? I think I found one. No? I can see if it works this way. No, it doesn't work here. Okay no problem. But um on the corporate information side there's a th uh there was Real Remote instead of Real Reaction. Real Remote is not really the company we're we are, but it's just a little fault. Um okay, what are we going to do? Uh our project aim is as you can see a new remote control. It has to be original, trendy, and user friendly. So these are uh the points why uh we also hired you. We've got the Marketing Expert for uh the trendy and user friendly look. And Industrial Designer uh there's also user friendly and a bit original. And we've got our User Interface Designer. He's also uh That's about the new remote control. Uh project method um is uh there are three phases we are going through. First is functional des uh design, individual work, meetings. After the functional design, then the conceptual design and the detailed design. I had some role indications on here. But I think you know it already by yourself. The Industrial Designer is going to work on the working design, uh components design and a bit of the look and feel design. Uh the User Interface Designer is going to do the technical function design, user interface concept and user interface design. And the marketing expert is doing a little bit of user requirement specification, trend watching and project uh product ev evaluation. So that's

a bit what you're going to do. But that will be all worked out in uh other meetings. Then we've got our first tool training. We are going to work with a lot of high-tech tools here, so it's ab it's handy if we have a little bit of training first. As you can see we've got the smart boards here and here in the white board. Um in the white board here there's a little tool bar on this side. Here are some functions. You can save. N uh these functions we don't have anything to do with, only undo, you can undo a little uh piece of drawing. A blank new document for each person. Uh select a pen, eraser. Capture we don't have to do anything with. Uh then we've got our pen. This pen. It's really funny because you can draw with it on this page um in the think it is form of. You can also select the current colour and the line width. But then first you have to select the pen function. But we're going to work with it in a minute. So okay. Uh that's very simple and it's easy to uh draw your findings and drawings on there. Uh then a short thing about documents. We've got our shared folder, uh project project what was it? Project documents I think. But

all you will find that already because there are a lot of documents in it already, so it will be okay. And these are available on the smart boards as well, so if you have a document you wanna show, just open it from the folder. Here is a simple tool bar. It's what I just said, it's save, print, move back or forward one page. You can switch between the different drawings. And then we're going to try out the white board. So as you can see we're all going to draw an animal. Just to uh uh just to get a bit familiar with it. Mouse wasn't running away. Is everybody is anybody playing with the mouse? No. Okay. We're going to uh draw animal. And uh just sum up a few of its favourite characteristics. Um the only thing we have to uh look after is that we use different colours, and different line width. Uh there's I can start from now. I will. You can use this pen by holding it like a little child. Because if you hold it like this, the sensors will get blocked and then the drawing won't get good. Another thing is you have to be uh a bit slow. 'Cause if you're going to draw like really fast then um the pen won't hold up. So we choose form of current colour uh I think grey is appropriate. Then the line width. I think seven will be nice. Now you'll see my drawing capabilities. These are not very much, but uh Uh, see you have to do it real slow. Oh Ah I was trying to draw a dolphin, but I think his nose has to be a little bit But it's close. So what yeah it's this is bit of the swordfish. Yeah, he hasn't got an eye. Woah. Now we've got another function. We've got the eraser. And then you can undo this easily. Ah it's okay. And I've got to write down a few of its characteristics. Uh is They've got no text tool, no. Uh. Okay. This is typically a undo action, I think. Pen. Maybe you have to hold it a bit upside-down. I think that's it because if you want are going to do it like this then it will be a stripe. But I don't know, I'm just trying. This is not my work, okay. Maybe you have to use Oh. Uh. I think it's a it wants to draw a another animal? I don't know. It lives for the fun. So It's my characteristic uh characteristic about the dolphin. It lives for the fun. So now I'm gonna hand over the pen on the new blank sheet to you. Go ahead. Maybe it's easier to draw the smaller line width, I think. Because this is going a lot better than uh I did. It's nice. Uh. It's a real dead sheep, yeah. For recognition, yeah, I see. Um maybe you can also write your name somewhere. On just a Yeah. Nice. Sweet. Yeah, just a blank sheet. No. Yeah, it's pretty skinny cat. Is your cat, or did you find him on the street? Ah. Okay. That's pretty clear. So everybody knows how to work with the white board now? So if you have any ideas or if you wanna draw anything on the white board, just ask and go ahead. It's pretty uh easy.

'Kay. S haunted white board. So we've got the tool uh introduction. We move along to the project finance. Um as you can see, we um for our remote control, a selling price is uh twenty five Euros. Our selling price. Uh our profit aim is fifty million Euros. Uh that's the least we have to get from our remote controls, so we have to work together to reach our aims. Uh we can do it international, so we have to focus on different kind of users, different kind of cultures, and different kind of trends as well. Um but that's all in the later stadium. Our production cost um can be maximal twelve and a half Euros, so that's also a point we have to keep in mind, that we won't make remote controls with small televisions inside, and stuff like that. It won't work. So just try to remember these points. Selling price twenty five, profit aims fifty million um, but more important is the int international market we're trying to focus on. And production cost uh maximal twelve and a half Euros. So that's leads us to our little discussion. We've got about five or ten minutes left for discussion. So I'm gonna sit down, I think. It's easier. I've got a message. Five minutes. Okay, that's uh good timing. Uh maybe you have to say the magic word. Does it do anything? Maybe you have to just clap it down? Mm back up again. No slide show. Hmm. It's off. Now you have to put it back o Oh yeah. You'll be okay, I think. Well it's those laptops. Nice. Okay. But so mm does everybody has um experiences with uh remote controls, and I mean not the ordinary mote controls, but also a little bit different ones? Like you can use for other? No? You? Ah yeah. Yep. Yeah

I've I've got one at home. And you can uh program I think eight different devices in it, and you can use it for your television, anything else. And it also operates on infra-red, so you have to got the little device inside your room, and then you can operate it from the third or th or second floor. So that's pretty handy when you have a video recorder or D\_V\_D\_ player downstairs and you've got a link to your T\_V\_ on the second floor. So that's a pretty handy um thing. Um but only the I think that if you can put different kind of devices in one remote control, it makes it a lot easier as well. It's uh That's good to remember. Yeah, that's nice, I think. So we've we want different functions uh and we can maybe see if we can do something with the infra-red. But I don't know if that will exceed the production costs. So that uh that's something we have to find out, I think. And other functions for a remote control? Maybe we can make it uh uh Shock proof. Sure. Waterproof. Okay. So these are our um a few things we can think of. Um I will put the minutes from this meeting uh in our project folder. That's a battery stays. Yeah. Uh. That's an idea as well. Other ideas? Quick ideas. Okay. Any questions about this uh presentation? Kick off presentation. No? Okay, then I'll put the minutes from this meeting in the project folder, and then we can all work. Finish meeting now. Okay. And we can all work uh on our own projects. Okay then I'll meet you in about a half an hour, I think. So good luck. Morning. Yep. My name's Frank. Thank you. Hmm, that's interesting. Sure. Yep. Visit it. Can't say I paid much attention to it, but Oh yeah. Okay. 'Kay. That was interesting. Innocent. 'Kay. I'm thinking about a swordfish.. Meat. Yeah. Hmm. Okay. Thank you. Okay. Gonna use a different line width. And I'm gonna draw in black. There. 'Kay, I'm not much of an artist, but here we go. Mm. Okay. This is my um Hmm. Sheep. With of course little blue dot they always get sprayed on their butts. There. Yeah. 'Kay. They are Come on. You have to go really slow when you're writing. They're brilliant animal animals. And that's just a little me thingy. So. Guess I'll pass the pen to our User Interface Designer. Interesting. A rabbit? Garfield. Yeah. Yeah. And the most interesting tail. Yeah. We're being haunted. Yeah, you got a message. So j

ust on a side note, why is it my laptop is only giving me a black screen? Yeah. Right. No. It's off now. Well, it was on, but Ah, there we are. Well, we have a kind of broad T\_V\_ at home, and a D\_V\_D\_ player, so we got like a lot of remote controls, one for the T\_V\_, one for the video recorder, one for the D\_V\_D\_ player. And I think it's it would be best to just make one remote control that can operate them all. Oh really. Yeah. Yeah. So I think you can take minutes again. Since it's your job. Yeah. Yeah. But that would be really good if we could do that. Um. Think it has to be shock proof 'cause my remote control tends to fall a lot. So Yeah, one other little thing. Thought it might be handy to put a battery status display on it. So you can see how much is left in the battery. But they'll also really drag up the production costs, so think we'll have to see about that too. But maybe just a little LED, I don't know. Um. Nope, don't think so. Okay. Aye sir. Half an hour. Okay.



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# Meeting ID: 86

Data Source: Train

## Executive Summary

The group introduced themselves to each other. The Project Manager discussed the goals for the project and gave an agenda for the project as a whole. The group practiced using the meeting-room equipment by drawing on the whiteboard. The Project Manager presented the projected profit and price point. The group discussed their experiences with remote controls. They complained that remotes got lost too easily, and suggested using a locator function. They also complained that remotes had too many buttons, and suggested incorporating a screen to simplify the interface but retain all of the functions. They also suggested making the remote water-resistant and including a clip. The Project Manager instructed the Industrial Designer to research the working design and components, the User Interface Designer to research the technical functions, and the Marketing Expert to research user requirements.

## Complete Meeting Transcript

Hi I'm Chiara, I'm the um Marketing Expert. Um, would you like me to talk about my aims at the moment, or would you like me to just say my name and then we can talk about business later? We'll get round to that later. My name is Chiara and I'm the Marketing Expert. I think both. Who starts? We ought to decide who starts and all that. No? Uh-huh. Uh yeah. Well I had the cat as well, but uh I've got a spare one. So I'll use the spare one. Um but it's harder to draw um. Um. Uh. Um I don't really know how the legs go, but anyway I will do that. Um, and the main reason is they're pretty. I think they're very pretty and they go well with the environment, and I like the way they run and I used to do horse riding and they're just very sort of sturdy and nice animals. And I like the way um they feel, sort of under under the hand, I think that's pretty much it. Um How many should we sell then? Um, a lot, two two two million, two mi no, more f four million. Four million. And it well it's the profit so if a profit for each is twelve fifty, that'll do four million. It is a lot. Uh. Um, I think one thing is that it should be easy to find bec yeah bec Yeah, yeah yeah yeah yeah. Yeah. And even I think a little light. Um or even a maybe a vib a vibrating thing. I dunno but someth because it's usually under the sofa. In which case you're going to be I but if it has a sort of signal which isn't any sound I don't know if it's expensive maybe to Maybe call is enough. But yeah. Yeah yeah yeah. Yeah. Yeah yeah yeah yeah. But even just a thing to attach it to

the w you know if you had a thing, a pretty object attached to the wall. But that would really make it more expensive. But it's only a plastic thing, r really, the thing on the wall. Something like that. And the other thing is Not well it needs to be sort of Yeah. I don't think you need a But definitely not well I don't know. No, it can't be, uh-uh. Like spaceship. Right. Um Oh dear. Yeah, yeah yeah. Yeah. Select. Uh. But, would you have the screen on the thing, or would you have it on the telly transmitting the screen. Because Because, I don't know if it's I think it's e expensive, if you have if you use the telly screen, 'cause the telly's already a screen, then you can pro sort of have a programming function, really easy sort of arrow up and down, on the remote, and then use the telly as a screen. But um But yeah for sure. Something like not it's not on the button but it's telling you what to do, is that what you mean? Right. Mm. Yeah. But like mobile phones have screens and they're cheap. Yeah. Or some it i we can find out probably on the internet how much it's Um. Yeah, and the other thing you said that thing about robust and water um What was the word? Water resistant. No but it's I thought, ah, spot on. Good feel, tact tactile, good tactile feel, maybe something didn doesn't make your hands sweat lot. That's quite annoying. Yeah, clip. Ooh. Um. It says on that email but it It said um It said Yeah like Be a medium between you and the telly I think, that's uh Marketing. Oh it's written here, but um. Okay. Here we go. Welcome everybody. Um, I'm Abigail Claflin. You can call me Abbie. 'S see. PowerPoint, that's not it. There we go. So this is our kick off meeting. Um and I guess we should all get acquainted. Let's shall we all introduce ourselves? I think we'll get around to that, yeah. So this is just introductions yeah. Okay. I forgot to s say I'm the Project Manager but I figured you all knew that already, um so. Okay. Um so f here's our agenda for today. Um we're gonna do some tool training, project plan and discuss then close. Um so. So our aim is to produce a remote control that is original, trendy and user friendly. And to do this, we have to um there's certain things we have to consider about functional aspects and conceptual design of the thing. So. We'll get to that. Oh there it is. Right. Functional design, conceptual design and detailed design. So throughout our next couple of mee

tings we'll we'll be covering these things. Um so we're gonna try out our white board. If we'll all draw our favourite animal, to sum up the characteristics of that animal. Okay. Yeah. Both. Yeah. Any volunteers? Does anyone know what they wanna draw? I don't think so. A dolphin. 'S like playing Pictionary. So what characteristics do you like about your animal? They're graceful. Sleek. I don't know how intelligent that one looks. Yes. Does anybody else wanna draw their animal?. Uh-oh there goes the ten. It's a cat. Do you wanna anything? I dunno if the the ah. A horse. That's very good. Yeah. This cord's Uh. Right. Actually I haven't thought of anything yet. Uh It's a pig. So I'm thinking we should design a remote control that's water resistant, strong and furry. What do you think, yeah? This is yeah, well like a cat, you know, soft yeah. Although uh I'll just put there. Right. Oh my gosh, this is disastrous. Sorry about that. Okay. So moving on. Our selling price goal is twenty five Euro and profit aim is fifty million Euro. So I'm guessing that we're not actually in Scotland, we're in some European country. Um, and we will hope to sell this internationally. Um selling price is twenty five Euro. Profit aim fifty million Euro. Anyone a mathematician? So f that's a fifty percent um uh. Um, I don't know what these mean because I didn't actually make the slide-show. Experience with remote control. So I guess we have to reflect on our experiences with remote controls to decide what um we would like to see in a convenient, practical, nice remote control. Um so do we have any initial ideas for uh how this remote control should be designed or formatted or the the buttons it should have. Yeah. Yeah. I mean you have it for the portable phone, so why not yeah. What if it had something like um just like a magnet on the back of it and you could I mean j just to have some place to put it besides like a base. You know like a portable phone has a base, like just to have a home for it. 'Cause people just stick it on top of their T\_V\_, but the point of

having a remote is not to have to walk over to the T\_V\_, so Yeah. Yeah. Maybe we should design couches that have the remote control in the side arm. Yeah. Do you think it needs to be bigger to not lose, or does that not factor in? Like Hand hand held size, yeah. Not not huge, but Huh. Little homing device. Um. Okay. So what do we think this remote control should Five minutes. Till the meeting oh right. This is what we have left. Um, oh we just Yeah. You what if um may be a little fancy but what if it had like a little screen, so it has less buttons but it still has all the functions. Like the way a mobile phone does. So you could like um like if you have I dunno if you have satellite if you have a hundred channels, you can the way you do it on your radio is that you uh what do you call it s y yeah but you can programme, so you can programme like your favourite channels, so like if you had a s That's something we could decide. Mm. Yeah. Yeah. Right. Yeah. Yeah. Mm. Yeah. I mean, we have to remember our budget is twelve point twelve fifty for to actually make the device. Um but it's something to think about, yeah. I mean we'll have to see how much that would be. Yeah. Oh I was just Yeah. Maybe um just like a simple thing to have a clip on it, like so you can clip it to your like that's another Um. We should probably start wrapping up, um we've got some initial ideas that we can all look into. Um, and come up with some new ones for the next meeting, which will be in another thirty minutes. Um. So. Yeah. The Industrial Designer, what does that stand for, I\_D\_, yeah um is going to be looking more into the working design. So I guess you'd be looking at lots of the things we discussed about screen and um that sort of thing. The something, what is the U\_I\_? Yeah, what does it stand for again? User Interface Designer. So that's gonna be more technical. I guess that maybe the working design has also to do

with like the physical feat like just the way it looks and the way it w Yeah, yeah. Um, I guess you'd have to find out. Mm. And the M\_E\_, what does that stand for? M Marketing, right. Um. So we'll be working on the user requirements, um Yeah. So I guess that wraps it up. I'll see you all in thirty minutes. I just did. I'm Stephanie and I am the User Interface Designer. So you want us to draw it and then talk about it? Or just draw it? Okay. Why don't we do both. Right. Mm, I gotta think about it for a second like. Uh Does it have to be functional, trendy and user friendly? Um. Okay, I'll draw. I'll draw one. Make sure my things here. Uh-oh. Right. Okay, my favourite animal is see. Oops. Yeah, it's Yeah, I guess it has a fin on top too, yeah. It's my dolphin. I like its tail. Um, no, I think dolphins are really uh I dunno, they're smart and they they're cute and they like swimming and that's cool, like they're graceful yeah, and they're so Yeah they're sleek and they look intelligent and I don't know, they're I guess it's the whole like binocular vision thing. Yeah he he doesn't look that smart. He's a I dunno um they're I think it's cool the the um the interaction that or the th things that the reasons people seem to like you know you get ex you know people are sitting on the beach and p they're like oh look there's dolphins and it's kinda like but they're you know they jump around in the water and they're happy and they're mammals, but they swim. And the pen's dying. Horse. And furry. Textile tactile, tactile remote control. You're dragging a you have a tail. Sorry can you just say that what's the what are our price goals again? Okay. I was thinking that too. I think we should design something that has like a so you can like somehow like you I mean you always know where your T\_V\_ is, so just have a call button, I've always wanted that, so like you can push a button on your T\_V\_ Yeah, yeah yeah yeah, so you should have a call button on your television to be able to find your remote control. Yeah. Yeah. Yeah. I don't yeah I mean it but like I mean just I mean like your phone even just has so like it can vibrate, it can light up and make noise and I dunno. Yeah. Yeah, or if it had a yeah. Yeah, I mean Yeah. Yeah, in in the couch. I dunno, it seems like though that that would be hard, 'cause you not you're not gonna be lazy anyway and Yeah so we the project is now couches and remote controls. Yeah. Yeah. Bigger. Hand-sized. It can't be that hard to put some kind of a noise on it. Or like or like a light thing. You know. I dunno. Yeah. Or make it

mobile so it runs around and comes come find you yeah. That would be really I'm sure we could do that for twenty five Euros a pop. Yeah. Uh. I also think though that it shouldn't have too many buttons, 'cause I hate that when they have too many buttons and I mean I know it has to have enough functions but like, I don't know you, just have like eight thousand buttons and you're like, no, you never use half of them. So. That would be cool. Yeah. I mean it just seems like yeah. I guess they would go together somehow? I dunno. I'm thinking kind of Or like you h you see those you know people I'm thinking of like celebrity cribs kind of things when like they have all those these things that at their house you know their their entire house is so electronic, and they have like this one master control that and it's like a hand held like turns on everything sort of control and it has like a screen and like so I think it should be possible to have some kind of a screen, I don't know if it must be it would probably must be ex too expensive though t like I dunno. Yeah, yeah. Yeah that's true. Mm. Well, I guess we have to get to that later, yeah. Furry. Yeah. Mm, mm. Yeah. That's me. Uh, User Interface design. So technical function. What is technical functions exactl I I don't really know what It does but it I just don't really Yeah. What effect should the thing ha should it have, okay. Alright. And w

orking design. Okay. Yeah, yeah. Alright. And how it works, okay. Right. I'm I'm on task. I'm Krista and I'm the Industrial Designer. Suppose I can draw an animal, yeah. Yeah. I don't know. They sleep all day, they're easy to draw. I think the pen is running out of Two million. Oh, yeah. Well that's why it's always in the couch. No it really wouldn't be. Yeah, I agree. B\_ button and the F\_ button, they don't do anything. Yeah I think so. User. The working design is the structure. Um. It was in the email. I wrote down what mine were. Marketing.

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# Meeting ID: 140

Data Source: Train

## Executive Summary

The project manager opens the meeting, asking the industrial designer to present first. The industrial designer begins talking about the functional aspect of the working design and features to make the product unique, such as visibility in the dark, locator alarm, and environmentally-friendly materials. To make an environmental impact, they could use smart materials that can be heated and cooled so that the individual components easily separate to be reused or recycled. The group asks some questions about this idea and then the interface designer presents about technical functions, explaining the difference between a multifunctional and single function remote. The group discusses the two types and decides that a single function design is more suitable for the budget. The marketing expert presents on user requirements by using research done on remote control users. She summarizes these findings and explains her personal preference for a user-friendly, unique design since certain features could be too complex. The project manager receives some decision-affecting information from management, which she shares with the group. They have a discussion about the remote control functions and close the meeting.

## Complete Meeting Transcript

Oh, Function F\_ eight. That looks right. I'm sorry, what was that last one. Multifunctional and Ch Oh, I see. 'Kay. So as far as we know, um, a single function television remote control is us usable internationally? Right. D\_V\_D\_s and V\_C\_R\_? Okay. Yeah, I think I agree with the single design thing for now, because we're trying to do so much, that if we're trying to make a unique, user-friendly, dadada, and it's also multi also multifunctional, um, we're gonna go over budget for one thing. So Mm-hmm. Mm, 'kay. Yes I am. Oh, I'm not hooked up, but other than that, completely ready. Okay. Okay. Oh. I just lost my microphone. Just a moment. Okay. So I'll be discussing the functional requirements of this remote control. Um, and I'll give you a little briefing on what that means exactly. Um, if you all remember from the email we got before our very first uh kick-off meeting, with the coffee machine? The functional requirements of that was to produce hot coffee quickly. Um, so what I'll be talking about now is the equivalent for a remote control. Um, so basically what needs and desires are to

be fulfilled. Um, I've done some marketing research, a lot of interviews with remote control users, um, and some internet research. And I'll show you my findings. Oh, and firstly I wanted to remind you about our company motto and purpose. So we believe in providing international market with fashionable products. Um, hence our motto, we put the fashion in electronics. So I think that should be our priority here. Um, and we should also be looking to trends in clothing and interior design. Not just in electronic fashion. So that it's something that fits in the household. Um, we should be looking towards trends in both clothing and interior design. Any trends that are going on in, in the public, even media, you know who's famous, what T\_V\_ shows are being watched, um, to influence our remote control. Okay, so the findings. Um, seventy five percent of users of remote controls find them ugly. Which is a, quite a significant number. Um, the other twenty five percent didn't specify if they love them or found them, you know, neutral. Eighty percent of users would spend more money when a remote control would look fancy. Current remote controls do not match well the operating behaviour of the user. Yeah, they're willing, they're willing to spend money on a remote control with personality. As opposed to your basic, you know, oval black, all same size button remote control. Um, so it is something that people care about. It's not, it's not ignored in the household. Um, seventy five percent of remote control users said that they zap a lot. Zapping meaning they go through channels a lot. They're you know thumb-masters. Um, and fifty percent of users say they only use ten percent of the buttons. That A very small amount. Thought that was interesting. Yes. And actually to go with that, I'm gonna give you some statistics on the uh relevancy of the buttons, how much they're used. And uh how important the uh users find them. So the power button, obviously, in an hour is only used once. Hopefully the person's not turning on and off the T\_V\_. Um, but the relevance of that button is nine out of ten. So people wanna be able to turn on the T\_V\_ with the remote control. Um, as opposed to standing up and turning on the television set. Channel selection is used a hundred and sixty eight times on average per hour. That's a huge amount. This is the most important button. Um, so obviously when commercials come on they're changing it, so as you said we want a durable button that's not gonna run down. Relevance of that button, our users found was uh ten, ten out of ten. Uh, ditto for volume selection, so ten out of ten. And it's used on average four times an hour. Not as much as channel selection, but still significant. Um, audio settings is used on average zero point eight times an hour. Relevance is two. Screen settings, which means brightness, colour etcetera, zero point fiv

e times an hour. Um, and relevance of one point five. We're getting to specific statistics here. Teletext, um, now I'm not too clear on what that is. I don't know if you can help me. Flipping pages. Is that So like a running banner, underneath Oh. Okay. Okay. Like tells you the weather, and Okay. Right. Alright. Well I guess I'm not with it, because I wasn't But it's, it's being used fourteen times an hour. Um, and has a r a high relevance of six point five. So it looks like something that we're gonna want to do some research on and include on our remote control. Um, channel settings. Zero point zero one times an hour. Relevance of three. Channel settings. P Sorry. Changing the channels? Oh, okay. Yeah. Okay. Um, so it's not used very often, but people still find it relevant. Okay. Um, biggest frustrations of uh the people that we interviewed. Remote controls are often lost somewhere. So that was already discussed by Poppy. How we could have a, an alarm system so that people can find it. Um, takes too much time to learn how to use a new remote control. So it should be very user-friendly, you know. People know what to do very quickly. Um, remote controls are bad for R\_S\_I\_. Ah. Is that what it is? People with arthritis and such? Um, maybe our designers can look into that. Um, buttons that don't require, you know, very firm pushing, if they respond. But we'll have to also avoid, you know, buttons responding to the slightest touch as well. That's a problem. Okay. Did you guys uh get that one down? Um okay,

here's some ideas for you. A large percentage of the public would pay for voice recognition on the remote controls. So I'll show you some numbers here. Um, so the youngest age group, fifteen to twenty five. Ninety one point two percent said that they would pay extra money to have voice recognition included on their remote control. Um, and you can see that number decreases a bit with older age groups. Interestingly enough, twenty five to thirty five is the lowest amount. Um, that would be willing to pay extra. So I guess we're gonna have to figure out what age group we're targeting, and if and if voice recognition is something we wanna look into. And if we have the budget for it. Um, if we are targeting young adults, it looks like something that would pay off. Seeing as ninety percent, over ninety percent would pay for it. Mm-hmm. So that, that's a whole other field of research. I don't know if it'd be, if we'd still have a remote, or if you're talking to your television and saying change channel. Um and depending on how many members you have in households. So it may be too complicated for us, but it's something to keep in mind anyway. Right. Mm-hmm. Mm-hmm. It looks like Mm-hmm. It'd be like the ultimate remote. Um okay. And the last thing here was a, an L\_C\_D\_ screen. So, I mean voice recognition might be a little too extreme for us. Not practical. Um an L\_C\_D\_ screen though might be something that, you know, you can shift through pages kind of like the way this PowerPoint is working. So that you don't have so many buttons to deal with. Oh sorry, just, just a screen, like a computer screen. Or like um Yeah. Or Like an alarm clock. You'd have an L\_C\_D\_ versus just a, a normal clock. Oh just like an electronic screen. As opposed to just buttons. There would be like a little, like on Yeah. Like on the top of a cellphone, the little L\_C\_D\_ screen. Um, now that's, I, I dunno exactly what exactly we'd put on there. I guess the channel that you're on, the volume setting. Mm-hmm. Well I guess that's something we can all take back to our respective research. Um, and finally, whoops, my personal preferences and thoughts. Um, I think our priority really should be unique design. Um, we want something that people want in their home. Every remote control looks the same, so uh in my opinion it should be, um, user-friendly and unique. So the other stuff might be a little too, a little too gadgety for some people. U

m, I think myself, voice recognition kind of scares me off. So if we're, if we're aiming to make this an international university, universally accepted product Um, and for all, the other thing is like age market. I mean if we wanted to concentrate on fifteen to twenty five years olds, we could go for the fancy stuff. But if we wanna make fifty million, and have everyone want this remote control, we should maybe stick to the basics. Mm-hmm. Right. And we have to keep in mind the, the reliability of our research. I mean, you know, a sixteen year old boy would say, yeah I'd pay extra for voice recognition, until they realise that's three months allowance. Um, so I think, I think the older generations we should be catering to a bit more. Yeah. Yep. Okay. That's it for the market research. Yeah. Maybe we can do the There you go. Oh, come back screen. Hmm. It's probably R\_R\_R\_ in yellow. Yeah, I think. Okay, so I Are we going to write off the L\_C\_D\_ option? Yeah? Okay. So no L\_C\_D\_, no teletext, and no voice recognition. Yeah. Never heard of it. Um, well I guess, just from my findings it looks like we wanna minimise buttons. Um. And the What was the word they used? Findability is important. Mm-hmm. Mm-hmm. Mm. Mm. On the buttons? it doesn't It could it could be a tactile thing as well. Um right, if we're minimising buttons, we might be able to make them actually larger. And there's something on it. S you know like up arrow down arrow for, for volume. Um, and I don't know what we could do for, for channels. S The numbers themselves. But then the like up button and down button for the channel, channel changing. Yeah. I just thought that it, it might be sucking more battery power, if there, if it is a light up. I'm not sure. Mm-hmm. Mm-hmm. Mm-hmm. I guess the other option, referring to the battery thing is, you know how cellphones will light up for fifteen seconds or something, when you're s and

then it goes, so if, if you're like changing the volume during a movie. I know, I'm thinking of mostly when you're watching a movie you turn all the lights off right. And you don't want to turn on the lights, to turn it down, because there's suddenly an explosion, and it's gonna wake up the baby. Um, so if you touch the button, it kind of reactivates it. It lights up for On self timer. Yeah. Oh, just if it was kinda the same way that a cell You know how a cellphone will light up for about ten, fifteen seconds when you touch a button, after having not touched it for a while. Um, if instead of a constant light up on the, on the remote control, if it lights up for ten seconds when it's touched again. Yeah, and you, you touch it and it just kind of lights up a bit, and it gives a faint glow. So if you have all the lights off in your living room, you'll, you'll temporarily see it. Because usually you're not fooling around for it for more than what ten seconds. So Mm-hmm. Mm-hmm. Oh right, the Mm-hmm. I was gonna say, Exactly. It the it might be perceived as tacky, glow-in-the-dark. It's kind of like Eighties neon-style. Um, whereas we're trying to be trendy and fashionable. So Mm-hmm. Mm. That's true. What um Oh sorry. Yeah well, I was just gonna throw out there the thought about um personalising the remote control. Um, it, you, 'cause you mentioned face plates. So I I dunno if there's something that diff, you know like five different face plates. I dunno if this will start making it more complicated, but it could increase the popularity of the, of the remote. Um Yeah, Exactly, like an iPod. Exactly. Or, or like mobile ph. And I dunno if we'd want to go with like T\_V\_ show themes or something. Like a Bart Simpson faceplate. But Mm-hmm. Exactly. You could start out with three, and if, if we hit it big then we can add some on. Mm-hmm. Right. Right. Okay. Yeah. That's okay. That's okay. Okay. Okay. Um, do I need to plugged in. F\_ okay. Function F\_ eight. Sorry about this guys. 'Kay. is on. Right. Okay. I will take this time just to apolog

ise. I, I only, uh, received my emails later on. 'Cause I was too busy carried away doing my own thing, which is not obviously not a very good part of a team-working thing. But there we go. Um, so I was looking at how we're going to go about the working design, and what we actually need to do, and what the remote control needs to do. And it needs to um allow a person to have a portable desi device, so they can control the television from wherever they are. They don't need to actually manually touch the television set. So, it gives them much more flexibility, and allows them to be where they want to be. Um, from Uh, on a functional side of things, we found out that wh from our previous meeting, we decided that there're certain points that will make our product unique. Um, one is the visibility in the dark, which was um Genevieve's idea. So we need to think about how we could bring this in um technically. And we could use illuminated buttons, which we are all familiar with when we're using a mobile phone, or um something fam familiar. A automatically, um lights up at first touch. Or we could use fluorescent materials which would just um take in the light during the day, and then as soon as they go off they would glow in the dark. Um, also we could use um an alarm. So if we lost the um remote control, perhaps there could be a button on the television set itself, which you could press, and then an alarm from the handset would sound where it was, hopefully in the room. Maybe behind a cushion or somewhere. Um, so that would work. Um, oop. Go back there. Um, another thing I think we d missed out on on the last meeting was the fact that we should consider the environmental impact of our design. Um, from previous researches I've carried out on other projects, um we've learnt about smart materials where um um specific alloys of metals have a shape memory. So they can be heated and um and cooled, and they change the shape of um the metal. So, for example, a screw that's holding something together could expand and it would force all the components apart. So um, the benefits of this for our product would be that when it came to the end of its product life, if it was heated, um everything would spring apart. So, all the um individual components could be easily separated, and then some could be reused, some could be recycled, and I think that would be very important for products now. Especially



'cause there's much uh responsibility for all the um companies who are coming up with like new designs. 'Cause all, we all know that our resources are being limited, and we have to be very environmentally conscious. Yeah. Um And then Yeah. Yeah they would, um you would make the, the product as you normally would, apart from the, the bits that hold it all together would be made out of this shape-memory alloy. And that's the part that would um allow all the other parts to be separated at the end. I mean, the user would return the p product to the company, 'cause it's the product's responsibility to get rid of what they've made. Um, and then the company could then just use, make use of this shape-memory alloys to split up the components, and then either reuse some bits, and other bits which are obviously gonna wear out with time, or not usable, they might be like be able to put into scrap metal. Something like the case, if it's scratched or something, you would want to reuse it, but you might be able to melt it down and reuse it again somewhere else. You could we could probably empl em employ a, a side company or something to do that for us. But it would be our responsibility to get that done and to dispose of the products that we made. For a certain percentage at least. Not every, not a hundred percent of everything we produce, but Yeah. Yeah. Yeah. Well I the fact of the shape-memory alloys is that they, they don't need to be manually de um deconstructed. Like, you don't have to individually um unscrew all the screws. Because of this, their properties

are smart material. All you need is just the heat, so they self-destruct themselves. So I suppose it does need like high contact, yeah, you know high uh quality machinery, and very specific machinery, but Yeah. Okay. Um also there is um components. This'll be how it uh will actually work. But I haven't put this plan together yet. There we go. Sorry, should I go back. This would actually show the circuit diagram. Although I haven't come up with the final circuit yet. So I just put all those components in. Yeah. I it just shows what sort of energy source. It could be a battery, like rechargeable probably. Um, an' yeah, well how the infrared will actually be sent through the chip to be received by the chip on the television set itself. Okay? So, now is it F\_ eight again to escape? Or escape? There we go. Okay. Thank you. There you go Tara. Function F\_ eight. The one at the top. Um, I was just wondering about the, what, what Genevieve said before, about having like some hidden controls like having the outer casing. And that would probably, um, I d, well well what you said before about it being a more profitable simplistic design. I suppose having that would complicate it a lot more. And limit the design. Do you think? Yeah. Yeah. That's true. Yeah. Yeah. Okay. Yeah. Mm. Yeah. Mm. Yeah. Mm-hmm. Mm. the single function. Yeah. Yeah that's a good point. It's like the news. Or like information. The and what's on. It's like It's like very basic internet. Sort of, um Yeah, it's just information that um, like television timetables, what's on, what's on now, what's on next, on every channel, and Yeah. To get the right reception and picture, I suppose. Repetitive strain injury. I think. Oh, I'm guessing that's what it is. I'm not Mm. Yeah. Yeah. It is. Mm-hmm. Mm. Yeah. And if there was conversation in the room at the same time, although in theory it doesn't tend to be when you're watching television, but could be very difficult to get the specific uh design. Yeah. Mm. Yeah. Mm. What, what would appear on the screen? Like linked in with the teletext, or sort of like an teletext at your fingers, without having to access that through the television. Mm, Yeah. Could be. Mm-hmm. Yeah. Mm. Yeah. Yeah. Complicated jus complicating things even fo Mm. Okay. Can I just interrupt? Would you like to plug in your Have you got a PowerPoint or not? Okay. Thanks. Were they, was the management suggesting use of the internet rather than teletext, or just avoiding both altogether? Yeah. Yeah. Okay. Yeah. Okay. Right. Yeah. Yeah. Okay. Just Okay. Work on that. Yeah. Mm-hmm. Okay. Yeah. Yeah. Yeah. I don't know. More research required, I think. But if Was it a management decision that we're having Okay. So Okay. 'Kay. Minimal Yeah okay. Yeah. The same signalling. I mean Or vibrate just the same as a mobile phone.

Like you just a, a buzz or something. Yeah. If Do you mean the the link between the Well, if the button was actually on Oh, yeah. Maybe Yeah, yeah. Maybe something adhesive that you could like stick onto the back of any set that would be um yeah not very obtrusive. Obviously something small that's Yeah, that's a good point. Yeah. Yeah, okay. Pr probably. Unless it could be Okay. Um, unless some way, it could have some universal connection to like the socket, the same socket that the T\_V\_'s supplied from. I mean the power for the T\_V\_. So, mm, more research into that one. Yeah. Y Yeah. Yeah. Yeah. Yeah. Like a raised Yeah That's true. And also y, uh Heather you mentioned before, um like how it should be accessible to everybody. Um, so like big b um buttons, for people you are visually impaired. The glow-in-the-dark or light up won't make any difference anyway. So like you say tactile might be better, because it'd be more available to everybody. Yeah. Yeah. Mm-hmm. Yeah. No, it's not these days. I mean, it's quite easily accessible. Yeah. Yeah. Yeah. Yeah. Yeah. Yeah. So self-timed lighting. Um, I Yeah. So, self-timed Yeah. Yeah. I think the shape of th

e numbers is a really good idea. And I think that's un unique as well. I mean, I haven't seen that. And as you're saying like numbers can wear off if they're just sort of like painted on, you know printed. durable. Oh yeah. Yeah. Yeah. Repetitive strain injury. Mm-hmm. Yeah. Yeah, and we could Yeah there are now like loads, or a huge range of different colours that it could light up in as well, which could like link in with the company colours. Like it could be blue or green or yellow, or like we've just limited t with the, just ordinary phosphorescent so Yeah. Every time the, that it lit up, you c that could light up as well. Or, or the, whate Yeah. Is Okay. Like you can have changeable um mobile covers or something. Yeah, or Okay. Yeah. Person Yeah. Well, that's great. Interchangeable. Um, als Yeah. Interchan And also possible I mean, uh, we could gain out of that by advertising certain T\_V\_ shows, or Yeah. But if we, there is Yeah. We could Um, the environmental factor, we didn't bring that up again. Yeah. Um, I've Okay. Let's I think we could probably leave that 'til later on, then. No. Okay. Thank you. Am I starting now? Anytime? Oh sorry. 'Kay, um. Alright, welcome back fro to the second meeting. And um I hope you had a productive last thirty minutes. Um, and um, I'll be taking minutes on this one, and um Being hooked up to the PowerPoint for this meeting isn't very necessary for uh myself, because it'll be more about uh, what you guys are bringing to the meeting today. Um, so, the first presentation we'll be looking at is Poppy's presentation. And, um So, sorry? So, um, take it away Poppy. It's, it's plugged in. So, um No problem. I'm sure it's fine. Right, um, one question. This, um, self-destructible uh metal, it allows for recycling materials? So that, um, someone could have this product for as long as they felt that they wanted it, and then once they contribute it, then that company can break down the part, the parts better? Yeah. Mm-hmm. Would we be the company that would break down these, or uh metals? Or would we contribute to another group? Alright. Okay. This sounds like a really great idea. One thing we have to consider is our uh one hundred percent um turnover goal that we have for our financial sector. Um, so we'll have to investigate how much that will cost us, cost the company, um 'cause it sounds very labour-intensive. You would have to hire a number of people, and it might be more expensive. Mm-hmm. Alright. We'll still have to investigate the financial implications. Alright. I like the environmental approach. Um, we'll have to see if that can meet our financial goals as well. I'm sorry, could you Those were um Okay. So those are what, um, we'll c construct the remote. Those are all the Alright. Great. Alright. Thank you very much. And, um, the next presenter will be Tara. Yeah. Function F\_ eight. Sorry. Yeah. Right. Does everyone agree with this? Does anyone object and, and find the multifunctional might be a better way to go? Mm-hmm. Yeah. Alright. Sounds great. Alright, well, um, are you ready for your presentation Genevieve? Fabulous. Except you're not hooked up to the Great. No problem, we can I'm sorry, what was that last thing that you just said? Mm-hmm. I'm sorry, that

eighty percent of users would spend more money when a remote control would look fancy. You mean that they would spend more money on a fancy-looking remote control? Okay. Alright, so it might be very appealing if, um, we have very concise buttons. And another thing with um lots of surfing, we'd probably have to work on something that could be um a lot more durable, because I find with um channel-changers that, um, a lot of the numbers get rubbed down if they're printed on the button. Yeah. It's um No it's a button that you press, and then you, uh, like a menu pops up. I haven't used it before but Mm. That's rather sad. Yep. I agree with um if we're targeting young adults then it would be something we should look into. Um, financiall

y and and functionally. Um, and especially if we are um trying to be trendy, go with fashions, things like that. Um, ages like from thirty five to sixty five which show lower numbers probably won't be as concerned. Mm-hmm. Yeah. And something that might further complicate it is that the T\_V\_ makes noise itself. Wonder if it would have Yeah. Yeah. If we're looking for a simplistic design, if We need to decide if that is our um intention is, is a simplistic design. Um, because if, if it is then I think voice, um voice-activated Yeah, and that would sort of negate the whole remote control thing, because if people can activate the television with their voice then they won't be using a, they won't be talking into a remote, I'm sure. Um, I don't know what an L\_C\_D\_ screen is. I have no idea still. I'm sorry. Oh, on the remote. Okay. Yeah. Right. Mm-hmm. Yeah. And if one of the largest, uh, or most complained about thing is that it takes so long to get to know how to use a remote control, I'm sure that something like an L\_C\_D\_ screen or remote control would be just furthering that problem. Yeah. Alright. Okay. Before we go into uh more discussion on we want this design to look like, I've received some information from the management that will affect some of our decisions. Um, for one thing, because Having controls with D\_V\_D\_, V\_C\_R\_, that sort of thing, would really complicate the design of the remote control. Um, we've decided not to include them and make it a specific, just a specific television um function. Which is good as, as we've sort of decided that we would like to go with that anyway. Um, for many reasons. So um we have that decision sort of made for us. Another thing that might um affect other decisions is that um the management feels that teletext is outdated, because more people are using the internet now. And so uh we won't concern ourselves with um navigating the teletext option. Yep. Okay, sure. Yeah I do. I'm looking at looking at it right now. thank you. Um, well, I mean we don't have the resources or or possibility of using the internet with the remote control, but um they were just pretty much saying that the teletext would not be used. Alright, and another thing. This is for the design, the design of the product is that um we wanna create, um more of a sense that people know that this is from our company. So, um, all the remote controls must have our um We'll incorporate our logo and colour in in some way. So, um, perhaps um our logo on the bottom, or wherever you feel like it would look good. Um, it doesn't have to be the colour of our um of our company but, another thing is that, um we need to, we probably would have to have that colour and, and logo decided upon. Um, I'm assuming that we already have one, but for the purposes of this meeting I, I wasn't offered a, like a type of logo or colour, so if that could be um somewhere on the design so that we can be recognisable. The little R\_ R\_ yellow thing? Okay. Real Reaction? Okay. Um, yes, those are the changes. Um, so, now we need to discuss, um and come to a decision on our remote control functions, of, of how this is going to be. I'm just going to look at my notes for a second. Um, we have to decide on a target group and the functions of the remote control. So, um, we already know that it'll just be for the television. It'll It won't have teletext. But um, you know, we could discuss um those other options that you brought up, Genevieve. Is that how most people feel about that? Okay. Yeah, but another thing is that if we're reaching an international crowd, um, I know for one that in North America there is no such thing as teletext, so it'd be really

superfluous. Yeah. I don't know about other countries besides the U\_K\_. Do you know if anywhere else has it? Alright. It was a management decision, so it's, it's pretty much out of our hands at this point. 'Kay. So, I guess we're looking at something rather simple. Yeah. I think we should definitely go ahead with

the alarm system idea that you had. 'Cause I'm sure that could be in inexpensive because we could use the same kind of infrared the same signal through that and it could just like make a little beeping noise. It's not that expensive to do. Yeah. Yeah. Okay. I like that idea. Yeah. The button Oh. Minor detail there. Yeah, it would have to Mm-hmm. Yeah. Then it wouldn't, it probably wouldn't be able to use It would be able to use the same reception on the remote control I guess, but the actual device would have to have its own infrared signaller. Okay. Maybe, um Probably, I mean. That's your department you'll have to sort that out. Yeah, you'll have to Yeah, you'll have to invest Do some research on that, alright? Great. Um, alright, and I'm sure that, um um, the glow-in-the-dark, fluorescent, whatever, system, um is a go ahead. Is everyone interested in that? Yeah. Yeah. Hmm. Yeah. But I mean Yeah. Yeah. Could we somehow We could, may, possibly, sorry, incorporate them both so that the buttons could maybe be in the shape of the numbers themselves and be made out of some glow-in-the-dark material. 'Cause I don't think that glow-in-the-dark material, um, like the actual soft plastic, um, costs that much more than other colours. Yeah. Alright we have five minutes left um, for the meeting, but I think we should discuss this light subject a little bit more before we close. Um, what was I missed the last moment, reading that. What were you talking about with the lighting up buttons? Yeah. Yeah. Mm. So it could be any button that would be pressed. Yeah. Okay, so That's probably feasible. So, do you think that we should do the lighting up thing, and the glow-in-the-dark thing, and the shape of the numbers? Do we have to kind of decide what we're gonna do with this. Yeah, okay. Yeah. Yeah, yeah. And it could, if it's that softer rubber material it'll be, maybe, um, uh, better for people with um els no what's it called, R\_S\_I\_, what was it that we were talking about? Yeah. Yeah instead of like hard buttons. Okay. Um, did we want to go for the glow-in-the-dark look? Or did we want to go for the lighting up instantly? Like should we do both? Or we can have one or the other? Because it might, for, for our design purposes, I mean, the lighting up thing might be better because glow-in-the-dark material has a funny kinda colour. And it might not go with different like face plates that we might come up with. Yeah. Right. Right. Alright. So we've decided on lighting up things. Yeah. Yeah. But with the same thing, I mean. If you touch the button and then it could be, it could be lit up as well. Is Are you okay with that? Okay. Cool. Um Alright. So I think that um that completes most of our um our more uh practical decisions. And now it's up to designing. And um making sure that this can be feasible. And do you have anything Do you have anything to say? Like an iPod or something? Okay. Like a cellphone? Yeah. Mm-hmm. Accessories. Yeah. I think that we should incorporate that. 'Cause that wouldn't be very expensive at all. You'd just get one mould, throw some plastic in it, you know. Yeah. Well, that might be com problematic with um copyright issues. So, if it takes off then we'll, we'll, we'll try that out. Right. We'll have to do more research. Like as of yet, that has nothing to do with, um, the way it'll look. Um, does it need to be reached a de Do we need to reach a decision on that right now? Because we need to investigate the financial implications. Okay. Is it Does it need to be uh decided on now? Or should we Okay. Good. Alright then. Anyone else have anything more to say before we close? Alright, well. Let's have lunch and we'll discuss this later. Alright? F\_ eight, w. Function F\_ eight. Thanks. Can you see? Do you think Is it uh, function eight yeah? Oh right. Okay. Okay. I'm the User um User Interface Designer. Uh, the technical functions design of the apparatus is the effect the apparatus should have. Um, in this case it's the

function of the remote control, which is to send messages to the television, television set. By taking inspiration from other similar designs, we'll try and come up with an original trendy remote control, which is sellable international. There're two functional design options. A multifunctional remote control, which can be used for several entertainment devices. And a single function remote control, used specifically for the television. Sorry. Um, a single function just for the television itself. Yeah. Um, multifunctional controls can be difficult to use, as the multitude of buttons can be confusing. A single function remote control is simpler to use, but it means you have to have other remote controls for your other entertainment devices. Um, I think that a single function remote control would be preferable, because it's easier to use. It'd be more compatible with a range of television sets, making it more internationally sellable. Um, it will make an original design more obtainable, as we have less functional necessities to include in the design. And it would be more profitable as it would be more simplistic. And less functions would have to be included. So it would be cheaper to make. And probably more sellable just because it's more compatible with a wider range of devices. Does anyone have any questions? Well, it's just that, when we're creating it, we're, we have to make it um compatible with different brands of devices. And it would be easier to make it compatible with just different brands of television devices rather than other ent, yeah, other entertainment devices. Yeah. Yeah. Yeah. Yeah. And with this we'll have more room in the budget probably to make a more original design. We'll have more money to go into the design side of it. Yeah. Yeah. It's um It has T\_V\_ has like information, it has information on holidays, the news, entertainment. No, li Yeah. Yeah. And you have page numbers like for the menu, and you press the page numbers with your remote, and it, it'll come up. Very basic internet, yeah. But you have Yeah. But you have no interaction back with it, you know. Like the internet you can send emails and You've no interaction. Yeah. Yeah. Uh, probably just tuning in the channels, would it be? Tuning them in at the very start. You know if you get a new T\_V\_ set, you tune in all the channels, do you th do you think? Yeah. Yeah. Repeti Uh. Yeah, yeah. I think it is. Yeah. Mobile phone. Yeah. Yeah. Could it it It would be good if it had the actual programme that was on, and what was next. But that would probably be Yeah. That would be good, yeah. Yeah. Might be quite expensive to do that though. And we should keep in mind that fifteen to twenty five year olds might not have twenty five Euros to spend on a remote control. Like their priorities might not be a fancy remote control, when they're just starting out and, yeah. Yeah. Yeah. Early twenties, that's the kind of age group. Twenties. Yeah. Yeah. Yeah. Yeah. I think it would be annoying though if I don't use teletext that much, but if it was on your T\_V\_, you'd want to be able to use it, if You'd Yeah. So is it just Okay. Alright. Right. I don't know. I don't know. Yeah. Okay then. Yeah. Would you be able to, um, put the little device anywhere? 'Cause uh isn't our remote control for all T\_V\_s, so you'd ha Yeah, with the button that you pressed. Yeah. C 'cause then it would only be a applicable to one T\_V\_ set, so it would need to be something that you could stick somewhere, or something. Yeah. Yeah. Yeah. Would it need a battery then? Yeah. I I like the light up suggestion. I think that would be better. 'Cause you know the way fluorescent lights lose their brightness after certain time, so I would go for Well just the numbers could be embossed, couldn't it? Like raised. Yeah. Could be raised. Just little arrows, that you could feel, maybe? Yeah. Yeah. That, I think that's good, yeah. Yeah. Yeah. Yeah. No, I wouldn't say so. That's good Yeah that a good ide

a. Yeah. Yeah. That, yeah, that's a good idea. Yeah. Yeah. For visually impaired, yeah. Yeah. If I was thinking though, if it was glow-in-the-dark, you could put the um Real Reaction symbol as glow-in-the-dark, and then it would be constantly advertised. Yeah. Yeah. Yeah. Okay. Yeah. Oh yeah. Interchangeable thing? That would be good. Yeah. Yeah, and then that would be uh more profitable like as a sideline to the remote as well. Y Could buy extra Yeah. That's a good idea. Yeah. No. Oh yeah. If

w No. Okay.

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# Meeting ID: 99

Data Source: Train

## Executive Summary

Uh first we going uh over the minutes of the last meeting , more or less . Um in the last meeting uh the marketing manager had presented uh her method of working , Our technical manager has then said that she feels it should have a chip Uh are we all in agreement that that's about what we discussed last time ? Now as an interface designer , I would give more emphasis on the interface , how the remote looks like Okay . Now the function of a remote is to send messages to the television . Then it should have a next button , Then , there should be a button which can give subtitles for a particular program which is going on a television . Then there should d uh there should be some buttons which can control features like the colour , colour of the picture , the contrast , sharpness , brightness of the picture . Now there should be a memory switch . Now the most important feature I would like to have in my remote would be the speech recognition feature . for example , if you want to see we if you want to see the ninth channel if you say just say ninth channel , uh th now the the uh yeah , the remote will automatically it will switch to the ninth channel . So this is one one of the interface which can be created . A very simple interface which has all the t uh uh important features . Then , these are some of the remotes which are different in shape and colour , but they have many buttons . So you can you can design an interface which is very simple , and which is user-friendly . Yeah , so this is one of the interface or one of the remote which has this vi voice recogniser . Yeah , now this is an interface for a chil uh for a remote uh uh which a child can use . And this comes with different colours , different shapes . Now this is a big over-sized remote which cannot be misplaced or it's impossible to misplace . And the personal preference uh would be a spe uh uh to incorporate speech recognisers uh which will respond to user's voice for a particular uh function . Uh any comments on uh her presentation ? Well , um looks like we still have quite a choice of things out there . But uh we're gonna have to narrow it down a little more . No , I think her presentation was good , and she really explored all the options . Yeah . Um this time I'm I'm going to um concentrate more on the components and the technical side of the remote controller design . I Uh the first one is case to keep all the components like integrated circuit , battery , etcetera , etcetera , like uh if we want to have different colours , blue , red , green , so uh uh we have to use uh some colouring compone compone components . And uh the second important thing is uh uh uh integrated circuit . Uh which uh we can use a highly sophisticated one because it's like the it's like the heart of the remote controller . So it should be strong . And it should be recyclable . And the uh other component

we should uh we have in the remote controller is a resistor uh if we will be able to make a rechargeable battery then we sh we need not go for a high performance battery , this is a normal remote controller . like you can see a chip there which is having eighteen pins , you can see the T\_A\_ double one eight three five labelled uh chip um . Uh you can also see the uh uh the green two green things are uh these are they are resistors , Actually , uh building a circuit board is pretty pretty uh easy and also it's a it's a I I inexpensive . Uh b but a b a push-button requires a simple chip underneath it , but whereas a scroll wheel requires normally a regular chip which is a higher price range . Like for s scrolls we have to go for a sophisticated and and k uh uh uh full a complete chip . uh or we can use solar cells . Uh and as an energy source we offer a basic battery , a more ingenious uh hand dynamo , um a kinetic provision of energy , Like we can have a material such as plastic , rubber , wood , titanium , Uh yeah , on the scroll and the push-button , um can you can achieve scrolling by repeatedly pushing a button ? No , no , no , th the the the scrolling wheels are different , like you can go for a switches like buttons or scrolls , uh which which we used to do before ten ten years before , I think . Now , nobody uses that because you need you need a a k sophisticated chip and all . So I think it's better we go for uh um ordinary buttons . We don't have a lot of time left and we will still have to make a decision , Um alright , my method is uh I'm interested in what the competition is doing , and wanna see how we can make ourselves different from the competition , Um and my findings from this is that , you know , small is beautiful . Simple is beautiful . And eye-catching is important . And in my research this year I found out that fruit and vegetable shapes are really popular . They are more back into soft feel , spongy feeling things , things with maybe a little cloth on them . And what we really have to decide in this meeting is um the concept of the remote . This could be uh one feature which could be sellable . I would like to include this feature which is called as voice recogniser . Yeah , but but I what I'm uh very very much doubtful how how uh far it will work , because a speech recogniser like i it it has its own uh uh problems , issues . So to get a good recognising system , it's a costly thing , I think . it's like your recording of uh all uh um a question already , and then you're expecting an answer from th What kind of energy do we foresee ? I think I think battery , and I think we all agreed on that . That that's that's gonna be most cost-effective and the best thing . Bright , colourful , trendy trendy design , and strong . Trendy design , compact and strong . Not sure what they mean by supplements . Her speech recognition feature would be a supplement . Okay , so why don't we put down speech recognition if possible pending some more research from our industrial engineer on how expensive that is . and the marketing expert with the product evaluation . and uh the U\_I\_D\_ is supposed to uh come up with the user interface design , In this phase , the two of you , Jana and Francine , have to work together on a prototype using modelling clay , it says here . You will receive specific instructions will be sent to you by your coaches .

## Complete Meeting Transcript

Hi. Yeah, good. Hmm. Yeah. Going to the next. Mm. Mm-hmm. Yeah, maybe. Participant two. Uh the next one, sorry. It's it was the old one. Components. Um this time I'm I'm going to um concentrate



more on the components and the technical side of the remote controller design. Uh, can you go on to the next slide, please. I have just brief uh down few uh components which we require for the remote control uh construction. Uh the first one is case to keep all the components like integrated circuit, battery, etcetera, etcetera, it's like Uh it can be a plastic one, hard plastic, so that it can be strong, even if you just uh uh, you know, if you if it falls down, then it doesn't break. So it should be strong. And uh uh there are no harmful materials used in that. And it should be recyclable. Uh and uh, yeah, and also uh using of colouring compon components like uh if we want to have different colours, blue, red, green, so uh uh we have to use uh some colouring compone compone components. And uh the second important thing is uh uh uh integrated circuit. Uh which uh we can use a highly sophisticated one because it's like the it's like the heart of the remote controller. If it is not efficient then everything wi is going to be uh like um the lef ess less efficient so it you should we should have a highly sophisticated one. And it should be resistant to high as well as uh low temperatures. Suppose if it is thirty-eight degrees outside forty degrees outside, it should it should uh be able to re uh resist the uh temperature uh uh highs and uh high temperatures and low temperatures. And uh it should be with uh um equipped with timer and alarm facility. And the uh other component we should uh we have in the remote controller is a resistor uh which is like uh uh i it is very very much important for the electricity uh flow through through through the uh remote controller and uh also a capacitor which is a b which is a m I think it's it's like a battery, capacitor. Can you go on to the next slide, please? Uh a diode, a transistor, a resonator, these are all this uh technical uh electri electronic compons uh components which are which we have to use in a remote controller. A battery uh, I would like to suggest one thing uh if we uh if we will be able to make a res rechargeable battery then we sh we need not go for a high performance battery, even if it is a low performance battery it ca it can't I it can't charge much. It it it's not a high voltage battery. Then also we can If it is a rechargeable one, then uh people can use it for a long time, so in that way we can cut cut the cost, but w uh uh that we have to make the battery as rechargeable one. And we we have a circuit board uh in a remote controller. Can you go to the next slide, please. And how it works, how the remote controller works. When you press a button Thank you. Uh when you press a button, when you do that, you complete a specific connection that means when you when you press a button there will be a s a small circuit underneath the button, and it will send some signals through the wires, and then uh the chip will send start connection and knows that which button is pressed. Suppose you have pressed channel one button, number one you have pressed, then the uh chip will know that the number one button was pressed. It pros produces a mors morse code line signal specific to that button. Every button, every individual button, has its own morse code. Suppose uh the uh user has pressed butto button one, then it will have a spe the circuit will generate a specific morse code to b that that button, and the transistor will amplify the signal and send then to the L\_E\_D\_ which translates the signal into infrared light. Like you have got a signal by pressing a button. That's a d a morse code has been generated by the integrated circuit. Now, that signal, that morse code, has to be amplified by the transistor. That is the use of transist transistor we which we use in the remote controller. It

will amplify the signal and it will send it to the L\_E\_D\_ and which translates the signal into an infra infrared bits. The sensor on the T\_V\_ can see the infrared light, and seeing the signal seeing the signal re it reacts appropriately, that when it sees the amplified mo morse code signal, then it will uh it will uh know which uh what what action it has to uh do. Then it will do the appropriate action. So uh this is how the remote controller works. Can you go to the next slide, please. Yeah, I have few pictures. When you look at the uh um remote controller uh it's it's it this is a normal remote controller. And to the next slide, please. And where we had a a few buttons and all. And uh if you open the remote controller you have

this circuit board and few electronic components, like you can see a chip there which is having eighteen pins, and also a capacitor, three resistors and also a resonator uh mm yeah, and diode and a diode transistor. The electronic components uh all of the electronic components have all those uh things like a chip and diode transistors and Yeah, diode uh you can see the T\_A double one eight three five labelled uh chip um. Uh you can also see the uh uh the green two green things are uh these are they are resistors, and uh just beside that you can see a transistor, and a uh uh cylinder shape, uh that one is a capacitor. Uh and also there are uh resistors uh sorry, there is a diode. Can you go on to the next slide. So uh this is the circuit board. The green one is a circuit board. Actually, uh building a circuit board is pretty pretty uh easy and also it's a little inexpensive. Uh it's it costs less than what you print on a paper, because uh uh when you are building uh some circuits some uh circuits and also wires, it's it's better to go for printing, because uh you can build these kind of circuit boards on a bulk and it's just printing, nothing like uh, you know, you don't need to use wires and all. It's not exactly wires we are using. It's just printing something on a board. Those prints will act as wires and circuits. So that green uh thing is a circuit board, and also you can see uh there are buttons like uh access for buttons, like when you press a button, the circuit under the button will be activated uh it will get some signals from it and it will uh it will send a signal signals to the, yeah, um integrated circuit. Can you go to the next slide, please. Uh so this is these are the circuits underneath the buttons. Uh can you see the black uh, round marks? They they are the circuits. Next, please. And um like uh we have uh designed uh before we have seen some uh few things like instead of buttons we have some scrolls. Uh but a push-button requires a simple chip underneath it, but whereas a scroll wheel requires normally a regular chip which is a higher price range. Like for scrolls we have to go for a sophisticated and a full complete chip. Uh and as an energy source we offer a basic battery, a more ingenious uh hard dynamo, um a kinetic provision of energy, more than what is that you shake casually to provide energy. So that also we can have in a battery, uh or we can use solar cells. Uh. Yeah. Uh yeah uh the product can be delivered into different cases. Uh usually, the cases are card flat that we see usually uh a normal remote controller. Um. Yeah. Yeah, maybe uh I have just one more slide, I think. Um. Like we can have a material such as plastic, rubber, wood, titanium, but titanium we can't use. Um and also for electronics we can use a simple and regular um or an advanced chip on the print, um also it includes the infrared sender. Um yeah the uh for the movie just to develop uh samples and so speaker. An Yeah, that's it. It's all for me now, thank you. No, no, no, the the scrolling wheels are different, li

ke you can go for a switches like buttons or scrolls, uh which which we used to do before ten years before, I think. Now, nobody uses that because you need a sophisticated chip and all. So I think it's better we go for uh ordinary buttons. Yeah uh yeah, push-buttons. Yeah. Yeah. Mm-hmm. Yeah, but w Yeah. Yeah, but but I what I'm uh very very much doubtful how uh far it will work, because a speech recogniser like it has its own uh problems, issues. Yeah, it's not distance problem it's recognising a person's voice, like maybe different people will be having different voices, so it's like uh everything so i So to get a good recognising system, it's a costly thing, I think. Mm-hmm. Yeah, but Yeah. Mm-hmm. Mm-hmm. Mm-hmm. Yeah. Yeah. Yeah. Yeah. And also strong. Trendy, yeah. Uh. Um like the switches, like we use buttons for user interface. Push-buttons. Yeah. Mm yeah. Hmm. Mm-hmm. Yeah. Mm-hmm. Mm-hmm. Yeah. Thank you. Hi. Mm-hmm. Interface designer. Yes. Yes. Okay, I can start first. Okay. Now my slide, please. Three. Participant three. Yes. Okay. Now as an interface designer, I would give more emphasis on the interface, how the

remote looks like so that it is sellable, it is attractive to customers. Next, please. Okay. Now the function of a remote is to send messages to the television. These messages could be uh switch on-off message or switch to next channel message or swapping the channels or switching onto a particular channel, like you can have the numbers one, two, three, four, up to nine. Pardon me? Yes, nine numbers. And then you have swapping of uh button by which using which you can swap the channels if you don't want to see the third channel you can swap it to the fourth channel or vice versa. Then it should have a next button, and next button channel by which you can keep on uh v uh mm eh scrolling the channels one by one. Next slide, please. Then you should have a button which should which ca which can be used for increasing or decreasing the volume. Then, there should be a button which can give subtitles for a particular program which is going on a television. For example, if you are watching a French program and you would like to have a subtitles in English, then there should be a channel which can trigger this mechanism in the television so that the user can see uh the the subtitles on the screen. Then there should d uh there should be some buttons which can control features like the colour, colour of the picture, the contrast, sharpness, brightness of the picture. Now there should be a memory switch. There should be a mute button. Suddenly if if uh uh viewer he gets a telephone call, and if he want he doesn't want to switch off the uh T\_V\_, but he he can reduce the sound, he can bring the volume down and he can watch he can uh while talking he can watch the T\_V\_. Now the most important feature I would like to have in my remote would be the speech recognition feature. It's an integrated progra programmable sample sensor speaker unit. So a remote can be th can be uh designed which can have the voice recognisers, you can record your own voice which can be recognised by as voice recogniser in the television, for example, if you want to see we if you want to see the ninth channel if you say just say ninth channel, uh th now the the uh yeah, the remote will automatically it will switch to the ninth channel. So the T\_V\_ will have some recogniser which will recognise the user's voice and accordingly it will change its functionalities. So this is one of the very important feature a remote control can have. So this is one one of the interface which can be created. A very simple interface which has all the t uh important features. Then, please, next slide. Then, these are some of the remotes which are different in shape and colour, but they have many buttons. So uh sometimes the user finds it very difficult to recognise which button is for what function and all tha

t. So you can you can design an interface which is very simple, and which is user-friendly. Even a kid can use that. So can you go on t t uh to the next slide. Yeah, so this is one of the interface or one of the remote which has this vi voice recogniser. And this has multi-purpose use, it can be used for T\_V\_, it can be used for cable-satellite, it can be used for V\_C\_R\_, D\_V\_D\_s and audio. And this has in-built voice recogniser. Can you go on to the next slide? Yeah, now this is an interface for a chil uh for a remote uh uh which a child can use. Uh this is user-friendly, it's very attractive and uh children can use it as well as they can play with it. And this comes with different colours, different shapes. And this this uh child uh interface has minimum buttons and all the important uh buttons are there in this small, compact, attractive child interface. Next slide, please. Now this is a big over-sized remote which cannot be misplaced or it's impossible to misplace. this. So this is No this is a very big, you cannot misplace it anywhere. So this is a jumbo universal remote control and it's impossible to im misplace or lose. This i this is one such interface which can be created. And the personal preference uh would be a spe uh uh to incorporate speech recognisers uh which will respond to user's voice for a particular uh function. Thank you, that's Mm yes. Okay. Okay. We can. It works. Mm yes. Mm-hmm. Mm-hmm. Transmit. Okay. Okay. Push-buttons. 'Kay. Mm-hmm. Uh yes, I would like to include this feature which is called as voice recogniser. This could be uh one feature which could be sellable. Mm-hmm. No, it's it's, uh

yeah, it it's like your recording of uh all uh um a question already, and then you're expecting an answer from th For example, you have a T\_V\_ system, I'm the user and my family members are the user, I will already record uh a question like, uh good morning, like around eight o'clock I want to see the news in the television. So I'll say just good morning and the T\_V\_ will switch on. It will recognise my voice and will switch on. Battery. Yes. Yes. And compact. Trendy design and compact. Yes. Push-buttons. And Supplements like different types of features buttons, like can have a f mute button or a swapping button. Recogniser. Yes. Yes. Okay. Okay. Okay. Thank you. Hi. Yeah, I think that pretty much is it. Yeah. Mm-hmm. You don't know me. I could lose that in a minute. Well, um looks like we still have quite a choice of things out there. Um what uh I'm No suggestion's bad. But uh we're gonna have to narrow it down a little more. I don't think that we can get uh The T-shape is good, the child one is good, the too big to misplace, I think it's just funny. Um I don't think that's gonna be our impulse purchase at the checkout counter. It's it's gonna be a little bit too unwieldy. Yeah mm. Mm-hmm. Have to come back to that later. Okay. No, I think her presentation was good, and she really explored all the options. Yeah. Mm-hmm. Mm-hmm. Good point. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Yes. Yes. Okay. Hmm, that's interesting. Uh yeah, on the scroll and the push-button, um ca you can achieve scrolling by repeatedly pushing a button? Mm-hmm. Um. We'll just go for push buttons for in the interest of cost. Okay. Okay. Go right to my first my next slide. Um alright, my method is uh I'm interested in what the competition is doing, and wanna see how we can make ourselves different from the competition, so I've really been looking at the press and the ads that are out there for other remote controllers. I s I spend a lot of time on the internet um surfing around doing the same thing. And then when I'm out um in people's houses or at meetings or anything like that, I try to notice what kind of remote controls people have, and if it's convenient in the conversation I ask about it. And I would encourage you all to do the same. Um and my findings from this is that, you know, small is beautiful. Um people like something that reall

y fits in their hand. Simple is beautiful. They don't want to have to squint at small print um, they want buttons whose functions are obvious, and they want um as few buttons as possible, and they don't care for the mode thing. They want each button to do something. And eye-catching is important. It's gotta look cute, it's gotta look appealing. Go ahead, I'm trying to finish fast for you. Um and our preference is, as far as I'm concerned, are we got to get to the market before the competition. Ours has to be look really great and it has to come out before the others, so that we have a leg up on time to sell it and push it before other people get out their Christmas item. And we should develop one or two features we can really dwell on in our ad campaign. If we try to tell people it has too many great features, um the consumer just gets confused and we don't get anywhere. So we've gotta narrow our selection down to li two things, I think, that we gonna say are really great about our our our new product. And I've been looking around um at what designs every year different things are popular. And in my research this year I found out that fruit and vegetable shapes are really popular. And people are tired of hard plastic and hard metal. They are more back into soft feel, spongy feeling things, things with maybe a little cloth on them. So those are things maybe we wanna look at as far as saleability of the item. Mm-hmm. You wanna try to come back to yours, and limit yours a bit? Okay. So speech recognition is most important as far as you're concerned? Yeah h that could that could that could be our star feature. That that be really good, yeah, I agree with that. Distance problem? Uh. I think I think battery, and I think we all agreed on that. That that's that's gonna be most cost-effective and the best thing. Yep. Bright, colourful, trendy trendy design, and strong. Mm-hmm. Well, I think that Yeah, or or like her speech recognition would also be a supplement. Her speech recognition feature would be a supplement. Okay, so why



Mm-hmm. I think that's Mm-hmm. Well, you you teach You have to teach uh Okay, before we get too far off here um, the components of the concept is the energy. What kind of energy do we foresee? Battery. Battery. Okay then chip on print. Okay. And the case. And I think we all agree on the case, we wanna have something uh maybe bright, colourful. Mm-hmm. Trendy design, compact and strong. User interface concept, uh interface type, supplements. That will be your area I think, right, Jana. Put uh k I guess uh for yeah. And Not sure what they mean by supplements. Oh, like Oh. A what? Right, right, right, mm-hmm. Right. Okay. Uh our next meeting will be in thirty minutes, and the uh I\_D\_ is to this is the individual actions to be taken until then, to have the look and feel design, and uh the U\_I\_D\_ is supposed to uh come up with the user interface design, and the marketing expert with the product evaluation. In this phase, the two of you, Jana and Francine, have to work together on a prototype using modelling clay, it says here. You will receive specific instructions will be sent to you by your coaches. Um if you have any questions, you know, you you can always uh contact me um or uh or your coach, I suppose. Um so um I think we conclude the meeting here and we come back in uh uh thirty minutes, according to our timetable here. Thank you very much.

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# Meeting ID: 137

Data Source: Train

## Executive Summary

The meeting begins with the group trying to resolve some equipment issues and waiting for Anna's arrival. Then the project manager introduces the meeting by saying they have some technical tools with which to communicate so they will try to get acquainted with them first. He starts talking about the product they are to design, a remote control which should be original, trendy, and user-friendly. The general outline of the project will be the functional, conceptual, and detailed design. They do some tool training by trying out the whiteboard, and each person draws his/her favorite animal on it. The project manager proceeds to talk about the project finance, which is followed by a group discussion about what functions a good remote control has. This includes the basics such as on/off, channel up/down browsing, volume and record button(s). At this point they clarify their names and roles in the group and then resume talking about remote control functions. They discuss some functions such as a personal video recorder, but say it is probable that they cannot produce a fancy device given their budget. The project manager closes the meeting by telling each group member what he/she will be working on.

## Complete Meeting Transcript

Or you get it. Okay. Mm. Yours is well Yeah but the the mic should not Yeah. Mm. Can't help you with that. Okay, it's y yeah. Right. Then press uh al This. You know? Oh oh. Right well Wow. Amazing. It's working. Yeah. Under documents in the shared folder. Okay. Yeah, I guess we'll have a shared folder uh with documents that we can share. And uh, yeah. Yes. Each of us is going. Okay, shall I start? So, i But it's Actually, I think I cannot go with uh Yeah. Okay. You're on the knife. Mael. Yeah, I think I will go without without it, right? Yeah. And we should sum up its favourite charas characteristics, right? So Uh yeah. And i Th They like to sleep, that's why you said you they are like this. Yeah. She has the small legs. Yeah. Thank you, Matthew. Perfect. Oh a rat, okay. And you, A bird. Okay, in the water. Mm. Yeah. Put it colours. Maybe it would help us. With different pen widths. Ah it's a shark, yeah. Oh. You have some in in Australia, right? Yeah. I dunno. Oh well. Yeah. Perfect. So I dunno if we need to spend time on that, actually But uh Yeah, exactly, yeah. Wow. Yeah. Per remote control, yeah? Per project.

So it's half of the selling price, if I am good in mathematics. Of course. Oh you're g very good in mathematics. Four million. Yeah. And uh just before starting the detailed discussion, maybe we You are the marketing guy? Or th So you are the marketing. And you are in the u use user interface uh design. So just yeah I wanted to to be sure. And I I'm the the industrial designer okay. Because I I don't know you very well, actually, but yeah. Okay. Mael. Happy to meet you. Okay. It's very uh Uh so yeah uh Just uh on your web page but uh yeah not uh not face to face. So mm So I Like what? Like internet on the on T\_V\_? Yeah. Actually, yeah w Of course, and first before um designing the func well thinking about the functionalities, we need to know what are the user requirements. Um then if they need internet, then we would be able to to p to propose something with uh uh T\_V\_ over I\_P\_. But before Yeah, but w w we want to design a new one. Mm. Yeah. The Yeah, the main is browsing. Yeah. Okay. Mm-hmm. Perfect. So we uh we will wait for Anna, a few minutes. I think it should work like this. So I will try to get my presentation running. Mm. It's no matter. No problem. Ah yes. I don't know. Just try. On this normal Good. Doesn't appear on the screen here. Oh. Okay. Thank you. Uh. Yes and you can put can clip it uh on your Somewhere. So, good morning, everyone. Um Welcome at uh at the kick off meeting of our uh latest project. I hope you all have been uh updated about it. Good. So w we will try to structure this uh meeting with an a with an agenda uh as presented here. Um after the opening we will tr get acquainted to each other. See what our roles are in this project. So, um We have been provided with uh some uh w technical tools to uh to communicate and to well, learn from each other's plans uh as I can say um so w we will also try to uh to get acquainted to this tools so they are also new to me I don't know whether you worked with them before. Um then we will come to the uh to the to the actual project plan. You all know I hope how it's about uh the uh new r remote control we are going going to design. Uh then we will uh discuss uh, well, how it should be and uh wh what uh what our new product should look lite like. And uh well then uh after some twenty five minutes I hope uh we can end this meeting. So. Um basically this is about a uh a new c remote control. Um We When you design a new product you of uh you of course want it to be original. Be uh we want to be distinguished, mm? People uh want to uh when they look at the shelf want to think, well that's the product I I need. So it needs to be trendy. I mean trendy is what people want, so then I w they will buy our product. But then, uh, it also should work uh user friendly and uh otherwise people uh uh well it will not be uh be rated very well in consumer uh articles and lik

e that. So, the general outline of uh new project will be we first uh go through a functional design phase. Um You all get uh um certain task uh in this uh in this phase and uh then we will meet again and uh discuss this functional design. And the same holds for the uh ph two phases uh after this, the conceptual design and after that a a more detailed design in which the the final project should get its definite shape. Alright, but first we will do some uh tool training. In all in front of you uh you see uh the uh notebooks and w uh n note blocks and we have here a a a a white-board. And um well it should work uh I've read it from my uh from some colleague that it should work with some kind of toolbar. I didn't find out yet how it work, but maybe one of you did, so Um Yes. Do Do we have to say something about that? I I I'm not fully updated about this shared folder uh. Yes well we will then find out ho how it works. Um. Well, this seems to me, yes, some computer program but I didn't find it yet. So, we'll come to that later. So, uh now we will try out the white-board we have here. So, I would suggest uh Well, yes, um we uh we should try to t to draw on it and then well it should be smart some way. I I'm not really sure how this works, but Yes, a good idea Mael. Okay. 'Kay. You you D doesn't it work? Maybe someo Maybe maybe Anna, maybe you can start. Then he can maybe find out to get his cord right. So um L Why don't you draw uh your favourite animal on on th on the white-board. Oh, I see uh Yeah. Yes. Mm. So draw it. We will try to guess what it is. Mm. It's like a cat, so I guess it's a cat. What is this now? So,



that's the cat. Oh. It's a dog. So but that's also kind of cat, isn't it? Both predators. So, thank you. Uh did you uh work out cord? Okay. Yes. Yes, yes this is Yes definitely a horse. Yes. Oh very good. So I suppose it Yes. Can you can meet them in Africa, I think. Yes. Very good. So Ma Matthew? So Maybe I hope you have some space in your uh the horse of uh Mael. This looks like a cat who has been driven over. Yes, the moustache. That's that's definitely a cat. It's quite, you know relaxed situation. Yes. Yes, okay. Th thank you, Matthew. Yes, this is certain uh some contribution to our project. So. Let's see. Which animal has not been drawn yet. So you've all drawn land animals, so why not draw an animal from the water. Mm. Yes. So Oh, yes, why not? Good idea. Why not. A swordfish. I hope it still works. So W Well, this uh this tool seemed to work. Let's continue to uh to the real stuff. Um our project uh finance uh thing. Uh when we are and when w you are uh going to design w uh we must keep in mind that the selling price of the product uh will be about twenty five Euros, so when designing a project uh I also look at you uh Mael, keep in mind uh uh uh People uh want to get the feeling this is a twenty five Euro project uh pr um product. Yes. Okay. Um more interesting for our company of course, p uh profit aim, about fifty million Euro. So we have to sell uh quite a lot of this uh um things. Uh we will try to uh to get at a international market uh so um it will be I think mainly Europe and uh Northern America, maybe some uh Asian countries. Um also important for you all is um the the product uh production cost must be maximal uh twelve uh twelve Euro and fifty cents. Yes, of course. Uh um I mean we still have to uh to make a profit, huh? You all have to be paid. Excuse me? Yes, indeed. So uh well I think w when we are working on the international market, uh in principle it has enough customers uh so when we have a good product we uh we could uh meet this this aim, I think. So, that about finance. And uh now just let have some discussion about what is a good remote control and uh well keep in mind this this first point, it has to be original, it has to be trendy, it has to be user friendly. Um, maybe someone can mention some additional uh prerequisites for a good remote control. Yes, well i it should have t

he the the the expected functionality uh of a remote control. We wer we were thinking television. Uh. Mm-hmm. Yes, yes. Th th that's very handy I I always miss it and on some remote controls that you can go channel up or down ins instead of retyping the number, especially when you have a lot of channels. Yes. Yes. A and I'm Nanne. So Yes. So. Um S S s Are there some other very important things to to do well, to specify in this first phase of of the project. So the browse function, as you m mentioned. Yes. Yeah. Yes. Mm, well uh I I think Uh w y you two should should, I think, think this over uh w espec what, what functionality. Mm-hmm. Mm mm mm. Keep k keep in mind i it's a it's a twenty five Euro unit, so uh uh the the very fancy stuff uh w we can leave that out, I think. So twenty five Euro you expect a quite, well normal but good functioning user friendly remote control. Yes, but but but ab about the spec the buttons, the buttons uh that will be on it. I I think we can discuss that in the in the next meeting. Uh I would like to get this wrapped up and go to an end of this meeting. So So you know now the basic the basic things. And well just just for the next meeting, um well, uh, you wor yes, work on a design, keep it general, I mean so w we will be still fle flexible with maybe adding some functions. So Um you will be working on on technical function design, so And uh you and you and uh uh uh well, think about requirements, eh? Does it need internet, or or do do we stay at basic basic television uh interface. So, uh I think we should now all go work uh uh at this and uh you will be informed via email and other kind of communication. So next meeting will be in uh in thirty minutes uh. K keep it in mind. Hold that. Okay. Okay. Mm. Mm-hmm. Mm-hmm. Mm. Yeah. I think for us it's just like a normal whiteboard, but they'll be recording what we write down. Mm. Mm. But for us it's just like a normal whiteboard. Mm-hmm. I have to draw. M my my favourite animal. Sorry this is all tangled up here. That's better. Mm-hmm. I'm a very

bad drawer. Weird. Um. You're not gonna be able to guess from my drawing. I'm a bad drawer. Okay. They're ears, by the way. No. Um close though. Okay so like a pet animal. Like a cat. No, not a cat though. Okay. So. It's not a cat, it's a dog. Yes. It's got a tail then. Yeah yeah. So do cats. And you guessed cats without a tail. Okay. Okay, there you go. So what favourite characteristics. Uh. Dogs are always friendly and loyal and fun. A horse? This is why you're the designer. And I'm marketing. Ah Mm-hmm. That's it. A blue and black zebra. The very rare blue zebras. Yes. You got a lot of room here. You can probably reach. No? I took a dog. Um. A mouse? Okay. Mm-hmm. Mm-hmm. Mm-hmm. It's a very big rat. Or a very small cat. Mm 'kay. Your turn. Ah I don't know what that is. It's a bit It's a bit hard to guess. Yeah. Mm-hmm Oh, it's a shark now. Mm. Now it's a swordfish. Swordfish. Um, maybe. I've never seen one, no. Mm-hmm. Mm. Mm. Mm. Yes. Mm-hmm. Mm-hmm. Mm. Yeah. Mm. Mm. Mm. Yeah. Mm. Mm. Mm. I'm marketing. Yep. Mm-hmm. Anna. Mm. Mm. Yeah. Oth yeah. Mm. Mm. Mm. But we can't really design for something that hasn't been invented yet. Mm. Yeah. Yeah. Mm. Yeah. But Ninety percent of the time, ninety nine percent of the time, people will be using the main functions, the volume, the different channels, so we can have all the fancy things as well but the main controls need to be very obvious and very easy to use. Mm. Mm. Mm. So try and get T\_V\_ manufacturers to Mm-hmm. Mm-hmm. Yeah. Mm-hmm. Yeah. Okay. No I don't think so it has to be like that yeah and you have to adjust the length. Okay, and then. Yeah, s yeah, um. I think you can put anywhere you want, actually. I thin It's not a directional mic, anyway. Uh. Yeah. Last. Okay. Okay. 'Kay. Alt F\_ five. So. Yes. Total. Whitebo Yeah, you can start it you know. No they will record through that. There's a sensor over there which is going to record the strokes that y

ou make. Yeah. Yeah. 's a cat. Yeah. Ah you forget about it. Yeah, uh I think it's fine. I just don't want to carry it off. Man, this wires, eh? We need a wireless microphone. You know? Pro specially we should next project we should take I like that. So. Oh the dog doesn't have a tail? Yeah, sure, yeah. I thought so. The dogs have a tail. Yeah. It'll still not extend, right? It's not up to that. It's a horse. Ah I think you can put that. I'll tell to get it off my Uh? Mm-hmm. Oh y it's not for that. No. Okay. Yeah. So what should I draw? Mm. He has already to do cat. So The cat is going to eat the fish or the rat? Ah it's a baby shark, it looks to me, you know it's going to eat the cat rather than the cat eating the fish, no? You should go for the next one it seems to me. Twenty four. Ah yeah, the sale man, four million. They have to sell at least four million to make a profit Ah we have to make we have to sell at least four million to make our own profit. Fifty mill Of course it should have a on off button. Yeah, s and it depends what application you are using it for. You might need uh We are targ targeting the television set. So, you need to record the channels. You need to browse the browse the channels in upward downward way, Uh And Uh, and Marketing. Yeah. Yeah. Sure. Oh. I'm Matthew. You know. Matth s uh Anna. And um uh Matthew, yeah. I thi think you know me, yeah? right yeah. So. So And uh, you'd need the usual ones, like the changing the volume, changing the the channel and then you uh Today we have uh um teletext and all those things. Tomorrow you might have a some more functions which might come through that, so Yeah I\_P\_O\_ or. Now we are looking for television things or I\_P\_. For example personal video recorder and all those stuffs are coming up. Yeah. Ah it's it's it's it's coming up, actually. The personal video recorder and all those things it is coming up. Let's Let's take Oh in that case you can you always hook up with uh someone who is providing that and you know, you you sell their product as well as your product with them, you know. Yeah. No, it's okay, yeah I understand. So we need some numbering buttons, some teletext things and then um Yeah. Yeah. Okay. Okay, we are ahead mm. Mm. Yeah. L Yeah, sure. Stam. Okay.

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# Meeting ID: 131

Data Source: Train

## Executive Summary

this is our design . Uh it's pretty uh much uh like uh Mike draw uh drew uh the in the during the last meeting . We have of course uh the the round shape uh the round uh basic shape . Th So there's this part um which is made of hard plastic , the front . Of course for the launch we use the basic ugly colours , And uh we're we're using different colours . and the rest of it , the under uh the under side uh of it , yeah , the back side and the lower part of the front is of course titanium made of titanium , Um then we have uh on back on the front uh the logo in the upper corner , It's a double R\_ . Yeah the logo I think oval will be better for the for the d for the different uh channel buttons . the the con the the the , yeah , the t volume and the channel controls uh in the middle here . Um um with kind of arrow shapes , we uh the Okay button's here in the middle of the of the operators , of the channel and uh volume um changers . And the video button . Menu for the L\_C\_D\_ screen . And of course this low part , this is the L\_C\_D\_ screen . And we thought about the logo big in the middle . And the company slogan , we thought in a kind of arc shape uh above the logo . the voice recorder is uh at the bottom . Well what what what I what I agree is that when uh when um you have such of uh an arc in the middle , so that the the a the ends and the fronts is a bit thicker , so th then it falls over your hands . And how large is it ? That's the question . Yeah , I agree with the L\_C\_D\_ screen . And if you have it li in the middle , your hand might be over it . But you you hold it like this . Well f for as far as I can see , three of us agree Well the the Well that's a reason to to put the L\_C\_D\_ screen uh of course on the upper side , but For me , I I wouldn't buy it . So let it be like this at uh at this moment . I'm going to do uh the ev evaluation . That's gonna be done at the end of seven point skill criteria . So I made a I made a few questions on the hand of uh uh the impor most important requirements and trends . Uh the first question is , uh is the device good-looking ? So I think it's very good-looking Easy to change channels ? I think it's uh as easy as uh can be made . Uh The uh device is easy to find if you lose it ? Well we don't have the device that beeps uh when you lost it or so , R\_ R\_S\_I\_ sensitive ? Are there enough technology ? Uh well well a bit , Three . Are the trends about fruit and vegetables implemented ? Three , alright . Is the material attractive ? So I would say at least two . look at the costs at this point . My god . The sample speaker , Kick it out . Then we go to fourteen point six . Well well why why why should we use a advanced chip ? Well be for the L\_C\_D\_ uh you had said . What's the difference between a simple and a regular chip ? but it wasn't very clear . Well , we could say , well this special colour , that isn't that that isn't there , because the the fronts they

will buy it . The special colour . But we d Then we have to lose the L\_C\_D\_ screen . Yeah , we need to have the the L\_C\_D\_ screen . We can also make it flat . Yeah , this is actually two curves , yeah . No , it's one curve . W t we can never get uh below the twelve and a half . Well we make it more expensive to buy . Well , then we have two dollars less profit . If if you make people brand-aware , they are willing to pay more . Hey but uh I think you'll agree that uh that we that now we have this uh screen , it's it's very uh not practical to ha to consider this after we have designed the entire thing . Why why don't we replace the titanium with uh plastic coloured titanium , Th then you have a ugly , stupid , I ugly looking , dumb remote that that no-one would buy . I'll put in the report we that we think that fourteen point one is the I m lowest price you can make a remote for that's trendy d these days . I I'll talk to the managers . So we have to use the ditch the titanium , I'm afraid . But then we can add the special colour ? As we have money over uh left . Well I think uh the case is double curved then . Well y we have curves in all directions . So alright . but now we're going to evaluate our project , of uh project , are we satisfactory about our creativity ? I think it's terrible that we got uh those costs at the last moment . Well in in if we consider the costs then this is the best , yeah . and you had to dump all your creativity . Uh leadership Well it's It was very democratic . Well the managers were terrible . So , with their all their useless requirements . teamwork ? Well great I think . Uh well what do you , what did you think about the SMARTboard ? It was a complete disaster . That one isn't accurate . But I I think this is meant by the digital pen . Uh a green uh board with uh chalk is much more useful than that thing . And uh the digi the digital pen ? It isn't practical . Right . Yeah , it might be useful for drawings . I I agree on that . N new ideas found ? Well I missed uh the option to uh to email , Communicate in between . uh which is uh made uh which is also part of the back , part of the titanium uh titanium part . If if you look if if this this is thick , and this is thin , th th then it that it lies over your hands . But and only Nils

## Complete Meeting Transcript

We have to do what? Oh. Mm. Bit late. I think it is. Alright. No you go and I'll uh supplement you. Yeah. Yeah, it's a double R\_, but It's a double R\_. But it's very difficult to to draw that in Yeah. Oval yeah. Channel up and volume? Yeah. Menu for the L\_C\_D\_ screen. Well, at the back Yeah. No the back. With the logo and our uh I uh No I don't think And the And about the side view um This the front won't be as thick, but again th the the drawing technique makes it very difficult to to really uh Well, it won't be visible. Mm? Yeah. If y If you handle a remote, you you usually don't have your hand straight like this. You you have it a bit uh Yeah. Yeah. Well, they lay there all the time. Yeah yeah. Yeah you you don't you don't grab it, you you Yeah. Hmm. That way, it it falls into your hand. I think. No but but Well f for as far as I can see, three of us agree and only Nils But you're the Project Manager, you can make the hard decisions. Yeah? Mm. But what about the redesigning? Okay. Hmm. Mm. Well we designed it to be good-looking. Hmm. Yeah. We designed it to be good-looking, so Hmm. I think we shouldn't discuss any points points that long, because I don't know how how many points there are but uh Yeah. Yeah. Um, no it's uh With two huge buttons. Well it's easier to find than a a normal black one or something, because of the colour. But We have so few functions, so Yeah. Well, I should I think two, because the voice recorder is n not self learning. Yeah. Yeah. The Two two. T Yeah. One or two, another two. Well

three. Mm. Yeah. This is the last meeting? Yeah. Yeah. The what? Oh. Um Well well why why why should we use a advanced chip? Yeah? Can't we do that with a regular chip? Why not? Yeah. Regular is normal. Simple. Elementary. We we we Why? We have very little options furthermore, for the Uh well we have to put that in. Nah. Yeah, you must change the chip uh back. You must change the chip back, Nils. Hmm. No we oh You you we have an advanced chip-on-print, and we have an L\_C\_ display. I think that's a bit double. Y we don't need both. Says. I?? One curve. Well we make it more expensive to buy. Yeah or we could replace it Why why don't we replace the titanium with uh plastic coloured titanium, uh titanium-coloured plastic? Yeah well if we uh we we have to get cheaper. But then we we've got to uh run through the eval evaluation process again. Ah no no. It's not ugly looking. The looks remain the same. Well, I do think so. feel. Yeah alright but then we we won't get there. We can dump the special colour. We I we use plastic. And plastic is already in colour I think. No, nothing. Amen. Yeah. Yeah. But No no no no. W Titanium stays there. Well No because we did not know anything about it. Yeah, but then we've got money left. Yeah. Yeah. W Well I think uh the case is double curved then. Because you y have that curve and you have that curve. Yeah well uh Well y we have curves in all directions. I mean, this this ain't titanium, but it looks like it. Pro project. Yeah. Yeah. And uh unrealistic. Well we we we used our creativity, but we just had to adapt it to the costs. Nei. Uh no. Terrible. Leadership? Well Yeah. Yeah. Right yeah. No, that's a SMARTboard, and that's a digital pen. Or not? Oh they're both SMARTboards. Yeah. But I I think this is meant by the digital pen. Yeah. Well we we used that one, and we needed it. I think. Yeah alright, but Yeah I like that one, but that one is terrible. Well I I drew this. Mm. And I made a mistake. But it it would have been uh useful, if I I could show this on the screen. Yeah for drawings. N notes mm. Mm. Yeah. But then uh it's really useful, I think. Yeah. Hmm. Thanks Project Manager. Well I did. Well I missed uh the option to uh to email, yeah. Email or chat or something. Yeah alright, but that's one n new idea. Yeah. No it isn't. Yeah. So it isn't useless. Yeah. Well you you can't you can't draw on a laptop like you like you paint of or draw with your hand. With the mouse it is No. Uh in

deed. Yeah, but but then you can uh save it in instantly, and and and re-use it, and uh Hmm. Hmm. Celebration. Yeah, we can go to the bar and uh with our newly earned money. Yeah. Oh. No. No no no no. But Nils you've got some work left. I have to go to a physiotherapy. Wow. Yeah. It is handy. Well they they wanted everything we produced, so My big bird. I think you have we have to make clear to her that we are ready. Close your laptop. So she can see we're ready. Yeah. Let's take this remote into uh production. She's on the move. W what? Alri alright. We'll see. Yeah. Yeah, that's important too. Yeah. Alright. From me of course, yeah. Well from us all, yeah, from all of us. Yeah. It's a nice chorus, yeah. Repeat it yeah. Alright. Alright, we both uh will? Or one of us will? Uh Alright. If I make mistakes uh you'll uh Right. Uh well this is our design. Uh it's pretty uh much uh like uh Mike draw uh drew uh the in the during the last meeting. With uh the different uh perspectives of it. Uh we'll begin uh with the front. We have of course uh the the round shape uh the round uh basic shape. Um with uh the upper part being the front. Th So there's this part um which is made of hard plastic, the front. And uh we're we're using different colours. Of course for the launch we use the basic ugly colours, and later we'll put out uh more interesting covers with different patterns and pictures and everything. But basically, different colours, bright colours not black, too dark. Fancy colours. Um then we have uh the lower part of the of the device. Uh which is of course um part of the back actually, because it's also titanium. You can see it also on the on the on the side view, that only this part is the front, and the rest of it, the under uh the under side uh of it, yeah, the back side and the lower part of the front is of course titanium made of titanium, and has the titanium colour of course, the look. Um then we have uh on back on the front uh

the logo in the upper corner, uh which is uh made uh which is also part of the back, part of the titanium uh titanium part. Yeah? It's a double R\_. Yeah the logo Uh uh it's difficult to draw so small, but it's our double R\_ uh logo is in there. Um so that's the logo in the upper left uh right corner. Then we have the buttons. Uh it's difficult to draw again the little oval or round I think oval will be better for the for the d for the different uh channel buttons. So uh oval, n those are here. And then we have the m The m Yeah the the con the the the, yeah, the t volume and the channel controls uh in the middle here. Um um with kind of arrow shapes, which makes it also a bit more exciting than basic round or um uh uh square buttons. And also here are the two uh buttons we agreed on. We have the Okay button. Oh nei we uh the Okay button's here in the middle of the of the operators, of the channel and uh volume um changers. And then we've here the Menu button and the And the video button. The Yeah. And of course this low part, this is the L\_C\_D\_ screen. Uh this is what we made of it. You can make uh suggestions uh if you want. Maybe we maybe we should finish first uh our talk and then you can add suggestions. Maybe I I don't want to I don't want to suppress you but n I'll uh finish this uh quick. Um okay I've had everything I guess on the front? Yeah the back. Yeah. We thought about Yeah, uh the back is of course totally titanium. And we thought about the logo big in the middle. Just so again the double R\_. We have then the logo on front and on the back. Maybe that's too much but you have to say uh say that if you think that way. And the company slogan, we thought in a kind of arc shape uh above the logo. That's basically what we were thinking about, and Oh and uh before I forget. Yeah the the voice, of course, the voice recorder is uh at the bottom. And you can record it uh using, yeah, the the the back of the f w device. Why? Well it fits uh it it it fits the hand, mean uh the the the the In th

e middle in the That's the question. Uh well Yeah. H What do you suggest I mean we do? This was Mike's prototype, and y you seemed to agreed on it. But now you have a totally different. The size? Yeah well the size doesn't really matter w I mean Side? Uh oh the side? W we we he drew the s the side, but you d you weren't paying attention as usual. Well any case, we'll discuss it now. Uh I think uh this is a pretty good uh good idea. But you you hold it like this. You're not holding it like this or something. You, yeah, y How do you call it? Yeah. Well y y y you don't have it like this. You have it more like this. You you you're using buttons this way, or if you're right-handed, this way. So you Yeah. So Yeah well And maybe you can you can grab it a bit higher, so Well Well the the Well that's a reason to to to put the L\_C\_D\_ screen uh of course on the upper side, but If necessary. But uh are d Can you live with it? Uh Y Yeah, y y y y you said it was totally uh unusable. But do you But d you don't think this is completely unusable I guess. I think. Not totally, well Yeah but of course y you are also human. We have to take uh every everyone into account. So Yeah. Well uh who who else thinks like you? We don't know. Maybe a thousand people, or a million people. Let it be. Alright. So that's that. Uh any other suggestions? You're very personal again. Well d we designed it, so of course we are very Yeah. So and we ha we have answer now? Yeah. I Yeah, I think it Well I well let's start with the beginning, just one by one. Well, I guess uh I think uh it's uh it's it's um pointed towards the youth of course, uh if you look at the design and and the colours and everything. That was our target audience of course. But it's also not completely um uh u unacceptable for older people I guess. Uh it's it's not f a device that Yeah, that's that's uh for older people, it's it's more that classical look. So Uh no. I think Yeah they like black of course, but I think they'll uh they they think uh the the titanium look of it is also Uh I think it's also good for them, so I think we both uh have uh consider considered uh the youth and also a bit older people. So I think it's very good-looking and not only for youth uh young people. Yeah, the fourteen yeah. Is it easy to t change channels? Yeah well I think so. I think it's uh as easy as uh can be made. Uh So I Yeah. You How can you make it any easier? Yeah, huge is a Yeah. D we d we don't we don't have uh

that s Yeah. Well we don't have the device that beeps uh when you lost it or so, but um um Yeah. Yeah. Mm? Are we take too much time? Yeah, very much. One. Yeah. And I think fancy-feeling too, because of the titanium back. Yeah. So well maybe two because of the voice recorder. F Yeah. One or two. Yeah. Four? Well, it doesn't really resemble any fruit, uh that's true. But but we have the the the the the sparkly fruity colours of course. And you can also have front with uh with fruit on it. I knew things uh were going uh too smoothly. There had to be some kind of trouble along the way. My god. The what? The Yeah w tha that's uh that's a bit an optional option. No. No, d th No. Yeah. No. N Uh well we have a bit of a problem I think. Because uh the L\_C\_D\_ screen. Yeah. No. Because uh that uh y because my information says it. Huh? Uh well yeah I I read something about it, but Yeah, I I read something about it, but it wasn't very clear. I d I didn't in include it in my report. Single Well you have to use a chip. So Well you have to use the advanced chip, if you have the L\_C\_D\_ screen. But if you have a regular chip, you can't have the L\_C\_D\_ screen. That that's a fact. Uh Yeah, but it's only one half. Uh it d it doesn't But we d Then we have to lose the L\_C\_D\_ screen. Yeah, I know but that's what my information says. I di I didn't uh put uh the advanced chip in there for fun. You have to use it. For the L\_C\_D\_ screen. Yeah. Yeah. Well uh and what do they mean with curves uh again? Because we you have uncu

rved Yeah. Well But what what did what do n Sorry, but What do they mean with the curves? Is th Is this a curve? One curve? Yeah, this is actually two curves, yeah. It's how you It's how you look at it. Well then we have a huge problem I think. W t we can never get uh below the twelve and a half. But uh I Hey but uh I think you'll agree that uh that we that now we have this uh screen, it's it's very uh not practical to ha to consider this after we have designed the entire thing. Well that's pretty uh I N not very practical. Well But I'm n I don't agree. I think I think the titanium just uh provided the the tough look and the and the And also the the older people will like it because of that. And because i Alright it's not our target audience, but it's it's useful if it's uh important for old people. Yeah. I think the titanium is very important. Yeah we have a problem, yeah. W But you can better, yeah, dump the L\_C\_D\_ screen then. Well what else? W I mean uh Yeah. Yeah, well yeah. Alright. I agree with that. So we u we use uh Unfortunately. Um. Titanium-coloured plastic. So titanium-coloured plastic for the back. Yeah this is good, but it's not good enough. So we have to use the ditch the titanium, I'm afraid. What do we Well what do we know? All we want is a is a fancy design but we don't really consider the costs. So Yeah al alright, yeah. But we have to deal with it now. So So Titanium gone and add plastic. And on plastic times two and then we uh are there? No No yeah well Oh six. A lot of plastic, yeah. No two for the to make it clear. I want gold plating. No no um We have we have to uh fill W we ha No no no, but th that's not f um Well you can you can double curve, if you don't have titanium. And that we dropped, so it it can be done. But it's pretty funny. We we do want to reach twelve point five. But it isn't bad to to to stay at eleven. We get more salary, if we make if cheaper than twelve uh twelve and a half. Objection. Well I can't get no satisfaction, but uh I think it's uh Well in in if we consider the costs then this is the best, yeah. Its it's uh ridiculous actually, but Which isn't very practical, but that's the way. Uh-huh. Well uh they they didn't think of the requirements. It's the requirements of the user, uh I guess. Yeah. Yeah but they base that on on the user specifications. It was a complete disaster. No Uh it it uh it is uh No it's other way around. That's the SMARTboard. That's the digital panel. That's that's the smart A televi Yeah. Yeah. Left or right? Well I didn't use uh Nei It it's much m But uh you can uh I I sent it about three times now. Uh a green uh board with uh chalk is much more useful than that thing. The simple uh sch school board. I I didn't use it. I wrote things down but I didn't import it into my laptop. That's the W But also y you write things down. And i you can also bring your your your note block. So what's the what's the th what's the point of importing it into Yeah alright. For drawings, but not for personal notes. I think

that's not very Uh I mean you can bring your paperwork along and p Well of course if you have a lot of paper If you've If you've Yeah I understand. But I think uh d this option is only useful if you've got a lot of paperwork. You can't It's not very uh ni Yeah well a lot of documents are Yeah. Mu Yeah right. Can we keep them? Uh. Well did you really uh Did you really take uh take those in account? I half of time I didn't notice they were there. So But we shouldn't talk about that. Because this is a realistic environment. Right. Okay. But yeah. W well th that's just the the environment they set us up f with. So Well, for drawing for drawings. Yeah. Well No But it's still an expensive uh expensive But if w Yeah. Well and if And but what if uh maybe this this board uh SMARTboard is malfunctioning or someone. But suppose it was working correctly, what uh would it be useful then, if it wasn't off all the time? A Really? Anything you want. Any b b Yeah. L li

li Yeah. Well it isn't, but maybe that thing is uh is Yeah, board, a school board, yeah. Yeah. I it has It is useful. Yeah. This uh if it works correct, maybe this thing this thing is just malfunctioning. So uh if we get in uh if we get another one and you make sure it does work, I think then it's pretty useful. Because uh yeah you can draw t things quickly and uh clearly for anyone uh in the discussion room. And then you can save it immediately. Did you type that? Maybe till four o'clock or something? Well dunno. Yeah. No we must save this thing, yeah. In the shared map map. Map, is it a good word? The folder, yeah. So it is useful, yeah. No but uh Radical. Yeah. Do you believe it yourself? They also want to see my cat and his rabbit, and uh Your big beautiful bird. Maybe the pen is just uh uh broken and the board isn't. Of or the other way around uh Yeah I think so too. Who is she you're talking about? Oh you mean our uh coach, our f personal coach. Is she also our accountant? Is she responsible for sending that information so late? Oh. Because then we have to confront her with our Yeah. That that's our new slogan. Yeah, I like that. Blame our accountants. But we couldn't, yeah. Well I th Yeah. Yeah. Okay. Mm right. Mm-hmm. Yeah. Yeah, I agree. It depends on the size. If it's kinda small, this is is great. But if it's it's larger, then you want to grab it. Yeah, that's the question. Yeah, I agree with the L\_C\_D\_ screen. You have it in your palm like this, and you can watch uh watch the screen. And if you have it li in the middle, your hand might be over it. Like you're holding your telephone. Because if you have a screen on it, you wanna look at your screen. Yeah, I agree on this. No, I don't think so. That's not uh the point And you might be uh You might be target customer. Yeah. Alright. Great. Well, this is just a short intro. I'm going to do uh the ev evaluation. That's gonna be done at the end of seven point skill criteria. So I made a I made a few questions on the hand of uh uh the impor most important requirements and trends. And we have to look if our uh if our device uh is working correctly. Well, I put some questions in a Word file. See if I can find them. Uh uh uh uh mm. Well I uh think you have all seen uh this kind of evaluation, so uh I don't have to explain it. Uh the first question is, uh is the device good-looking? Because normal p uh most people thought that um earlier devices were ugly ugly. Seventy five percent of them. So what do we think? Yeah No, I know, but I have to uh evaluate it. So I have to take this questionnaire. Yeah Yeah, but I can't can s Yeah, but uh, you know We dis we di we designed it to be perfect. So But we have to be critic critical about it. And I have to uh take all these points and get a average at the end. So we we know where we stand. 'Cause th there are some things we might have uh bi might have forgotten. Right, so Right. Uh is it good-looking? The titanium might be uh f for older people. It you put uh put a black front on it or something. Right. Right. Right, a number please. So the last one is seven. Easy to change channels? Oh, sorry. Yeah, right. Change channels? Right. The power, channel and volume buttons are easy accessible? Two? Alright. The uh device is easy to find if you lose it? Yeah. Six? Right. Yeah, I agree. Yeah. Alright. Two? Yeah Yeah, I agree. No. Yeah. Right, R\_ R\_S\_I\_ sensitive? R\_S\_I\_ sensitive? Four. Um Yeah. Right. Yeah, that's great. Well, with the uh Three. Nah f



four I think. If you look at this No. Three, alright. Yeah, that's true. But Right. The average will uh come later. It has to go to twelve, right? Twelve and a half. Out. That's easy. Kick it out. Yeah. The speaker. That's some wrong info, man. No. It's uh It's just extra. Kick it out. What more? Batteries are uh quite Uh no, no no no. Hmm. Yeah. Yeah, we need to have the the L\_C\_D\_ screen. No Yeah, but No, that's n It's not relevant. Yeah. No, Then the whole concept is uh You You can make yo

u can make it cheaper. But if you don't sell No no no no. If if you make people brand-aware, they are willing to pay more. But Because we we use a brand at the front and uh I dun at the back. If you have uh lots of uh marketing people might buy. If you if you make it cool to have Oh, that's just great. Oh, alright. That is pretty stupid. Y Yeah, I agree. I don't think you should dump the L\_C\_D\_ screen. Or you shou It's Or change the titanium or dump the L\_C\_D\_ screen. But I think you could better change uh titanium to hard a hard kind of plastic looking like titanium than lose the L\_C\_D\_ screen. Because you have lots of functions in it too. Yeah, I agree. Osl If you don't have the money, you can't make it. So s If you don't have the money, you can't make it. So this is too expensive. So we have to make it cheaper. Right. It's just free, man. Yeah right. I want chrome. Well, th that that is the problem. Yeah. Shoot. Yeah. Yeah, me too. Right. Leadership. Well it's It was very democratic. Yeah yeah. Well Yeah, think so too. Yeah, I don't like it. Yeah? This this this isn't a SMARTboard, right? Yeah right. B but you This is just a large t large television. You u you use the Yeah, but you ca This is just a beamer function. And here, on this one, you can uh draw the pictures and things like that. But That one. That one isn't accurate. It just doesn't work. You can Yeah, but I think there's a big distinction between the these th I don't need a SMARTboard. Yeah, but give me a beamer. That's uh that's much uh much cheaper. Right. Yeah. I agree. No. Yeah. Yeah. It isn't practical. Right. Your notepad. Yeah. Yeah, it might be useful for drawings. I I agree on that. Yeah, right. That Stefan use. No, I don't think so. It's it's only useful if you have to draw something. Yeah. Yeah, great. Yeah. Wireless uh wireless things. Well these chairs, man. Really great. Communicate in between. Yeah, right. Yeah. Yeah, I agree. Well, more more information in the beginning. That's For people who uh sketch th the whole day, I can imagine that it's useful. Well Yeah, I agree. Mouse is ju just isn't working if you're sketching. Yeah, but he's saying if it is correct, and you can draw very, yeah, very precise Yeah, mu It saves time. Celebration. Well Yeah. You better get started. Huh. Oh, alright. Oh great, man. I'm gonna buy one buy one for my bedroom. Maybe you are broken. You know. I think she's listening. I feel watched. Yeah. Do that. Yeah. Very catching. I'm sure management would like that. Oh, that's just great. Uh fourth meeting. Some extra deciding. Well I'll show you the notes again. Very interesting. Well you'll you two will uh present us your prototype. Then um I guess that's your bit? I I didn't s see anything about it, so I already uh thought you uh you were to do that. So the you're uh. I'll show you how we're going to do with financing this uh design. And then we'll evaluate, after after we have redesigned it. Because uh well we'll see about the costs. Um we'll uh evaluate our p our uh production and then uh we can close. Well the finance uh we'll do later, so um firstly uh I'll show you the notes. I don't think it's very interesting. Oh nei. Uh no. Alright. This is copy paste. So Of course. You had some very strange layout. Well um We ge we went through the agenda, and well we had some uh some presentations from you three. And uh I summarised what you said to us. So uh I don't think it's very interesting and go through it again. So uh This is what we decided. It's also copy paste from what we made together. So we still know that. And then uh we can we can uh use the time better. Well uh next you two will uh present uh the pot prototype for us. Yeah. Correct. Yeah. Mm-hmm. Mm. Yeah, alright. Okay. Yeah. Alright. Mm-hmm. Alright. So 'Kay. Well if I look at it, the side the side view Oh yeah alright. Yeah. Mm-hmm. Okay. Yeah. Okay. W Well I see, but Well. Yeah I see it. Yes. When I look at uh when I look at this side view, I think w when I

have that in my hand, it's terrible. If if you look if if this this is thick, and this is thin, th th then it that it lies over your hands. But Well what what what I what I agree is that when uh when um you have such of uh an arc in the middle, so that the the a the ends and the fronts is a bit thicker, so th then it falls over your hands. And how large is it? Well uh Well the sides I haven't seen yet, uh? They the the the the side view, we didn't uh Yeah. No no no. Yep. Okay. Yeah well uh I think uh if you t if you three uh agree then then that's it. Yes. So uh I c I c Well, we'll we we'll do it like this. Alright, if you think that that's the way it should No No, when I I my personal taste is that I want it to fall over my hands with a thick But In the market uh No not totally. For me, I I wouldn't buy it. Let's say it like that. No Yes but Yeah, we don't know, but that's uh that's that's that's more market research. So let it be like this at uh at this moment. Okay? No, I think it's great. Comes to that later. Um you. Uh c You can uh Walter. You can do the evaluation uh criteria on this? That's more useful than just speaking. Yes. Mm-hmm. 'Kay. Yeah, we're we're not quite uh objective about this. To the customers? To potential customers who have to take this questionnaire? Nei. Oh no. I know, I know, I know. But um Well we can go, uh because of the time, uh pretty quick through this. Uh do we find it good-looking? Well we think so. Uh Yeah. Well, one. Well so it's point four. Easy to find t Two. No. I totally agree. We we have to get get on, go through this. No, not false. It's one. Well uh two? Y Well we have to go through it. Yep. Two. Well, no. We didn't implement anything about that. Well six then. Are the functions easy to learn? Well w I we do want we have a l f f less of an And the device R\_S\_I\_ sensitive? Yeah. Ah. Yeah, but just do some We we l th l th I think this is too time consuming. Uh not not towards you, but towards this all. Th this is We you have to put it to the customers. Uh well well a bit, so four. Yes. One. And features included also one. And One. Uh those uh nine uh is the fancy-looking. Uh we still think so. Device fancy feeling. Yeah, cool man. Are there enough technology? Yeah well also we have two. Is the device easy to use? Yes we have not many buttons. Two, three. Are the trends about fruit and vegetables implemented? Well in our covers, in our fronts. So yes, one. Is the material attractive? Oh okay. Okay. Is the material attractive? Well the titanium is strong, and uh the rest f uh the buttons feel soft. So I would say at least two. Okay. Well Yeah. Yes, but we we have to design much more, because there was some irritating account manager coming to me. Um Oh. Uh Yes. Well, look at the costs at this point. I had to fit it in. I twelve and a half. So Well what costs a lot? The sample spea costs four. The sample speaker, the s sensor. Kick it out. We have to go to twelve and a half. The speaker costs far, by far the most. It isn't worth it. We could make two different versions, one with and one without. But for this So, zero. Then we go to fourteen point six. Well the titanium I don't want to lose actually. L\_C\_ three? Yeah hand dynamo? Y t come on, w a remote control has a battery. Well be for the L\_C\_D\_ uh you had said. Well what what's the difference between simple and regular? What's the difference between a simple and a regular chip? And simple? Nothing. Well? Your part. What happens if we do How much do we win? One. Yeah. Well, we could say, well this special colour, that isn't that that isn't there, because the the fronts they will buy it. The special colour. Yeah, then you s then you only have one half left. Uh yeah. Yeah. Yeah? No, the advanced chip is needed to have an L\_C\_D\_ display. Says, his Uh that was in the second meeting, I think. Well I I did single curve to Well you said s double curved, uh he, because uh I thought it's a b a bit cheaper already. We can also make it fla

t. But Curved? Yes, that's curved. Yes. No, it's one curve. One curve, simple. We have a big financial problem. Well, then we have two dollars less profit. Come on, if we if we if we make this fifty million, they won't hesitate to uh congratulate us, so uh By the way, we also have this one. Oh, costs nothing. That's nice. Plastic is Yes, but I just got it. Who? You want to dump the titanium? And make all plastic, then we ha then we're there. Th then you have a ugly, stupid, I ugly looking, dumb remote that that

no-one would buy. No, I don't think so. Yes. And the feel, and th that it is strong, and We still we had to focus to get more people from the younger group, but not lose the one Why can't I I'll put in the report we that we think that fourteen point one is the I m lowest price you can make a remote for that's trendy d these days. I I'll talk to the managers. Titanium, I thi I think this this is this is e really good re remote. But Ah those those account managers, what do th d what do they know? Come on. Riot. Yes, yes. One and a half Euros. Hmm? So? Well, no it's just uh all plastic. Well alright. Huh. Four. So But then we can add the special colour? As we have money over uh left. And we still have money left. What do we want, guys? Yes. Y Oh no. Alright. Safe. So alright. Finance? Well, guys? Guys? We have to dump our titanium, and we'll hate the managers for that, but now we're going to evaluate our project, of uh project, project. Well, satisfaction on for example, are we satisfactory about our creativity? I think it's terrible that we got uh those costs at the last moment. That's really bad. But that that that's that, yeah that's a reason, but also for our creativity. We had um nice design, and then you get the cost, and you had to dump all your creativity. Yeah. Well, alright. Uh leadership next. Uh teamwork? Uh yeah well I think so also. I al I I've uh filled that in in a the questionnaires uh each time, so Well the managers were terrible. So, with their all their useless requirements. But o alright, the teamwork? No they said, oh we won't d uh we won't uh use teletext, uh we won't use the D\_V\_D\_. Alright, teamwork? Well great I think. Uh well what do you, what did you think about the SMARTboard? Well It's also a It's both the SMARTboards. I liked this SMARTboard, but I hated that one. Well it's both a SMARTboard. No. It's both a SMARTboard, but this one is used for a desktop, and that one is used to to draw. Well, wi w which one did you like? That one. Yeah. Yes. Th that is so. We're now talking about the SMARTboards. Or install a laptop to a beamer, or have this one standing here in an I I like it. Okay, alright. Yeah. Yeah, it is. So And uh the digi the digital pen? Did uh did you like that one? I used it uh just to check it out, but uh You you can't send that to anyone, because you you've scabbled something on a page for yourself, and then you're going to send it, yeah. Well, no. It's, no, it it's useless. Yes. For drawings, yes. But But for notes, it i you you have to put that in a strict Uh you have to put a name, standard date, and all those things. And notes uh for a meeting are very strict. So if you uh were to write them down for yourself, and then put that in your computer, you still have to type it over to Word. So it doesn't d doesn't have any Yep. Alright. Um etcetera? Well uh the laptops? Of course great. Yeah. You can. B by my Yeah. Other uh things we used here? I hated the cameras, I hated the microphones. But No No. No. I haven't looked w one time directly at the camera. I don't care about it. Well w why not? Uh etcetera We N new ideas found? What kind of ideas for n a future schedule What? For future um meetings you have got? Chatting and emailing. Well, new ideas found by this. Not. Nothing. We don't want this. We hate this. Digital pen is useless. So Yeah, for drawings. But uh two t But uh th then you have to have a lot of drawings, because if I had a company and I'm going to uh buy those exp

ensive huge expensive uh things, I and I have to w pay those uh papers uh that are expensive, I'm not going to uh Well th then still they they they should have a a nice graphics programme on the laptop. Because this is huge uh this v very very uh expensive paper. Yeah. Well no. I hated to draw like that. You you can't draw anything uh neat. I if it if it would be perfect following. Well th th then still it's it's it's very expensive uh towards a a just a green uh school board. Yep. Yeah yeah. Yep. Yeah. Well, they are now. It is. So, congratulations crew. Se Finally my beer. Well, that's it I think. Um I don't know how long we still have. I dunno how long uh we had for this last meeting. But uh Well yeah, it is a bit uh Well we still have to make the end report and uh all those things. I have to do that. I Di did you um save this one in the folder? Can you do that? I don't know what you have to do. Yeah. Oh it worked. Two times quick. Cool. This is nice. Uh D design. S Oh. He saved them all ten. Well alright. Um Yeah. Well Where

is this? I also think so. She already knows. She? Big brother. Our manager. Yeah. I don't think so. Alright. We put the fashion in electronics, but we couldn't because of the costs. That that's the title of our uh end document. We couldn't put the fashion into the electronics. Yeah, that's a nice title. Oh. Well I'm going to resign after this project anyway, so

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# Meeting ID: 142

Data Source: Train

## Executive Summary

The Project Manager presented the goals of the meeting and new product requirements. The Industrial Designer presented the internal components of a remote control and showed a diagram of how they operate together. He suggested that field programmable gateway arrays be used for the chip controlling software functionalities, and it was suggested that the remote be used with a recharging stand. The User Interface Designer gave a presentation on the technical functions of the remote, and displayed the interfaces of two existing products for comparison. He showed that the competitors' remotes were too complicated. He suggested that the televisions that the remotes are used with connect to the internet to access downloadable programs. He suggested a simple design with few buttons, small size, and a locator function. The Marketing Expert presented several characteristics important to users. He discussed using speech recognition and ways to make it feasible for the project, small size, low price point, and incorporating teletext in different languages. The group discussed the new requirement that required them to omit teletext from their design, and discussed the possibility of using the remote to access the internet through the television.

## Complete Meeting Transcript

Just go to explorer. Or open. Participant two. Open uh. Slide show, view slide show,. One is a communication. Gateway arrays. It's a field programmable gateway arrays. Yeah. Or it's something like isn't hardware the first one? And the second one is for the software. Yeah to run th to make it run. That's it. No. Okay, and how about the battery power? Uh you mean that battery would be somewhere there and the remote contro the power to the battery comes through infrared? Into the more compact and uh okay,. Yeah, yeah. Okay. Yeah, that's right. Having a charger rather than putting the battery cells always. People don't like it to have to buy the batteries when they run out. We just make a small charger and put it Bu Our remote, we do not want to make it P\_D\_A\_. G Yeah, not the T\_V\_s. Yeah. Yeah, that's right. Yeah, that's right. Oh, but you have a catch there, um assume that um if you want to go to if you are watching channel two and if you want to go to channel ninety nine, then. Uh-huh huh huh huh. Mm-hmm hmm hmm. But Yeah then yeah that's right. Mm hmm hmm. Okay. Okay. too small

that it goes under the sofa and we can't find it. Yeah, that's. just give it a name and we call him. Yeah, that's right. Yeah, that's right. Okay, after having the inputs from industrial design and user interface, I think most of the points which I want to are already covered here. And to find the most interesting features what the users would be interested, then what we have done is we have put a feedback forms in all the magazines, and the users send the feedbacks, and based on that These are the findings which we got and yeah adding of a speech interface is always good for a T\_V\_ remote but the technology We already know that as discussed earlier An it does how feasible it is. Oh we can put an limited vocabulary as in the mobile phones. We just have the it's not going to take much space also. It's going to be very slim. And next one was the size of the remote control. It has to be of course a very slim and small one. And of course most of the people are interested in if it's less expensive, so this is an important criteria here is I mean we have to look for a trade-off. The features and the cost. Little bit more if it's with extra features. Okay. Yeah, yeah. That's right. I mean, for a lazy guys they could say nine and the nine channel comes. Or they say movie name or I don't go for movie names but only for the numbers on the channel, or volume up, volume down, brightness, contrast. So, I think this should be a good idea, to put this features. And the fourth one was the teletext in various languages. Mm, I think Yeah as discussed in the earlier meeting, but I think uh not much people are really interested in this point if it's not really required. I mean I mean yeah, it's for the um industrial design and users interface designers to decide if it's going to be working or not. I think I think as I discussed th that four points would be good for um marketing. The speech interface and uh less uh reasonable uh cost. And the lighting adaptation and the teletext. And regarding the teletext uh these are the subtitl these are the text information which you got on the televisions. If you are watching an foreign movie, you get subtitles sometimes. And uh if you are a French guy watching an English movie you would like to have it in French. And if I am a German then I would like to have the my options in German. So, the remote it should have some it should give me some flexibility of choosing the ch languages. That should be a good uh point. We already have some. Yeah, that's right. Yeah,. Okay, thank you. Okay. Okay. Yeah, alright. So uh Well I have a PowerPoint pr presentation stored in my in my personal folder so I I I think you can reach it from here. Participant two. Yeah. Uh open. Right, so um I will talk about the the w working design and And um well I I will present my my first idea on how to build the our new remote control for television. So uh can you

go one page down, please. So I think the first things to do is to define the hardware components neededs to achieve uh what we want to do. So uh mm I'm thin uh I think uh I I'll do a survey about what is uh what is available on the market and what what is the the cheapest possible things we hav we can use. Then uh I will try with the technical team to to build a prototype and to see uh with uh h how this little box would uh look look like. And how an and we can uh start troubleshooting first uh com communication problems or things like that. And when we are ready with this first prototype I I think we can add some software functionalities on a programmable chip like browsing by content or um things like that. Okay so can you go down uh So, wha what I think for now is we don't want to have a remote control w which is wired so uh I think we u we can use a battery for the. Then two programmable chips for both software functionalities and communication. And the communication with the T\_V\_ set is uh made through uh infrared communication So uh this is the the schema of the o of the future uh remote controls so uh you can you can see the components, uh battery and uh the two chips goes to the infrared uh connection to the T\_V\_ set. The one on top is for the um well the functionali the functionalities and the the th red um sorry the green one is is to well, putting things together, um f transform the data into uh qu into the format to to uh to communicate with the T\_V\_ set. And, that's it. I

think we should use a F\_P\_G\_A\_ for the functionalities which is easy to to t It's field programmable uh something array. Yeah. Well, uh a F\_P\_G\_A\_ is just a chip you can uh you can pr programme it uh wi with wh whatever you want. And uh well the Bluetooth chip is just responsible to uh make the communication uh between uh the two devices. No. Well, th the F\_P\_G\_A\_ will produce the the data to send. Yeah. Yeah. Alright and that's it for the working design. So if you have any questions? Uh no no no no, I think uh we have uh to to uh have uh embedded uh b batteries in in the yeah into the t. Yeah, yeah. And uh I I don't think it will need um very uh much power to make it run, so Yeah. It's a good idea. Yeah. That's a good idea. Also, but but I I I think uh the the goal is to sell our remote control. S okay, so charger for is the. Yeah. Of course. So we have to t We have to sell a T\_V\_ with the remote control too. I think there there is there is al there there is a a technology like show view who is already available on most of the T\_V\_ set on recorders or thing like that and we can try t to get this information on to the remote control to to do the processing on the remote control because Yes, that's a good idea, I think. We d we don't we we don't need really much buttons to i if we have a screen to navigate on on the T\_V\_ so uh Well, f four five buttons, it's sufficient. It's easy to build, it does not consume much power. Well, then y you you go to the main menu and uh you have uh go to channel and then uh you can Yeah. Maybe you. but uh I I think i i if you if you want to to make uh well a a big jump but uh well you you have to to have a a a device when you could you could Well, not a mouse but uh something that that says more clearly that uh right, left, up, down, well, the to have the ability to to to write something to the navigator, maybe directly, or So, we can think of buttons like in the telephone to send messages or things like that. But we'll see. Okay, so uh next presentation Mm. Well I I think it will be a, yes, a bit complicated to um make a speech recognisers runs on the small uh ts Yeah. And this can allow to choose the the program, for instance without uh adding uh buttons so it's a good idea. Yeah. Yeah, s s speech is a important extra feature I think Well, uh Well, we are we we just have to find a mean how to to add a m a a a microphone or uh well yes a microphone into the the remote control, so I well it will be alright. Yea

h. Okay. Yeah, I think it's a bit complex too For our next product, our new T\_V\_ set with uh automatical uh sound adjustment light. Function. Yeah, but well what about the the new project's requirement? I I I think we should give up with teletext, no? Yes. Well, so maybe we we can j we can already think uh about a way to to access the internet via the television. Because if Yeah, but uh we can think that in a few years there will be T\_V\_ set that can access the internet. So it's a good idea if i i if we i if we uh think about how to to to build up our remote uh control w with this functionality in a w which will c which will come in a few years. So if we already have it in our remote control Yeah. Yeah. Yeah, to desi well, not not to implement it, but to well, to find a way to to add to add this functionality in a yeah, in an in an easy manner, if is possible. Yeah, yeah. Okay. So Okay, thank you. Mm-hmm. Okay. Because it's open you mean. F\_ five. Did you draw it? This. What is the other chip for? The one on top. For men. To the in Okay. Mm. What is F\_P\_G\_A\_? So why's it how is it different from the Bluetooth? Yeah. Programme it. Okay. Yeah. Uh So this are the they have to work together? Or? Do they have to work together or two separate choice Okay. Is the is the software par alri okay. Okay, okay. So you can control if you want, right? Mm. Mm. Mm. Mm. You can put it on the charger when uh you when you don't need to use it. Yeah. Yeah, yeah. Yeah. Mm. Uh mm. Y yeah, yeah. Because you are using because you are using Bluetooth, if some people have P\_D\_A\_ they can use their P\_D\_A\_ to control the T\_V\_ if they want to, right? I dunno. So is mine. Oh. Yeah, this your Yeah. So you can open uh three. Yeah. So So I'm working on the technical functions design. can you show the next slide. So the the purpose is to to find uh the important questions to ask is what effect should the apparatus have. So so I found on a webs on

the internet yeah. I spent a lot of time searching and uh and I found that uh the function of remote control is to send messages to television set. For example switch on, switch off, switch the next channel and so on and so on. So I found two very good prototypes for for this interface from our competitors so can you Yeah, yeah, yeah. Ours is a bit uh different. So these are two example. One is from the other one is from, yeah, uh engineering centr yeah. This is the most competing prototypes I've found. But then uh loo but then I found if you look at you see on the left one there are too many buttons Yeah. O on the right I tried to play with the problem is that uh if I have hundred channels I have uh I have to choo press the other button to choose the hundred channels and I have to compose the number so it's very lousy. So you so you move to the next the next one. Yeah, so I talk about the problem. And then I I look at the user manual they are a hundred pages thick, so we don't want that. So I propose the easy to use uh prototype. You can navigate on T\_V\_ screen and we can the user's preference and we need to have the T\_V\_ connected to internet so we end in order to access the T\_V\_ programmes by X\_M\_L\_ and we need some to do some preprocessing. From the technical aspect, the processing should be done on the T\_V\_ set than on the on the remote controller, right? And then we the speech recognition as uh Harry says we may just put in we may K\_I\_V\_. Yeah, all the processing is done the T\_V\_ is a compu has some processing power the Yeah. Yeah because are you just wondering what controller okay. Yeah. Okay. Yeah. Okay. So i the processing on on the remote controller so it can u be used in any T\_V\_, any conventional T\_V\_ sets? Mm. Okay. N yeah, that's all. The next one? So I come up with a simple design, just keep the v navigation buttons. Yeah. Yeah. Yeah. Mm. Okay, that's all. Mm. Mm. No, because you choose by channel, so you choose by T\_V\_ program so you don't have hundred channels to choose from. If you go by channel, y

ou don't have to do that. Ah. Ah, a big jump. A mouse or Yeah. Mm. Mm-hmm. Uh it's gonna be small. Yeah. So it'll beep if you wanna find it you just uh shout y h just it just has to re respond to you when you look for the device. I dunno how bu And responds to you, and I- mm. But I think if you to recognise numbers it's a well-studied problem. I if you just recognise uh numbers is a limited you have limited vocabulary Mm. Yeah. Mm. Mm. Mm. But Mm. Yeah. I no I I think that uh i if we go for quality people may tolerate for high quality and of course comes with uh reasonable cost. Maybe not less, but they may be willing to pay little bit more for comfort, yeah, extra features. Mm. Yeah. Mm. Mm. Mm. What is the teletext? Mm. It is interesting but we are only concerned with the remote controller. So you need s special T\_V\_ sets to do that? Or it's it's done via this remote controller? It's very complex. Mm. Yeah, then we can conclude that. Yeah. Yeah, but it's quite possible but maybe not in this project. Mm. Mm. Okay. Yeah. Okay. Mm. Mm. Using the T\_V\_ to access the internet? Or what? I didn't quite understand Yeah, okay. Yeah. The future demand, market demand. The functionality in the future. Alright. Yeah. Because all the T\_V\_ sets will be digital, right. All the programmes, everything will be in digital than analog. Th the system will change and we have to anticipate for those change. Okay. Thank you. So we come again for the the second meeting. Uh for the aim of this meeting now is to to make presentation about uh the work for each one. And take the the decision about the the design and the functionality of the the remote control. And we have think I got a new project requirement. So I think uh teletext becomes outdated. So the popularity of the since the popularity of the internet, and I think we don't need lighting adaptive, so the remote control should be only used for the the television. And of course we should have our image in the in the design. So, let's start with the the industrial designer.. Or y you can use the whiteboard if you want. Here. Oh okay. This one. Do you want to open Ah. Wow. This. You can i yeah. Ma Yeah we can change the b. Yeah. Um. It's mine. Participant one, no? Mm. Oh we have so let's move to to user interface design. Participant During the weekend. That's good.



Mm-hmm. This are usual functionality. Tasks. And they are small. Mm-hmm. Yeah. What do you mean by the pa pa processing will be done on the T\_V\_ than the So we should have specific T\_V\_? Or? We can use this. Yeah, we don't Yeah, I think so. J j just the remote control. Mm. Yeah, we. Yeah. Speech recognition. Keep the navigation but. So you are Mm. How the this remote? Yeah, of course small. Participant four. So Harry. Mm-hmm. But do you think what they sug suggested s possibility. Yeah. It Yeah. But is it useful or not u I don't know. There is in the Mm. I think i If it's necessary can you can do that. We can integrate small microphone in the remote so it's not really a problem. What about lighting adaptive options? According to the re to the new requirements I think we don't need that. Yeah. Mm. So we have I think we have s still we have couple of minutes. Mm-mm. So any things to to discuss? Or any suggestions? Expensive. Price. I think we we can we is the. Yeah. So you have to anticipate the the future?. In future. Okay. So let's go for the the lunch break, and we will meet after.

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# Meeting ID: 100

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## Executive Summary

Um , I'll just review what we did in our last meeting . Um , under marketing we targeted our audience , Um , then we considered some design options with how it should look , So I've been looking at the components design . Um , so we need some custom design parts , and other parts we'll just use standard . Um , I assume we'll be custom designing our case , And we'll need to custom desi design a circuit board , Um , standard parts include the buttons and the wheels , um the iPod-style wheel . And al we also need a beeper or buzzer or other sort of noise thing for locating the remote . Um , we can use rubber , plastic , wood or titanium . Um , and the rubber case requires rubber buttons , so if we definitely want plastic buttons , we shouldn't have a rubber case . Uh , well we can use wood . I don't know why we'd want to . Um and also we should note that if we want an iPod-style wheel button , it's gonna require a m qu slightly more expensive chip . Um , can I do next ? 'Cause I have to say something about the material and the findings are that the first thing to aim for is a fashion uh , fancy look and feel . Um , our fashion-watchers in Milan and Paris have decided , well noticed , that f the fruit and vegetable theme is the is the current trend So we want to put the fashion electronics , we need to go fruit and vegetables . And also go for a spongy feel , I don't know how spongy can be achieved but apparently that's the way to go . Um . I I have been thinking about this fruit and vegetable thing and I prefer fruits to vegetables , should we print the fruit stuff , or should the actual remote look like a fruit ? we're gonna try to talk about , um what kind of uh how people are actually going to be using this iPod-ish remote control , based on fruit vegetable design . And , um , basically , so , this is a touched ba a touch-based graphical interface system . Uh , so people are going to be looking at this little screen . I mean I assume , are we still on the screen idea ? it seems like you would need a screen . But the screen can come up on the telly , the she said . Okay so if we're not gonna have a screen I think So basically it's just gonna be a wheel then ? I guess that's wh why I was thinking you may need to have some kind of a screen So that people can go arou go back and forth and choose if I can see like some kind of a thing where like you sort of have like the number come up on the T\_V\_ like what channel you're on . I mean so you basically just kinda need to figure out like what kind of , you know , range we need to have on the wheel , And then there's also the concern about you know um how do you get to the menu if you wanna change the brightness of your television , You have to get a an advanced chip if you wanna have a screen in , which is more expensive than the regular chip , which is more expensive than the minimal . that , like , then you hit that and then

you can it brings up like the menu on the T\_V\_ Yeah , well we don't want the screen I guess , I mean , if you're thinking of the design of it now , like the a you know , physical attributes , I mean are you you gonna have any buttons on that besides power and this thing ? So can we imagine that this would be smaller than the remote controls that you showed us before . Like , I think we're looking at something that could be , like like even maybe like a cir I'm f I'm seeing almost like a circular sort of like handheld like thing . W when we had the wheely remote control , we it was on the top I think , if you held it like that . What if , um , you had like a b a cover that went over buttons that you don't use very much ? So I guess we have to look into the , um , like , the programming , how this how they actually programme these things , and if that's Oh how they make the menu show up on the T\_V\_ ? I believe it's ins it's gotta be inside the T\_V\_ , not inside the remote . But also if you have it on the screen you can actually write everything out , What are we going to do about this vegetable thing that I'm dreading ? one of the material options is a sort of rubber that's in like those stress ball things . But what if we ha what if we had like a spongy sort of like stress balley kinda um you could just have covers and then your mobile f it's like a mobile phone thing . You could do like the computers where they have like the grapefruit , apple machine and they have like the blueberry , like all the colours are named after fruits . If you have like that stress ball material kind of as what you're actually holding in your hand , and then there's more of a hard plastic thing where that thing is . And on that hard plastic thing you can change either the colour or the fruit or vegetable that's on there . see you're thinking , it's weird , you're thinking the opposite of me Because I was thinking if you have a cover for the squashy bit , oh so so you're saying the squishy part's like detachable , so so maybe one you know you can have like the broccoli squishy thing , and then you could have like the banana squishy thing and for now we can do two prototypes maybe So where are the fruit and vegetables now ? I guess they would be either in the colour of that plastic face on the front , or in the colour of the squishy thing underneath . we we should have the logo somewhere on it . I think the batteries would have to go right under the plastic case . Uh we actually had an option of batteries , solar power , and um a dynamo , Oh , a dynamo is ah , it's a bicycle . It's a bicycle mechanism . Yeah , the other one was the other one was a kinetic thing where you'd basically have to wind it yourself . So I sort of picked battery . No . But dynamo the the fact with dynamo is , the moment you move it , it c it creates energy on its own . So if you throw it , it's gonna store loads of energy , and you don't need to buy a battery 'cause they're quite f I find them annoying . But we need to find cost . Does anyone have costs on the on the web ? All it said was it gave sort of relative , some chips are more expensive than others , sort of things . It didn't give me any actual cost . Like the chip is probably the most expensive part . Oh when we move on , you two are going to be playing with play-dough . Um , and working on the look and feel of the design and user interface design . And you're gonna be doing protu product evaluation .

## Complete Meeting Transcript

Hi everyone, hope you had a nice lunch. Um. Alright we're moving on to conceptual design. Um, I'll just review what we did in our last meeting. Um, under marketing we targeted our audience, and Um, yeah.

That was generally how helpful that was. Um, then we considered some design options with how it should look, um, we discussed an iPod-like button system which, uh, we haven't concluded but we're Right, um So, if you all have presentations to do, we can see what where you've come from our last time. Does everyone have presentations? Okay. Would anybody like to go first? Okay. And why not wood? And why not wood? 'S good. Hmm. Mm. I think it's the next it's the blue one, yeah. Yeah but you're not gonna wear your remote control. Oh we s hadn't discussed it last time. You need a screen for it? We're, um, we're actually not having D\_V\_D\_, that was one of th I I was sorry, I I meant to update you on that. Um. Yeah. Yeah. You've Yeah, I know what you're saying, you have to But but imagine someone with s But i what if you have satellite and you have like two hundred channels. Then to get to channel one eighty nine you have to Yeah. Yeah. Right. Yeah I mean with that many options, you'd uh I'd think that the screen would be better, because you could have that menu option, sort of Yeah. Yeah. Uh. Mm. Mm. Yeah. So the T\_V\_ is the screen, that yeah So it would have all these different options of changing to Okay. Yeah. Yeah. Um, right. What if I mean, if you're thinking of the design of it now, like the a you know, physical attributes, um, and you just have this, it's like just a long silver thing, or whatever we're thinking. I mean are you gonna have any buttons on that besides power and this thing? Or Yeah. So can we imagine that this would be smaller than the remote controls that you showed us before. I mean okay. Yeah. Yeah. Yeah. Yeah, I've seen some people just going like that with their thumb, yeah. Yeah. But, were there buttons on there as well? Mm. Yeah. Yeah. What if, um, you had like a b a cover that went over buttons that you don't use very much? Like you so you could slide it up if you needed to like change the contrast or something like that? So the options are there but they're not in interfering with the design and the practicality of it. Do do you know what I'm talking about though? Like, uh, yeah just something Yeah, that you can flip over, yeah, yeah. Yeah I mean I guess that's the thing is is if w I if we can do this, that'd probably be Yeah, yeah. So I guess we have to look into the, um, like, the programming, how this how they actually programme these things, and if that's yeah. I mean it would y would that would be Huh. Yeah. Okay. Yeah, you don't know they mean, yeah, it's like yeah. Mm. And it is technologically innovative in a way, so that fits with the B Yeah. Oh god. Ah. Yeah. Yeah. Yeah. I mean definitely the area round it. Yeah. An orange. Yeah. Yeah. Yeah. So what if what this is I'm just forming this idea in my head of how this thing is looking. If you have like that stress ball material kind of as what you're actually holding in your hand, so like what you're feeling is comfortable, and then there's more of a hard plastic thing where that thing is. And on that hard plastic thing you can change either the colour or the fruit or vegetable that's on there. Is that kind of I 'cause I I'm thinking of silver because those are our company colours. Um I mean how are you how are you all envisioning by what we've just the feedback we've just got about the A ball? Yeah. This is just Okay. Say that's the s say that's the squashy bit. Squashy. That see I was thinking this s sorry I was thinking this bit here would be the cover and like that's your actual thing. And like this you could have like you could have like cherries and things around there. Um but I was thinking if it was like this 'cause the way you were describing the the iPod and the thi the roll thingy It's almost like your thumb is farther up, so if if y

ou could squish it lower then Yeah, I know what you meant, yeah. Yeah. Mm. Okay. Yeah. Okay. Hmm. Well that's not very neat, but Mm-hmm. Yeah. Yeah. It was, yeah, silver and yellow. It I it looks like I don't Yeah. I mean that's another question, where are we gonna we we should have the logo somewhere on it. Yeah. Yeah, th and that would that Mm-hmm. I don't know what the rest of my notes mean because they were made for me. But if someone components concept. Question mark. Energy. Question mark. Was that you? Okay. Oh right right. Yeah. Um, so what d but what do we know about

energy? I mean we're gonna use batteries right? And I think batteries sound good. What does everyone else think? What about Kryptonite? Yeah. What does chip on print mean? Uh-huh. Okay. Right. So, chip on print is just means like that they're mass-produced. Okay. And case? Uh I guess that's what we've been talking about, yeah. Casing. Yeah. thinking of like syntactic case and thi um let's see. Is there anything else we need to talk about? Oh when we move on, you two are going to be playing with play-dough. Um, and working on the look and feel of the design and user interface design. And you're gonna be doing protu product evaluation. So you'll get mm m more instructions from your personal coach. Mm. See you soon. Does it matter that I end early? How how early is it? I didn't get a pop-up thing that said Hmm. Yes. Sure. So I've been looking at the components design. Um. Mostly by consulting remote control diagrams from the internet and also by incorporating design ideas from the last project meeting. Um, so we need some custom design parts, and other parts we'll just use standard. Um, I assume we'll be custom designing our case, probably a hard plastic or some other material case, to protect the remote and the locator. And we'll need to custom desi design a circuit board, because the circuit board has to take the button input and send it to the output so you have to design that each time. But once we come up with a design we'll send it to the circuit people and they'll just print it out. Um, standard parts include the buttons and the wheels, um the iPod-style wheel. The infrared L\_E\_D\_ is actually gonna be included in the circuit board that comes with it. Um, we need a radio sender and receiver, those are standard. And al we also need a beeper or buzzer or other sort of noise thing for locating the remote. So we have some material options. Um, we can use rubber, plastic, wood or titanium. Um, I'd recommend against titanium because it can only be used in the flat cases and it's really heavy. Um, and the rubber case requires rubber buttons, so if we definitely want plastic buttons, we shouldn't have a rubber case. And, hmm? Uh, well we can use wood. I don't know why we'd want to. Um and also we should note that if we want an iPod-style wheel button, it's gonna require a m qu slightly more expensive chip. We can't use the minimal chip, we need the next higher grade, which is called regular. I don't think it's much more expensive, but it is more expensive. So that's what I've got on design. You need a screen with music because you're looking for a specific song, like you know that band or whatever. With T\_V\_ channels it's, you know, one two three. So Yeah. Yeah. Yeah. My flatmates actually had one with a wheel, and it it did show up on the T\_V\_. They have to r wheel really fast. But I think the wheel goes through like a hundred channels, at least on theirs. It's more expensive according to the design people. You have to get a an advanced chip if you wanna have a screen in, which is more expensive than the regular chip, which is more expensive than the minimal. Mm-hmm. Yeah. W when we had the wheely remote control, we it was on the top I think, if you held it like that. Yeah well it had the wheely thing and then it had those eighteen different buttons that I don't know what they do. So we just used the top part. Yeah. Yeah like maybe something on the side where you slip a panel down and it's got a whole bunch of Yeah. Oh how they make the menu show up on the T\_V\_? I don't know. I believe it's ins it's gotta be inside the T\_V\_, not inside the remote. I'm not sure. Well they usually are. Well I guess that's right. It always comes with the T\_V\_. Yeah, it most of the ones we've had have had the menu button, 'cause it's not like you need to have a button access to like change the contrast or something. 'Cause it just doesn't come up every day or something. Mm-hmm. Yeah. Or on the T\_V\_ too. Oh, I was gonna say. You said uh people want spongy. Um, one of your one of the material options is a sort of rubber that's in like those stress ball things. So, that would be spongy. Yeah I think it could work. Don't think I'd want it to feel like a banana. You could do like the computers where they have like the grapefruit, apple machine and they have like the blueberry, like all the colours are named after fruits. Oh. Mm. I was thinking sort of a single ball shape. So you're holding

a squishy ball and then it has a Mm-hmm. Yeah I guess so. Yeah you could squish it. I guess they would be either in the colour of that plastic face on the front, or in the colour of the squishy thing underneath. I think the batteries would have to go right under the plastic case. Especially if you're switching out the squishy part. Then you need to have the other part just be sort of a single unit that you can snap off. Well I dunno. You'd spend so much time like squishing it to your own personal hand. Then you'd get a new one and you'd have to do it all over again. That was me. Yes. Uh we actually had an option of batteries, solar power, and um a dynamo, which is something I don't know what it is. Something to do with torches. Oh okay. Yeah, the other one was the other one was a kinetic thing where you'd basically have to wind it yourself. So I sort of picked battery. We could have talked about doing a wind-up or a dynamo or a solar power. Um but I think solar power's not available with the rubber case anyways. It it seems a little weird for a living room anyways. Didn't have enough data to actually All it said was it gave sort of relative, some chips are more expensive than others, sort of things. It didn't give me any actual cost. Most of the stuff is pretty cheap though bought in bulk. So I don't think it's that much of a problem. Like the chip is probably the most expensive part. Um, for things like remote controls, um, they stamp out a chip, calculators too I think. Um, so you can mass produce 'em pretty cheap. But it's not like a computer, you can't like reprogramme your remo remote controls, it's like stamped onto the chip. Yeah. Case is what we were discussing yeah. Bless you. Yeah. Um, can I do next? 'Cause I have to say something about the material which is quite shocking. Ha. Mm. Right, um, I have been searching the current trends, um, both on the web and via fashion-watchers, and the findings are that the first thing to aim for is a fashion uh, fancy look and feel. Um. Next comes technologic technology and the innovations to do with that. And th last thing is the easy to use um factor. Um, fancy look and feel goes far beyond the functionality of the thing, but I suppose that is included in in the ease of use. Um, our fashion-watchers in Milan and Paris have decided, well noticed, that f the fruit and vegetable theme is the is the current trend and and therefore um we need to go for that if we want, you know, wh whatever our motto is. Um. For fashion, we go for fashion. The fashion in electronics. So we want to put the fashion electronics, we need to go fruit and vegetables. And also go for a spongy feel, so the the question of our technology whate is Industrial Designer. As to the material should be limited to I don't know how spongy it can be, should discuss this together, I don't know how spongy can be achieved but apparently that's the way to go. Um. I I have been thinking about this fruit and vegetable t

hing and I prefer fruits to vegetables, but that's just a personal opinion. I think I think people like to have a fruit instead of a vegetables in their sitting room. Uh those are just suggestions and also we need to decide whether this should be printed, so that still has to do with the material discuss should we print the fruit stuff, or should the actual remote look like a fruit? Um, and finally again with the spongy. It has to be technologically innovative so maybe again our Industrial Designer should look into that or find come up with a solution that's better than mine. Um, yeah, to summarise these are the points that need to be um, touched in order to get a good decision, and hopefully our User Interface has more to say about the matter. Thank you for your attention. Neither was I. Well it's a trend in fashion, in clothing and um fabrics. But the screen can come up on the telly, the she said. That correct? Graphical interface? Uh on the you can have it on the telly though. Yeah, yeah, yeah. Yeah, yeah. Yeah. Yeah, yeah, yeah. Yeah, yeah, yeah. Yeah. Look it even has settings. On the you can just take theirs and just Yeah but should be comfortable. Yeah I use it like that. Yeah. Uh. Well you can have it on the settings, no? They already do it. No. But also if you have it on the screen you can actually write everything out, because the problem with buttons is you like, they have these sort of abbreviations and codes that you're

supposed to understand, and I never get it. Never ever. So Well on the telly. Mm. Did you did you get that pc picture on did they provide you with that picture on the web? That's quite interesting. What are we going to do about this vegetable thing that I'm dreading? Yeah. Yeah. Yeah. Just nice feel, but I hate spongy. Well it could be like mobiles that just you just put a cover. If it's a small thing, you could instead of creating an object for it that looks like a banana, which frankly I'm not particularly fond of, um you could just have covers and then your mobile f it's like a mobile phone thing. You know you had there was a time when they had all these different covers for mobiles. Yeah, yeah, yeah. Yeah. And it could the colour can fit your sitting room, so if you have red sitting room you can have strawberry, and then if you have a green one you can have well I don't know. Um. Yeah. Maybe a ball. Know, a squashy ball. A relaxing squashy ball. That you can p well I see you're thinking, it's weird, you're thinking the opposite of me 'cause you're thinking you change the the hard bit and I'm thinking how do you change the hard would you put a um sticker sort of? Because I was thinking if you have a cover for the squashy bit, like a Oh, okay, yeah. Yeah I was thinking of getting a cover for Which is cheaper. Well I don't know if it's cheaper actually. Yeah. So it wouldn't be very big in either like how big? This big, and then you just do that, I suppose. Well just a li I can't des like condom thingy, like a a cover. But well the question is, which one's easiest to change and we can just contact our relevant department for that, and just see what the cost is for covering that or covering that, and for now we can do two prototypes maybe and then hi try and ask users what the best is, and No. Um. That's nicer. I think it's nicer to have a drawing 'cause it's neater. Um. If it's a bit like those juggling balls, you can change shape according to your to the way you hold it. If it's got sand in it maybe, or something, you it it just moulds to your hand. We we don't know. Yeah. And the rest is the company the company colour's silver? Okay. Mm-hmm. Should also fit the batteries, which we haven't Okay. Mm-hmm. No but it does it automatically. Does it automatically? I don't know. Okay. Oh, a dynamo is ah, it's a bicycle. It's a bicycle mechanism. It's the en it's like if if something moves, when it moves, it stores energy. It's quite sweet. No. But dynamo the the fact with dynamo is, the moment you move it, i

t c it creates energy on its own. Which is quite cool. So if you throw it, it's gonna store loads of energy, and you don't need to buy a battery 'cause they're quite f I find them annoying. But we need to find cost. Don't know the cost. Does anyone have costs on the on the web? Okay. Right. Mm. Oh, thank you. I it's strange because 'Scuse me. Yes. Yeah. Mm-hmm. So. Oh, uh, there we go. Uh. Okay. Um. Well so that fruit and vegetables thing huh. I actually wasn't aware of the new trends in electronics and and uh So so okay, let me get this right. Okay, uh Okay, alright anyway. Um here we go. Conceptual User Interface. Trying we're gonna try to talk about, um what kind of uh how people are actually going to be using this iPod-ish remote control, based on fruit vegetable design. And, um, basically, so, this is a touched ba a touch-based graphical interface system. Uh, so people are going to be looking at this little screen. Um, kind of I mean I assume, are we still on the screen idea? 'Cause if we're gonna have to ha if we have this it just seems like in order to have someone going around and using the um the wheel you it seems like you would need a screen. But like if you think about it yeah but if so is it just okay. So, b you you're gonna have to switch to like D\_V\_D\_ and like other things like that, aren't you? Are we Okay. Alright. Okay. Okay. Okay. So anyway if well we just we need to Okay so if we're not gonna have a screen I think I was thinking okay. So basically it's just gonna be a wheel then? And you're just gonna I mean I think you're gonna have to have some kind of a right. Yeah like you're g yeah like you're gonna have to be able to switch to like a mode where you can okay we're not choosing that, I guess. But like choose channel control, like if you wa Because people aren't gonna be able to have like, um, you know, channels one two three four five six seven eight nine. So that people seems to be well You know. But

you're gonna have to scroll to get channels. So um I guess that's why I was thinking you may need to have some kind of a screen because So that people can go around go back and forth and choose if or or then again if you just I guess I can see like some kind of a thing where like you sort of have like the number come up on the T\_V\_ like what channel you're on. You can just scroll and you can just get to like five or like twelve or I oh yeah? 'Cause you'll have to like but you can quickly so you can Yeah. Yeah if you do, it would so it would have to be you I mean so you basically just kinda need to figure out like what kind of, you know, range we need to have on the wheel, and um So you're either you're you know, then you're either doing this motion to like control the channels or like once once you stop that, you know, you can like tap for, um, different uh, whatchamacallits, different um, you know, functions like volume or, like you can tap just to get to different channels. Like if you just wanted to go to like from five to six you could tap or someth And then there's also the concern about you know um how do you get to the menu if you wanna change the brightness of your television, or if you want to um you know switch around, I don't know, like, these different modes like turn on the timer or like something something like that, like I would think so too, like So I mean and it seems it would it does seem a little silly to have this screen if you hardly are ever using it, you know, because but then again it would it does make kind of if the screen's sort of just like an option that, like, is just there and you're not really using it, that's kind of m yeah. Yeah, that's the only thing though. Yeah. So then basically it has to have some way to get to get to a mode on the television where you're doing, um You can get to you know, you can Like maybe it'll be that central button that, like, then you hit that and then you can it brings up like the menu on the T\_V\_ and you can just scroll around, like, to do the time

r, to do the yeah, yeah. Yeah. But the remote itself isn't really cluttered up. Hmm? Yeah, well we don't want the screen I guess, but um 'cause that just it does seem like, it that would be, like, incredibly expensive, but I dunno, and then so, it just im really all you need is, like, this little wheel then, and you can control everything. So Yeah. It doesn't seem that you would need anything besides pow I mean and the power button could even be like hold down the menu button for like longer than one second and it turns on the T\_V\_. Yeah. Yeah definitely. Like, I think we're looking at something that could be, like like even maybe like a circle I'm f I'm seeing almost like a circular sort of like handheld like thing. I mean it it needs to be easy to somehow it needs to be easy to like manipulate and use your I mean how do how do I'm not really Like when I use an iPod, I end up just kind of using my index finger to like control it. So Yeah. Or your thumb or something. So Yeah. Yeah, so Mm yeah. Yeah, so but I mean I think it could be pretty small. Like, I d I mean, you you want it to be large enough that you can But can't you just get K Yeah, But, I mean, do you need that? If if you can get to, you know if so long as you're able to bring up the menu on the T\_V\_ screen. That keeps it really Yeah. Uh you wouldn't I don't I just don't think you would even need it. So Mean I mean you can do it, you it's it doesn't seem that hard. I mean I've never bought a remote. It sounds like this remote's going to be purchased separately from the television, which is a little My I've never bought just a remote, like, so I don't I don't really know. But um So, um but I mean it's I've never had a hard time with like my remotes, like bringing up the menu screen if you need to like change the date or whatever, you know. And I don't think that should uh that should be too hard. Yeah. Yeah. Well so So, do we need I dunno. Well I guess we have to you know think about But I mean you just basically need the output signal you know to be able to bring it up. That's what it does anyway. Yeah. Yeah. So, but oh, you mean if we have this screen like the iPod screen? On the telly, okay, yeah. So yeah I think, I mean, I think I think the touch-based graphical interface is a really uh cool idea because you know it is so obnoxious to like have to push those like okay now I hit this you know, you have your little guide out and you're like, hit this button twice, like to



activate the date. Yeah. I guess. And it is trendy, the iPods are really hot right now, so Um, yeah, by web research, yeah, so Oh. Yeah. Oh, okay, that would be cool. Mm. Yeah, c that's e that would be kind of oh, you know, usually like the touch pad things are kind of a hard plastic typ mouse type, you know, thing. But what if we ha what if we had like a spongy sort of like stress balley kinda so you're like Or what if we integrated the the uh the f what if the whole thing about the fruit and vegetables we somehow made it tactilely fash you know, we c tapped into that, so like it feels like a vegetable. Yeah. Yeah. Yeah. Yeah. You could name it after fruits and vegetables, or Yeah. So I think yeah, colours. Yeah. Yeah. Yeah. Unfortunately they don't have silver fruits and vegetables. I do I dunno. Um That's in the shape of a fruit, like a Yeah. Oh I like that shape. Yeah. Yeah. It's like it has to be s yeah. Yeah. What if, yeah, what if the squishy, oh so so you're saying the squishy part's like detachable, and you can so so maybe one you know you can have like the broccoli squishy thing, and then you could have like the banana squishy thing and you could get you could have your choice, you know? Yeah. Yeah, yeah. Yeah. Yeah. Oh. Yeah. Yeah. I mean I think uh and I think the handhe I think the handheld part is definitely So you could make that into the fruit and vegetable part. Yeah. So where are the fruit and vegetables now? Fruits and veg. Yeah. Yeah. We could promote the banana one. Like mm. Mm. O h yeah. Yeah. Yeah, I think, um it'd be interesting to have the b the squishy bit. The part that you, yeah, can change into the different, you know, trendy vegetables and fruits. But uh it Yeah. Yeah. The dynamo would be interesting. Oh. Hmm. Hmm. Cool.

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# Meeting ID: 71

Data Source: Train

## Executive Summary

We have some we have some ideas and some uh ideas for what people want . let's just go over the agenda real quick for this meeting . See if I can't get things uh moving along here a little bit better . Um I'll go over what we went over last time , Then I believe each of you have a presentation . Um I've was sent a a couple more requirements for our remote , Um then we can come to a conclusion on uh what we want the remote to do , the last meeting we went over um who was responsible for what . I'm responsible for leading the meetings , keeping the notes , uh and coming up with the final presentation . Um Corinne is our Marketing Expert . Um Ryan is our User Interface Designer . And Manuel is the Industrial Designer . Um we decided our remote , uh we want it to be a universal remote Um we want to be modern , um fun , different . Uh it needs to be sturdy , um easy to find , so we gonna have that locator function . Um and we want to be different . Um and then we went over a couple of different ideas . Ball-shaped phone . The keyboard shape . Um we decided that it should probably be one-handed . Something we could use with one hand . this is my report , first of all , the method that I used was by doing some marketing research , by um doing research on some interviews that were conducted . And then some internet research . I think there were a hundred remote users that they interviewed . And so I will show you some of the results from that , They said that the users dislike the look and feel of their current remote controls . And seventy five percent of the users find their remote controls to be ugly . And eighty percent of the users would be willing to spend more money if they could get a remote that would look fancy . I think that's definitely important . Seventy five percent of users said they zap a lot . And if anyone could clarify what that means ? Zap , does that just mean like changing the channel ? Um and fifty percent of the users say that they're only using ten percent of the buttons on their remote control . they kept track of the frequency per hour in using certain buttons . And some of them it looks like barely need to be included at all . Of course channel selection is used the most frequently . And then teletext was the next . Volume and then power . And then audio settings and screen settings and channel settings were practically never used . I think we could definitely eliminate or somehow combine a lot of the functions into one button . Um the biggest user frustrations , as we said fifty percent of people find that their remotes are lost somewhere , and so I think a tracking device of some sort would be a good idea . thirty four percent said it takes too much time to learn how to use a new remote . And twenty six percent said that the controls are bad for R\_S\_I\_ . as far as speech recognition

goes , um the younger group looks like they're all for it . From the fifteen to twenty five age group over ninety percent said they would pay more . And it kind of just went down incrementally . so maybe we could discuss this and decide if we think it's worth investing in this . At least if we're targeting the younger groups . in conclusion . Some things that I drew from this are that I think we were correct . We definitely need to focus on a new modern appearance , since so many people seem to be concerned about the ugliness of their remote control . Um a multifunctional remote could be a good thing to explore . Uh we need to simplify the remote and reduce the number of buttons , get rid of the ones that don't seem to be serving much purpose . And then lastly I thought that maybe we could discuss the idea of speech recognition . Now we actually have some ideas of what what people want , what we should focus on . Uh Having just listened to what Corinne just said , I'll draw on some of the things as well . Some things that sort of relevant to what I wanna say . I'm just gonna yeah approach the technical functions design . Um the method I used was to explore the uh technical functions of a remote control . And t s simplest approach that I came to is to change , programme and operate an electronic device remotely . Um I had some things sent to me . Not very much . To look at similar devices . Um we discussed a universal one . But I think a universal remote control is actually quite a difficult object to design , and po possibly within maybe the budget that we do it , um because you'd need to know all the spef specifications of a all the like electronic companies . You have to set them , reset them to everything . Um and that would only add buttons . Whereas I think the aim is to take away buttons . So I think it'd be better maybe to concentrate on maybe just a universal one for T\_V\_s . here here's just two pictures of remote controls . But one is uh user-centred . And you can straight away see there's less buttons . And the other one is engineer-centred where that's more uh specified for the sort of the elaborate piece of equipment it's trying to control um and on what the have said and the market research and stuff probably looking at something that should be user-centred . Fewer buttons , simpler to use , maybe the other fifty percent , the buttons that are used very rarely like programming , they could be hidden maybe some remote controls you might have come across have maybe a little flip thi thing where they're hidden away . the major findings market researchers have said , it's the image and the appearance that people di dislike . So that we should concentrate on something that would set a trend . our product I think should be user interface orientated . Um Like I said to concentrate on T\_V\_ remote control , Gonna talk to you about the working design of the interiors basically which is what dictates the design the both the interface basically and the outer appearance I'm going to do a lot of the stuff on the board . This is the basic basic premise of a remote control . An energy source feeds an integrated circuit , like a chip , Um there's uh also some sound systems but infrared is the better or the more more used system . that can compose messages . Often in the form of infrared bits . A user interface controls the chip and accordingly the messages . Um what we have is different components that obviously need to go in there . We'll start with an energy source . which is usually a battery This energy source of course is connected to the the user interface itself . Uh which can be buttons , whatever , which in fact controls a chip . Um the way this goes normally is that this chip then controls an infrared lamp . And Of course that's controlled , the chip itself is controlled by the user interface . The way you normally normally do it is that you add a little device such as a lamp to the whole thing as well , so that you know that it's working basically . The the uh energy source for one thing can be altered . What we probably cannot alter is of course the infrared ,

the sending device basically , the infrared lamp . Um as we've heard uh speech recognition is the hype obviously in the moment . The user interface . That's something we can also discuss . We cannot change the chip Or if we just do the usual button thing . Or we have a touch pad or something like that And of course the energy source . Batteries . Solar cells . Of course it's always a question whether these these components are in fact available cheap enough , developed enough . the more complex we make it of course , the more expensive younger generations of people have said that they would pay more for a speech recognition remote . possibly it might be worth the investment . I think speech recognition was uh one of those things where um they have to be really good for them to work . 'Cause sometimes you find yourself just saying things over and over if it's on your phone . And you need to sort of take into light languages and then different dialects I suppose as well . I myself I find , when you , h when there's something like spee speech recognition . Like uh you call on the phone and you try to change your telephone or power or something . Sometimes they have a a speech recognition on the other end , and you find yours , like you said , saying the same thing over and over and over . Another thing about these figures is ninety one percent of the youngest age groups said they'd do it , but probably a lot of them that's actually their parents money . I don't know if they would actually go out and purchase this themselves , a fifteen year old you know . It's a , it's a gimmick factor that they like at first , I was sent a couple of things to modify our uh new requirements . Um the remote's only gonna be for the television , which is good because we already decided Um no teletext . Um the company wants us to incorporate the corporate colour and our slogan , which is we put the fashion in electronics . And our corporate colours are grey and yellow . And we could probably get away with black too but We want something that looks good . Um from all all three of your uh presentations , I think that we were on the right track a lot in our last meeting . Um we want something that's simple . We want something that you can find easily . Um And the speech recognition I I guess is kind of uh give or take . probably , I would say , probably not worth the investment at this point in time . I did have have a thought about the sort of the tracking thing . if it came with maybe a holder or holster , whatever you wanna call it . But if you don't put it back in , you press something like a little button on that , and that just sort of sends out a beep to find where it is or something . Just by infrared . That'd be , that'd be good if we were going with our our ball . Or or with you know I guess with any form that that would be good . that could be the charger . we could use rechargeable batteries in the remote . However , however you wanted to go about it , the holder could also be the charging unit . Um With the locator button . I guess after the meeting we'll have some questionnaires . And uh and some summaries for for what's going on . Then we can come back and uh work on our individual work . It looks like you're already on your way for uh working with the components . User interface concept , we want it to be something simple . Um Minimal number of buttons . I do still think it needs to be something that is ultimately one-handed . The ball is probably not a good idea . Um Shall we maybe shoot for a a specific uh target group ? if we were shooting for young guys then it's um a certain look to the remote . Or girls or older people ? I don't know if that might cope with like the trend-watching . but maybe by the next meeting we'll have some info on that . we'll just say we've got a colour scheme for it . yellow it's nice and bright , with the buttons being grey or black . And our slogan pasted somewhere on it , on the the bottom maybe we could flare it or something . of course this will look like a bone then . it might be to look at sort of the the shape and trend of like things like mobile phones , and the shapes that the they've been going .

mobile phones um they've kind of taken a turn to where they're really small . Um which may defeat our purpose for being able to locate our remote all the time . Maybe we could go with a square or something . Um with minimal number of buttons . Uh you've got volume , up and down . I guess you've got you know one through nine . For typing in your channels . Channel up and down . Power . Um a mute . A menu button , maybe . if we want the remote to do other things like um or I guess the T\_V\_ to be able to change the tint and the colour and you know all those kind of things that are built into T\_V\_s , we just have that under one standard menu button scroll up and down to select it . press the menu button , Talking of which maybe a scrolling function is not not too bad . Would probably be like a scrolling , little scrolling wheel like this . Like a wheel on your mouse . if we're coming from mice , we can even add a click function , where you , in order to verify the information you just press it down . Also when it comes to the ergonomics of the whole thing , if you wanna make it square for the looks of it , then maybe to make it more comfortable to hold the whole thing , you add a little bulge down here . Then you hold it in your hand like this . And maybe you bring the buttons nearer to the or the imp more important buttons nearer to the to the side . the bigger ones you know they could actually be bigger in size than the ones that are less important , the smaller here . You can also have it , maybe , talking about mobile phones again , sliding open . on a sort of side view . Something that you know it would sort of fit in the hand better . causes a problem um for left or right-handed people actually . So . instantly sort of always going for the right-handed person . Maybe you could buy like a special left-handed version of the remote . Special order . it should be probably designed for a right-handed p person . I mean I'm just just thinking maybe if it was um circular um with the sort of that sort of the sort of early idea we had , with the way that was more like that , If we have a smaller a smaller device that actually fits into the big one . Mm . Then there's maybe another point of making it a two-in-one kind of thing . and just a couple of functions in there . Like your zap zapping device is just u channels up-down , uh volume , and on-off . You give it the full functions in here , Means the big one has to be sufficiently big . And perhaps heavy , you're watching trends Manuel you're going to work on the components for for what we're gonna use . let's explore uh the the uh possibility of having the two-piece . So one for the the quick zapping um and possibly one you know with just that rounded part that fits into your hand . Um And Ryan you work on um how how well they'll work with the us with the user . So both of those concepts . and then then in about half an hour after that we'll probably have another meeting . I gu I guess we'll take lunch in about uh half an hour .

## Complete Meeting Transcript

Eight. F\_ eight. Just jus yeah. cable there. Thank you. Okay. Gonna talk to you about the working design of the interiors basically which is what dictates the design the both the interface basically and the outer appearance because this is all the stuff that needs to go in there. Right. So unfortunately the people who were supposed to do this little presentation for me obviously were too drunk to actually accomplish it, so um I'm going to do a lot of the stuff on the board. Um just This is the basic basic premise of a remote control. Um the basic function is to send messages to another system. Okay so

much is clear. An energy source feeds an integrated circuit, like a chip, that can compose messages. Often in the form of infrared bits. This is the most mostly used. Um there's uh also some sound systems but infrared is the better or the more more used system. Um parts are cheaper as well. A user interface controls the chip and accordingly the messages. This is where my people screwed up basically. So I'm going to explain that on the board rather. Um what we have is different components that obviously need to go in there. We'll start with an energy source. Right. Um which is usually a battery right? Since it's not feasible to add a cable to that. This energy source of course is connected to the the user interface itself. Uh which can be buttons, whatever, which in fact controls a chip. Right? This is the user interface and there we have the chip. Um the way this goes normally is that this chip then controls an infrared lamp. That sends out the signal. Of course the signal differs accordingly. Um depending on what the chip tells the infrared lamp. And Of course that's controlled, the chip itself is controlled by the user interface. The way you normally normally do it is that you add a little device such as a lamp to the whole thing as well, so that you know that it's working basically. You press something, you get a response. Which is also comparatively um important on one of those devices. Now this, what we're talking about here, or what I think should be discussed are these two components mostly. The the uh energy source for one thing can be altered. What we probably cannot alter is of course the infrared, the sending device basically, the infrared lamp. We cannot change the chip which controls the infrared lamp. Right? These two are components that we have to use, and these are dictated by the whole function of the whole thing. Um the lamp can be put onto the device. It c it doesn't have to be there. This can be discussed as well. The user interface. That's something we can also discuss. Um as we've heard uh speech recognition is the hype obviously in the moment. Speech recognition um interface, we don't know that. Or if we just do the usual button thing. Or we have a touch pad or something like that that's something we can discuss. And of course the energy source. Batteries. Solar cells. Who knows? Of course it's always a question whether these these components are in fact available cheap enough, developed enough. But that's like I s I suppose rather up to marketing, and not to to the industrial design department. Expensive it's gonna be get uh. Yeah. Right. Oh right. go. Mm-hmm. Well you still do. You s you still W yeah. You put it on t on the couch table. While you're watching, it's gonna roll off. So that's not an issue really.. Right. That's Mm. Right. Hm. That's the classical design. Right. Yeah. Talking of which maybe a scrolling function is not not too bad. It's Talk about maybe f look at that from the side, there maybe. Which is technically the easiest option. Would probably be like a scrolling, little scrolling wheel like this. Yeah. Yeah. Yeah. So. Yeah, sort of like that. You can even if we're coming from mice, we can even add a click function, where you, in order to verify the information you just press it down. Right. Also when it comes to the ergonomics of the whole thing, if you wanna make it squar

e for the looks of it, then maybe to make it more comfortable to hold the whole thing, you add a little bulge down here. Just which maybe from an engineering point this could be holding the the batteries and so on. I know. You know what I'm getting at here, fel look at it from the side. It's like that. Right. Uh Then you hold it in your hand like this. And maybe you bring the buttons nearer to the or the imp more important buttons nearer to the to the side. Right. Mm. Right. You can also have it, maybe, talking about mobile phones again, sliding open. With the lesser used functions on this part, and then it slides into that part. And out. Mm well I was just thinking, this this of course causes causes a problem um for left or right-handed people actually. So. Right. Right. That's right. Right. That minimises it size-wise as well. Mm. Then there's maybe another point of making it a two-in-one kind of thing. If we have a smaller a smaller device that actually fits into the big one. You give it the full functions in here, and just a couple of functions in there. Like your zap zapping device is just u channels up-down, uh volume, and on-off.

That's it. Maybe. That's right. Means the big one has to be sufficiently big. And perhaps heavy, so you can't move it around. Make it a piece of furniture. yes. Yes, there you go. Or a statue or something. Right. Alright. Alright. Alright. Oh. Okay. Thanks for coming to this meeting. S how we doing on our remote? We have some we have some ideas and some uh ideas for what people want. Yeah. Alright let's just go over the agenda real quick for this meeting. See if I can't get things uh moving along here a little bit better. Um I'll go over what we went over last time, which shouldn't take long. Then I believe each of you have a presentation. Um I've was sent a a couple more requirements for our remote, what they want. Um then we can come to a conclusion on uh what we want the remote to do, um and how it's going to do it hopefully. And uh then we'll have the closing. Um which we'll have forty minutes for. Uh let's see, the last meeting we went over um who was responsible for what. I'm responsible for leading the meetings, keeping the notes, uh and coming up with the final presentation. Um Corinne is our Marketing Expert. She's gonna figure out what what um the consumer wants. Um Ryan is our User Interface Designer. And Manuel is the Industrial Designer. So you're gonna come up with the ideas Ryan, and you're gonna pick 'em apart. Um we decided our remote, uh we want it to be a universal remote uh that everyone would want. Um we want to be modern, um fun, different. Uh it needs to be sturdy, um easy to find, so we gonna have that locator function. Um and we want to be different. Um and then we went over a couple of different ideas. Ball-shaped phone. The keyboard shape. Um we decided that it should probably be one-handed. Something we could use with one hand. Um and that was our last meeting. So um why don't um Do each of you have a presentation? Okay. I'll hand it off to you and um Does anyone do you wanna go first? So we can maybe see what uh what the people want. To go to the next one? Yeah you click on that guy. Yeah. Hit F\_ eight again. I think. Yeah. You want it to be on both screens, or just just yours? Yeah but I think you have to hit escape. And then you can Yeah. Oh hit F\_ eight again. I know. I did the same thing. And then it should come up here shortly. 'Kay. I think oh give us the slideshow and something on your screen? Mm. I'm not sure. You could maybe minimise that screen and then have them both up at the same time I think. 'Kay. Very nice. Now we actually have some ideas of what what people want, what we should focus on. Uh Wait can I look at that real quick?. What was your last conclusion on that one? Focus on uh the i the image of it. 'Kay. Good. Good. So we could the the the more complex we make it of course, the more expensive But people have said that they would well younger ge

nerations of people have said that they would pay more for a speech recognition remote. So possibly it might be worth the investment. I agree. Well I myself I find, when you, h when there's something like spee speech recognition. Like uh you call on the phone and you try to change your telephone or power or something. Sometimes they have a a speech recognition on the other end, and you say one for this, and you find yours, like you said, saying the same thing over and over and over. I find myself, especially if I'm in a crowd of people, looking really silly. So maybe if you're sitting on your couch with a bunch of people then you know, you Volume up. Volume down. Change the channel, you know channel up, channel down? I I don't know. Mm-hmm. It's a, it's a gimmick factor that they like at first, and Okay. Um Let's see here. Yeah I guess so. Trade you. Now I was sent a couple of things to modify our uh new requirements. Um the remote's only gonna be for the television, which is good because we already decided y your your research showed that uh not only is a universal remote more complicated, it's more cost, more costly. And your re uh research showed that you know most of the people don't even use it. I think uh you said fifty percent of the people only use half the or ten percent of the buttons. So if we remove the universal remote then that solves that problem. Um no teletext. Um So we don't have to worry about that. Um but we do have to use the the company wants us to incorporate the corporate

colour and our slogan, which is we put the fashion in electronics. And our corporate colours are grey and yellow. And we could probably get away with black too but So those are the three um the three new requirements that that I was told we need to use. Um from all all three of your uh presentations, I think that we were on the right track a lot in our last meeting. Um We want something that looks good. Um we want something that's simple. We want something that you can find easily. Um And the speech recognition I I guess is kind of uh give or take. It's gonna cost more. S the young the younger people say that they like it. But um it's probably, I would say, probably not worth the investment at this point in time. So maybe we should just do away with speech recognition. Um And that way we can focus on our form. That'd be, that'd be good if we were going with our our ball. Or or with you know I guess with any form that that would be good. You know that could be the charger. For you know we could use rechargeable batteries in the remote. And that would be or solar. Or you know However, however you wanted to go about it, the holder could also be the charging unit. Um With the locator button. Um and if it were the ball you'd no longer have to have a flat space on it. Um like if we still have the how to hold on to it and It's gonna roll away. Um So I guess after the meeting we'll have some questionnaires. And uh and some summaries for for what's going on. Um then we'll take lunch. Then we can come back and uh work on our individual work. Um I'll do the minutes. Uh let's see. It looks like you're already on your way for uh working with the components. Um chips, the what chips we need and what uh you know how to power it and whatnot. User interface concept, we want it to be something simple. Um Minimal number of buttons. I guess our, I guess our main um main thing that we should focus on until then is probably deciding on a certain look, you know. Did you have time earlier to to work on that. Did you guys feel you have enough time in between our meetings to get everything done that you need to get done? 'Kay. Mm-hmm. Um Shall we maybe shoot for a a specific uh target group? That way we could I I mean if it were, if we were shooting for young guys then it's um a certain look to the remote. Or girls or older people? Um Would that you think that would help us find um a specific form? That we would would wanna pick out? 'Kay. So um we know that th

e remote's gonna have to be we'll just say we've got a colour scheme for it. Um yellow and you know yellow it's nice and bright, with the buttons being grey or black. And our slogan pasted somewhere on it, on the the bottom or the you know. Um Maybe we could sketch a so basically all of our remotes all of our typical remotes now are just kind of a rectangular sort. You know. Um maybe we could flare it or something. You know. So it's more of course this will look like a bone then. go ahead and erase this. Um Hope everyone memorised that uh Yeah. Yeah. Yeah everybody's got a mobile phone right? Except for me now. Uh But they are all, you know, mobile phones um they've kind of taken a turn to where they're really small. Um which may defeat our purpose for being able to locate our remote all the time. But then again you don't want you know like the first mobile phone that was this big and you had a handbag to carry it around in. Um So we've got basically what remotes look like now is kind of what we're what we're stuck with. Um Maybe we could go with a square or something. Um Um you know with minimal number of buttons. I guess you've got you know one through nine. For typing in your channels. Uh you've got volume, up and down. Channel up and down. Power. Usually at the top. Um a mute. That's that's pretty much all you need I think. Um A menu button, maybe. So you know. If you, if we want the remote to do other things like um or I guess the T\_V\_ to be able to change the tint and the colour and you know all those kind of things that are built into T\_V\_s, we just have that under one standard menu button where you go in, press the menu button, scroll up and down to select it. Um 'Kay so Um Mm-hmm. Like a wheel on your mouse. Sort of. 'S a good idea. Mm-hmm. Look g yeah. Looks good. To the thumb. Yeah. Yeah is everyone who in here's right-handed, left-handed? You guys all



right-handed? Yeah. So I'm left-handed but I, so I can say that most things are designed for right-handed people. Like the written language. Or English. Maybe. Ow. I would say I mean it should be probably designed for a right-handed person. Um but that's that's good. That's what I think we've got a kind of a good plan there. Um At least for what buttons we're gonna use. Um So we've got uh I like the scroll, the scroll action and the. Yeah. Kinda like holding a Yeah. So two remotes in one. But then would be easier to lose one or the other. It actually is your coffee table. Okay. Well we need to finish up here. Um So for the next So for the next um before the next meeting w uh shall we work on you're watching trends to see what what kind of new information we've got going on. Um Manuel you're going to work on the components for for what we're gonna use. Let's go with our our uh rounded kind of fit in your hand let's explore uh the the uh possibility of having the two-piece. So one for the the quick zapping um and possibly one you know with just that rounded part that fits into your hand. Um And Ryan you work on um how how well they'll work with the us with the user. So both of those concepts. And uh okay I think we made some good progress here. see you in I dunno. I guess we'll take lunch in about uh half an hour. Or I guess we'll be taking lunch shortly and then then in about half an hour after that we'll probably have another meeting. Okay. Hm. Yep. Sure. What was it? Function? F\_ eight? Well. How do I get it Oh right right right. That one? Okay. Alright. Well, this is my report, which is going to be based pretty much on a survey that I was sent. Oh gosh, I've no idea. G Okay. Sorry I actually need to see something else on my screen. Yeah. And then? Again? No I want something else on mine. Is that possible? Okay but now you don't have that. Sorry guys. So is there no way I can give you the slideshow and have something yeah. Yeah. Oh well. Yeah. It's okay. Okay. Um so first of all, the method that I used was by doing some marketing research, by um doing research

on some interviews that were conducted. And then some internet research. And I was sent a report that was I think there were a hundred remote users that they interviewed. And so I will show you some of the results from that, which I think will be helpful. Um okay here are some of the findings. They said that the users dislike the look and feel of their current remote controls. And seventy five percent of the users find their remote controls to be ugly. Which is a fairly significant number I would say. And eighty percent of the users would be willing to spend more money if they could get a remote that would look fancy. So I think that earlier we were onto something when we were talking about having it be a modern cool look, I think that's definitely important. Um they say that current remote controls do not match well the operating behaviour of the user. Seventy five percent of users said they zap a lot. And if anyone could clarify what that means? Zap, does that just mean like changing the channel? Okay. Um and fifty percent of the users say that they're only using ten percent of the buttons on their remote control. And there was something else, they kept track of the frequency per hour in using certain buttons. And some of them it looks like barely need to be included at all. Of course channel selection is used the most frequently. And then teletext was the next. Volume and then power. And then audio settings and screen settings and channel settings were practically never used. So I think we could definitely eliminate or somehow combine a lot of the functions into one button. Um the biggest user frustrations, as we said fifty percent of people find that their remotes are lost somewhere, and so I think a tracking device of some sort would be a good idea. They said it take thirty four percent said it takes too much time to learn how to use a new remote. And twenty six percent said that the controls are bad for R\_S\_I\_. What is it? Okay. Okay. And so bas okay. Um as far as speech recognition goes, um the younger group looks like they're all for it. From the fifteen to twenty five age group over ninety percent said they would pay more. And it kind of just went down incrementally. The groups at the older they get it looks like the less willing they are to pay, so maybe we could discuss this and think and decide if we think it's worth investing in

this. At least if we're targeting the younger groups. And so in conclusion. Some things that I drew from this are that I think we were correct. We definitely need to focus on a new modern appearance, since so many people seem to be concerned about the ugliness of their remote control. Um a multifunctional remote could be a good thing to explore. So you only have one rather than five different remotes sitting all over your room. Uh we need to simplify the remote and reduce the number of buttons, get rid of the ones that don't seem to be serving much purpose. And then lastly I thought that maybe we could discuss the idea of speech recognition. And that's it. Oh yeah. Sorry did you guys get time to write everything that you needed? 'Kay. Mm-hmm. Yeah. Another thing about these figures is ninety one percent of the youngest age groups said they'd do it, but probably a lot of them that's actually their parents money. Like I don't know if they would actually go out and purchase this themselves, a fifteen year old you know. Yeah. Gets old yeah. Mm. Mm. Rolls away yeah. Not really. Mm. Mm. Mm. Yeah not yet but maybe by the next meeting we'll have some info on that. Mm. Mm. Power. Yeah. Mm-hmm. Right. Uh-huh. Maybe you could buy like a special left-handed version of the remote. Special order. Yeah. Mm. Hmm. Could be good. Yeah, yeah. Mm-hmm. Du Uh we yes s I've lo I've done the role that I was asked to do anyway. I think. Slide show. Just press the arrow keys I think. Usually goes to it. Is is it j just just just using it yeah. A repetitive strain injury. Just repetitive strain injury. I think. Tha

t's what I guess. Yeah. Having just listened to what Corinne just said, I'll draw on some of the things as well. Some things that sort of relevant to what I wanna say. 'Kay so I'm just gonna yeah approach the technical functions design. Um the method I used was to explore the uh technical functions of a remote control. And t s simplest approach that I came to is is to change, programme and operate an electronic device remotely. I mean that's an obvious thing to say, but it's not attached to the device that you want to control. Um I had some things sent to me. Not very much. To look at similar devices. Um defined in some them. And then the personal preferences that I will suggest. Um we discussed a universal one. Um like it's just been brought up again then. But I think a universal remote control is actually quite a difficult object to design, and po possibly within maybe the budget that we do it, um because you'd need to know all the spef specifications of a all the like electronic companies. I'm not sure have you ever come across a universal remote control yourself, but you have to i they're a nightmare to use. You have to set them, reset them to everything. Um and that would only add buttons. Whereas I think the aim is to take away buttons. So I think it'd be better maybe to concentrate on maybe just a universal one for T\_V\_s. Um or maybe just one that you could we could design and then different people, manufacturers could use it to set to their specifications, if if the aim is to get something that's unique in design. Um Okay here here's just two pictures of remote controls. They're just simple T\_V\_ remote controls. But one is uh user-centred. That is the one on the left. And you can straight away see there's less buttons. And the other one is engineer-centred where that's more uh specified for the sort of the elaborate piece of equipment it's trying to control um which appeals more to the product that we want, and on what the have said and the market research and stuff probably looking at something that should be user-centred. Fewer buttons, simpler to use, and if ten percent um is hidden away if ten percent is what's used, maybe the other fifty percent, the buttons that are used very rarely like programming, they could be hidden maybe under some remote controls you might have come across have maybe a little flip thi thing where they're hidden away. And the main buttons are the ones you or the ones you come across. Um and finally, um uh sort I've sort of covered that, our product I think should be user interface orientated. Um Like I said to concentrate on T\_V\_ remote control, a universal remote might be too complex. Um and as what it, the major findings market researchers have said, it's the image and the appearance that people di dislike. So that we should concentrate on something that would set a trend.

And then and change the fashion of remote controls. And that's it. On something on the image of it. Uh the f the actual design. I think speech recognition was uh one of those things where um they have to be really good for them to work. 'Cause sometimes you find yourself just saying things over and over if it's on your phone. And you need to sort of take into light languages and then different dialects I suppose as well. Yeah. Yeah. And would I don't know if would you want to keep saying stuff if you were watching stuff. If you were watching something would you sort of be wanting Yeah. I think As well it'd be j the gimmick factor for the younger people. But practically I don't think it's Yeah. It'll wear off. Do you wanna put your cord back in? I did have have a thought about the sort of the tracking thing. Is that if it came with maybe a holder or holster, whatever you wanna call it. Um that you you should put it back in. Your remote. But if you don't put it back in, you press something like a little button on that, and that just sort of sends out a beep to find where it is or something. Just by infrared. That shouldn

't be too complex I would've thought. Yeah it would be quite good. The ball could sit on a Yeah. Yeah. Yeah. Yeah. Yeah. I'll yeah I'll have a look, try look at the actual appearance in the next break. I th I I do still think it needs to be something that is ultimately one-handed. The ball is probably not a good idea. And even something that's held like that might be difficult. So that I think it still has to be a variation. On maybe a a rect on a rectangle but maybe not necessarily as boring, as plain as a rectangle. D I don't know if that might cope with like the trend-watching. I find anything more on that. Yeah. Bottom perhaps yeah. You I mean it might be to look at sort of the the shape and trend of like things like mobile phones, and the shapes that the they've been going. They've gone from big brick block things, which is a remote control is, to sort of slinky small things. Yeah. Yes s To the thumb yeah. Maybe the buttons could like uh decrease in s the bigger ones you know they could actually be bigger in size than the ones that are less important, the smaller here. Yeah. Behind. Definitely. just like o on a sort of side view. Something that you know it would sort of fit in the hand better. So you know you just sort of have your hand Yeah. Right on the and your thumb would be up here type thing. Yeah that's also true. instantly sort of always going for the right-handed person. But I mean the older so Right-handed, yeah. I mean I'm just just thinking maybe if it was um circular um with the sort of that sort of the sort of early idea we had, with the way that was more like that, whereas this is just a one-handed thing that you sort of almost wrap round the thumb. So you'd have your, you'd put your hand into there with the thumb there. And then your thumb would do you'd have all the buttons sort of round here. And that I think could work. On any hand. If you just had it like wrapped round there. Left or right. Minimise its size. It could be you know really quite small. Yeah. Zapping functions. Yep. Yeah. How well it'll work yeah. Yeah.

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# Meeting ID: 8

Data Source: Train

## Executive Summary

Last time we discussed the squishy fruitiness of our remote controls and how we might pursue that . Um and we also talked about materials we'd use and what kind of chip would be necessary . Um so for later in the meeting I've done a a spreadsheet of production costs you guys wanna give a prototype presentation of So This being the wheel that you use to uh change channels or volume or whatever . And uh the base of the remote control , which has a squishy spongy rubbery feel , is interchangeable . So you can change the colour , according to your to suit your living room or whatever . You could change the vegetable , or fruit . it's trendy fruit , it's not just ordinary fruits . And then people will be encouraged to buy three or five of them , because they'll need to switch 'em out . It's been a little bit difficult to um make sure that it's hand-holdable , Well the locator is just chip that's inside there . And the beeper's also inside there too somewhere So you have to have a button on your on your you have to attach the button to the Yeah we have that that has yes yet to be designed . Yeah that c hey that that could you know match the handset . Um if you wanna look in your project documents folder , there's an Excel spreadsheet . Um the only one that's in there , production costs . But if I missed anything that we've gone over , or if you see something that has changed I said uncurved or flat . My impression was that flat meant like like one of those square remotes . But it's really not very clear , There's plastic for that area around the button . Um and lots of special colours actually . Okay so that would make our total of eleven point nine , which is even less than twelve point five , which means we'd be making even more of a profit . Right what happens is we have to um decide whether this this whole this whole project we've been working on actually um meets the standards we were set at the start . And we we have therefore in total um We have five we have eleven points according to which this should be evaluated . And um the cri well basically the findings are the same as the evaluation criteria . True is one and and false is seven . I think if each of us gives an opinion then they can be mixed somehow . Um we can do it separately and then discuss it it's if it's fancy you put one , if it's really unfancy it's seven . Apparently I'm supposed to use the whiteboard . um is it necessary ? I don't think so . We'll just go in a circle . Okay so do we just add it up and divide it by four ? So it's a one was true and seven was false ? Oh I thought it was the other way round . I thought it was the other way round too . I'm I'm sorry this was so tedious for everyone . I think we should look at the ones that like where s where people said four , where um it looks like we might wanna discuss changing an aspect of the remote . Well the worst ones were

three point one . Material technologically innovative , What if we just smash all the vegetables down flat ? 'cause some of these are not as easy to hold . I I personally don't think this is comfortable to sit there , like it's an awkward position . although the broccoli is quite comfortable , I have to say , we chose the shape or the sh shape could be whatever we wanted and then it would just be like a design on the rubber . and just have the colour match or something . We could make it that shape but just have different colours , and call 'em the different fruits . And you could like if it's like this , you could put fruit designs and stuff on that part . Batteries easy to insert for some reason , I think that's not a problem any more . You could make the touch pad in th in different shapes , It might also sort of annoy people if we get used to having the buttons in one shape . I bet having different colours is a lot cheaper than having different shapes too . I guess we're supposed to discuss um the prod the process of the project and how satisfied Did you feel there was a lot of room for creativity in the sort of The prototype making was very creatively stimulating and I think we've come up with a product that's fun and meets all the criteria . It was a very democratic process and everyone got to contribute . Um yeah , I thought we all worked very well together . Um and the means for like the materials we used , how convenient were they ? Well I'm not a big fan of any Microsoft , PowerPoint or any of this stuff . but I but uh I di I thought that my the information that was available to me was kind of just like it was kinda like okay , I don't really think I dunno what I'm doing here . and I didn't really like the PowerPoint presentations , My first bit of information was like this child's drawn picture of how a remote works . 'Cause my problem was , you guys had access to like they'd put send you to sites and stuff Yeah well mine was mostly made up But it must have been quite difficult for them to build a whole um I felt like I was off-task all the time . What do you guys think of the pens ? They're kinda hard to write with though . all this technology like I guess some people must be interested in using it And like the last thing I would have wanted would be to have to watch a video 'cause I missed a meeting . there's really not that much information that actually goes through a real meeting , like when you're actually at a real meeting in a real company . Like if I missed a meeting I could probably get it summed up in like one sentence . I wouldn't need to have to watch like a t two hour video with the sound and the transcript and 'Cause I mean we've all we all kind of agreed our product is satisfactory , it fits the budget , and it's trendy . Okay we have to fill in all this stuff . So I guess we're supposed to write final reports . All of us ? I don't know . Hmm . Hmm . Or is that just me ?

## Complete Meeting Transcript

You could change the vegetable, or fruit. Yeah. It's been a little bit difficult to um make sure that it's hand-holdable, and that the user can use it, you know, it's not too big. Uh but we think that this you know, this size will be okay and we will have to fit the battery case in there somehow. And I guess the only other thing that we really didn't talk about was or design yet actually, would be the um thing the locator. How how so Okay so that's just So you have to have a button on your on your you have to attach the button to the Yeah we have that that has yes yet to be designed. Yeah that c hey that that could you know match the handset. You could have a broccoli, or you could have a mango. So. Tada.

Mm. Yeah. Is it possible that we can bring this up on our own Is it meeting three minutes? No it's not minutes. Okay. Okay. Cool. True's one and false is seven. So it's actually a scale. Okay. Does it feel fancy? No. Yeah. Okay. One. Hmm. Um three. Yeah. So it's a one was true and seven was false? Okay, so you guys really didn't like it? I was like, why did you guys design it that way if you hated it? Yeah. One. Uh three. One. Uh two. Uh one. Yeah. Uh one. Uh. One. One. One. Two. One. Which one is that again sorry? Three point one? I think What if we just smash all the vegetables down flat? And like then it you could hold it in your hand better. Yeah. The flat one. Yeah. Yeah. I didn't yeah. But like if you just squash them flat like and you made it flat But it's still too big I think, in your hand. Yeah. Yeah like certain ones you'd have to limit the fruit selection, like you could probably do a strawberry still. I think the broccoli would be out. You could do, although the broccoli is quite comfortable, I have to say, like sorta like a joystick. I don't know. So Uh. Rhubarb. These obscure fruits. I think we needn't Huh? Oh okay. Yeah. That could work. Yeah. Yeah. I dunno. Yeah. 'Cause yeah no-one wants to hold a remote that's uncomfortable obviously. Or like I dunno, some of 'em you can kind of think see as like like you could if it was only this you know, if it was shaped like that, and it just had that. But you see the problem is you have to attach that, and this has to be detachable. So like maybe that's just too big because Yeah it's sorta like a joystick. I dunno. I guess Yeah. Dif Yeah. Yeah. Like uh we could do I'm trying to think of other sha like fruits that are oddly shaped. Yeah. Mm. Yeah. Yeah. Alright. We could tr I don't know. Cool. Well Yeah the broccoli I guess wins. We were a bit off task. Um so uh I can't think of any So we'll have to like Mm. Yeah I dunno. You could make the touch pad in th in different shapes, but then that kind of re-designs the whole project like, but you could do like Yeah that's true. Yeah. Yeah that's true. Mm. Hmm. I did. The prototype making was very creatively stimulating and I think we've come up with a product that's fun and meets all the criteria. I think you were fine. You did a good job leading. Yeah I think it more than anything we didn't really have our set roles so much, as we just would be like I don't know, all had ideas about it but yeah. No. Hmm. I felt like my I dunno if it was just my role, but I but uh I di I thought that my the information that was available to me was kind of just like or maybe it was just the idea that we had. But there's kinda it was kinda like okay, I don't really think I dunno what I'm doing here. So I didn't really think it was helpful. So I kind of just made up my own stuff and I didn't really like the PowerPoint presentations, so I kind of wrote a lot of notes instead. But yeah I d I don't really like PowerPoint personally, think it's kinda stupid. Yeah but uh Yeah. It didn't really yeah. So like a f Yeah I think so. Yeah I mean, it Yeah I kinda thought that um I felt like I would go and like try to use my information, or like I'd make this stupid little presentation and then like I just would end up talking about something

completely unrelated because I dunno I felt like I was off-task all the time. But um Yeah. I wanna s I I'd like to see what what it looks like on the Yeah I think I'd like to um I dunno. Like it was the I think the microphones are okay when you're sitting down, but like they're kinda clumsy I guess when you're like when you're s going up to the whiteboard like. Yeah I dunno. But they're they're okay. Uh I think, and I think that uh all this technology like I guess some people must be interested in using it but I can't imagine finding it any more useful than like looking at someone's notes, or like I dunno. Hm. I guess it would be it's gotta be worth it to I 'cause I'm just mostly curious about like what kind of person or like company would would really find it useful, 'cause can't really imagine, dunno. How about a p a? Um I dunno. Yeah. M meeting adjourned. I think it would be a good idea, I like it. Okay well um. So our design looks something like this. This being the wheel that you use to uh change channels or volume or whatever. This is a button, serves as the power button if you hold it down, and if you just tap on it I think it brings up the menu. And uh the base of the remote control, which has a squishy spongy rubbery feel,

is interchangeable. So you can change the colour, according to your to suit your living room or whatever. And it comes yeah, I can change the vegetable. This one's broccoli. So this snaps off and you can put on whichever one you want. This is not to scale 'cause it would have the battery inside it. This is a mango. The it's trendy fruit, it's not just ordinary fruits. You don't have orange, you have mango. Um I guess strawberry's not as trendy, but So we'll come up with a variety of trendy and exciting fruit designs for the remote control. And then people will be encouraged to buy three or five of them, because they'll need to switch 'em out. Mm-hmm. Well the locator is just chip that's inside there. And the beeper's also inside there too somewhere. Yeah we didn't design that. But it would be coordinating with that of course. Mm-hmm. My impression was that flat meant like like one of those square remotes. But it's really not very clear, because you got single curve and double curve and d I dunno what that means. One side is curved and then the other side is curved. Mm-hmm. No I think that's alright. Mm-hmm. Hmm? Feels like play-dough. I'm gonna say yes. I imagine they're somewhere on the front. We have a little case that you slip 'em in. 'Kay Five. Five. It's four if you wanna do that. It adds to sixteen, so that's four. Oh I thought she said five. Six. Huh? Wait a minute. I thought it was the other way round too. Sh Yeah I I was thinking one means no points, you know, all the way up to the top. I'll just I'll just reverse them all. It's no problem. I thought you guys hated it. Okay. Say two. Two. One. Uh two. Yeah I put it down as one point four for some reason. Mine has all kinds of problems. Uh three. Wait why did I put three? I meant one on mine too. Three point one. I have four. Three. One. Two. Three. Two. Mm-hmm. I think the wheel would probably be mm. I think the base would definitely be larger, 'cause some of these are not as easy to hold. They're kinda smallish. Yeah. Well if they're that s uh stress ball stuff they would be pretty squishable. Mm. Not that I can think of. Rhubarb. So it's just colour, and not necessarily the shape of a strawberry. We could make it that shape but just have different colours, and call 'em the different fruits. We went with shape because we were having fun with the play-dough. Mm-hmm. That everyone gave that a one or a two. Yeah they'd probably be either on the front or the side of the remote. No I imagine there'd be sort of a hatch door, yeah um like on a normal remote. So it would probably either in the f no it can't be in the front 'cause the I\_R\_'s right there, but it'd be on one of the sides probably. Yeah I'd agree with changing the shape. Um, I was ju

st having fun making strawberries and stuff. It might also sort of annoy people if we get used to having the buttons in one shape. I bet having different colours is a lot cheaper than having different shapes too. Sure. Sponginess. I think it was good. We knew what we were doing. It was a very democratic process and everyone got to contribute. Well you told us when to start and when to end, and that's all that matters. Well I'm not a big fan of any Microsoft, PowerPoint or any of this stuff. No no I never touch Macs either. I just use the Unix or the off market, sort of WordPerfect and all these other things. Yeah. Well the problem is if you don't like my new computer never has WordPerfect so I have to go track someone down who has an old disk and then I have to reinstall it. So I have all these documents I can't use now. But yeah I mean I guess it's okay. Yeah. I never use it. Yeah. My first bit of information was like this child's drawn picture of how a remote works. Yeah it probably does. Yeah. Yeah well mine was mostly made up except when they told me like you know titanium costs more than wood to make a remote control. As if you'd wanted to. Well I think it's interesting how it all went together, like I had the stuff about how me how rubber's cheap, and you have how people want it to be spongy, and It seems planned you know. Yeah. If I hadn't been told that fruit was They're pretty cool. They're kinda hard to write with though. They're nicer than the pen that I'm using, because like your stuff actually shows up here, rather than having to look at the screen and write. But even so, I dunno. Oh yeah. Well they drop off if you like move too much. But I don't think we're supposed to be testing these microphones. Maybe

we are. I don't know. Well the thing is, like I actually worked in a company, and I had a role and I had to go to meetings. And like the last thing I would have wanted would be to have to watch a video 'cause I missed a meeting. Like usually I missed meetings deliberately. There's just there's really not that much information that actually goes through a real meeting, like when you're actually at a real meeting in a real company. It's mostly like rehashing old stuff. And you're sort of going over general stuff that anybody who's sort of on task should already know. It's like the there's just really not a lot of information that goes through. It seems like way overkill. Like if I missed a meeting I could probably get it summed up in like one sentence. I wouldn't need to have to watch like a t two hour video with the sound and the transcript and I think I've learned not to bring play-dough to meetings. It's hard enough to get people actually paying attention. Especially if you have food. All of us? 'Kay. Hmm. Okay everybody. Welcome to the detailed design meeting. Um Let's see. Our agenda. Last time we discussed the squishy fruitiness of our remote controls and how we might pursue that. Um and I think looks like we've come up with some ideas. Um and we also talked about materials we'd use and what kind of chip would be necessary. Um so for later in the meeting I've done a a spreadsheet of production costs so we'll take a look at that. Um and see if it's changed at all from when we last discussed it. Um so actually I think Yeah um f you guys wanna give a prototype presentation of Oh is that broccoli? 'S a very bright strawberry. Oh yeah. Yeah. Oh. Um if you wanna look in your project documents folder, there's an Excel spreadsheet. Um the only one that's in there, production costs. And if you open it up. Um I've just stuck the numbers in, it was a real challenge there. But if I missed anything that we've gone over, or if you see something that has changed I mean, we decided on batteries, and the regular chip would be necessary for the more advanced iPod-like button. Um I said uncurved or flat. I think that's what you have there, is that right? For the for the plastic part would be Oh. Okay. Right. Well yeah. If we're

talking about the area just oh I d I dunno. I guess we'd have to contact the company that makes them and see. Um so what else? There's plastic for that area around the button. Um and then rubber would be the squishy like thing right? Um and lots of special colours actually. Uh scroll wheel. Do you see anything that I've missed? Okay so that would make our total of eleven point nine, which is even less than twelve point five, which means we'd be making even more of a profit. And if we sold a lot of squishy things. Boo yeah. Okay. S So Mm. Did y what did you work on? The Okay. Do you wanna Okay. I think that's Huh, the PowerPoint one? Yeah. Um we can do it separately and then discuss it if that's what people wanna do. Wait, one is true and so these are the questions we're answering. And one is One, right okay. If it's somewhere in between you put four. Okay. Are we just about ready? I don't think so. It's yeah the the marker thing kinda stopped working last time we Our animals will forever be there. Un unless you feel you need it t to okay okay. We'll Five. I I think we should Yeah. Yeah. Six. I wasn't cheating I swear. Uh. Oh I thought it was the other way round. So we do have about the same thing, we just have it the other way Oh gosh. Okay. Well Yeah. Yeah. Yeah. Three. Two. One. Two. Two point I think I missed two. Wait, is that two point one? One point four, one point five. Okay right that's I have two of them. One. Yeah. Yeah. Three. Three. Two. Five. Four. Two. Okay. Um No no that's um I think we should look at the ones that like where s where people said four, where um it looks like we might wanna discuss changing an aspect of the remote. The that was material. Mm. Um Mm-hmm. Does the shape See I'm having I'm having trouble imagining the is it uh gonna be the size, like the the controller? It or bigger? Because Yeah. No but I imagine even if it was bigger, like if it's round and it's big then you you can't get that's why remote controls are long because you have that thumb kind of so c they could all be bananas and cucumbers. Um but I don't s I I personally don't think this is comfortable to to sit there, like it's an awkward position. Yeah. And would it even resemble fruit



that way? I mean Yeah. Yeah. Yeah that I I when you were holding that before, it actually looked yeah. Yeah. What if um the it was just patterns on like we we chose the shape or the sh shape could be whatever we wanted and then it would just be like a design on the rubber. You know like like just a printed yeah or coloured yeah. Or I mean we could even have fruit like around I mean But if we if we need yeah. And if we wanna incorporate the fruit thing somehow, there might be I mean if it if it in if it uh conflicts with the comfort of actually holdi holding the Mm. Yeah. Yeah. Well see th the reason the broccoli works is you can kinda hold it like that, which is a nice kind of yeah. But I mean is there some way we could make it this kind of shape? 'Cause like kind of Yeah, yeah. Or like even Or even like Yeah like you said, like a joystick like that. You know? 'Cause that, I think I mean that fits the whole round iPod idea. And you still have the comfort of holding it like that. And you could like if it's like this, you could put fruit designs and stuff on that part. But I mean it do we have any other ideas about that? The batteries are going in the back? The reason I I ga I didn't give it a one I think I gave it a three because I thought you'd have to like unc clip no you could Just like any other one. Okay. Yeah. Right. Okay. Mm. Okay. Yeah. And it would probably cost more to produce, 'cause they're irregular. Yeah. Which is why printing might be like just printing the fruit on fruit. Mm. Not really Well we've done finance evaluation criteria, production evaluation. Um so project evaluation. I guess we're supposed to discuss um the prod the process of the project and how satisfied oh, oh it's alright. Uh. Yeah. Um Did you feel there was a lot of

room for creativity in the sort of Yeah. I mean fruit and squishiness. How c more creative can you get? And how was our leadership and teamwork? Well I thought my leadership was crap personally. Excuse me, am I allowed to say that? Yeah. Um. Yeah, well I'm never gonna do a management position, I know that now. Um yeah, I thought we all worked very well together. Yeah. Yeah. Very democratic. No spats, that was good. Um and the means for like the materials we used, how convenient were they? Like the the pens, the whiteboard, I mean we used Are you a Mac person? Huh. Mm. Yeah. Yeah. I can't say I found everything particularly helpful. Like I It Really? I mean m my problem yeah, yeah. 'Cause my problem was, you guys had access to like they'd put send you to sites and stuff right? See I couldn't do that, so I didn't really know what you guys were doing. And when you were talking about it I was just like you know that's wh that's why I seemed so ignorant when when you were j explaining things, 'cause I Yeah. Yeah. System. Yeah. Yeah. Yeah, huh. Yeah. Yeah. Well I mean we really got into talking about like personal practicalit like it wasn't necessarily what was like we would never have thought of fruit or sponginess you know? So it's Oh right. given certain information or Just yeah. Mm, mm. What do you guys think of the pens? It asks about that. Mm. Yeah and I I've f forgotten once or twice to check the box. Mm. And new ideas found? Yeah. Mm. Yeah. Yeah. Yeah. Seems kind of like an excessive reiteration. Yeah. Yeah. Yeah. Well does anyone wanna talk about fruit more while we still have time? Any other ideas for Um we still have time if there's any other input. I mean the I think we did really well personally, which is why we've you know, gone through this so quickly. 'Cause I mean we've all we all kind of agreed our product is satisfactory, it fits the budget, and it's trendy. So. Um. So I think that's all for today. Meeting adjourned. Yeah. So I guess we're supposed to write final reports. 'Cause I don't know. Hmm. Hmm. Or is that just me? Um evaluation criteria. I've got a presentation. So I need where's the cable? Right what happens is we have to um decide whether this this whole this whole project we've been working on actually um meets the standards we were set at the start. Um. Right. This doesn't okay. Um the method is we well I've analysed the user requirements and integrated them to the trends found in marketing reports and in our company strategy marketing. And um the findings were that we need it to look in a certain way, feel in a certain way, and this is everything's listed down. Um,

look in a certain way, feel in a certain way, it has to be technologically innovative and it has to be easy to use. These are all things we looked at at the start, um and criteria that have to be met. We have to use a table, I'll show you that later, together to decide whether it meets the standards. And we we have therefore in total um We have five we have eleven points according to which this should be evaluated. And um the cri well basically the findings are the same as the evaluation criteria. I would like to show you the table we have to use. Um. No. This is the table. Can you see this here? Um so the que the questions I've given you c could you write that down? True is one and and false is seven. And we'll just go through each point together, hopefully. Um. I think if each of us gives an opinion then they can be mixed somehow. I dunno how it works exactly, I haven't been told. Yeah it's in the um it's in the project documents. It's called evaluation criteria. And it's under evaluation. Yeah. You've found it all? So it was um Yeah true's one. Do you want us to discuss this together or do you want us to do it singly? Yeah okay. Um, yes it's if it's fancy you put one, if it's really unfancy it's seven. Yeah, something. They shouldn't really be questions. Should be more like Are the batteries easy to insert? Yes? Very very true. Okay. Ok

ay. Apparently I'm supposed to use the whiteboard. Do we um is it necessary? We'll just do um Yeah. Okay. I don't feel any right um Right so one point one? We'll just go in a circle. Right. Ooh I don't know. Right. One? Five. Two. Okay so do we just add it up and divide it by four? Is that what the company does? Yeah? Oh no. It adds to thirteen. One five five two. One five five two is thirteen, over four for now. I think that's um next? Really? Two. Uh-oh. Right. One point three is Yeah. I really Well uh Yeah yeah. It was one is true and false is seven. I should've kept the table up. Right, well I'm glad this came out. Yeah. No. Oh that's quite funny. Okay. Okay. So, starting again, one point one? Two. Okay, one point two? Two. Okay. Um, one point three? Ha. Two point one? Yeah. Oh dear, okay. Sorry. Two and one. Sorry about that. T two point two, which is one point five. Okay. Three point one. Is that correct on my slide? Yeah? One, four, three, three, three point two? Three point three. Four point one? Two. Four point two. Two and four point three. One, two. Right so I put one on that. Okay I'll um I'll just do the calculations now if you want to continue. Or is it tedious? I'm I'm sorry this was so tedious for everyone. I didn't know how else to do it. Okay. Well the worst ones were three point one. Do does every ones have the slide? Three point one. Slide show. Material technologically innovative, okay. Um, do you want to change it? What are the suggestions? I don't know, anyone? Yeah that it's three point one was not that good. Four point one. The shape. Four point two? Yeah. That looked really good. Are there any fruits that look like broccoli, no? I think that broccoli is my favourite actually. Uh despite the Yeah. Yeah and just have the colour match or something. Mm. Yeah. Yeah. Yeah. Um Think the critical ones came out to be yeah that one.. Batteries easy to insert for some reason, which can be easily I think that's not a problem any more. No. I think everyone's under three anyway. So I think it's yeah those are the only two points. Yeah. Do you want this and we can all No. It's alright yeah? Yeah. Yeah we didn't we uh it all c sort of blended quite well. Which isn't very user-friendly though. I though it was brilliant no? No mine was really helpful as in my stuff was quite helpful I think. I think it depends on the role no? Yeah. But it must have been quite difficult for them to build a whole um a whole system, 'cause of course they can't give you uh uh anything comparable to the internet for the Yeah, yeah. No. But I think that it might be to see whether people actually all come up with the same thing. Yeah, like if everyone's given the same input I don't have a clue, anyway. Um what's next? Looks like oh no that's not um It's quite Yeah. Yeah it's all very new, no? It's all very new. Sorry. What what's the end? Are we are we supposed to um you supposed to write a report? Or we ending? Is that the end? End of meeting. You have to tell her, she Okay we have to fill in all this stuff. Stuff stuff stuff. Yeah. Well there's al eight, nine.

Ooh. Oh ooh.

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# Meeting ID: 60

Data Source: Train

## Executive Summary

my name's Adam Duguid , Ebenezer Ademesoye . I'm the Marketing Expert . Tarik Rahman . T\_A\_R\_I\_K\_ . Uh , Dave Cochrane . And you're going to be the User Interface , This is the agenda for today's meeting . As you can see , w opening , acquaintance , tool training , project plan discussion , and closing . the reason we're here , we're gonna design a new remote control , The very broad overview is original , trendy , and user-friendly . We're gonna have the three kay phases , the functional , architectural , and the detailed design . Um First one's gonna be covering the user requirement spec , technical functions , working design . Second seems to be conceptual components , properties , materials , and the last one is a detailed analysis of our design so far . Ebenezer , you wanna have a you wanna draw your favourite animal ? Here we have an elephant . Tarik , would you like to have a shot at a bit of artistry ? Uh , here we have a tiger . Uh Dave , if you'd like to uh have a dash . Um Um , the monkey , um . but uh cats are one of my favourite animals , Project finance . As you can see , twelve point five Euros per unit . and we're hoping to sell them for twenty five . If we're aiming for fifty million Euros we're gonna have to be selling an awful lot of them . that was profiting , Any ideas of where you think a new remote control could go into this market ? one thing I'm aware of is , th there uh um at the sort of v very high price end of the market there's there's a em emerging market for sort of touch screen L\_C\_D\_ remotes that can be uh programmed in m much more sophisticated ways than sort of conventional models , Um b it occurs to me there might be a niche for uh for a remote that aimed towards some of that sort of functionality but using a just conventional push button design . And therefore putting it into a um well much lower price bracket . with the price range we're looking at , going for a touch screen would probably be possibly out of our Absolutely prohibitive , But you think uh again something to control multiple units in uh a simple fashion . I mean you get ones that you can switch between multiple units , and ideally something into which it would have some at least limited facility for um running macros . Would the the idea something along the lines of , one on button would turn on say the video recorder , the T\_V\_ , maybe the sound system as well , all in one go , is that kind of you pr uh you press uh say the play button for the D\_V\_D\_ player and it turns the T\_V\_ on and onto the right channel as well , um um I've noticed that uh gaming c is becoming quite popular with television , we used to e play games using our cable , using the cable subscribed the cable providers , but our remote controls would get worn out really easily , I've seen the bar-code design before , Instead of people entering in what time things start , you

simply stri slide a bar to say what time it begins , and the remote control was not a great kind of keyboar , um keypad , for playing games . I think for gaming , you know you want you want some big buttons for up , down , left and right , shoot . Uh , you wanna be able to change angles in interactive television , so we'll have to try and decide on some of the basic functionality , that'll be a key aspect especially if the idea of um some kind of macros facility do you think they should have some sort of stick on it , rather than buttons ? Like uh control pads , you know of games , and that could allow n easy navigation , used as a joystick as well . Mm-hmm . The other key feature that uh that would be a good idea built into it is t is is to make something you know fairly sort of ergonomic , um , how the user interface might work , something that just fits fits as comfortably as possible into the hand . But of course , uh al al also allows for the possibility of a more sort of slightly unconventional or attractive uh sha shape for it overall , . small , stylish , and something that's just a little different . Something sort of sort of sl slightly sort of biomorphic in form , I'll write up what we've um kind of quickly done , and I'll get that out to everybody .

## Complete Meeting Transcript

Uh, Dave Cochrane. User Interface Defin Designer, yes. Um Um, the monkey, um. The one f uh in fact this is a somewhat oblique reference in fact to uh well my I have a three uh three y year old daughter who h who who who is affectionately known as Miss Monkey. Um, monkeys have attitude. Which I think is a good thing. And I mean fr and from uh from the point of view of sort of the study of human evolution they and other primates are terribly interesting. Um, so I like monkeys. And and th th th th thi thi this one seems to have perhaps more attitude than most. Well, one thing I'm aware of is, th there uh um at the sort of v very high price end of the market there's there's a em emerging market for sort of touch screen L\_C\_D\_ remotes that can be uh programmed in m much more sophisticated ways than sort of conventional models, so you get the sort of you get um you you can redesign the interface to your own needs, you can programme in macros, and you get a much greater degree um um I mean you get in these sort of three in one, five in one, whatever, but you can get integration between the different uh the the the diff the different things that it's designed to control, to a much greater extent, and you can have one uh you know one macro to turn the uh you know turn the T\_V\_ to the right channel, get the uh re uh rewind the tape in the V\_C\_R\_ and get it to play once it's rewound, for instance. Um b it occurs to me there might be a niche for uh for a remote that aimed towards some of that sort of functionality but using a just conventional push button design. And therefore putting it into a um well much lower price bracket. Absolutely prohibitive, yeah. Yeah, I mean I wouldn't like to say you g I mean you get ones that you can switch between multiple units, but something that could um operate between multiple units in a more integrated fashion. Some and ideally something into which it would have some at least limited facility for um running macros. For instance, um let's say oh oh um, or um you know you pr uh you press uh say the play button for the D\_V\_D\_ player and it turns the T\_V\_ on and onto the right channel as well, um Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. The other key feature that uh that would be a good idea built into it is t is is to make something you know fairly sort of ergonomic, something that just fits fits as comfortably as possible into the hand. But of course, uh al al also allows for the possibility of a more sort of slightly unconventional or attractive uh sha shape for it overall,. A curve, mm-hmm.

Something sort of sort of sl slightly sort of biomorphic in form, uh which it would need to be to sort of conform to the shape of the hand more efficiently anyway. Tarik Rahman. T\_A\_R\_I\_K\_. Industrial Designer.. Do we take them off? Oh right, okay. Ah-ha. Now where do I put the Is this supposed to be clipped as well? Uh, destroying your elephant here. Uh, here we have a tiger. Uh I've always loved tigers. They're just they're big, they're biggest cats, uh I did a project on cats in the wild when I was a kid and uh it was my favourite cat, just 'cause it was looks the best, the stripes, orange. My dad used to talk about he's from Bangladesh so he used to tell me all about them when he was when I was a kid. And uh they're just the most feared of of uh animals in the wild. So uh that's why I like them. Didn't say an anything about me really but Mm. 'Kay. Well when you're talking about gaming and stuff, do you think they should have some sort of stick on it, rather than buttons? Like uh control pads, you know of games, but or is that a bit ridiculous? Yeah.. Okay, well I think we're ready to begin. Right, my name's Adam Duguid, we're here because of real reaction, um, we have in the group Um, yeah, go for it mate. N\_ E\_ Z\_. Ebenezer. And your role is? You're the Marketing Expert, okay. Next we have? T\_ R\_ I\_ K\_. And your role in this is? Industrial Designer. And, lastly we have? And you're going to be the User Interface, is it

? Designer. Okay. Right. This is the agenda for today's meeting. As you can see, w opening, acquaintance, tool training, project plan discussion, and closing. Um, we already got n through opening, and partially through acquaintance. So, the reason we're here, we're gonna design a new remote control, as you probably all know. The very broad overview is original, trendy, and user-friendly. Course, we'll have to go into a bit more um detail than that, but uh personally I think that the original is gonna be a very key aspect to this design. Um, there's a lot of remote controls out there anyway, so we're gonna need something that's really gonna set it apart. This is how today seems to be going to work. We're gonna have the three kay phases, as you've probably already been told, the functional, architectural, and the detailed design. Um First one's gonna be covering the user requirement spec, technical functions, working design. Second seems to be conceptual components, properties, materials, and the last one is a detailed analysis of our design so far. Of course, you've all got the similar emails, I believe, right. What can I say? Ebenezer, you wanna have a you wanna draw your favourite animal? Brilliantly done. Thank you. Tarik, would you like to have a shot at a bit of artistry? Oh, um, you can clip them to your belt. You should also I um have your the lapel mic on as well. Yep, the, it's just across there, that's it. Yep. Yeah. It'll follow you if you You can probably just stick it in your pocket for now, I wouldn't worry too much. Should have good range. Excellent, thank you very much. Dave, if you'd like to uh have a dash. Cheers. Hardly what I'd call the best drawing in the world but it'll do for now. Also not quite as feared as your average tiger, but uh cats are one of my favourite animals, they're very independent, they're snotty as hell at the best of times, and uh, what can you say, you got to love those qualities in an animal. Right. I think we've all managed to master the whiteboard there by looks of it, so, on to it. Project finance. As you can see, twelve point five Euros per unit. That's not a terrible lot as far as I'm aware, and we're hoping to sell them for twenty five. If we're aiming for fifty million Euros we're gonna have to be selling an awful lot of them. Yep. Well, fifty million, and if you're making twelve point five Euros on each one, then, awful lot need to be sold. Okay. Now we better actually just get on with the uh the meat of the project. So I'm gonna guess that we've all used remote controls. Any ideas of where you think a new remote control could go into this market? Okay. Okay, yeah, tha that's true, with the price range we're looking at, going for a touch screen would probably be possibly out of our yeah. But you think uh again something to control multiple units in uh a simple fashion. Would the the idea something along the lines of, one on button would turn on say the video

recorder, the T\_V\_, maybe the sound system as well, all in one go, is that kind of Okay, that sounds like a good strong idea. Um Any takes on this? Okay. Okay. Yeah I've heard I've seen the bar-code design before, yeah. Okay, well we're beginning to run out of time now, so, we've got a couple of ideas, we can we'll have to work fast, um, alright as you can see we've got thirty minutes until the next meeting, so we'll have to try and decide on some of the basic functionality, um, how the user interface might work, that'll be a key aspect especially if the idea of um some kind of macros facility because you have to program it, you have to have a lot of response back, or at least some kind. Um And we're gonna maybe n try and have to figure out what the user wants, yes. Um, right. Has anybody got anything they'd like to add at this stage, anything they think that might have been missed so far? I I don't see why not, almost everybody is probably used to a console by now, and all of them incorporate small keypads on them, in fa

ct even the mobile phones these days are beginning to use them as well, so it's probably an interface that most people are used to. Um and that could allow n easy navigation, used as a joystick as well. Okay. So, small, stylish, and something that's just a little different. Okay. That's definitely something that we should be able to do quite easily. I would I would have hoped so anyway. Um, right. I'd say we finish this one up, we get started, I'll get in, I'll write up what we've um kind of quickly done, and I'll get that out to everybody. Yeah? Okay. Um, as far as I'm aware we leave the microphones here, um unless we get told otherwise, and just take the laptops with us. Oh, Ebenezer Ademesoye. Would you like me to spell that? S Um, N\_E\_Z\_ E\_R\_. I'm the Marketing Expert. Sure. Whiteboard. 'Kay. S okay. I will make this quick, since we don't have much time. Um. 'Kay, so it's not the best picture in the world. Here we have an elephant. First point, begins with an E\_, same like Ebenezer. Also, elephants have a very good memory, much like myself, and I can't remember back when I used to live back in Nigeria, but I think I used to have a pet elephant. So elephants are big, strong and gentle, and they have great memories, and they begin with the letter E\_, just like Ebenezer. Thank you. Oh. Oh oh I think you ga The little The the Oh that's good, we can clip them on. Okay. Yeah, there was this microphone as well that you Just um somewhere I think so. Yeah. There you go. Oh, that was profiting, that was an amount, so that's the amount made, okay. Yeah. Oh. 'Kay Well um I've noticed that uh gaming c is becoming quite popular with television, um when I was younger we used to e play games using our cable, using the cable subscribed the cable providers, but our remote controls would get worn out really easily, and the remote control was not a great kind of keyboar, um keypad, for playing games. So perhaps one that was more um specialised for game playing or interactive television. They they've recently brought out this new remote control, for people to set their favourite channels, or um to record things. Instead of people entering in what time things start, you simply stri slide a bar to say what time it begins, and slide another bar to say what time it ends, you know that's Yeah, it's it's taken out the Y you don't have to be uh really clever to use a remote control. I think for gaming, you know you want you want some big buttons for up, down, left and right, shoot. Uh, you wanna be able to change angles in interactive television, so you need buttons to change the television angle, the camera angles and stuff like that. Yeah. What the user wants uh. Okay. Oh. Okay,. Mm-hmm. 'Kay. So..

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# Meeting ID: 11

Data Source: Train

## Executive Summary

When this functional design meeting opens the project manager tells the group about the project restrictions he received from management by email. The marketing expert is first to present, summarizing user requirements data from a questionnaire given to 100 respondents. The marketing expert explains various user preferences and complaints about remotes as well as different interests among age groups. He prefers that they aim users from ages 16-45, improve the most-used functions, and make a placeholder for the remote. The industrial designer begins explaining the working design. He talks about existing products, most of which use infrared since it is simple and cost-effective. He suggests adding a speech function, when someone asks where the remote is and it beeps. He also explains the various components, materials, and energy sources of a remote, giving preference to a remote with multifunctional buttons and without a receiver. The interface specialist presents, talking about the possible components of the remote and concluding that the remote should be simple and accessible without too much functionality. The group continues the meeting by having discussion about the possibility of a touch screen, LCD, and other functions. The group closes the meeting and goes to lunch.

## Complete Meeting Transcript

Hello. Hi. Yeah. It's too beautiful. A minute please, my uh laptop is uh oh, there it is, thank you. So welcome back. At the functional design meeting um the plan is uh that uh each one of you, so not me but only you uh will uh present uh the the things you worked on uh the last uh half hour. I will uh take minutes and will put uh the minutes that I have uh at the end of the session in the shared folder. Also the minutes of the previous session are also in the shared folder now, so you can read that uh now or afterwards. Um uh I had an email from the from the management board uh, I don't know if you a al also uh received it, but there were four points uh which uh I think are very important. First one is uh they think that uh teletext teletext becomes outdated uh and internet will be the the main uh focus. Uh second one is also important uh, because it's one of the discussion points of the previous session. Uh the remote control shou should onl only be used for the television, so it uh not gonna it's not gonna be a



multi-purpose remote control, so uh that's one thing to keep in mind. Uh second, and I think that's important for the Marketing uh Expert, uh the current uh customers uh are in the age group group of uh forty years and older, but with this uh new remote uh they uh will uh would like to reach uh a group uh younger than uh forty. Uh and uh I think to keep in mind, but not really uh for now is that they uh want the the slogan and the and the logo uh to uh to be recognised more in the remote. So, we have uh forty minutes, so I think uh not more than ten minutes uh uh per presentation uh each, and please uh use uh all the the facilities so that you have either SMARTboards, the the Word files, what you uh whatever you want. So uh Tim, can you start? Yeah? Mm-hmm. But it's strange that the the manage board the management board said that the teletext will be uh outdated by the internet. So that that's strange. Yeah, okay. Yeah. Okay. Yeah, okay. Yeah. Yeah. Yeah, that's a cool idea. Yeah. Thank you, Tim. Janus, can you uh Okay, thank you Janus. You do? The last presentation. You have plenty of time, Tim and uh Janus don't uh talk to ten minutes, so uh take your time. If you take your time too long I will uh eventually uh warn you. Uh you you just said um uh you wanted to to combine more functions in one, so uh you you want to keep it simple, but I think that if you want to do that, then you can't escape the the fact that there will be buttons uh which give s uh more options than one. Mm-hmm. Okay. Yeah. Mm-hmm. So you think it's will be better to have a t kinda total touch screen. Jirun? Yeah. Yeah yeah yeah. Yeah. Yeah. Yeah. Yeah. Okay, yeah. Yeah. Okay. But let's not uh go too wide about the those things, that's that why we're here. It's it's a nice idea, but I think that's we wel later in the stage. I've one little question about um a total touch screen or uh um a p yeah, a partial, uh because I think uh elderly people may be uh not used to uh a touch screen, so they want the the the normal functions like teletext, volume changing, um uh to be uh, yeah, kinda traditionals uh and uh the the the other functions, the more difficult functions uh to be uh maybe on the touch screen, but to keep this as uh normal as possible, to keep it accessible. Yeah. Yeah, that's true, that's true. Yeah. Yeah, that's true, yeah. Yeah, yeah yeah, yeah, that's a good point. Yep. Mm-hmm. They like the fancy stuff, yeah. That's true. Mm-hmm. Mm Yeah. Okay, as you can see uh the minutes from the second meeting, this one, are uh are done. Uh I've uh added the this uh four things from the management board just to keep in mind. Um each time I uh I had a sort of uh summary on what you told and uh what you personal think. Uh so that can be uh can be read out. Uh a f a few things I uh I noticed uh were um Moment. Ooh. Uh th the the main points in uh this uh uh in this uh meeting is I think uh how uh it's going to look uh with uh we must ke

ep it simple, but have the opportunity to uh have more options and have them uh hidden or something, so they don't uh you don't have a big uh thing full of uh buttons or uh um and uh the point that uh you uh wanna use one uh controller uh for uh uh hypothetically each television, so you must uh the the the the functions, know, like the menus or the the parental control must be all uh by the done by the remote control and not by the television. I think that's the point what uh we discussed. Yeah, but you have uh uh an yeah, but you have an international market range, so you have I think a big range of Yeah. Okay. And it's not too complex to do it. Yeah. Just build it in. Yep. Okay. We have five minutes to go. Yeah. Yeah. Yeah. N yeah. It's very sensitive. Yeah. Okay well uh it's almost at the end. So we have now a lunch break, finally, yeah. Uh after the lunch break uh it's back to uh individual work, once again uh thirty minutes. Uh I will put my minutes uh I have updated them so uh s they're updated in the shared folder too. Thirty minutes, the Failure. Uh uh the specifi uh specific instructions for the next uh meeting you will all will receive uh at the uh the the email. I don't think I can uh say much about it, so uh uh wait for your email and uh hopefully you get it done uh in the in the thirty minutes, and I w will see you after the lunch break and the thirty minutes. Yeah? Uh well uh thirty minutes. Uh, yeah. Thirty minutes lunch

break, yeah. Oh. Forty five? Uh then would it be uh one o'clock. Or we we ask our personal coach. Okay. Thank you. Thank you, uh that was a very uh good session I think, we uh we Uh ye well Yeah, because uh all uh things are uh stored in smart board dot uh X\_D\_K\_ and that's in No. Well I can I can uh You all uh have the the questionnaire again about uh the after work. Deskt Huh. No. Project documents, yeah. Okay, thank you. Uh well, it's it's simply filling oh no, it's uh it's also filling out no, I'd do it after lunch I think. I'm hungry, so do it after lunch. Thank you all. You're welcome. Yeah. Well I bring it to my uh personal room. My executive uh big room with the with the panting. Hi. Yeah, true. Mm. Mm-hmm. Okay. Yes, I can go ahead. Last presentation. Okay. Well, I'm going to give a presentation about some of the technical functions of these design and uh usability functions. Um what's my opinion about what's most important to combine the design, technical possibilities and the user friendliness in one, so if you um going to design a remote that looks good, that shouldn't weigh over the uh if it's possible to make, of course, but also the user friendliness, so tha that's that's some of the main points. And another one is um the use um of many functions will will make it more difficult, so use as as little functions as possible or at least don't display them all at once on the same remote. If you have fifty functions you don't want fifty buttons uh t uh to be shown at the same time, 'cause when you visit an internet uh site you don't want fifty links uh to see, but maybe use a hierarch hierarchy uh structure. And uh well one of the ideas was maybe uh use touch screen, but s I don't know in how far that is possible, since we are sticking to uh um infrared and and the remote cannot receive anything, but uh we might uh consider that. Um well, of course I I hope this is all clear to you. If you you can use remote like this with all the functions, many functions, but Well, your thumb is a little bigger than th it than this. You have to be very careful what you push, and um if you're looking for teletext you'll be uh searching for half an hour from uh um yeah well, where is it? Where the hell he here I guess and, yeah, when you have to uh use something else. So just keep it simple, make clear buttons, easy to use. For example if you want to use a play and back and stop, that's very important. Um well this was because of our last discussion, if multiple machines are used, create easy switch betw

een the machines, but um it's no longer uh applying. Well yeah, I prefer to use it only for T\_V\_ and um n uh not to give too many options and and if possible, uh the buttons should give a dr direct action, not first select Yeah, and so that's where the difficulties lie. Yeah, this so that's the thing you have to weigh against each other. Do we want to use a few options and might not be so or original, or uh multi-purpose as we thought, or do we want to use um many buttons. So um weighing those factors. The doesn't. Yeah. Yeah, but when all the questions I had Do we want to use uh a menu display on the T\_V\_? Or um does have to f everything uh be in remotes? 'Cause if you use a memory display on the T\_V\_, you can simply push uh a more menu and then select the options you want to have and press okay. Uh so that's my recommendation, if you use many options in one buttle button, um display the menu on the T\_V\_ and don't um use combination of t of two buttons at the same time or pressing buttons three times for five seconds, is too complicated for most users. Yeah, that will be a problem. Yes. So if we have to stick with current technologies and uh um well yeah, the restrictions of what's uh is on the market today, um you should keep it s at this. Use big clear buttons. Not too many. So maybe we'll loose a few option uh options, but I think i this is more important. Um especially the important buttons, um if you want to switch channel, change your volume, uh use teletext, it uh it has to work at once and more advanced options may be put it s somewhere away on the remote, behind uh a little uh little thing or a touch screen. And yeah, if you want to uh uh s put on stand-by or change the channel, that should always be possible to do. Not first change menu options or switch something. Um, well yeah, as you already told, give some feedback. If the user is pushing a button he should know if the

television or n at least remote is reacting and not just that the batteries may be low. And um, well, my conclusion is uh is uh less is more, keep it simple. So uh maybe we should just ease down on the functionality to uh to keep it accessible on t because you all know, if there are a lot of function on the the television, some you you'll never know uh and never use, and therefore it's uh important if you want to change the volume or channel that is always accessible and easy and other functions um that are not so important um well you we should consider just not using them or at least putting them somewhere on the remote where they're not in the way for the for the most important functions. Maybe that's an option. Um keep the primary buttons visible. Uh make a remote that fits easily in the hands and for some design issues uh well, put a logo on it and maybe use it uh in some aesthetic uh aesthetic form. But uh th the important buttons m make them always accessible and pushable and clear and maybe use a touch screen, or if that's uh will become too difficult just uh like televi some o older telephones use a l uh maybe it's possible to to flip them open and uh just expand the number of options that are normally visible. Um Yeah. The extra functions, you uh you just see a menu from system functions or teletext functions, and you just choose one, and then all all the options will become available and you just c s yeah t scroll through them. Well um then I'd like to make a proposal. If you make one big touch screen, use the same concept as here, keep the buttons always available and use the lower part of the touch screen for the rest. Yeah. Yes. Okay. Okay, I agree, but I think it's very important that they always um make the same buttons accessible, so use just for special options a part of the touch screen. And so um an elder designer picks up th the of an elder parents or grandparent picks up the remote from the little child and who's all in the systems functions, you'll have to have the possibility to turn off the T\_V\_ or to switch the channel wi

thout um well using all the menu structures to get back to the primary functions. Mm-hmm. Yeah. Yeah wh Is that possible to use or no? Well, yeah well, does it have to depend on the television? Well, I think that he means that um maybe by some option uh make sure that um remote control and the T\_V\_ match, and then after that you can um use some s insert some passwords as being apparent that the children cannot use this uh change the settings of the T\_V\_, like colour and then volume and uh Mm-hmm. Oh, something like that. Well b but make it a separate option in the menu, so that it's it's dif displayed from uh displayed here, so uh parents uh Yeah, you can de display it on the on the old style. You can display actual buttons on the touch screens. Yeah, okay. Mm-hmm. Mm-hmm. Yes. Well you can use um when you uh how do you call it, s um synchronized, the um remote and the T\_V\_, then there's always, there are always uh possibilities to change the colour and the brightness and the volume and um well maybe we can look out if there's options that the remote um in its memory can see what kinda T\_V\_ it is, from ah, it's a Philips, this and this and that, and then give the options that are capable the capable from the t Well there are universal d um um remotes and they all have a functionality for all the T\_V\_s, uh so this wouldn't be a extra feature to incorporate the men menus of these. Yeah. Yeah. Well Yeah. Mm-hmm. Oh um mo no, you can just say uh the c Yeah. In codes, y you you get a b a book with codes. You look up, I have a Philips H\_ fifty five and it says press code four five five and you press code four five five on the uh in the remote and it displays all your uh menu options. Memory in the in the remote. Yeah, well um if you look at the um manuals from universal uh remotes, there are maybe um three four hundreds T\_V\_s at maximum. If you have all of them, all the old and new T\_V\_s summed up, so uh I think uh it is possible. Yeah. Well then you have to buy a new one, it's very good for marketing Maybe, or an update, software update. Firmware update, you say. Yeah. Well, at uh you can go back to the shop and uh they Yeah, ser o and they can download it for you. Mm-hmm. Yeah. Well already digital information is sent t to the the standards, T\_V\_ uh

connections, you can see what's uh programme is on on the new uh channels, so maybe j they we can send that information along with standard T\_V\_ uh Receiving. Oh yeah. Yeah. Difficult. Yeah. Yeah yeah, uh s I think some I think it's good idea, yeah. Yeah. Yeah. Okay, let's uh save this in the meanwhile uh Um m for which one are we going? My mistake. That one or uh Your vote and your Okay. Well, I was uh doubting about which one to take, but uh you've convinced me that uh if you di display buttons about the same as they would look on a normal um remote all elderly people will know what to do. Opens up is too difficult or uh Break it, I don't get Oh so Yeah. Yeah. A quarter to one maybe? Okay. Yeah, is it possible to store this on the share documents or what 'Kay, save it as an image on the res No, and use an image if possible. J\_ PEG. J\_ PEG. Yeah, it's better Yeah. Oh yeah, it's not connected to the to our P\_C\_s. It's connected? Yeah. It gives the na Oh. Yes. The questionnaire, fill in uh we fill out d after lunch or uh Okay. Yes. We can leave the P\_C\_ on I think, yeah and return to the Yeah, bring to I gotta bring it home. A big office. Yes. Hey guys. Too wicked. Okay. 'Kay, welcome. I have some uh new findings on uh Marketing Expert level, which I will show you. The method I used was um giving orders to our usability lab uh to do a questionnaire. Um one hundred respondents were involved and my marketing uh department generated a report with a lot of results. Um, these were a couple of findings, first page of three. Um, we have three audiences of two audiences, I'm sorry. Uh the first one, this scale, from sixteen to forty five age. Uh the second one is from sixty four uh forty si

x to sixty five. Um, as you can see here, the market share for the first audience is about sixty percent um sixty five. Uh second audience audience is uh thirty five percent. Mm and some interests from the from the age groups, uh it seems like the young users of remote controls really like the fancy uh new technology stuff, like uh an L\_C\_D\_ screen on the remote control, um speech recognition. I don't think that's uh really appropriate. Um, and when you see uh the audience, the age is going up uh Yeah, they don't really want it anymore, at least the new technologies. Second findings out of the questionnaire um are the opinion the opinions uh of the audience about current remote controls. First point is, seventy five percent of the users find the most repo remote controls very ugly, uh and eighty percent of the users would spend more money when a remote control would look fancy. So that's maybe something for the User Interface uh Designer. Okay, third findings. According to the frequency of use versus importance investigation, um following buttons are most important. Um, I will tell something about the way this uh this test was, yeah, done. Um, persons were asked uh what the buttons were uh they use most, how much an hour, and uh in the second table the importance of those buttons. Um, when you multiply them, you get the these three points. Switching channels, um yeah, that's pretty uh pretty normal, that's what you do with a remote control. Um the second, teletext, uh and the third, uh volume controls. Um, I think it's good uh that we know what the user want wants, uh at least the these three points have to be uh very clear. Yeah, okay. Yeah, okay, but uh at the moment uh teletext is Yeah, th the best thing you can get uh on T\_V\_, like getting information. So uh, when you ask people, what do they use, they use teletext and not the internet on a remote control. That's ridiculous. That's a ne i it It's a new technology, but it's not incorporated right now. Okay, my personal preferences. Um, I think we should aim at the uh audience from sixteen to forty five. Mm, first of all um it's the biggest share, the biggest audience, sixty five percent. Uh second, I think you will get the most revenue from i from it. Um, yeah, people from sixteen to forty five watch a lot of T\_V\_, more than uh people who are el uh elder. Um second point, we have to impro improve the most used functions, as I said here, switching channels, teletext and volume controls. Third point um that came out of the uh of the questionnaire, uh people used to uh get lost off the remote controller, so maybe it's an idea for us uh to design ex kind of

placeholder uh on side of the, yeah, of the T\_V\_ where you can put the the remote control in. Um, that's about it, I think. Yeah. Uh not not the r not the functions, but uh it came out that a lot of buttons weren't even used uh on a remote control. So you can have a remote control full of buttons, a hundreds hundreds of buttons, but if you don't use them, yeah it's Yeah, they have to be on it j just to t to get it done if necessary, but um the most used buttons uh have to be bigger or Yeah, perhaps. Just for the minor functions perhaps. Just to get less buttons on the remote control, to make it easier and quicker to learn. Yeah? 'Kay, that's it. What do you think about uh incorporating Bluetooth or a radio uh receiver uh in the place-holder next to the T\_V\_, connected to the T\_V\_? So it's in the wrong product. Yeah. Yeah. Yeah. Um, yeah, maybe another problem uh, I think current T\_V\_s can even send infrared. Huh. Mm-hmm. Yeah. Yeah. Yeah. Hmm. Hmm. Hmm it's maybe an option uh if you use an L\_C\_D\_ or a touch screen um, that in the middle are the the main keys, like displayed on the Uh yeah.. Yeah, this? No? Yeah. Something like that. Okay, just uh in the middle the general functions, like play, uh channel switching, and then uh at the top or at the bottom, some menus like uh settings or that you can drop down. Mm. Nah. Mm-hmm

. Yeah. Yeah. I think so too, but and that's partly because um uh a lot of T\_V\_s have different menus, and when you have a particular menu uh at your device, uh it could be that don't correspond to the menu what's actually on T\_V\_. Yeah. Yeah. Yeah. Uh, I think the idea uh about uh touch screen um is very good. Um, because recently uh I saw news item on T\_V\_ um about uh new telephones uh for elder people. Um, they have like a touch screen with uh really big pictures on it like uh uh call uh hang-up, um and that's a big ad advantage I think, because one the one hand uh you make the remote control compatible for elder users just by uh scaling up the pictures or something. It's uh very visual intended. What was I to say more? Yeah. Yeah okay, but but if you pick the the idea, the left idea then what's gonna be displayed on the touch screen? Yeah, but I like menu functions or Ah okay. Yeah, I think so. Yeah. Yeah. Yeah. Yeah, I think so. Yeah, of course. Yeah, I had another uh idea about maybe parental control. Um, like building in uh some kind of PIN code uh which allows uh parents to switch to all channels, uh but children uh if children don't don't know the PIN code, they can't switch to uh violent uh channels or Th there's just Ju just a simple log-in, something like that. Yeah. Yeah. Mm-hmm. Yeah, okay. Yeah. Yeah, th that kind of stuff, but maybe um if you log in first as a parent um, you address the the channels and like uh oh, that's channel fifteen, that's uh vi violent channel, uh m my ki my kids uh I don't want my kids to watch that, then you set the priority to only parents, for example. But Yeah okay, but but yeah, that's just that's an a an added feature. Yeah, th th those things are nice. Partial. Yeah. Mm-hmm. Yeah, but but if you display it on L\_C\_D\_ screen with r r really big numbers that's just as e just as easy. Yeah. Yeah, it's different. Yeah, age b below forty. And th those young people, yeah. Y you saw it in my marketing report, they like the new fancy stuff, so A touch screen, like Microsoft al already developed something like that for uh uh multi-media applications. I th I think we can do that too. Done. Yeah, yeah, some of them. The menus uh are not identical for all th for all T\_V\_s, so you have to display it on one uh T\_V\_. Yeah, but that's not possible. Mm-hmm, mm yeah. Add th that that's an opportunity. Yeah. But No. No no no. He he he he me he means just just one other thing. Uh, with the current remote controls, the universal ones, um you have to press yeah, you have to press a code for T\_V\_. Yeah. Yeah. Now we uh just connect uh the T\_V\_ type uh to a set of options, in just just in the memory, so that if you yeah, like profile, so that if you uh touch in like uh one four one zero kind of T\_V\_ uh the memory uh pops up the options. I th don't think that's uh that takes a lot of storage space or some just varia variables. Mm-hmm. Yeah. But, on the other hand on the other hand, uh if you have a remote and buy a new T\_V\_ that isn't incorporated in the remote New remote? A

firmware upgrade or something, but from where? Ah. Maybe w No m may no, maybe we can incorporate some kind of uh U\_S\_B\_ or a firewire connection, so that you can uh connect it to the P\_C\_ and download the newest firmware from uh from the internet. Yeah, like a s kind of service centre. Yeah. Yeah. I I think it's uh most cheap or cheapest to just do the updates uh at the service centre or at the shop. It's it's it's not a lot of work, just one uh docking station where you put it in, press start, bling bling, updated. Yeah. You don't buy a T\_V\_ every week, new teev so. Let's vote. My vote too. And your vote? Yeah. And also like a clapping uh li like device that uh pops open. Uh too difficult, um maybe uh it's easier to break it. Yeah, th th th that i uh Yeah. Like my telephone, it's uh it's sensitive too. Ah. Thirty minutes? How minutes? One question, uh how late do we have to get back be back here? Thirty minutes lunch break? I thought

forty five. Yeah. Yeah. Okay. Yeah. Yeah, me too. Save as. Yeah, v But but you can open a from your pr from your laptop. Yeah, maybe. Save as. No. Export. Export H\_T\_M\_L\_. Huh, image? Paper size A\_ four. Uh screen size. In this directory. No? Yeah, it is connected. Yeah, I think so. Oh. Thank you. Yeah, of course. To my exave executive Aye. Yeah. Okay. Hi. I see my bunny is still standing. No one drawing it. Uh I figured uh that much. When you mentioned uh improving functions, what uh what do you mean by that what what are you think about? Uh, the funtionability. Ah okay, so focusing more on the used buttons. Yeah. Could you use perhaps uh one button for multiple functions, like example pressing it in longer makes it switch to an different function for example. Thank you. Yeah, ma perhaps, just just an idea. Yeah. Uh yeah yeah, I'll go, sure. Right uh, I'll be uh explaining a bit about uh working design about uh the project. Well uh what I did was I dissected uh uh current remote controls and um I viewed how how they w looked, how they worked, uh what kind of components are involved, and how they are connected together. And uh after that I put up a scheme about how uh these things are organised and I'll show it to you in in a in a few seconds. And I'll explain a bit about uh how it works and how we could uh build one and why I think several possibilities uh that we discussed in the earlier meeting falls off. Um right. Uh well what I did was uh I I checked uh remote controls and the uh remote controls of today are all infrared, not like all probably know. And the thing about that is um the remote controls uh have to act as a T\_V\_ or uh a stereo or something, and those uh have a transmitter that's also focused on infrared, so if we want to uh build uh mm a remote control uh with Bluetooth for instance then uh the T\_V\_ should have Bluetooth too in order to communicate, so that would mean extra cost for the user and thus uh that's that wouldn't mean a a cheap uh remote control for us. So that's probably why most controls are still infrared. Furthermore they all have uh a a very simple structure, so that would probably uh mean lower costs and uh i that could mean for us a good thing uh 'cause uh well we we should be able to build a relatively cheap uh a cheap uh remote. Well uh as I mentioned ready, we have some Bluetooth Well it may be possible, but uh I figured it wouldn't be possible in within our budget, but that's not for me to decide, but that's maybe something for marketing to look into. F because uh well my personal opinion is uh is not to do uh Bluetooth or or radio waves, although Yeah, actually I have t Yeah. Yeah, I actually I figured that would be that would be rather nice, but then you'd still have the uh the infrared function. So in in theory you'd actually just move the problem, but uh what I did uh think about was when you mentioned about the uh the cup-holder, is why not uh introduce a speech function like where is the remote. If somebody says, where is the remote, then it goes uh beep uh beep beep beep or something, I dunno, maybe uh maybe something to look into, I dunno uh what the cost that something like that would be. But it may be uh may be something to explore. Uh I'll I'll just explain a bit of the components. Uh first you have the energy source. The energy source would be a battery, simple uh battery uh that you can find anywhere. I figured that would be

best, 'cause when the battery uh stops functioning uh we could just uh use you could just go out and buy a new one. So we didn't and we don't have to do all uh to be too complicated about that. Uh the energy source is connected to the infrared button, but uh the infrared button uh works only via the chip and the subcomponent to uh the switch there is a switch uh between these. When the switch is pressed in a w on this this case it switches a button, when a button is prush pushed in, uh a electric current goes through here, and in uh immediately, a l a bu

lb lights up uh displaying to the user that something has happened. That's uh that's so the h user won't be um thinking, well uh did the button be pressed, w what happened uh. Or I press button but nothing's happening on the T\_V\_, so is is something wrong or something. So that's just to uh to to explain the of to to uh make it clearer to the user. Uh w well the signal goes via chip that's translated into uh electric sig uh electronic signals and then it's processed and then it's sent to the infrared bulb where it will be uh uh received on the receiving end. And those uh interpreted by the device, well in this case the television. Uh well my personal preferences here, well we have to keep it simple. Not too many uh gadgets and functions, just like you said uh well the most users n uh you have a lot of buttons and you u u use you don't use them, so why why should we invent uh w spend more time on those. Uh I I think we should stick by with infrared transmitting and uh no receiving. So uh no input from the television. So I think we shouldn't be uh spending time on um teletext and st things like that, because when you uh want teletext on uh infrared you'd have to build in a receiver too, and so in order to receive the signals from uh what's on T\_V\_ and such. So I figure that would be uh spending too much money and time and Yes, but what should we uh s l l f l agree with you, but should we spend money or and time on building a receiver into the uh remote control? 'Cause that would be I mean extra components, extra designs, um larger g uh remote control. These all uh all stuff that we have to take in account. So I I my personal opinion is no no no receiver at all. Um, well we should uh look into the design and the functionability. Like I said, uh use one button for instance for m multiple functions, or well uh just hide the few buttons o of switching it open or something, the usual uh stuff. And uh don't overbuild, we shouldn't make a big uh remote control for simple functions, but we we should stick to the basics. So that was my uh my personal opinion. And that was my uh my presentation uh Yeah, but Yeah. Yeah, but Yeah, but Well you d you have to keep in mind that uh several T\_V\_s uh don't even have a menu structure, or they have a very simple menu structure, so you have to keep in mind that not all uh d not our remote won't be able to work on all televisions. And that would be uh a considerable problem. Yeah. Not embed Yeah, but then with something like a touch screen could could make more menu up pop up or something. Yeah. Yeah. The extra functions. Yeah. Wouldn't it be better to make just one big touch screen, uh one one small uh touch screen uh applet and uh I'll just make um uh let's say fifteen buttons on it, and uh we have three of those, uh actually just uh menus with sub-menus, with or sub-items, sub-functions. Yes. Yeah. Yeah, yeah, like like the iPod idea that that we just saw. You just have a f a few selected buttons and uh a few menus, and with this idea you could actually make uh several you can also improve uh later on. Uh uh I think that will be great. Yeah, I wou I would actually go for the Yeah. That is possible, that well that actually depends on the television, but I think I figure that would be Well, y you s you see the fi uh thing is when you buy a remote, you you set the uh channels, the the channels are different on each te television, they aren't set in a preset order, so uh if you uh lock on a remote, uh let's say channel fifteen, well channel fifteen on this television is different than channel fifteen on the other television, so that would be uh that would be actually the main concern. Yes. Yes. Yeah. Yeah. Yeah, that would b Yeah, that. Uh. I I do Uh I do agree, because well, it's just not the same when you touch a touch screen or when you touch a button, but well we have to

look at what's our target uh audience. W we are aiming for younger people and they they chose So that's that's probably uh a Bu

t they Well they uh they all have to be programmed to fit your T\_V\_ and that that is bit of a tricky job. I actually use one of those when They are they are kinda kinda troublesome, but but the thing is whe when you uh start uh building something like this you have to build a receiver into the uh t into the remotes, because uh in order for the remote to process something from the T\_V\_, like uh to synchronise and you have to send and receive, and that's well Yeah. Yes. Yeah. Oh, okay, yeah, sure, uh Yeah yeah yeah. Oh, yeah yeah, sure, that would be possible, yeah. Profiles. Yeah. Yeah. Yeah, that would be possible. Yeah, sure. No, that wouldn't be uh Yeah, a few variables. Yeah. Ah it is. It is definitely po Yeah, firmware upgrade. That's maybe the cup holder. Yeah. Well, not everybody has uh has uh a P\_C\_ at home. Well the most most people have, but not not everybody and Yeah. Yeah, maybe something like service cen Or you could well you could s actually look at the place-holder you talked about earlier, and you could probably uh make a connection to uh an telephone line or a internet connection. Yeah. Well then then it's be uh back to the building a receiving uh well uh if it's actually worth it to build it in, we could actually look at into it, but I dunno, it it would be uh bringing more costs uh with with it and Yeah, that would be probably best, yeah. Like when you when you buy a T\_V\_ you just ask well I'll Yeah. Yeah, that would be best, yeah. No no. Exactly, so Yeah, my vote goes out to the right. Flips open. Export. Maybe not export function. G\_ yeah, J\_ PEG. N oh. To room. I'll just uh saved in my documents. Yeah in my own uh in my own messenger. Yeah. Okay, nice. Aye, cheers.



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# Meeting ID: 134

Data Source: Train

## Executive Summary

Good morning everybody . Um I'm just gonna have a little PowerPoint presentation for us , for our kick-off meeting . My name is Rose Lindgren . I I'll be the Project Manager . Um our agenda today is we are gonna do a little opening and then I'm gonna talk a little bit about the project , then we'll move into acquaintance such as getting to know each other a little bit , including a tool training exercise . And then we'll move into the project plan , do a little discussion Um we are creating a new remote control which we have three goals about , it needs to be original , trendy and user-friendly . Um so we're gonna divide us up into three compa three parts . First the functional design which will be uh first we'll do individual work , come into a meeting , the conceptional design , individual work and a meeting , and then the detailed design , individual work and a meeting . Um we're gonna do a little tool training , so we are gonna work with that whiteboard behind you . Um introduce yourself , and then draw your favourite animal My name is Alima Bucciantini . and I guess I'm the Industrial Designer on this project . I will draw a little turtle for you all . my name is Iain uh and I'm the User Interface Designer for the project . Um . It's a whale , yes . I'm Jessie . Briefly , it's supposed to be a seal . We're gonna talk about project finances . we'd like to sell it for about twenty five Euro with the profit aim of um fifteen million Euro um from our sales and because this is such this is for television it's a we have a market range of Internet , like it's an international market range , Um in order to make a profit of this magnitude , we need to um be able to produce each one at a maximum of twelve fifty Euro . just to generate a little bit of discussion about the project um , I could I'd like to hear about your experiences using ro remote controls , what would be the best um like you what are the features that you really like Um I hate when there's like four different buttons and you have to press to actually turn on the T\_V\_ 'cause I feel like you end up with multimedia overload . especially , like you know if I'm watching T\_V\_ I have have to have three separate remote controls of in front of me , you know , one for the T\_V\_ , one for the digital box , one for m the video recorder as well . Um . And also they tend to they tend to be a bit confusing , uh too too sort of too sort of complicated they've got too many buttons on them and that there's not too many buttons , they are not too small , like are there some remotes that don don't require like batteries but it's possible we could use like a lithium battery it seems we have a little bit of a conflict over um to uh combining all the remotes cont together versus having f five different remotes . doesn't have all the buttons that you need to program the video recorder but that just has your major buttons for that work for everything , you know

volume control , on , off , so it's like if you're looking if you're trying to get the T\_V\_ on that's , you know , like the top thing on the remote , I dunno if it'd be vertical or horizontal in terms of how we're gonna make it , but if it's like all the T\_V\_ stuff was here , then all the V\_C\_R\_ stuff was here , all the whatever else we have programmed into it it's all just in its separate place and not like all the on buttons together , and if um if you'd save the more complicated functions maybe for separate remotes that you wouldn't need to use every day . would we even technically be possible to include video recorder functions on it ? are we designing a remote control for a television only Um or should we just stick to just stick to having television television related buttons on it ? I'll look into that . I guess we have to define what what we're aiming for . If it's just a television then that it's a bit simpler , If you have older people or people like me that aren't very co-ordinated hand-eye , it's really quite important that you are not pressing a small like teeny mobiles phone size buttons , if we can help it . Um now our next meeting starts in thirty minutes . Um the industrial design , Alima will be doing um the working design . Um the User Interface Designer , that's for . Technical functions , I guess like keeping in mind the buttons thing , the size of the buttons . Um user requirements um , so you'll be hearing about different trends , uh about different things that people need , And you will get specific instructions sent by your personal coach . What we're gonna be discussing at the next meeting ? I haven't gotten an agenda yet , um I'll put that together . I'm sure as we'll each get our own instruction Can you e-mail your slides as well ? Yes , I yes , I think I can . I'll just attach it to an email . Just make sure you keep checking the company web site and the emails . I'll type up my minutes and probably email those out to all of you . Um just including all the things that we talked about . Um . so maybe have like one remote that has the main functions on , off , channel changing , volume , and another rote remote with all the special things .

## Complete Meeting Transcript

Hmm. Yes. Well. Oh my god, it's better than what I'm gonna be able to do. Take my contraptions with me. Alright, I'm Jessy. I'm from around D\_C\_ ish sort of in the U\_S\_. And we're gonna keep the deep sea sort of theme going on, animal. Don't really know how to draw this. Just where can I Mm. Mm. Maybe if I do the water, but how? Sort of give an idea. I have no idea how one would explain this. Mm maybe with some whiskers. Briefly, it's supposed to be a seal. You can imagine it in the water. I like them, because they are like playful and silly sort of have a good time. Not gonna try and pretend like I can get any better than that. It's definitely significantly harder once you are doing it. That's impressive. Um I hate when there's like four different buttons and you have to press to actually turn on the T\_V\_ like you have to do one for the power of the T\_V\_ and then like another one to get the actual screen on and something else to get it all going, I don't know. Now they keep combining all different remotes together, and I don't know if I necessarily like that 'cause I feel like you end up with multimedia overload. I just wanna watch the T\_V\_ um. Always gets lost. Some sort of like device to help you find it. Yeah. What about like batteries and things like that, like are there some remotes that don't require like batteries or do all remotes require batteries? Mm-hmm. Mm-hmm. And maybe that spatially divides it, so it's like if you're looking if you're trying to get the T\_V\_ on that's, you know, like the top thing on the remote, I dunno if it'd be vertical or horizontal in terms of how we're gonna make it, but if it's like all the

T\_V\_ stuff was here, then all the V\_C\_R\_ stuff was here, all the whatever else we have programmed into it's all just in its separate place and not like all the on buttons together, 'cause then you like, I don't even know what I'm turning on. Mm-hmm. Mm-hmm hmm. I think it's just T\_V\_, I mean, if it if we're taking it just new product a new television remote control that's not like doesn't say. You know, things might be more advanced than that. It's an idea with the buttons being really. Yeah. Mm-hmm. Mm-hmm. I'm four. Okay. Good morning everybody. Um I'm glad you could all come. I'm really excited to start this team. Um I'm just gonna have a little PowerPoint presentation for us, for our kick-off meeting. My name is Rose Lindgren. I'll be the Project Manager. Um our agenda today is we are gonna do a little opening and then I'm gonna talk a little bit about the project, then we'll move into acquaintance such as getting to know each other a little bit, including a tool training exercise. And then we'll move into the project plan, do a little discussion and close, since we only have twenty five minutes. First of all our project aim. Um we are creating a new remote control which we have three goals about, it needs to be original, trendy and user-friendly. I'm hoping that we can all work together to achieve all three of those. Um so we're gonna divide us up into three compa three parts. First the functional design which will be uh first we'll do individual work, come into a meeting, the conceptional design, individual work and a meeting, and then the detailed design, individual work and a meeting. So that we'll each be doing our own ideas and then coming together and um collaborating. Okay, we're gonna get to know each other a little bit. So um, what we're gonna do is start off with um let's start off with Amina. Um Alima, sorry, Alima. Um we're gonna do a little tool training, so we are gonna work with that whiteboard behind you. Um introduce yourself, um say one thing about yourself and then draw your favourite animal and tell us about it. Probably both. How do you spell your name? Thanks. So what are your favourite characteristics? Mm. Excellent. Shall we just go around the table? Mm. Might be nice to have them all up there at same time. Em Mm 'kay. Mm 'kay? I'm Rose and I'm Project Manager, from Cal

ifornia. Um. Hmm. S Um it's actually a coyote. Let's see. Let's see, let's give it a little bit of a snout, I don't know, some teeth. Yeah. Oh dear. Yes. I live um I live right across the street from an open space in California. We have coyotes howl all the time. So I really enjoy their their singing, you they're really beautiful animals. Mm. Okay um, moving on to slightly more serious stuff. We're gonna talk about project finances. Um we have a couple we'd like to sell it for about twenty five Euro with the profit aim of um fifteen million Euro um from our sales and because this is such this is for television it's a we have a market range of Internet, like it's an international market range, we don't have to worry about specifics. Um in order to make a profit of this magnitude, we need to um be able to produce each one at a maximum of twelve fifty Euro. So we're selling it for twice what we'd like to produce it for. Okay um, just to generate a little bit of discussion about the project um, I could I'd like to hear about your experiences using ro remote controls, um your first ideas about um creating a new r remote control, what would be the best um like you what are the features that you really like what are the features that you don't like, etcetera, so Hmm. Mm. Mm-hmm. Um I would imagine all of them, but we could but it's possible we could use like a lithium battery um that would last a lot longer than like double A\_s. Um like tho those are the batteries that are used in a lot of um M\_P\_ three players now and that kind of thing. Um. Um. Okay, it seems we have a little bit of a conflict over um to uh combining all the remotes cont together versus having f five different remotes. So um like you said you don't like having all the buttons on one on one remote, and yet you don't wanna have five remotes. So how do we work with that? Mm-hmm. Mm. Mm. Okay, so maybe have like one remote that has the main functions on, off, channel changing, volume, and another rote remote with all the special things. Because that is one thing that um remotes tend to have buttons that the T\_V\_s no longer have as well. So like you have to have them somewhere,

'cause you're gonna need those special functions occasionally. Um but not necessarily on the normal remote. Good question. I don't know that yet. It's a good question. Um. I'll look into that. If I can. Mm. Mm. Okay. 'Kay sounds like we've had a good little discussion for our first ideas. Mind if we move on? Ps mm okay. Um now our next meeting starts in thirty minutes. I believe we've actually been only working on this this one for about twenty, so we can continue discussing more new ideas if you'd like um, but this is just a breakdown of what we'll be doing individually. Um the industrial design, Alima will be doing um the working design. Um the User Interface Designer, that's for. Technical functions, I guess like keeping in mind the buttons thing, the size of the buttons. Um user requirements um, so you'll be hearing about different trends, uh about different things that people need, um I guess kind of the same uh discussion that we've been having, we'll get from the actual consumers. Mm 'kay um. And you will get specific instructions sent by your personal coach. I realised in this past one we we didn't have much, we just wanted to get a little brain-storming done. Um so very excited to see all your animals and how what wonderful um artists we all are um. Any questions? I haven't gotten an agenda yet, um I'll put that together. I'm sure as we'll each get our own instruction and then um because what we gonna do is first our individual actions and then we'll come back together. So I'm sure we'll all have more concrete things to contribute next time Mm 'kay um I'll type up minutes and probably email those out to all of you. Um just including all the things that we talked about. Um. Yes, I yes, I think I can. Mm-hmm. I'll just attach it to an email. And you're you're number two,

three, four? Is that correct? Okay. Excellent. It was lovely meeting you all. Just make sure you keep checking the company web site and the emails. Let me see if I can do that right now. Mm 'kay. Alima. Okay. Um I don't know which one of these I have to bring with me. Right, so, I'm supposed to draw my favourite animal. I have no drawing skills whatsoever. But uh let's see, introduce myself. My name is Alima Bucciantini. Um I'm from the state of Maine in the US. I'm doing nationalism studies, blah, blah, blah, and I have no artistic talents. A\_ L\_ I\_ M\_ A\_. Oh, and I guess I'm the Industrial Designer on this project. So let's see if I can get um here. I will draw a little turtle for you all. Not necessarily 'cause it's my absolute favourite animal, but just that I think they're drawable. And you have the pretty little shell going on. Some little eyes. Happy. There you go. That's a turtle. Um. I like the whole having a shell thing. It's quite cool carry your home around where you go, um quite decorative little animals, they can swim, they can, they're very adaptable, they carry everything they need with them, um and they're easy to draw. No, you can erase the turtle, it's alright. Snake. Well, snake? It's w Oh, a cat. Yeah. Right. That's That's pretty impressive. Yeah um. I agree with having too many remotes around. My dad has a whole drawer at home of remotes for various things, and I don't know how to work half of them um. What's important for me, I guess, is that it's easy to use and that there's not too many buttons, they are not too small, you know you know you need to know what you're doing. And one thing I particularly like is if you are not um sort of moving it around to get it to work with the infra-red. Um, I think there is a way around that, but I know in my residence right now the the television you sort of have to walk all around the room to get it to turn on, so i it's just simpler just to just turn around the T\_V\_ itself, and I think that's if we're gonna make a remote control, it should actually work for what it's doing. So I know. Yeah, something that doesn't Mm. Yeah. Could we get something that just has No doesn't have all the buttons that you need to program the video recorder or program s other things that I'm not very coherent about, but that just has your major buttons for that work for everything, you know volume control, on, off, channel changing. Yeah. N that way Yeah. Yeah, and if um if you'd save the more complicated functions maybe for separate remotes that you wouldn't need to use every day. Um. Yeah. Mm. Right. Mm. Mm yeah. Yes. I guess we have to define what what we're aiming for. If it's just a

television then that it's a bit simpler, 'cause there's less buttons that would even need to be on it. Large. If you have older people or people like me that aren't very co-ordinated hand-eye, it's really quite important that you are not pressing a small like teeny mobiles phone size buttons, if we can help it. Hmm. Yeah. 'Kay. I'm sure we'll be busy. I'm two. Alright. 'Kay. Uh Okay. Well, my name is Iain uh and I'm the User Interface Designer for the project. Um. And I'll try and draw my favourite animal. I'll I should leave that one on there shouldn't I before I callously rub it off. Um I'm not gonna draw it quite to scale um. Is that at least identifiable? It's a whale, yes. Thanks. Um and, yeah, the reason I like whales is 'cause uh they're well, first of all they're quite intelligent um and also they're they're kind of mysterious, like we don't really know much about them or or understand how they work, how they form groups. And I just find them interesting animals. Cool. I've used, I've used remote controls, for things like T\_V\_ and the C\_D\_ player and video recorder and I I guess they're they're pretty neat neat little tools uh. You don't have to get up and walk across the room to change a channel. So especially if you're someone really lazy like me they they're pretty nice. Um. I find them

they can be a bit annoying, especially, like you know if I'm watching T\_V\_ I have have to have three separate remote controls of in front of me, you know, one for the T\_V\_, one for the digital box, one for the video recorder as well. Um. And also they tend to they tend to be a bit confusing, they've got too many buttons on them uh too too sort of too sort of complicated when all I really wanna do is switch on and off, change the channel, change the volume. Yeah. Mm. Yeah. Can I ask, are we designing a remote control for a television only um, and if if this device is just to be used for the television would we even technically be possible to include video recorder functions on it? Um or should we just stick to just stick to having television television related buttons on it? So we should maybe we should assume that i t it's just a television that we're wanting to control. Well, I mean I suppose it would be nice to have playing and record and stop buttons on it for the video recorder as well I I don't know if that works technologically or not. Yeah. Yeah. 'Kay. What we're gonna be discussing at the next meeting? Do we know that? Right. Yep. Yep. Okay. Can you e-mail your slides as well? Is that possible? Cool. 'Kay

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# Meeting ID: 27

Data Source: Train

## Executive Summary

The User Interface Designer and the Industrial Designer presented the prototype and displayed its gunmetal color, removable casing, buttons, logo, and ergonomic design. The Marketing Expert gave an evaluation of the prototype using the group's initial criteria for the remote. The group decided that enough of their initial ideas and criteria for the remote were satisfied to be able to continue with the project. The Project Manager analyzed the final production cost; the cost was lower than initially projected, at 11.2 Euros. The group decided to use one lithium battery instead of several triple A alkaline batteries. The Project Manager then led a discussion on the project process. The group felt that they worked well together and were pleased with the prototype. They complained, though, that they felt constrained by the management's directives, that they had difficulties using the meeting-room equipment, and that they did not have internet access during the project. All participants were instructed to fill out a final questionnaire.

## Complete Meeting Transcript

I wanna find out if our remote works. Oh. Whoohoo. That's nice. Good. Yeah. Yeah. Yeah. Yeah, I think it's a beautiful Yeah. Good job, you guys. Those are really good. Okay, it's a PowerPoint presentation. I don't really know exactly what we should uh talk about. It's under evaluation. Alright. Um so these are the criteria we're gonna ask, is it easy to use, is it fashionable uh yeah, I guess we should write these down so we can reference them. Like does it feel good, like yeah, physically. That's just for current trend. It doesn't really count, you guys. Yeah. But it's so we do have removable covers, right? Yeah, well then that's covered. And so we n k everybody have that? Yeah, she's got it. It's good. Yeah. Okay so, we're using the criteria uh for a seven point scale, and so we need to discuss how we feel. It falls within this range, so for easy to use, do we feel it's very easy to use? You guys Okay. Oh wait, that's false. Okay. Two. That's what I say. Okay, fashionable? No. I mean like no, I think it's very fashionable. I thi I would give it a one. Well, that's that's just like that's a clay, it's a prototype. What do you think? Okay. Yeah, it's a two. That's okay. Yeah. Um does it feel good? I feel like I think it feels good. I'll give it a two. What do you say? Okay. Oh no, it's fine, you're I mean you're Project Manager. Um yeah, I mean

and it does it have voice I mean the phrase recognition on it? And there's no way you can represent it on here. Y Yeah, so. Then yes, then I would well it isn't what else would it need for it to be technologically innovative? And it doesn't cover anything other than T\_V\_, so I'd probably give it a three. Even though it is for just a T\_V\_ remote it's uh very advanced. But it is just a T\_V\_ remote. Well yeah, so I'd give it a two. Oh, it's very capable of being squishy and fruity. Yeah. Okay, next. So um our re model slightly resembling a giant delicious cookie appears to be a winner, and uh hopefully we'll sell millions. Good job, team. What? It it does. Thanks. Two. Yeah. Yeah, let's let's do a lithium. We're gon that's gon Nologically advanced, yeah. Yeah. Uh. Yeah. We plastic. And special colour. But it's Yeah, but i so i But will we w actually we'll need two, won't we? One for the top and then one for the s one e for each side. Okay. Like because there's like one interface right here and then because it's not gonna be on the same plane when you press the button. There's gonna have to be additional signals on the sides. So is that gonna be an extra one on each side? Or three, because of one on each side and one on top. I mean it's fine 'cause it comes out the same as twenty nine. Well less than twenty nine even. They're a special colour. Um they're uh they're a special form, 'cause they're indented. And, they're a special material. We're under. I think we just discuss it. Oh that's true. Yeah. No, yeah, that's a good point. 'Cause I'd forgotten that that wasn't our decision, yeah. Oh, overall I mean I thought we did a good job like We got to choose basically we had control over minus it being just merely a T\_V\_ remote we got to choose what we wanted to do with it. And we're a fashion forward technology company. Minus that one fight. Yeah. Yeah. I mean minus you guys being wha what is it, the survey, annoying or what is it? Irritating, yeah. Wow that's a it's definitely a strong one. Yeah. Yeah, and no internet. And the digital the digital pens were they were pretty cool. Yeah they were fun, even though I'm not really sure what I could do with them, but they are awesome. Yeah. And these things whoa. Yeah. And Big Brother. Yeah. Um we are really gonna sell this. Ta-da. Mm-hmm. Yeah. Yeah, 'cause they're pretty and just like Uh yeah. Yeah, no, iPods They want all those words for presentation, even the plugs. Oh yeah, everybody. Mine is amber. Oh. Look at it. That is a piece of work. Wow. Marketing Director says yeah. Fashionable people will buy it. Oh, I will create desire. We could have

like an Adam and Eve type commercial, and that's the fig-leaf. Mm. That'll sell. Yeah. Yeah. You too. Mm 'kay, you ready? Y you read that stuff, since you wrote it. I'll be the Vanna. No. They're just buttons. On off switch will be here and as you've noticed on our prototype um they've ended up with a curvature kind of, by concave sort of thing, except for, you know, can't see underneath. So I'm hoping that when we get to production we can actually make them like that, because they're very nice to stock you know, stick your finger in. Um the two squared buttons are are two probably least used, menu, mute, and then these are the numbers, so our channel and our volume will be on either side. I'd say a single. Yeah, it's only actually the size of my hand. Whoohoo. Yeah, it was a little difficult to incorporate the cover with the cherry fruit on it. Yes. I'd say two as well. At the moment, no. Okay. I'll give it a two, because at the moment it's not looking that way. Neither are all o all the customers we have, either. Uh the shape of it actually does uh. I'd say a two. We could do it with the chip, yes. It wasn't we have no reflection of it on the prototype, but that's because it's only two dimensions, really. It Yeah. Three and an half. It's capable of being squishy and fruity. How did you get that in there? The slightly resembling a giant delicious cookie. That was good. Yep. Mm 'kay. Yeah, it's. Yep. Well, that's the push-button too, right there. Integrated scroll-wheel or push-button. We're really having just push-button interface. But it that just covers the type of button we're having. Because we're not doing a scroll on the side, it's still push-button. Push-button. But we just have push Yeah. Okay. Let's call it th Okay. Grand. So we can go to production. Go back. Previous. We think we got stifled for cri creativity by the company itself, in

restricting us only to using a T\_V\_ remote, initially. right. Yeah. Well, no, there was there was scratching and fighting, but no. Irritating. The means, the whiteboard didn't work. A and our friend here really feels strongly about the internet. I really appreciated those, yeah. The use of the laptops for receiving everything. It was wireless too, so. And let's not forget the sexy dual microphones everyone gets to wear. The Toronto district school would only use his Macs with their kids. Well, i iPods are now quite trendy, and they come in different colours. Yeah. Not me. I didn't have a phone 'til university. That's okay. We can create a commercial where they think that all their needs will be met. This will help them find the one. That's right. And so the serpent says, use our remote. Whoohoo. Margaritas for everyone. Yay. Thanks to the Project Leader. Now we know w Um sure. You or me? Okay. Well, since our materials aren't exactly what we were going for, I'm just gonna translate what this all means for you. The base is gonna be gunmetal gray, which is what we had decided, and it's gonna be plastic. Um then there's the latex cover, which is what you see as red. Um because it can be replaceable, we just kinda went with the colour. Um and then the buttons are actually kind of poking through rather than on top. Um and the buttons will be a l much lighter blue, almost see-through. It's just sort of a very pale blue and a light-up yellow. The whole thing lights up if you press any button, rather than it just that one button will light up. Um and then at the bottom we have our logo. Um bright yellow sort of design with the R\_R\_ which will actually look like our logo. And then on the side you have the buttons. They're one button, but they kind of push up and down. I don't think they're scrolling. Right, yeah. And then yeah, the buttons. Thumb-shaped. Yeah. And then the last thing is just that it'll be black labelling on top, just which we didn't do. Single. Right. Oh thank you. Feel good meaning what? Physically, okay. Yeah. True or false, easy to use. Yeah. Yeah, two. Mm I don't think it

's that fashionable. I'd give it like three or four. But then I'm not fashionable, so don't use my opinion. Does it feel good? Yeah, it's gonna be thicker. Depth. I'll give it a one. Oh right, the Right. Yeah I go four. Squishy and fruity. It's just trendy, basically. Okay. It's plastic. And special colour. No, we don't have the scroll. Buttons. Oh like the twenty nine means like you have both scrolls and push-buttons. But we don't have any scrolls. Two interfaces, is that what w should we s say? Okay, fine. Yeah. And then s yeah. We're over? Okay. Oh, I see. We didn't have a whiteboard. Yeah. And no internet. I think we did well. Yep. Gouges. Irritating. And no internet. Misses. I do. There's so much available. Like it's information Yeah. Yeah. Well, that's why I don't like uh Macs or Apples, just 'cause I look at it, and I know it's probably a very good computer, but I look at it, and I'm taken back to elementary school, 'cause they look the same. They look like they did when I was in elementary school, and that's so old-fashioned to me. Exactly, so I associate them with like really low-tech, really cheap, bad Yeah. But the my but my one issue is just like the whole it's for T\_V\_ only. I was like who's gonna buy a remote just for the T\_V\_ unless they've lost theirs. You're kidding. No, no. No, marketing has to actually create the desire for it. Ri They'll be sexy with it. Oh right. Let you loose. Yeah, no. Good. Me too. Okay. Um here's the agenda for our last meeting. Um after the opening we're going to have a prototype presentation, then we're going to discuss the evaluation criteria and the financing of our remote. Then we're going to evaluate the product and I think the whole production process, and then we're gonna close it up, and we have forty minutes, so let's get started. Oh, no, let's have the prototype presentation. Right. Hmm. Yeah. Great. Okay. Okay. And did you determine um the curvature of the bottom part of it for the hand, is it gonna be a single or a double? Single. Single sounds good, 'cause it's not big enough to really constitute a double. Great. Great. I think you did an awesome job. It is beautiful, and it's everything that we discussed. Good job. Alright what's next in our agenda? Um we're gonna discuss the evaluation criteria, and that's with Courtney. Right. Mm. Right. Sqi Right. Right. 'Kay.



I'll wait. Are we going to individually rate what do you say? Just orally. Why not? We have okay. Um easy to use. I vote six. Oh, two. Uh hello, we're great. Um one. No. Me too, very chic. One, I give it a one. Oh, and ma it's a prototype, right. Well, now I'm. So, the average is about a two. Two or three. Two point five. Imagine, since we obviously don't have that. And it's i it is very ergonomically designed. It's gonna be curved. Yeah. I think so too. 'Kay. Two. Alright, average is two. Is it technologically innovative? Oh sorry I'm taking over your job here. Go right ahead. Yes. Right? We were able to do it with that kind of chip. Yeah, right. That was 'kay. And we discussed that being included. Well we don't have the you know, we can't say channel, and it changes the channel, channel eight. Right. Okay. Yeah. I'd go for a three or four on that one, so okay, let's go for a three point five. Alright, and the last criteria is it is it um Well, we've covered that with the trendy. Sure. Capable. Very capable. And it's very important. 'Kay, there we go. So. Next. It does. Very good. Alright, let's go back to this No, that's it. Hmm. Oops. Okay, so now uh we're moving on to finance, okay. I'm gonna show you an Excel spreadsheet and we're going to fill it in together based on what components we're including in our remote and see if it's under twelve fifty Euro. If so, we can proceed, if not, we need to go back to the drawing board a little bit. 'Kay? So let me bring that up. Here we go. Alright. Um it's not hand dynamo, it's powered by battery, so we give it a Number of components you plan to use. Do I

just put quantity being one battery, or Yeah. But if it's a do you wanna go for this is where we need to make a final call on if it's a lithium or do we wanna go triple A\_s, 'cause triple A\_s we're gonna have to do more than one battery. Oh, let's just go for a lithium. What do you say? I think uh I think the people who purchase this are gonna be technologically right. Okay, down to the electronics um section. We're gonna need this kind, correct, if we do the voice sensor, so one of those. It is a single-curved, so one of those. Oh. What's that? Yeah, that's correct. 'Kay, down here, case material. Plastic. 'Kay. Down here, interface type. We're gonna have the integrated scroll scroll wheel. Isn't oh those are just regular buttons. This? Okay, so we can just go um. Right I think she's I think what Courtney's talking about is do we need to put two here? Right. I don't know, they might put us well, let's just. Two or would it be three? Okay and we're gonna button supplements the buttons are no uh okay. Are they? Oh, right. Mm. Well, we're under cost then. Alright. No, we're under. Twelve point five is our limit. We've got eleven point two. Alright. We can go to I dunno what I just did. Okay. Now we're gonna talk about the project process um and whether or not we're satisfied with the whole process and the result. Um did we have a lot of room for creativity? Did we have a lot of room for individual leadership, um teamwork, and the means, meaning the technology that we used to produce our little guy there, and if we found any new ideas. Now, question is, how do we do this? Discuss, sure. Alright. Who want who would like to go first? Hmm. Hmm. And how did you feel about the whole the whole process though? Right, and we got say over what how technologically advanced it should be and also how fashionable, which I kind of like we yep. You know it. Um what about um the teamwork aspect? How did you guys enjoy making the model, the prototype? I think ya' did. Did you work well together in there, and 'kay. Oh my God, and we've all been a pretty congenial team here, I think. We hadn't had any ma fallings out. Irritating. Okay. Yeah. I have to knock that one down a couple notches. Yeah, digital pens. They were fine. Right, laptops are extremely handy, wireless. And that we have a shared network where we can put all of the Big brother. 'Kay, have we found any new ideas through this process? For something that looks cool and also has what I want it to b do technologically. And that's your right brain taking over, w wanting the artistic, the fashionable, the hip, you know. If we all just went out and bought useful things, I don't think I mean that's not what technology. Mm. Yeah. Yeah. Just the Mac font bothers me even. But I do like iPods, go figure. Yeah. Mm-hmm. Colours. Exactly. I mean how many people went out and bough a Nokia phone,

back when we were like in high school, just so they could get the changeable face plates. Okay. Anyway, so that is definitely at work. Yeah. Fashionable chic people will. Hmm. There you go, marketing. Alright. Okay, we're gonna wrap this up now. Um the costs are within the budget, we evaluated the project, and now we're gonna complete the final questionnaire and meeting summary, and then we're going to have a big giant party, apparently, according to this, so. Alright, thank you team, you did a great job, it was lovely working with you.

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# Meeting ID: 44

Data Source: Train

## Executive Summary

Um I'm Sarah , the Project Manager Okay , this is our agenda , um get to know each other a bit better to feel more comfortable with each other . Now , we're developing a remote control which you probably already know . Um , we want it to be original , um , trendy , appealing to a wide market , and user-friendly , grannies to kids , maybe even pooches should be able to use it . Okay , um , first is the functional design , um this is where we all go off and do our individual work , um what needs need to be fulfilled by the product , Um , conceptual design , and then the detailed design , how we're actually gonna put it into practice and make it work . We're gonna practice with the pens and draw our favourite animal on the white board , and um sum up the characteristics of that animal . I'm going to tell you that's supposed to be a tiger . Uh , maybe you can guess what I'm trying to make ? A kind of dog ? Okay , now I'm gonna have to change what is was originally gonna be Yeah , it can be a crocodile , it can be a crocodile . it's meant to be an eagle Um finance-wise , we've got a selling price at twenty five Euros , which I don't actually know what that is in Pounds , at all . Seventeen . Okay , that's expensive . Should we be making notes of this ? I'll be able to um pull it up , or I could put it in the shared folder or something . Havi having said that though , if you wanna get one of those the the ones on the market at the moment they're s they're about twenty pounds anyway . um production cost's at twelve fifty , so Um , and profit aim is fifty million Euros , You've got market range international and you did say earlier it's got to be a um accessible and usable by sort of all age groups What are your experiences with remote controls ? I mean I've got we got um we had three videos , a T\_V\_ and a sort of amp thing all set up so we got one of the universal remote controls , um that you programme each of your things into , but that kept losing the signals but that was quite good , the fact that you could You didn't have six remote controls sitting in front of you . My experience has only been being given the remote control with the object I buy , not doing any tampering with it and programming , I hate I hate looking at a control and seeing a million tiny little buttons with tiny little words saying what they all do And symbols that you don't necessarily understand , So simplification of symbols you could think of . and a section opens up or something to the other functions where you can do sound or options kind of recording , things like that inside it . but you know on a mobile phone , you can press a key and it gives you a menu , it's got a menu display , I wonder if incorporating that into the design of a remote control might be useful , so you've got a little L\_C\_D\_ display . instead of having too many b buttons and make it complicated for the user , may h maybe

have an L\_C\_D\_ di display or something like that , What about the older generation ? that's gonna be a problem anyway with the older generation perhaps , I don't like the , you know the new phones that have kind of got a Windows-based running system . I find it really confusing , Yeah , I don't I don't know how for twenty fi , or twelve Euros fifty how much of a excellent screen you could get , you'd you'd have to sort of keep it down to a black and white L\_C\_D\_ thing anyway , I'd assume . The other thing is , just ch chucking into mobile phone f design features again , it could have a flip top remote control I think that's a cost thing , And there's no reason we need to make it look as fashionable and stylish as a mobile phone , it can still be lightweight plastic , you know ? Something that's easily moulded and produced . we've got half an hour before the next meeting , so we're all gonna go off and do our individual things . Um and then we'll come back and liaise again and I get to do another fantastic PowerPoint presentation . about what you're saying about the uh does does it need to be fashionable ? I I had a quick look at the company website and it's like the the uh we put the fashion into electronics , I mean you don't you you can still have plastic we don't have to use metal , and the Telewest remote controls are silver plastic , I mean there's Sky remote controls and everything . They're kind of moulded so yeah I guess that's stuff we can think about . So , see you in half an hour . Okay , so let's break it up there . um what effects the product has to have

## Complete Meeting Transcript

It's sitting down. Yeah I'll have a go. Thanks. Alright, okay. Well since you guys have chosen the ones I wanted to do, I'll have to have to go for something a bit random. And also, my drawing skill isn't that great so, yeah. Okay, now I'm gonna have to change what is was originally gonna be because that looks like a beak now, so. Yeah, it can be a crocodile, it can be a crocodile. Well it was it was an at first firstly it was an attempt at a T\_ Rex and then it sort of changed into a pelican but it can be a crocodile now actually. Yeah and uh I'll have to think on the spot of uh things that it is. Um uh scary, uh strong, yeah that's about it I think. Uh uh Wo Hmm. Okay. Uh S Uh Okay, some sort of bird. Ah eagle, right okay. They're good at golf. Yeah, no yeah, an eagle. It's about mm, mm yeah. Yeah, yeah, something like that, so that yeah about seventeen, seventeen Pounds, something like that. But Havi having said that though, if you wanna get one of those the the ones on the market at the moment they're s they're about twenty pounds anyway. So, it'd still be yeah, we had to buy one. Hmm. Yeah. Yeah. Yeah. Yeah uh. Use all the ones at the same time. Yeah, 'cause you Yeah. Mm. Yeah. Yeah. Yeah, my grandad's actually better than me at using teletext, so. Yeah. Yeah, what it just needs to be as long as it's sort of self-intuitive and you can can work out what everything's doing, 'cause I mean, menus on sort of new phones now they've sort of got all these pictures and stuff which makes it fairly obvious what you're trying to do. But I don't know how Oh yeah. Yeah, I don't I don't know how for twenty fi, or twelve Euros fifty how much of a excellent screen you could get, you'd you'd have to sort of keep it down to a black and white L\_C\_D\_ thing anyway, I'd assume. Y Yeah. No uh uh Yeah. Just just a quick thing about the um about what you're saying about the uh does does it need to be fashionable? The sort of I I had a quick look at the company website and it's like the the uh we put the fashion into electronics, so I think think the whole design thing might be qui I mean you don't you you can still have plastic and it'd look quite good but Yeah. Yeah. Yeah. Okay. Hmm hmm hmm. Yeah. Okay. Yep, yep. Okay. Tu tu tu tu Hi,

good morning. 'Kay. Oops. Mm. Oh sorry. Mm-hmm. Yeah, me. Cat. Where did this come from? Uh, yep. Thank you. Uh, maybe you can guess what I'm trying to make? Yep. It's actually sitting, so it's sitting, it's not standing. Okay, I see it as one thing it's very supportive. It's your best friend and your you can talk to a dog, it can be your best friend, it doesn't discriminate between you, based on what you are. Second it's loyal and third thing it's got intuition. dogs can som sometimes can make out between a thief and a person so basically these are the three unique features I think belong to a dog. Thank you. Okay. Sorry. Does it look like a dog actually? Mm. Eagle, okay. One point four or something like that. One point four Euro would make a Pound or something like that. Yeah. Okay, pretty huge margin. So then Mm-hmm. Yeah, that c Okay, you wanna integrate everything into one like Okay. So simplification of symbols you could think of. Mm-hmm. Menu, alright. Uh uh Right, I was thinking on the same lines you, instead of having too many b buttons and make it complicated for the user, may h maybe have an L\_C\_D\_ di display or something like that, like a mobile, yeah and with menus. And if it's s somewhat similar to what you have on mobile phone, people might find it easier to browse and navigate also maybe. You mean to save it lesser number. Right. Mm-hmm. Okay. Mm, okay. S It might it might save a b bit of space, it's i instead of looking bulky, it might look small. But it might have its cost implications. Right. Okay. Mm, yeah. Are we we're not allowed to dim the lights so people can see that a bit better? Okay, that's fine. Am I supposed to be standing up there? Okay. Yeah, I've got Yes. Okay. Hello everybody. Um I'm

Sarah, the Project Manager and this is our first meeting, surprisingly enough. Okay, this is our agenda, um we will do some stuff, get to know each other a bit better to feel more comfortable with each other. Um then we'll go do tool training, talk about the project plan, discuss our own ideas and everything um and we've got twenty five minutes to do that, as far as I can understand. Now, we're developing a remote control which you probably already know. Um, we want it to be original, something that's uh people haven't thought of, that's not out in the shops, um, trendy, appealing to a wide market, but you know, not a hunk of metal, and user-friendly, grannies to kids, maybe even pooches should be able to use it. Okay, um, first is the functional design, um this is where we all go off and do our individual work, um what needs need to be fulfilled by the product, um what effects the product has to have and how it's actually going to do that. Um, conceptual design, what we're thinking, how it's gonna go and then the detailed design, how we're actually gonna put it into practice and make it work. Okay, right. We're gonna practice with the pens and draw our favourite animal on the white board, I'll go first, and um sum up the characteristics of that animal. So Okay, I'll leave space for everyone else. Um What's missing? We're running out of blue. Okay. I'm not gonna ask you to guess, I'm going to tell you that's supposed to be a tiger. And I see them as majestic, and independent, and proud. Now, who would like to go next? 'Kay. Is that your lapel then? There you go. Okay, thank you. Okay. Well, as you can see, the quality of the work today is um Gonna be a bird. Is it gonna be it's gonna be a bird. That's lovely. Okay it's fine. Technical help. Hmm. Okay, yeah. A seagu right, not a seagull. Eagle. Mm-hmm. That's lovely. Okay. That was fun, right. Um finance-wise, we've got a selling price at twenty five Euros, which I don't actually know what that is in Pounds, at all. Any ideas? D fifteen? Seventeen. Okay, that's expensive. I think so, I think so, I'll be able to um pull it up, or I could put it in the shared folder or something. Really? Mm. I think Yeah, um production cost's at twelve fifty, so half of the selling price is taken up by building it. Um, and profit aim is fifty million Euros, which is uh Yi yes, um yeah, I presume so. Um Mm-hmm. No, yeah. So yes, yes, I don't think we have to I don't think it's a case of worrying about different languages and things like that, um making that a key point, just that it's going to be in the international market like Australia, America, things like that. Okay. What are your experiences with remote controls?

I mean I've got we got um we had three videos, a T\_V\_ and a sort of amp thing all set up so we got one of the universal remote controls, um that you programme each of your things into, but that kept losing the signals so we'd have to re-programme it every now and again. I think it was quite a cheapie as well, so that might have had something to do with it, but that was quite good, the fact that you could You didn't have six remote controls sitting in front of you. Mm. Yeah, the main that's the main stuff anyway, I mean and you don't want to I hate I hate looking at a control and seeing a million tiny little buttons with tiny little words saying what they all do and just sitting there searching for the teletext button or something like that. Yeah. Um. When they're when you've got the main things on the front of it and a section opens up or something to the other functions where you can do sound or options kind of recording, things like that inside it. 'Cause it doesn't make when you pick it up it doesn't make it really complicated to look at, it's obvious what you're doing, um. What about the older generation? What about granny and grandads? Um, my grandad can answer his mobile phone, but he couldn't even dream of texting or something like that. I don't think they tape things, I don

't think they use Mm, yeah, the age gap. Mm. I don't know, I d I don't like the, you know the new phones that have kind of got a Windows-based running system. I find it really confusing, I kept getting lost in the phone, I di I've not got a new one but uh my friend got a new one and I was trying to do things with it and I just kept getting lost, but that's just me. Yeah. Teletext has got that option as well. Yeah. Or what about kind of a dual function? In that you've got the basic buttons just for your play, volume, programme things and also and then a menu to go into with obvious pictures, obvious symbols and that's where you control recording and things like that. Mm-hmm. I think that's a cost thing, I don't I don't know how much we're gonna know about Yes, no that's important. Okay. Mm. Yeah. Um, right, okay we've got half an hour before the next meeting, so we're all gonna go off and do our individual things. Um I think that's probably about it and then we'll come back and liaise again and I get to do another fantastic PowerPoint presentation. Sure. Okay. Mm. I would it would probably. I mean there's Sky remote controls and everything. They're kind of moulded and look a bit different, and the Telewest remote controls are silver plastic, which looks a bit smarter, so yeah I guess that's stuff we can think about. Okay, so let's break it up there. Okay? So, see you in half an hour. I think so, yeah. So we've got both of these clipped on? She gonna answer me or not? Right, both of them, okay. God. Jesus, it's gonna fall off. A kind of dog? Sorry? Uh. Mm-hmm. Please, please leave me a space at the bottom, I'm little, you can get to the top, with standing on a chair. I think it's outstandingly good. Crocodile? O Beauti that's Okay. Um, I'm very impressed with your artistic skills, mine's are dreadful. Oops this is now coming apart, let me just put the top in. I hope that clicks in, I'll just I'll hold it on, okay. Oops, oh dear, what happened there? Hopefully that'll stay on, two-handed version. Okay, uh Again this is off the top of my head, I was gonna do a big cat too, um. Oh dear, it doesn't look what like what I want it to be. Uh. It's not a vampire bat honestly. Uh and somewhere there's a body behind. That's my dreadful that's the worst yet, that's it's meant to be an eagle you can tell it's a flying animal could have been a seagull, I never thought of a seagull. An eagle, um again I'm thinking on my feet goodness. I suppose they're all so independent, I'd put that one down again. Da dum um. Indepen independent, right, did you say they're good at golf? Are they? Oh. Oh right, okay, I'm not good at golf. I'd say they're quite free-spirited, flying around everywhere, doing their own thing. And uh, birds of prey aren't they, oh dear, intrepid. I'll put that, intrepid. There we go, hope that pen's gonna be okay. Whoops. Seventeen. Seventeen Pounds. Should we be making notes of this? We can just refer to this later can't we? Yeah, okay. Okay. Right. So so I suppose later it depends if we want to undercut the price, we d or or is it going to make our product look a cheapie-cheapie option? Mm. Mm-hmm. In our first year? Mm-hmm.

You've got market range international and you did say earlier it's got to be a um accessible and usable by sort of all age groups just t we're not focusing on business market, any particular thing, it's everyone user-friendly to everyone. Okay. Big target group. No. Mm. Alright. Mm-hmm. Right. Mm-hmm. My experience has only been being given the remote control with the object I buy, not doing any tampering with it and programming, using it to programme T\_V\_ and uh uh videos and things. But basically on, off, volume up and down, channel one, two, th that basic functions, I don't think I could go any further with it than that, so, I suppose it's got to be something usable by someone like me as well. Mm-hmm. Mm. Mm. And symbols that you don't necessarily understand, symbols you're meant to understand that you d

on't. Oh yeah. Mm-hmm. Mm. Mm-hmm. Actually that just raises a point, I wonder what our design people think, but you know on a mobile phone, you can press a key and it gives you a menu, it's got a menu display, I wonder if incorporating that into the design of a remote control might be useful, so you've got a little L\_C\_D\_ display. With menus, yeah, yeah. Yeah. Mm-hmm. Mm-hmm. Can he programme his remote control or is it basic with that too? Right. Right. So that's a problem regardless of any design modifications you you come up with, that's gonna be a problem anyway with the older generation perhaps, and that's another issue how we tackle that. Mm-hmm. Right. Mm-hmm. Is it possible that that for the older generation you could have like an extra button that you press for large print like you do in large print books? Obviously it displays less on the screen, it displays less on the screen but as long as they can read it that's the main thing. Mm-hmm. Yeah. Mm-hmm. Mm. The other thing is, just ch chucking into mobile phone f design features again, it could have a flip top remote control so that when you flip over the top, your screen is you can have a bigger screen in the the flip over. Yeah? Mm-hmm. Yeah, like smaller. And there's no reason we need to make it look as fashionable and stylish as a mobile phone, it can still be lightweight plastic, you know? Something that's easily moulded and produced. Sorry I'm treading on your territory guys. Ah right. Okay. Sure b y yeah. But yeah, I mean it doesn't have to be that, you know th that was my main point, we don't have to use metal, I don't know if using plastic does make it cheaper, I presume it would. Yeah, yeah, yeah. Right. Okay. 'Kay. Do we go back to our room? Yep?

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# Meeting ID: 32

Data Source: Train

## Executive Summary

The Project Manager reviewed the minutes from the previous meeting. The Marketing Expert gave a trendwatching report. He found that a fancy look and feel was most important for users. He also discussed the trend towards spongy materials. The group discussed the cost of adding speech recognition, the LCD screen, and the advanced chip. The User Interface Designer discussed the look of the interface with the group. They discussed the placement and design of the buttons and decided to use scroll wheels for volume. The Industrial Designer advised that flashy colors and rounded shapes be used. The group discussed how to incorporate the logo and including changeable faces. They discussed materials for the buttons and the backlight. The group decided to use rechargeable batteries and a stand, to use plastic for the casing and buttons, and to not include an LCD screen. The User Interface Designer and the Industrial Designer were instructed to draw the prototype at the next meeting, and the User Interface Designer was instructed to finalize the button placement. The group finalized the look of the product, and eventually decided to incorporate speech recognition and an advanced chip.

## Complete Meeting Transcript

Okay. I received an email with uh a few possibilities on uh the materials. So I'll discuss them with you. Yeah. Mm no. Yeah. Hmm. Spongy. So rubber, kind of. Yeah. It's like a sponge. Yeah, somewhat like Yeah, I've some uh material uh information, but I'll give you it later in my presentation. Hmm. Hmm. Yeah, well actually we have don't have an idea how much it's gonna cost. But maybe it's cheap and it's easy to implement. Oh I got an email uh And it says uh the chip can be uh simple, regular or advanced. And Um They say uh a display requires an advanced chip. And this is more expensive than all the other chips. So it's m the most expensive. Yeah, it says in the email. The display requires an advanced chip. Yeah, probably too. I I haven't got anything about speech recognition, but Well it d That's that's the most expensive chip, we need. If we're doing uh if we're doing a display. Hmm. Hmm. But it That's on on the display. I think it is on uh on the bottom too. Yeah, okay. Yeah, I've I've got something of that uh too. Scroll. Yeah, or uh maybe uh The channel buttons are often used. And you can't use them now



with your thumb, because the thing is not, it's not easy to control. Yeah okay, maybe we should put that on top, and buttons we don't use on, in the bottom. Because uh you can't hold it. You can't hold it with the control and push the buttons. But I think you'll use uh the switch channels buttons uh more often than the normal uh channel buttons, like one two three. So maybe we can put that on the bottom. Like zapping is just switching one channel at a time. Yeah okay. That's that's good, but Yeah okay. Yeah. Hmm. No, I think with the top buttons are okay. They should Those should be on top. But uh we can switch those two, yeah. Yeah. No. Yeah, we have to keep it simple. Okay, the component design. I looked at uh some similar devices, and uh my own common knowledge. So uh this was on the web site. If you aim at a young public, you should use materials that are soft with primary colours like green, blue, red. So flashy kinda colours. Uh shapes should be curved, so round shapes. Not Nothing square-like. Yeah. Yeah, but mm is uh has round corners I think. So we shouldn't have too square corners and that kind of thing. Yeah. And um sports and gaming device style characteristics. I don't know exactly what that means, but it should be, well yeah, popular kind of looking, I think. Okay. Yeah. Yeah, mm not Not that weird, because we definitely want to make it kind of flashy, to attract a young public. No, okay. That's a that's a sense That's just a matter of tastes, but We have to use uh kind of flashy colours, I think. Yeah. Like fronts in red and yellow and blue and Okay. Well this is a remote control, a very old one. Um Then the components. The case has just a Here's black. But we are making it uh Yeah, I dunno. Maybe. But anyways uh it should be transparent. We decided that, huh? S Okay. Yeah, we could do that. Yeah, but you could you could make 'em uh uh like blue and transparent. So you can still look through it. Um the buttons. Normal rubber I think. Like normal ordinary buttons. Soft. With the hard hard buttons. Okay. Yeah, it's it's all on one level. Yeah, on one level. Yeah, I know what you mean. So we have to keep it on the one level. Like with the top it's Yeah. Yeah, okay. Okay, it's chosen So that should be hard plastic. Then the buttons? I think. Or maybe Yeah. Yeah. Okay. And um Then the L\_E\_D\_. The normal infrared L\_E\_D\_ I think is sufficient. And back light L\_E\_D\_s. So But I think we have to make the case transparent, otherwise the back light won't work. So if you put Okay. Yeah, but we can still make it transparent. So Or no Yeah okay. Good. And in green colour, the back lights or Yeah? No, but I think there are multiple colour LEDs. So I I know I dunno. Is Maybe it's it's more important more expensive. I think it's Yeah, I dunno. Maybe it's too expensive, but I think I don't think so. Then uh some more technical

things. I don't know what it is, but it should be there I think. Um this is the normal circuit board, like a chip board in a lot of uh things. Well So we do we just need this and this transistors and resonators. There's all these kind of things. Um they they basically said that that's almost the same on any uh remote controls. So I guess we just need that. I don't know what they do or Nah, but they just said we need it. Uh the battery contacts, like normal batteries can you can put in. Yeah okay. Yeah but Yeah, but it is We don't wanna have a ar an How do you call it? Accu. Y uh just just batteries, rechargeable batteries. Okay. Not a separate Okay. And uh a chip, that's this one. Then uh I received some possibilities. Um for the energy source we can use batteries or a kinetic uh Like with the pulse watch. So it operates on your wrist kinda. If you hold it. Yeah, I don't think it will work, and Or we can also use solar cells. But you mostly use it indoors, so Yeah, and and we can use the home station kind of thing. Um cases, flat, so uncurved. Uh two D\_ curved is um like front to the back. And three D\_ curved is also in depth. So that's possible. Uh but with three D\_ uh curved uh remote controls, we must use rubber buttons. So we can't use the flat buttons. Yeah, I think. Um these kinda materials can be used. Yeah, I think so too. Yeah, scroll wheels um Yeah, that's good. We can use multiple scroll wheels, well if we want to. But I think just the volume is enough. And uh the L\_C\_D\_. So we need uh the

expensive, most expensive chip, if we use an L\_C\_D\_. Okay, then we we use m must use the second most expensive chip. So th so the regular chip. Because we use scroll wheels. And um Yeah, that was it I guess. Uh are are we using a a rubber case, or We haven't decided yet. L Yeah, i it it should be soft. You said so? So just hard plastic? Okay. Titanium, uh I think it's too expensive. Yeah, you can make it curved or mm round. But just in two D\_, not in depth. Yeah. Yeah th yeah, the chip is the the regular one. You have the simple one, regular and advanced. So it's b should be regular uh the second. I think I'll just check it. Yeah. Mm. Or should we do it in the next meeting? So we should did it here? Or should we do it in the next meeting? Okay. Yeah. What? Oh. Okay. Like a very big scroll-wheel. Okay. Hmm. I think uh you'll get a a lot of uh volume changing when it's not wanted. Yeah. I think it's probably better. Yeah, but maybe we can make a a plastic, so that you i if you like drop it, it won't change the volume. Only if you use your finger. I think in middle. Uh I think th the numbers should be in the bottom, and and the switch channel in the middle. Or you could do the switch channel up button above the the numbers and switch channel down button below. Yeah, okay. Uh but I think we we should bu uh put 'em on top of each other, so Because then it's it's easy to know m if I push the the the up Yeah, but the top the top button is is like you switch channel up, and down button is If you put them But uh but I I think uh left to right is more often associated with volume, and top down is more with uh channel changing. In uh On most on most remote controls. So so if we use that, they will probably have a long learning uh time. I dunno. Okay. Yeah, but i i it should be round in in shape. So No, tha that will be Yeah, so top down. Hmm? Do we have to design that w as well? The docking station? Hmm. Yeah, just a recharger. But we have to make contacts on the on the remote control and the recharger as well. Oh yeah, okay. Of the remote control? Yeah Yeah. Yeah, but we can we can do all kinds of uh As long as it isn is in two D\_ we can use all kind of round shapes. Not in depth. Yeah, but Yeah, if if we want to make it kind of, yeah, new. Yeah, but we could do a lot of, lot more curving. I would do it Like in this kind of shape or I dunno. I dunno if it's handy. This? The olden the olden ones had looked like just a square thing. Mm

. Yeah. Yeah, okay. Yeah. Yeah, I don't know. Mm-hmm. Yeah. Yeah, though that's a trend. If we want to make it. But yeah, I'm not a Trendwatcher, you are. So Spongeball kinda. Okay. Yeah, I d I don't know n something about ergonomic kind of fits-in-the-hand uh stuff. Yeah, but we're we're aiming at a young public. Hmm. Yeah, we could do that. Yeah. S Uh yeah, I don't know. Yeah, I think so. And we we have to build in a microphone and Yeah, and I do I don't know anything about that. I d I didn't receive any information on speech recognition, so Fine. Yeah, we probably do. No. Yeah, uh I have I have some some information about the cost. But just a about the chip. I don't know how much, but Just in inexpensive or But i it's a separate chip. Yeah, I don't know anything about this, but Nah. I dunno. Bonjour. Why? Okay. Check check check check. The power light doesn't work. You turned it off. Okay. Oh. Hmm. Uh Shall I start? No. Okay well I received an email Okay. I searched the web, uh and uh I searched uh on this d document, recent investigation of the remote control market. It has been done in Italy uh Italy and in uh another country in Europe, I forget it. Uh but uh they found out the most important aspect for remote controls happens to be a fancy look-and-feel, instead of the current functional look and feel. So it's very important for us to create something new. So what Michael just said, it must be uh some very different from ordinary uh remote controls. Fancy stands for an original look-and-feel of the case and interface. Uh this uh aspect is the most important one. Uh it came out of the research. It uh is twice important as the following. The second uh most important aspect is that a remote control should it uh technological innovative. Uh that stands for uh uh new technical uh features. And then uh that uh This is a point of discussion, because we just decided that we don't make use of uh L\_C\_D\_ or uh speech recognition. But um this is the second uh important uh aspect, and I think uh we

must use some of the new technology, to be uh innovative. Uh maybe maybe something new. We have to discuss about it s uh Okay, uh features not uh do not exist in current remote controls. And that's very hard I think. Uh the third one is the aspect of the remote control should be easy to use. But uh that was an overall uh point. We already discussed that. Um I've got one picture. Uh d our our target group uh we thought about was young and trendy. So I took uh that part of the webpage. And it says uh fashion-watchers of uh uh Pari uh France and uh Italy, yeah, uh have detected the following trends. This trends I th uh trend I think it's not um that meaningful for us, maybe. But it's about uh clothes and shoes. But the uh the next uh aspect also in contrast to last year, the feel of material is expe uh uh is expected to be spongy. But spongy, what what does spongy says? Spongy. Okay. Yeah. Yeah, it's something that uh it stand there. But I didn't knew uh knew what it means. So spongy means y Yeah. So it's also a stress-ball. Uh Okay? What do I think? Uh because a fancy look is the most important thing uh for remote control uh control, I think about changeable fronts. Uh maybe a see-through one in a a fruit front. Because it's uh it's hot. And uh some basic uh colour fronts. Uh so we can make uh five different fronts to start with or something. Uh maybe an extraordinary shape, like a sponge. Uh or uh, yeah, just another shape than a normal uh remote control ha uh has. Just uh something round in it, or uh maybe not uh not uh Yeah, I dun dunno. We have to discuss about that. Uh y yeah. Main point uh still uh is the technolo technological innovative. Yeah, how do we do that? Maybe speech? We ma must have some kind of gadget. So Intro Yeah. Yeah, that's the problem. That's the main problem. So Maybe we watch the first uh the next two presentations. Okay. Uh let's first watch Paul's presentation first then. Oh. It's mass production. So you can say,

you can Yeah. But how uh we we're gonna make many of those. So we can start a mass production, and then the cost will still will be. Yeah. Okay. That was this? No, I don't uh I don't like it. Okay. Square. Like. Mm. Oh yeah. Uh uh Yeah. The the the new uh new modern uh remote controls, uh the buttons are part of the uh the style, I think is part of the remote control itself. It it's one uh a one uh out of one shape. Uh it's n doesn't Is uh a button uh um How do you say it? It it didn't it i it don't come out of the on the background. It is in uh the c a remote control uh Yeah. Yeah. Uh i Yeah, but can you change it if you already bought the the remote control? You Hmm. Okay yeah, you can you can change Yeah. No. Ah cool. Okay. Okay. Mm Uh but we have to do something about the trend. The trend is uh spong spongy uh and uh fruit or fresh fresh. And uh now we have nothing about uh about those those two. Uh yeah i Just Just on front. Neith uh I don't like it uh neither. Yeah, that's not not It's not al uh always the same. Every remote control's uh different. Yeah, we have to care that it r uh looks really new. Because uh we still hold on to the uh ordinary uh uh square uh remote control. 'Cause wha what I see the only difference i i i in fact is that we use a scroll-wheel on the outside. Yes. Okay. And a bit uh Some some kind of bling bling uh mm can we have Uh and how many uh fronts uh fronts do we put on the market then? Uh five or something? Or more or And um uh uh buy the product. You buy, you get one. And uh basic. Or you can choose one uh if you buy the project. Yeah, you sl uh you let it slide in the docking station. Yeah. Yeah, we can b It c it could be just just a square, just a packet. Yeah, but that's a round one. Maybe we can choose then. Yeah. Yeah. What do we do wrong? Hmm. Just just more like this and not uh a square. Okay. Yeah, it Uh it's very annoying. Okay. Uh Yeah. Yeah. Yeah. Uh the t the trend is spongy and fruity. But yeah. It's not not a lot of trends I uh I found uh Uh It The th th Yeah. There is one There's just one overall important aspect is that we must make it fancy and it looks original, and I hope we can uh make it look not like the iPod itself. It must have uh uh uh a very different Yeah, they're all the same. Uh yeah, but uh if you the f uh front, the scroll wheel will still uh be yellow. No. If you set the pen yeah, he will draw here. Doesn't work. Yeah, I'll see it. Uh No. Oh that's hard. But

Uh the main points I I I uh just said. We have to be original and uh technological innovative. Because Yeah. But Ma But we don't have any information about the cost. We started with information about the cost was now the And how much is the chip? The the the And how does it work? Is it No. Does it say does it say something back? Okay. Um Yeah. Fine. Hello. Oop. Okay. Okay, we're just going to the later. So we're going to talk about the conceptual model. So that's me. Uh okay. So Uh okay. Okay, so I just show you the m the no mm mm the the the the the minutes, minute. What's it called, I dunno. Whatever. Okay, so we just talked about uh Oh you want me to show that there or Okay, we just talked about it looks. Has to look nice. Usability is very important. People don't want to spend money on something that's similar to cheaper ones. Um It has to be very basic, not too many buttons. Light switches on if you use a button. Uh text T\_V\_ still has to be a possibility. And it has to be easy to learn. That were the things I uh make minutes of. And the functions are volume, channel to choose channels, an on-off, a mute uh button, and a text T\_V\_ button. That are the functions. That right? Okay. So I just want to give you uh Mike again, the first uh presentation of your Yeah. But we already have the flashing flashing light on the Okay. Yeah. Hmm. But maybe that's a definitely a good idea, because you've you're you drop y your remote control very often on the ground. So it has to be flexible. That's

a good That's a good idea. If it's de like that. That's good, a good idea. Is it a bit like like the the the the remote control? R\_ soft. Okay. Yeah. It's very uh difficult to to to do it. Because it's only twelve and a half Euros you have to spend on every remote control. Okay. But that's definitely more expensive than Yeah, but a telephone Okay, yeah. But a telephone also have a L\_C\_D\_ and and it's about t two hundred Euros. So uh Yeah, just modern modern but still uh basic. Yeah, maybe the teletext tel No. Yeah. Yeah. But it sounds very difficult to use. Because um the volume and channel is on the on the the bottom of it. So you can't use your thumb for it. Yeah, down there. But it's not not the best best. Yeah, for volume. For volume, or a channel. Yeah, why not. And the channels as well. Oh yeah. Yeah, that's better. Yeah, just th th th other buttons like text T\_V\_. Put that on the button bottom. Mm-hmm. Yeah. Except from the on-off button. Yeah. Yeah, that's cool. Okay. We have to decide this this lecture, or this this this uh fifty minutes, yeah, how it is gonna look. Okay, so Hmm, okay. Yeah, we have to put our Real Reaction logo as well on the on the remote control. So the colours also. So we have ha to make it in black, black, yellow. Maybe the sides in yellow and the the the top in black. We make i Maybe you can put yellow on the side and black on the on the front. Yeah, it's cool. Yep. And still trans Still still transparent. Okay. Yeah, we make it som Maybe we have to make it from soft material. Uh I'm not sure. Yeah. Just give five with them, just in a box. Five different Yeah. Cool. Yeah. It it could be like a Nokia, like plastic. That's better prob Yeah. Yeah. Yeah, that's cool. But maybe you can m make a uh round fluff or soft material. Just only the basic uh basic remote control from normal plastic, and the rounds of it from softer s I dunno. Y Cool. Yeah. Y i if you The numbers could be can be Yeah, that's right. They can choose. Blue. Yeah, but you can't choo You can't choose it when you buy it. You have to choose Is it Okay. Yeah, okay. Maybe put some different ones in it. Doesn't matter. It's just No, just some LED. Okay, cool. Just make it some different colours. Blue, red and green, or something. Yeah, we have to hurry up a bit, so Okay. Yeah, a recharger maybe. We still want to have a recharger, don't we? Is that still the A recha Oh no. Uh Battery. It's just a battery. Yeah. No, just rechargeable batteries. But normally you put a remote control on the table or on the couch. It's dark in the room. No. It's just batteries, that's cheaper. Yeah. Yeah. Definitely. But it doesn't really matter, we just make it plastic. The scroll wheels, that's cool. That's for the volume. Yeah. Okay. I don't think that's an opportunity. Just skip it. Because we don't have time for that to to put it in. Yeah, okay. Okay. Oh just sk Maybe you have to

skip that one as well. It's No. No. Yeah. But maybe the form has to be a bit different. Not the square form. Just a bit more rounded. Yeah. Yeah. Yeah, that's right. So We have to decide which one we're going to choose from these. What exactly. Because we have to know it. So the energy uh is the recharger. We already know that. Just a normal battery. Okay. The chip-on-print is a normal one. Okay, the case is just a plastic one. Yeah, re Yeah, regular. Yeah, okay. Yeah, regular. Okay. And we need a plastic case, with a scroll wheel. That's pretty much it. And a flashy light. So uh I'm not sure. But we do I don't know if we expected to draw on this one at this moment. But Yeah. That's for the next one. That's for th Uh that I think that's the next next meeting. But you definitely get a specific instruction. But th think about something that's more rounded. Just And more It has to be Uh a bit. Just just on the top or on the bottom. Maybe the wheel can be uh like uh like this. O um if you draw it like this, you get a What the fuck is it? Okay. Mm Doesn't work. You see wha

t I mean? If I draw here It draws about four centimetres lower than Nah okay. Just. Maybe you can make it like this. And this is all the wheel for volume. So that you just um It's all rounded, so you can do uh turn this one. Yeah, but just not on the top, but uh on the side of it. Maybe, I dunno. Okay, so we have this at the moment. Okay, so we'd have this. Is that okay? And Like this. And uh what's the channel choose? Where do we uh put that? Still on the bottom or That's the numbers. It doesn't make a difference, if you put the s uh the switch channels on side of each other or on top of each other. Because you already have the volume here, so You can also put it here one butt and the other one there. Next to each other. back and forth. So you can also can put it all on the top, and this, you keep this empty. Because you have to hold it as well. But that's not want to zap very quick, so Yeah? Is this a opportunity, or you don't want a different Why? But still the next It's still the next one. Doesn't make Yeah, but fo from left to right is exactly the same. It ma it doesn't make a big difference. But it's exactly th I dunno. I You already have the volume on the side, so you can't make it you can't ma make a mistake. So it's uh So but that's for that's for you, 'cause it's Okay, so hmm. What did What else we have to discuss about? I dunno. Yeah. And the LED. Uh Yeah. Yeah. Uh the logo was has to be on there. Yeah, that's right. Yeah, five. Let's give five. So y you can put the bottom of the remote control in recharger? Is that is that a good good opportunity? So you could put it like that, okay. Uh I'm not sure. But maybe you can just round up the corners a bit. That's all. Yeah. Just round it up. No. Yeah. Yeah. No, just just the corners. Okay. Shapes. It's a bit annoying, isn't it? So we have to make a decision, what kind of form it's gonna have t going to have. And you have the scroll button inside. Okay. But why do we have to round it on the t bottom then? Of Skip that one as well. Okay. Yeah, it's cool. Rubber spongy. Okay, so we have s still one minute left. So just I think it's okay if you just keep it a bit square. No. But I I think it's still for older people. You j still have older people. It's only annoying if it if it's like that f formed like that, like f Whatever. Just you have a normal But i it is it is it is already fancy. Because of the lights on the bottom of it. That's already fancy. Uh maybe maybe make the the mm the wha what's it called uh scroll wheel. Make it in in yellow or something. Just like the colours of Real Reaction. Yeah. It's right. Yeah. Yeah. Maybe the ones we are going to draw there. Maybe we have to ask uh to the the mm to her if it has if it can work better than this. Because it doesn't work properly. So maybe you have to ask her. Okay. Yeah. That's probably Okay, so just finish it. So we make it a bit like m that one probably. Yeah. Is that okay? Okay, only the colour and the flashy light and the We just we just skip the the the voca or was it the the speech recognition. Or keep that? It's okay. But you'd definitely need a advanced chip. So Can we just put it speech recognition in it as well, okay? Yeah. The function of that in there. Yeah. And we need a Probably we need a uh advanced chip then. But it doesn't say anything about it, does it? It doesn't has to say anything. Just You have to just talk to Okay, we have to stop it

now. So just Okay, that's a r That's that's a advanced Yeah, we just decide not to put it in, because it's too difficult. Okay, we just put it in, because it's a good feature. We have to stop now. Okay, just We have to stop it now. It's It won't wake up. Yeah. I was a bit early. Like What? No, I just came in. Uh normally I was one of them. Come on. Why won't it wake up? Is it on? But how? Ah, there it is. Uh. Yeah, I received an email as well. Which one was mine? The minutes. No, just tell us. Yes. Hmm. Yeah, more. Well, I'll I'll get back on it. Spongy. Spongy, lik

e sponge. Uh soft materials. Yeah, but Yeah. Soft, sponge. Yeah, but Yeah. How are you gonna make it? Yeah. Yeah, I'll get back on that. Well, I got f also an email from the the technology department. They have done uh research about it, and uh even more possibilities now with speech. So they recommended using it. Well I'll check what they exact mean. So uh Yeah, th that's the only problem. I d They don't say how much it will cost, so Um but uh if we implement uh speech recognition, I think it would be better to implement L\_C\_D\_ as well. Since you have to uh configure speech thing. Yeah, that's that's something I dunno. Yeah, so uh we gotta de We have to decide on that. Mm uh L\_D\_C\_ doesn't require Okay. And speech recognition? Advanced. Yeah. I'll I'll give you my design. Yeah okay. So we Well we can I had uh to make a sort of a design. So I did some searching on the internet. I watched the old remote controls and news com remote como uh remote controls. I think we should um This is one of the modern remote controls of the moment. I think we should go more to the iPod and M\_P\_ three players. Mobile phones. More modern. Y yes. Um you probably have to make it a bit bigger and a bit smaller. 'Cause remote con control, you can see it here, you have to bo reach both out both sides. And here you just have one, few buttons. So that's that's the main difference. But looks uh I definitely think we should go like this. And then changeable fonts, so It's the most important part, I think. But And the home base is something like that, something simple. Well and then I just ordered the the buttons a bit. Uh basic buttons. On-off, mute. And th maybe two others, I dunno. Text buttons. Yeah, text button, maybe there and there. And then the colour buttons, if we want it on. I don't find it very usable, but it's Uh I don't think it's fits in the the modern theme as well. So and then yeah we saw the the pla display, in the the iPod. They can put the basic buttons, one, two, three, four. And uh f above ten. And I think No no. That th there is no display there. But it's on the place of the display. And I think we should uh light this up much more than that part. So the focus is on these two parts. So you don't see all the buttons you else need. Uh well um This is how it is now. Um Here uh Well we have volume. Yeah. Well here we have also side scrolls. I dunno if we can use that. Do we want to use For volume? Well then we can even simplify it more. By just putting the volume on the side. And and just channel buttons here. But I think uh Well. Yeah, well it's Basically it's it's here. They're on top? You mean uh these to the low? Oh okay. Well, yeah. Mm Maybe. I dunno, but yeah we'll Yeah, maybe it's not easy if it's below. It's harder to zap. So I think uh it should be should be easy to. I think it's pretty standard, these rubber buttons on the top. And uh if you don't light 'em up, they don't uh you don't see 'em very good. I think it's modern to light this area up, and to light this area up. So the focus gets on these parts and not on there. But uh the position of course can be different. It's s We have to look uh what's easy to use, and how it's easier to use. So we can uh switch these to I dunno if it I will look good, if you put those on t on the bottom half. Okay. Yeah, maybe Those two, yeah. And uh, yeah, you have to make sure it's easy to uh Yes, it has to be big enough so you can hold it, right. Well that's that's my findings. So uh my personal opinion is that we should go more modern look. M\_P\_ three player. And uh well um if we want to put in speech rec recognition or something, we I don't think we should put it on top then. I think that, if we're gonna put in more technology, that you need to be able to uh switch it open. To use So if you put in uh speech recognition, you need so more uh many more buttons. Which won't look

good on the front side I think. So that's something we have to decide on. Yeah. What we're gonna do. Okay. Yeah wel

I uh iPod is trendy. And it is well curved square. Okay. So not Yeah okay. Not uh the old uh box look. Mm Yeah, it's Black yellow control. Yeah, but uh I don't think the the colours black and yellow go well together. But Yeah, okay. Uh can't we use um different uh fron uh fronts, with all with the the logo on it? Can we do that? So Yes. So Yeah. But with all with logo on it. Yeah. Well one of the options. You can Just like a mobile phone, you can make um different fronts on it. So you can just replace them I think. That was the idea, or just uh release one. Yeah, uh Or just uh sell different ones. Yeah. Yeah. Yeah, I uh I dunno. A more Yeah, just uh I think uh rubber really has an odd look. Yeah. Yeah. Yeah, like mobile phones. Like uh the iPod. Uh just I dunno what uh kind of material it is. But Oops. Yeah. Yeah. Uh you can just make them around the buttons uh Yeah. Or it runs the whole Yeah, you can halves transparent, or just that it's comes out a bit. Different, I think, also. Blue or red. Whatever you want it, I think. Uh depends on the colour of the Yeah, that's true. But Yeah, it can. 'Cause this a mo mib uh mobile phone as well. I have the mo mi I have a blinking light on my phone. And I can change the colour of it. Well, we don't put put in any fancier technology yet. So I'm sure we can fit in. Yeah. Yeah okay. We just Yeah, we have to make sure to uh Yes. Yes. Re recharger. Base station. Yeah, batteries. Yes, rechargeable batteries, I think's best. So if you hold it, it gets powered. Mm. So we need uh two D\_. Yeah. Yeah. Uh For channels it's not handy, because you scroll too fast. Okay. Uh I don't think a rubber case looks Yeah, okay. That Uh fruit and veg, or Yeah, fruit and veg can be just the covers. So you can the the spongy yeah, I dunno. I can't imagine a soft remote control. I just can't imagine it. Yeah, I think. Titanium. It's mentioned here uh. Okay. Yeah. We have batteries. Regular. Yes. User interface concept. I dunno either. Uh I\_D\_ and U\_I\_D\_ work together on prototype drawing on smart board. So we're staying here? Okay, so now we're ka thirty minutes alone again? Yeah, uh I dunno. But the iPod and etcetera, M\_P\_ three players, mobile phones. Just a bit cur Okay, I'll see if I can see any of those. Yeah, you Yeah. Yeah, that's a little problem, of course, as well. Yeah, maybe you just have to make it uh That's not scrollable too easy. Uh wh what is the middle part? Numbers, okay. Yeah, I agree as well. Use the dz Yeah, that's right. Yeah, I think uh zapping is the highest priority. And then you use those uh Yeah, of course uh. Yeah. I I think it's It's it's obvious, I think. Yeah, I think No, uh I think Yeah. I think it's s so simple you just Yeah, okay I'll d I'll take a look at it. Think we need to work uh thirty minutes again? No, you have uh It is Uh the current uh controllers are all black and plastic. You have to look at that image of the iPod. More that uh kind of style. Not not the old grey black Where you can put a ve Uh we have If we do it like that we have below have we uh a lot of room to put a nice logo. Maybe you can buy separate ones and uh Yeah. Um I think Yeah. That's your choice, I think huh. Yes. Yeah, I think so. But th Yeah, that can be very simple. Least. Yeah, just where you're around something. Li Yeah, we had one example. Mm. Mm. Which w Here you see one that's very round. So I think that can be all kind of shapes. Yeah, so y you don't want uh this uh like the iPod. But More rounded. Yeah, I think it will just look like more like this one. Since it's This is also rounded. I think i Yeah okay, tho those are al already a bit cornered. Mm Yeah okay, but then we have to think of something totally new. I've uh I had a lot of picture of old ones. And all curves have already been done. Yeah okay, yeah well Yeah. I know we can do a lot more, but I think it will only look more like the old remote controls. Yeah. Yeah okay. But uh I had a lot of pictures Oh I can show you here what the old

ones look like. Curves, curves. You've more there as well. It wasn't very small one. very simple. That is for elderly. I think if w My opinion. If we just uh take the iPod, and the same look. So uh light or just whatever colour, but the same light colours. And uh just with uh together with uh the back-lights b look

will look very new. No rubber buttons or something. Just together with the back-lights you'll get a totally new look. More like the M\_P\_ three player M\_ um P\_ M\_ P\_ three player. Yes. Just a simple scrollb Doesn't have to be. Yeah. No. Spongy and Mm. Yeah, idea. But you're If you look at the way remote controls are now And if you make it look like the iPod Yeah okay. So that's already a very big change compared to Ye yeah. Well uh Could. No, I think Oh. Think the scroll wheel won't be very big. Since if you put it uh somewhere, the chances that it will scroll are too big. So it will just be a small small scroll wheel. So it won't uh stick out much. Yeah okay. Well, maybe we can just open images there, and I'll paint and paint. I'll be able to do a better job. Bu Yeah, I agree more like iPod. Yes. Just a Speech. Yeah, do we s keep that? Yeah, I think Well uh then it w Well that's very easy. We already have uh the beeping of the home station, so Uh strange that I received the information about that. So shall we it open then? So we can put all the Okay. Yeah. Oh yeah, I No. I just I just received the Yeah. Yeah, our division has developed a new speech recognition feature, the integrated programmable sample sensor simple speaker u unit. This is a very small electronic unit, will give a standard answer after it recognise a question. Doesn't say. Just You say record, followed by your question sample, and after a few seconds the answer uh sample. Because uh So it works like uh good morning remote control, and then the remote control says good morning. Yeah uh th that's just It's a No. Yeah, it Well that's integrated in the chip, so if you use the speech recognition, that's in it. I dunno, but if we use speech recognition, that will be in it as well. Well it it would be would be a good feature feature. Okay. No no worries about the cost, etcetera. And there's a chip in it that will Okay.



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# Meeting ID: 20

Data Source: Train

## Executive Summary

Okay , let's have a look to the agenda today . So , we are going to have a meeting about the functional design . Um so first before starting I w just going to uh to go quickly to through the minutes of previous meeting . So uh basically we we are not decided if w we should go for a universal or specific uh uh remote control , but I have new um new i inputs for about that topics . I goin I'm going to share with you . so we are going to go through three of your individual presentations . But first I would like quickly to uh to decide of to give a name to the project . So , I just put d quickly Remo , Any ideas ? Uh Maybe a Spanish name would work well . Mando . What does it mean in Spanish ? Control . So , let's go for Mando ? you could have the fonts you know special , Although you don't wanna cut uh cut women out of the uh potential buyers though , I I think this is more a question of of look and feel . Something that should be addressed later We should we should go to other for the other topics . So maybe we could start with the market , yeah . and we have to find the weaknesses and and the the improvements we could do to the current remote controls . And also I di I did a study with for the incorporation of new technologies Well more most of the people think that remote controls are ugly , thoroughly . So and they they admit that the the they should uh s they would uh spend more money in a fancier remote control , the the younger people are the more interested they are in incorporating new technologies in the in the remote control . So in my opinion the Mando this Mando shouldn't be very small So it may be interesting to to think in a in both prototypes , for right and left handed people . Well th the on the thing is though , most remote controls are used by more than one person . Well maybe it could be a universal design . And finally , the incorporation of a L\_C\_D\_ or a speech recognition system in the remote control could also be interesting , but I don't know if the budget would be large enough . But most of yeah most of the young people to thirty to thirty years old were really interested in this kind of technology . We had the new requirements from the so uh from the head offices of the company , and so they wanted so they want to um they would like to be restricted to T\_V\_ . and uh finally , it should be clear that the corporate image , that means colours and logos of the co our company should be clearly inde identified in the product . So we have also to focus more on the internet aspects because well well te teletext is outdated now I was still uh I was still working on this uh twenty five Euro price point because I think actually having looked at some of the remotes out there , this is quite a low uh price I think even even if it was within budget do a speech reco rec system it might be a bit difficult because if you think if you're

watching T\_V\_ you're gonna have a lot of this uh background noise from the T\_V\_ which might interfere with the it could be command control kind of thing . It requir recognises particular sequence and then it gets activated . Okay so um while uh researching this this topic I first of all just thought of a couple of things that I would like to see in a remote , and then also searched for which are the top-rated uh remote controls on Epinions dot com , which is a a you know a a customer um written basically review site . and and uh this remote control on the right here is is one of the more extravagant , well basically all the functions uh are controlled through through the L\_C\_D\_ screen But um the thing that I find most interesting about this remote control , and it's kind of difficult to uh to see in the slide , but it has a scroll wheel on it , I think that a scroll wheel is actually pretty a pretty handy way of of changing the channel . because obviously a lot of this stuff can't be done for twenty five Eu uh Euro , but one possibility is to download program information into the L\_C\_D\_ screen this is another multi kinda purpose remote control where it's it's it's very simple , So this is something else we might wanna consider , is really kind of limiting the number of buttons , but I think also you know the location and and shape of the buttons is important , but also the number of buttons . Um I think maybe one option is to have you know a little flip-open um door that uh that you have hidden most of the time , but contains the extra buttons like , say , the number buttons for instance . Um if I had my perfect remote control , I'd probably just have no numbers at all on it because they're just in the way . because w if people see a remo see the see a remote control without numbers mm they will think it's very difficult to learn very difficult to very different build very different to the traditional Um okay , so , I think um one of the really kind of useful things you can do with with internet connectivity would be to have this a programme driven interface rather than the channel number . the scroll wheel could be used without an L\_C\_D\_ screen , just for changing channel numbers easily . and maybe we wanna make it something that's extensible to do other tasks . Then you say potentially you can then do other cool stuff like change the lights , I dunno , close the windows , whatever , turn the heating on , user i interface could be of two types , one is the usual press buttons which are there so that the user feels that he is knoing doing some he is knowing about that technology . and on top of that there there could be a speech recognition technology also being sitting on the on the remote . but we have seen before that there is a new way of interacting that use wheel . And for voice , limited vocabulary automatic speech recognition system is required and we require a microphone also to be sitting there on the remote . That increases the the cost also . Do you think that performance of such systems are enough to to target well of such technologies is enough ? Well wh uh I imagine also that the microphone will be an ambience um a um an ambience microphones Well one one other thing that that speech recognition could really blow out the price for is uh when you want to sell into other markets , though , my personal preference was that we can have A\_S\_R\_ sitting there on the remote control . I'm sure if you can sell a a speech recognition remote control for twenty five Euros everyo everyone will s will buy it . Actually I'm not so sure you know if I was using a remote control to , say , turn the volume up because I can't hear it very well , I don't really want to you know drown out what people are saying by talking you know when I'm when I'm instead of pressing up on on a remote control . we need to have um um remote control which is fanc fancy , which is uh which is easy to to hand not too small , not too big . We should bring new technologies for young peoples , So so my feeling is that re regarding costs budget we have an an an target price , it's not possible to go s to go to L\_C\_D\_ and also to go to automatic speech recognition

technologies . you say we're focusing on T\_V\_ , but is it still a kind of like a universal remote in that it's a replacement remote control , or is this something for our own line of televisions ? well , could we fit the the targets uh in terms of cost uh if we go s to L\_C\_D\_ on the remote control ? For twenty five Euro ? I think it's impossible . because for twenty five Euro I think all we can really do is provide a very basic remote control , So I would I would like to know if there's any chance of of increasing the uh of increasing the unit price . what would be the goal of putting an L\_C\_D\_ in a remote control ? So what would what would appear in the in the L\_C\_D\_ ? So you could have the name of the programme , you could have um the start time you know where it's up to . Is it that we are targeting the replacement remote market , or what ? I think that the speech recognition technology would be cheaper the than the L\_C\_D\_ . so that mean w w we need an in an extra internet connection to use the remote control , if you want to browse , in addition to the T\_V\_ , or uh or it should be a special T\_V\_ connected to The L\_C\_D\_ is still on disc is still open to discussion . we don't go for speech recognition technology . I think the type of people that are gonna want to buy a very stylish rem r remote control with lots of new technologies are the kinda people that are gonna have you know a wireless internet connection maybe , or a you know . But then we should move to another target b because at twenty five Dollars , Can we can we increase the the price point of this remote control ? I'm no I'm definit definitely not keen on going to speech recognition technologies . Um so you have to work on the component uh concept . Uh you have to work on user interface , and you have to go through a trend watching . So the question is still open about the L\_C\_D\_ thing .

## Complete Meeting Transcript

Uh. Mm I was thinking of the Mando. Mando. A\_N\_ yeah D\_O. It doesn't it doesn't sound cool for me, but maybe for a Spanish for I for Control. But mm, yeah. Mando sounds Latino. But yeah it uh Yeah because if the product will be international Maybe maybe I should uh start. Yeah. Mm. Okay. Yeah. Should be in participant four. Yeah, yeah. Uh. Okay so yeah I will I will give a brief outline about what I what I prepared for this meeting. For the functional requirements and especially for the for the user requirements. I prepare a marketing report and we have to find the weaknesses and and the the improvements we could do to the current remote controls. And also I di I did a study with for the incorporation of new technologies it seems that the remote controls have been have remained the same for the last five, ten years. There is no no significant difference between the the b the first new controls and Yeah. Yeah. Well more most of the people think that remote controls are ugly, thoroughly. So and they they admit that the the they should uh s they would uh spend more money in a fancier remote control, which is which is good and it's interesting point. Also the people are worried about about the R\_S\_I\_ disease, which is if you repeat the sa the same movement, which is not a with a not very appropriate device, you you will have problems whe when you will get old. So s people are uh are worried about the the shape of the of the remote control. They are also they get angry very often because they lost the remote control very often, so I think it would be a good point to to I to to find a a solution to any beep any alarm or something incorporated to with the remote control every time it it get lost. And also I found that young people the the younger people are the more interested they are in

incorporating new technologies in the in the remote control. So in my opinion the Mando this Mando shouldn't be very small because the smaller it is, the more like the the likier it is to get lost. Likier or more likely? likely. Okay. Uh people also complain because they they they all have the same size of the buttons for buttons who w which are not very use like f uh memorising channels or or this kind of actions which are not very often but they they shouldn't they shouldn't have the same importance in the in the uh in the remote cont in the remote control. Also the z the design should fit the hand shape. So it may be interesting to to think in a in both prototypes, for right and left handed people. Yeah. I dunno I th Anyway I think it could be int interesting to to release some a a small fraction of of this remote controls. Sorry? Yeah. Yeah. Sorry? Yeah. Like uh Yeah, like No no I was thinking of so like something yeah. Yeah. Yeah yeah. It sh it shouldn't it shouldn't be symmetric symmetrical. Not anymore. That's what yeah. And finally, the incorporation of a L\_C\_D\_ or a speech recognition system in the remote control could also be interesting, but I don't know if the budget would be large enough. But most of yeah most of the young people to thirty to thirty years old were really interested in this kind of technology. Actually this marketing report is restricted to T\_V\_ remote controls. Yeah but you should be able to activate or disactivate, so yeah yeah. Yeah uh channel fifty. Yeah. H I think I think that the tr the transition to this to this new remote control shouldn't be very very abrupt very hard because w if people see a remo see the see a remote control without numbers mm they will think it's very difficult to learn very difficult to very different build very different to the traditional If y I'm sure if you can sell a a speech recognition remote control for twenty five Euros everyo everyone will s will buy it. I'm sure. Yeah but you know the the average frequency of pushing buttons, it's about it's about eighty eighty eighty pushes per hour, or something like that. With a good shape for the Yeah. Uh What would be Wha but what would be

one question, what would be the goal of putting an L\_C\_D\_ in a remote control? What what kind of information? Yeah but mo most of the T\_V\_s nowadays show the show the the n Yeah but yeah most of the T\_V\_s have teletext nowadays. Yeah. So what would what would appear in the in the L\_C\_D\_? Okay. But Yeah. I think that the speech recognition technology would be cheaper the than the L\_C\_D\_. Because with the L\_C\_D\_ you need more requirements. You need a internet connection. You need m more things. But for the speech recognition you you don't need anything. You just say channel fifty, and that's it. But then we should move to another target b because at twenty five Dollars, it's To move to another target? the expert uh said ninety five percent. Okay everybody is ready? Good morning again. So, today we are going to have a f second meeting. Oh Michael, hi. You're late. You have a good reason for that? Very good. Okay, let's have a look to the agenda today. So, we are going to have a meeting about the functional design. Um so first before starting I w just going to uh to go quickly to through the minutes of previous meeting. So uh basically we we are not decided if w we should go for a universal or specific uh uh remote control, but I have new um new i inputs for about that topics. I goin I'm going to share with you. And uh basically we decided to um to uh go to individual actions for each of you uh so um Industrial Designer should wor was supposed to work on th on th on the working design. You showed us you ar you you prepare something for us? The U\_I\_ guy also uh work on that, yeah, and for the mar our Marketing Expert should deliver some specs. Alright so so we are going to go through three of your individual presentations. But first I would like quickly to uh to decide of to give a name to the project. So, I just put d quickly Remo, but if you have any o other names that we co could decide for just to to keep something fun for our project we we should we could discuss quickly. Any ideas? Powerstick, yeah. What else? What else? Mango? Mango? Mando. M\_A\_? M\_A\_? M\_ D\_O\_. Mm, okay. What does it mean? Oh. Hmm. Nice. Okay. So, let's go for Mando? Yeah? No objection? Great. So Okay, I think this is Okay. Okay, I think this is more a question of of I I think this is more a

question of of look and feel. Something that should be addressed later. We should we should go to other for the other topics. Yeah okay, so let's stick f to Man Mando for the name and we'll see for the for the look and feel later. So let's go for the three presentations right now. So, who want to start? So maybe we could start with the market, yeah. Okay so I have your slides somewhere? Participant four. This one? S that's coming. Uh okay. Great. Mm-hmm. Okay. Sh next slide? Okay. Mm-hmm. Okay. Yeah. Something with the shape of the palm? On the sides. And then finally Yeah. First I'm just wondering about the L\_C\_D\_ stuff because uh because Yeah, so maybe it's a good time for me to uh to bring you to some new uh new informations. We had the new requirements from the so uh from the head offices of the company, and so they wanted so they want to um they would like to be restricted to T\_V\_. Okay, I dunno if you had this information already. No, so they want us to restrict the remote control to T\_V\_ only because of time limitations. Um they want also uh Excellent. So we have also to focus more on the internet aspects because well well teletext is outdated now and uh finally, it should be clear that the corporate image, that means colours and logos of the co our company should be clearly inde identified in the product. So Yeah yeah. Sure sure. So maybe we can jump to your presentations, right now. Okay so let's keep in mind about tha that that this last point about L\_C\_D\_ and speech uh reco Sorry, what is your? Okay Michael. Sorry? Um yeah. The wheel doesn't work. Looks like a P\_D\_A\_? Mm-hmm. Mm-hmm. Okay, can you continue, please Mi? Mm-hmm. Okay. Okay. Okay, thanks. you w

ant to go? This one? Great. No, not that one. you are two. Alright. Okay, sorry to interrupt you, but we have seen before that there is a new way of interacting that use wheel. Okay. Mm-hmm. Yeah. That increases the the cost also. Do you think that performance of such systems are enough to to target well of such technologies is enough? Okay. Well wh uh I imagine also that the microphone will be an ambiance um a um an ambiance microphones because you are not going to speak into into th into the remote control. So it could be s a few centimetres. Yeah. Okay. Okay we shou we should discuss this la later after after after this this uh slide. This is a this is a this is a a very important uh issue in discussion. Okay, next. Uh that finished? No? Components? Yes sure. Okay. Okay. So your your opinion is that we should go for special condition technologies? Yeah. Okay so Okay gentlemens, we have to take some deci decisions right now. Um so if I if I kind of summarise everything we've de we we said. We are targeting T\_V\_. We need we need to have um um remote control which is fanc fancy, which is uh which is easy to to hand not too small, not too big. Um we have or good shape, yes. We should bring new technologies for young peoples, and uh as we have uh also requirements to to use uh to to push thr toward the internet. Maybe this is something we can stick to it. And um also, a very interesting things I I I've seen on on on the one of the comp o our competitor is this wheel that we can use to navigate. So so my feeling is that re regarding costs budget we have an an an target price, it's not possible to go s to go to L\_C\_D\_ and also to go to automatic speech recognition technologies. Uh first m m why not to go to L\_C\_D\_. Because um in fact as we are targeting uh T\_V\_ in fact we can use T\_V\_ screen as a screen to feedback to to give some feedback informations about what we could have. Yeah that's right. Don don't you ha don't we have contacts with uh people on T\_V\_ or or well systems that exist that we can use? Yeah. Yeah. That's good point. What's what cou what could be the cost of uh well, could we fit the the targets uh in terms of cost uh if we go s to L\_C\_D\_ on the remote control? Yeah. So you mean yo you mean we we should target something maybe which is which would be more expensive but re really fancy in terms to um in terms to had to have really an added value? Okay, so regarding the automatic speech recognition, I think this is They have tele teletext. Well, because they have teletext on it. Th th you have a teletext sin signal that you can that you can uh that you can get thr through the

channel. They have t most of them have teletext, but we want to get rid well one of our requirements is to uh to move to teletext to uh to the use of internet. So to to uh to browse more easily the teletext. For instance through uh through your remote control. The ti the start time, all the p all the programmes you could have uh o Well I don't know if this information is available from teletext, also. Well because for the same reason that we cannot uh informations on the T\_V\_. We c we couldn't grab information information which is not there. So so that mean w w we need an in an extra internet connection to use the remote control, if you want to browse, in addition to the T\_V\_, or uh or it should be a special T\_V\_ connected to Okay. We need to close the meeting. Um so Very quickly. No. Yeah, well people go to buy another remote control when they broke n broke their, and they want to go t for universal one, and they take the fanciest they can have. So this is that we z that that we should target. So the com the um the uh the committment is the following, we don't go for speech recognition technology. The L\_C\_D\_ is still on disc is still open to discussion. It is up to you to go through this um uh this way and to to report report me back next meeting. So Yeah, but not sure. Maybe it's cheaper, but we have no Okay this is this is an open question f

or you. Yeah. This is uh up to you to tell us. But I'm definitely not keen on to to no no no, I'm no I'm definit definitely not keen on going to speech recognition technologies. I'm not confident enough. I'm not sure that that we'll have a product really that work. I uh that work It's real yeah. How to guarantee such performances is really hard. Well this is still is is very bad. So, this is the end of this discussion. Next meeting uh here are the task you have to work on. Um so you have to work on the component uh concept. Uh you have to work on user interface, and you have to go through a trend watching. Okay. So the question is still open about the L\_C\_D\_ thing. Um uh we I hope that next meeting we will uh we'll take some um decision that direction. Thanks. Bye. Yep. Yes. Mm. Uh the Powerstick. Maybe a Spanish name would work well. Especially if we're selling into the U\_S\_ market becasue there's a lot of Spanish speakers there. Maybe something that sounds cool in English but sounds funny in Spanish. Mando. What is that? What does it mean in Spanish? Control. Okay. 'Cause it also like in English it sounds like you know the man's tool you know because you know men like to have control of the remote so it might The Mando. Yeah that's. And we could have some like you d you could have the fonts you know special, so you have man in like in in uh in one o in one font and then the O\_ as like Although you don't wanna cut uh cut women out of the uh potential buyers though, do you? So Yeah. Marketing. Well that's the thing. We need to know who we're selling it to before we can really decide on a Um. Yeah. More likely. Well th the on the thing is though, most remote controls are used by more than one person. So unless you're kind of targeting single people you know you're gonna maybe cut out some a lot of your market. Still shaped for yeah for your hand but not for a particular hand, right? Well it can still be a, you can still extend past the hand. Uh. Well it means like, this remote here is kind of is very thin and long so instead of having you know you might have it kind of a bit bigger or, you know, with maybe some some finger molds or something. Some finger grips maybe. You could even have some buttons like you know on the sides and everything, but Yeah. Yeah. No. I was still uh I was still working on this uh twenty five Euro price point because I think actually having looked at some of the remotes out there, this is quite a low uh price if if we're maybe I can get to this in my presentation though, but um yeah. Yep. Okay. Yeah. I think even even if it was within budget do a speech reco rec system it might be a bit difficult because if you think if you're watching T\_V\_ you're gonna have a lot of this uh background noise from the T\_V\_ which might interfere with the Uh participant three. You might have some background noise from the T\_V\_ which will make the speech recognition much uh harder, so. Oh you press a press a button to talk, and the the T\_V\_ the T\_V\_ sound turns off. Yeah. Yeah. Mm.

Yeah. Okay, so, could I describe the mouse maybe be easier to could I use the mouse, or Mm. Thanks. Okay. Great. Okay so um while uh researching this this topic I first of all just thought of a couple of things that I would like to see in a remote, and just uh looked to see if they're actually available in any current remotes, and then also searched for which are the top-rated uh remote controls on Epinions dot com, which is a a you know a a customer um written basically review site. So um there's a pretty wide range of uh remote controls these days and and uh this remote control on the right here is is one of the more extravagant, but it's not really it's by no means uh mm you know on it's own in being so expensive. There are a lot of expensive remote controls out there. So yeah it does it's well basically all the functions uh are controlled through through the L\_C\_D\_ screen except for the really really kind of main functions, which have a couple

of of their own buttons. Um and if you look at a lot of the universal remotes out um on the market, I know we're working on television remote, but a lot of the universal remotes out there have uh have these L\_C\_D\_ screens which kind of helps when you're using multiple uh devices I suppose because you can have multiple kind of functions d different functions on the screen at different times. But um the thing that I find most interesting about this remote control, and it's kind of difficult to uh to see in the slide, but it has a scroll wheel on it, which is kind of like uh a mouse scroll wheel, which I think is it's a really kind of important design aspect um is it's 'Cause the thing is what a what we the present this presentation we had is what we want the remote control to actually do. And obviously the the simplest thing that a remote control does is it just change the change the channel. Now um uh the I think that a scroll wheel is actually pretty a pretty handy way of of changing the channel. 'Cause I know when I um when I use the remote to change the channel I very rarely use the numbers on the on the pad. I usually use the up and down because most channels are you know two digit numbers and you have to press you know a special button to enter a two-digit number, and then two numbers, so that's just uh it's annoying. So I think a scroll wheel is is quite handy. Now um the the scroll wheel is is much more useful if you have an L\_C\_D\_ screen, and this brings us to the the point you were mentioning before about the internet uh capability. One possibility, if we now we need to still talk about the price point because obviously a lot of this stuff can't be done for twenty five Euro, but one possibility is to download program information into the L\_C\_D\_ screen so that instead of actually saying I want to I want to go to channel thirty seven because I know this programme's on, you know, often you don't know what channel it's on, or you don't know what's on. If you have a list of of programs on your L\_C\_D\_ screen you just scroll to that program rather than to a channel. So if you think about it's kind of like a you know in mobile phones now you don't use you don't remember people's phone number, you remember their name and you go find that name and ring it. So this would be pretty kind of a handy thing to have, but um we we really need to discuss the price. So, I mean there are there are uh cheaper this is another multi kinda purpose remote control where it's it's it's very simple, there's only a few buttons, but each of those buttons does something different in a different context. So this is something else we might wanna consider, is really kind of limiting the number of buttons, because this is the top rating uh universal remote control on on Epinions. It it's really uh maybe worth thinking about limiting the number of buttons as much as as possible um because really I think people want to be able to find the button they're looking for without even looking at the remote control. And was saying before about having different size buttons for different you know frequently used uh tasks, but I think also you know the location and and shape of the buttons is important, but also the number of buttons. So if you have too many buttons it it increases the the difficulty of finding the one you want. So Yeah well we w Yeah well we will have a bit of a simpler uh task in that we're only doing uh a television remote control.

Um I think maybe one option is to have you know a little flip-open um door that uh that you have hidden most of the time, but contains the extra buttons like, say, the number buttons for instance. Um I I would if I had my perfect remote control, I'd probably just have no numbers at all on it because they're just in the way. They don't really do anything. Maybe you know I although I do also find flip-open doors a bit of a pain because sometimes they can break off or or whatever, but maybe a door t

hat you can you can permanently remove or permanently have on would be good. Um but I think definitely you need to to keep the buttons down to a minimum, but not not let that kind of interfere with the functionality of of the device. Um Well I guess that depends on how you market it. If you if you have the right advertisement showing how how how easy it is and how you can, you know, navigate to a program without the numbers, then people might say that looks pretty easy. So, but yep. Um okay, so, I think um one of the really kind of useful things you can do with with internet connectivity would be to have this a programme driven interface rather than the channel number. So if we can have a higher priced uh remote control I think that would really be worth uh something that would be worth implementing. Um mm there's the L\_C\_D\_ screen, um which maybe maybe is too expensive, um but I think also at the scroll wheel, I haven't mentioned it here, the scroll wheel could be used without an L\_C\_D\_ screen, just for changing channel numbers easily. I think even that, I mean, that would be a fairly cheap thing, compared to an L\_C\_D\_ screen, to implement, um but I think that would be quite useful as well. And the other thing, you say we need to we need to keep it just television, but I think one maybe one option, since this is supposed to be a kind of a fashionable device, is you know there's a certain kind of cool or wow factor that you can kind of you can have with technology, and maybe we wanna make it something that's extensible to do other tasks. Say you have like um a little another little kind of base unit that can also receive signals as well as the television where you can, say uh, change the lighting in the room. You know that would be something maybe you could sell as an extra, so that it doesn't have to be part of the initial development, but, you know, later on you could you can you know you also, selling the potential of the device. Then you say potentially you can then do other cool stuff like change the lights, I dunno, close the windows, whatever, turn the heating on, and um, I think that's something we may need to have as as at least as an optional extra to to kinda make our product cool, since we say we're putting the fashion in electronics. Hmm. Well one one other thing that that speech recognition could really blow out the price for is uh when you want to sell into other markets, though, because, I'm not sure exactly where we're gonna sell this, but I presume it's not gonna just be English speaking countries. So then you have to s you know, you have to train models for Yeah. You know I guess you could actually train the remote control as you're using it by saying you know turn volume up, and you press the uh press the button like uh s people teach sign language to kids f well, by speaking and doing Yeah. Actually I'm not so sure because I'm the you know if I was using a remote control to, say, turn the volume up because I can't hear it very well, I don't really want to you know drown out what people are saying by talking you know when I'm when I'm instead of pressing up on on a remote control. You know if there's some there's some dialogue all of a sudden that I can't hear, I'm trying to actually find out what's being said, so maybe speech recognition gets in the way more than it helps. Well it depends if it's a remote control th Maybe if the remote control is something that y you don't actually have to pick up anymore, that would be a a useful feature of the speech recognition. If you can leave it sitting on the table and you don't actually have to find it, then that could be. Well it depends though well it depends. If we we don't unless we have some input some video input to the T\_V\_ or we have control over the T\_V\_ then we can't actually display that. Like if we if we produce the T\_V\_s then then yeah we can put you know menus up up there, but otherwise we need to actually have some kind



of something sitting in between

the video signal and the and the T\_V\_ to superimpose those those menus. So that's an extra cost. Well this is this is another que we still haven't really defined the remote. Are we still you say we're focusing on T\_V\_, but is it still a kind of like a universal remote in that it's a replacement remote control, or is this something for our own line of of televisions? 'Cause that really makes a big difference. 'Cause even if we have contacts we can't really produce a remote control that can bring up menus on other other companies' T\_V\_s. It's just there are too many T\_V\_s out there. It's it's not really gonna For twenty five Euro? I think it's impossible. But but I dunno, I think um it would be good to know if there is any leverage in that any leeway in that um that twenty five Euro because for twenty five Euro I think all we can really do is provide a very basic remote control, and that seems to be kind of against the philosophy of our company which is you know putting the fashion into electronics. So I would I would like to know if there's any chance of of increasing the uh of increasing the unit price. Yeah. Yeah. Yeah because yeah. Well th 'Cause you can have things like the programme name instead of the channel numbers, like an interactive programme guide. You can get a lot more information on it. So you could have the name of the programme, you could have um the start time you know where it's up to. You could have a I even a little image of you know the c you know the the m the main actors or something so you can quickly just kind of even without reading Well no, but there are the electronic programme guides out there. They may not have pictures, but maybe they do. There's dependi it also depends on the country. No but I mean with the internet you have flexibility of where you get your information from. So it may be possible that there are people out there providing that. Uh. Well I I think if we're gonna I think we would definitely need the internet connection because even with y I don't think you could even get teletext information from the T\_V\_ onto the remote control, especially if we don't control the T\_V\_. I dunno. We need to find that out. Mm. If it's a really small T\_V\_ maybe. Well the thing is I think I think the type of peop I think the type of people that are gonna want to buy a very stylish rem r remote control with lots of new technologies are the kinda people that are gonna have you know a wireless internet connection maybe, or a you know. Well this is what we need to find out. Can we can we increase the the price point of this remote control? 'Cause otherwise we need It's kind of hard to guarantee that you're gonna Ninety five percent is not good enough though. Yep. Yep. Yeah. Yep. Mm-hmm. Yeah, yeah. Yeah they are the most T\_V\_ watcher. So we should be careful. Yep. Well maybe it could be a universal design. A universal design, which is which is good for both the hands. Yeah? That's right, whether it's left hand or right hand, but but don't you think that the two points are clashing, one thing you are saying design should fit the hand shape and it should not be very small? The first and the third point, they are clashing. Okay. So fitting the hand doesn't mean much then. Mm-hmm mm-hmm. Mm-hmm mm-hmm mm-hmm. So it means design should be similar to the traditional ones? Little sleek, longer? And it should fit the hand. Mm-hmm mm-hmm mm-hmm. Mm-hm mm-hmm mm-hmm. No it could be command control kind of thing. It requir recognises particular sequence and then it gets activated. Means you say you should say like does that, remote control being on or be on kind of thing, and then remote control comes in the picture for the speech recognition. Because this kind of thing means speech is there from the T\_V\_ also. So there should be something command controlled, you start and then you stop. It's like V\_I\_ editor, you are having two modes similarly. Otherwise it's just lying idle. Change the channels. Yeah. Mmm-hmm mm-

hmm. Yeah yeah. But there is one problem then the user has to understand each of that functionality. Because the same button is doing too many things. Mm-hmm. Mm-hmm. Mm-hmm. It does sampling out of the. Yep. So yeah. So most of the things which we are discussing about is speech recognition uh,

that means on my own I yeah, it should be. Two. Okay so the working design is uh user i interface could be of two types, one is the usual press buttons which are there so that the user feels that he is knowing doing some he is knowing about that technology. So he is pretty comfortable if he wants to get this, and on top of that there there could be a speech recognition technology also being sitting on the on the remote. So the old kind of users who don't want to have any changes, it can it can be useful for them, and the new users, as uh our Marketing Expert was saying, they can use the new gizmo which is speech recognition kind of thing. That's right. So anyway, that didn't come into my mind, so th that is a possibility. These could be other kind of interfaces. Means we can have, depending on the cost, how much we can afford, we can have different kind of interfaces. So spe buttons are something which is very everybody is familiar with. So if you go to the market and you say that buttons are there the people know what it is, and on top of that if we are having extra functionality people are willing to shell that twenty-five Euros money which we are thinking. Otherwise we are just like others in the market. So anyway that is the first, user interface could be of more than one type, and uh yeah that means we can do the on-line changes which which cannot be done now actually. So apart from the speech, we can have the scroll kind of thing with the buttons. Now for buttons, normal requirements like bit coding and all those things are required. And for voice, limited vocabulary automatic speech recognition system is required and we require a microphone also to be sitting there on the remote. Uh that's right. But uh means we have to see how much what kind of microphones and stuff like that. Uh yes, if it is limited vocabulary usually it's enough. Yeah we we can uh target, means we can target ninety five percent accuracy or somewhere ninety seven perc That's right. No it it could be little d yeah it could be That's right. That's right. Mm-hmm mm-hmm. Uh it's more like, means there are different speech technologies which are existing so D\_T\_W\_ could be kind of which is the easiest. So you have to store some templates on the on the on the chip itself, and it's just dynamic time warping where you try to find out what it is, instead of having a model which has to be trained and being a micro-controller. Yeah, that's right. Yeah. So we can That's right. Yep. Yep. No no. Components. Yeah. So, will you go to the next slide? Yeah so this is the design which we are thinking so. We are having a power button and the switch, which is not much, and then we are having the which is to indicate whether the power is on or not. And then there are two kind of things which can be so one is the button interface which has not been shown because because of lack of time. So we could not put that. So now where the A\_S\_R\_ decoder is sitting, similarly there are different kind of interfaces which could be there. So there is A\_S\_R\_ decoder which could be there, and then there could be another scroll button scroll scroller, and then there could be buttons, and all of them they will just do the decoding and put it in the math put it in the proper message format. And then there is there is the chip which is sitting, the green one, and it converts it into bit codes, and that bit codes are sent by the infrared device to the receiver. So this is the easiest design the there could be. So th an A\_S\_R\_ decoder we can have things in. To have different technologies. So this was the my personal preference was that we can have A\_S\_R\_ sitting there on the remote control. Yeah. Yeah but

uh as soon as you try to put the microchip kind of thing or something the price will go up. So these are the slight problems. Because yeah the reason is that if we go into the market means though I don't have much idea, but as he the uh Marketing Expert presentation was So if we go with just the Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Alright. It's not possible. It's impossible. Are But just a small thing, what kind of market we are targeting? Is it that we are targeting the replacement remote market, or what? So the remote has gone bad and the person wants to buy a new remote or because the cost of L\_C\_D\_ thing could be as high as the T\_V\_ itself. That is very

important. Broke. Okay. Okay. Okay. Okay. Okay. Okay. Mm-hmm. It's it's cheaper as compared to the L\_C\_D\_. Means th yeah twenty five Euros is yeah, that's right. Okay.

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# Meeting ID: 34

Data Source: Train

## Executive Summary

Thank you for coming to this third meeting of the uh uh design group . Um I'll again very quickly uh just present some notes of that meeting . Um the the the problem with existing remote controls , we felt , was that they're ugly Um they've got lots of buttons on them that uh people don't use Um and people lose them . um that we're we should look at speech recognition rather than r rather than buttons , and that if we have any buttons they should be very few of them and only for those functions that are actually identified that that people use . um we want to go for uh a long lasting battery and a shape that will be instantly recognisable , A\_ um as uh a trendy remote control , and and B\_ as uh a Real Reaction product . again um , I'll we'll have the three three presentations from the the the three of you and then uh we'll we'll make a a final a final uh decision . Um and the the decisions that we need to to make today , finally , are um what energy source we want to use , And uh I I think our discussion was around the fact that uh if we're gonna go for uh a long lasting power supply , then basically it's uh sealed for life um and uh this is where I need uh uh Kate's expert advice um d d do we go for a custom designed chip ? Or or do we buy one off the shelf and and programme it ourselves ? we we had some discussions last time as as to uh how we might go forward and we'll we'll finalise those uh da today . Um and thi this is all linked in with the the the user interface , Uh and then uh , you know , f for the next meeting Kate will be looking at the the the s the look , feel and design , Kendra the uh ho how the the user actually uses it and and Andrew of course the the product evaluation . And uh Kate and Kendra will be producing a a model for us to uh to look at . I'll just be talking about the components design . basically I just uh looked at what exactly do remotes do . Uh basically they wait for you to press a key or give a voice command and then this is translated uh into uh light signals which are then seen by the T\_V\_ . Uh the materials we're gonna need to look at uh the two big ones are the integrated circuit chip and the battery and the in integrated circuit chip uh works in conjunction with a a diode transistor or resonator , uh two more resistors and a capacitor and the battery works in conjunction with a resistor and a capacitor . Um . Uh basically what happens is you'll press a number or give a voice command and this creates a a connection within the the remote the chip then senses this connection and produces a signal in a Morse code format . This signal's sent to the transistor and then sends it on to the light emitting diode which is then trai changed into a infrared light as for how we should end up uh using this in our remote uh t couple of main questions are the buttons . Uh y the fewer buttons you have , I guess the fewer internal

connections and internal codes you're gonna need . Um however uh to n not have buttons or to use a voice commands instead of buttons might make these connections more difficult Also we have to work within the company constraints , and the company has informed me via email that uh they're experts at pushbuttons and that seems to be the most uh cost-effective way of producing it . Um also with battery connections the company has some limits on the batteries we can use , so I was thinking perhaps a combination of solar cells with a back-up basic battery and somehow between the combination of that two we might be able to come up with something that uh will last the the lifetime or the five to ten years Um we also need to look at the chips , uh v custom-designed versus off the shelf , and the custom-designed will give us much more flexibility and enable us to incorporate the voice function that we all uh seem to have agreed upon . Um , however that's gonna cost more , but uh the off the shelf is gonna be uh cheaper but it's going to be less flexible with the features , especially things like uh voice activation , so if we were uh definitely gonna go with the the voice option we'd probably have to design um our own chip . Do we do we know uh by how much ? inevitably a b a custom design chip is gonna be more expensive . I don't actually have any price information , And and do we know how long it'll take to uh develop a a custom chip . a lot longer than an off the shelf chip . I think we need to make a a decision here . Uh given that the company wants this on the market quickly and cheaply , that would appear to uh effectively constrain us to an existing chip and thus therefore conventional button technology . Um does it make a difference if there are just a few commands , for example if you um can pre-programme in like numbers one through ten and then just use the voice recognition to say channel one Once you've got the whole voice chip in there , then it's pretty much the the world the the sky is your limit , given that , you know , mobile phones incorporate voice activated dialling . speak somebody's name and it'll dial the number for you , Of course mobile phones do tend to be more expensive , maybe we can like cut corners somewhere else to bring in over cost . I kinda think if we're gonna have the voice recognition for part of it , then maybe we should have it for the whole thing . given that the um the technology is not well developed and and given that it's it's never been done before , uh perhaps we ought to uh stick to uh to buttons , Anyway , I'm I'm incli kinda inclined to say that we should just go for it . it will have voice recognition um uh so I did some research on the internet the interf user interface are just aspects that are seen by users , um commands and mechanisms for the operation , and there're just kind of a variety of choices . Um findings , a lot of times they tend to look cluttered and these were just a couple examples of um different kinds that are a little bit more unusual . There're some special ones available , like this one right here , which is marketed towards children , um different designs , and one of the things that n we need to watch out for is a V\_ in volume Bring a little picture of what I thought ours could look like . just kind of minimise the clutter , avoid too many buttons and also um one of the things that people have used is a slide button , like you have on a mouse , that possibly we could use that on the sides for volume , for example , have the slide button on the side , I mean I think the reason everybody uses pushbuttons is that they're they're si simple , cheap and reliable . I think they're they're about the same cost really . there's a lot of slide buttons out there . Okay , fair enough , fine . for example if I'm using a mouse I like to be able to slide it up and down so I thought it might be good for volume to just be able to kind of roll it and then have the up and down So three three there's three buttons on a slider . The only advantage I was thinking of to having the buttons , like the buttons on one side for the channel , and then the slider is that if you're just holding in your hand , and you

pick it up , it's easy to n s know , okay , this is just the volume and this is the channel . 'cause I've definitely picked up remotes and like meant to change the channel and turn the volume , or vice versa , so it'd be kinda good to have them be feel completely different . like the shape of it almost like a mouse , we have to come up with is the the actual shape so we we're looking at sliders for both a uh volume and channel change I was thinking kind of just for the volume , in that kinda position the fingers would be better for pressing and the that for rolling , this is my report on trend watching . The data's come off internet uh from executive summary for us on the top three things wanted by the consumer . And we got reports from Paris , Milan on new fashions . And uh the most important aspect is the I the look it has to look fancy , look and feel uh instead of the current functional look and feel . I was gonna say yeah twice as important as the second aspect , which is the technologically innov innovative um side of it . and the third being easy to use is probably a given , I think that what we're suggesting ought to address all three of those . from the fashion watchers from Milan and Paris have said fruit and vegetables are an important theme for clothes and furniture and shoes , et cetera . clothes , shoes and furniture and uh a spongy material to be used on the on the outside . that's different , certainly . if we're going for the it looks fancy , then fashion is obviously the line we gotta be going through . But fashions do don't last very long . that can kinda tie into our changing uh face things , like we could have the fruit and vegetable theme this year and uh whatever happens next year , we can have the face plates , we can have a sp like a spongy skin on it Also means you can drop it without damaging it . depending on the cost of the product itself , you know , could we have uh a cheaper b cheaper power source and then just have it annually renewed ? Instead of having a ten year guarantee ? With interchangeable covers , could just buy a new one every year , a new one when new fashions come out . it's like the old Swatch watch where uh um on only batteries ever got changed in those , 'cause people just bought a new one when it went out of fashion , What if we included the batteries in the cover ? Oh yeah . I like that . Um but if we also make it cheap enough that people either change the cover every year or even buy a new one every year then it it's it's even better . I mean my feeling is that current power sources are such that for relatively little cost you can make it last , you know , a long time . I I think it's easier sometimes to have them buy changeable covers for it than to buy a whole new one , That all c also kind of encourages 'em to buy new covers I mean the the the the immediate thing that comes to mind with that is that it it y you've then got the connection whereas the advantage of having it plumbed in is that that the whole thing is all , you know , completely soldered together um and , you know giving people the option of buying a new uh a a complete new thing , the advantage of a replaceable cover is that even if they don't it doesn't have a cover on at all , it will still work um totally . Um then if , you know , if people lose the cover , I mean they they might be well inclined to go out and spend however many Euros on a on a new one um rather than a a complete new re remote . that that's just it with the covers , you're sort of tricking 'em into continuing to spend their money on our products without making 'em feel like they're being ripped off having to buy a new product . it's it's up to our marketing people to to ma to ma turn it into a a fashion item . Um and , you know , as as external fashions change , then we get new new covers on the market and , you know , readily available . like they have for mobile phones that are just fruits and animal prints and colours . And you know , th the the design that I've got , and and it could be a a home-made design , um you know this says this is not just a a television remote control , the fashions apply to furniture , It's the sort of thing that we want people to have prominent dis displayed on their um

coffee table to say this says something about me . I mean given that we've got you know one one on off button presumably , two buttons for uh channel change and one slider and basically nothing else , um w we need to decide on the just the basic shape of the thing . And , know whether we go down the fruit and veg route , and I don't suggest we make it look like a banana , but um know sort of the the organic , you know , curved look , t to deliberately get away from the uh um uh you know , the the the the square look of most um current uh remotes and , you know , whether whether the you know , the the fixed part of it is the corporate yellow . Um 'cause there's certainly you know , the the corporate logo needs to be prominently uh displayed I dunno that we should make the whole thing yellow yellow seems a bit of a strong colour I mean we're we're we're simply it's simply required to incorporate the the the the corporate logo prominently um . I was sort of mm kinda picturing like maybe um a shape that's almost like a mouse . because a mouse is pretty comfortable to hold in your hand um maybe we could make it a slightly different shape but that way they can have the volume on the side and then the channel buttons and my idea was something a b probably you know a bit fatter than this but sort of tha that sorta shape so that you can just sort of ho hold it . you'd want it narrower than a mouse though 'cause it a mouse you're kinda just resting on it , you want something you can definitely grip . so it's you sorta hold it in your hand like that , i with , you know , and fiddling with the buttons . kind of maybe maybe a little wider than this , and then it widens up top And then it would have a l uh wider thing to uh have the light , the infrared light at the T\_V\_ and just kinda change channels and adjust the volume and the power could be wherever , up up the top or something . Um I'm just I'm suddenly realising that yeah we're discussing how much how good it's gonna be to change channels I mean are we are we starting to get away from the the voice functionality of it ? I think we d I think we decided that w we're actually going down both routes . we need the the manual controls we're leaving out the buttons for the the f less frequently used stuff , but maybe we could incorporate that into the voice . my personal view is that if it's not there , people wouldn't use it anyway um . you can still i incorporate the voice with with less buttons . if the power button was also somehow like a menu button you could press that and or do voice commands , and either volume thing could also be to scroll through other options like y and you could scroll through brightness I'm getting a clear message that we think that we should have those facilities available . We could have the channels and the power and then a menu button and then the volume . if we if we're going down that route , then we need some sort of display . But the television would be the display We actually use the television , okay . Okay , okay , okay . like you hit menu and menu will come up on television so if you had like the menu then you could scroll through and then click it to select . I think we've actually very conveniently just uh come to uh a good point to s to sum up um . Kate and Kendra now go away and uh pa play play with a bit of Plasticine or play-dough , Um and actually put what we've discussed into something uh I was gonna say concrete , Our energy source is gonna be for simplicity of , you know , manufacturing and uh maintenance that we will go for a a long term battery source um , and um Andrew n can go away and th th think about how we can uh actually market this as a concept and not j not just a uh um a a simple remote control . and um make an assumption that we we can aim for a battery that will last most people for uh we'll say at least five five ten years And interchangeable case ? I i interchangeable case seems to be um um important to the concept . Um it it should be cheap , you know , if if we avoid any , you know , electrical connections . i if we can come up with some way of of allowing people to actually personalise it uh to whatever

they want , then uh I mean uh uh this is totally new . We d we don't know whether that to what extent people do it or not , but if they've at least got a a good selection of um covers that they can use anyway , so they can get them in the supermarket when they go down to um a any of the famous supermarkets , And uh are we gonna have it il being illuminated from inside onto the buttons or because we've got so few buttons that it that actually makes that redundant . no , cer certainly wider angle than than current , so that if you're holding it , you know , anyway like you're likely to and uh it's uh you know , i i it will work most of the time um . I sorta envisaged that if if this was the the thing , then sort of the the whole of the top would be the uh the infrared uh . we're all clear where we go from here . thank you very much indeed and I'll s see you all again in thirty minutes .

## Complete Meeting Transcript

Alright? Alright. Thank you for coming to this third meeting of the uh uh design group. Um I think we uh made some definite progress at the last one um and come up with some interesting uh uh w suggestions for our our new remote control. Um I'll again very quickly uh just present some notes of that meeting. Um the the the problem with existing remote controls, we felt, was that they're ugly um and that people are prepared to pay a premium for something better. Um they've got lots of buttons on them that uh people don't use and find difficult to learn. Um and people lose them. And We we thought that f for our our new uh uh remote control that everybody will want to rush out and buy, um that we're we should look at speech recognition rather than r rather than buttons, and that if we have any buttons they should be very few of them and only for those functions that are actually identified that that people use. That um we want to go for uh a long lasting battery that we gua we guarantee for the life of the uh uh the product and a shape that will be instantly recognisable, A\_ um as uh a trendy remote control, and and B\_ as uh a Real Reaction product. So that w uh when people are uh happy with that, they will they will want to buy uh everything else from us. Uh Okay. So again um, I'll we'll have the three three presentations from the the the three of you and then uh we'll we'll make a a final a final uh decision. Um and the the decisions that we need to to make today, finally, are um what energy source we want to use, whether i it is practical to use uh um a a a long lasting one. And uh I I think our discussion was around the fact that uh if we're gonna go for uh a long lasting power supply, then basically it's uh sealed for life and uh if anybody does manage to run one down, we'll we'll give them another one. And uh it it'll be uh, you know, prominently displayed as part of the th the advertising literature that it's um um, you know, for life, guaranteed for life. Um now the the the internal chip um and uh this is where I need uh uh Kate's expert advice and given that th this has to to go to market as quickly as possible um d d do we go for a custom designed chip? Or or do we buy one off the shelf and and programme it ourselves? Uh I mean I'm I'm I'm n not an expert on these things, but presumably, there must be loads of 'em already on the market that we can modify. But uh that that's uh that's your area of expertise. And then the uh, you know, the the overall design of the case uh is is is Kendra's field and uh we we had some discussions last time as as to uh how we might go forward and we'll we'll finalise those uh da today. Um and thi this is all linked in with the the the user interface, whether we p um go for voice, buttons, or or a bit of both. Uh and then uh, you know, f for the next meeting Kate will be looking at the the the s the look, feel and design, Kendra the uh ho how the the user actually uses it and and Andrew of course the



the product evaluation. And uh Kate and Kendra will be producing a a model for us to uh to look at. Uh so, if we can have the the three presentations again please, and uh um p perhaps you'd like to start uh k. Kate. Oh I'm sorry, oh sorry. Okay, so how um sorry, can you uh just put that one back up again, please? Um. Uh d d d okay, I mean uh inevitably a b a custom design chip is gonna be more expensive. Do we do we know uh by how much? And and do we know how long it'll take to uh develop a a custom chip. Right, okay. Right, I think we need to make a a decision here. Uh given that the company wants this on the market quickly and cheaply, that would appear to uh effectively constrain us to an existing chip and thus therefore conventional button technology. Um uh now before we go round everybody else, does anybody um h have any have anyti ha anything to say about that? Cause uh I must say I find it slightly surprising given that, you know, mobile phones incorporate voice activated dialling. So

uh um I mean I d d for slightly different well no, I mean, it's if you you speak somebody's name and it'll dial the number for you, so uh bu I mean the this this information is from is this is the internal company information, is it? So uh Yeah, mm true, again but if it's without any without any uh p price informations that's uh difficult to uh uh decide. Yeah, that's that's right. It's like it's it's you can't 'cause mobile phones are expensive, you can't say it's the voice recognition bit that is. But we don't know. Um. I mean uh I su i I mean if given that the um the technology is not well developed and and given that it's it's never been done before, um th th the double risk, uh perhaps we ought to uh stick to uh to buttons, since the last thing we want to do is present a product that doesn't work. Um. Thoughts? I mean do w do we think that the voice technology is fundamental to the project? I mean I think we Mm. Yeah, I I I I think that's uh Yeah, yeah. Mm, right, okay. Yeah, it should be Right, okay, so. Fine. Okay. I it will have voice recognition um uh if if that means uh if that means we can't afford buttons but I mean b b second question, do we need the five buttons for channel change, up down, volume up down and on off, just as a a backup or just so that people can uh j j just sit there pressing buttons? Right. Okay. Sorry, d did you want to say anything? No? Okay. Shall we move rapidly on to uh Kendra? Uh um ra rapidly move the cable over. Mm. Oh good. Mm yeah, it'll get there. Yep. Mm-hmm. Mm, yeah. Uh-huh. Alright. Mm-hmm. Mm yeah. Sorry y y yeah, if I can interrupt you. Well d p 'kay, do you wanna say anything about um slide controls? I mean I think the reason everybody uses pushbuttons is that they're they're simple, cheap and reliable. Okay, fair enough, fine. Yeah. Good, good. Yeah. So three three there's three buttons on a slider. Three buttons, channel up channel up down and Uh-huh. Okay. Um Mm-hmm. This one on the one side and one yeah. Okay. Yeah. Yeah. Yeah, or yeah uh th th the I mean thi this is what the we have to come up with is the the actual shape that people can ins instantly pick it up and and know know uh know what it's going to do. Okay, so we we're looking at sliders for both a uh volume and channel change of one sort. Just for the volume, uh. Fingers, yeah. I mean it's it's It yeah, I mean it it seems to me that uh it uh it al also has the advantage that it it the two are clearly different, um that there's no no possibility of uh confusing the two. So okay. Right so uh that's sorry is that that all you want to say at the mo okay, fine. Mm right. Right. Mm-hmm. Mm-hmm. Mm. Well I I mean I th I think that what we're suggesting ought to address all three of those. Okay. Uh-huh. Mm I hadn't thought of that, that's different, certainly. What? Yeah. Uh. Uh. Also means you can drop it without damaging it. I I mean it its uh I that's an interesting idea, it's like the old Swatch watch where uh um on only batteries ever got changed in those, 'cause people just bought a new one when it went out of fashion, but it's just never been seen as a a fashion item before. Um that's yes if if if they're made in sufficient quantity W I mean we we can uh uh b but I mean my feeling is that current power sources are such that for relatively little cost you can make it last, you know, a long time. Um but if we also make it

cheap enough that people either change the cover every year or even buy a new one every year then it's even better. S Yeah, yeah, I n I know the only p I mean the the the immediate thing that comes to mind with that is that it it y you've then got the connection and you've immediately got a sort of unreliability, whereas the advantage of having it plumbed in is that that the whole thing is all, you know, completely soldered together and it it it you know, total reliability, but I mean I d I I uh I know what you're saying and uh understand where you're coming from. I th I s I

think if we're gonna go down that route, then we're talking about uh even if it costs slightly more than that, um just building the whole thing in one, then having getting cheaper production costs um and, you know giving people the option of buying a new uh a a complete new thing, the advantage of a replaceable cover is that even if they don't it doesn't have a cover on at all, it will still work um totally. Um then if, you know, if people lose the cover, I mean they they might be well inclined to go out and spend however many Euros on a on a new one um rather than a a complete new re remote. Yeah, I mean it is it's up to it's up to Yeah, it's it's up to our marketing people to to ma to ma turn it into a a fashion item. Um and, you know, as as external fashions change, then we get new new covers on the market and, you know, readily available. And um that's that's right, yeah, yeah. So uh i so uh okay. Um right, sorry. Um we hadn't finished your It's the sort of thing that we want people to have prominent displayed on their um coffee table to say this says something about me. Um this is fashionable. I, you know, I'm I'm I'm with it, I'm up to date. And you know, th the the design that I've got, and and it could be a a home-made design, um you know this says this is not just a a television remote control, this is, you know, a fashion accessory. Um, so I mean the the the basic shape i is is what we uh I mean given that we've got you know one one on off button presumably, two buttons for uh channel change and one slider and basically nothing else, um w we need to decide on the just the basic shape of the thing. And, know whether we go down the fruit and veg route, and I don't suggest we make it look like a banana, but um know sort of the the organic, you know, curved look, you know, t to deliberately get away from the uh um uh you know, the the the the square look of most um current uh remotes and, you know, whether whether the you know, the the fixed part of it is the corporate yellow. Um mm or uh 'cause there's certainly you know, the the corporate logo needs to be prominently uh displayed so that people s th looked at it and say right, that's a Real Reaction remote control, I want one of those. Yeah uh the the uh or or b Yeah, I'd I'd um yeah. Uh no I d I I agree, I mean we're we're we're simply it's simply required to incorporate the the the the corporate logo prominently um. Well, th this is this is the whole point, yes, you know, I'm I've got a a Real Reaction uh remote control to go with my Real Reaction coffee maker or or whatever. And uh then people, you know, people demand more Real Reaction stuff. Yeah. Yeah. Yeah. I mean I've uh yeah. Oh no that well there's the sim my my idea was something a b probably you know a bit fatter than this but sort of tha that sorta shape so that you can just sort of ho hold it. W it I mean well it's sort of it's it's sort of uh a a mouse, but held, you know, so it's you sorta hold it in your hand like that, i with, you know, and fiddling with the buttons. Okay, yeah, yeah. It's a very good point. I think we d I think we decided that w we're actually going down both routes. That um the we n we need the the manual controls and that they should be of that form, but that uh yeah. Then you just bring it up to your mouth and just speak to it, yeah, yeah. I th I th honest uh my personal view is that if it's not there, people wouldn't use it anyway um. It's cer it's certainly possible I mean, but they we we're going beyond w w given the state of the technology we want something that we kno we know will will work um. Uh Yeah. If we we're I mean I'm getting a clear message that we think that we should have those facilities available. Uh uh uh Okay, if we if we're going down that route, then we need some sort of display. Do we need some sort of display? We actually use the television, okay. Okay, okay,

okay. Yep. Mm yeah. Okay, we got five minutes to go in this meeting, so um I d I think we've ac  
tually very conveniently just uh come to uh a good point to s to sum up um. So um b b Kate and Kendra  
now go away and uh pa play play with a bit of Plasticine or play-dough, whatever it is on the other side  
of the Atlantic. Um and actually put what we've discussed into something uh I was gonna say concrete,  
but that's a slightly inappropriate word um to something that we can we can see and um Andrew n can  
go away and th th think about how we can uh actually market this as a concept and not j not just a uh  
um a a simple remote control. Yeah, certainly, of course. I think I think we decided that we're gonna for  
for simplicity of, you know, manufacturing and uh maintenance that we will go for a a long term battery  
source um, I you know, on the basis that um that, you know, if we're going for making it a fashion  
statement, then uh people are more likely to change it anyway uh before i it runs out and um make an  
assumption that we we can aim for a battery that will last most people for uh we'll say at least five five  
ten years and that we'll w we will guarantee it for for five years um. We're having a a custom chip, but  
given the the we've cut the functions down, um that will hopefully not be too problematic, but given that  
um technol technological innovation is important, then we need to, I'll say it again, technologically  
innovate. Um and uh we we, know, we must resist any efforts to uh to try and water that down um. I i  
interchangeable case seems to be um um important to the concept. Um it it should be cheap, you  
know, if if we avoid any, you know, electrical connections. And uh i you know, i if we can come up with  
some way of of allowing people to actually personalise it uh to whatever they want, then uh I mean uh  
uh this is totally new. We d we don't know whether that to what extent people do it or not, but if they've  
at least got a a good selection of um covers that they can use anyway, and uh and if if we can keep  
them, you know, rolling, then uh you know, so they can get them in the supermarket when they go  
down to um a any of the famous supermarkets, I won't mention any mention any names, um it's uh it's  
good for the supermarket and it's good for us and it hopefully makes them feel better. Um the that I  
mean that's no, because we've got so few buttons that it that actually makes that redundant. Yeah,  
yeah. And the you know, that that solves one of the problems of b of battery life, 'cause that would well  
that would clobber the battery life, so no, I mean given the nature of the buttons we're having, it's  
actually uh uh unnecessary I think. As uh as wide cer certainly wider angle than than current, so that if  
you're holding it, you know, anyway like you're likely to and uh it's uh you know, i i it will work most of  
the time um. Not like my my mum who points it at the ceiling and wonders why the th th the television  
doesn't work. Um yeah, I mean I d I th I sorta envisaged that if if this was the the thing, then sort of the  
the whole of the top would be the uh the infrared uh. Um so Yeah, 'cause I mean the r reality is people  
are they're gonna be looking at the television whilst they're using it, the chances are, so if if they're  
holding it anyway, the they're reasonably likely to be holding it to use it, then uh then that that's the sort  
of coverage that we want. Um okay, d we're all clear where we go from here. Okay, so thank you very  
much indeed and I'll s see you all again in thirty minutes. I I just have a question about that. Um does it  
make a difference if there are just a few commands, for example if you um can pre-programme in like  
numbers one through ten and pre-programme say, you know, nine channels and then just use the voice  
recognition to say channel one and then you've programmed in say B\_B\_C\_ four as your channel one,  
as your favourite, it's like to have a certain number of favourites um and that w Okay. Then it doesn't  
matter. Okay. Okay. Yeah. Of course mobile phones do tend to be more expensive, you know, h  
undred and fifty pounds or something. As opposed to the twenty Euros, twenty five Euros. Yeah. Yeah.  
Well, another thought I oh, sorry, go ahead. Oh yeah. Okay. Well, I kinda think if we're gonna have the  
voice recognition for part of it, then maybe we should have it for the whole thing. And we've been  
talking about it the whole time. Anyway, I'm I'm incli kinda inclined to say that we should just go for it.

Yeah. Okay. Yeah. I think so. Okay. Let's see. Oh. Yes. Is it gonna work? Okay. Okay, so I did some research on the internet and um what you know, the interf user interface are just aspects that are seen by users, um commands and mechanisms for the operation, and there're just kind of a variety of choices. Um findings, so a lot of times they tend to look cluttered and these were just a couple examples of um different kinds that are a little bit more unusual. There're some special ones available, like this one right here, which is marketed towards children, um different designs, and one of the things that n we need to watch out for is a V\_ in volume because people some Bring a little picture of what I thought ours could look like. So just kind of minimise the clutter, avoid too many buttons and also um one of the things that people have used is a slide button, like you have on a mouse, that possibly we could use that on the sides for volume, for example, have the slide button on the side, and then you can pre-programme the channels, the voice recognition and then the voice response sample locator. Just because I n for example if I'm using a mouse I like to be able to slide it up and down so I thought it might be good for volume to just be able to kind of roll it and then have the up and down and then the this is my great little drawing. Y yes, yes. Yeah. The only advantage I was thinking of to having the buttons, like the buttons on one side for the channel, and then the slider is that if you're just holding in your hand, and you pick it up, it's easy to n s know, okay, this is just the volume and this is the channel. Yeah. That was Yeah. Um well I was thinking kind of just for the volume, but what what do you guys think? We could Yeah, yeah. B Yeah. Yeah. I'm just gonna pass this along. Yes. Yeah. Yeah. Oh. Yeah. Yeah like the kind you get on like hand weights. You know, that kind of spongy yeah. Yeah, that's true. Yeah. Wh What if we included the batteries in the cover? So um like Yeah, so can I see that thing? Just this as examples. So f Yeah, I guess that's true. Yeah, that's true. Yeah, yeah. Yeah. Yeah. Yeah, just another five Euro to get Right. Yeah. Yeah, like they have for mobile phones that are just fruits and animal prints and colours. Yeah, okay. Yeah, like an. Yeah. Yeah. Well n Well I was sort of mm kinda picturing like maybe um a shape that's almost like a mouse. So that, you know, when they hold it it's because a mouse is pretty comfortable to hold in your hand um maybe we could make it a slightly different shape so they could hold on to it, but that way they can have the volume on the side and then the channel buttons and have the power, wherever, somewhere. I mean that was just an idea that I had. Yeah. Yeah, maybe. Kind of a c Yeah. Sort of a combination. Yeah. Yeah so yeah, kind of maybe maybe a little wider than this, 'cause this is pretty comfortable to hold, and then if you had Yeah, then wider up here. And then it would have a l uh wider thing to uh have the light, the infrared light at the T\_V\_ and just kinda change channels and adjust the volume and the power could be wherever, up up the top or something. What do you guys think about that? Oh yeah. It is a very good point. Yeah. Yeah. Yeah, and just say Yeah, I suppose I sup So I guess we could have a menu button as well. We could have the channels and the power and then a menu button and then the volume. So have four buttons and the volume instead of three buttons and the volume. Yeah, that's on the T\_V\_, yeah. Yeah, and then y Yeah, press that is

t yeah, that might work. Yeah, it's like um yeah, it's like the mouse where you just kinda click it. You just press it. Yeah, and you could just click that to so if you had like the menu then you could scroll through and then click it to select. You know what I mean? Okay. Yeah. Yeah, I think so too. Yeah, and especially for making them so like different and Yeah. Yeah. Yeah. Yeah. Like this or like this. Yeah, kinda like this whole So you could use like this and it would go. Yeah. Yeah. Yep. Okay. Also lots of mobile phones have got a lot of technology in them, not just that, so. Would Oh I was just gonna say mayb maybe it sh like um maybe we can like cut corners somewhere else to bring in over cost. Uh yeah, it's the second most important aspect to users that the device should be technologically

innovative. From uh my presentation show, so. Uh technologically innovative. Mm. Well, if you g if you if you got a channel up down, we can have a slider in that as well. Because if it if you no if you notice on the thing it it kind of like has got kind of if you you know it s kind of like sticks, if you know what I mean, up like one unit, if you see what I mean. So it kinda goes up one, then y like you can keep rolling it up, but it's like like like like a cog or something. So you kinda take it up one at a time. D Oh. Uh you could you could as I as like a mouse you could Yeah, like the shape of it almost like a mouse, with a Dep I dunno if it depending on the final shape of it, 'cause you could have like, I dunno, it looks like you can c control the volume with your thumb, and then you could control the buttons with your fingers. Oh yeah, yeah. Here we go. Uh yeah, this is my report on trend watching. The data's come off internet uh from executive summary for us on the top three things wanted by the consumer. And we got reports from Paris, Milan on new fashions. And uh the most important aspect is the l the look it has to look fancy, look and feel uh instead of the current functional look and feel. This is a st well I was gonna say yeah twice as important as the second aspect, which is the technologically innov innovative um side of it. So uh and the third being easy to use is probably a given, we have to try and incorporate, so uh Uh exactly, yeah. I s that out of sequence? Uh yeah, sorry. Uh yeah, and uh from the fashion watchers from Milan and Paris have said fruit and vegetables are an important theme for clothes and furniture and shoes, et cetera. Uh sorry, clothes, shoes and furniture and uh a spongy material to be used on the on the outside. Yeah. But uh I was gonna say um yeah, fruit and vegetables, uh important to this year um important to furniture, I'm just gonna say uh f like it's in if if fashion if we're going for the it looks fancy, then fashion is obviously the line we gotta be going through. But fashions do don't last very long. Mm. Yeah. Yeah, we can have a sp like a spongy skin on it and then we can just whip that off and A kind of yeah. Oh Yeah. That's c cool. Um you have we could if we could save depending on the cost of the product itself, you know, could we have uh a cheaper b cheaper power source and then just have it annually renewed? Instead of having a ten year guarantee? With interchangeable covers, could just buy a new one every year, a new one when new fashions come out. Yeah. Mm-hmm. Or well, but like uh like more than just the battery, like a complete different like you've only got like, you know like th uh this bit's the bit you keep, and this is the expensive bit, this is like the chip and this is the microphone. And then this is the power source and the bit everyone sees. And then Yeah, you probably are right. Um oh, don't worry it's all said, I was just gonna say uh yeah, are we gonna make this as part of like like uh a part of the f like it it the fashions apply to furniture, so are we gonna make this part of the furniture? Yeah. This is fashionable with Oh yeah. And make that a fashion symbol a

s well. Yeah, that sounds Um I'm just I'm suddenly realising that yeah we're discussing how much how good it's gonna be to change channels t we still can just tell it to. I mean are we are we starting to get away from the the voice functionality of it? Yeah, maybe we cou like w like we're leaving out the buttons for the the f less frequently used stuff, but maybe we could incorporate that into the voice. Mm I suppose, but t there is the off chance that, you know, th the brightness is wrong on your T\_V\_ or the contrast needs changing. Hmm yeah. Yeah, that's a good idea. Yeah. Well I mean on a onto like a mouse, the ru the scrolling button, is actually a button as well, you could press it, you could press that and have it as a menu button. Uh yeah. Hmm. Uh can I just get some things clear just for my sake. Our energy source is gonna be long term. Cool. Uh And we're having a custom chip? And interchangeable case? Mm, mm-hmm. And uh are we gonna have it il being illuminated from inside onto the buttons or Cool. Are we having it that it's any angle, or is it just As wide as possible. Mm-hmm. Okay. Um Um p there we go. 'Kay, I'll just be talking about the components design. And Okay, basically I just uh looked at what exactly do remotes do. Uh basically they wait for you to press a key or give a voice command

and then this is translated uh into uh light signals which are then seen by the T\_V\_. Uh the materials we're gonna need to look at uh the two big ones are the integrated circuit chip and the battery and the integrated circuit chip uh works in conjunction with a diode transistor or resonator, uh two more resistors and a capacitor and the battery works in conjunction with a resistor and a capacitor. Um. Uh basically what happens is you'll press a number or give a voice command and this creates a connection within the remote that allows the chip the chip then senses this connection and produces a signal in a Morse code format. This signal's sent to the transistor which amplifies it and then sends it on to the light emitting diode and uh which is then translated into an infrared light which is sent to the T\_V\_ and sort of seen by the T\_V\_ and which uh changes the channels. Um. Oh. Uh cool. Uh so as for how we should end up uh using this in our remote uh the couple of main questions are the buttons. Uh the fewer buttons you have, I guess the fewer internal connections and internal codes you're gonna need. Um however uh to not have buttons or to use voice commands instead of buttons might make these connections more difficult and uh raise the production cost. That's something we should think about. Also we have to work within the company constraints, and the company has informed me via email that uh they're experts at pushbuttons and that seems to be the most uh cost-effective way of producing it. Um also with battery connections the company has some limits on the batteries we can use, so I was thinking perhaps a combination of solar cells with a back-up basic battery and somehow between the combination of that two we might be able to come up with something that uh will last the lifetime or the five to ten years and we could still keep that original idea. Um we also need to look at the chips, uh custom-designed versus off the shelf, and the custom-designed will give us much more flexibility and enable us to incorporate the voice function that we all uh seem to have agreed upon. Um, however that's gonna cost more, but uh the off the shelf is gonna be uh cheaper and it's gonna be allow us to produce it quicker and get out there faster, but it's going to be less flexible with the features, especially things like uh voice activation, which haven't really been used much on remotes, so there's not really chips out there that would be easy to uh to convert, so if we were uh definitely gonna go with the voice option we'd probably have to design our own chip. And that pretty much sums it up. Mm. Oh yep, sorry. Yep

. Mm. Um I don't actually have any price information, no. Um it's a lot longer than an off the shelf chip. Oh well yeah, we did the the problem is the the voice technology is not really highly developed, it's sort of still still in an experimental form, uh so it would uh it's hard to predict the time. Mm. Well just to incorporate the voice activation in it is sort of the trick. Once you've got the whole voice chip in there, then it's pretty much the world the sky is your limit, but to actually the the big step is to actually get the voice activation chips in there and working. Uh bits of it, yeah. Yes, as well. Mm. Uh it's fundamental well I mean I guess it's something we've discussed uh since the sort of the beginning, so I think in our minds it's it's fundamental, but I don't know that the the upper echelons of the company would necessarily agree with that, so I think you have to. Mm. Mm, mm. Mm. No, that sounds good. Mm. Mm. Cool. Um Yeah, I would say we do, yeah. Uh nope, that was it, that was it. Okay. Yeah, it's thinking about it. Yeah. Mm. Uh Uh I think they're they're about the same cost really. I mean, I think it's just sort of the there's a lot of slide buttons out there. I think it's pretty much the same sort of connection. Mm yeah. Mm. Mm. Yeah, 'cause I've definitely picked up remotes and like meant to change the channel and turn the volume, or vice versa, so it'd be kinda good to have them be feel completely different. You'd know what you were fiddling with. Yeah. Mm. Mm. Yeah, 'cause if yeah, in that kinda position the fingers would be better for pressing and the that for rolling, just the way it would Mm yeah, yeah, yeah. Mm. Mm. Mm-hmm. Well that can kinda tie into our changing uh face

things, like we could have the fruit and vegetable theme this year and uh whatever happens next year, we can have the face plates, yeah. Yeah, yeah. Mm, yeah, that weird I dunno what that is, but yeah. Mm. Uh, yeah, it's good as well. Mm-hmm. Mm. Mm. I I think it's easier sometimes to have them buy changeable covers for it than to buy a whole new one, because you don't feel like you're investing in a whole new product. Yeah. Mm. Yeah. Mm. Mm. Oh yeah. I like that. That all c also kind of encourages 'em to buy new covers and yeah. Um. Uh yeah. Mm. Mm-hmm. Mm. Mm. Well that that's just it with the covers, you're sort of tricking 'em into continuing to spend their money on our products without making 'em feel like they're being ripped off having to buy a new product. So, yeah. Yeah. Mm. Mm, yeah. Mm. And that's the sort of thing, once you get the mould set, you can just whip out different colours, different pictures very very quickly. Yeah, yeah, exactly, exactly. Yeah. Mm. Mm-hmm. Yeah. Mm. Mm. I dunno that we should make the whole thing yellow I kinda thought with a you'd have like a yellow circle with the R\_R\_ in it somewhere on it, but I'd yellow seems a bit of a strong colour to make the ent like the thing no, but I mean just like white or grey or black or some sort of blah colour. Yeah, yeah. Yeah. Mm. Mm-hmm. Mm. Yeah. Mm. Yeah. Yeah, you'd want it narrower than a mouse though 'cause it a mouse you're kinda just resting on it, you want something you can definitely grip. So maybe it'd be Yeah, yeah. Yeah. Yeah, and fiddle around with it and press it. Maybe almost like a hairbrush, like you could get the about the width of that end of the pen and then it widens up top and you can fiddle an yeah. Yeah, yeah. Yeah. Mm. Yeah, cool. Yeah. Yeah. Yeah, yeah. But do you know, this shape also kind of les lend itself to to voice 'cause if you're you're holding it and you're fiddling, but you can also bring it up like that and it's microphone-esque, yeah, yeah. Mm. Bu Mm. Well you can still i incorporate the voice with with less buttons. I mean uh if the power button was also somehow like a menu button you could press that and or do voice commands, and either volume thing could also be to

scroll through other options like y and you could scroll through brightness and and sc and then you can you can minimise the buttons and still have those, you know, brightness and tint and stuff. Yeah Yeah. But the television would be the display that things like that usually c pop up on a televi like you hit menu and menu will come up on television and have like tint brightness, and you'd use the scroll, scroll through it yeah. Yeah, yeah, that's true. I never understood how that worked though, but yeah. Yeah, mm. Mm, oka yeah. Yeah. Cool. Play with play-dough. Mm. Yeah. Mm. Mm. Mm, does actually, yeah, yeah. Mm different to feel, yeah, yeah. Mm-hmm. Yep, yeah. Mm-hmm. Mm-hmm. Yeah. Mm yeah. Mm-hmm. Yeah, mm. Mm. Yep, sounds good. 'Kay. 'Kay.

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# Meeting ID: 139

Data Source: Train

## Executive Summary

The project manager opened the meeting and introduced herself to the team. The project manager introduced the upcoming project in which the team is to create a remote control. The team members participated in a tool training exercise in which they each drew their favorite animal on the white-board and discussed why they liked the animal. The project manager then talked about the project finances and discussed selling prices, profit aim, market range, and production costs. The project manager then led the team in a discussion on their experiences with remotes and what features they would like to include in the remote they are producing. The team members discussed the option of combining remotes and how to produce a remote which is capable of controlling multiple devices.

## Complete Meeting Transcript

Hmm. Yes. Well. Oh my god, it's better than what I'm gonna be able to do. Take my contraptions with me. Alright, I'm Jessy. I'm from around D\_C\_ ish sort of in the U\_S\_. And we're gonna keep the deep sea sort of theme going on, animal. Don't really know how to draw this. Just where can I Mm. Mm. Maybe if I do the water, but how? Sort of give an idea. I have no idea how one would explain this. Mm maybe with some whiskers. Briefly, it's supposed to be a seal. You can imagine it in the water. I like them, because they are like playful and silly sort of have a good time. Not gonna try and pretend like I can get any better than that. It's definitely significantly harder once you are doing it. That's impressive. Um I hate when there's like four different buttons and you have to press to actually turn on the T\_V\_ like you have to do one for the power of the T\_V\_ and then like another one to get the actual screen on and something else to get it all going, I don't know. Now they keep combining all different remotes together, and I don't know if I necessarily like that 'cause I feel like you end up with multimedia overload. I just wanna watch the T\_V\_ um. Always gets lost. Some sort of like device to help you find it. Yeah. What about like batteries and things like that, like are there some remotes that don't require like batteries or do all remotes require batteries? Mm-hmm. Mm-hmm. And maybe that spatially divides it, so it's like if you're looki if you're trying to get the T\_V\_ on that's, you know, like the top thing on the remote, I dunno if d be vertical or horizontal in terms of how we're gonna make it, but if it's like all the



T\_V\_ stuff was here, then all the V\_C\_R\_ stuff was here, all the whatever else we have programmed into it's all just in its separate place and not like all the on buttons together, 'cause then you like, I don't even know what I'm turning on. Mm-hmm. Mm-hmm hmm. I think it's just T\_V\_, I mean, if it if we're taking it just new product a new television remote control that's not like doesn't say. You know, things might be more advanced than that. It's an idea with the buttons being really. Yeah. Mm-hmm. Mm-hmm. I'm four. Okay. Good morning everybody. Um I'm glad you could all come. I'm really excited to start this team. Um I'm just gonna have a little PowerPoint presentation for us, for our kick-off meeting. My name is Rose Lindgren. I'll be the Project Manager. Um our agenda today is we are gonna do a little opening and then I'm gonna talk a little bit about the project, then we'll move into acquaintance such as getting to know each other a little bit, including a tool training exercise. And then we'll move into the project plan, do a little discussion and close, since we only have twenty five minutes. First of all our project aim. Um we are creating a new remote control which we have three goals about, it needs to be original, trendy and user-friendly. I'm hoping that we can all work together to achieve all three of those. Um so we're gonna divide us up into three compa three parts. First the functional design which will be uh first we'll do individual work, come into a meeting, the conceptional design, individual work and a meeting, and then the detailed design, individual work and a meeting. So that we'll each be doing our own ideas and then coming together and um collaborating. Okay, we're gonna get to know each other a little bit. So um, what we're gonna do is start off with um let's start off with Amina. Um Alima, sorry, Alima. Um we're gonna do a little tool training, so we are gonna work with that whiteboard behind you. Um introduce yourself, um say one thing about yourself and then draw your favourite animal and tell us about it. Probably both. How do you spell your name? Thanks. So what are your favourite characteristics? Mm. Excellent. Shall we just go around the table? Mm. Might be nice to have them all up there at same time. Em Mm 'kay. Mm 'kay? I'm Rose and I'm Project Manager, from Cal

ifornia. Um. Hmm. S Um it's actually a coyote. Let's see. Let's see, let's give it a little bit of a snout, I don't know, some teeth. Yeah. Oh dear. Yes. I live um I live right across the street from an open space in California. We have coyotes howl all the time. So I really enjoy their their singing, you they're really beautiful animals. Mm. Okay um, moving on to slightly more serious stuff. We're gonna talk about project finances. Um we have a couple we'd like to sell it for about twenty five Euro with the profit aim of um fifteen million Euro um from our sales and because this is such this is for television it's a we have a market range of Internet, like it's an international market range, we don't have to worry about specifics. Um in order to make a profit of this magnitude, we need to um be able to produce each one at a maximum of twelve fifty Euro. So we're selling it for twice what we'd like to produce it for. Okay um, just to generate a little bit of discussion about the project um, I could I'd like to hear about your experiences using ro remote controls, um your first ideas about um creating a new r remote control, what would be the best um like you what are the features that you really like what are the features that you don't like, etcetera, so Hmm. Mm. Mm-hmm. Um I would imagine all of them, but we could but it's possible we could use like a lithium battery um that would last a lot longer than like double A\_s. Um like tho those are the batteries that are used in a lot of um M\_P\_ three players now and that kind of thing. Um. Um. Okay, it seems we have a little bit of a conflict over um to uh combining all the remotes cont together versus having f five different remotes. So um like you said you don't like having all the buttons on one on one remote, and yet you don't wanna have five remotes. So how do we work with that? Mm-hmm. Mm. Mm. Okay, so maybe have like one remote that has the main functions on, off, channel changing, volume, and another rote remote with all the special things. Because that is one thing that um remotes tend to have buttons that the T\_V\_s no longer have as well. So like you have to have them somewhere,

'cause you're gonna need those special functions occasionally. Um but not necessarily on the normal remote. Good question. I don't know that yet. It's a good question. Um. I'll look into that. If I can. Mm. Mm. Okay. 'Kay sounds like we've had a good little discussion for our first ideas. Mind if we move on? Ps mm okay. Um now our next meeting starts in thirty minutes. I believe we've actually been only working on this this one for about twenty, so we can continue discussing more new ideas if you'd like um, but this is just a breakdown of what we'll be doing individually. Um the industrial design, Alima will be doing um the working design. Um the User Interface Designer, that's for. Technical functions, I guess like keeping in mind the buttons thing, the size of the buttons. Um user requirements um, so you'll be hearing about different trends, uh about different things that people need, um I guess kind of the same uh discussion that we've been having, we'll get from the actual consumers. Mm 'kay um. And you will get specific instructions sent by your personal coach. I realised in this past one we we didn't have much, we just wanted to get a little brain-storming done. Um so very excited to see all your animals and how what wonderful um artists we all are um. Any questions? I haven't gotten an agenda yet, um I'll put that together. I'm sure as we'll each get our own instruction and then um because what we gonna do is first our individual actions and then we'll come back together. So I'm sure we'll all have more concrete things to contribute next time Mm 'kay um I'll type up minutes and probably email those out to all of you. Um just including all the things that we talked about. Um. Yes, I yes, I think I can. Mm-hmm. I'll just attach it to an email. And you're you're number two,

three, four? Is that correct? Okay. Excellent. It was lovely meeting you all. Just make sure you keep checking the company web site and the emails. Let me see if I can do that right now. Mm 'kay. Alima. Okay. Um I don't know which one of these I have to bring with me. Right, so, I'm supposed to draw my favourite animal. I have no drawing skills whatsoever. But uh let's see, introduce myself. My name is Alima Bucciantini. Um I'm from the state of Maine in the US. I'm doing nationalism studies, blah, blah, blah, and I have no artistic talents. A\_ L\_ I\_ M\_ A\_. Oh, and I guess I'm the Industrial Designer on this project. So let's see if I can get um here. I will draw a little turtle for you all. Not necessarily 'cause it's my absolute favourite animal, but just that I think they're drawable. And you have the pretty little shell going on. Some little eyes. Happy. There you go. That's a turtle. Um. I like the whole having a shell thing. It's quite cool carry your home around where you go, um quite decorative little animals, they can swim, they can, they're very adaptable, they carry everything they need with them, um and they're easy to draw. No, you can erase the turtle, it's alright. Snake. Well, snake? It's w Oh, a cat. Yeah. Right. That's That's pretty impressive. Yeah um. I agree with having too many remotes around. My dad has a whole drawer at home of remotes for various things, and I don't know how to work half of them um. What's important for me, I guess, is that it's easy to use and that there's not too many buttons, they are not too small, you know you know you need to know what you're doing. And one thing I particularly like is if you are not um sort of moving it around to get it to work with the infra-red. Um, I think there is a way around that, but I know in my residence right now the the television you sort of have to walk all around the room to get it to turn on, so i it's just simpler just to just turn around the T\_V\_ itself, and I think that's if we're gonna make a remote control, it should actually work for what it's doing. So I know. Yeah, something that doesn't Mm. Yeah. Could we get something that just has No doesn't have all the buttons that you need to program the video recorder or program s other things that I'm not very coherent about, but that just has your major buttons for that work for everything, you know volume control, on, off, channel changing. Yeah. N that way Yeah. Yeah, and if um if you'd save the more complicated functions maybe for separate remotes that you wouldn't need to use every day. Um. Yeah. Mm. Right. Mm. Mm yeah. Yes. I guess we have to define what what we're aiming for. If it's just a

television then that it's a bit simpler, 'cause there's less buttons that would even need to be on it. Large. If you have older people or people like me that aren't very co-ordinated hand-eye, it's really quite important that you are not pressing a small like teeny mobiles phone size buttons, if we can help it. Hmm. Yeah. 'Kay. I'm sure we'll be busy. I'm two. Alright. 'Kay. Uh Okay. Well, my name is Iain uh and I'm the User Interface Designer for the project. Um. And I'll try and draw my favourite animal. I'll I should leave that one on there shouldn't I before I callously rub it off. Um I'm not gonna draw it quite to scale um. Is that at least identifiable? It's a whale, yes. Thanks. Um and, yeah, the reason I like whales is 'cause uh they're well, first of all they're quite intelligent um and also they're they're kind of mysterious, like we don't really know much about them or or understand how they work, how they form groups. And I just find them interesting animals. Cool. I've used, I've used remote controls, for things like T\_V\_ and the C\_D\_ player and video recorder and I I guess they're they're pretty neat neat little tools uh. You don't have to get up and walk across the room to change a channel. So especially if you're someone really lazy like me they they're pretty nice. Um. I find them

they can be a bit annoying, especially, like you know if I'm watching T\_V\_ I have have to have three separate remote controls of in front of me, you know, one for the T\_V\_, one for the digital box, one for the video recorder as well. Um. And also they tend to they tend to be a bit confusing, they've got too many buttons on them uh too too sort of too sort of complicated when all I really wanna do is switch on and off, change the channel, change the volume. Yeah. Mm. Yeah. Can I ask, are we designing a remote control for a television only um, and if if this device is just to be used for the television would we even technically be possible to include video recorder functions on it? Um or should we just stick to just stick to having television television related buttons on it? So we should maybe we should assume that i t it's just a television that we're wanting to control. Well, I mean I suppose it would be nice to have playing and record and stop buttons on it for the video recorder as well I I don't know if that works technologically or not. Yeah. Yeah. 'Kay. What we're gonna be discussing at the next meeting? Do we know that? Right. Yep. Yep. Okay. Can you e-mail your slides as well? Is that possible? Cool. 'Kay

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# Meeting ID: 129

Data Source: Train

## Executive Summary

The meeting begins and the marketing expert starts her presentation promptly, telling them that her research shows they need a focus- it is not possible to make a device that works on the whole house. The project manager steps in and informs them that they have instructions to eliminate the teletext idea because it is too complicated, and also said they must maintain the corporate image by using corporate designs and colors. The marketing expert resumes, talking about how remotes often get lost and that a light emitter might be useful. The industrial designer gives her presentation, talking about components, materials, and energy sources. They discuss giving the control different shapes to suit both adults and children, making the buttons various shapes, and putting a display clock on the control. The interface designer presents, talking about the features users like on a remote and suggesting that they make the remote a T-shape and add an alarm clock function. They discuss their target group and the possibility of removable plastic cases. They close the meeting deciding to do more research on the plastic cases.

## Complete Meeting Transcript

Okay, is everybody ready? Mm-hmm. Um I take it you all have received instructions as to what you were supposed to do and um I think the Marketing Manager probably should go first, addressing the needs and desires. Yeah, mm-hmm. Okay. You're participant four. Okay, and now I can uh full screen. Uh, okay, okay. Uh okay, can can I at this point interject um something? Um we have received instruction from higher up that certain things should not be uh considered. Um the one thing for example something to eliminate maybe that's the teletext, because that's sort of outdated with the internet, and according to to higher management the it should only control the T\_V\_, mostly because they feel that it's too comp complex a task to um to to include other things, and they are concerned with the time to market. Okay. Um and the and the third thing that they wanna make sure um that their that the corporate image is being maintained, and that the corporate colour and design are being used on the product, so that it's easy that that that they can be easily identified as a product of of of the company, and that there's no mistake that it could be somebody else who is bringing this out. So I just

wanted to interject this here so we're not getting too much off track here with uh with the things we wanna look at. These were instructions from higher up so we have to eliminate uh these things, so it's only gonna be T\_V\_, but the one thing maybe that could be um eliminated is the teletext uh idea. Mm 'kay. Okay. And uh who would be next, uh, I guess that would be you. Mm-hmm. You want me to get your slide show up? Mm-hmm. And you are number three? Number two. Okay. Okay. Mm-hmm. Yep. Yeah yeah, uh-huh. There, mm-hmm. Mm-hmm. Mm-hmm. Yo and it's yeah but it's so. Yep. Yeah well yeah well that has been e that has been eliminated, so that's that's unfortunately a moot point now. Mm-hmm. Yeah I just build a mould basically and uh you know. As the budget we're looking at if you build one mould I don't think that's going to make a big difference whether it's gonna be square or Oh yes. I think I think we will have to look at the budget on that but I think in principle that that would be that would be kind of fun, you know. Yeah. Silly for children. Like an animal or Yeah. Yeah, a little elderly, a little arthritic hand you know, and and it's a small button and and it they don't press it exactly you know something else happens n not their favourite channel comes up but something else and they're very frustrated you know. Mm, mm-hmm. Mm-hmm, mm-hmm. Yes. Yes. Yeah you're sitting there already or maybe you have no other uh Mm-hmm. Yeah, mm-hmm. Mm-hmm. Yeah. Holder, yeah, mm-hmm. Mm-hmm. Okay. Well, you don't have to. This one? And Francine? You are number two? You're three. Would you want it full full screen? Mm-hmm? Okay. Mm-hmm. Mm-hmm. Mm-hmm. On the on on the remote. Yeah, mm-hmm. Mm-hmm. Mm-hmm. Right. Mm-hmm. Yes. By your child, mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Timer, yeah, mm-hmm, mm-hmm. Uh okay, now I have On my slide show basically we already we have already done the agenda, and uh on the closing uh basically there will be lunch break and all that. However uh the decision we have to take in this meeting is who is our target group. And uh what function, working design, how how does it work. So these are the two things we should come up wit with. So uh the first thing is pro maybe a little easier on uh who is our target group. Um. I guess in many ways everybody. Everybody who has a T\_V\_. Yeah, and I think today there are probably not many people who don't have a T\_V\_. There are a few but in general not. Now, talking about the target group which is in a sense everybody, but I think within the target group we have subgroups. We have we have earlier it was mentioned about um for example elderly people who have limited function with their fingers and hands, so I think that's uh one group that's certainly importan

t. Um then we have just the nervous people who can never press a little button on anything um unless it's really very clear. And uh I don't know how much we want to cater to children's use. I mean that's a question um whether that's important that children can really use it or not. So this these are just some thoughts I have on it, and um I dunno what you feel about whether we can just say we have one target group and for this one target group we're gonna design this one thing or whether we're looking at what we like we we talking about different shapes, whether that different shape also includes maybe different uh buttons uh for different groups. Mm-hmm. That has a lot of that has a lot of appeal but I think uh I'm I'm talking about the functionality now on it whether we're looking at different groups. I think the children issue can be addressed with the shape and with colours. You know, like you make it nice and pink, fluorescent, banana colour or whatever you know yeah, for example you know. But the question is really, who is our target group. Do we look at one target group? And with the twenty five Euros you know can we can we afford to have uh I'm asking the technical people here whether um to look at sort of subgroups with maybe different buttons for each group how much would that throw us out of the cost we are supposed to respect? Right. With with Mm-hmm. Well that's that's Yeah. No The the quest the question to be addressed here is only who is the target group and how will it function, and I think the

how will it function is probably the question of the buttons you know, within the target group or subgroups. The question is only whether our budget will allow to have more than one design in a sense. I mean the basic design I understand will be the same, but the question is how much will that set us back if let's say uh forty percent we make large buttons and the rest we make regular buttons for example. So that remains to s to be seen but uh the target group as a whole is is basically everybody with a T\_V\_. Yeah, well that's that's the question. Well maybe there's there's an idea you know t the new for example new portable phones? They have like removable plastic cases, so you can have a striped one or you can have a fluorescent blue one, or whatever, and maybe something like that, that in each package you know you have you have you have for example uh you have let's say a fluorescent blue on it but then you have uh another colour or stripe whatever that already comes in a package. And then if people really want more colours they can buy it separately. You know, yes. That's right, and but like if if then everybody is is is tired of the fluorescent blue and of the striped or whatever they have as another one in the package, then they can go to the store and for a few uh Francs or Euros whatever they can buy an alternate package with another two colours in it you know for example you know. Well I think I think the idea here is to uh to to d design one remote and what the only change is gonna be um the funct d t yeah uh the functional functional cosmetics if you want to put it that way, um having maybe larger buttons or buttons that light up or buttons that are slightly differently shaped for people uh either for children um Five minutes that was I guess tha that's the old message. Finish meeting now. Um um. But I think I I think to sum it up the target group is basically everybody. If money permits we can address some features for some subgroups within that. Do we agree, do we? Do we agree on on that in principle, like money will tell whether we will be able to do that or not. Okay? So now I understand it's lunch break. And um. So that's what we will do. So hank you very much. And we'll see you after lunch. Yeah I'd to just put on my microphone here and I'll be right with you. Okay? Okay you want me to start right now? Okay. Well, could you um put my slides up 'cause I think it might be helpful if uh we looked at the

slides at the same time. I'm participant four I believe. Yes uh-huh. 'Kay. There we go. Okay well I think we have introduced ourselves, so the functional requirements are is is part of my goal but why don't we pass right to the second slide. Cause that's where m my discussion starts. Right well um since I'm in charge of trying to figure out what we should put on this thing since I have to try to sell it. Um I thought that the method I should follow would be gather suggestions from everybody, and th the reason I just put that there like that is that uh in the init in the initial stage I think I should just be open to lots of suggestions. You know you can say anything you want no matter how silly it sounds you know it should run your car, it should heat up your motor if should um turn on your C\_D\_ whatever you want it to do um and then as we go on what we'll have to do is accept and eliminate these suggestions according to um design and budget feasibility. So I'll be coming to you um frequently as the Industrial Expert to tell me how hard it's gonna be to add a feature or how expensive it's gonna be or if your time, if it takes five years to develop this it's just something we can't do. So in the beginning just have a big puddle of things that we anybody can th throw anything in and then just weed things out that can't be done for one reason or another, and then the things that seem the most attractive that to uh to a customer we'll try to then prioritise those. So that was um what I meant there, and as I said on the slide there consulting the Industrial Engineer about that and the other thing is timing is really gonna be as important as money, because if we're gonna sell this thing, I think the best time to sell it is as a Christmas present. Twenty five Euros makes a nice little present, and we want it to be an impulse purchase, we want somebody to see it and think it's, gee I just gotta have that. And take out their wallet and buy it. So it's gotta be really

attractive and it but it's gotta go to market by September, 'cause anything that you don't already have out there in September showing it around, isn't gonna sell for Christmas. Um and then I'll be coming to you as the User Interface person to try to tell me from your point of view what are the most friendly features that we could put on it and try to prior help me with that prioritising of uh of the features and of the the look and the colour and I'll be coming back to you to help weed out those suggestions from that point of view. So I'll be coming to you for how much is it gonna cost us and how long is it gonna take you, and I'll be coming to you to tell me what's gonna make somebody take out their wallet you know, what what's what's gonna really be what they call a sizzle, 'cause we gotta sell this sizzle. A lot of times the thing that works the best from an engineering point of view isn't the thing that somebody's really just gonna take out their wallet and buy for Christmas for for their child or for their husband or whatever. Okay can we go to the next slide please? Alright I I already did a little bit of research after our first meeting where we threw out some ideas and it looks to me that within the budget that we're looking at the uh the whole house idea really isn't gonna be possible. So I'd like your suggestions to come back to the other slide where I was saying we we could suggest anything. I'd like the suggestions to be really specific, so that we'll have a list of things we can cross off, not something like you know whole house control what'll be And then I found on the internet from from my research that some extended electronic entertainment control should be possible. At the budget that we're looking at and at the price point we're looking at, we should be able to make it work the T\_V\_, the V\_C\_R\_, the stereo set um maybe something else cute like a coffee pot or one other appliance or maybe a lamp. I have to wind up? Yeah, sure. Okay. Okay. Of course, ye

ah. Okay, so that's something Okay so Okay. Alright, thanks for that. Um alright now other things that I found out on in my research is that the complaints that people have about the remote controls that are out there now. 'Cause a lot of them take too much time to learn how to use, and that was thirty four percent but even more important the thing that we did address in our last meeting that frequently it's lost somewhere in the room. Um so those are two things that we definitely do wanna address, uh we wanna s make it as simple as possible, we wanna make it um obvious and intuitive to use, and then the things about finding it we talked about the a light emitting thing as well as uh maybe a beep, and I think that those are things after my research that we definitely wanna try to incorporate. 'Kay can we go to the next slide please? Okay, so, my personal preferences in this um project are really have to concentrate on the sizzle. That is the selling point, the thing that's gonna make it an impulse purchase. Uh because once there's no be-back, well in sales they always say you know, be-backs don't come back. If somebody says, oh I'll come back and get it next week you're dead. They're never gonna come back and buy it. You've gotta make it attractive enough so they buy it now now now w now is a big word in in my book for selling this thing. And, in order to make it really sellable we've gotta shorten the learning curve, make sure it's really intuitive and easy to use. We have to have as few buttons as possible, because more buttons is more confusion, so that's why I'm saying, simplicity is good. Finding it's important, obviously you can't use it if you can't find it. So we've gotta concentrate on the features that help you find it, and I've already said this several times but I put it down in writing here, it should be an attractive impulse purchase at twenty five Euros. So it has to have enough value that when somebody looks at it they say, uh twenty five Euros I'm not gonna take that. Has to be so great that they're gonna say, uh twenty five Euros isn't much. Um and then maybe a motto, like we put fashion in electronics might be something we can use in our marketing campaign. Okay that's uh about it for me right now. Okay. Mm-hmm. Signal. Mm-hmm. Yeah well that's already been eliminated by management, so we're off the hook. Mm okay. Okay. Mm-hmm. Mm-hmm. Well we already eliminated

that. Now that's good from a marketing point of view, the fun the fun shape. And that you you say that won't add too much to the budget? To d the shape is uh Do you think there's any chance of um having ser in having basically the same machine with the same buttons but maybe several different shapes? Is that gonna be a possible? 'Cause that might help with the marketing. Because we had something sort of sexy for adults and we could have something sort of silly for children or a little animal shape or in a or a little elephant so they can remember where it is. Mm. Well, I think I think that that's something that we'll have to discuss um with the User Interface person because I think there's a lot of argument to be made for one button for one feature. Because I think one of the things were complaining about in my what I found out in my research is when they complained about how hard it is to learn a new one. The changing modes was something I mean you and I, all f all four of us we work with computers all the time, changing modes is nothing for us, but people who N and And that's and that's the kind of thing people learn by feel, and um you don't feel the mode change. So um maybe having buttons be various shapes might be a help too. You know, like the a triangle is for the volume and a square is for changing channels, so that people can uh develop a tactile sense of it. But we'll get to that with you. That's right, yeah. Now that's a good point. Yeah. Yeah, that's that's a good that's a good one, because the clock would be really friendly, and and when

is your favourite show coming on and Yeah, and a lot of time there's not a clock on the screen, and you have to go somewhere but you just wanna look at the news for a minute. Yeah that's that's good, the clock is good. Okay. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Case. So it um we should visit this site and have a look at uh what's up there? Or Okay. Okay. So it might be helpful if we had a look at that. Okay, thank you. Could you go back to that slide where she had that uh s slide up Betsy? Yeah, okay, thank you. Mm-hmm. Mm-hmm. Mm-hmm. Mm, 'kay. And an alarm clock, yeah that should that should be okay. Mm-hmm. Mm-hmm. Mm-hmm. Well you know there's the old motto, children under six never shop alone. So if you've designed something that's very attractive to children um the mummy please mummy please um you know we want it now we wanna go to the store and see it um that has uh a lot of marketing pull. Mm-hmm. That's right. You can make a banana shaped one. Mm-hmm. Respect. Mm. What about the electronics? That's not really gonna change much, is it? That that w that won't change much, will it uh? I d I wouldn't think so. Mm-hmm. Yeah. Yeah. Yeah. That's right, and can we can we is it even feasible to make one one remote control with something for everyone, or would we have to use the same electronics and make three different shapes? Um the same electronics and basically all that's gonna be different is the plastic case. And in that case we could probabl moulded plastic isn't all that expensive is it? Um you as an industrial person? Mm-hmm. Yeah. Mm-hmm. Well there's a real idea yeah. Mm-hmm. Yeah. Right. Mm-hmm. Uh yeah. An alternate package. Yeah. Okay. Well I think we can only aff, yeah. Cosmetic. Warning, finish meeting now. Well we may have to come back to one or two of these points at our next meeting but um Mm-hmm. Okay but we have to I Okay, fair enough. Okay. Yes. Okay. Okay. What features. S sellable. Yes. Yes. Okay. Okay. Receive. Multi-purpose. Eliminated. Mm-hmm colours. Yes exactly. Yes. Like a doll, or Yes. Yes. Okay. Something else. Channels. Yes. Yes. Mm yeah. Yes. Hmm. Okay. To keep the remote? Yeah. A case holder. A holder remote holder. Participant two. Yes. No no, I'm three. I can make it full? Yes yes yes. Okay. As uh User Interface Designer I did a little research to find out what are the features which a user would like to have on their remote. Yeah can you please go onto the next slide? So I found out that uh but uh the main purpose of a remote is to uh f control the function of a television at a far off distance at remote distance. Now for that, uh a remote controller should have a switch on off button by which a user can sit anywhere in the room in front of the T\_V\_ and he can



control the functionalities different functionalities of the T\_V\_. There should be a signal uh something like a radio wave or a infrared light or a LED which can be used to change the different functionalities in the television if the user wants to uh change the channels or increase the volume he can change it. Now there should be some timer to set for viewing a particular a particular programme or switching on and off a uh a particular programme according to the user choice. Yes. Yes. So if he want to view a particular programme at say nine o'clock he can set the time, and the T\_V\_ will automatically it will switch on at that particular time. So he can use that kind of uh uh properties of features and then there should be a child lock system if a particular channel is not to be viewed by a particular uh for a certain age, then the parents can lock that particular channel so that the children cannot view that channel. And uh the uh the uh and the one of the feature a user would like to have is the compactness of the remote. Uh the remote should be compact and it should have as many buttons as possible for controlling different functionalities of the T\_V\_ television. And um uh as uh uh this is my personal preference that it should be in the shape of a T\_ in alphabet for more compactability. And uh and uh it is one more point which I noted it down, like uh the material which which which is used for remotes should be human friendly it should not cause any skin disease or something some allergy to either children or to um an adult person. And it should have an uh it can have an alarm clock a person if some if somebody wants to get up at around eight eight P\_M\_ then he can set the time and it can be used as an alarm clock, and I don't think it will cost much to set an alarm clock inside a remote. Yes, and as John Reece said the buttons can be, uh can we can use the fluorescence to light up the buttons so different uh buttons will glow differently. So in even in the dark the user can know what buttons to use to switch on a particular channel. And uh uh the design of the uh um remote should be in such a way that there should not be any sharp projections so that if a child plays with a remote, he uh he should not be harmed in any way. And findings, uh I found out uh y um on different sites that uh there are different remotes which can be used, there are remotes which use the infrared for controlling the different functionalities, there are remotes which use the radio waves to control the functions and there are uh So uh there you have different uh types of remotes for different light source which are used which can be used for controlling the different functionalities of a television. Next slide. And these are my few personal preferences like it can be used for a multipurpose use. Not, uh no uh like it can be used as a T\_V\_ control as plus an alarm clock to set an alarm a timing and it should have a child lock, and then to save electricity uh there should not be uh much s move uh lots of circuits and all that. And if a person if if parents wants the television to be switched off by ten o'clock then it should be switched off ten o at ten o'clock automatically, so that nobody else comes later and use it. Timer. Yeah and then you can use a timer as well. Yes. Yeah that's it. Okay. T\_V\_ television we was. Mm-hmm. Different colours. Yes. Okay. No uh generally we can we can design a remote which is mainly for people with uh f age from ten to um forty and and then we can add on uh specific functional buttons for children as well as the elderly people or the people with who have nervous problems, yes. But in a family in a family there will be a aged person, children and a middle aged but they cannot buy three different remotes. They would like to buy just one and um just one which can be used all the three uh Cost effective. Okay. Yes. Okay. Um Yes. But uh yeah I I have a doubt like will it be cost wise effective if we if we design a remote having all the uh different features for different people or designing three different um remotes for three different categories of people. Okay. Of th okay. Okay. Mm-hmm. Okay, mm-hmm. Yes. Okay. Yeah? Mm? Open. And then full screen. Mm-hmm. 'Kay. Mm-hmm. Yeah. Yeah. Yeah. Hmm hmm. Mm. Yeah. Mm-hmm. Yeah. Mm. Yeah. Mm mm-hmm. Mm-hmm. Complicated, yeah, of course. Yeah. Mm-hmm. Yeah. Yeah 'kay. Yeah yeah sure. Thank you. Number two, yeah.

Yeah exactly. Uh can you make it uh full screen please? No, it's like a well you you have to press here. The cup cup shape here? The thir third. Yeah exactly. Uh so today I'm going to talk about the working design of the remote controller. Um can you go to the next sli slide please? The metal is like uh in a remote controller you have a chip integrated circuit which is like a brain of the remote controller. It takes the power from a battery say a battery it it can be a elec an electric supply like you have to uh like uh switch connec connect connect your remote controller to uh power supply from the you know electricity or something like that. It should be a battery because uh uh remote controller should be like you you you should take it t

to wherever you want and then um uh th this integrated circuitry takes energy from the power source and whatever like if you press a button it's like a input for the remote controller and it takes the input and it it transforms into a info infrared bits and it sends it into the device, like a T\_V\_ or a air conditioner, something like that so. Uh a remote controller is specifically designed to a single device. If you want to design it for multiple devices then you should make all the devices compatible with the frequency like uh th the remote controller it sends some bits some uh waves like with a particular frequency the device should know what the frequency is. It should re re recognise the uh waves which are coming from the remote controller and it should take the action like if you press a button channel or something like that then uh the remote uh remote controller will send a send a se send a signal, and the T\_V\_ it should translate that into like change the channel or something like that, change the volume control and uh so uh I think it's hard to design a remote controller for multiple uh devices. Uh yeah. Um. So uh user interface controls the chip and accordingly the messages like there should be a user user in interface like you know switch pad or something like that buttons should be there. So uh you can control whatever you want, you want to change the channel you want to control the volume you you want to uh mute uh mute the uh T\_V\_ or you want to have a child lock or you want to do some operations there's a there should be some device to tell what to do to the uh in uh integrated circuit so that the integrated circuit can s send the signals and T\_V\_ can perform the actions. So can you go to the next slide please? So I I just would like to uh add some extra features to the remote controller um I think these are the very simple features and uh they don't take much uh uh much of the um um investment also, it's like el the text or buttons which uh which are there on the uh remote controller they those we can make uh um like fluorescent uh they'll be like light emitting if it is dark so that you can find your remote controller if it is dark. And ther there should be a beep if many buttons are pressed if suppose a child is playing with the remote controller and a and she she or he is pressing the buttons all at the time then there should be a beep saying that it's this this is not a a you know a a action, there can be no action taking to that so. And there should be a child lock, like uh uh you should be able to lock your remote controller so that uh um whatever buttons are pressed by a child they can't be like y you i you if you have ki kids and all then they'll be pl playing with the remote controllers so can lock the remote controller. If make it useable for more than one device it's a it's hard but I think it's possible but it uh yeah yeah yeah so it's it's okay, yeah, yeah. And uh different shapes that we can do like uh we can have you know a all animals shapes or you know comfortable uh whi which can fit into your hands and um so that uh Yeah, yeah, yeah and colours also, different colours, and No no no, it won't uh I don't think it will be like, you can have you know for uh if you want ther there to be more Yeah yeah. It's it's just a s shape so it doesn't matter. Yeah. Yeah that is also possible I uh yeah I I yeah. Yeah that will be Yeah yeah. Mm-hmm. Yeah, for children, yeah exactly. Yeah, that's what, yeah. Yeah, exactly. Yeah. And and the butto buttons also I think if you want to have more features in your remote controller then there should be more buttons. If there are more buttons then it will be more complicated. If you have

less features then your remote controller won't be attractive, so I think uh we need to make some buttons which are which are like um uh f in uh in intended for two or three operations, like if you press one button in one mode then it will change the channel, if you press the other

button in another mode it will change the colour. So if you want to have less buttons we can have that option but I think it will complicate the matter more I think so. Yep, yeah. Mm-hmm. Yeah, it's like you know yeah. Yeah. Yeah, yeah. Mm-hmm. Yeah. Yeah, yes. Yeah, yeah you don't use yeah yeah, usually. Yeah. Yeah shapes also, different shapes. Yeah that will Mm-hmm. Yeah. Yeah. Yeah, yeah, and also text should be very clear so that there there won't be any ambiguities and uh So yeah. And uh display clock i if you want more features then we can display a clock it I I don't think it will take any money extra money because anyway we have an integrated circuit I think we can just definitely fit that feature into the circuit so it's Yeah, and we display a clock. Yeah. Yeah, and then you can just see your remote controller yeah yeah yeah so Yeah. Yeah. Uh can you go to the next slide please? Uh components uh the main components we need for uh it has like buttons and uh underneath that there should be switch. And uh bulbs. Like uh we can have a bulb like whenever we are operating a remote controller or uh whenever the T\_V\_ is on suppose, then the remote controller should automatically have a b s light. Then it will be like if you switch on your T\_V\_ through another another source, not from through a remote remote controller and you you lost your remote controller maybe you can find with the light. Maybe we can have that. Whenever the T\_V\_ is on, remote controller will have a light. And then uh infrared bulbs. Um this is like uh when it is dark. And battery, there should be a battery for power supply, and a chip, chip which is like a brain to the remote controller which does all the operations, and wires connecting all chips, which is uh lights, everything, so there should be wires. And uh uh of course there should be a case where we can keep all the things and, you know different shapes or whatever it is there should be a case to put to give a shape. Yeah. Yeah, holder. Um uh can you move onto the next slide. Um next slide please. Um I have referred the site uh the homepage of the um our website, uh from where I have uh uh I got a few points. That's it, that's it from me now. Um. Uh it's not like that, I have referred the page to get new ideas or like what can be the working design to how it works and all and so and so. Yeah if you want. Yeah, it's okay. Uh, it's actually there now, there on the screen. Mm. Yeah, sure. If there is a clock then there can be a alarm clock. Hmm. It's like a t okay, it's like a timer it's like a lock to the television. Mm, T\_V\_, yeah. Don't T\_V\_, yeah. Hmm. Yeah. Mm. Yeah. Mm-hmm. Mm. Yeah. Yeah. Mm. We can design different remotes for different people, like for aged people there will be big buttons and you know. yeah. Children and everybody, yeah. Yeah of course that we can do, but specifically if y if like elderly people want big buttons then you can't really make a bi big remote controller so maybe specifically you can design a big con remote controller for elderly and for children, like in a different you know. No, it it doesn't cost, yeah. Yeah. Doesn't doesn't doesn't matter. Yeah. Hmm hmm. Uh no. Mm, I I I don't think no. It's not. Hmm. Yeah, like for mobile phones we have uh different you know covers, like designs and all so that we can have that. Yeah. Yeah, but uh Yeah. Yeah, maybe, yeah, yeah. If we do some more research, maybe we. Hmm yeah, I think maybe seventy percent is a unique uh remote controller and thirty percent is yeah it's sort of like yeah. Yeah, yeah, of course, yeah. Mm-hmm. Thank you.

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# Meeting ID: 88

Data Source: Train

## Executive Summary

So we are here for the detailed design meeting . I will first present what we are going to do in this meeting . I will also take notes during this meeting and I will send you uh a summary then as usual . We will then look at the evaluation criteria of the prototype presented by uh our two colleagues And uh then we will see the financial aspects and the cost of the product . Then we will uh evaluate the product . And uh end with the conclusion of this project and see whether it fits with it fulfil if it fulfil the requirement or not . let's start with the cost aspect I look at the aspect discussed last time , that is to say uh to have a standard battery , to have a yellow banana shaped uh case with uh a rubber material around it uh to feel spongy , and uh also at the different aspect like having a wheel etcetera . And the cost ended to be ten point seven Euros . which is uh good , because we had a price gap of twelve point five Euros . for the financial aspect it's okay , we can uh we can continue with this product uh as if , and we are now going to see the project evaluation with uh our marketing expert . I made an evaluation and the the evaluation criteria is made according to the users' requirements and the market trends we talked about uh during the previous uh meetings . we have uh six points . we we want to have a product fancy look and feel , technologically innovative , easy to use , fashion , easy to find in a room , and robust , I have a scale of uh seven points . I go through all the uh all the points here , and uh according to what you think about the this project you can uh mm make a one point , two point or seven point . And after we ha we have an an average , and uh we see . fancy look and feel , what do you think ? between o one and seven . I give it a I give it a five . So I think it's uh very uh very nice . it's between one and seven ? Seven is the highest uh ? Seven is the I will give a six . I will give a a five . Maybe we all have to agree on a common uh I don't know if you we ha we have to put uh one uh f If it's better or we can choose what we want . let's say that seven is the best . do note the grade we have five , six for me , How much would you give on the fancy aspect , on the fashionable aspect ? I think six , it's a good uh So it will have five point five average . after , the technological aspect ? we we said uh we have uh a new technological uh thing with a wheel . We also have the rubber material , I think I would give a five . It's four . A four also , because , except for the wheel , we don't have so much innovation . are we including the voice in the end or not ? Huh ? No . Yeah , four . Four , yeah , let's put four . Very easy to use . Do you think it's easy to use ? I give a seven , I think . Mm , six for me also . six point five . Is it fashion ? its its f its fruit fruit shape . I would say seven . Yeah it's fashion , we can we can put a seven here . Easy to find . I think you can't

miss it . I think it's cool . We have the lightning , So you'll make the material transparent so that it uh lights up completely , I would say seven . Is it is it robust ? it's rubber , made of rubber , the only problem there might be which know , i if it's very sensitive , But it is uh it is surrounded by rubber material . So maybe we can put a six . Everybody is okay , six . We have to sum up everything . Six is a good Uh if we say that seven it's uh it's the better , and when uh s six sit six are good it's a good uh p product , I think . So it's a good evaluation , I think . We have a good price So this prototype is quite nice . So having this at twenty five Euros is uh quite attractive , I think . The the the financial aspect were okay . we have seen the prototype . It's very nice according to the work of our two designer . We we have the cost below uh our threshold and so we could sell at twenty five Euros and make i make profit . The the evaluation give satisfying result as well . the cost is in the budget , the evaluation is okay , so I th I think we can now uh open champagne Congratulations to the team . Uh very well , we worked together fantastically . I think it was a good collaboration uh .

## Complete Meeting Transcript

Hi. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. I will give a a five. Five. A four also, because, except for the wheel, we don't have so much innovation. The rubber is Uh a four. I I Yeah. Six. Six. Six six six point five. Yeah, seven. Easy to find. I lost my banana. Uh. Six. Yeah, okay. Uh f yeah, it's ru it's rubber. Yeah. Yeah. Yeah. Yeah. Six or five. Five. Six. Yeah. Mm-hmm. But almo also the complexity between a phone and a remote control is not cannot compare. Start to eat banana. Yeah. Yeah. Okay. Yeah. Fruits. It is a banana. It is the essence of bananas. I would be confused with this thing. S How is everyone? Mm-hmm. Like a banana. I give it a I give it a five. And you? Do you vote uh Christine? Do you also vote? Well, we can very easily. I So it will have five point five average. Mm. It's four. Yeah. D are we including the voice are you glu are we including the voice in the end or not? Huh? No. Okay. Yeah. For twenty five. Yeah. I give a seven, I think. 'Kay. Yeah, we can we can put a seven here. Yeah. Yeah. Well, we hope. Yeah. Yeah, I think it's cool. I think we can put a six here. So you'll make the material transparent so that it uh lights up completely, or Yeah. Yeah the only problem there might be which know, i if it's very sensitive, they will, I don't know Yeah, okay. Mm. Six, yeah, for me. Yeah. Twenty. Thirty. Thir Okay. Yeah, the top Mm. So will become eight soon? Yeah, well it's a bit biased. Okay. Because I saw uh some phones that were banana shaped, uh wireless phones not mobile ones, wireless for the house, uh quite big also, and they were selling something like a hundred Euros, two hundred Euros. Just a just a phone, wireless. Yeah. Yeah. Yeah, it's much more complex, but Okay. Congratulations to the team. Uh very well, we worked together fantastically. So what does the management say? What does the management say? Ah. Yeah. Okay. Mm. Okay. Je crois que c'est dommage de le it will be sad to destroy this prototype. It really looks like a banana. It is a banana. Mm. Okay. Hi. So we are here for the detailed design meeting. So we will uh I will first present what we are going to do in this meeting. Then uh I've I will also take notes during this meeting and I will send you uh a summary then as usual. We will then look at the evaluation criteria of the prototype presented by uh our two colleagues that make good work. And uh then we will see the financial aspects and the cost of the product. Then we will uh evaluate the product. And uh end with the conclusion of this project and see whether it fits with it fulf if it fulfil the requirement or not. So d let's start with the cost aspect so so I

look at the aspect discussed last time, that is to say uh to have a standard battery, to have a yellow banana shaped uh case with uh a rubber material around it to be uh to feel spongy, and uh also at the different aspect like having a wheel etcetera. And the cost ended to be ten point seven Euros. So which is uh good, because we had a price gap of twelve point five Euros. So for the financial aspect it's okay, we can uh we can continue with this product uh as if, and we are now going to see the project evaluation with uh our marketing expert. Yeah. You have a presentation? Participant four, yes. Okay. Okay. Okay. Okay. Yeah. Yeah. Yeah. Okay. Okay. Okay. Maybe you can presen okay. Maybe hold it. So I think it's uh very uh very nice. What do you think? Yeah. So it's between one and seven? Seven is the highest uh? I will give a six. Maybe we all have to agree on a common Yeah. No problem. So this is your One is most. Well, we can choose what we want. Okay, let's say that seven is the best. Okay. So so do note the grade we have five, six for me, five. And what what's your choice? How much would you give on the fancy aspect, on the fashionable aspect? How much would you you don't answer to this uh questionnaire? Five point five average. Okay. Well, does it Okay, techne technological aspect. Yeah, we have the wheel. We

also have the rubber material, which make it uh like new also. I think I would give a five. Four? Okay. No. So what's your uh grade? Four? So we have four, four f and five? Yeah, four. Four, yeah, let's put four. Doesn't it Yeah, I think so. Yeah. I would give a I would give a seven as well. It's very easy to use. So six point five. Okay. Oh yeah, its its f its fruit fruit shape. I would say seven. And is very very nice design. Yeah. Seven, okay. I think you can't miss it. Okay. Yeah, we have the we don't sesh especially have the lightning but So it's yellow. It's okay. I think it's very easy to I would say seven. It's hard to miss it. Yeah, it's rubber, made of rubber, I think it's m it's uh more rubber than uh other remote control. Yeah. But it is uh it is surrounded by rubber material. So maybe we can put a six. Six is okay? Yeah. Tadada. We have to sum up everything. Six is a good Yeah, the be. Okay, so six is a So it's a good evaluation, I think. It's very promising. Huh. So this prototype is quite nice. Yeah. Okay. So having this at twenty five Euros is uh quite attractive, I think. I think the Yeah. So, I think, we can summarise. So we have seen the prototype. It's very nice according to the work of our two designer. The the the financial aspect were okay. We we have the cost below uh our threshold and so we could sell at twenty five Euros and make i make profit. The the evaluation give satisfying result as well. So I think we can move to the last part of the meeting. So the cost is in the budget, the evaluation is okay, so I th I think we can now uh open champagne and make a huge party. I don't know if it's provided by uh by the meeting staff. Okay so congratulation. Nice product. Yeah. I think it was a good collaboration uh. Aspect. Sorry? I think we will have um much bigger project next time and a much bigger salary as well. All it depends on who watch this meeting. We don't know. Okay, so good guys, so see you for next uh successful project. Mm-hmm. Yeah. Okay. So uh you can have my project in Uh yeah just a Four. Evaluation. Okay. So you can go. We can go through. So I made an evaluation and the the evaluation criteria is made according to the users' requirements and the market trends we talked about uh during the previous uh meetings. So you can go through and okay so uh we have uh six points. We we talked about before. So we we want to have a product fancy look and feel, technologically innovative, easy to use, fashion, easy to find in a room, and robust, uh and uh uh I have a scale of uh seven points. Okay. So I go through all the uh all the points here, and uh according to what you think about the this project you can uh mm make a one point, two point or seven point. Okay? And after we ha we have an an average, and uh we see. The okay? Uh so uh fancy look and feel, what do you think? F between o one and seven. Yeah. Seven is the Mm-hmm. sorry. eh? No, I just want to see something Mm-hmm. Uh I think uh and need to as well. Need to uh I don't know if you we ha we have to put uh one uh f If it's

better or Uh-uh. Um. Yeah. Or maybe we can say s seven is the best mm. Oh sorry. Six Uh s you can how much what? Oh yes I mm I dunno mm, I think six, it's a good uh Yeah. Wa can. Okay. I sorry. Okay. So after, the technological aspect? So we we said uh we have uh a new technological uh thing with a wheel. Uh. No. Four. We can put four? Everyone is okay or four poin Four. Okay. Very easy to use. Do you think it's easy to use? Mm, six for me also. Six point five. Okay. Is it fashion? Seven? Yeah it's fashion, because it's a fruit, and we say that the yeah, seven. Uh easy to find in a room? Yeah? We have the lightning, or The lighting. Yeah. Seven? Is it is it robust? Everybody is okay, six. Yeah. Okay. S now um so. Thirteen uh, twenty, twenty six point five, uh seven, thirty two, thirty six. That's that's okay? Six. Good. Uh if we say that seven it's uh it's the better, and when uh s six sit six are good it's a good uh p pr

oduct, I think. We have a good price and uh. Good. Mm-hmm. Mm 'kay.

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# Meeting ID: 55

Data Source: Train

## Executive Summary

Okay Oh , we're gonna have a prototype presentation first . 'Kay , we've made a prototype . especially we looked at the form , material and the colour . The logo is uh is uh is pretty uh obvious to see on the on the remote control , I think the most of the functions are uh uh obvious . Uh the volume uh uh at the side , and the other side is the programmes . And then we had uh just uh two buttons , we place them in the middle , uh the menu , and for the teletext Uh then the the the nine uh channels . Uh , power button . did we want to have a mute button ? Alright , and uh you gotta point out which is the volume um uh button and which is the programme button . Yeah , but you you gotta make it clear on the on Next to that I kinda miss a zero actually . Uh , there are different ways for remote controls to uh do uh like uh d I call it teens and twenties . All n no , that's um kinda dependent on the television . but do we have do we need extra buttons , I think you should add A cross , or whatever . Yeah , line . Yeah , but you don't you don't actually need them , becau b l a lot of remote controls work that y when y that you when you fir you push the one first , then you have a couple of seconds No , that's dependent on the television . I know some remote controls that don't have these buttons , but you still can , know , obviously you can still select the twenty uh a number in the twenty or in the ten . Yes , but uh uh no uh remote control nowadays are um they come with the television . when when you put a button on it with like one and uh then a dash , it's the same thing as when you just push the one , some televisions don't accept uh that that When you push the button , the remote control gives a signal . and when y whe when you don't push another button on the remote control within five seconds , then the remote control gives a signal for channel one . it it it works uh if you haven't got uh a special button for it , uh if you push a one , then on your television there will appear a one and a a line , which is an empty space . Yeah , but it's exact the same that w would appear when you put a separate button push a separate button . Yes , but some some old televisions uh you have to uh click on uh a special button , uh then you go to a a next level , you can push two buttons . Yeah , but you don't underst uh you don't understand my point . that special but button you're talking about , eh ? That's just a signal to recei ju they send a t signal to the v tv T\_V\_ that they have to put a one in on your screen and a dash , which you can pu so you can uh still put another number on it . When you don't have that separate button , and you push y one , it's exactly the same thing . No , s some some televisions need the input first uh and and you c That's the same thing as the button with the one and it It's simply not true . It's simply not true . I I know for sure



that some televisions that with the remote control supplied, only have these buttons with a one and a dash and a two and a dash, but when you use a basic remote control that doesn't sport these buttons, it still works. We'll discuss them in the usability lab. We'll apply them then for now. I don't know if it's necessary. Yeah, we just apply them next to the zero, the one and the two. But I still think it's all T\_V's in some ways support it, I think it's more common maybe we don't, uh we both don't really understand how it's how it really works, but I think there's more to it than what you just said. No, you have to give the television uh two or more signals. I think it's pretty basic, there's one there's one button, But maybe we can maybe we can make the docking station uh a bit standard for the other products we sell, because Real Reaction sells more products than only remote controls. So maybe we can use the docking station, for example, uh M\_P\_ three players or or uh I think that's very difficult, because of different shapes of uh devices. Yes, but when you put that same voltages on it, you can put uh when the when the uh on the the lowest part of it, when it's on the same as the other products, you can put it all on the same. The technology and the voltage can be the same. That's uh that's true. When the recharger has a bit what points out, we can place all on top of it. Shouldn't it fall then? It isn't going to fall down? No, when you make it large enough no it will not. But it's just an idea. It's leaning. It's leaning backwards, I think, in the docking station. Uh, you could make like a hole in it, you know, of uh in the Well let's have let's talk about the docking station later, because uh maybe we have to uh consider the docking station anyway, because we have some uh cost issues still to come. The look and feel would be great on this uh remote control, because uh you always uh will uh pick up the remote control in the smallest uh area. Then your uh left thumb of uh your right thumb is uh near the programme uh button, which is the most common used uh function, Yes, uh on the side uh there will be a strip of rubber, and in the middle uh there is uh a hard uh a hard material, a bit hard plastic with a light uh behind it. Yes, we can make also neon lights on it, or the buttons that can make uh light on it. Because we're gonna use uh one colour for the plastic enclosure and one colour for the rubber, Then we're gonna do the buttons in the i are we're gonna have rubber buttons. Uh, in the same colour as the side. But uh, and we have to agree uh upon the exact colours, Right, we're gonna evaluate that design according to a few points. Um, we the four of us are going to do that um together. We gotta give points to uh to all of these to evaluate uh that design, The remote control is not ugly. How do you feel? Yeah, maybe it really depends on taste. I think I think the fronts will give it a more uh uh less uglier uh side, because you can uh make it in your own No, not not fronts, but different designs. Okay, three. The remote control's uh uh that makes uh zapping easy. Yeah well, let that let's make that a one. It's something we really put work into. The remote control the remote control's relevant buttons are prominently visible. Yeah, but we didn't we're not planning to use fronts, I believe. I would say a one because uh every button is uh uh relevant. The remote control hasn't got too much redundant or unneeded buttons. I think we totally succeeded there. Well maybe a two, because of the menu button or something. Also, the the buttons of the one, the two, the the digits, The remote control has got a really trendy look. Yeah, uh a t I think a two. We've tried to make it uh the best trendy look uh ever. But I do think that it's more trendy than beautiful. You agree on the two? Remote control has got innovative technology implanted. No, not L\_C\_D\_, so. you mean the rubber stuff? But that that's not innovative. Or seven

maybe , yeah . With the lights it's it's kind of future Yes . The docking station is a is a little bit innovative . Well , let's leave it open for uh for us later to see what , because we have to reevaluate anyway . No uh , well , the agenda says evaluate now , so I think we how would you innovate a remote control more ? Yeah , more through uh like function T\_V\_ functionalities and But I d I definitely don't think it's a five , think about it la later on Remote control is easy to use . Yeah , a two . It will be bought by people under the age of forty . Yeah . Definitely . Yeah , a two . The remote control has recognisable corporate image , colour , logo or slogan . Yeah , you can put that on the side if if we would like to . Yeah , and I will I th still think it's gonna be a two or a three . Remote control's got a basic design intended uh for novice users . Yeah , make it a two . which is uh quite a great score . It's a two point six . Is there something after this uh meeting ? Or Well , I think we gotta fill out another questionnaire . I received uh a spreadsheet . I'm gonna open the spreadsheet and we're gonna work this out together , First of all , the mm all the docking station and costs and such are not included in this list . We include one battery . we we uh indicate the amount of components of the specif specific component , how much we need of them . we should know how many simple chips , regular chips The simple chip is e enough I I think , I haven't got an idea on on which we need to use , really . The the email I got said uh simple chip , but when we put in the speaker and the retriever uh device , it will uh cost a a bit more , like I think the advanced chip maybe . Maybe you can uh look it up right now . well , point out the advanced chip for now , I guess . Yeah , but it will it will it will be cause a lot of problems . Okay , we went for the double-curved case made out of plastic and rubber . And with a special colour . Otherwise , you get uh a standard uh plastic colour . Yeah , I think we uh we have special colours . Okay , then the push-button , I was just counting them . Uh , I think you have to indicate the amount of push-buttons we want to use , Well that's bit of a problem , because I re but I really don't understand that , because I can imagine a remote control with far more push-buttons , and it wouldn't be possible according to this uh sheet . it's only uh when you use push-buttons , it will cost that much . Maybe it's the kind of push-buttons . You can have f four kind of push-buttons . And plus these two , f uh plus the mute button , and it's will be uh eighteen . Why is that so uh expensive . Yeah , I don't understand . Well , okay , well well let's make it just one . I I I couldn't understand it if it was fifty cents per uh uh per button . Really . I've seen one uh one remote control with only the pu yeah , only with uh page up , page down and volume , Yeah , but I d I wouldn't want to own that . Really . Uh , it's it's still for little children . But then still , when we there's no room for a docking station or something . We'll give the buttons special colour . We'll give them a special form . A special colour , why a special colour ? Because the buttons will be uh d will be matching colour between the buttons and the rubber surroundings . I don't think the special form is really true . I think all the special colour things have to be marked over here , because that's what we were planning to do , 'Kay , but the problem now is that the There's no such thing as a docking station in this list , but we can all imagine that it would be impossible to make a docking station for thirty cents . But we can uh sell the remote control and uh sell the docking station then the docking station isn't relevant for this project anymore , No , but you otherwise you can't retrieve it . I mean if it's a simple chip , then we suddenly got two Euros and thirty cents . But for two Euros and thirty cents , we uh we don't get a docking station . if it would cost two Euros , that had a total a total thing , it would be nice too , or we can ki do the kinetic cells . But uh what can we do with the simple chip and what's difference with a regular chip and a advanced chip ? Maybe you can uh find it in your email

right now , yeah , but when we skip when we um when we don't use the do we're not gonna make the docking station , then we still yeah , we need something else maybe to make it kind of special , We can make a plain docking station for two Euros . Wi wi without recharge I've got a schematic view of the remote control , but nothing about uh advanced chips or You can look at it for s presentation . I don't think here it's in here already . Was it working design or components design ? You know that a push-button requires a simple chip , but a scroll-wheel , it it me requires Okay , so we only need a simple chip . it s uh only states that a scroll-wheel requires a regular chip , and that a display requires an advanced chip . And what's the sample sensor slash sample speaker ? Maybe you can say against the remote uh page uh f uh page up , page down . So we're gonna use the simple chip . Nah , there is some money left to be spent . I think we can make a docking station . Yeah . we aren't gonna apply any uh innovated innovative te technology anyway , I think . maybe I think maybe the kinetic thing is something . Instead of the rechargeable Kinetics aren't uh nowadays only used in watches and that's because you're always walking . the target uh group are people who zap regularly and throw with their remote control as a matter of speaking . Hey that maybe that's cool that's a cool thing about it , you know . You don't use batteries . We can make a docking station for two thirty . Yeah , but be serious , then uh the docking station will be a fifth of the price of the remote control . but we uh we don't inc we haven't looked at the these costs of the speaker and other stuff . Well then it's a useless project . Yeah , then we don't have any innovation things . Uh maybe it with the kinetic thing , I think we could do uh do a compromise uh with the kim kinetic thing . Can't we say fifteen Euros ? No , then we have to sell it for thirty Euros . You can sell for twenty seven and a half . No . Maybe we can do it both uh in the in the in the remote . Battery and kinetic . You you gotta throw uh throw it through the room like twenty times an hour , really . Uh , a watch is uh kinetic because you walk all the time . Because I think the d whole dynamic part , do you know , appeals to me qui uh thinking of our design philosophy , you know , with the rubber parts and uh sturdiness of the thing , and y when you move it around a lot , then people find the idea funny that when I move my remote control around and Yeah , it's funny for a week . Okay , then we d Okay , well y we don't have to do it , but what that would just have a lack of key features , you know . We can really can do the docking thing , Then we have one Euro thirty for the whole docking station . No no , it's not possible . It w it won't tell , but No , this not gonna sell . No . Yeah , we just have to go all what we did today again . You have to do it over . No no uh there's still there's still someth concept and something special left . Yeah , and I would li I would have liked a kinetic part as well , to give it some just to give it some extra special feature , Warning , finish meeting now . well , we were gonna what look take a look at the last sheet . No , we can't . Yeah , we have to Yeah , it's Yes , yes . Celebration . I think we gotta fill out another questionnaire , to be honest .

## Complete Meeting Transcript

Yes. 'Kay, we've made a prototype. Um, we've got uh uh our aspects from the last meeting. Uh, especially we looked at the form, material and the colour. Um, we've uh drawn here the p prototype. The logo is uh is uh is pretty uh obvious to see on the on the remote control, but it is necessary when

you want to build your uh company f to a level higher. Um, our interface elements, there are shown in the in the drawing. Maybe you can uh point them uh The functions. But uh that It's uh here then, in the middle. Yes, um we've disc Most of the users Yes, y there there will be a p a little a little P\_ on that and a little uh yeah. Yes. It's a television. Yes. Yes, yes, you have you have a lot of standard buttons that has to be uh on it, uh th with the one and a double uh uh yes. Yes, you have televisions, then you have to, you know, you have to uh press Yes, but but a lot uh Yes, but some televisions don't accept uh that that No, no, but s Yes, but some some old televisions uh you have to uh click on uh a special button, uh then you go to a a next level, you can push two buttons. You want Yes, but some television don't support it. No, a remote can Yes, so they need no, they need No, but uh Yeah, it And the button for the SCART uh audio video uh external input. No, no. Uh, remote control sends one signal at one button uh press. Uh, some N some televisions when when you want to go further than uh ten No, you have to you have to uh give the television uh two or more signals. When you uh press one button, you give one signal. And the older televisions need more signals to go a level higher. But When you make the technology that that it will uh give more signals, it could work, but Just a basic idea of of of the most uh most y most common uh and simple uh operations on the remote. Yes. It's here on the We came uh Yes. But maybe we can maybe we can make the docking station uh uh a bit standard for for uh the other products we sell, because Real Real Reaction sells more products than only remote controls. So maybe we can uh use the docking station, for example, uh M\_P\_ three players or or uh uh hearing devices. Yes, but when you put that same volt voltages on it, you can put uh when the when the when uh o the the the lowest part of it, when it's o the same as the other products, you can put it all on the same uh Yes, but we can make No, we can make uh make the most lowest part all the same. When when the the recharger has a has a bit what points out, we can place all on top of it. Just have to be big enough for the biggest No, when you make it large enough no it it will not. But then it's a little bit But it's just an idea. But it's flat it's flat as as this, so we can p make all the products as flat as this. Yes, but when you make uh uh a bit of big Yes, little holer littler Uh, little products go deeper in it. Yes. And uh uh the f the look and feel would be great on this uh remote control, because uh you always uh will uh pick up the remote control in the in the smallest uh area. Then your uh left thumb of uh your right thumb is uh near the programme uh button, which is the most common used uh function, and all the other buttons are available for your uh thumb. So it's it's it's really good design. Yes, uh on the side uh there will be a strip of rubber, and in the middle uh there is uh a hard uh a hard material, a bit hard plastic with a light uh behind it. Yes, we can make also n neon lights on it, or or the buttons that can make uh light on it. Yes. But, it will also uh uh use batteries, and do we want to The all the aspects of the interface buttons were uh Yes. Yes. Yes, maybe we can use on the on the lights on the side we can use uh uh multiple uh lights, so it will uh Yes. No. Yeah. I think I think the the fronts will give it a more uh uh uh less uglier uh side, because you can uh make it in your own yes, you can make it in your own uh more to your own personality or or house style. Yes. Or forty. I think two or three. Yes. Yes. Yes.

Yes. It's all about the buttons. Also, the the the buttons of the one, the two, the the digits, o they're used uh uh Can yes, three, two. But you can't make a remote control without them, because Yes. Yes. A one. We we've tried to make it uh the the best trendy look uh ever. Yes. Yes. No. No, not L\_C\_D\_, so. But that that's not innovative. Lights lights are Six. Because we've tried to make it a little bit innovative, but it but it With the lights it's it's kind of future But still you can retrieve it when it's when it's gone, with the with Yes. The docking station is a is a little bit innovative. It's a part of the remote. And with the speaker on the there's also a speaker. Okay. But the retrieval or the Yes, how would you innovate a remote control more? To put it on your head. Yes. Yes. You like the buttons. Yes. In in and comparing

with uh people of th of the age above? We don't know. But Yes, two, but only in c when you compare it with with elderly. This is just guessing. Make it a two. When it succeeds, uh it can get a two, mu A logo. Yes, uh encrypted uh with Yes. Yes. Is there something after this uh meeting? Or Okay. Yes. Uh it's it's one one chip, but but you have to choose one from it. The simple chip is e enough I I think, but with the lights with the lights and the retrieval, it can be uh No, uh I Yes, my my my uh The the email I got said uh simple chip, but when we put in the speaker and the retriever uh device, it will uh cost a a bit more, like I think the advanced chip maybe. Bec No, the they didn't know about a retriever or a speaker uh in it. Then it's a simple chip. Yes, I I I s I That will be enough for future uh recommendations. I don't know it uh either. Yes. Otherwise, you get uh a standard uh plastic colour. Standard rubber. St Yes. No, it's only uh when you use push-buttons, it will cost that much. If you use a scroll-wheel Maybe it's the kind of push-buttons. You can have f four kind of push-buttons. Rubber. You can have uh Different, yes. Why is that so uh expensive. So, whe when you so then it It's eighty percent of the price of the of the amount of When you have the same amount of button, you have to put in wi in your carton. Board. And then throw it But whe I've seen one uh one remote control with only the pu yeah, only with uh page up, page down and volume, but but Uh, it's it's still for little children. They can handle that remote control, but but it isn't fo Yes, it's for it's li uh it's just for a little Otherwise, it Otherwise it would be the Special form also, it says. What is the normal material? Sh yeah. Classic? Oh, plastic. But we can uh sell the remote control and uh sell the docking station yes. And and but we don't have to tell it, but what we can say of can um almost make it impossible to buy a remote control without the docking station. No, but you otherwise you can't retrieve it. But for two Euros and thirty cents, we uh we don't get a docking station. For For two Euros. It isn't in my information, so I don't know it uh either. It isn't in my information, I uh I I've got a schematic view of the remote control, but nothing about uh advanced chips or Uh I've got here in uh I will put a I will put a page on it. When my mouse works again. My mouse is uh Yes. Oh. Ah, I've got it. I will put uh my email on the the network. It's on it. Yes. Um Yes, that was mine. But that was my second Mm But this is the same uh This is o only the possibilities. Yeah. We can use a simple, a regular, or advanced chip. Ah, okay. With the light. L\_C\_D\_. Maybe you can say against the remote uh page uh f uh page up, page down. All in twelve Euros. Twelve Euros and fifty cents. And the lights. Where uh are the lights? But but sometimes you put a Kinetics aren't uh nowadays only used in watches and that's because you're always walking. Uh solar cells are useless. Fo for a docking station. With a cable, with uh buttons on it, with retrieval uh device in it. Wi with a button to wi with a button to retrieve it,

so it will beep. Uh, so it's uh wireless technology. Look at the case, the case the case of of uh of uh No, then we have to sell it for thirty Euros. It's the Maybe we can uh can do it both. Maybe we can do it both uh in the in the in the remote. Battery and kinetic. Yes, but when it's then when it then you have to shake it uh and all when it's when it's empty. You asked for three d No, that's n that's not true. Uh, a watch is uh kinetic because you walk all the time. Yes, solar cells are also stated. Why don't we use solar cells then? That's true. Oui. You can do it for fifty cents. The c The case the case alone is is uh the case alone for uh remote control is at least one Euro. Then we have one Euro thirty for the whole docking station. But now Great. It's great. Our remote control. Yes. Seventy Euros. Why not a hand dynamo then? We're done. Is this it? Okay. Yes. Where's the champagne? I don't uh hear a bell. Bye. Uh-huh. Just fill that one in. Okay, welcome to the detailed design meeting. Again, I'm gonna take minutes. Oh, we're gonna have a prototype presentation first. Uh, who's gonna give the prototype presentation? You two guys? Okay. Go ahead. Oh no, the the the mute button misses now. Do y do you did we want to have a m mute button? Huh. Wait, there's was one thing I wanted to ask. Uh, there

are different ways for remote controls to uh do uh like uh d I call it teens and twenties. Uh, y th th th the two numbers. Yeah, but do we have do we need extra buttons, for example some uh some have to Yeah, but you don't you don't actually need them, becau b I a lot of remote controls work that y when y that you when you fir you push the one first, then you have a couple of seconds No, I don't think so. Nah, I don't think so really, because you have a I know some remote controls that don't have these buttons, but you still can, know, obviously you can still select the twenty uh a number in the twenty or in the ten. No, I think uh I really think it's n because you can when when you put a button on it with like one and uh then a dash, it's the same thing as when you just push the one, because it i it first gives you the functionality of that that uh separate button you also had to uh apply. Yeah, because that's i it's for television. It's exact the same thing. No, listen listen. When you push the button, the remote control gives a signal. I in th in the first place it gives a signal which it would also send when you put a separate button on it. The one with dash, that signal gi and when y whe when you don't push another button on the remote control within five seconds, then the remote control gives a signal for channel one. I think it works that way, really. Yeah, but it's exact the same that w would appear when you put a separate button push a separate button. Yeah, but you don't underst uh you don't understand my point. I think it's exact the same thing when y No, but then they would a would also support that button, because it's the same thing. Listen, with that that's that special but button you're talking about, eh? That's just a signal to recei ju they send a t signal to the v tv T\_V\_ that they have to put a one in on your screen and a dash, which you can pu so you can uh still put another number on it. When you don't have that separate button, and you push y one, it's exactly the same thing. Do y you the remote control gives that same signal as it would give when you only had Yeah. But you give the input. You push the one. That's the same thing as the button with the one and it yes it is. Think about it. And it's the same thing what happens and a g remote control gives another signal after five seconds that is just one. Yeah, that's true. Yeah, but I m uh but it's I I know for sure that some televisions that w th th the remote control supplied, only ha has the c these buttons with a one and a dash and a two and a dash, but when you use a bu a n remote control that doesn't sport these buttons, it still works. But okay

, we we'll impl No, we'll apply them then for now. Yeah, app just apply them next to the zero, the one and the two. Yeah, I think so. Yeah, for now, if we don't know for sure whether Yeah but okay. What I said about uh the remote control sending another signal, that that might not be true, but I still think i it it all T\_V\_s in some ways support it, I don't know. I think it's more c is m maybe we don't uh we both don't really understand how it i how it really works, but I think there's more to in than wha than what you just said. I do think that uh m T\_V\_s support mur multiple kind of remote controls. M Th won't work wi with uh to have that special button. Okay, well we'll see. But Well let's ha let's talk about the docking station later, because uh maybe we have we have to uh consider the docking station anyway, because we have some uh cost issues still to come. But we have to look n I don't know. Yeah. Okay. Yes. That's it? I think added lights are gonna be a problem too. Okay. For now, uh this is uh is good enough. Yeah, what was uh on the Okay, but in the oh yeah, the colour, because we're gonna use uh one colour for the the plastic enclosure and one colour for the rubber, isn't it? Then we're gonna do the buttons in the i are we're gonna have rubber buttons. And they're be a they'll be in the same colour as the rubber on the side. Okay. And I think we should use a a darker colour for the um plastic, and maybe some more m brighter and flashy stuff Yeah, we'll talk about the lights later. 'Cause I also don yeah, it's depends on the costs and such. But uh, and we have to agree uh upon the exact colours, but may I dunno if that's important, but we'll talk about that later. Okay, for now this is this is okay. Um, the next p y you gonna give a presentation too? Uh, I have to see the agenda. Detail design. Evaluation criteria. Okay. Okay.

Yeah, I think four maybe would be appropriate, because it's Yeah, maybe it really depends on taste. Uh, I mean it's kind of, our design. It's so if maybe a lot of people find it really ugly, you know, o other people find it really cool. I don't know or uh I don't know how you Casting. Yeah. Yeah, but we d we didn't we're we're not planning to use fronts, I believe. With a colour a co a colours. Oh, okay. Okay, but Oh, maybe we should do three or something that w you know, our Yeah. Uh, I was thinking about four, so I think three is uh Yeah well, let that let's make that a one. That's one thing for sure. Yeah, two or a one, I guess. It's something we really put work into. Yeah. But Well maybe a two, because of the menu button or something. And telete Yeah, we don't know if the uh they're necessary. I think a two. Came a long way, but not we didn't not uh No, w w it can also always be more simplistic, but two is yeah. Yeah, uh a t I think a two. Yeah yeah, y i it's hard to say from this picture. But I do think it's more But I do think that it's more trendy than beautiful. So so I think maybe it has to score higher uh on this than on the A th a three. I i uh when you compare to the Uh uh what's the difference with Okay. No. Yeah, but we uh you mean the rubber stuff? Yeah, but we have t we have to talk about the lights uh. And I don't u also it's also really not innovative, it's more No, six. Or seven maybe, yeah. Or six. Yeah, mine is seven. Uh it's uh depends on the on the maybe No, I think I think actually it's a seven maybe, but there's nothing innovative about it. N no no, t. Yeah, I mean the dock station, but but uh, I think the the docking station, it's gonna be a kind of a problem. But Well, let's leave it open for uh for us later to see what, because we have to reevaluate anyway. Well I i yeah. No? Okay, for now it's a six or a seven uh, sev six maybe, because Yeah, but I don't I don't know if it's very inno yeah. Yeah, v Yeah, more through uh like function T\_V\_ functionalities and no no, you know what I mean. You have must be innovative technology for remote controls, but more in how you

control stuff, not in how you find your yeah. Yeah, it's that's that's think about it la later on and uh Yeah, as a a one or a two ma uh at least. Yeah, it's good. No, I would have seen that one before. Oh, you skipped one uh Uh, here. Remote control will be bought by Yeah. Definitely. Well Uh, just in general. Yeah, a two. Yeah, but I think I think two. Uh, that is not the question. It's just w it will be bought by people under forty. Yeah, you can yeah, you can be very picky about it. Ah yeah, just make it we'll make it a two. Oh no. Yeah. Yeah, you have make an slogan is quite obvious. Oh the oh sorry, no, not not the slogan. Yeah, you can put that on the side if if we would like to. Yeah, and I will I th still think it's gonna be a two or a three. Maybe a three this time. And uh Uh, it's a one or a two. Yeah, make it a two. It's not that bad. Yeah, and that's mostly the inno when we uh score higher on innovative technology, we would score two, which is uh quite a great score. Okay. Uh, this is was uh the evaluation? Because I I still think that the most important part of this meeting still has Yeah. Still opened or uh Yeah. Okay, finance. Because um I received uh a spreadsheet. Yeah, but I uh actually don't need this presentation, I guess. Oh. I'm gonna open the spreadsheet and we're gonna work this out together, because I didn't really fin uh I have a. Didn't really finish it. Well, we uh We'll see. We'll stumble upon some problems. I probably have already opened it here. try it again. First of all, the mm all the docking station and costs and such are not included in this list. But let's let's st start with beginning. We include one battery. I i uh I'll explain its Uh, the the components are listed over here. Uh, price is given. We um yeah, we we uh indicate the amount of components of the specif specific component, how much we need of them. And then uh, we'll uh calcula Don't watch the number yet. I don't know if it's filled in properly. Okay, we need one battery. One battery. I think one battery is enough. We don't need kinetic, solar cells, hand dynamo. A s okay, this this is a p first problem. Uh, I think we should know how many simple chips, regular chips Okay. But Where did we find this information? Was it I think it was uh your job in the first uh meet Uh, f your first presentation to make this clear, but then you had some t time problems. But do

you th you do you know what chip we need? Maybe you can uh look it up right now. Okay, but okay. When we don't when we leave the uh retriever and such aside, what then it would be a simple chip. And with the retriever, it would be an advanced chip. Okay. Yeah, but it will it will it will be cause a lot of problems. The sample sensor sample speaker. What is it m is that the speaker we were t I don't know what it is. Okay, we went for the double-curved case made out of plastic and rubber. And with a special colour. I guess that's what we were Yeah, I don't know about the special colour, but I think w uh Yeah, I think we uh we have special colours. Okay, then the push-button, I was just counting them. Uh, I think you have to indicate the amount of push-buttons we want to use, isn't it? Well that's bit of a problem, because I re but I really don't understand that, because I can imagine a remote control with far more push-buttons, and it wouldn't be possible according to this uh sheet. Yeah. Ah. Yeah, it wouldn't Fill in the number of components you plan to use in the and the total cost I don't know. I And I count them like this. One two three uh four five six seven eight nine ten eleven twelve and thirteen. Because Oh, this is oh, this is one, okay. Twelve, okay, then it would be eighteen, because uh, I uh rated them as uh um as uh uh uh separate buttons. Yes. And plus these two, f uh plus the mute button, and it's will be uh eighteen. Yeah, I don't understand. Y I do I don't get the point, because it's would be s relatively so expensive, just these m small buttons. Well, oka

y, well well let's make it just one. Here, now it's now it's already s shall we just give our own interpretation to, because else we would really have a problem. It would be impossible to make it And and less buttons than this isn't possible. This is the most simple yeah, it is possible, but I've never seen one before. Yeah, without the numbers. That's possible. Yeah, we could skip the numbers. Then uh, teletext would also be im impossible. Okay, we'll we'll just okay. But then still, when we there's no room for a docking station or something. Tha w Le let's see th we have uh oh yeah, button supplements. We'll give the buttons special colour. We'll give them a special form. Uh, I think we should mark the special form thing, because it this will be some special forms incorporated in these big buttons, I guess. Because the buttons will be uh d will be matching colour between the buttons and the rubber surroundings. I think that's the what they mean by a special colour. I think all the special colour things have to be marked over here, because that's what we were planning to do, making it Yeah, special material r also, because i has rubber. And the buttons have to be rubber. 'Kay, but the problem now is that the There's no such thing as a docking station in this list, but we can all imagine that it would be impossible to make a docking station for thirty cents. Separately. Yeah, yeah. Yeah, but I do like the idea, but we yeah. It uh but it then the docking station isn't relevant for this project anymore, but we can but then you still have to use we have to find out what chip we u need. I think we can agree on this. I I think the special colour thing has to be uh marked. 'Cause I think we uh Yeah, I think that's what what they uh mean But can we find out uh about uh this chips? Because when we don't need a d a docking station, then probably we also have only we also need a simple chip. And maybe then we can do something extra. Oh, n uh oh, still oh, it's gonna get more expensive with. Two. Then we have some money left. We can put then We can put a scroll-wheel on it or something. Yeah, well who knows. Or a little bit of tin titanium. Yeah, or we can ki do the kinetic cells. That's also maybe an idea. Yeah that's what then what he has to find out. Maybe you can uh find it in your email right now, then we know then we exactly know what it will cost us. Maybe is that that's nice to know. Yeah, bu bu but when we yeah, but when we skip when we um when we don't use the do we're not gonna make the docking station, then we still yeah, we need something else maybe to make it kind of special, because that was our our special feature. Yeah, okay, you can also do that, but maybe It still is a special remote control cons uh you know, wi its form is special and material. Yeah, but for two Euros, then we have still maybe we



have to use the advanced chip, then two Euros isn't even possible. Yeah, then because then we'd thirty cents left. Yeah, but yeah, I don't know, because maybe d uh yeah, we have to find out with the simple chip. Yeah, and w and and we uh need f and what is this? Sample sensor sample speaker. You can look at it for s presentation. S technical functions? Oh. Oh, oh oh. Hey. Oh. Mm. I don't think here it's in here already. It's nothing about s yeah. No. But i in the presentation of yours, there was also something about different components. Which one was it? Functional requirements? Ah. Ah yes, it was the second one. Yeah, it was your second your first presentation. Sorry? Uh, this is n this is not this n that's not the right one. I don't oh. No, this is the other one. Or maybe something is uh maybe there's something abo in in these Here. You know that a push-button requires a simple chip, but a scroll-wheel, it it me requires Okay, so we only need a simple chip. No no, that's just a simple chip. A scroll-wheel it s uh only states that a scroll-wheel requires a regular chip, and that a display requires an advanced chip. So,

we don't need any of them. And what's the sample sensor slash sample speaker? Okay. Back to the costs. So we're gonna use the simple chip. Nah, there is some money left to be spent. Okay, but what we have to think about now is that is it still a special remote control? But I mean it isn't it hasn't got any innovative technology, we aren't gonna apply any uh innovated innovative te technology anyway, I think. I don't I don't see any possibility to do so, because it would wouldn't fit our defi design philosophy. But what w is there some extra maybe I think maybe the kinetic thing is something. Instead of the rechargeable the rechargeable thing was something to um know, so y so people wouldn't have to worry about their batteries anymore. Maybe we if we put the kinetic thing in it Yeah, you leave the p yeah, I know, but still I they will think about that. I mean if you u The uh it's made for s people well, the they don't if it was uh uh r useless technology, they wouldn't put it uh as a possibility. And i it it th th the the target the target uh group are people who zap regularly and throw with their remote control as a matter of speaking. Because I think it when when there w was a remote control where it was useful to have a kinetic uh uh power source, then it would be this one. Because it's one it gets thrown around thrown around a lot and it gets used a lot Hey that maybe that's cool that's a cool thing about it, you know. You don't use batteries. I've never seen it before in a remote control. No, we we we can't make a docking station anyway. Yeah, we can als or uh also m we we can make one we can still make Yeah, but be serious, then uh the docking station will be a fifth of the price of the remote control. Yeah, but we uh we don't inc we haven't looked at the these costs of the speaker and other stuff. I don't think it's realistic for you to do so. Oh, because we We well look at all the special stuff we have. Colour a the colours are special, the form is special. It th this is whole concept. Uh maybe it with the kinetic thing, I think we could do uh do a compromise uh with the kim kinetic thing. Uh, no. Yeah, I don my suggestion is to just forget about the whole docking station thing and make it uh like a Uh uh I I I I still fee I also feel this concept of making it kinetic, because of the you know, it g it gives something dynamic to the remote control. No, that wouldn't n no. Yeah, and it is also not a good it's not you have to really do it only kinetic, you don't want it to think about batteries anymore. No no. Yeah, it's great. No no no. No no, this is very sophisticated technology technology. When you use it your remote like once a day, or maybe even less i i it We can make it yeah no. Becau be but a remote control gets why do they state that this technology can be used if it Yeah, m but a w uh uh n uh a calculator also works on r on solar cells. Because I think the d whole dynamic part, do you know, appeals to me qui uh thinking of our design philosophy, you know, with the rubber parts and uh sturdiness of the thing, and y when you move it around a lot, then people find the idea funny that when I move my remote control around and Yeah, but you don't have to. Trust me. The idea of this technology is that you don't think about it, it just happens. Okay, then we d Okay, well y we don't have to do it, but what that would just have a lack of key

features, you know. You m have to put something on your box. You have to make people buy it and uh We can really can do the docking thing, uh it's not yeah, uh we can do it, but it's would be a easy way out. Okay, but we have to grou to agree upon something, because uh we only have a minute left or so. No no, it's not possible. Okay, w b we can s we can leave it on be well then then th it's this is then then our concept is ready. Yeah, we make some extra profit of it. Huh, any ideas? No no uh there's still there's still someth concept and something special left. I mean we're go

nna it's gonna excel in in on in the the range in the field of design and and uh looks and feel. That's what it's makes it special. Yeah, and I would li I would have liked a kinetic part as well, to give it some just to give it some extra special feature, and uh I know it will work, but uh it's it's an They're they're not putting technologies on this, but if it if it was impossible to to make it happen. Okay, well we leave it like this. Then it's c then we're yeah. Okay, project e uh well, we were gonna what look take a look at the last sheet. Yeah, we have to Yeah, it's Uh, I don't know. . coffee. Uh, well the uh all the functions are discussed uh I think the most of the functions are uh uh obvious. Uh, it's a little bit. Uh, power button. Uh then the the the nine uh channels. Uh the volume uh uh at the side, and the other side is the programmes. And then we had uh just uh two buttons, we place them in the middle, uh the menu, and for the teletext I thought that was th Oh, the mute button. Yeah. Well, yeah mo uh mo Yeah, well most of them are right-handed. Yeah well, I don't have time in uh anymore on the Oh yeah, just progr programme above, I think. Yeah, true, yeah. Uh Uh I think so. Zero? May maybe here? Yeah. And then a second. Is it depending on television? Yeah. True. But the ex Yeah. You uh you can wai when you push the one you can show on the telly a one and just a dash, and then wait uh two uh seconds or something We'll discuss them in the usability lab. Uh eva evaluation. I don't know uh I don't know if it's it's necessary. Yeah? Okay. Ach. Yeah. Yeah. Well it yeah, uh there's nothing I think it's pretty basic, the the there's no fu there's one there's one button, that's wha there's there's there's one function and that's n the one button when you want to find it. You can. But i i i it's backwards. But it's it's backwards. It's leaning. It's leaning backwards, I think, in the in the docking station. That's text. lights? Mm. Yeah. Yeah. Yeah. Yeah. Okay. Yeah. No, not fronts. Different designs. Different colours maybe, yeah. We can make it a one. Mm yeah. I agree. Um, I uh I go for the positive. So I go for two. Okay, three. Yeah. Two. One. One. Okay yeah, I'll I'll agree. I'm the I'm the usability, so Yeah. The Well Yeah, well menu Yeah, maybe. Yeah, true. Yeah, I agree. Mm two. Because we got Well. Yeah. Uh, I will I will make it a three, because uh yeah. I I th Yeah. True, yeah. Yeah. No. We're not well, maybe the the the on the side. And the light maybe. But Well, six. No, six. Six. Yeah. Innovative in generally or just f original for A docking station is innova Okay. Six. Yeah, a two. More two. Yes. Yeah, I think two, yeah. I agree. Two. We don't have the slogan though. The logo. Underneath it or something. A three. Three. Yeah, a three. Yeah, two. Two. No. Okay, yeah. Shoot. No. Well, special colour.. I don't Mm okay. Whoa, it's a little That's huge. No. We have the simplest buttons. Uh, one til nine. Is that one or is that nine buttons? Yeah. Is it cents, the the the fifty cents a button? No way. It's way No, no no. Yeah, uh That's still four. Yeah, that's no option, that's no option. A special colour, why a special colour? But wha what s what special? Okay, yeah. Uh, yeah. Plastic. Plastic, I think. Plastic. Yeah. Se no no no. And then we can get a docking station. But what what can we do But uh what can we do with the simple chip and what's difference with a regular chip and a advanced chip? If i Regular chip and because we don't have uh special functions to use uh in advanced chip, for example. Yeah. We'll go back uh tomorrow. That's the question. If we do i do we need an advanced chip, or is it okay f No. No no, they were uh mine, yeah. Died. Yeah, it's open. It's circuit board. It's only just basics for for At the end circuit there is an infrared LED. Components design. Components design maybe. N on top. Working design. Yeah, but it's the the

other one. Was it working design or components design? Ch

ip set. The display requires an advanced chip. Requires. Little lights. Yeah, but that that's just the same as the the LED. Yeah. No. I think uh the uh normal uh simple chip will be okay. Yeah. Yeah, true. Well, that's not too what we want. So, simple chip is okay. Yeah, lights, yeah, there's no category. Can we do it wi within two two Euro? Mm-hmm. But it's original. But then we could make a docking station. Wow, w why no li Look at now, we got two two thirty left. Ca can't we make a docking station of that? I don't know. Well, we we uh Yeah, then we don't have any innovation things. No, we only make less profit of it. No. Cheap remote control. It w it won't tell, but No, uh, n no Yeah, we just have to go all what we did today again. You have to do it over. Yeah. the No, but no. Yeah, yeah. No. Yeah? We can do it here then. Can we can't we do it here? Yeah, we're doing now. But it's. Oh, okay. Nice. . Alright, I Yeah. Alright, and uh you gotta point out which is the volume um uh button and which is the programme button. Yeah, but you you gotta make it clear on the on Yeah, and a and a triangle on that. Yes. Next to that I kinda miss a zero actually. All n no, that's um kinda dependent on the television. I think Yeah, I think you should add A cross, or whatever. Yeah, line. No, that's dependent on the television. I do know so. Yeah. Yes, but uh uh no uh remote control nowadays are um they come with the television. Or actually, the other way around. But Yeah. Yeah, well but su If No no no. So some television respond differently. Look, if uh i i Yes. Yes, that's true. No No, it it works uh if you haven't got uh a special button for it, uh if you push a one, then on your television there will appear a one and a a line, which is an empty space. Yep. True. No, s some some televisions need the input first uh and and you c No, that's not true. It's simply not true. It's simply not true. Uh No, remote control doesn't give signal after five seconds. Remote control is a stupid thing. If you push a button, it sends it immediately to the television. No, definitely not. Definitely not. Yes. Uh, you can access that uh via zero, and then minus, I guess. Yeah. Yep. Okay. I kinda miss the docking station. No nothing really trendy about it. The button. Yep. I think that's very difficult, because of different shapes of uh uh devices. Yeah, of course. Mm-hmm. Well it it got it it has got to fit into the shape, of course. The technology and the voltage can be the same. That's uh that's true. But uh i if you all make the m having a bottom like this, then they all fit. Yeah, that's true, but uh Yes, but uh I I g Shouldn't it fall then? It isn't going to fall down? That's a bit uh yeah, I think No, but if if like this, I'll I'll point it out, if you got uh a a a base a base like this, I won't draw it really. If you got a base which is uh as big as this Yeah sure, but if you got if you got a tiny player, it can Yeah. Uh, wha what you could do if you uh from the bottom oh, right, help. Uh, you could make like a hole in it, you know, of uh in in the Yeah. That i that is possible, yep. Yeah, sure, you're right. Oh. I don't like the colours. Mm-hmm. Yeah. Alright. The light. Okay. And other lights? No, o on the on the front. Yeah, okay. Maybe the uh the logo. Yeah, why not? Of course. Okay. Uh, in the same colour as the side. Yeah, I think I think that'll be good. Yes. Yep. Yeah. We will. Well, uh yeah, I I'm gonna do something right there, yeah. We gotta do that on the right the most right-most screen, because the leftmost Yep, that's me. Alright. I will be needing that image, so leave it please. Um Go away. Right, we're gonna evaluate that design according to a few points. Um, we g the four of us are going to do that um together. I wanna have a colour over here, come on. Right, the remote is not ugly, a bit weird sentence, but the positive things has to be on the left, so I said not ugly instead of ugly. Uh, what would you say, we we gotta give po

ints to uh to all of these to evaluate uh that design, and please forget the drawing skills of these guys. The remote control is not ugly. How do you feel? Yes. Background colour. How do you guys feel? The different designs. Yes. Okay. No, not not fronts, but different designs. And that's still uh uh, yeah, is is uh is a little personal touch, I guess. What? Yeah, wha wha what would you uh guys uh think?

Personally. Personally. Yes, but what is it? Guido? Two or three. I was I was thinking about three, so I guess three is uh a bit uh oh, what am I doing? I'll mark it. The remote control's uh uh that n makes uh zapping easy. Yeah? Antek, you agree? Yeah. You're not Antek. I totally agree. The remote control the remote control's relevant buttons are prominently visible. Yeah, I yeah. I would say a one because uh every button is uh uh relevant. And our oh yeah, it's a b yeah. Yeah? Alright. That's a one? You agree? The remote control hasn't got too much redundant or unneeded buttons. I think we totally succeeded there. Oh Yeah, that's true. That's true. the the yeah, m well, you d you've got a point. Two or three? Two? Antek. Nay that that that's true, that's true. They're definitely needed. So we put it on a two? The remote control has got a really trendy look. Maarten. Yeah. Ever, yeah. Guido. Yeah, uh I agree. I agree. I was planning to give it a two, uh where I give the not ugly uh oh, yeah, that's true. You agree on the two? Great. Remote control hasn't got too much redundant or unneeded buttons. Uh, I copied that one. Well, uh forget that. Um Go away. Remote control has got innovative technology implanted. Yeah, and the light. Well, I g It's not seven? Why uh why not a seven? How? Yeah, you think the lights are innovative? Well, it's n true. Uh, I agree, m but I'll Yeah, you you didn't draw the docking station. Yeah, it it's I think I think with its I think more m Uh that that's n No uh, well, the agenda says evaluate now, so I think we It's it's a six. That m f Yeah, for the retrieval function. Yeah. I think that's very innovative for a remote control. Yeah sure, but But I d I definitely don't think it's a five, but Remote control is easy to use. I think a two. Yeah? Come on. The remote control hasn't got uh. I've just filled uh Go away. I found twelve questions so much, but it still is ten. It will be bought by people under the age of forty. No no no. No, just if they if they buy it. Yeah, what do you think? Antek? No, that's no comparison. And I don't mean two people. W w Right, the rem The remote control has recognisable corporate image, colour, logo or slogan. Oh, the slogan. Can we see the slogan? Are we gonna do that? Three? I agree. Because of the slogan Remote control's got a basic design intended uh for novice users. Two? Two. Alright. We gotta add up the scores now to see our total average. Four, five, seven, nine. Forget that. Fifteen, seventeen, twenty one, twenty four, twenty six. Twenty six. It's a two point six. Alright, we yeah. Yeah. True. This was my evaluation. So We did a pretty nice job until now. Um, is this your Whatever. Well, I think we gotta fill out another questionnaire. Yeah. A five. A five. Doesn't matter. We probably will. The amount, yeah. I don't know I haven't got an idea on on which we need to use, really. Yeah. Yeah. And how do you know? I mean, you got that email. Did it point out what to use them for? Alright, well, point out the advanced chip for now, I guess. I don't know. I don't know if it's very special. Alright, that's okay. No. I don't think so, because it says amount. The the the yellow row is the amount of To n that's total of four buttons. I think that Eighteen. One two three four five, si Fifty cents for one single stupid button. Yeah, exactly. Yeah. I can't I I I couldn't understand it if it was fifty cents per uh uh per button. Really. Yeah, yeah, No, really. Yeah, but I d I wouldn't want to own that. Really. Yeah. I don't think the special form is really true. Is it? Yeah

, I dunno. Plastic. No. Yeah, I really don't get it. I mean if it's a simple chip, then we suddenly got two Euros and thirty cents. Yeah, yep. I think so, too. Oh, I don't know. Uh why? I mean i i if you if it would cost two Euros, that had a total a total thing, it would be nice too, I mean uh we're not gonna add uh a trip to Hawaii to it. I like the hand dynamo part. We can make a plain docking station for two Euros. I mean Wi wi without recharge Yeah, but but we can make a docking station for two Euros uh if you don't put the recharge function in it. I mean, it has a shape. Of course it has a shape, but i i Why should that not be possible? No, for for the uh for the docking station if you do if you choose the simple chip. Yes. Dead. Reanimate it. What the hell are these? Oh, whatever. This isn't helpful. No, that was my presentation. It's already open. It's at the bottom. It's uh at your task bar. Oh. Sorry. Okay, sorry. Yeah,

nice. I it doesn't say anything. That's not needed. A display uh is, of course, uh for showing letters. For showing text. I don't think that uh just a little light Yeah, I agree. Yeah, I guess so too. Next channel. No. Well, we might want it, but Yeah. Great. Delete. Yeah. Well, there're three, I guess. I think we can make a docking station. Yeah. No, that's true. M bu Or the hand dynamo dynamo Yeah. Yeah, but but if we ca I don't know if Five minutes. That's not true. We can make a docking station for two thirty. Two thirty. We can make a docking station. Sure. Sure. The power device is is i i is very cheap. That's just a regular uh power cable and whatever. So. Yeah. Well then it's a useless project. Can't we uh Can't we say fifteen Euros? No, sta yeah I mean No. You can sell for twenty seven and a half. Then you make as much profit as you would with twelve and a half production costs. I don't think No. Thirteen twenty. And I think only Yeah, but only kinetic, then you gotta You you gotta throw uh throw it through the room like twenty times an hour, really. No. Yeah, it's funny for a week. I guess something like that, where you have to move it around very frequently, is demotivating. No, I I don't move my uh my remote control very much, seriously. Well, we've got more than fifty Cents. Yeah. No, we won't, but that's um something else. No, this not gonna sell. No. Of course not. We come back tomorrow, okay? We can't do anything else. Warning, finish meeting now. Yeah, sure. No, we can't. Yes, yes. Celebration. I don't see why, but I think we gotta fill out another questionnaire, to be honest. No, not yet. Alright, I'll see you guys in a minute. I don't think so. I don't know. I don't I don't think so.

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# Meeting ID: 14

Data Source: Train

## Executive Summary

Uh, yeah. Uh, before we begin it, I want to say I've I've put the minutes of the uh second meeting in the shared folder, It uh it uh still some technical difficulties so the the first part of the minutes are very hard to read, because there are two documents that uh were layered over each other. But uh, from now on I won't use my pen anymore, so will be p just ordinary keyboard. Okay, when we talk about uh components design, um it's really about the material and the and uh uh really the stuff we build uh the remote controls of. Uh the properties of the case, um it has to be solid uh in hard material like uh hard plastic uh with soft rubber for uh falling and and uh uh yeah, it feels uh good in your hand. I when we use a rubber a doubled curved case, we must use a rubber push-buttons to uh the the rubber double-curved case is a t uh three-dimensional uh curve in the in the design, which is uh necessary when we want to be trendy. Uh uh the basic battery, which I thi prefer because of its uh its non uh non-depending of of of uh um Uh here you have to have a hand uh yeah, kinetic uh energy. Mm, solar cells are also uh a bit weird for uh remote controls. uh I think that plastic is the is the best with rubber, because uh wood or titanium would also be a bit weird. Oh titanium is probably trendy, I think. Well, maybe a little bit expensive. uh the chip set uh and the board is uh all off the shelf. all the materials and the components are uh just available in uh in our uh factory. Um, another possibility. I uh yeah, I looked up on was uh the L\_C\_D\_ displays. Could be uh something special to our uh remote control, and it's possible, but it only cost a bit more, Yes, maybe we can uh bri uh bring a couple of uh couple of types of uh I th I got an email with uh some examples and it these were were the most trendiest one. um, I still don't have any information about user requirements. I was thinking about just uh the basic functions and I got uh Oh, we decided upon that in the last meeting. Yeah, but but then wh I don't know when there are new user requirements. Well, tha I didn't receive any new requirements or somethi Well, I have here a couple of basic functions I could think of. these are the ones you already summed up in the Uh, I was also looking for what you said, for I got an email uh uh about uh L\_C\_D\_ in in in front of the remote control. I don't know if that's a good idea, or maybe it's a little bit too much for twelve and a half. Production. I d I uh ju I was just thinking about it. Then I got a pop-ups to go to the meeting. But Um, yeah. Well, the functions are are not more to discuss, I think. It's it's just the base things we already discussed that the no V\_C\_R\_ or that kind of But you do mention the next and previous uh button. Well, that's next channel. I mean next channel. And I um uh thinked of the button

sizes and I'm not sure uh if they have to be big or uh just small Well , w when we only use basic functions , we have the possibility to make the buttons larger . Well , I think we already agreed upon the fact that the the the skip buttons and the cha and the volume buttons , th th those two have yeah , they have to be large . It puts an extra accent on the the on the simplicity of our remotes to j to make these two most basic functions extra big , like t uh personal preference I didn't have . Well , I've done some research again about trends on the internet . the most important thing is fancy look and feel of the remote control . The second important thing is uh innovative technology in the R\_C\_ . And uh the third point there in this uh order if of importance , the third point , is a high ease of use . The younger market likes uh Well , the themes of of this year are uh surprisingly fruits and vegetables and spongy material . Uh , catchy colours . uh I think the spongy material is is very irritating for the uh remote control itself . To implement some spongy thing , maybe we can do it in the in the docking station . Yeah , also a bit for elderly people who are a little bit crazy and want maybe want a little younger design but still the dark colour . But how do we use uh fruits and vegetables in Christ's sake with remote control ? No , but I I I think that uh our design already resembles so a piece of fruit . Yeah , but it that doesn't have to remind you , you know , like explicitly of s our f of a of a specific piece of fruit , but just , you know , like the the the the round curves . Well , w we can uh w we can we can produce multiple uh multiple things . And um , maybe , yeah , a b a banana is uh is n not easy for a remote control , but m yeah . yeah , I do like uh the f uh to the idea of making a a y uh , a catchy colour design and a d because I do I think a dark colour would be nice too . But pictures of fruit , vegetables vegetables Maybe it's too much , you know . But , we we have to um There have to be the the the the firm colours , our own uh colours has to be in it . But I don't think our our company colours are this fashionable . If this is our docking station , we can make our logo over here . do we want to um use an L\_C\_D\_ display , for example ? Well , it's nice , of course . But I don't I don't know what to display on it . Maybe maybe we can make a T\_V\_ guide on it , for the channel you're on . Yes sure , but it has to to show an entire title of a programme or at least a q a quite quite large part of it and then you get a very large L\_C\_D\_ screen , because Yeah , but no . I do I think it's a bit redundant , actually . Well well what would you display on it then ? Uh , programme uh information or or or or g or a guide But you're already watching the T\_V\_ , you're not gonna watch your remote control . I really understand you want to make your job more exciting by putting an L\_C\_D\_ in it , But I don't think a L\_C\_D\_ display fits in that image . When when you put uh maybe a colour L\_C\_D\_ t uh screen on it , it's very special and very trendy to have uh a remote control from well , I'm coming back to the costs again , but I think uh we gotta build a b pretty cheap design to to stay within our limits . and really , I don't see how the the L\_C\_D\_ display is gonna add anything , you know , on a design level . Okay , we s skip the L\_C\_D\_ display . The m material , I think uh it was a good idea to use the plastic and uh the rubber . Uh Maybe just bring it out in different colours , but not af that you can switch fronts afterwards , that's also too much . But is it possible to use both the the plastic and so uh soft things and t p titanium , as well ? But it it then it uh you can't throw it it . It will uh make a huge noise or break other stuff Uh , I think titanium nowadays is way more often used than plastic . On the other hand , if you want to make fruit fruity stuff with uh Yeah , but I I really like the idea of the the the plastic and the big kind of thing . But wha th our basic idea y I mean , you gonna we're probably gonna have like two type of materials , like the d d b the plastic uh enclosure and then the the pads that surround it . How many colours are we gonna give it ? Like two-tone

colour ? T I think maybe the case itself should be in one colour and then the rubber of the buttons , and the cushions as well should be in another colour . Not more than two colours I think . It's a g a little bit too flashy . Th in that way we have like only the numbers , the power button , skip and volume , and then uh uh ten uh rem A mute and a teletext and a menu . I think the spongy thing already um comes forward in the in the in the cushions , pads and things on the s uh side . I think colours is very important , because it has to be flashy , but and but it d it doesn't have to be annoying , I think this is kind of fruity , you know . Just round shapes with uh Okay , well I think the meeting will be over within a minute . Well , you will read the minutes uh in the you can find them in the In the shared folder . because I'm will now type them out . You'll see in you email , I guess . What are we going to do now ?

## Complete Meeting Transcript

Yes. Okay, when we talk about uh components design, um it's really about the material and the and uh uh really the stuff we build uh the remote controls of. Um, a remote control consist of uh components and the components of a remote control consist of uh properties and material. We have to choose th uh these uh wisely and it could affect uh uh a kind of grow of in uh in buying uh the remote controls. Um, the components of a remote control are of course uh the case. Uh the properties of the case, um it has to be solid uh in hard material like uh hard plastic uh with soft rubber for uh falling and and uh uh yeah, it feels uh good in your hand. Mm the buttons has to be uh solid too, and the material is soft rubber. Uh I've got a uh email from the possibilities of Real Reaction. Um uh they're telling me that um when we build uh a remote control of um of plastic or rubber, the uh buttons have to be uh rubber too. Mm It's okay. Yeah. I when we use a rubbled a doubled curved case, we must use a rubber push-buttons to uh the the rubber double-curved case is a is a t uh three-dimensional uh curve in the in the design, which is uh necessary when we want to be trendy. Uh Um the energy source, uh I've got a lot of possibilities for that too. Um, uh the basic battery, which I thi prefer because of its uh its non uh non-depending of of uh um Uh here you have to have a hand uh yeah, kinetic uh energy. Also in uh this one, like in the watches, but a remote control can lie on a table for a day, and then you push uh a button and so you don't have to uh walk with it all the all the time. Mm, solar cells are also uh a bit weird for uh remote controls. Um uh also the case material, uh I think that plastic is the is the best with rubber, because uh wood or titanium would also be a bit weird. Uh, they don't tell anything about the cost of uh titanium. Um the chip uh the chip set uh and the board is uh all off the shelf. Also, the speaker in the remote control, when we want to retrieve it. Um, the base station is also off the shelf, all the materials and the components are uh just available in uh in our uh factory. Mm, I've told about uh the three first points. Mm, the simple electronical chip uh is is available uh with the LED transmitter uh transmitter. Uh, it's all uh off the shelf and even the speaker and the wireless retriever are all uh available in our company. Um, another possibility. I uh yeah, I looked up on was uh the L\_C\_D\_ displays. Could be uh something special to our uh remote control, and it's possible, but it only cost a bit more, but maybe it can be uh within the limits of twenty five Euros. Ah yeah. I th I got an email with uh some examples and it these were were the most trendiest one. You see uh a covers, which can be Um, I don't know. Um Yes. Yes, maybe we can uh bri uh bring a couple of uh couple of types of uh maybe a kind of uh whole uh um a whole set of uh different uh remote controls. Maybe we can bring a whole line uh with uh with a huge



variety of uh uh house uh stuff. Like uh maybe radios and uh television also uh in this in this in the same style, but Yes, because we have to uh we have to we have to bring the logo and all the stuff uh back into it. Thank you. Uh-huh. Maybe we can bring t uh uh teletext to the t to the remote control. But you're the expert. You did the research. It's from your research. Grapes. For a big team of artists. But uh but I think we don't have to make we can't make all uh ten designs. We have to make one design I th I I think. But pictures of fruit, vegetables vegetables Yes, you can put a logo on top of it. Yes, it's really fruity. With a strawberry on top. Only if we Maybe maybe we can make a T\_V\_ guide on it, for the channel you're on. No, no, only the T\_V\_ channel with the with uh with uh four programmes. You can uh zap through them with the page up page down button. Yes, it can On your No, on your mobile phone you can y you can read text also. So why not on your remote? Uh, programme u

h information or or or or g or a guide on t on teletext, yes. Also on the internet. But Yes, but you also want to know what's next. Yes, that's uh really possible. No. No uh um Y yes, you can use uh buttons uh uh w that are already uh on the remote control for double functions. Uh, then you push a button. The title and the information about the programme. But but uh yeah, what he said was right, about the televisions, they have to be uh customised to the But maybe in future it will be a giant hit, and when you are the first you have the biggest uh Yes, you can put uh a little L\_C\_D\_ display on it with uh with lots of information. But uh I haven't thought about it. But whe but when you put a a transparent uh plastic uh uh screen on top of it, it i it isn't vulnerable. You can throw with it and When when you put uh maybe a colour L\_C\_D\_ t uh screen on it, it's very special and very trendy to have uh a remote control from But uh I've got a the email with uh with the possibilities. And L\_C\_D\_ was a possibility for the remote control. So why don't we use it. No, but it doesn't sa say anything about a colour or But, mm, I alf I also got a possibility to put uh a scroll button on it. But I didn't think that Yes, but o on the No, when y But it look Yes, but that remote controls are already on the market. The simple Yes, but but when you want to have something special Yes, but you had a picture of it from another company. Yes, it was already made. Tha the remote control on the docking station. Yes, he have a picture of it. Okay. Mayb I will rule the world with it. Yes, maybe a bit of a cushion is Yes. Like a b yes. Maybe it but then we have to look that it uh w uh will not um be too childish to see. Yes, real real good colours. Hmm. But that's not really fruity. Uh fronts of the We can have uh different uh uh fronts of the telephone. Are these designs? Yes. It this a real uh young young and dynamic uh uh styles. Yes. Yes, But also w Yes, b bu but when we use s soft mm Mm. But it it then it uh you can't throw it it. It will uh make a huge noise or break other stuff when you throw with uh titanium with your remote control. No uh, titanium is a bit uh it's a bit harder. But also on the colours, the young Yes, but a titanium remote control, when you're uh watching T\_V\_ uh or your hands are a little bit sweaty, and the Yes. Sports and gaming. Define. Yes, it's w but it is uh plastic. Yes, w we can do that on the on the We can make this as a style too. Uh, this is uh just a No, we c we can make it from the same kind of plastic. Uh I don't have the information. Uh, I I didn't got it Yes. Like the M\_P\_ three player. Uh, in a lot of other uh in a lot of other product uh categories like uh even in b in bags industry. Uh, they began with uh t typical uh leather bags, but then they became stylish, with all all si all sort of colours, and w kind of fon of uh of fronts, like we can use on the telephone and it Like Eastpack uh began a revolution with it with all this uh kind of bags and and colours and and Yes, and and styles. They have uh also uh a kind of uh um uh roses on it, a and uh Then we can always uh use the same design for a greater resemblance, but with new uh with new colours, new yes. There there are three uh components three components type. You have the buttons, the the case uh itself, and the rubber and th Yes. Yeah, or or when you use the buttons as black, it you can use two colours as well uh But then you have to put uh up and down and uh left and right Okay. Uh

What are we going to do now? I will make one in the next uh twenty minutes. Back to the pen. Okay. Keyboard work. Yeah. Alright. That's true, I guess. Yeah. Huh. Yeah. Yep. Yeah, that'll be for the future, I guess. Yeah. Yeah. Definitely. Alright. Yeah. That's okay. Mm yeah. Then you and then you've got a flag s Very big R\_C\_. Yeah. No. Next channel, previous channel. I think it depends on the function. Well, if you save uh Perhaps uh s tiny buttons aren't user-friendly, t

hen we wouldn't im implement that of course. Oh, that's right. Yeah. Yep. Those are probably the the th Yes. Those are probably the b four most most used buttons on the th in the remote control. Sorry? Yeah, sure. You don't care. No, sorry. Yeah. Oh. Go away. Come on.. Oh, great. Well, I've done some research again about trends on the internet. Um I've done some investigation, and uh well I uh got some information from fashion watchers from Paris and uh Milan. Some uh some findings the most important thing is fancy look and feel of the remote control. Uh, well, we were going to imply that, so that's nice. The second important thing is uh innovative technology in the R\_C\_. Uh, our market really likes really likes that. And uh the third point there in this uh order if of importance, the third point, is a high ease of use. And uh, well, for the idea, I've put some trends uh for the market of elderly people. Dark colours, simple recognisable shapes. So we probably won't do that. The younger market likes uh Well, the themes of of this year are uh surprisingly fruits and vegetables and spongy material. I found this image, which is uh Well, it symbolises the idea of fruits and vegetables. I don't see the spongy part in it. But with a little bit of fancy Exactly. I got some ideas Uh well, yeah, pictures isn't really good word, but um some symbols of fruits or vegetables maybe. Uh, catchy colours. Fruit is uh yellow, green, red, whatever. So, remote controls in in catchy colours. Uh, no, we don't want dark colours. No, I just put them there to uh, yeah, uh for general idea. And uh, the docking st uh I think the spongy material is is very irritating for the uh remote control itself. But to Yeah, the To implement some spongy thing, maybe we can do it in the in the docking station. At the bottom of the docking station or whatever. And uh, we could bring one line with a dark colour uh to um uh p uh yeah uh uh v how do you say? Yeah, also a bit for elderly people who are a little bit crazy and want maybe want a little younger design but still the dark colour. I mean it it it reaches a different market uh, but it it doesn't cost really much effort to b to uh bring uh like a black R\_C\_ on the market or whatever. Yes. Yeah, there's there's always a Well there there's always empty space of course on a remote control. I mean I think this part of the R\_C\_ uh well the upper the upper part or whatever is uh is not not used with buttons, I guess. So you you can put some fruity things No, of course not. Especially i Yeah, yeah. Yeah, exactly. If we make it little bit greenish. A and we could use one of these for the uh w what is it? Uh Isn't Wha whatever. Yeah, sure. Yeah. Well, w we can uh w we can we can produce multiple uh multiple things. This is then the uh pear. I don't know the English word, so forget it. And um, maybe, yeah, a b a banana is uh is n not easy for a remote control, but m yeah. Mayb maybe two or three. Yeah. No sure, but but B but that's great, and and and what I was what what I was saying, the catchy colours Yeah. Yeah, uh not really. Pictures was a was a bad word, but Well we c yeah. Yeah, sure. Maybe we can if if we got our docking station over here. I can't draw with this thing, but I'll try. If this is our docking station, we can make our logo over here. It doesn't work. And then Well, the button button over here or whatever, I don't know. On the front, of course, because else you can't find it. Well, that were my ideas a little bit. I'll close 'em down. Um, go away. Conceptual design, yes. The agenda. Well, it's nice, of course. But I don't I don't know what to display on it. I mean Yeah, but it should be li like this big, and I don't think Yes sure, but it has to to show an entire title of a programme or at least a q a quite quite large part of it and then you get a very large L\_C\_D\_ screen, because Yeah, I don't know. Programme information. But Well a lot a lot of T\_V\_s indeed show uh when you uh zap to a But then w

e also uh w need to bring out a line of T\_V\_s which we were planning to, but whatever. Because the T\_V\_ has to send information back to the R\_C\_, and I don't know if that's possible. Yes, yes, o of course it's possible, but you gotta uh implement it in the T\_V\_s, and I don't think everyone's gonna buy a Real Reaction T\_V\_ within a month after the release of our uh remote control. Yeah. That's true, that's true, it breaks f yeah, it it it's not very solid, it's uh frag fragile. No. No. I don't think so ei either.. Ah. Bastard. Yeah, I guess. No. Yeah, that's true, if you uh Yeah. No. Well, I think it's uh I think it's pretty trendy, to be honest, uh but um I don't know if if if well, I'm coming back to the costs again, but I think uh we gotta build a b pretty cheap design to to stay within our limits. And I think uh especially colour L\_C\_D\_, which is indeed pretty trendy. But I don't think Uh, I think it will be too expensive. Uh, did it say a price also uh for for uh monogramme uh L\_C\_D\_ or uh coloured L\_C\_D\_? Yeah really, if y if you c i l in in two thousand and four you can't uh put something on the market which is a monogramme. Really. Yeah. W we've we've gotta find a balance, of course. And I think We have a pear. Is that so? Was it it wasn't just a prototype? Exactly, I've never seen it in a store. I think it's a little too much, yeah. Okay. No.. Yeah, yeah, yeah, yeah. Yeah, for the spongy uh feel. Yeah. Yeah, airbag. If you drop it if you drop it the airbag comes out, yeah. Yeah. No. Yeah, b yeah, that's what w l I was pointing at. What? Oh, a bee. Oh. Yeah. Hmm. Well, we can as as I draw really nicely over there. We can put the logo on our uh on our base station. Uh, yeah. And maybe very very tiny on the remote control itself. But, i Yeah. I guess that's that's enough. That's way too Nokia. Yeah, definitely. Just bring more designs on the market. Why not, yeah. Sure. Yeah, that's true. Yeah, I think it I think it does. Yeah, o On the other hand, if you want to make fruit fruity stuff with uh Yeah, that's true, that's true. Yes. Yeah. What? Oh, yeah. Okay, yeah. Yeah, I see. Yeah, but but but Yeah, I th I think that's difficult, because uh that's different material, and then you gotta have like uh uh uh two material lines of of of Yeah, if it's just a colour uh which you uh which you change then, I guess it's it's nice to have one of these. Uh Yeah. Mm-hmm. Yeah. Yeah. Uh yeah, yeah. Yes. New prints on it. Yep. How do you mean? Th th the uh base in a in another Yes. How the buttons yeah. Yeah. No, definitely not. Yes, definitely. No, I think that's too vulnerable. Yeah, but that's that's I was thinking that's gotta be on the television. Mm. Yeah, if it's c if Yeah, I think it's okay to to add a menu button for uh and if the T\_V\_ doesn't have a menu, then Yeah. Yeah, you can put that on the two eight four and six or whatever. Mm, yeah. A mute and a teletext and a menu. That's all. Hmm. Great. Yeah. Yeah, definitely. Are we gonna do something with the uh spongy thing there? Yeah, that's true, that's true. Yeah, it's kinda fruity, and with th with catchy colours uh uh w Yeah, definitely. Yeah. Okay. I guess so. Yes. Yea yeah. Yep. Something like that. I guess not. Do you, guys? No? In the shared folder. You'll see in you email, I guess. Yeah, I don't know. I don't know. Construct one, yeah. Alright, shall we get back to work? Great. Yeah. Bastard. You lazy Uh, okay. Again. Hmm. Mm-hmm. Uh, may be better, yeah. Yeah. Oh. Oh titanium is probably trendy, I think.. Well, maybe a little bit expensive. I don't know. Yeah, production cost. I Different colours also. Yeah. Okay. uh Ah. Well, I shall go to the next slide. Um um, I still don't have any information about user requirements. I was thinking about just uh the basic functions and I got uh Yeah, but but then wh I don't know when there are new user requirements. I ha I ha I have the I have nothing. Well, I have here a couple of basic functions I could think of. I dunno if th

ey're maybe a little bit more, but Yeah. Yeah, I l uh well, I pointed them out here, just to make it a little bit easier. Um Another function uh is of course we already discuss it on the side. Um, I don't know what costs of it. Uh, I've no idea about it. Uh, I was also looking for what you said, for I got an email uh uh about uh L\_C\_D\_ in in in front of the remote control. I don't know if that's a good idea, or maybe it's a little bit too much for twelve and a half. Production. If we got already uh something like a base. Yeah, I

don't know. I d I uh ju I was just thinking about it. Then I got a pop-ups to go to the meeting. But The remote control. a little uh too A little bit A little bit too big, I think. Exactly. Um, yeah. Well, the functions are are not more to discuss, I think. It's it's just the base things we already discussed that the no V\_C\_R\_ or that kind of uh, so that's very easy. Um Mm-hmm. Well, that's next channel. I mean next channel. Uh Um oh, I I got an email with with an uh a remote control with a base. So, it's uh just an idea. And I um uh thinked of the button sizes and I'm not sure uh if they have to be big or uh just small Well, I'm not a e I'm the expert for user-friendly, but not for trendiness. Maybe it Well uh okay, that's your point. Um, yeah. Yeah, okay. Yeah, I've nothing to s Uh, with a little bit larger, yeah. I thought so, but maybe with the Yeah, that groups. Large? Yeah. Most the most used uh buttons. True. Yeah. Yeah. Okay. Uh, that was all y uh personal preference I didn't have. I didn't had any time left. So Yeah,. It's there. Yeah, click on it. Couple time. Well, how uh But how do we use uh fruits and vegetables in Christ's sake with remote control? Uh, make it a banana? Yeah, but th yeah, but that Yeah, but that's Yeah uh uh But d don't we need a creative artist or something like that to m make it to feel like a a a a vegetable or fruit? Yeah. But, we we have to um There have to be the the the the firm colours, our own uh colours has to be in it. Yellow, a Real Reaction. Uh, yeah. We uh f A yellow do Uh, yeah. Yeah, and the button then. Okay, yeah. Okay. Lazy. Yeah. Well well what would you display on it then? But is it isn't that a already on T\_V\_, a lot of new T\_V\_s? Yeah. Yeah, and we also have to yeah. And I also Yeah, I dunno.. Oh, okay. We can you away. Yeah, I don't know. Uh, uh I i if it's it's a simple p No, that that's right, and uh I also have to think about new functions, maybe buttons or something like that to control it. Kind of L\_C\_D\_ or something or But how does it display then? W when I go to the second channel, what what does it show me? About that programme? Yeah. Is it fashion? I don't know. That's not up to you. That's up to market if i if it's trendy. Because our our motto is we put fashion Yeah, if you want to be trendy you have to be coloured. Coloured If you have black and white or something, or grey, that's It's too much uh maybe uh with with the L\_C\_D\_ and the docking station and With one thing special. Not a whole package of specialty. And uh the Yeah. It's just an it's just an idea. It's a it's True. Well uh I uh Yeah, I dunno. No, it's too much. It's overdone. Democratically. With a spongy Bob feel. Yeah. Yeah, you just can drop it. Yeah. Yeah. But not black I think. Well if if it's fruit and vegetables, it have to be colourful. But can we ge uh uh Can we combine it or something? Uh with uh yellow and black? Make it a bee? A bee. Yeah, it's our yeah. We we have to use yellow. Different fronts. Yeah. Uh, you can you can I uh let choose the customer which colour he wants, yeah. Yeah, Three three or four uh four uh colours, or something like that. Well, yeah, the Three to one. That's And tita uh titanium, is uh is is it a no? Is It's just like that, th this titanium. No, not all, not all of them. Uh, I think titanium nowadays is way more often used than plastic. In trendy things. Yeah. It's cold in the winter. Yeah. You have that uh M\_P\_ three player of Nike, I

saw. Isn't that titanium with a little bit of rubber? Isn't it Is plastic? Well, it's titanium looking. Yeah, he is. Here he is. Uh, the I don't know if you know the M\_P\_ three player of Nike. 'Kay, uh that that's very uh with rubber, so it's very rough. True. Yeah yeah, true. Yeah, maybe that's good idea, yeah. But if you want to la uh yeah, last longer than two weeks or something like that, you can maybe I don't know. What time does The rubber. Yeah. Uh no, not too much I think. Or you just make uh one colour, uh maybe with a a z a kind of like a big wave or something like uh In in another colour. Not more than two colours I think. It's a g a little bit too flashy. The funct yeah, I was I was thinking about th the st do we still want a joystick idea. Yeah. The volume, teletext and Yeah yeah yeah yeah, b Yeah, but wha what kind of menu? Is uh isn't that different from every television? Mute. Yeah. Okay, that's not mu not much functions. So Okay. Yeah. Too much colour, i it uh when you got it in a living room, it's too much

maybe. It has to be Yeah. No. Oh, okay, yeah. Yeah. I hope so. And the other thing is that you don't have kind of prototype or something like that. You see a kinda prototype you can a little bit more uh Yeah. With you laptop? Yeah. Oh my God. Well you are. We're not. Okay, all set? Welcome to the conceptual design meeting. The agenda. The opening. I'll again be the secretary and make minutes, take minutes, uh and it will be three presentations, just like the last meeting. So um, who wants to start off? Technical uh designer again? Okay. Uh, yeah. Uh, before we begin it, I want to say I've I've put the minutes of the uh second meeting in the shared folder, but they're still not uh quite okay. It uh it uh still some technical difficulties so the the first part of the minutes are very hard to read, because there are two documents that uh were layered over each other. So But uh, from now on I won't use my pen anymore, so will be p just ordinary keyboard. I think it will will be more uh easy for you to read the minutes. Twelve and a half. Actually What are those, t tooth uh brushes, or so But it's actually kind of uh well, it resembles the design I had in mind for this proj You know the the cartoonish Alessi kind of design. And we can we can steal their ideas. Huh. Well, it's a possibility, too. Uh-uh. Okay. Next time we're here. Oh, okay. Okay. Oh, we decided upon that in the last meeting. Didn't we? Oh, okay. Well, tha I didn't receive any new requirements or somethi Just no, but we decided to use only b basic functions only. Okay. Well we maybe we can think of that later. W just these are the ones you already summed up in the Okay. Yeah. That might get redundant also maybe. I don't know what kind of information it would Yeah. Yeah, it's okay. Okay. That's not It was not a good idea. Okay. No. No. But you do mention the next and previous uh button. Oh, okay, o okay okay. Huh. Mm-hmm. Well, w when we only use basic functions, we have the possibility to make the buttons larger. Well, I think we already agreed upon the fact that the the the skip buttons and the cha and the volume buttons, th th those two have yeah, they have to be large. Uh, I mean th th the the two two basic buttons, you know, the to skip channels and to uh I think yeah, I don't know why, but I think that is that's t trendy too, because that's the mo it it you know, it's uh acc acc um accentu uh, how do you say it? It puts an extra accent on the the on the simplicity of our remotes to j to make these two most basic functions extra big, like t Yeah. And you want to acc accentuate that, you know. So Okay. No uh, that's coo it's cool. Well maybe c then we have to do something with Sponge Bob then. It doesn't stroke with the with the dark colours. Not the dark colours? Okay. Okay. For diversity or something. Uh No, but I I I think that uh our design already resembles so a piece of fruit. It's like a pear or something. No, I don't think you have to d

o it like Yeah, but it that doesn't have to remind you, you know, like explicitly of s our f of a of a specific piece of fruit, but just, you know, like the the the the round curves. And so y I I think this y it already sem resembles uh something like a pear to me or something. Yeah. You do get the idea, eh? The fruity kind of round 'Kay. Yeah, uh yeah, I don't know. Uh, this is a b yeah. Yeah, yeah. Of course we have uh we have a very big uh the s Of d design team, yeah. Yeah, but It's pear, I guess. No. No, but I think it's it's already what we were were up to. Uh, it's it doesn't have to resemble uh what I already said, a specific piece of fruit, but just, you know, like a fruity thing going on. And it's it looks fruity to me. And uh, but I do like the yeah, I do like uh the f uh to the idea of making a a y uh, a catchy colour design and a d because I do I think a dark colour would be nice too. Maybe it's too much, you know. Okay, but what are the This is yellow. But I don't think our our company colours are this fashionable. Yeah, on uh n uh on the bottom of the remote you can do Okay. Okay, you can you open the conceptual design presentation? See what was on the agenda. This is his own remote. Because um, maybe we can start with the technical uh functions, but I don't think it's there uh, yeah um, do we want to um use an L\_C\_D\_ display, for example? Me neither. Yeah, but it's so I don't think we should do it. Yeah, but no. I do I think it's a bit redundant, actually. And it's also not I don't th even think it it looks s like sexy or

something, it's But you're already watching the T\_V\_, you're not gonna watch your remote control. I really understand you want to make your job more exciting by putting an L\_C\_D\_ in it, but I I really don't think it's a good n goo because it also doesn't stroke with we wanted uh c When we talk about the materials, uh it's a good idea to use these plastic materials with soft rubber stuff on it. It was our idea, you know, to give it a more sturdy look and that you ca like you can throw with it. But I don't think a L\_C\_D\_ display fits in that image. You know, it's like more vulnerable, and it adds nothing really, you know. Yeah, yeah. You could make it, but it's just it it doesn't I don't think it it's coherent with the design we're after. But that's my opinion. Well, you you y Okay, we can vote for it. You want the L\_C\_D\_ display. I don't want to and he doesn't, so it's up to him. If we wanna And I've read somewhere that I've got some kind of veto veto uh rights. So I can also say But did we skip the Yeah, you could do m but what what i so what i but do you think we should We're not even sure what what information we want to display on it. So Nah, that's not gonna work. Yeah. Oh, well uh I've seen it done before. Do you know th like the the bigger rem uh universal remotes, they have d L\_C\_D\_ displays, but then it's very functional to indicate which what uh uh device you are controlling. So it's that that's what I've seen. But it just it j it doesn't doesn't match with the our whole basic concept. Well yeah, yeah, okay. That's maybe not the most important, but it's just I don't think so. Yeah, well do you ha do you have to You haven't looked after the trendiness of L\_C\_D\_ displays, have you? Yeah yeah yeah. Yeah, but we're gonna if it Then uh then you better don't yeah, d Uh uh I really don't feel the whole idea of an L\_C\_D\_ display. I'm sorry. It can't co you cannot convince me. I don't know how well how to with you guys, but I don't really feel it. We already we're uh Yeah, we already have the the th th th base station gadgets, and want and it uh uh, do it has to be a simple design, which sturdy, which soft I don't think I j uh, and really, I don't see how the the L\_C\_D\_ display is gonna add anything, you know, on a design level. Uh, I think it's slicker to have no L\_ CEDs. Y we want to it's simplicity, w you have two big buttons and you can do whatever you want with these two buttons, so you d

on't need an L\_C\_D\_. It doesn't fit in our philosophy uh behind the whole remote. Yeah, but we already have the docking station, which is It has to be developed, but no, but it that's that's our that's our killer feature. That's our what makes it special. Yeah, we're gonna develop our own r n docking station. Uh, but re we really have to cut this off, I re I know you I I I I get the idea you really like it, you know, the the L\_C\_D\_ thing, but I I think it's it's not a good idea, and we have already mentioned all the arguments. I don't uh, do you guys agre How do you guys think? I d Okay, we s skip the L\_C\_D\_ display. I'm sorry, maybe you can do something if we are at your own place, or make it make it make it happen in your basement or something. But Probably so. Okay. But for the technical part. The m material, I think uh it was a good idea to use the plastic and uh the rubber. Uh Yeah yeah yeah, p Exactly. This is what it w Yeah, but it it was already what we're uh we're after, you know, to give it uh, you know, the soft touch in your hands and also to, know, like Yeah, that is y the b airbag kind of thing. You can st throw it at your little brother's head. Yeah. No no no, not that comfy. Yeah yeah. Yeah. Okay, that's a that's a good point. And that's why I like the dark t col dark colour bit, you know, because it may be the design uh, it's uh maybe it is a bit of the it's a bit nineties maybe, what we're what we're up to rat fun to this point. Yeah, that's that's true, but but it has to be a little big solid. It mustn't be too, n you know, th too overwhelming, then when you put it on your just Yeah. Yeah, maybe so. No, uh I don't like the yellow and black combination. But it is our company colours. Apparently. I don't like yellow, and uh maybe I don't know. But Okay, but what uh, what are other tef technical things we have to discuss? Should we do that? I don't think you we should do that. Maybe just bring it out in different colours, but not af that you can switch fronts afterwards, that's also too much. People don't wanna spend more

money on their remote control, I guess. Yeah, yeah. But uh, without gon uh okay. So, are we through the technical part then? Okay. So we uh agreed upon uh n uh well, not u unanimously or how you call it, but Yeah. The materials you uh mentioned in your your personal preferences were all were quite okay. O o only only the last point your no titanium's not not out of question, I guess. But is it possible to use both the the plastic and so uh soft things and t p titanium, as well? Makes it in a homogeneous uh design. It will it will break other stuff w when it's plastic, as well. Yeah. No, but uh uh, you should ma Yeah. Okay, think of the possibilities and make it in completely titanium. Well would it be more trendy? More chic? Yeah, but I I really like the idea of the the the plastic and the big kind of thing. But the question is i then it's, you know, is is it fits in our s philosophy to make it uh sturdy and simple and uh, know, like uh When you make it titanium, it becomes more like some kind of gadget you actually don't need. And when it's big and plastic, it's like some fun stuff you can always have around. It's always fun to have something big and plastic around. Yeah, that's beautiful. Oh, maybe th maybe this is an No, I do like the idea of maybe a t titanium kind type of body w and then with s plastic colouration around it. You know, like the the soft stuff, but I don't know if it's possible. But you can't make the plastic give uh the ti titanium look. But make it just like shiny. Maybe we should uh shou And uh and maybe we sh should we t I don't know if we should talk about uh, how how much time have we got left? Forty minutes. Okay. You putting in different colours. Okay. Okay. Yeah, but w yeah. Well, it is. It's a possibility. But, let's think about the bas Mm-hmm, mm-hmm. But wha th our basic idea y I mean, you gonna we're probably gonna have like two type of materials, like the d

d b the plastic uh enclosure and then the the pads that surround it. And and pro and lights. We have to incorporate the lights too. But, uh do w gonna gonna are we going to give it a two-tone colour look, like the the plastic mould is in in one colour and the s the cushion pads around it are in another colour? Is that the idea? Is that a good idea? How many colours are we how many colours are we gonna we're uh uh f uh f Only five minutes left, by the way. How many colours are we gonna give it? Like two-tone colour? T I think maybe the case itself should be in one colour and then the rubber of the buttons, and the cushions as well should be in another colour. Okay, but not more than Well, yeah, it's No. Maybe we should talk about it on a l in a later meeting. Okay. But we have to uh think of some other uh important things. Uh oh yeah, the the functionalities of the the buttons. No. I think this is okay, the so we have the basic. Then we have the numbers. We have the power button. We have we have a teletext button. And maybe want to access a a menu or something. Most T\_V\_s have a menu. Yeah, but I think you ha I really need a menu button. That's just i the only button only You know, I No, I think most T\_V\_s have an uh a menu nowadays to access the uh uh screen settings. And so But that that covers all the all the other settings. It covers everything then. No, you can use the And you al can also use the normal skip buttons for that. Th in that way we have like only the numbers, the power button, skip and volume, and then uh uh ten uh rem uh yeah, mute. A teletext and a menu, and then then i that's it. It's all we need. Okay, uh another stuf some stuff about the the the design of the docking station. Something important about a s uh, no, uh which sh uh should remind us of the remote itself, I guess. Uh, in one colour. Just use I think the spongy thing already um comes forward in the in the in the cushions, pads and things on the s uh side. And we will make it spongy and and uh and uh well, the fruity thing is just the shape should be fru i did I think this is kind of fruity, you know. Just round shapes with uh Yeah, but we're gonna have to we really have to think I think colours is very important, because it has to be flashy, but and but it d it doesn't have to be annoying, that when you uh, know, some things is just over the top, and when you have it on your table for more than two weeks, you it just gets annoying, because it's so big and flashy. Uh, it has to be some level of subtlety, but we have to still have to think

of how we manage to uh to get to that. Okay. Guess we're through then. But we I think also we just so we have to do something with colour but also, I I think we have to keep the dark colour thing in mind. I think that's uh adds to the too much colour maybe m um But our des design experts will uh work that out. Okay, well I think the meeting will be over within a minute. So we will wrap up. Or is there anything we'd like to discuss? That's right. Okay. Okay. Well, you will read the minutes uh in the you can find them in the pro probably. Yeah uh no, for su for sure because I'm will now type them out. Uh, y yeah. I think uh But toilet paper roll and uh Okay. Yep. I was waiting for the I last message, but Mm yeah.



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# Meeting ID: 81

Data Source: Train

## Executive Summary

This is the functional design meeting . Okay , here's the agenda for the meeting . After the opening um I am going to fulfil the role of secretary , take the meeting minutes . And we're gonna have three presentations , one from each of you . First we need to determine the user requirements First I want to discuss the goals of this meeting . And then we're going to determine the technical functions , what is the effect of the apparatus , And then lastly we're going to determine its working design , how exactly will it perform its functions , the function of a remote control , as what uh we've been informed , is basically to send messages to the television set , for example , switch it on , switch it off , go to this channel , go to channel nine , turn the volume up , etcetera . whether that means like um we can go and decide the brightness of the screen , things like that , all the more complicated functions of menus . And we can decide if that's what we want , , um if we want to include that on the remote , if that's something that would stay on the T\_V\_ itself , for example . These are two examples . Um and you can see on the left , it's got a lot more buttons , And then on the right , it's a lot more simpler , And then lastly , it's just the questions that we want to consider like what functions do we want it to include , and how simple , complex it should be ? Now we have Courtney with the functional requirements . okay so we tested a hundred subjects in our lab , and we just we watched them and we also made them fill out a questionnaire , Seventy five percent think they're ugly . And we need we need it to be simple , yet it needs to be high-tech looking . So What do you mean by um the current remote controls do not match well with the operating behaviour of the user , like they have to press the buttons . I I think it's like the engineering versus user , and users don't really need all of the buttons that are contained on there , because they only use ten percent of the buttons really . And so people say that they typically lose it , and R\_S\_I\_ , I'm not very sure what that is . Do we really need t to provide more information on what R\_S\_I\_ is ? Uh yeah , that's what my web site said , I think that we should go with something that's more user-friendly . And also we found our team found that speech recognition is it's like an up-and-coming thing Didn't they um didn't our rival companies manufacture a remote that you would press the button on the T\_V\_ and it would the remote would beep so if you have lost it We could definitely include that if we wanted to . 'Kay . Uh I didn't get a chance to complete this one , 'cause some of the tools that I was given were frustrating . We need a power source , we're gonna need a smart chip if we're gonna make it multi-functional . Um extra functions will probably need an additional chip . Um power source ,

I figured , batteries , Typically a remote has either two double A\_s or four triple A\_s , sometimes three . so a large on-off button would probably be good . Um extra bulb could just be for flashiness , but the other bulb , I think , is good to just to indicate , I'm doing something , it's sort of like a reassurance . Like that we know the battery's working . We should make it glow in the dark . Well , should it be larger buttons in general , I think we should do something like maybe bigger and round like bubbles . New product requirements . First it's only going to be a T\_V\_ remote . so we need to somehow include our colour and our company slogan on the remote . But it's becoming out-dated now , because of the Internet . Nobody needs to go to the teletext channel to check the news , Would it just be universal for everyone , you think ? Because I think even if something has large buttons , as long as they are not childishly large , like even technically non-technically challenged people are gonna use it . so we're going to go anywhere from kids to adult in the age range we we need a like homing device . and if you d leave your phone somewhere , you push the button to find it , and it finds th the phone beeps for you . And on the charger , just like a phone , like you get a portable phone and it's got a charger , Well , if you have the base , you could start putting in a charger and then you have a different kind of battery . Rechargeable batteries are cheaper usually . If we have the speech recognition then we can start aiming at a like another kind of more handicapped disabled uh demo demographic . It's really the people twenty five to thirty five . and the speech recognition could be part of the lost and found device , too . And don't forget we need to include the colour of our company and the logo . We could just have the logo in yellow , The I\_D\_ is going to work on the components concept , um U\_I\_D\_ the user interface concept , and you're going to do some trend watching . or maybe a yellow light for the keys . If you have this sort of strip kind of down at the bottom the base of it , just like yellow with the R\_R\_ . So no D\_V\_D\_ , no TiVo , no stereo . Well , do we wanna include the numbers like zero through nine ? Well , we definitely need those . So we've simplified , we don't need all those um play , fast-forward , rewind , or no menu buttons . So we've pretty much pared it down to on-off , volume , mute , channel up and down , um the numbers Yeah , audi audio settings and screen settings , we need those or do we just want that accessed accessed from the television itself ? I think that that's fine just for the T\_V\_ . you could just double up with like the channel or the volume buttons . So we just have it like add a menu button then for the various things needed ,

## Complete Meeting Transcript

Okay. Um welcome to our second meeting. This is the functional design meeting. And I hope you all had a good individual working time. Okay, let's get started. Okay, here's the agenda for the meeting. After the opening um I am going to fulfil the role of secretary, take the meeting minutes. And we're gonna have three presentations, one from each of you. Then we're gonna discuss some new project requirements. Um gonna come to a decision on the functions of the remote control. And then we're gonna close up the meeting. And we're gonna do this all in about forty minutes. Okay. First I want to discuss the goals of this meeting. First we need to determine the user requirements and the question that we can ask ourselves is what needs and desires are to be fulfilled by this remote control. And then we're going to determine the technical functions, what is the effect of the apparatus, what actually is it

supposed to do, what do people pick up the remote and use it for. And then lastly we're going to determine its working design, how exactly will it perform its functions, that's the whole technical side of 'Kay I'll just give you a minute, 'cause it looks like you're making some notes. 'Kay. Oh, well let's go ahead and, back, previous. So what I wanna do right now is hear from all three of you, on your research that you just did. Who would like to start us off? 'Kay. Okay. Um do you have a PowerPoint or no? Okay. Oh. Save it in the project documents. Okay. Mm-mm-mm. This one? Okay. Okay. Okay. Right. Ready. Alright. Very good presentation. Thank you. You speak with such authority on the matter. Okay. Who would like to um follow that one up? Now, that we've discussed Okay. Do you want me to run it or you wanna Okay. Functional requirements. 'Kay. Alright. Now we have Courtney with the functional requirements. Okay, what do you m Oh, I'm sorry. What do you mean by um the current remote controls do not match well with the operating behaviour of the user, like they have to press the buttons. Okay. Oh, right. The buttons. Okay. Yeah. Okay. It works. Ready for the next slide? Hmm. It's okay. It's very important. Could be, yeah. Oh. I think that's a pretty good guess though. Yeah. It's okay. Okay. Next slide? User-friendly. And so just to just to clarify by speech recognition you mean they would say, channel five, and the thing would go to channel five? Okay. Oh, that'd be lovely. Didn't they um didn't our rival companies manufacture a remote that you would press the button on the T\_V\_ and it would the remote would beep so if you have lost it Mm. Oh, yeah, that's true. We could definitely include that if we wanted to. If it's within our price. Okay. Are we ready for our last presentation, Amber? Okay. There we go. 'Kay. Oh my bad. Okay. Ready? That's okay. Hmm. So this would be the front? So the red would be the front of the remote though, right? Okay. The I the light up kind of Yeah. Hmm. It'd probably be lighting up the key too, right? 'Kay. The buttons. Okay. Yeah, definitely. 'Kay nex R Ready? 'Kay, any p 'Kay? Anything you wanna add for personal preferences though, you f you said already that we needed a large on-off button, you think. Anything else? Okay. Mm. Okay. Okay, let's talk about all of our We'll come to decision later about all the components that we need to include, let's um wrap up this one, and I'm gonna go back to my PowerPoint, 'cause we need to discuss the new project requirements which you might've already seen flashed up on the screen a bit earlier. Wait, come back. Alright. Sorry, let's go through this. Alright. Here we go. New product requirements. First it's only going to be a T\_V\_ remote. We're trying not to over-complicate things. So no D\_V\_D\_, no TiVo, no stereo. It's not gonna be multi-functional. Hey. And we th need to promote our company more, so we need to somehow include our colour and our company slogan on the remote. We're trying to get our name out there in the world. Okay. And you know what teletext is? in

States we don't have it, but um it's like they just have this channel where just has news and weather, kind of sports, it's very um bland looking, it's just text on the screen, not even Yeah, just black with just text. Yeah. Kind of. Yeah it's the whole screen. So anyway Right. Right. But it's becoming out-dated now, because of the Internet. Nobody needs to go to the teletext channel to check the news, and we have twenty four hour news channels now too, so Those are our new product requirements. Alright. Mm-hmm. Yes. It's part of the logo. Okay. What we're going to do right now is come to some decisions, definitive that we can all agree on, about um the target group and the functions and just definite things that we need to do and then we'll close up the meeting. So. Alright. Whatever. Okay. So our target group is You mentioned um older people? Would it just be universal for everyone, you think? Because I think even if something has large buttons, as long as they are not childishly large, like even technically non-technically challenged people are gonna use it. I mean they want something user-friendly, so Yeah. Yeah. Okay, so we want um for our target group would we say, I mean, young and old, all age ranges, all um, not kids obviously, right? Or kids? Okay, so we're going to go anywhere from kids to

adult in the age range Um what about technic technical um specifications, like how how technically literate are these people who are going to be using our remote? Okay. Right, okay. So so they need no technical experience to operate Okay. And we also need to determine the specific functions of this, just to get it all out on paper. So we said it needs to send messages to the T\_V\_, needs to change the channel, turn on and off, just basic simple stuff like this. So if you have something just say it and we'll add it to my meeting minutes. Mm-hmm, volume. Right. And we wanna keep um I'll make a note here that we wanna keep the number of buttons down. Correct, because people only use ten percent. 'Kay. Hey, what else? Um. I think so. What do you A finding kind of device or Yeah, ho homing device. Mm 'kay. Okay. Right. Hmm. Would that add to our costs at all, I wonder? Right. Okay. I I think we can make a decision about that later. Uh we'll still put that as a point that we need to discuss. So that would include battery source Power source rather. Is it going to have a charger, or is it going to be run strictly off batteries? And we also need to deal with the issue you mentioned of speech recognition, if we want that. Mm. You could um we could hook it up. Oh. Mm-hmm. And if and if we introduced it when they're this age, they're going to probably always buy a remote that has Right. Yeah. and the speech recognition could be part of the lost and found device, too. If we said, find remote, locate remote, or something. A certain phrase then it could beep. I dunno. Just throwing it out there. Well Okay, anything else we wanna discuss? Um. How how, yeah, how would you leave those out? Unless you could say the channel. Yeah, that's true. And also remember that in this day in age we need, you know, like a hundred button, too. I used to have a remote that did not even go up past like fifty. So I couldn't whenever I got cable, I had to get a new T\_V\_. Mm. get your own remote, or digital cable. 'Kay. Um. I guess, we're gonna discuss the project financing later, making sure that we can fit all of the stuff that we want to on our budget. Um. 'Kay. And don't forget we need to include the colour of our company and the logo. I'm guessing. And the R\_R\_. We could just have the logo in yellow, or maybe a yellow light for the keys. Right. So we've simplified, we don't need all those um play, fast-forward, rewind, or no menu buttons. So we've pretty much pared it down to on-off, volume, mute, channel up and down, um the numbers Yeah. Um can we go back to I'm gonna look really quickly back at those examples and see if there is anything. Which one is yours, t

echnical functions or functional requirement? Okay. The T\_V\_. I think that that's fine just for the T\_V\_. I mean how often does the average user need to do that kind of stuff? Hmm. Couldn't we do that all through one button, something, a menu button, that pops up with a menu on the T\_V\_ that says, you know, audio, video, whatever, language, you know? For the menus. That's true. Something that looks mayb you know. Y right, right right right. That one? Right. In the middle perhaps. Yep. good. Anybody have anything else they'd like to bring up in this meeting? Okay. get out of here. Let's go back to the meeting closure then and see what we need to do next. Mm. Alright. After this meeting we're gonna be sent a questionnaire and summary again which we need to reply to that e-mail. And then we're gonna have lunch break. And after lunch thirty minutes of individual work time. Um I'm gonna put the minutes I put the minutes for the first meeting already in the project documents folder, if you'd like to review them. And I'm gonna type up the minutes for this one as well. Um here's what we're each going to do. The I\_D\_ is going to work on the components concept, um U\_I\_D\_ the user interface concept, and you're going to do some trend watching. 'Kay. Specific instructions will be sent to you by your personal coach. And if anybody has anything they would like to add? No? Okay, well, this meeting is officially over. Thank you all. I don't mind going first. Yeah, it's in the should be in the m Project. You know you could you could do it yourself actually. Put it in Project Documents, yeah. Sure. Yeah. Okay. Um well, the function of a remote control, as what uh we've been informed, is basically to send messages to the

television set, for example, switch it on, switch it off, go to this channel, go to channel nine, turn the volume up, etcetera. Um some of the considerations is just um for example the what it needs to include it's the numbers, you know, zero to nine, so you can move to a channel, the power button on slash off, the channel going up and down, volume going up and down, and then mute, a mute function. And then functions for V\_H\_S\_, D\_V\_D\_, for example, play, rewind, fast-forward, stop, pause, enter. And enter would be for like, you know, the menus. And then other menus for D\_V\_ as well as T\_V\_, whether that means like um we can go and decide the brightness of the screen, things like that, all the more complicated functions of menus. And we can decide if that's what we want,, um if we want to include that on the remote, if that's something that would stay on the T\_V\_ itself, for example. These are two examples. Um and you can see on the left, it's got a lot more buttons, and I don't know if you can read it, but it says, step, go to, freeze, um slow, repeat, program, mute, and so those are some of the buttons and so it gives you an idea of s one example. And then on the right, it's a lot more simpler, it's got volume, it's got the play the like circle set, which is play, rewind, but it's also what is fast-forward is also like next on a menu. So you have functions that are d uh duplicating. And you have a mute button and then the numbers and the eject, and the power button. So that gives you two different kinds, a more complex and more simple version. Okay. And then lastly, it's just the questions that we want to consider like what functions do we want it to include, and how simple, complex it should be? And what functions it needs to complete. Uh, what are needed to complete insulation process, 'cause, you know, that's something that also has to be considered and it's gonna be hopefully a one-time thing, when you set it up it should be set to go, but we have to include the functions that can allow it to set up i in the first place. So that's it. Mm. Left. Wait. And that meaning what? Okay. Right. Only use ten percent of the buttons. Lost. S Wait, is that like your ergonomics like your hand movements or something? Like Channel, volume,

power. It's like if you're holding it to just say, where are you, and thing beeps, you know. Yeah. It's kinda like what the remote phone used to do. You know like go to the base. Yeah. Working design. Help me. Well, how much extra would the additional chip be? Is that gonna push us over our production costs? Mm-hmm. Yeah, that's gonna be what's communicating with the T\_V\_, but the other bulb, I think, is good to just to indicate, I'm doing something, it's sort of like a reassurance. Yeah. Just Well, should it be larger buttons in general, you know like uh the examples that I had, they were swi quite small. So should we try and go for something that has I larger buttons? Ovals. Yeah, yeah. Yeah. I know. Yeah, it's like black, black and white kind of It'll give you the sports. Except the entire screen. You can pick sports, you can pick the news, you entertainment, you know it's like Yeah. Company colour being yellow. Mm-hmm. It's gonna make it nicer. Yeah. We should go for the lowest denominator. High school educated. Well it's channel, on-off button, volume, mute. Um. Oh right yeah okay. Tracking. But you got a base. Well, if you have the base, you could start putting in a charger and then you have a different kind of battery. Yeah. Well, then we could If we have the speech recognition then we can start aiming at a like another kind of more handicapped disabled uh demo demographic. Well Well, then then do you put the voice recognition do you put the r like receiver on the actual television, in the base, or in the actual remote, 'cause then you've already got remote in your hand, why you just gonna speak to the remote, whereas if you just speak in general and you don't have to have the remote in your hand and like talk at it. Still fifteen minutes. Um. Well, do we wanna include the numbers like zero through nine? Can we conceive of leaving them out? Yeah, like you have one, two, three, four, five, six, seven, eight, nine, zero. Well, I don't know, I mean, if you can like well I don't know, if there's just a way of leaving them out? The colour being yellow? And how do we Can't make it entirely Well if you have like a Hang

on. If you have this sort of strip kind of down at the bottom the base of it, just like yellow with the R\_R\_. Right, yeah. Two examples. Yeah. Oh, it's a Yeah. Well, the other option is sort of like down at the bottom, like farther away, you just have this sort of box inset where it's like the buttons that you don't use as much, but occasionally you will use. and so it's like I don't well, I don't know. Right. Well, that could be No you could just double up with like the channel or the volume buttons. Channel is just up and down. And then add a Yeah. So we just have it like add a menu button then for the various things needed, including v voice recognition if we have any like settings for voice recognition now included in the menu. Did you send it? Okay. Great. We only use ten per cent of our brains. yeah. Do we really need t to provide more information on what R\_S\_I\_ is? Yeah, I'm just trying to move it. 'Kay. I think it should be there, working design. 'Kay. Uh I didn't get a chance to complete this one, 'cause some of the tools that I was given were frustrating. Uh okay, so method method of our design, I think I just start listing th some of the things that we actually need to put into this. We need a power source, we're gonna need a smart chip if we're gonna make it multi-functional. Um extra functions will probably need an additional chip. Either that or the smart chip will have to be extremely smart. Usually a smart chip is just a chip that's been programmed and designed so that it can complete a fair range of functions. I wouldn't think so, 'cause we could probably get it from like, in bulk, from a a newer company. And they tend to sell their chips pretty cheap. Um yep, nothing here. Um power source, I figured, batteries, 'cause they're easily available. Typically a remote has either two double A\_s or fo

ur triple A\_s, sometimes three. Uh it really kinda depends on the size of the actual remote itself. Um a large on-off button, demographically we're moving towards an older generation of people, so a large on-off button would probably be good. Selection button for various entertainment devices, so you want something that will permit you to select the D\_V\_D\_ player or the T\_V\_ or the stereo system. Um smart chip that perverts uh that permits, sorry, universal application again, something that'll allow us to skip over between devices, and that's kinda it. Uh this is my fifty second design. Power source over here. We're gonna have a switch obviously between the power source and the rest of it, and you're gonna need the switch. Um extra bulb could just be for flashiness, um subcomponent which would be like a way of diverting the power to different parts of the the device. Um the chip and of course the infra-red bulb, so it can communicate with the various devices that it needs to talk to. This is just like a rough schematic. So this is the internal workings. Yeah. Yeah, so you don't have to stare at that infra-red, 'cause you know when the battery starts dying in your remote currently, you have to actually stare at that bulb and go, okay, when I push this button, is it working? We can skip that whole thing. Yep. So you can put it in the dark. Yeah, that's it. I think that that's a good idea, because you know that's one of the most important buttons. Okay. You can also get the kind of the T\_V\_ guide so It's the entire screen is just running information at random. Seemingly. Okay. So, do we have to include the company colour within that? Mm well, even if we kept the regular standard size of remote, if we reduced the buttons down to the ones that people are saying that they use the most often and a couple extra, 'cause they're saying they only use ten per cent of them, then we should be able to accommodate fairly decent sized buttons. Most of them will intuitively pick it up though. how 'bout little to no, because there is no way that you are gonna be able to make it no. Do we want this thing to be able to be found easily? And like if this is gonna get lost underneath the coach, how are we going to accommodate the quick ability to find it? What if we gave it a charger? And on the charger, just like a phone, like you get a portable phone and it's got a charger, and if you d leave your phone somewhere, you push the button to find it, and it finds th the phone beeps for you. It's useful for the remote phone. Yeah. Rechargeable batteries are cheaper usually. Yeah. I think people would find that too foreign. It's when we get satellite. Yeah. Yeah,

'cause I don't have any material pricing information available to me at the moment, so R\_ the double R\_. Or is the I Yeah, yellow could be and it could doesn't have to be huge. Mm-hmm. I had something, but I forgot. Do you want us to do our PowerPoints now or I can go. Yeah, you should run it. Mm yes. Yes, okay so we tested a hundred subjects in our lab, and we just we watched them and we also made them fill out a questionnaire, and we found that the users are not typically happy with current remote controls. Seventy five percent think they're ugly. Eighty percent want they've are willing to spend more, which is good news for us um if we make it look fancier, and basically w we just need something that really I mean there's some other points up there, but they it needs to be snazzy and it but yet simple. So that's really what we need to do. And we need we need it to be simple, yet it needs to be high-tech looking. So Like They like I guess use the buttons a lot. Yeah. I don't know. It's from my uh research. My team wasn't very clear. That's okay. I I think it's like the engineering versus user, whereas like the engineering she showed that the engineering ones are more complex and users don't really need all of the buttons that are contained on there, because they only use ten percent of the butto

ns really. Good point. It's a necessary evil. Mm-hmm. And so people say that they typically lose it, as you yourself know, because you probably lose your remote control all the time, much like any small appliance like a cellphone, and they we need something simple, because most people, well thirty four percent say that it's just too much time to learn how to use a new one, and we don't want to go we don't want to vary too far from the normal standard remote, but I mean they do need to be able to identify it, and R\_S\_I\_, I'm not very sure what that is. Yes, it is important for the remote control world. Sh Uh possibly. Uh yeah, that's what my web site said, I don't know. Yeah, I would assume so. I think we're supposed to know it as remote control experts. But also s so the channel, the volume and the power buttons are the most important on our company website you can find like the specific statistics concerning to how much each button is used, but those are the definitely the top ones. Yes. And so personally I think that we need a modern eye-catching design, but it it really needs to be simple. So saying from y your slide, your presentation, the engineering versus the user-specified remotes, I think that we should go with something that's more user-friendly. Where the engineering ones, the boxes, tend to make it look more complicated than it really is. Um the functionality of the product really needs to be considered as to like what type of buttons do we really need on it. And it needs to be open to a wide range of consumers, so even though we need a small number of buttons, we also need to take in like are most people going to be using it for a D\_V\_D\_ player, a TiVo, what what exactly are we using it for, as well as the age range. So we need a hip, but not a corny marketing scheme for promoting our product. And also we found our team found that speech recognition is it's like an up-and-coming thing they really consumers are really interested in it, and since our findings found that people are willing to pay more money for a remote for it to be more high-class we could consider it. I guess so, yeah. Yeah, I guess we can interpret it like, we can just try out different types of speech recognition within our remote programme. Oh that's fine. What exactly is a smart chip? So what exactly we are looking at, is this like the front of the remote? Oh okay. Like that we know the battery's working. Okay. Yeah. Yeah, and that's good. We should make it glow in the dark. Mm 'kay. I think we should. Like I think that would be in a as in like in for the design, sorry, um. I think we should definitely go with buttons that don't look like a normal remote, 'cause most remotes have small square buttons, I think we should do something like maybe bigger and round like bubbles. What is it? Like running along the bottom? Wait, is it like the Weather Channel where it's got like the ticker running on the bottom or something? So it's like a separate channel from like what you're watching? Okay. No, kids need to know how to use a remote, I would think. They gotta change between Disney Channel, Cartoon Network. Yeah, I think we need it all.

Um I would say we should say dumber than the average person. Yeah. And channel. Yeah. Those are the most important ones. Yeah. Sure, yeah. I need we we need a like homing device. Because people really are looking for a remote that's more high-tech. Do you think people'll really go for that though? Because Yeah. I would think so, because you'd have to develop a base. Hmm. Right. Do w Well, th there's the people who desire speech recognition, there's the different demog demographics have different desires, I don't know if you guys ge It wouldn't copy onto the the thing 'cause it's black, but all the different age groups have different desires for speech recognition. So basically older people don't really care. It's really the people twenty five to thirty five. I feel those are the people that really watch a lot of T\_V\_ t

hough. They're the ones that get addicted to soap operas and just sitcoms and stuff. Right. So Right. Yeah. Wait, on the remote itself? Well, we definitely need those. Yeah. You definitely need Wait. I feel like a ye I feel like a yellow one would be too garish. Or put like stripes, oh yeah, yellow lights. Yeah. Yeah. Yeah. Yeah, audi audio settings and screen settings, we need those like audio settings mono, stereo, pitch, screen settings like brightness, colour, or do we just want that accessed accessed from the television itself? Yeah, 'cause we need to we definitely need to have buttons for like sub-titles and things like that. It's 'cause the foreign film market is expanding and stuff, and like on television like I know f k living in Los Angeles it's tons of Spanish network television if it has English sub-titles it's definitely helpful. So we need up, down, and side-to-side buttons. Yeah, okay. Okay, yeah. Such as, yeah, the one the one over there on the left the engineering centred one. Ooh, I just got an idea for a design.



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# Meeting ID: 82

Data Source: Train

## Executive Summary

Um , I'm Abigail Claflin . and I guess we should all get acquainted . So this is our kick off meeting . Um Hi I'm Chiara , I'm the um Marketing Expert . I'm Krista and I'm the Industrial Designer . Um so f here's our agenda for today . Um we're gonna do some tool training , project plan and discuss then close . So our aim is to produce a remote control that is original , trendy and user friendly . Right . Functional design , conceptual design and detailed design . So throughout our next couple of meetings we'll we'll be covering these things . Um so we're gonna try out our white board . So you want us to draw it and then talk about it ? Or just draw it ? I think both . We ought to decide who starts and all that . Our selling price goal is twenty five Euro and profit aim is fifty million Euro . Um , and we will hope to sell this internationally . How many should we sell then ? well it's the profit so if a profit for each is twelve fifty , that'll do four million . Experience with remote control . I mean you always know where your T\_V\_ is , so just have a call button , Um , I think one thing is that it should be easy to find so you should have a call button on your television to be able to find your remote control . Um or even a maybe a vib a vibrating thing . What if it had something like um just like a magnet on the back of it I mean j just to have some place to put it besides like a base . But even just a thing to attach it to the w you know if you had a thing , a pretty object attached to the wall . Do you think it needs to be bigger to not lose , or does that not factor in ? Hand-sized . I also think though that it shouldn't have too many buttons , but like , I don't know you , just have like eight thousand buttons and you're like , no , you never use half of them . So . but what if it had like a little screen , so it has less buttons but it still has all the functions . so you can programme like your favourite channels , But , would you have the screen on the thing , or would you have it on the telly transmitting the screen . so I think it should be possible to have some kind of a screen , I mean , we have to remember our budget is twelve point twelve fifty for to actually make the device . and the other thing you said that thing about robust and water um Water resistant . maybe something didn't make your hands sweat lot . Maybe um just like a simple thing to have a clip on it , like so you can clip it to your Um . We should probably start wrapping up , The Industrial Designer , um is going to be looking more into the working design . User Interface Designer . I guess that maybe the working design has also to do with like the physical feat like just the way it looks and the way it w So technical function . What is technical functions exactl What effect should the thing ha should it have , And the M\_E\_ , what does that stand for ? M Marketing , right . Um . So we'll be working on the user requirements , um

## Complete Meeting Transcript

Hi I'm Chiara, I'm the um Marketing Expert. Um, would you like me to talk about my aims at the moment, or would you like me to just say my name and then we can talk about business later? We'll get round to that later. My name is Chiara and I'm the Marketing Expert. I think both. Who starts? We ought to decide who starts and all that. No? Uh-huh. Uh yeah. Well I had the cat as well, but uh I've got a spare one. So I'll use the spare one. Um but it's harder to draw um. Um. Uh. Um I don't really know how the legs go, but anyway I will do that. Um, and the main reason is they're pretty. I think they're very pretty and they go well with the environment, and I like the way they run and I used to do horse riding and they're just very sort of sturdy and nice animals. And I like the way um they feel, sort of under under the hand, I think that's pretty much it. Um How many should we sell then? Um, a lot, two two two million, two mi no, more f four million. Four million. And it well it's the profit so if a profit for each is twelve fifty, that'll do four million. It is a lot. Uh. Um, I think one thing is that it should be easy to find bec yeah bec Yeah, yeah yeah yeah yeah. Yeah. And even I think a little light. Um or even a maybe a vib a vibrating thing. I dunno but someth because it's usually under the sofa. In which case you're going to be I but if it has a sort of signal which isn't any sound I don't know if it's expensive maybe to Maybe call is enough. But yeah. Yeah yeah yeah. Yeah. Yeah yeah yeah yeah. But even just a thing to attach it to the w you know if you had a thing, a pretty object attached to the wall. But that would really make it more expensive. But it's only a plastic thing, r really, the thing on the wall. Something like that. And the other thing is Not well it needs to be sort of Yeah. I don't think you need a But definitely not well I don't know. No, it can't be, uh-uh. Like spaceship. Right. Um Oh dear. Yeah, yeah yeah. Yeah. Select. Uh. But, would you have the screen on the thing, or would you have it on the telly transmitting the screen. Because Because, I don't know if it's I think it's e expensive, if you have if you use the telly screen, 'cause the telly's already a screen, then you can pro sort of have a programming function, really easy sort of arrow up and down, on the remote, and then use the telly as a screen. But um But yeah for sure. Something like not it's not on the button but it's telling you what to do, is that what you mean? Right. Mm. Yeah. But like mobile phones have screens and they're cheap. Yeah. Or some it i we can find out probably on the internet how much it's Um. Yeah, and the other thing you said that thing about robust and water um What was the word? Water resistant. No but it's I thought, ah, spot on. Good feel, tact tactile, good tactile feel, maybe something didn doesn't make your hands sweat lot. That's quite annoying. Yeah, clip. Ooh. Um. It says on that email but it It said um It said Yeah like Be a medium between you and the telly I think, that's uh Marketing. Oh it's written here, but um. Okay. Here we go. Welcome everybody. Um, I'm Abigail Claflin. You can call me Abbie. 'S see. PowerPoint, that's not it. There we go. So this is our kick off meeting. Um and I guess we should all get acquainted. Let's shall we all introduce ourselves? I think we'll get around to that, yeah. So this is just introductions yeah. Okay. I forgot to s say I'm the Project Manager but I figured you all knew that already, um so. Okay. Um so f here's our agenda for today. Um we're gonna do some tool training, project plan and discuss then close. Um so. So our aim is to produce a remote control that is original, trendy and user friendly. And to do this, we have to um there's certain things we have to consider about functional aspects and conceptual design of the thing. So. We'll get to that. Oh there it is. Right. Functional design, conceptual design and detailed design. So throughout our next couple of mee

tings we'll we'll be covering these things. Um so we're gonna try out our white board. If we'll all draw our favourite animal, to sum up the characteristics of that animal. Okay. Yeah. Both. Yeah. Any volunteers? Does anyone know what they wanna draw? I don't think so. A dolphin. 'S like playing Pictionary. So what characteristics do you like about your animal? They're graceful. Sleek. I don't know how intelligent that one looks. Yes. Does anybody else wanna draw their animal?. Uh-oh there goes the ten. It's a cat. Do you wanna anything? I dunno if the the ah. A horse. That's very good. Yeah. This cord's Uh. Right. Actually I haven't thought of anything yet. Uh It's a pig. So I'm thinking we should design a remote control that's water resistant, strong and furry. What do you think, yeah? This is yeah, well like a cat, you know, soft yeah. Although uh I'll just put there. Right. Oh my gosh, this is disastrous. Sorry about that. Okay. So moving on. Our selling price goal is twenty five Euro and profit aim is fifty million Euro. So I'm guessing that we're not actually in Scotland, we're in some European country. Um, and we will hope to sell this internationally. Um selling price is twenty five Euro. Profit aim fifty million Euro. Anyone a mathematician? So f that's a fifty percent um uh. Um, I don't know what these mean because I didn't actually make the slide-show. Experience with remote control. So I guess we have to reflect on our experiences with remote controls to decide what um we would like to see in a convenient, practical, nice remote control. Um so do we have any initial ideas for uh how this remote control should be designed or formatted or the the buttons it should have. Yeah. Yeah. I mean you have it for the portable phone, so why not yeah. What if it had something like um just like a magnet on the back of it and you could I mean j just to have some place to put it besides like a base. You know like a portable phone has a base, like just to have a home for it. 'Cause people just stick it on top of their T\_V\_, but the point of having a remote is not to have to walk over to the T\_V\_, so Yeah. Yeah. Maybe we should design couches that have the remote control in the side arm. Yeah. Do you think it needs to be bigger to not lose, or does that not factor in? Like Hand hand held size, yeah. Not not huge, but Huh. Little homing device. Um. Okay. So what do we think this remote control should Five minutes. Till the meeting oh right. This is what we have left. Um, oh we just Yeah. You what if um may be a little fancy but what if it had like a little screen, so it has less buttons but it still has all the functions. Like the way a mobile phone does. So you could like um like if you have I dunno if you have satellite if you have a hundred channels, you can the way you do it on your radio is that you uh what do you call it s y yeah but you can programme, so you can programme like your favourite channels, so like if you had a s That's something we could decide. Mm. Yeah. Yeah. Right. Yeah. Yeah. Mm. Yeah. I mean, we have to remember our budget is twelve point twelve fifty for to actually make the device. Um but it's something to think about, yeah. I mean we'll have to see how much that would be. Yeah. Oh I was just Yeah. Maybe um just like a simple thing to have a clip on it, like so you can clip it to your like that's another Um. We should probably start wrapping up, um we've got some initial ideas that we can all look into. Um, and come up with some new ones for the next meeting, which will be in another thirty minutes. Um. So. Yeah. The Industrial Designer, what does that stand for, I\_D\_, yeah um is going to be looking more into the working design. So I guess you'd be looking at lots of the things we discussed about screen and um that sort of thing. The something, what is the U\_I\_? Yeah, what does it stand for again? User Interface Designer. So that's gonna be more technical. I guess that maybe the working design has also to do with like the physical feat like just the way it looks and the way it w Yeah, yeah. Um, I guess you'd have to find out. Mm. And the M\_E\_, what does that stand for? M Marketing, right. Um. So we'll be working on the user requirements, um Yeah. So I guess that wraps it up. I'll see you all in thirty minutes. I just did. I'm Stephanie and I am the User Interface Designer. So you want us to draw it and then talk about it? Or just draw it? Okay. Why don't we do both. Right. Mm, I gotta think about it for a second like. Uh

Does it have to be functional, trendy and user friendly? Um. Okay, I'll draw. I'll draw one. Make sure my things here. Uh-oh. Right. Okay, my favourite animal is see. Oops. Yeah, it's Yeah, I guess it has a fin on top too, yeah. It's my dolphin. I like its tail. Um, no, I think dolphins are really uh I dunno, they're smart and they they're cute and they like swimming and that's cool, like they're graceful yeah, and they're so Yeah they're sleek and they look intelligent and I don't know, they're I guess it's the whole like binocular vision thing. Yeah he he doesn't look that smart. He's a I dunno um they're I think it's cool the the um the interaction that or the th things that the reasons people seem to like you know you get ex you know people are sitting on the beach and p they're like oh look there's dolphins and it's kinda like but they're you know they jump around in the water and they're happy and they're mammals, but they swim. And the pen's dying. Horse. And furry. Textile tactile, tactile remote control. You're dragging a you have a tail. Sorry can you just say that what's the what are our price goals again? Okay. I was thinking that too. I think we should design something that has like a so you can like somehow like you I mean you always know where your T\_V\_ is, so just have a call button, I've always wanted that, so like you can push a button on your T\_V\_ Yeah, yeah yeah yeah, so you should have a call button on your television to be able to find your remote control. Yeah. Yeah. Yeah. I don't yeah I mean it but like I mean just I mean like your phone even just has so like it can vibrate, it can light up and make noise and I dunno. Yeah. Yeah, or if it had a yeah. Yeah, I mean Yeah. Yeah, in in the couch. I dunno, it seems like though that that would be hard, 'cause you not you're not gonna be lazy anyway and Yeah so we the project is now couches and remote controls. Yeah. Yeah. Bigger. Hand-sized. It can't be that hard to put some kind of a noise on it. Or like or like a light thing. You know. I dunno. Yeah. Or make it mobile so it runs around and comes come find you yeah. That would be really I'm sure we could do that for twenty five Euros a pop. Yeah. Uh. I also think though that it shouldn't have too many buttons, 'cause I hate that when they have too many buttons and I mean I know it has to have enough functions but like, I don't know you, just have like eight thousand buttons and you're like, no, you never use half of them. So. That would be cool. Yeah. I mean it just seems like yeah. I guess they would go together somehow? I dunno. I'm thinking kind of Or like you h you see those you know people I'm thinking of like celebrity cribs kind of things when like they have all those these things that at their house you know their their entire house is so electronic, and they have like this one master control that and it's like a hand held like turns on everything sort of control and it has like a screen and like so I think it should be possible to have some kind of a screen, I don't know if it must be it would probably must be ex too expensive though t like I dunno. Yeah, yeah. Yeah that's true. Mm. Well, I guess we have to get to that later, yeah. Furry. Yeah. Mm, mm. Yeah. That's me. Uh, User Interface design. So technical function. What is technical functions exactl I I don't really know what It does but it I just don't really Yeah. What effect should the thing ha should it have, okay. Alright. And w

orking design. Okay. Yeah, yeah. Alright. And how it works, okay. Right. I'm I'm on task. I'm Krista and I'm the Industrial Designer. Suppose I can draw an animal, yeah. Yeah. I don't know. They sleep all day, they're easy to draw. I think the pen is running out of Two million. Oh, yeah. Well that's why it's always in the couch. No it really wouldn't be. Yeah, I agree. B\_ button and the F\_ button, they don't do anything. Yeah I think so. User. The working design is the structure. Um. It was in the email. I wrote down what mine were. Marketing.

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# Meeting ID: 59

Data Source: Train

## Executive Summary

welcome everyone to our next meeting . but um I've prepared a little presentation once again um or at least an agenda I think uh the biggest part of the presentation will be uh on your side . Um we are here at the conceptual design meeting , which is hereby opened . Um today we once again have uh three presentations , if I'm right , and after that we will take a decision on the remote control concepts . Um once again I will try to uh write some minutes I'd say let's start with the first presentation . Um in the same order as last time ? Components design , first of all I've uh d subtracted some of the components that is that are used uh are w w um you know from what uh the remote control's formed . Uh first of all , the case , the case , the surrounding of the of the the remote control . the case was is made from rubber , I suppose . because when you use a remote control a lot of people uh will uh will uh drop their remote control the uh titanium was also an option . But uh it's a very expensive material . Uh rubber is , I think , uh the best suitable uh material uh to use uh for our uh Um it's poss it's also possible to uh create fancy colours with rubber . Uh titanium uh you have to paint it Um I h I had an idea single covered uh curved , sorry , single curved . it's t two dimensional . I think it's uh it's best to draw I thought of an idea like this . So it also looks nice when it's on your table . uh it doesn't lay flat down on the table , but it's c it's stands . Um the graphical user interface and the buttons , uh we also thought about that already . Uh I thought about uh the L\_C\_D\_ touch screen , And um it should be made of strong plastic and it should be bright . uh this should uh be uh our uh button component . Uh the batteries , uh we also thought about that already , uh will be chargeable with uh uh an option for a mount station And they should be long lasting , not uh not be empty uh in about uh two minutes or uh thirty minutes or forty minutes of use . Uh there was an option to use s a rather simple chip but I think uh because uh of our uh highly uh requiring uh requirements , there should be an advanced chip in it with uh also the ability to uh facilitate speaker speech recognition there should be some more uh investigation on that side . I also overheard in the last meeting that there shou we should use uh our own business colours . I think they are rather boring for um for use with rubber . but I don't think you have to make the entire thing in the corporate colour . We could make a little R\_ and R\_ on the top of the machine . I suggest , because just the availability with rubber to make fantastic colours uh and also in a lot of possible colours , so it's possible to make very uh fancy uh remote controls but i if you drop it it's not uh broken uh right away s instead of using uh plastic , hard plastic or uh titanium . Uh s as I said uh before rubber is uh is impossible to damage severely I thought a

little bit about the interface . Uh how it should look . And uh uh we uh determined that will not be no buttons , but only an L\_C\_D\_ screen , Uh first there are some new findings and new technology for speech recognition . And this is that uh um uh uh you you ask you give a question through through the device and it answers you . And they already uh put this in an in a coffee maker . This uh and there's an easy way to uh program that Um perhaps it's useful , perhaps for because people um lose the remote , they can yell uh remote where are you and calls or something . And then I have to go out of the presentation because I tried to make some kind of a idea of how it should look like And perhaps we could uh implement that . I tried to uh the L\_C\_D\_ screen I tried to sort of to draw . I thought uh at least uh the icon for the volume . and then the buttons above and uh below the and the and the mute button also recognisable as an icon . I think it's not really on scale and and so forth . Um an options button . It's uh options is the settings of the remote and of the T\_V\_ and that kind of uh thing . Perhaps we could be more curvy the remote perhaps should , so that it's better in your hand or something uh . But uh and and uh a microph microphone for the speech uh recognition if we want to implement that . Uh and then uh if you press the op options button , now we have an example of and then you should get the other options with what what you could do And uh it's also uh I thought think we discussed uh earlier that uh older people don't really want to use uh these extra settings . And you could put in a an a really s little scrolling device on the side of your uh remote , so you could scroll scroll uh across these uh things . I'm going to tell you something about a trend watching . The trends from the past years , what the people like , what the youngsters like , what the elderly people liked about shapes , colours , material and stuff . The most important thing people liked last year was that the remote control should be look look fancy . The second important thing that w should be if inv in innov innovative , like the L\_C\_D\_ screen that's quite innovative And the third thing is it should be easy to use . I think with only one menu , four button , channel , volume , it should also be enough for easy to use . The personal preferences for the young people , they liked fruity colours like uh banana yellow , uh strawberry red and stuff . The round shapes , and soft material m materials like the rubber . It should be soft uh i it should feeling spongy or s Sponge Bob like things . Elderly people like au colours which y are being seen in autumn like um woods um dark brown , red , deep reds and stuff . They liked square shapes with round edges . And hard materials like wood , um titanium . And then I th I I personally thought the front side of the shape should be something for the youngsters like like It's it's a bit like a banana . And for the elderly people just plain old . We should decide whether it's going to be with round shapes . Because we decided to have two kind of remotes , two designs , or was it two colours ? I think like my colleague , you said , is that's e better , or for the elderly people something like like the iPod or something , with round squares . You could you could uh change the colours , that was also the idea . I guess changing colours will be easier than changing uh Changing just the shape of the uh remote control ? Perhaps you could find something in the middle . round corners , but s but square , yeah . But maybe then both groups won't buy it . and the L\_C\_D\_ screen was uh rather small . Um . w I think that L\_C\_D\_ screen should be like but I think it should be larger . Yeah , three quarters . Larger I think . Looks a bit like a Game Boy now . So it's a bit square , but it's also a bit uh round . Uh Look something like that . Autumn colours like red , brown . So maybe we could give it like wooden loo look look or something in that colour . between the young people ? Fresh , exciting . And the old people , old and boring . like I said , young people like more soft materials and spongy ones So we have to decide if we're going to use

real hard rubber , or soft rubber . Or something something between that . Soft rubber . like like like a a eraser or something . That's the bit you can press it in , Yeah it's quite hard but you can press it in . So we should first decide about shape , I think . but if yo if you make the the L\_C\_D\_ screen as large as the remote control itself , uh you'll you'll always get some You always touch it , because you have how much ? Nine ten eleven twelve thirteen fourteen fifteen buttons on the screen . Because some fat people with d thick fingers will press three buttons at same time . And we won't include a a pen , or something to point , we we want to do it with our fingers , Because if you lose the pen uh if you lose the pen uh you can't use Yeah o yeah , if they think it's handy to use a pen . And maybe we have to add a tissue to remove the grease from all the fingers , huh . but that that can be with plain soft tissue . maybe I should uh should show some points on which we uh should take a decision . So we can discuss these points . those points um energy question mark . are we going to do it with separate docking station Uh chip on print and case . I think energy were batteries The docking station . Maybe it's better to to include rechargeable batteries We already decided that on the previous meeting . which you can recharge through the docking station . if the badg the batteries are dead then you can re you can uh change them . but it should be th I think normal batteries , normal plain batteries you can buy at the supermarket or retail shop . Yeah . Um what was with the chip on print ? Chip on print with a with a simple uh a sim not a simple but a but how did this how does that with a L\_C\_D\_ screen ? You still have a print plate . I dunno what w what we have to decide about that . chip on print , I think what they mean uh with the regular rubber buttons that you got , uh it's always clear for the remote control when you press uh a certain button . But when you got a L\_C\_D\_ screen , with no uh with not the buttons are not always on the same place , but the p print plate of L\_ L\_C\_D\_ screen is more advanced than a normal print plate , you need some kind of C\_P\_U\_ , I guess . Mm , I don't I dunno I don't think that's Yeah , it's quite a simple L\_C\_D\_ screen . I think they don't need that big of C\_P\_U\_ . but it the the remote control has to know whether you're in a settings menu or just uh you just want to turn up the volume . So it has to have some kind of a calculation unit or C\_P\_U\_ . Because we're projecting projecting the buttons on the L\_C\_D\_ screen . we wanted to make it from rubber but but a hard rubber like this ? Or softer rubber And the case , yeah we already discussed the case , Uh hard rubber I think . We have different colours . the shapes is something between the square shapes with round colo corners and a round shapes ? I think it's more round than square . But I think it should be a bit longer , perhaps . I think it meets more the young people than the older people . But that's what we want , . and how about my idea uh of making it um with one single curve ? I thought that was a quite good Uh got a single curved uh rubber you c you can draw it on your paper And load it on the the user the server . there are also some some questions uh about the concepts I think what we should also have on , I just remembered , um a menu to go back through the first uh if if you touch options , you can't go back to this uh right away now . Isn't it better to have the sound and the general buttons horizontal ? If you make the screen vertical it doesn't matter . I think it's it's easier to have it something like Oh a button uh minus here , plus over here . A minus here , plus over here . The other buttons and on here the top . I think I would put a plus and a min uh here . And then the P\_ in the mid in the middle We'll leave that to the usability engineering then . But I'm going to look if I've got some examples So not how much n not how often it's used , but W what's what's usual or normal . because I have two televisions at home . One is horizontal , one is vertical , it does it doesn't really matter , I think we have we don't have to decide about

that now And the speech uh shall we implement that ? But then you should also find a place You could if you do it like this you could put it in a corner or something . you can make a very sensitive microphone , maybe at the bottom where you can can hel hold it with you hand that there's also a microphone uh But that's not import I think that's not im very important You could p you could put it in a logo of the company . between the round of the R\_ . but it doesn't makes it uh any more fancy because you get to see uh just 'cause other remotes don't have that . because a microphone is very small thing , but you can make it look like it's big so as its its really an important function of the remote . we already s discussed that , huh , the the L\_C\_D\_ Interface type . I think it's better to just up what you'd like to do on the screen . If you want to go back you have to back button go back , if you want to choose audio settings you press audio settings and it goes to that s sub-menu . the the young people do like uh scroll uh and I think you can never get through a menu great with a scroll uh I think the scroll's easier if you have a lot of options , you get w when you use uh the settings menu for example to look up some uh uh some channels on your uh on your television , you should scroll scroll down uh on a menu which probably does not fit on your screen . there's our five minutes uh warning . So then it's uh very handy to to scroll down , And I think I would it would make even more fancy because you have another interesting thing on the side what's the standard colour ? we have different colour . You should you should have a black one because uh I think black is standard . Dark grey , something like this this colour or something . I think it's better to have silver nowadays . Yeah the the silver black are our main colours . Yeah . w what about a yellow thing , it'll be a banana yellow , we have . Green , wood , brown . But if you use uh silver , uh rubber s silver rubber isn't fancy . I would think about colours like uh red , yellow , green , blue , The fruity colours and the autumn colours , like red and brown , dark red and brown . And and do we have to have a normal black one , or uh uh that wraps it up ? I wrote it down here . I wrote it down here what to do um . Everybody knows uh what to do ? The next meeting is once again in thirty minutes . and especially notice that uh the Industrial Designer and the User Interface Designer are going to work together on a prototype drawing on a smart board , and of course to all four of us uh specific instructions will be emailed by our personal coach . but do we have to stay here , I l'd say just wait uh for email and uh find out .

## Complete Meeting Transcript

'Kay. Don't destroy my giraffe. Drop it. Bright colour. Fancy colour. Forward. You have to go t Oh it's a side view. True. No no no no no. Just looking. Mm mm mm. Next. It's true. P\_ yeah, just a P\_. Where's where's the button for two? Okay. Doesn't matter. No. Okay. Okay, I'm going to tell you something about a trend watching. The trends from the past years, what the people like, what the youngsters like, what the elderly people liked about shapes, colours, material and stuff. 'Kay. The method I used was Like I told I watched the trends from the past years about colours, shapes, material they wanted uh from elderly and young people. So we can keep that in mind for designing f uh the device itself. Findings I made. The most important thing people liked last year was that the remote control should be look look fancy. The second important thing that w should be if inv in innov innovative, okay, like the L\_C\_D\_ screen that's quite innovative so that should be great meeting for this. And the third thing is it



should be easy to use. I think with only one menu, four button, channel, volume, it should also be enough for easy to use. The personal preferences for the young people, they liked fruity colours like uh banana yellow, uh strawberry red and stuff. Yeah. Like that. The round shapes, and soft material materials like the rubber. It should be soft uh i it should feeling spongy or s Sponge Bob like things. Th Elderly people like au colours which y are being seen in autumn like um woods um dark brown, red, deep reds and stuff. They liked square shapes with round edges. And hard materials like wood, um titanium. They those kind of materials they liked. This is a bit like the young peoples like the fruity colours, innovative, all the colours you see, the blue, the red, the white, the yellow, that stuff. And then I th I I personally thought the front side of the shape should be something for the youngsters like like this or something. It's it's a bit like a banana. And the colour should be yellow, or something. And for the elderly people just plain old. Because we decided to have two kind of remotes, two designs, or was it two colours? Different colours, yeah. We should decide whether it's going to be with round shapes. I think like my colleague, you said, is that's e better, or for the elderly people something like like the iPod or something, with round squares. Simple but easy to use. So that's it. That is my Yeah, like the older o older colours I can maybe Yeah. Colours th the elderly people Uh Look something like that. Autumn colours like red, brown. They liked the wood a lot. So maybe we could give it like wooden loo look look or something in that colour. And a bit bit old school style renaissance, medieval kind of things. Those kind of Yeah, those kind of things. So you see the big difference between the young people? Fresh, exciting. And the old people, old and boring. So Sorry? Yeah I think it's it's easier to do in colour than in shape. Because otherwise we have to get different shapes, and colour way easier than yeah the shapes. In material yeah rubber, rubber is, like I said, young people like more soft materials and spongy ones and the old people like plain wood. So we have to decide if we're going to use real hard rubber, or soft rubber. Or something something between that. Yeah soft rubber which you can you can feel in it. Or No. Or or wh what's something harder. No no no but but you have to like like like a a eraser or something. That's the bit you can press it in, or something harder. Yeah, something like this, yeah. Yeah it's quite hard but you can press it in. It's feels kind s spongy. Something. No. N n n Are you going to invite Sponge Bob, maybe he can Yeah I think that's the better thing to do. Yeah w I think that L\_C\_D\_ screen should be like Yeah three quarter of the of the Yeah the buttons won't get that small when the L\_C\_D\_ screen is Mm-hmm. Larger I think. Yeah becau because you have Yeah okay, true, true,

true true. Yeah. Yeah yeah yeah yeah. But it won't get that small because you have how much? Nine ten eleven twelve thirteen fourteen fifteen buttons on the screen. One to zero, the two digit, You have to you have to Because some fat people with d thick fingers will press three buttons at same time. Yeah true, but Yeah, we have we have the zoom option, right? Yeah. Yeah. No. Yeah. Yeah. Use a pen You you c you can lose the pen. Yeah the fingers, yeah. Yeah but that that can be with plain soft tissue. Yeah, you can buy those at Maybe it's better to to include rechargeable batteries which you can recharge through the docking station. So if the badg the batteries are dead then you can re you can uh change them. Yeah yeah yeah like those. Yep. Yeah, normal plain you No normal plain batteries you can buy at the supermarket or retail shop. Yeah. Print plate. Yeah yeah yeah. You always have a print plate. You always have a print plate, right? Always, so I dunno what w what we have to decide about that. Yeah, okay. But Yeah okay, but the p print plate of L\_ L\_C\_D\_ screen is more advanced than a normal print plate, so that that's not of any discussion, I think. Mm, I don't I dunno I don't think that's Yeah yeah okay but I d I I don't know if nor o s it's quite a simple L\_C\_D\_. Yeah, it's quite a simple L\_C\_D\_ screen. I think they don't need that big of C\_P\_U\_. Yeah, okay, true true. True. Yeah. We have

different colours. So the shapes is something between the square shapes with round corners and a round shapes? No I don't think, I think it's more round than square. So it meets I think it meets more the young people than the older people. Yeah, that's our target. Yeah. Lower than forty years, I think it was. Oh yeah that that I think I thought that was a quite good Yeah. You can put it on your table with the L\_C\_D\_ screen, you don't have to put it get it in your hand, you can put it next to you and then dive it in and. Yeah. So You can't you You can't oh, you c you can draw it on your paper and then load it on the And load it on the the user the server. Mm-hmm. Yeah, you have to go back. Yeah uh uh. Isn't it better to have the sound and the general buttons horizontal? With the minus and the plus. I think it's easier than Yeah. For sound and channel. Yeah. I think it's it's easier to have it something like Oh a button uh minus here, plus over here. A minus here, plus over here. And on here. The other buttons and on here the top. The options and then you have something like uh the P\_ over here, and the sound. Something uh Something like Sh Plus minus plus uh minus. Yeah I think you're going to s you're going to use it with one thumb. Who's the usability engineering? She is. Oh. Um Oh I have that those s numbers. Or a good watch. B Channel selection. Per hour one hundred and sixty eight. Volume selection four times an hour Uh Yeah, that depends on on on the remote. I think because I have two televisions at home. One is horizontal, one is vertical, so it depends. Yeah. Depends. Yeah, lower. True. It's got to change. Yeah is it is user interface. Component. Yeah I think it's it's easy for that, where are you, but then it says I'm here. Yeah. Yeah, a microphone, yeah. Um I think where it isn't seen the most. Inside. Yeah. I i between the round of the R\_. Yeah. Yeah, okay. Yeah. Yeah bu but I think the left s under corner should be the best. Where isn't i it isn't most in sight. I think. No. Actually doesn't. I think I thought the, like you said, like scroll next to the remote isn't that handy. I think it's better to just up what you'd like to do on the screen. If you want to go back you have to back button go back, if you want to choose audio settings you press audio settings and it goes to that s sub-menu. Yeah? You do like it? Yeah I think it is is faster. Becau I think the scroll's easier if you have a lot of options, but if you don't have a lot of option then Y Uh-huh. Yeah, okay, true. Okay. Okay, no problem. Okay. Um. No, colours are clear, shape is clear, material is clear. And a standard, yeah we don't no we have different colour. How many colours are we going to Black. Yeah, black I think is is the standard. Dark grey, something like this this colour or something. Yeah like like yeah. Or or silver. I think it's better to have silver nowadays. I think you see more silver than black. Yeah the the silver black are our main colours. Yeah. I think we have silver, black and between those is like I dunno s five colours between them or something. Yeah yeah yeah it'll be a banana yellow, we have. R red. Green, wood, brown. Yeah. True. Yeah, I understand. Yeah o of course. The fruity colours and the autumn colours, like red and brown, dark red and brown. No. S tough. We'll be available. No. Finished. Mm. Alright. Hmm. It's a colour. No. You can put the R\_ and R\_. Alright. I will go next. Alright so I thought a little bit about the interface. Uh how it should look. And uh uh we uh determined that will not be no buttons, but only an L\_C\_D\_ screen, so I had to uh look on that. And the design is therefore based on what we just uh uh thought of. Uh first there are some new findings and new technology for speech recognition. And this is that uh um uh uh you you ask you give a question through through the device and it answers you. And they already uh put this in an in a coffee maker. And so that it you say uh good morning, uh coffee maker, and it says t says to you back good morning Joe or what's your name. This uh and there's an easy way to uh program that uh you say record into the device into the speaker and then you say the question and three seconds later you say the answer and then when you say the question it gives you the answer. Um perhaps it's useful, perhaps for because people um lose the remote, they can yell uh remote where are you and calls or something. And perhaps we could uh implement that. And then I have to go out of

the presentation because I tried to make some kind of a a idea of how it should look like but I can't draw, so uh don't make too much of it. I tried to uh the L\_C\_D\_ screen I tried to sort of to draw. I thought uh at least uh the icon for the volume. I don't know if there is an icon for the program, but yeah. So uh and then the buttons above and uh below the and the and the mute button also recognisable as an icon. Um. I forgot that one. I thought I forgot something, but uh. And uh and uh the numbers, that should be a bit larger I think it's not really on scale and and so forth. Um an options button. And I thought the the button for teletext apar uh apart because it's not really options, I think. It's uh options is the settings of the remote and of the T\_V\_ and that kind of uh thing. So could call it settings or something. But this is a bit uh how I thought it. And uh the L\_C\_D\_ uh somewhere on the remote. Perhaps we could be more curvy the remote perhaps should, so that it's better in your hand or something uh. But uh and and uh a microph microphone for the speech uh recognition if we want to implement that. Uh and then uh if you press the op options button, now we have an example of and then you should get the other options with what what you could do and that you could do with something like this this. And uh it's also uh I thought think we discussed uh earlier that uh older people don't really want to use uh these extra settings. And older people a also don't really want to use this uh th this kind of option menus. So they want to u use one button and then something happens, and not choose with uh this kind of uh And you could put in a an a really s little scrolling device on the side of your uh remote, so you could scroll scroll uh across these uh things. That's an option. And that was my uh finding dinge. Yeah. Grass green. Let's build it into a sponge. It was one remote, I think, different colours. You could you could uh change the colours, that was also the idea. I don't know which shape you should should take, but. Yeah. Perh

aps you could find something in the middle. Round but square. Yeah. Uh i i if you do it uh uh square, with round corners but a little uh in the middle of it uh i Do you know what I mean? wait, like like this uh a bit. So it's a bit square, but it's also a bit uh round. So but then Same sides. But that's uh Yeah but that's also how other remotes are shaped, so that's uh But perhaps that's a good thing, so that's easy to use. People know the Yeah. Yeah. Yeah. Yeah. Swords. Yeah. But that's easily to do with the colour, I think. That's easy to do with the colours, I think. Yeah. Yeah. Yeah think uh Also in between. I don't think you should be able to mould it, but Yeah. Bit like this kind of rubber. This uh But it's quite hard, this. Yeah. I don't think it's rubber. Uh did you have something about uh So we should first decide about shape, I think. Which uh Then you can fit the L\_C\_D\_ screen in it, and can decide uh. Yeah it's supposed to be bit s bit s bit Yeah. Ooh Yeah. But if you pu Now you can put your hand there and then you won't touch the screen. Perhaps that's best. But not on the screen because Yeah that's uh that's an idea. Looks a bit like a Game Boy now. You always touch it, yeah. Yeah. Y you could include a pen. Yeah o yeah, if they think it's handy to use a pen. Yeah I think this uh this is a good size for the screen. I don't know how how large the actual remote should be but a little bit like this, or something. Yeah. I think energy were batteries and then uh and uh Yeah. Yeah. Yeah. Yeah. Just like with the telephone. but it should be th I think normal batteries, not not like two or two uh Yeah. Yeah. Um what was with the chip on print? Yeah. It's rubber. Yeah but but a hard rubber like this? Or softer rubber or Yeah. It bounces back from the floor where you throw it. Yeah yeah this in different colours? Yeah it's a bit. But I think it should be a bit longer, perhaps. Yeah. I think so too. Yeah. Yeah. Yeah. Yeah, that's a good idea. Yeah, alright. And then Yeah, you can uh It's pretty easy but And Yeah, I had what I just uh I should again. I miss a few buttons, but. Well. At least uh what we should also have on, I just remembered, um a menu to go back through the first uh if if you touch options, you can't go back to this uh right away now. This I don't know. I think it's I don't know. I I thought it was uh easier to handle this

way, but I don't know what they think. Would you like the the buttons horizontal or v vertical? Th Right well if we make it like this, I think if you put it like this Yeah. Yeah. But I think I wou I think that's a matter of what you're used to. I think I would put a plus and a min uh here. And then the P\_ in the mid in the middle and the sound uh in the middle. Almost. Yeah but I think when you are holding it, you could press the minus and the plus and with the other finger the minus and the plus. Yeah but I think Yeah I don't know. Perhaps I have some examples. I don't know That's me. But I'm going to look if I've got some examples 'cause perhaps you should choose what's most often used. The 'Cause they can use that better. Yeah. I Here is our here are uh I don't really know. Yeah. Yeah but But I mean if it's usually plus or min above each other or next to each other on a normal remote. W what's what's usual or normal. Yes I'm looking here. But here's it's below, here also, and now here's here's next to each other. I think it's it's a Yeah. I think the the the volume was usually uh above each other, because you go higher and down. And the the pay the the the program is next to each other, because you would go further and back. That's how it's usually when I look here that's what I see. I don't know. Yeah. This concept is in the actual design, but you should know where you would place a And the speech uh shall we implement that? Or uh Yeah. But then you should also find a place You could if you do it like this you could put it in a corner or something. You can talk into the corner. Y

eah. Yeah. But Yeah, that's also. So, in the middle or something. but you should uh decide where you want to put it. Right? You could p you could put it in a logo of the company. Yeah. Yeah. So where do you want to put it? Yeah actually it does because it you can you can find it better if you use it. It's a way for you to uh So it makes more sense just 'cause other remotes don't have that. About a microphone, there is no button. Yeah. Yeah. Alright. Any more uh Yeah. Yeah. Yeah. Um yeah. Yeah the the young people do like uh scroll uh yeah. Or at least Yeah I don't know if it's really the scroll, but the menu they like most, and I think you can never get through a menu great with a scroll uh But you have it's f uh we have five or four or something. Yeah. Yeah. It's also different. You should you should have a black one because uh I think black is standard. But if you want to be different, then uh Silver. Silver rubber. But yeah. Yeah. Yeah. Just all kind of colour. Yeah. And and do we have to have a normal black one, or uh Is it Yeah. Well I don't know what to do, but. Ooh. Right. Yeah. But do we have to We'll work together, but do we have to stay here, or do we Right. Yes. Okay. Yeah I think. No. Yeah. So we have to keep talking English now? Okay, welcome everyone to our next meeting. I'm busy writing and busy leading the meeting, but um I've prepared a little presentation once again um or at least an agenda I think uh the biggest part of the presentation will be uh on your side. Um we are here at the conceptual design meeting, which is hereby opened. Um once again I will try to uh write some minutes which I just from the previous meeting uh placed inside our project folder, which was quite some typing. Um today we once again have uh three presentations, if I'm right, and after that we will take a decision on the remote control concepts. And just as the last time we have forty minutes to accomplish that. Okay, well I'd say let's start with the first presentation. Um in the same order as last time? Okay. Well, take it away. Mm-hmm. Well, business colours I thought it was the the slogan and uh the corporate image, so yeah, it needs colour, but I don't think you have to make the entire thing in the corporate colour. It must be recognisable. Okay, thank you. Mm. Mm-hmm. Thanks. Now our third team member with his presentation. Oh y So for the older people, a more traditional uh form. Yeah, I guess changing colours will be easier than changing uh the shape of it. But maybe then both groups won't buy it. Mm-hmm. Yeah we think so too. Hmm. So we need a spongy feeling. Yeah. And we won't include a a pen, or something to point, hey, we we want to do it with our fingers, right? Yeah. Yeah but I think people want to use a remote with with their fingers because th they're used to that and And maybe we have to add a

tissue to remove the grease from all the fingers, huh. Okay well maybe, if I can interrupt you, maybe I should uh should show some points on which we uh should take a decision. So we can discuss these points. those points um energy question mark. How how should we uh supply the thing with energy and how are we going to do it with separate docking station and then put in it. Uh chip on print and case. Those are points my uh coach advised me to discuss here, but I hope you have ideas about them. Yeah. So that's the the the first point. We already decided that on the previous meeting. Mm-hmm. Simple rechargeable uh batteries. Yeah but how did this how does that with a L\_C\_D\_ screen? You still have a print plate. Mm-hmm. Yeah well it's a good question. It just was in there and I didn't have any information about it, but Mm-hmm. Well you need some kind of C\_P\_U\_, I guess. Mm-hmm. Because we're projecting projecting the buttons on the L\_C\_D\_ screen. Yeah. Yeah. But that's what we want,. Mm-hmm. Yeah yeah you have a fancy design, then, right away. So Okay so Yeah but I wrote it down. What about the user interface, there are also some s

ome questions uh about the concepts I think you have some ideas on that. You you showed your drawing. Mm. Everybody's searching in his data. Yeah well I think we have we don't have to decide about that now how where we will put the buttons just the concepts. Yeah well we just heard about the new uh technology, huh? Mm-hmm. Yeah maybe at the bottom where you can can hel hold it with you hand that there's also a microphone uh over there. Yeah, yeah. Yeah. Well maybe just in the the spot you just pointed out because I think it should be in a in an important position where people can see it, because it is the the unique uh idea of our remote, huh, the the speech control. Well maybe where the one hand But are we talking about the button, or about the microphone? Yeah because a microphone is very small thing, but you can make it look like it's big so as its its really an important function of the remote. So well uh type, supplements, anything. Yeah, well we already s discussed that, huh, the the L\_C\_D\_ and Mm-hmm. And I think I would it would make even more fancy because you have another interesting thing on the side which you can touch and Yeah. Okay. Well there's our five minutes uh warning. Um any more uh questions about about the design or the user interface or different components, everyone? Everybody think they can can work for that? Is there a standard colour? Yeah. But still silver and black are well silver is new but also traditional, so uh Yeah w what about a yellow thing, I mean it could be ugly, but it's definitely fancy. Mm-hmm. Yeah I would think about colours like uh red, yellow, green, blue, just Yeah. Mm-hmm. Maroon. Yeah. Okay, so Who's pingin? You are pingin Okay. I thought we Okay, so uh that wraps it up? Everybody knows uh what to do? Well I wrote it down here. I wrote it down here what to do um. The next meeting is once again in thirty minutes. Um here are the individual actions, and especially notice that uh the Industrial Designer and the User Interface Designer are going to work together on a prototype drawing on a smart board, and of course to all four of us uh specific instructions will be emailed by our personal coach. Well I I'd say just wait uh for email and uh find out. I don't know. Okay well that was what I had to say, uh, final thoughts from anyone, or? We're finished. Okay, well thank you very much. W sure. Okay uh welcome you all. Components design, um uh first of all uh I would like to uh uh accommodate some of those uh things I uh uh elaborate some of the things I did. I I elaborated on the concept. What should be um uh said about uh the components, uh its properties and what kind of materials should we use to uh to make uh one of those r remote controls. Uh well first of all I've uh d subtracted some of the components that is that are used uh are w w um you know from what uh the remote control's formed. Uh first of all, the case, the case, the surrounding of the of the the remote control. I would like to uh give you an idea of uh how I thought about. Giraffe's gone now. Okay um the case was is made from rubber, I suppose. There's one of the because when you use a remote control a lot of people uh will uh will uh drop their

remote control and they break uh becau the uh titanium was also an option. But uh it's a very expensive material. Uh rubber is, I think, uh the best suitable uh material uh to use uh for our uh for our remote control. Um it's poss it's also possible to uh create fancy colours with rubber. Uh rubber I makes it easy to uh to to it lets lets itself colour. Uh titanium uh you have to paint it and with that uh it's possible to scratch it or uh yeah make it ugly. Uh rubber uh the total uh piece of rubber that's sor uh that's that's used uh to make the case is uh the same colour, so if you scratch it it's still the same colour, perhaps uh it's a little bit damaged. But it's a very strong material. Um I h I had an idea single covered uh curved, sorry, single curved. Uh so it's t two

dimensional. I think it's uh it's best to draw oh green. Uh New. Blank. Okay. Let's make it uh black. Okay. I thought of an idea like this. Oh that. Um delete. Blank. Okay. So it also looks nice when it's on your table. So you get uh it doesn't lay flat down on the table, but it's c it's stands. Side view yes it's side view so uh I I'm not technically good at th three D\_ modelling, but. Um uh it's just an idea I had so it's uh it's very uh so its also looks nice when it's on the table. Um the graphical user interface and the buttons, uh we also thought about that already. Uh I thought about uh the L\_C\_D\_ touch screen, which is uh is easy to clean too. One of the great uh advantages of the L\_C\_D\_ screen you just use some or uh another uh cleaning uh uh cl some cleaning stuff. And um it should be made of strong plastic and it should be bright. Well I already uh s uh explained some properties of that material and I think uh well we also we almost concluded about that uh this should uh be uh our uh button component. So uh uh that's all about uh the buttons. Uh the batteries, uh we also thought about that already, uh will be chargeable with uh uh an option for a mount station so you can uh put the uh the remote control in a mount station so its charges itself up instead of uh plugging it in or something like that. Questions,? Okay. And they should be long lasting, not uh not be empty uh in about uh two minutes or uh thirty minutes or forty minutes of use. And next step is the chip uh th the component that's uh makes or transmits the signal to the television. Uh there was an option to use s a rather simple chip but I think uh because uh of our uh highly uh requiring uh requirements, there should be an advanced chip in it with uh also the ability to uh facilitate speaker speech recognition uh which unfortunately is still in a test phase, so uh there should be some more uh investigation on that side. Uh my personal preferences uh I also overheard in the last meeting that there shou we should use uh our own business colours. That was correct, wasn't it? Okay. I think they are rather boring for um for use with rubber. Okay they should be m sh they should be in mind, wasn't it? Okay so it d it doesn't says uh to uh have the slogan? Okay okay. Well that's possible of course. We could make a little R\_ and R\_ on the top of the machine. Uh so they are pretty boring, I suggest, because just the availability with rubber to make fantastic colours uh and also in a lot of possible colours, so it's possible to make very uh fancy uh remote controls which peopl uh who people in which people will find they're uh interesting. And uh will buy uh them faster when they look at the same old grey or black uh colours. Uh s as I said uh before rubber is uh is impossible to damage severely imp instead of uh of course you can break it when you you when you break it in s for example with a pair of scissors or something like that, but i if you drop it it's not uh broken uh right away s instead of using uh plastic, hard plastic or uh titanium. And I personally liked uh the single curved uh remote control, because it yeah it makes sense. Okay. Well that's all about my uh my findings. Mm. Mm. Mm. Oh my God. Not just a P\_. Oh okay. ... Ah. Mm-hmm. Yep. Oh okay, yeah. Oh yeah,. Mm. Okay. Go Danny, go Danny. Fruity? Fruity. Mm. Okay. Mm. Okay. Changing just the shape of the uh remote control? Yeah, s round corners, but s but square, yeah. Yeah. Yeah I know what you mean, kind of like a. Yeah. Kinda like a beer glass. Yeah. I know what you mean. It's also easy to to have to to put in your hand. Yeah. Will recognise that's as a remote control. Uh when I saw

your d Oh. Huh. Yeah, kinda like old cars, uh Let's put it all together. Uh. Yeah. Soft rubber. Yeah I know what you Um. It should shouldn't be. Uh. Spongy. Yeah. Ding ding. Um I also s uh can't help but notice that you uh used an you had a remote control and the L\_C\_D\_ screen was uh rather small. Um. ... This was y

our size, but I think it should be larger. Yeah, three quarters. So uh so you don't have to put your oh. Uh new, blank. So uh when you get this uh Uh kinda like this. Or should it be larger? Larger? Because you want to put your hands You want Yeah. Your thumb here. Yeah. Because when you put your f Yeah but if yo if you make the the L\_C\_D\_ screen as large as the remote control itself, uh you'll you'll always get some You Yeah. Going to be very greasy and stuff. Yeah you don't want it too small. How yeah how large Yeah they have thick fingers. But if you wanna make it in international, Japanese uh people got uh rather small hands and we got these large Zoom opt Ah yeah of course, yeah. You can make it larger to to uh to uh with accompanying uh greater fields to push the button. Your fingers, yeah. You don't want uh Because if you lose the pen uh if you lose the pen uh you can't use Yeah You can do whatever uh any uh cloth. Sure. The docking station. W Yeah. I kinda like your Yeah you got some uh some of those uh uh wireless uh mice? Mouse. Computer mouse. Kinda like those kind of batteries. Yeah. The chip on print? Um Uh you gotta f Yeah. I think so. Chip on print with a with a simple uh a sim not a simple but a We also discussed that. Didn't we? Uh Beg your pardon? Yeah sure, of course, yeah. Well uh chip on print, I think what they mean uh with the regular rubber buttons that you got, uh it's always clear for the remote control when you press uh a certain button. But when you got a L\_C\_D\_ screen, with no uh with not the buttons are not always on the same place, for example if you enlarge a button, or if you got several options uh appearing on your screen, uh the co-ordinations aren't always the same. When you got a regular button, th the button of stand-by is always on the same place and you got on the and on the Yeah. I suppose so. It is a simple C\_P\_U\_ but it doesn't Yeah because it has to uh b Yeah but it the the remote control has to know whether you're in a settings menu or just uh you just want to turn up the volume. So it has to have some kind of a calculation unit or C\_P\_U\_ to know uh in which state you are and uh which button you are pressing in at the right moment. Yeah. And a touch screen makes it uh possible to uh to get the co-ordination of your finger on the screen. And the case, yeah we already discussed the case, we wanted to make it from rubber and uh Uh hard rubber I think. That's the easy to ha uh to to uh Yeah. Yeah sure, look. D It's our main target. Well and how about my idea uh of making it um with one single curve? So i Because it's a gadget and you want to show it off, of course. Uh. Because it Yeah. Yeah. It's a lot easier. So, so you got uh Did you write that down? Uh got a single curved uh rubber f uh fancy coloured remote control. Yeah. Sorry? Depends on the screen. If you make the screen vertical it doesn't matter. If you make it uh in a rectangle I so it's it's it's it's Square. Oh, okay. Uh. Take your time. W We'll leave that to the usability engineering then. Yeah. Consistency. Yeah. So not how much n not how often it's used, but Uh. Yeah it does it doesn't really matter, but Uh. Okay, um. Let's cut to the chase. Okay, well le Yeah. Interface, yeah. Technologies, uh. Yeah. Makes it possible to Mm. Not even necessary, because a lotta you can make a very sensitive microphone, so it makes it possible to uh just put it arou uh underneath it or on the on the bottom of the uh remote. Yeah. Right. But that's not import I think that's not im very important because yeah, it doesn't matter where the microphone is. Ah okay, sure, okay, well tha Underneath? Indeed. It shouldn't be uh very uh visible. Yeah sure, why no Yeah but it doesn't makes it uh any more fancy because you get to see uh Uh. Yeah, okay. Okay. Well put it there. I don't mind. That doesn't doesn't really matter. Okay. So? Interface type. The L\_C\_D\_ yeah, uh supplements well the supplement is to yeah. Hey,. Use the scroll. Yeah I think so

too. So why not, on on side. Fast, yeah. So if you've got a settings, if you Yes. You have a lot of options, because when you use Yeah you get w when you use uh the settings menu for example to look up some uh uh some channels on your uh on your television, you should scroll scroll down uh on a menu which probably does not fit on your screen. So then it's uh very handy to to scroll down, you make just a rubber just like uh on your mouse or. Just put it on the side and it's very easy to use. Yeah, yeah. Yeah. Okay, what's the standard colour? I I You got you got different colours, but you should have a standard colour. Black? With the with the yellow uh Just a regular uh remote colour. And then have uh different covers uh to use. Silver, yeah. You see a lot of t uh silver televisions. Yeah y I think it's better to Yeah th yeah. That's right. But if you use uh silver, uh rubber s silver rubber isn't fancy. When you use titanium, silver is fancy, but when you use silver rubber, it isn't fancy. Silver has to shine, and rubber doesn't shine. Especially when it's made of soft rubber like this. You understand? Yeah. Fruity. Fruity loops. Okay. You ping. Well not what to do. Not what to do. Look. Okay. Thin I think we should work. Thank you very much.



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# Meeting ID: 47

Data Source: Train

## Executive Summary

The project manager opened the meeting and stated that the goal for the current meeting was to select a movie to screen. "The Usual Suspects" or "The Sixth Sense". Agnes discussed the plot, ratings, and reviews and awards of the films to defend her choices. Another team member proposed that the film club should select one of the seven movies he had selected. His selection of movies was based on rankings and awards. Among his selections were "Schindler's List", "The Usual Suspects", "Pulp Fiction", "Goodfellas", "Silence of the Lambs", and "American Beauty". Another team member proposed that the film club should screen "Saving Private Ryan", "Pulp Fiction", "The Silence of the Lambs", or "La Vita e Bella". Denis proposed that the club should screen "The Big Lebowski" and discussed with the team how to go about designing a poster. The team then decided which movie to screen, ultimately deciding upon "The Big Lebowski".

## Complete Meeting Transcript

Hi. Hi everyone. I haven't. Mm-hmm. Yes. So who who has what? Actually maybe um Uh-huh. What do you have, Mirek? Uh-huh. And I have a uh well just a a piece of paper with some suggestions. What about you, Denis? Uh-huh. should we start with the two presentations maybe? Yeah? Mm-hmm. No, I haven't seen it. Um. Mm-hmm. So w what what is this s the second image on the slide? Is it the the poster or Has a s it has a strange format, um horizontal and uh so it's one two three four five six. Mm-hmm. So it means restricted. Uh-huh. Yeah, because your table is only the nineties, yeah. Mm-hmm. Well W w No, no, actually if you look at your tables, I think it's a sort of uh well average between number of votes and and and uh yeah the the rating or th the marks, because there are in you table you have uh things that have very few votes but still are ranked quite high, for instance number twenty four, which has only four thousand votes But um yeah. Yeah. Maybe it's just the search is compensated a bit for the number of people, I I don't know actually. Because if you have just ten votes and yeah probably are not in the database. But yeah, anyway it has excellent votes. Haven't seen it, but Mm-hmm. Oh. Yep. Mm-hmm. The last sentence from the movie or oh. W Mm-hmm. Mm-hmm. So these guys were actually nominated, so the the bottom part of your slide, actually, it says yeah, so

these are the best awards they had. Okay. Too bad. Well there is just one winner, so. Uh-huh. Okay. Yeah, I think your table is very clear Denis. No, I haven't. Yeah. W what is the name in French, 'cause Uh-huh. Uh yeah. Yeah. Well, actually your third slide has the plot, so uh. Yeah. Oh yeah, exactly, yeah. So yeah, this guy is jailed, okay, uh-huh. Wow. Okay. Yeah. Yeah, I haven't seen I heard about it, but Mm-hmm. Yep. Yeah. Um I think there was a celebration of uh sixty years from the liberation of the camps, actually. Because they were liberated beginning forty five and uh yeah, it's not bad, and it's also I think it's a good idea at at least from my point of view it's coherent with the previous films, like history, im major events. I don't know if we want to keep this coherence, or change radically, but maybe yeah, that's yeah, I think it's a drawback uh. Well, of the seventeen eighties. Yeah. Maybe it's representative of a style of the eighties, I don't know. As for Amadeus, but uh that's I don't know. But Yeah, hard to tell. Mm-hmm. Yeah, it's funny actually um because on your on your slides actually the ratings are eight point seven for both. No they have the same, Usual Suspects and Pulp Fiction, both are at eight point seven, but on Denis's table uh this one is at eight point six. Who knows, maybe people voted for it, yeah. Could have changed in the meanwhile. Though with one hundred and thousand votes, it shouldn't change too much. I mean, given the number of votes, I wonder but anyway, it's m it may change I think, yeah. Okay. Wow. That's encouraging. No. Haven't. Uh I I've seen very few movies from the list, about ten out of the first fifty. Okay, yeah. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Yeah, I've seen it, this one. I I like it very much. I've actually seen it Well, it's plenty of well known songs and, you know, the twist thing and Oh I would keep it as a candidate, but I don't know, I think for the moment m m guess most of these are candidates, so we'll try to. Yeah, we should probably vote after everyone Yeah. Mm-hmm. Yeah. No. I you you recognise them, or you can read the the text on the images. Oh okay. Huh. Very well. Mm-hmm. Yeah. Mm. Okay. No, yeah, so probably not uh So Who is in prison, actually. Yeah. No no. He tries to decrypt the the the other killers' behaviour. Yeah. Well, not very nasty ones. Or does he, I don't know. Yeah. Yeah, that's basically the point, yeah. Mm-hmm. So on the picture you can see uh Jodie Foster and uh ha ha. Th th The Moth. Anthony Hopkins. The other one, I don't remember. We don't see any h see him very often. But it's Mm-h

mm. Yeah. But the plot is quite horrible. I mean the not the plot, but the what the the active killer wants to do is quite horrible and Mm. Okay. Yeah, I've seen it. I think I've seen it a second time on T\_V\_, but maybe not entirely. They're much too young. Indeed. I haven't seen it, but I would like to see it, so. Mm-hmm. Mm-hmm. So it's not very violent, really. Ah okay, great. Mm-hmm. Okay, yeah. Uh-huh. And what about the well that picture with the the girl and do you see naked people in the movie or is it about sex or something like that? Ah okay. Supposedly. Okay. Uh-huh. Okay. Mm-hmm. Mm-hmm. Yeah, I think it's a mixture of bringing new things to them, but also making them enjoy the show, so that they come to our movie club, so yeah, I think we shouldn't maybe do very mainstream movies, but well okay, the list here is quite uh Yeah. Yeah, I think also if you look at the number of votes here. Uh Yeah. Uh regarding the Denis's table I would say given that this site, I don't know if it's mainly American, but uh I would say that Yeah, I think mm yeah, it's English speaking anyway, so uh though so Yeah, but if you look at Yeah, but I would say mainstream are the ones that have more than, whatever, sixty thousand votes, and you can see some more, well, confidential films that have like ten thousand, twenty thousand, like mm Princess Mononoke, twenty thousand and uh, whatever, the the Kieslowski at eleven thousand, the Trois Couleurs Rouge. Yeah, it's not bad at all, yeah. So yeah, anyway, if you want a definition of mainstream or whatever. Mm-hmm. Yep. D uh Danish I think, it's the Dogma movement. Yeah. Yeah. Yeah, let's uh Yeah, so it's uh actually I have made I have made photocopies. I have them Denis, so it's all for you. Actually I I tried to propose just one movie with some alternates. Uh you want

one? Um so my proposal, which is only a proposal, would be to to keep the focus on um uh more or less history and action, so Lawrence of Arabia was, okay, about this guy during the first world war, so it happens, okay, outside Europe and the States, but uh it's a piece of history. Uh Apocalypse Now it's uh Vietnam, if I'm um correct and, okay, Amadeus, that's much uh much earlier and it's not about it's not violent, which is a nice thing I think. But um given that we would like a movie from the nineties, I thought the Saving Private Ryan oh thanks for projecting the document um would keep this more or less this theme of uh history and war and action drama, while showing actually a very new and I would say humanistic view on on war. Because it's it's not like the sort of glorification of uh, you know, the good guys that that uh well go against the Nazis, but uh it's uh it's well the plot actually if you don't know it It's about people looking for just one soldier, in fact it's um it's about a a family of four brothers, who actually three of them get killed during the war in these days of forty well, I guess summer forty four and the uh well the government decides that they need to get back the fourth brother just to save one member of the family. And this this guy is Private Ryan. So the movie is not about killing the Germans or whatever, it's about saving at least one guy from a family, so but of course the the setting is during the war and um it's very realistic and uh very dramatic in fact. It's um it's not at all a glorification of war but it's just uh it shows a bit uh the violence of um of the things. And especially the the beginning is uh I think it's great, it's it's very violent, but it's it's an image of of war. It's uh Yeah, but I think if mm well if you compare it with It yeah, it's the landing, and actually every more or less everyone gets killed and Oh I I didn't know, but yeah, actually it's very well filmed and it's very realistic, and I don't know if you compare with, I don't know, in Lawrence of Arabia I think they have some battles and camels. I know it's very nice, someone falls somewhere there and, well you k

now, it's like battles that look nice, but this one doesn't look nice, and I think it's uh it's also maybe representative of the nineties, you know, people starting to get the more uh realistic view of uh of of war. But it's true, it's it's a bit violent, and so what I put here it's a bit long too, it's nearly three hours. But uh I don't know, Apocalypse Now is quite long too I think I don't remember. Mm-hmm. Yeah. So it won uh five Oscar prizes, uh best director for Steven Spielberg, um best cinema cinematography, etcetera. Uh I don't know. Oh. Hmm. Mm-hmm. Um okay, so um yeah, that's that's the point, it's it's a bit grey, and actually if you look at my second page, uh in the trivia I found out that in fact they uh actually reduced the the colour saturation of the movie, just to make it look maybe a bit like the documentaries from the time. Yeah, I was very surprised to find this uh it's They they turned back the colours for uh Yeah. Yeah. So this uh fact number two I think obviously for I mean technical people like us is uh is is quite funny. So yeah, so I I mean these four points could serve also as an introduction if you want to talk f fo for fi five or ten minutes before the movie, I don't know, in in the room. So uh yeah, mm so tha this would be my candidate, but I'm very much open to Mm-hmm. Yeah, on th on yeah, on the picture actually yeah, it's Tom Hanks. In fact you you don't see uh Private Ryan until the end more or less, or you see mm because they they're looking for him, yeah. Mm-hmm. No, Tom Tom Yeah. Well the caption says Captain John Miller, so. So i if you look at the caption um yep. So he's uh he's Yeah, so the Private is just a simple soldier actually. Yeah. Uh who, Private Ryan or no no, they find him actually and they send him back to the family, but the Captain dies actually, Tom Han L Oh yeah, it's Private Ryan, yeah, remembering at the beginning. Mm-hmm. Mm-hmm. Yeah, exactly, yeah, he dies unfortunately. So yeah, there is sacrifices and Mm-hmm. Oh. Mm-hmm. Yeah, the German. Uh-huh. Yeah. Well I mean yeah, it has a moral dimension all over the movie, you know, saving the individual and the guys. So yeah, I I don't know. I don't know how many people have have seen it, well among you, well most of you actually. Oh all, okay, all of us. So maybe th people know it quite well. Yeah.

Okay, so yeah, so I have some other candidates, um it's on first page at the bottom. Uh I also put Pulp Fiction, uh The Silence of the Lambs and I also, well, sort of included La Vita e Bella, but I know we're an English movie club, so I guess it's um it's a bit out of purpose. But it Oh it's uh it's about again about the camps and the Second World War. So it's about uh a family of Italians which uh g arrives into a a death camp, and in fact it's treated in a more or less humorous mode, so um the father tries to hide from i from his boy that they are in a death camp, and it's this very strange mm well, not really humour, but relation between the uh how Well the boy gets saved, but the father dies. Yeah. So I don't know i it created some controversies I think, because people said you shouldn't do any form of humour related to the camps, but it's very very moving, so I think it's anyway um Italian, so. Yep. Yeah. Okay uh Denis. Haven't seen it, but uh I heard it's very funny. And I've seen some other films by by the Coen brothers. Yeah, which is in your table. Um the last one was the one with Catherine Zeta-Jones uh. Crue crue Yeah, something about cruelty or very funny. A movie or a novel? No, but they say that Raymond Chandler wrote the novel. You see, it's the the last but one paragraph on your second page. I think so. Mm. Um Y you wrote the paragraph on the poster? Okay. Could be edited a bit. Yeah. Yeah, there are two Lebowskis in the film. Mm-hmm. Yeah, there should be a reference there. Yeah. Mm-hmm. Yeah. It's probably a bit dark for a poster, but otherwise it's very nice. Mm-hmm. Mm-hmm. Mm-hmm. Oh okay, it's a dream. O

kay, sounds a bit crazy. Yeah. Hmm. Uh-huh. Yeah. I like it because it's not so dark, so the images are a bit um brighter. Yeah, yeah. Yeah. Mm-hmm. Yeah. Mm-hmm. Wh what about a brighter background, because this one, I don't know how it would show on a wall or something like this. It doesn't really catch your attention. 'Kay. Yeah. Mm. Yeah. Okay. Yeah. No, the content was very good in the second one. Th Yeah, all this information is very good. Mm-hmm. Oh or just one of them. Mm-hmm. Mm-hmm. Oh yeah. W I I would suggest if it's not too long, maybe each of us could nominate one or two movies. We make a list and then we vote. What do you think? So who wants so, Mirek, what do you nominate? You are? Okay. In the nominees, okay. Another nominee? Okay, Agnes, Usual Suspects. Mm-hmm. Yeah. Well you can nominate one or two, so that we or whatever. Um I would nominate, well okay, my candidate, Saving Private Ryan. And uh I'm happy with your nominations too. Uh I would nominate also Pulp Fiction, because it's a very good movie. Um Denis, so your yours is already nominated, but you want Yeah. Okay, so it's already on the list. Mm-hmm. Yeah, if you want. So so we have uh seven candidates. Um if you have a good short term memory that should be okay. Yeah. So uh Big Lebowski, Usual Suspects, Saving Private Ryan, Pulp Fiction, American Beauty, Schindler's List and Silence of the Lambs. So now let's vote. Should we vote just for one film or should each of us say give Okay. So Big Lebowski Alright. Uh you can write on your paper maybe. And Saving Private Ryan. So Yeah, Pulp Fiction, yeah. Okay, so each of us chooses one to eliminate. Okay. Denis? Okay. I will just remove it this way. Um um I would remove Schindler's List because it's too sad. Well, it's not very good reason, but Oh, too bad. No, no. Well I mean leave someth okay, so we're left with The Big Lebowski, Usual Suspects, Saving Private Ryan and American Beauty. Okay, so let's vote just simply for one, for the moment. So I would vote for American Beauty, because I haven't seen it. Um so Mirek, Big Lebowski. Agnes, Denis? Uh yeah, you can choose. Y you're the president maybe after all uh. Okay. Yeah, I think I'm quite fine. Is it a b yeah, I think at least it's funny and uh that's nice. Okay. So. Decision. Mm-hmm. That's your fault, Mirek. No, no, no, I mean yeah, it's you voted for it. But I'm quite happy with it, I haven't seen it. Well, beginning of May I guess, to choose the film for May. Is that Yeah, the fifth is um Ascension. What's that, going up to the sky? Yeah, we can do it like the Tuesday before the Ascensions and that's May third. So yeah. So thanks for the posters actually, Denis, they are very nice.

Okay. See you on what, April twenty sixth, or what's the mm twenty ninth. Okay. Hello. Yeah. Yep. Um I've got a PowerPoint presentation. Sure. It's not very long in any case. Yep. Yeah. Okay, so what I was thinking is basically the previous movies that we had, which you've already mentioned in the agenda d um Lawrence of Arabia, Apocalypse Now and Amadeus, were fairly historical, serious, dramatic, and also action-ey movies except for maybe Amadeus. Um this month I was thinking of selecting something that's more in the present time, still dramatic but slightly less serious. And what I'd propose is something of a thriller or mystery. And I know that a lot of people find mystery is not really mysterious in the movies these days, they kind of can predict what's gonna happen, um but in the nineties there were some movies that did have surprise endings and that people came out saying okay, didn't see that coming, so I thought we could maybe show one of those. And even if people have already seen the movie, a lot of the times you go back and watch the movie again, and you pick up on things that you didn't really notice the first time around, or you see where the clues were and mm what led up to the end, so that's more along the lines of what I was thinking. And the two in parti

cular that I would propose are, next slide please, The Usual Suspects and The Sixth Sense. Um I don't know if you've seen any of them. Uh The Usual Suspects was directed by Bryan Singer and written by Christopher McQuarrie. It has a fairly large cast, so I'm not gonna read all of them, but the main characters are Kevin Spacey and Gabriel Byrne. And it's basically about five criminals who get set up. Um they're arrested, they're released from prison and the get together um and plan a crime, and basically the story is told through the views of one of the suspects. Um the tag line is kind of neat, five criminals, one lineup, no coincidence and you get told the story um as uh that these f characters are being controlled um by one sort of uber-villain, and in the end you find who the uber-villain was. And I kind of like the the quote from Rolling Stone magazine, The Usual Suspects is the freshest, funniest Well they ha have you guys seen the movie? So I'm not gonna give away you want me to give away the movie? That'll spoil it. I'll tell you later. But the the quote from Rolling Stone is fairly accurate, I think. It's one of the freshest, funniest and scariest crime thrillers to come along since Pulp Fiction. And the other movie is The Sixth Sense with the famous line I see dead people, which the little boy says. Um it was written and directed by M\_ Night uh Shyamalan and stars Bruce Willis, Haley Joel Osment and Toni Collette and again has a neat twist that you find out right at the end. Yeah. yeah, The Sixth Sense was very commercial, but anyways It's the poster for The Sixth Sense, but unfortunately I couldn't find a clear, big enough one. Yeah. Yeah, I th I think it's only part of a full yeah, it goes th the all of the se all of the senses. Um if you go to the next slide there's slightly more detailed things about the movies. So The Usual Suspects is a hundred and five minutes long, so it's a decent length of time. It has an R\_ rating, so I don't remember what type of audience we had at the last uh shows, but it may not necessarily be suitable for kids. R\_ is sort of if you're eighteen and under, you have to have an adult with you. It's mostly for violence, yeah, it's restricted. Um it got an eight point seven out of ten on the Internet Movie Database. It's the sixteenth in the top f two hundred and fifty movies and fourth in the top movies of the nineties. It won um a couple of Academy Awards, notably for best writing, um so that's for the script um and best actor for Kevin Spacey. Mm-hmm. Yeah, fourth in the top movies of the nineties. Sixteenth in the top two hundred and fifty I think, of all time. Yeah. So it won lots of awards um, it won best film from the British um British Film Association, or the British equivalent of the Academy Awards. Um it was nominated for best foreign film for the Cesar. Plenty of awards, yeah. I think of all time, yeah. Yeah. So yeah. Yeah, it's ratings by viewers and Yeah, like Memories Yeah, and Forty Four as well, which has seven hundred and forty something votes. Yeah so Yeah um Yeah. No it's a good movie, I I highly recommend it, and I wouldn't mind seeing it again, because I do know the ending and I haven't been

able to watch it again to see where the hints were that were scattered across the movie, 'cause apparently there are hints as to who it is. Yeah. Okay. Yeah. and he's the one telling the story, yeah. There's him and the the guy in the burn unit. The second movie is The Sixth Sense. Again, it's fairly short. It has an easier rating, it's P\_G\_ thirteen, um it's much less violent. It got an eight point one out of ten, it's a hundred and first in the top two hundred and fifty and it's nineteenth on your list I think, if I'm not mistaken. Yeah, it's nineteenth. Um got a fair number of votes, too, ninety six thousand. Um again, it was nominated for a lot of different Academy Awards, um it didn't win any, but it got a lot of buzz and a lot of people liked it, so. Those are my two selection

s, and as you can see, the plot is a boy who communicates with spirits that don't know when they're dead, seeks the help of a disheartened child psychologist to figure out why he's seeing what he's seeing and what it means. Yeah. Yeah. Yeah. It's only right right at the end where you find out really what's going on and it makes you rethink everything that happened beforehand. So those would be my two suggestions and y they ar they are slightly more commercial, or at leas The Sixth Sense is, than the other ones we've seen, but Yeah. Yeah, they were they were nominated for a lot of different awards, they didn't win. But I guess the comp I can't remember what the competition was that year, but And they were nominated for a lot of them, and um Yeah. So I think that's it, unless you have any questions. Yeah, that's it. You sent your slides around, right? Yeah. No I haven't. I've heard a lot of good things about it, I've heard it's a really powerful movie, but I haven't seen it. Yeah, it's set in a jail. Yeah. Me. Mm-hmm. Mm-hmm. Mm-hmm. It's a fairly emotional movie though. That's one thing to keep in mind is that it's Yeah, but Amadeus isn't really representative of the eighties either. Yeah, and according to your thing it's nineteen eighty four, so. No. It is a good movie, yeah. Yeah. Mm-hmm. Yeah. Yeah. But it gets updated daily. Yeah. Mm. No. Wait, how many of us saw Schindler's List? Three of us? Did you see it? I'm just trying to keep track of how many of us have seen You have? You have. You haven't. I can't remember. I think also it's old enough that even if people saw it the first time around, they don't necessarily remember everything that happened, 'cause I remember seeing it when it came out, but I don't particularly remember So we've all seen it. Is what? I haven't I don't remember the soundtrack. Yeah, I mean if there's something that none of us like, we can just eliminate it, but we might as well leave everything 'till the end. No. Yeah. Yeah, it's a gangster movie. Ray Liotta and Joe Pesci I think, maybe? I think yeah, on the right, and the guy on the left is Ray Liotta. I recognise them. I'm a movie buff, I know way too much about movies and actors and everything. What was it about? Very descriptive. No. A little bit? Okay. Yeah. Mm-hmm. So the other killer is Hannibal Lecter, who Yeah, he's in jail and he's real no, h He tries to help the F\_B\_I\_ agent, but he plays head games with the F\_B\_I\_ agent at the same time. And so With her? He manages to freak her out. So. Hannibal Lecter is a very The Moth. Which, the one who's in jail or the one who Anthony Hopkins. I don't either. Yeah, he's scary in that movie. Yeah, I vaguely remember what it is, but How many of us have seen it? I'm guessing you haven't seen it or h okay. So have we all seen it? Okay, so we've all seen it. I can't either, 'cause I saw it right when it came out. It came out when ninety one, yeah. So. Yeah, me too. And at that age I was like mm. Yeah. That was very good, yeah. Yeah. Yeah. Suburban life. There's a lot of very true things in it. Yeah. Yeah. It's much less dark than the other movies we have on that list. It's not well it's dark but no. No. But not like violent cutting people to pieces psychopaths they're just everyone has their own issues and No. Well With hi his daughter, his like teenage daughter. So that's the best friend, and he fantasises about her and Mm-hmm. See I don't know what was mainstream in Europe, like all of these movies are very mainstream for me. But It has other movies, but I think it's predominantly No, there's movies from everywhere, but Mm-hmm. Yeah. No, I've never even heard of it. Oh okay. Thank

you. Mm-hmm. It's v very very violent. The landing, yeah. Yeah. This is not a movie for kids, like Yeah. yeah. Yeah, the redux version is longer. Yeah. I think just once for this. Oh maybe he did. No, for E\_T\_ he didn't. It wasn't until he started doing things like Schindler's List and Saving Private Ryan that he actually sta

rted winning awards for them. Did he? Oh okay, yeah. I didn't know that. They re-enhanced the colour, yeah. That it was their T\_V\_s and not Mm-hmm. Yeah. Yeah, about two thirds of the way through the movie, 'cause most of the movie is them find trying to find him on the front, right? No, no. Yeah, he's trying to find him. Private Ryan was Matt Damon I think, yeah. Yeah. Yeah. Is it him at the begin it's him at the beginning of the movie at the at the the graveyard, right? Yeah, with his family. Yeah. I have. I don't think so. No, it was an Italian. Mm-hmm. Yeah. No. Mm-hmm. Mm it's Julianne Moore, isn't it? Yeah. Mm-hmm. Hmm. I quite like that. Mm-hmm. Yeah. Yeah. Looks like a C\_D\_ cover. Yeah. Mm-hmm. Oh okay. I actually don't like it. It looks like two yeah. It's it looks like two separate posters. Although I think you can mix I would keep the format of the first one, add the quotes and the content information from the second one. So take those take those quotes, get rid of that section of text, put those quotes in there, put the the information you had in the second poster about the movie club, how to join, kind of in the middle and keep this title and everything just slightly higher up. I think it does. I think the contrast between the the the strip of film and or the strip of pictures and everything else is Yeah. Yeah, so take all of that content throw it up into the first one, and then maybe add the quotes that you had from the from the famous directors sort of at the bottom or something. Yeah. Usual Suspects. Mainly because only two of us have seen it and it's not a mainstream movie, so I don't think a lot of people would have seen it to begin with. Mm-hmm. So you reduced that by what, two? American Beauty and Wait I'm missing one. What am I missing, Pulp Fiction? Was that one of them? Okay. I have seven. Okay. Pulp Fiction. I'm not a huge fan of Quentin Tarantino. And it didn't make a good impression. Really eliminate Pulp Fiction. It's gone. We're all gonna vote for something different. I I still like The Usual Suspects, but I like American Beauty too. So. Usual Suspects. You have the deciding vote. Yeah. That's fine. It'll make a good change from the other ones. If you don't like it it's your problem. Yeah. Yeah. Ascension. Mm 'kay. Okay. Ninth, ninth? Yeah, twenty ninth. Hi. So I don't know if you all received the the a agenda for this meeting. Do you no? Here it is. So um um the goal for today are um We have two goals. Uh first is to decide a movie for uh the next projection for our movie club. As you know uh so it's for the last Friday of this month of April. As you probably remember, the movie already projected were uh Lawrence of Arabia and Apocalypse Now in February and Amadeus from Milos Forman in March. So um the question that is open is are we going to select a movie from the nineties and which movie. So that's the first goal, decide for a movie to be projected, and second goal is to uh discuss for an ad advertising poster um for our um uh club, because we noticed that n last time not enough people came to the projection. So that's it. Um wh who wants to start to So I guess you all prepared some documents for the mm selection of movie. Okay. Okay. Yeah, I have also uh a piece of paper with uh my favourite movie. Okay, so presentation? Yeah. Okay. A Agnes, we can start with you? Okay, here it is. I passed this one. Which which one was it again? The guy who was controlling? I don't remember, I have seen the movie twice, but uh It's the bald guy, the No, no. Okay. Yeah, it's a bit more commercial that one. first one. Um R\_ is what uh in Okay. Restricted. But wait, I I have the top ten from the nineties? No, the top fifty. And it's fourth. Oh, sorry, sorry, yep. Yeah, yeah. From yeah. Yeah, yeah. But but sixteenth in top two hundred fifty, it's what two uh all all days? All time? Okay. But those rating are more like uh it's the number of votes, no? Votes and u Yep. And rating. Yep. Yeah yeah. Yep. Okay, yep. Ah,

now I remember. Yep. Actually there is one guy who is the at the police station and they ask him to tell the story. Yeah. Yeah. Both movies are quite similar in some way, because the last sentence is uh totally contradictory to the whole movie. It's uh Yeah, the last sentence from the movie. Yeah. Okay. You have a last slide or no. Okay. Okay. Yeah one hundred f w uh one hundred forty thousand. No, we don't have the plot of the of the movie and uh Okay, but maybe we can wh who has seen this movie? I uh I think I I've seen it actually, but I have no idea. It it's in uh jail right, it taking yeah. I don't remember well this movie. Yep. Okay. Okay. Okay, so mm Yep, so let's Yeah, I've seen it also. Sixty. S sixty years. Yep. Yep. That's right, yeah. But then it's not representative of the nineties. It's more a movie about the story of uh the horror of the uh endured by the Jewish during the Second World War. Yeah, right. Yeah, yeah. Okay, and Steven Steven Spielberg is uh Okay. Okay, The Usual Suspect, do we want to say something again about it, or How come it's coming third on your list? It's forth on Agnes's uh and on my list, but it's okay. Ah you j you selected some movies, no? You didn't take the six first. And me on Tuesday, probably. Okay. Do we have something to add on this movie, or Okay. Yep. Yep. That's why you are in the movie club, to see more movies. Why not? It's quite representative of the nineties, I think. And the structure of the movie is interesting. I I think the the first scene is actually the same scene as the last scene, no? There is a kind of loop in this movie. Yep. Yeah yeah. I agree also. Yeah. You've you've seen it? Okay. And the soundtrack is uh is gorgeous also. No, you don't the soundtrack. No. Yeah, yeah. W w we vote at the end, or you want to Okay. No. Ah it's Scorsese's It's uh yeah, again a movie about uh on mafia, no? With uh Robert de Niro, and who are the o two other guys? I cannot Ah Joe Pesci, yeah. On the r on the right, you mean? Yeah. It's the exact same actors who played in um another mafia movie that I cannot rememb Les Affranchis, it was the name in French. No? About uh mafia uh it that's why I tha that's why I didn't go to see this one, it's quite i it seems to me they're all about the same subject and the same I don't know. Probably. Yeah. Okay, n nobody's seen it, so. Okay. So it's about a psychopathic killer. And what was it again, the plot? I mea the He he's in jail and he's still killing? Ah, okay, yeah, yeah. Yep. Who's playing the ps psychopath again? I don't Yeah. Okay, yeah. Okay. No, I've seen it actually twice, I think. That's it's it's probably begin Ninety one. Yep. Okay, American Beauty w w was coming next, seven, was quite quite nice actually. Ah, it's actually there. Why you choose you choose seven movie? Okay. Yeah, it's definitely about American life. It's it's kind of crude the critique, but uh on the other way it's quite poetic, it's uh yeah. Yeah, you know, with the the way of filming and um I don't know, I found it pretty No, it's q it's quite in interesting. So yeah. Well, it depends. Ah no, it's it's not violent at all, but more it's more the cr the cr the critique that is quite crude, because all the people in this movie are are uh psychopath in their own way. But they are normal people then. Yeah. Actually, there is this it's uh uh what, a fifty years old man that quit his job and fall in love with um the best friend of his daughter. Yeah, it's it's good movie. Okay. You have seen it, Mirek? I think we w want them to to see movies that they won't see oth otherwise, but I'm not sure then it's quite popular the movie we selected, so. If they are in the top fifty, they are quite mainstream, but uh Uh I think there is the There are Chinese movies, English movies. It's it's quite a lot for Kieslowski actually. I was surprised to s yeah yeah. And Festen also is uh is quite high. Uh I I don't know if you've seen this one. It's The Celebration I think. It's uh u

h movie from a Swedish guy. Danish? Dogma movies, yeah. Lars von Trier. Yeah. Okay, can we discuss about your document, maybe? Yep. Okay. Okay. Yeah, sure. Yep. Yeah. It's quite horrible actually. Yeah. Mirek, you didn't see it? Yeah. But it's it's a piece of art because he used something like one hundred camera to film that, or Yep. Yeah it's quite s yeah. Yeah, it is. There is two there are two versions I think, and but w but we yeah, we projected the longer one, so. How many times uh Spielberg



received the best uh director Oscar? Not for the Schin Schindler's List or for for E\_T\_? He won f he won the mm No, he won f for E\_T\_, he won the mm Cannes, uh what is uh Palme d'Or. Yeah. That was very interesting to read, yeah. But then they uh I read that they they w where was it? Th they turned back to yeah. And then then there is this uh there is an hero, I mean it's uh or a non-hero, and in all the other stu stories, the in the previous movies there were an he an hero, Lawrence of Arabia, uh Amadeus. Apocalypse Now, it's also non-hero I think, but uh but here I don't remember it's actually the Tom Hanks the hero, or it's He's Private Ryan, Tom Hanks? No he's not. He's trying to find him. Yeah, yeah. Okay. At the end, to tell you the truth, I didn't like so much the movie because it was quite moralistic, because there were a guy who was who didn't kill German because he was quite non-violent. And because he didn't kill this German, the German killed, I don't know, uh maybe um Yep. And it was like, if he had killed the mm Because he e yeah. Yeah. I have. Yeah. Yeah, we're running um But it was in English, no? Yep, so I have uh a quite different movie to propose you. I don't know uh it's f called The Big Lebowski from um uh Joel Coen. Actually they are brothers, you probably know them. I don't know how many of you have seen this movie. No? Yeah, they made uh Fargo, which is in the list. And uh uh Cr uh Cruel Intentions, or something like that I think, or Okay so, I don't know how I'm going to sell you this movie, because actually the plot is impossible to make, because it's um actually it's inspired from a movie called The Big Sleep and um Uh it's actually the t where I've seen that? In a it's uh a movie from Raymond Chandler, The Big Sleep. It's uh Ah okay. Yeah yeah yeah. So it's it's uh it's a novel, okay. But uh then the story goes that while that film was in production and director, okay, okay you're right, it was a book. Okay, so it's about a a g a guy who called the D the Dude, I don't know you pronounce it, and uh he's actually uh smoking pot and doing nothing, just um he's living in L\_A\_. It's uh it's a typical typical fellow from the from the suburb, and he has some friends, uh typical friends, one one is uh an old guy from coming back from Vietnam, obsessed by Vietnam, um another guy who is never speaking, and they all play together uh bowling. And um the casting is very interesting, there is um okay, actually I wanted to propose you some posters related to this movie. Uh maybe it w maybe it's going to open the discussion on on posters as well. So actually here you on this the first poster you can see the actors from the movie, I don't know if you know some of them, so Jeff Bridges at the top, uh Goodman is the second one, the b the big guy. Then Turturro, and uh uh the last one is Buscemi, and I don't remember the name of the girl. Yeah, Julianne Moore. Uh I I took it from I don't know where. So uh Actu Actually I'm not going to sp to describe much more The Big Lebowski, but uh it's quite hard to describe, it's uh it's it's a journey about this guy, but it's it's a movie, quite surrealistic, I mean there are some part that are like coming from dreams and uh Yeah, it's his family name and uh actually Jeffrey Lebowski and he's he's the there is a a story with another Lebowski that yeah. And uh I I I don't remember, maybe it's just uh uh because of The Big Sleep there is uh I don't know, a reference. So it's a kind of it's

like American Beauty in some way, it's even worse. We see worse people. So it's kind of uh an ethnographic movie I would say, but uh and it's a modern hero, it's it's quite fun. And the casting is is marvellous, so that is that's it for this movie. And um I just wanted to go to the design of the poster actually. Because Yeah. Yep. The idea is is also to discuss the content. Shall we put a summary of the movie or the plot, and w what kind of information do we want? So that's the first poster. There is alo um this poster, quite dark also. Uh so y y I don't know if you you cannot really see, but uh mm there is the the pricing information. So we said that one movie is eight Francs and three movies eighteen Francs. And we can have annual subscrip subscription of sixty Francs. Uh I wanted to say some information to involve people on in the committee as well, if they want to take part to the committee to select movies. And uh what else? S some Yeah, actually the idea was to s yeah, there is at the bottom the a scene

from one of these dream of The Big Lebowski. And uh the the first part is actually y you see a cowboy and the the hero, the Jeffrey Lebowski, the Dude. And the cowboy, it's actually at the beginning of the movie, the c the cowboy introduce the story, and he's coming back at the end of the story, and he's e explaining what kind of movie uh you are going to to see. And last posters So same principle, but I w I don't know, I w I was thinking of adding some some um cita quotations of uh well known directors. And uh Yeah. Okay. Okay. Okay, I see. And yeah. Okay, I see what I wanted is more or less to know the content of the movie, uh what y you want to have on the poster. Because we di we Okay, on that one. Okay. Okay, great. So I think now we have to decide for a movie. And um Yep. So Yep. I th I would nominate uh American Beauty as well. And um and I would be okay with Saving Private Ryan, it's it's it can Or we can eliminate first one one movie each, and then we s and then we select. Okay. Okay. Yeah. That's a bit cruel, but uh that's I think a good way. Me, I would remove Silence of the Lambs because I think it's too violent. And you have a reason for it or Okay. Maybe you can eliminate another one, you can no? W Agnes, you v O Okay, now I have the if we want okay, if we want to take a okay. Okay, so I'll go with The Big Lebowski, since the posters are already ready. Yeah, I think. Okay. So we have other anyway. So can we decide for uh a next meeting maybe? Okay. Okay, o or we'll decide after the projection of the movie the date. It's okay. Okay okay. You're welcome. Okay. Thank you. And uh see you at the projection? No, twenty ninth. Okay. Hello. No, I haven't. Thank you. Mm-hmm. Okay, I have a PowerPoint presentation and uh it's about there are some reviews of the of the I think like seven movies. No, I haven't. Hmm. Mm-hmm. Mm-hmm mm-hmm mm-hmm. Nineties, yeah. So plenty of awards we we could say. Of all the movies, yeah yeah. It's still good, actually. By the users. So it's definitely just the average of the rating and okay th the number of the votes is there just for the information, so that you know how how reliable yeah. Yes. Mm Okay. Okay, then you yeah. Then yes, yes, yes, yes, sure. Mm-hmm. Yeah. Mm-hmm mm-hmm. And what is the second movie? Yeah, Sixth Sen Mm-hmm. Mm-hmm. Mm-hmm. Okay, now you can go to to my slides, but actually what I pre what I have prepared is just a kind of a review of fo uh se six or seven movies, if you ca can go to the second slide. Yes, basically seven movies, and it's uh it's uh uh top movies uh based on the uh on the ra ranking and a and awards awards. Um you see the the names of the movies on the on the on the wall. So um we can perhaps go through all of them and we can little bit discuss, so I I I have n I didn't see all of them actually, so it's just we should probably select one of these, because I think uh these are really good movies and uh, okay, we will see. So if you can go t

hrough uh okay, so this is the first movie and uh it's it's m it's more like a drama. Uh it's uh it's uh very uh high ranked and actually you have a a nicer list, because uh we can even see the number of the votes. So what is the number of the people? Finally I found actually your table much better than my than my presentation, because perhaps here we can we can really see I mean What is the ranking? We ha didn't have the plot, yeah. Yeah, who has seen this movie? Because then perhaps someone can give some some comment. Mm-hmm. Yeah, it's this one. It's the one that is on the on the wall. It's projected, yeah. So I ge okay, so no one of us saw this movie, so in that case perhaps it's it's little bit danger to select that movie for the for the s play, so uh Schindler's List, who saw this? I saw it, and I think this on is re um this one is really nice, it's uh, you know, all a all of you knows the the story, so. Uh it's quite hi it's quite high ranked, so I think uh it's not a bad movie, I'm uh thinking whether there was some good occasion, uh something what has happened recently. There was something like a celebration of the fifty years after the war or something recently, no? No, that's Sixty, yeah. S it can't be fifty, sure. Yeah, so. Mm-hmm. That's true. Yes. Yes yes yes. Um but even here I wouldn't uh uh say that the that th this style is representative of the nineties, right, so. Um okay, but uh anyway, I think it's

it's really a good movie, I like it when I saw it and uh okay. It's one of the candidates, I defini yeah, Steven Spielberg is really quite a good so I director, so I I would say we we could think about it. So I would keep it as a candidate, at least. That's the second one. Um no. I think we can just skip this slide. Uh yeah. It's That's strange, what is the rating? Perhaps it has changed. It's higher. It gets updated. Yes, yes, and I did it I did it on Wednesday. Yes. Mm-hmm. So it probably has changed, so um it becomes more popular, no po uh yeah, yeah, yeah. Uh Schindler's List. I saw it, I saw it. Mm-hmm. Okay, Pulp Fiction. Uh I think it's again quite uh hi high ranked uh, but from my perspective, everyone already saw it. Who was interested in that movie, he saw it. Wh who is not interested in that movie, he he didn't see it and he uh wouldn't uh like to see it in the in our movie club. So I think we should uh we should just leave skip it out and leave it out. I I wouldn't think about this as a candidate, even if it's a good movie, but I don't know, I think it's Yes, yes, there was ple I I think there was a plenty of loops actually, plenty of. I fully agree that you can see this movie three times perhaps, three times and for the fourth time see you still discover something new, but uh on the other hand, I have the impression it's really it's uh, you know, every everyone saw it, it's it's quite well known, uh it woul it wou I Yeah. Me neither. Mm. So what do you think? I I wouldn't think about this as a candidate, because it seems to me it's Mm-hmm. Vote, that's the best, yeah, yeah. When going through we c we could just eliminate. Okay, so we are not gonna eliminate this one. Uh Goodfellas, I didn't see it. No. But you can read the comment from the users, uh that's the that's the last uh bullet point, and it says uh simply a masterpiece uh, and it's uh Scorsese's last really great movie to date. Mafia, yes. I can't recognise them from the picture. The picture is not very good quality. And it's a movie from nineties? The one that you saw, that you mentioned? Yeah. No. Silence of the Lambs uh should I tell something more? Godfather of all thrillers, that's what it what it says on the what some uh user says. Uh so, okay, it's a little bit horror, so I think it's quite it's uh it's uh It's definitely not for kids, uh but uh if the kids are not visitors of our cinema, why not? It One have to rethink when when when you are watching this movie, you have to think and it's uh scaring. Uh why not? Mm-hmm mm-hmm. So t

he F\_B\_I\_ agent is assigned to to help uh find a a missing woman and uh save her f uh her from a psychopathic killer with the help of another killer. Yeah. He's in prison, yes. He's a really psychotic man. Mm-hmm. Mm-hmm. Anthony No. But he plays it really good. Anthony Hop Hopkins he really plays it very good, very good, yeah. So I've I've see I've seen it, but I can't really remember exactly the all the details. Uh. It's a long time ago, it's from ninety one? Ninety one, yeah. So and I saw it when I was like twelve or thirteen. So perhaps it would be Yeah. Could you go to the next slide? Yeah, it's here, and that's actually my last slide. So um I don't know, because it nicely f I I was thinking perhaps we are not able to go through more of them. Uh So American Beauty, so I can perhaps read a little bit the user comment if you want, or uh yeah, you can read the plot outline on the on the on the projector, but it's basically deep, wonderful and penetrating movie, extraordinary uh irony and the p and the psychological drama about American life. Poetic? Okay, the way of filming perhaps, but uh Mm-hmm. Mm-hmm. Yeah. And it's my last slide. So uh yes, yes, yes. And I think, okay, why not. It seems to me that perhaps that Schindler okay, definitely Schindler Schindler's List is perhaps more serious topic for sure, but um well it depends, it depends what we want. Do we want that people are more like uh relaxed in our in our cinema, or are more interested in some particular things? Um what do you think, I mean what should we how we should uh What should be the influence, how we are influencing the people in the cinema? Um What do we want? Mm-hmm. Mm-hmm. Mm-hmm. Hmm. Mm-hmm. Maybe can I ask you for the for the list of movies? This one. And the Denis, Denis, could you give me the the list of the to uh top fifty? Yeah. But you have your own copy then? okay, good, thank you. Mm-hmm.

Mm-hmm. Mm-hmm. That's the I I I saw it and I d I'm trying to remember the beginning, that's the Normandy landing? Okay, yeah yeah yeah yeah yeah, that was really horrible. Yeah. Mm-hmm. Mm-hmm mm-hmm. No, not at all. Mm-hmm. Because people start to complain that uh that w there was a problem with a T\_V\_ when they were broadcasting the movie on the T\_V\_. Uh That's an interesting point, interesting point. Yeah, but in the end you can ref yes. No. Mm-hmm. By the way, did he fied dinally uh f fi died finally or not? Uh the Private Ryan, yeah. Th they I remember I remember they found him, but ah okay, yes yes yes. Because I remember Mm-hmm. Because I remember that th in the end of the movie they are trying to defend some bridge or something and there's quite heavy shooting and uh finally it's actually John Miller who die. Okay okay. It's not the Private Ryan Mm-hmm. Perhaps it was a g uh this uh Tom Hanks, yeah. Oh yeah, yeah. If he would kill him, he wouldn't die. Wow. Tom Hanks wouldn't die. I've seen it. I've seen it. Out of time? Mm-hmm. What is the movie about, the La Vita e Bella? Ah-ha. Mm-hmm. Uh-huh. Uh-huh uh-huh. How it end up, what is the what is the ending of the movie? Mm-hmm mm-hmm. Mm-hmm. Mm-hmm. That's actually the third movie about the Second War. Schindler's List, a P uh Saving Private Ryan and La Vita e Bella. Mm-hmm. Just partially I think. Mm-hmm. Mm-hmm. Mm-hmm mm-hmm. Mm-hmm. Mm-hmm. Why the movie is called The Big Lebowski? Why The Big uh Lebowski is his uh family name, right, but why it's called The Big Okay. And why The Big Lebowski? It's the it's the second one or Uh-huh. Ah okay, okay. Uh-huh. Mm-hmm mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. I think this is not bad, because they say something little bit about our uh movie club and uh, yeah, The Big Lebowski it's clear that it's a movie and uh I guess the people can remember that it was a movie at least, even if they haven't see it. CD cover. Mm-hmm. Mm-hmm. Yeah, but I on the contrary I would say there is too many colours and uh it's difficult to read and uh Yeah, that would be the best. Yeah

, all this information and put into the first one. Mm-hmm. If if they fit there if they fit there, you will see. Mm-hmm. So Big Lebowski. Mm-hmm. Okay, good idea. So I'm really convinced by The Big Lebowski. I yes, yeah, I I would like to uh, yeah, at least to have it uh in the in the nominees, exactly and uh I'm trying to remember all of them. Mm-hmm, mm-hmm. And then I'm still hesitating between the Schindler's List and the S uh Silence of the Lambs. May I nominate uh these all these three movies, Big Lebowski, Schindler's List and the Silence of the Lambs? Mm-hmm. So eliminate first eliminate first? Mm-hmm. I'm sorry, could you go t uh uh uh once again through uh the list of the movies, because I don't or i is it possible to put them on the on the on the uh whiteboard? Okay, okay, so the Schindler's list, The Usual Suspects, uh Silence of the Lambs, uh Big Lebowski, okay. Saving Private Ryan. One, two. Pulp Fiction, okay. I have six I have six. How many? Okay, we American Beauty. Okay. Yeah, and I would eliminate Yeah. And I would eliminate Pulp Fiction actually as well if so Another one. Because it because it would be Saving Private Ryan. Mm. I vote for Big Lebowski. Make a decision. Already ready yeah. So So it's gonna to be Big Lebowski? Okay. No no no no no, I I like it, I like it. Okay, beginning of May, but there are there is plenty of holidays at the beginning of May, no? Ascension? Mm-hmm. Okay, okay, no problem. Good. Twenty nine. Really looking forward. I want to see it.

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# Meeting ID: 89

Data Source: Train

## Executive Summary

here we have our detailed design meeting I finally figured out what this whole second bullet point is about in my It means I'm supposed to read the minutes from the previous meeting . um just real briefly to go over minutes from last meeting , basically the moral of the story from our last minute uh last meeting was that um we that we had meetings from uh we had presentations done by the Industrial Designer , uh or from Nathan , and Ron and from Sarah about what we can do here and we essentially came to the conclusion that we should develop a remote with uh voice recognition , I\_E\_ that had a vaguely non-remote like shape um because you didn't really need to use it as a remote since you could just use your voice . That would include some mostly just the simple design features for a television operation but with a slide or a fold-out bay for more advanced functions for users . the U\_I\_D\_ and the I\_D\_ were asked to go ahead and start developing a prototype for us to look at . we have assembled our prototype , um . Um , we took into account a lot of the things that we went over in the last meeting , um . Some of the most important things to consider are that we decided not to go for the touch screen and opted for some very large buttons for the primary functions , um . This is going to be the on off button and we have these buttons to go through the channels um and then two volume buttons down here , d uh we decided those were the most important uh buttons . And then , for the more advanced uh functions there is a slide out panel here um and you can see that there are lots of other things going on . and provides a very nice aesthetic when it's all put away , um . As Of course , if that's annoying for some people that function can be turned off . Um . we talked a quite a bit about uh you know the the interchangeable uh faces and what we've done here is come up with a bit of a natural look here um f we call it fruity of course that's uh interchangeable and uh I think it would be desirable for the uh for the regular product in the in the in the in the first packaging to be something a little bit more subdued but this is kind of something that can be done um and as you can see on the television there uh we have the uh voice detector device um on the top there . Um . So that that will work quite well with with regard to finding this uh contraption . if you give it a touch it does have actually a bit of a spongy feel , clearly there's gonna be some more colours and what not available . Um I worried about the materials , uh the entire thing is covered in a rubber coating it's not gonna break like some types of plastic that's dropped . and if you touch it it does have that nice squishy feel . I dunno if you noticed , but I wrote the uh the company's name on the telephone screen , Um , but I think that's I think that sums up the main features of

our of the remote , Um , did we come in under budget ? to put this into um production , we're looking at about It was twelve fifty Euro um and this actually came in at about eleven ninety nine . um obviously we had a choice with the buttons whether to use scroll buttons or standard rubber buttons , but we just went for a classic rubber button So even though it has a lot of modern technology , um for example the voice recognition , in a lot of ways it's just a simple remote Did we talk about the voice recognition uh option ? on the back here you all noticed this area here which is actually the voice recognition uh uh console and uh I think it's nicely designed into the into the overall look . Um , but basically the voice recognition uh incorporates um the latest designs that our research team has been able to cufw uh come up with . and um , I think that uh has given a proven um ease of use and what not . And uh allows features like the remote actually talking back to the user um , so . Do we have um other , for lack of a better word , skins ? Covers ? or are those ones gonna be developed later once we see how the couple we have g go or ? we didn't quite have enough material uh . as you can see this is just a most superficial layer and um it'd be very easy to put another layer of something else like Actually this bottom red ring here just unclips and then you put a a new a new uh a new plate on top of that . we definitely priced out a spongy even spongier non-natural look um materials We also continued on with the ideas that f following uh Apple's colour schemes with the kind of the uh light orange and the green . It's not it's not quite a a face plate , it's more like a pseudo-face plate it locks into place such that , you know , it's pretty permanent but at the same time , if we wanna go the other way it's just a matter of a couple of adjustments and we could go the face plate way Very cool , nice job . Um , what we need to discuss now is the finance of it , um you provided a number that actually sounds quite nice . Um the trouble is I was just given this by finance . Um , it's a spreadsheet of the parts and I've just tentatively put in what it's going to look like um . if we can just itemize what's in here , it's a solar cell thing With a back-up battery ? The voice recognition area actually doubles as uh as the solar cell area . Yeah . It's a s a speaker and a sensor at the same time Um and the case , it's more of a single-curved case , Um and we've got a rubber skin material basically throughout . Um . Push button interface um with this other drop-down so maybe we've got two push button interfaces And s I guess you have to mark special colour and special form as well , 'Cause it i it is very unconventional , M come in at sixteen ? a bit over budget , um . what we could do perhaps , a simple fix would maybe to switch away from the solar cells um or take out the back-up battery . Uh I think that uh if we're talking about it being one of our main selling features , being environmental and without the batteries and what not , I mean we could take we could take the battery out of it you see but you're gonna have to set up a call centre for that one per cent of the time and saying oh look my remote isn't working I think in the long-run it's better to keep the battery , I mean obviously the solar cell is a big piece of the way we're marketing this as like a natural , new thing , but honestly if we cut that one piece out we're actually coming in under budget I mean you might be able to sway me on the idea that we our main selling point could be already this voice recognition thing I mean that's what sets us apart perhaps when the cell technology comes down in price we can bring that back into the game And the reality is you know , for me from an ideological stand point , I'd like to stick with the uh the solar cell , but I h kind of have to throw myself in the in the business structure model here and uh you know I think I think that I think that we need to come to a compromise here and maybe move ahead with the project , without the solar cell . I think unfortunately that's our best option . 'Cause we can't remove the push buttons um , nor would changing the case materials

. Gotta do what you gotta do . I think that was a good compromise you brought forward Sarah . I guess now we just go to the project evaluation basically I was just evaluating um from what we know of how our product's working right now with the criteria that we set at the beginning of these are the things we needed to do , these are the things that look like we feel they're important . Um so I was looking at basic design things , are technologies up to where we hoped they would be Is the design what we wanted it to do ? and does it fulfil the aesthetic qualities that our original market research was looking for ? Um . Does it respond to voice recognition ? Um , the only thing is with with the pull-out panel , that is , can it take some adjusting And overall , in general , it looks like it's coming up to par . but then , once you get used to it , it does make a lot of sense . So I think overall we're headed in the right direction . They like that spongy feel . I think eventually if we do um branch out with this product maybe we do have a higher budget options and if it goes over with this model we can look into um wider range voice recognition like from other rooms of the house and stuff , I am bit disappointed about losing the solar panel I got this slide from the coach this one's a bit unclear to me to be perfectly fair , um . Um so I guess we are going to discuss um our project process um and I'm not sure what it's connected to . I guess this is the point where we go um uh out of role it looks like and talk about our satisfaction for room for creativity and so forth and how that all worked , I guess , um . As in within the team or ? I think so yeah . Are we considering these points here ? I think they're starting blocks I think in general , for a day's worth of work we actually were relatively productive , considering the little amount of input we had going in . Um , and the technology has definitely been a help , it's really been interesting to try out all this new stuff . We didn't use the whiteboard at all . No , no whiteboard . and I feel like if you guys had been designing in here perhaps that would have changed but because of room constraints , doesn't really matter . Um , also had I not been intrigued about the pen , I don't think I woulda used it at all , I didn't write barely anything . Was pretty cool tack though . I am disappointed I didn't get a note back from my personal coach . Attempts to contact coach ineffective . n I think there was a lot of room for creativity , we could do whatever basically what we wanted until the budget came down on us , um . And even then we did get a decent product turned out although it's not everything we wanted it to be . I think , yeah re I thought it was like really creative actually , I mean . I think the teamwork was good as well . My one my one criticism is that we didn't have enough colours to work with , You could have developed multiple skins really had you had more colours . What did you guys think about the the the roles ? I think it was pretty clever 'cause we were never able to get too far off track because the information came in at the right time and kind of filled in the gaps enough . At the same time you had enough room to kind of just make things up , Though I did feel like th the level of information dropped off severely over the course of the day . but I didn't actually get any information for the last presentation at all . Nothing , I didn't even get an email , I feel like that was slightly lacking when I was reporting about what each of us was doing I was often confused as to what you were doing um and then I also felt like you know a lot of our discussion would centre around n specifically what my task was and then in the end I think our jobs kind of melded together a little bit more , I think the most helpful thing out of everything was getting the the PowerPoint slides already put together for you Yeah , already having the formatted stuff helped a lot . 'cause if we didn't have that there's no way we could have got all that done in time . And I think your leadership was quite good . It was really good yeah . I did get I I felt like I got way too into it . But you guys felt that you could keep the , yeah ,

suspension of disbelief kind of like like the role and the okay ? except for a couple moments where it just got out of hand Um you guys felt like there was enough teamwork in all ? I think so . No I , no I dunno , I d I I dunno , I mean other than minor discussion at meetings there wasn't except for the actual building , but I feel like if this was a team project there actually would have been much more of the collaborative like brainstorming , use the board and this would have been six months' worth of work , not like three hours' worth of meetings . is there anything about the way that we got so much inform what was it that kept us from going to the the board ? I didn't feel like getting up and down and dealing with all these wires , I was afraid I was gonna break something actually . and each time you get up it's s a possibility of tripping over something or getting tangled or . I dunno what I woulda shown on that board . it's just like the paper I don't know what I really needed the paper for . Usually I would do a lot more doodling too I felt like I needed to be professional I'm curious about what the de-briefing is gonna be like . is this all we need to get through ? I'm not sure what the new ideas found i is about . It did it just say in an email that we need to discuss that ? that's the thing I got i in the email I got this PowerPoint file I didn't change this one at all . Any new ideas with regard to remote control concepts ? Uh I think they still do their job . how much can you do with a remote control ? how long was our meeting supposed to be ? I I I mm we should go on a bit yeah about the project eval , um . I dunno about you guys but I felt like a bit under-stimulated on the whole thing . at the beginning it started out and I felt actually like under pressure and I was like had like all this brainstorming I was doing and then suddenly I was like well it's just another two minute presentation that you guys don't really care about anyway like we all sort of knew where we were headed with it Definitely when when I first filled out the questionnaire I was marking it probably higher in terms of how much I had to how much I stressed over it and then by the time I got to the last one I was like , you know , not very much . Think it was also realisation of you basically just copy and paste what's given to you into your presentation every single one I a all the presentations I either added slides or edited 'em . My slides were all blank , they'd have a title maybe with the whole new background being innovative , yeah that was class . An interesting day all in all I would say . It seemed like everything flowed pretty logically . You know from the the the basics to the conce although the whole concepts thing , the whole concepts phase , I don't think I really understood like the concept . we've established that the costs weren't really within budget , We did the project evaluation based on um Sarah's evaluation of on off switches though it was really technically an evaluation of the product , not the project in general . And it's all recorded , I'm supposed to do this final report thing at the end so I'll put all that into the final report as well , or as much as seems like uh I will save this into the project documents . You guys ready to celebrate ? that's our last step . Celebration . I guess we can probably call that meeting to an end for the most part . I guess we'll call that a a doner . that's the end of the meeting .

## Complete Meeting Transcript

Yeah. Oh really? Okay. Well. Uh, we have assembled our prototype, um. What's to be said about it? Um, we took into account a lot of the things that we went over in the last meeting, um. Some of the



most important things to consider are that we decided not to go for the touch screen which you can see and opted for some very large buttons for the primary functions, um. This is going to be the on off button and we have these buttons to go through the channels um and then two volume buttons down here, d uh we decided those were the most important uh buttons. And then, for the more advanced uh functions there is a slide out panel here um and you can see that there are lots of other things going on. But this actually can slide back in and provides a very nice aesthetic when it's all put away, um. As far as the uh whole visible light thing, we decided to go with the multiple colours coming out, why not? Of course, if that's annoying for some people that function can be turned off. Um. Go ahead. That's this here. Um I worried about the materials, it is uh the entire thing is covered in a rubber coating so it's very durable uh, it's not gonna break like some types of plastic that's dropped. Um, and of course as you can see and if you touch it it does have that nice squishy feel. Fact, I dunno if you noticed, but I wrote the uh the company's name on the telephone screen, I thought that was kinda nice. This was actually an apple on the inside. This Yeah. We got a bit ahead of ourselves, I know we're not talking about making televisions at this point or anything like that, but Right. Uh we did, yeah. This cost well to put this into um production, we're looking at about what was our goal? It was twelve fifty Euro um and this actually came in at about eleven ninety nine. Um, so I was quite pleased with that. One thing that we didn't do um obviously we had a choice with the buttons whether to use scroll buttons or standard rubber buttons, but we just went for a classic rubber button and um since we did that we didn't have to use as many microchips which was quite nice and that's what helped keep the cost down. So even though it has a lot of modern technology, um for example the voice recognition, in a lot of ways it's just a simple remote and um I think if we shopped around for other manufacturers um we might be able to get even cheaper. And Oh no, we haven't talked about that yet have we? Hmm. Yeah. Any questions? Um, do you wanna answer this one or do you want me to answer it? Yeah, yeah. Um, well as you can see this is just a most superficial layer and um it'd be very easy to put another layer of something else like It's not it's not quite a a face plate, it's more like a pseudo-face plate because it's simple enough that in the factory it could we could very easily put a different one on it, it locks into place such that, you know, it's pretty permanent but at the same time, if we wanna go the other way it's just a matter of a couple of adjustments and we could go the face plate way if you know what I mean. Yeah. Oh. Ooh. Right uh we didn't really touch on that but it it's in there, yep. Yeah, yeah. It's just making use of the same space and the same materials, but Yeah, one big curve I guess you could say. Yeah, mm-hmm. Yeah, special. And s I guess you have to mark special colour and special form as well, don't you? 'Cause it i it is very unconventional, I like to think of it as unconventional. Oh. Huh, doesn't match up does it? How do you feel about that? I mean we could take we could take the battery out of it you see and it'd probably work ninety nine per cent of the time but you're gonna have to set up a call centre for that one per cent of the time when people are calling and saying oh look my remote isn't working what am I gonna do? People'd be real upset. I think in the long-run it's better to keep the battery, it's hard to scrap the whole cell battery idea 'cause that's so integral to the theme that we have. Yeah. Hmm. Right. Rig

ht. Yeah. I guess we might have to do that. It's the only way we're gonna get below our uh goal isn't it? Of twelve fifty. Yeah,. Gotta do what you gotta do. Mm. Really good. Six? We did. I am bit disappointed about losing the solar panel but it's okay. Mm. I know. True. Okay. Right so it's just kind of an open mic kind of thing or 'Kay. Yeah. Are we considering these points here? Okay. No. Yeah, it's true. Mm. Definitely. As you write your personal coach. What if you get a response two or three months from now? That'd be weird. Yeah. That's very natural. Yeah. And to prove that we weren't wasteful we didn't waste a single bit of Play-Doh, we used every bit. Yeah, I guess My one my one criticism is that we

didn't have enough colours to work with, we only had four, wasn't enough. I know it could have been amazing. Hmm. Yeah it's kind of fun, it was I think it was pretty clever 'cause we were never able to get too far off track because the information came in at the right time and kind of filled in the gaps enough. At the same time you had enough room to kind of just make things up, which was kind of fun. Yeah. Mm. You know Yeah. Yeah. That was fun. I think the most helpful thing out of everything was getting the the PowerPoint slides already put together for you 'cause if we didn't have that there's no way we could have got all that done in time. It was really good yeah. It's kinda fun. Yeah. Little different. Yeah. Yeah. Yeah? You don't. Yeah. Yeah. Wonder why is there anything about the way that we got so much inform what was it that kept us from going to the the board? Yeah, that's it 'cause the mics are loose and each time you get up it's s a possibility of tripping over something or getting tangled or. Yeah, that's it. Usually I would do a lot more doodling too but I didn't because New ideas. Hmm. I guess we're on the right track. No, none. I think they're fine actually. Yeah, maybe a s a circle would be alright, different. Are we back into project mood? Yeah. Yeah. Definitely when when I first filled out the questionnaire I was marking it probably higher in terms of how much I had to how much I stressed over it and then by the time I got to the last one I was like, you know, not very much. Yeah. Mm-hmm. Did you really? I just got blank ones and Me too. I deleted slides. That was pretty cool, it was a high moment of the whole experiment. I think it would fail, I think it'd be a huge disaster, especially if it looks like that. I don't we kind of designed it to look little bit like a face. It's a happy face. Yeah, it's uh I wanna see a Yeah. Hmm. So we have more slides or? Mm. Hmm. I It'd be so cool if we get a copy of the recording. Really. Filler words or? Disfluencies. I find myself hitting the send and receive button on the email a lot, just out of boredom, like c come on gimme something. It is scary. Yeah. It's crazy. So Should. Has it been forty minutes or whatever? this has been long enough. Is that the only song you have? That's awesome. Maybe I have a different one. Okay. Oh I totally Yeah 'cause I moved it. 'S put it over here. Then we don't have to worry about it. Huh. Yeah that's not you. Ah. Fair enough. Mm. Right. Appropriate, okay. Mm 'kay. It is an option. Ah. I see. Nice. Do we need to worry about um rot factors? Oh okay, there's preservatives involved, we don't need to worry, okay. Fair enough. No but It's a couple years off at least. Okay. Mm. Mm. Okay. Okay. Yeah. Mm 'kay. Right. Do we have um other, for lack of a better word, skins? Covers? In play now or are those ones gonna be developed later once we see how the couple we have g go or? Do we know where we stand on that yet? Oh I wasn't expecting a prototype I just didn't know if you guys had any in mind yet. Okay. Just veneer really, yeah. Okay. Mm-hmm. And the whole thing Okay. Right. Yeah. There's Okay. Mm 'kay. Okay, very cool. Okay. Okay. Yep. It's still an option if we need it. Very cool, nice job. Mm-hmm. Mm-hmm. M come in at sixteen? Yeah. Mm k

. True. Nah. Although we don't wanna get rid of the whole environmental I mean obviously the solar cell is a big piece of the way we're marketing this as like a natural, new thing, but honestly if we cut that one piece out we're actually coming in under budget if I've done my math correctly. I mean Which, it's yeah that's what setting us into this young market, I mean that's where we started from, so I don't know, and I mean you know perhaps when the cell technology comes down in price we can bring that back into the game but it looks like at this point that may be out of our league. Right. Yeah. Yeah. I think unfortunately that's our best option. Mm. It kind of yeah. Mm-mm. Yeah. Unfortunately I think we are. That would be me. Um cord? No problem. Can you reach, that would be great, thank you. I didn't even do that one on purpose either, damn. Okay, um, basically I was just evaluating um from what we know of how our product's working right now with the criteria that we set at the beginning of these are the things we needed to do, these are the things that look like we feel they're important. Um so I was

looking at basic design things, does it fulfil its functions as a remote? Is the design what we wanted it to do? I are technologies up to where we hoped they would be and does it fulfil the aesthetic qualities that our original market research was looking for? Um. Basic questions like, you know, does it turn on? Does it respond to voice recognition? And overall, in general, it looks like it's coming up to par. Um, the only thing is with with the pull-out panel, that is, can it take some adjusting because it's a new sort of interface, um that looked like it was coming up rough, but then, once you get used to it, it does make a lot of sense. So I think overall we're headed in the right direction. So. Yeah. It looks like it's going over well, so we're we're good yeah. Yeah. It's I think eventually if we do um branch out with this product maybe we do have a higher budget options and if it goes over with this model we can look into um wider range voice recognition like from other rooms of the house and stuff, but for now, what we've got is working in the range we need it for, so it's all good. That's everything from me. Yeah. Yeah, it is a set-back, but Okay, do you need the cord back? As in within the team or? Okay. It is now, you're in charge so there you go. Whatever. Um. I think they're starting blocks yeah. Um, you know I think in general, for a day's worth of work we actually were relatively productive, considering the little amount of input we had going in. Um, and the technology has definitely been a help, it's really been interesting to try out all this new stuff. No, we didn't. We could now if that'd make up for it but really and I feel like if you guys had been designing in here perhaps that would have changed but because of room constraints, doesn't really matter. Yeah I think I was taking notes more often than usual just 'cause I liked the pen, yeah. Mm. I am disappointed I didn't get a note back from my personal coach. Yeah, but I didn't get a response so we'll see. Okay that would be kinda creepy. Well what kind of coaching is that really? What if I really needed something. I think so. And even then we did get a decent product turned out although it's not everything we wanted it to be. Organic, really. And highly resourceful team mates might I add which is always a plus. Mm yeah, I'm impressed. Nice. All four of those little containers. Yeah. You could have developed multiple skins really had you had more colours. Oh well. They were good. Yeah. True. Do your own. Though I did feel like th the level of information dropped off severely over the course of the day. I mean maybe it's just me but I didn't actually get any information for the last presentation at all. Nothing, I didn't even get an email, like that was it. So, yeah, I feel like that was slightly lacking but then you know, fill in the blanks on your own, leve

I of creativity upped. Whatever. Mm-hmm. Uh-huh, that wasn't very much. Mm. Yes. Hmm, very much so. Yeah, already having the formatted stuff helped a lot. Very much so. Hmm. Yeah. That's kind of a good thing though, you know, give the rest of us some structure to work with so hey. Hmm. Yeah. Yeah. I except for a couple moments where it just got out of hand and I knew we were all lying through our teeth, other than that I could only imagine. Yeah. Totally. I think so. Though we didn't actually I mean other than minor discussion at meetings there wasn't except for the actual building, but I feel like if this was a team project there actually would have been much more of the collaborative like brainstorming, use the board well and this would have been six months' worth of work, not like three hours' worth of meetings. That's true. Yeah that is kind of Mine was the mics. I didn't feel like getting up and down and dealing with all these wires, I was afraid I was gonna break something actually. Yeah. Yeah. Yeah. True, but it didn't even occur to me as an option, I mean I don't know that I would have but I know that I consciously didn't. True. Yeah. Yeah. Well it looks really professional. I know. I know, I felt like I needed to be professional so I didn't like draw all over my paper and stuff. Okay, well not entirely, but still, I doodled less than I usually do. I guess. Um. It did it just say in an email that we need to discuss that? That slide was like that? Well. Uh I think they still do their job. I am thinking outside the little square box though, with literally in like form I don't Yeah. It's still gotta be technically car shaped or

it won't fit on the road, you know? Don't know. Kind of. Oh, how long was our meeting supposed to be? How much time do we have left? Mm. Yeah, at the beginning it started out and I felt actually like under pressure like the first couple were taking a lot of work and I was like had like all this brainstorming I was doing and then suddenly I was like well it's just another two minute presentation that you guys don't really care about anyway so type away. You know, you know what I mean like we all sort of knew where we were headed with it so it didn't feel like it mattered anymore. Mm-hmm. Whatever. Yeah. Very much, yeah. See I only got blank ones. My slides were all blank, they'd have a title maybe and they were just empty. Like with those words already on it? No. I wondered why yours always looked so more complicated. I think I added a slide one time. Hey with the whole new background being innovative, yeah that was class. Mm. I wanna know how our product would fare. I can't just leave it there. I think it would take extensive marketing, okay, an apple with a red button on top, even I am sceptical. But you know the whole Yeah. I know it is. Mm. I noticed that. By accident. Well huh. An interesting day all in all I would say. I know. I Yeah. 'Cause it's such a functional item. Mm. Mm. We got it to be. Like cutting corners. Kind of, though it was really technically an evaluation of the product, not the project in general. Which I'm not sure is the same thing, at the time that just i made more sense, but I could see if they were really asking about us. Yay. Make it sound eloquent. Oh, I have to done I've I've done transcription before and it's really ridiculous how many words people say like just in the middle of their sentences like that that mean nothing. There's a guy studying it here, yeah, he's studying ums and ahs or something. Yeah. That's a good word for it. Just add some prefixes, sounds classier. I, yeah, pretty compulsively during meetings, like, yeah. Yeah, we are addicts. Mm. Yeah. I yeah. True. I yeah. But it's not regular I mean my grandparents had it in the eighties and I got it in ninety four, but still. Uh-huh. My um grammy does computer science back in the States and so they had um an E\_D\_U\_ and gov network. There's basically the fundamental structures, but it wasn't uh household t

o household yet because it hadn't been partitioned off and stuff, yeah that was him. Apparently, does that include like champagne or something exciting? I think so. I think that's a closer. I have no idea. So is that a close? Okay, that's the end of the meeting. Thank you gentlemen. I feel like I'm signing off. Ready for this? Oh man. No it's important to we talked a quite a bit about uh you know the the interchangeable uh faces and what we've done here is come up with a bit of a natural look here um f we call it fruity if you will. Um. Right, um, of course that's uh interchangeable and uh I think it would be desirable for the uh for the regular product in the in the in the in the first packaging to be something a little bit more subdued but this is kind of something that can be done um and as you can see on the television there uh we have the uh voice detector device um on the top there. Um. So that that will work quite well with with regard to finding this uh contraption. Um, what other things do we see here, well, um if you give it a touch it does have actually a bit of a spongy feel, um, so I think that will work well with regards to our market. Um and uh let's see, well clearly there's gonna be some more colours and what not available. Um uh do you have anything else to add to that? It's actually important to note that the television, uh you know if there's an earthquake or anything like that, that i it actually is edible inside. Um it's encased in a new uh type of uh polymer yeah. It's fine. Hmm. It's pos a possible new product. Um, but I think that's I think that sums up the main features of our of the remote, um I dunno if you guys have any questions or f whether that uh whether we need to worry about any uh other marketing areas or anything of that nature. Um, did we come in under budget? Mm-hmm. Mm. Did we talk about the voice recognition uh option? So uh so uh yeah on the back here you all noticed this area here which is actually the voice recognition uh uh console and uh I think it's nicely designed into the into the overall look. Um, but basically the voice recognition uh incorporates um the latest designs that our research

team has been able to come up with. Basically uh quite similar to the coffee maker um design that we were talking about earlier and um, I think that uh has given a proven um ease of use and what not. And uh allows features like the remote actually talking back to the user um, so. Well we didn't quite have enough material uh. Oh I see, right, um. Right. Actually this bottom red ring here just unclips and then you put a new a new uh a new plate on top of that. So I mean there are I we definitely priced out a spongy even spongier non-natural look um materials which I think worked out fine. We also continued on with the ideas that following uh Apple's colour schemes with the kind of the uh light orange and the green. The voice recognition area actually doubles as uh as the solar cell area. Yeah. I mean I think that uh if we're talking about it being one of our main selling features, being environmental and without the batteries and what not, although it does still have a battery so I'm not sure that you know what the sell is on that. I mean you might be able to sway me on the idea that we our main selling point could be already this voice recognition thing I mean that's what sets us apart right? And the reality is you know, for me from an ideological stand point, I'd like to stick with the uh the solar cell, but I kind of have to throw myself in the in the business structure model here and uh you know I think I think that I think that we need to come to a compromise here and maybe move ahead with the project, without the solar cell. Savings. No, I think that was a good compromise you brought forward Sarah. Yep. They like that spongy feel. And the paging function works well, that's good to hear, we worked hard on that one. W we might have uh we might have lost that granola market again

that we're I guess that's true. We didn't use the whiteboard at all. And Um, also had I not been intrigued about the pen, I don't think I woulda used it at all, I didn't write barely anything. Uh. Yeah. I so I don't n I think there was a lot of room for creativity, we could do whatever basically what we wanted until the budget came down on us, um. With the natural look. I think the teamwork was good as well. Well I think that was I think that was an issue I kept finding with regard to well no but also yeah when I was reporting about what each of us was doing I was often confused as to what you were doing um and then I also felt like you know a lot of our discussion would centre around n specifically what my task was because that was kind of the interface portion which was what the whole project was about uh but and then in the end I think our jobs kind of melded together a little bit more, which was fine. Mm-hmm. And I think your leadership was quite good. An so is that the first time you've taken on that kind of role? I had to admit, as soon as w we started I mean as soon as we got the Play-Doh, th you know the whole concept of really trying to stick with reality went out the window. Possibly. Oh yeah, still have 'em. Yep. I mean I think had the issue been more serious we probably woulda brainstormed more during our meetings as a team. Well I dunno what I woulda shown on that board. I mean it's just like the paper I don't know what I really needed the paper for. Um, because I've got this laptop. Standard, I just used it 'cause it's literally right in front of me. So is this all we need to get through? Is it Any new ideas with regard to remote control concepts? What is that? Our limited ability to think outside the box? Why? Huh I think it was the real. Yeah. Think it was also realisation of you basically just copy and paste what's given to you into your presentation which uh wasn't so clear to me at the beginning. Oh I added like five slides too, but I Yeah, mine too. No. I added many slides every time Yeah. Um. Even you. Actually that looked a lot more like a tongue from previous to uh fr some other design uh modifications. I hope you appreciate the uh incorporation of some tin foil from a uh random Kit-Kat bar that happened to be consumed. So again I reiterate my question of how different we are comp compared to the other groups, especially between culture groups and what not. Mm. What the uhs and the Mm. That's scary yeah? Well just around that eight or or nine people that are Dude, I think we've had internet for like eighteen years. In the eighties? Right. Yeah, it was to the like seven universities or something. You

guys ready to celebrate? Celebrate. There is another one. Huh? Yep. All set? Cool. Alright, it is PowerPoint time. I've done more PowerPoints in this particular experiment than I've ever done in my life before this experiment which is kind of fun. So uh here we have our detailed design meeting where we will um look at the prototype and um right so um, I finally figured out what this whole second bullet point is about in my that my coach was sending to me. It means I'm supposed to read the minutes from the previous meeting. I think. I don't know. Otherwise it's just saying I'm the secretary and I'm therefore I'm taking the minutes, s so just to go um just real briefly to go over minutes from last meeting, uh, I will open them slowly, no? Wait for it, wait for it. No. That's how the Wait. This is, this is very high-powered stuff here, double-clicking, there we go. So um basically the moral of the story from our last minute uh last meeting was that um we that we had meetings from uh we had presentations done by the Industrial Designer, uh or from Nathan, and Ron and from Sarah about what we can do here um and what sort of limitations we're operating with um uh excuse me what limitations we're operating under, what kind of risk we'd be looking at with some of the various approaches we were discussing and we esse

ntially came to the conclusion that we should develop a remote with uh voice recognition, I\_E\_ that had a vaguely non-remote like shape um because you didn't really need to use it as a remote since you could just use your voice. That would include some mostly just the simple design features for a television operation but with a slide or a fold-out bay for more advanced functions for users. Um, and uh the uh uh the U\_I\_D\_ and the I\_D\_ were asked to go ahead and start developing a prototype for us to look at. So. That's sorted, back to the main meet here, um, go ahead and take it away guys. Mm-hmm. Nice. Perfect. Oh, right. Oh well done yeah, yeah oh ok Edible televisions, it's a wave of the future. Brilliant. Brilliant. Cool. No, no I think that's Right, yeah thanks guys that's very, very good work. I like it, brilliant. Um, what we need to discuss now is the finance of it, um I got me you've got you provided a number that actually sounds quite nice. Um the trouble is I was just given this by finance. Um, it's a spreadsheet of the parts and I've just tentatively put in what it's going to look like um. I'm just gonna clear this out real quickly, but it looks like So we'll just if we can just itemize what's in here, we've got this it's a solar cell thing right? With a back-up battery? With the ba okay. Um and Clever, clever, well done. Um so I guess that would mean we've got a bit of a um It's a s a speaker and a sensor at the same time isn't it? Okay. Um and the case, it's more of a single-curved case, I guess would be that be the general Um and we've got a rubber skin material basically throughout. Um. Push button interface um with this other drop-down so maybe we've got two push button interfaces don't we? Um. And um a special I guess it's uh we've got a sort of a wood materi a rubbery type material that throughout, yeah. Yeah, it's it's quite unique. I like it, yeah it's So it looks like a bit over budget, um. So what we could do perhaps, a simple fix would maybe to switch away from the solar cells um or take out the back-up battery. Uh Mm-hmm. Mm-hmm. Hmm. What's difficult, we have all these things integral to the um to the design of it that we just can't back out of now, it would have to be seems like we'd have to go back to square one in a way. Um if we were gonna try to undo one bit we'd probably have to undo most of it, um It's either or. 'Cause we can't remove the push buttons 'cause they're um and we can't get rid of the uh I mean removing the changing the case wouldn't be so much of a mm-mm, um, nor would changing the case materials. Um. So yeah that looks like to be the only thing. So that would be the it's a major change but Yeah. Alright, so we're in agreement on that. Right. Moving along swiftly. Um, so I guess now we just go to the project evaluation which I will allow Sarah to take over. Ah of course, sorry. Whoosh. That'd be great Brilliant. Hmm. Um yeah, I was just go on. Well they don't own tellys anyway do they? Right. So, um, this one's a bit unclear to me to be perfectly fair, um. I got this slide from the coach and I'm not sure what it's connected to. Um so I guess we are going to discuss um our project

process um and that is gonna go into my report. So I guess this is the point where we go um uh out of role it looks like and talk about our satisfaction for room for creativity and so forth and how that all worked, I guess, um. I think so yeah. I think it's I mm-hmm, I think so. I think hope I'm not screwing up an experiment. But I trust that she would jump in if I was so okay fair enough. Um right, um so any thoughts? Yeah. What do you guys feel about the process? Mm-hmm. No, no whiteboard. Was pretty cool tack though. Attempts to contact coach ineffective. Very natural look. That's the brilliance of they had a p they had a peeler in here. Yeah, I think, yeah re I thought it was like really creative actually, I mean. Including the s the multi-coloured wave pattern. What did you guys think about the the th

e roles? That's true, I I got this spreadsheet. Of what to do. Mm, mm. Cool. She said I I I she actually made a comment off boy you're getting into this and I really I think it's true I did get I I felt like I got way too into it. I felt like I slipped into it a lot. I dunno. The first time I've ever done anything like yeah project project management. I usually organise crap, it's one thing to do, you know set up a party with your friends, you know? But you guys felt that you could keep the, yeah, suspension of disbelief kind of like like the role and the okay? Yeah, yeah. Maybe in in Legos you know? Be fun with Legos too, like make a remote control or spaceship, we used to have spaceship Legos did you guys ever used to build spaceships with Legos everybody knows best spaceships ever. Um you guys felt like there was enough teamwork in all? Hmm. No I, no I dunno, I d I I dunno, I don't I I was just I It's true huh? Yeah. Yeah. Course I'm I'm conscious of the idea of the Project Manager asking if you guys feel like there's a team you know it's like, kind of like, like hmm. It d But yeah. Interesting. It's kind of fascinating wasn't it? I mean the whole process of I don't know. I I don't know if there was a ri I th Mm. Nor I. I wanna see the output files from these um, from the digital paper. I wanna see wh wh what my my handwriting looks like digitized because my handwriting is crap. I mean, just to see what it looks like in P\_D\_F\_ format or something. T I I'm curious about what the de-briefing is gonna be like. You know, like what is the uh what exactly we're looking for here. I dunno, I'm not sure what the new ideas found i is about. Well, that's the thing I got i in the email I got this PowerPoint file but this slide was just there, mm-hmm. I didn't change this one at all. Um ch Yeah well. W I kinda like th Yeah you can't Yeah. Does kinda make you wonder, I mean, how much can you do with a remote control? It's like inventing a new car. Yeah yeah, you can Yeah. Hmm. Um. 'Kay. So this was other costs. I dunno. I think this is forty ish I I I mm we should go on a bit yeah about the project eval, um. I dunno about you guys but I felt like a bit under-stimulated on the whole thing. Like, what like you know what am I really doing, you know what is Yep. Hey. Mm. I actually didn't do that at all though, every single one I a all the presentations I either added slides or edited 'em. I di Oh. What? Really? Did they not have they didn't like uh mine yeah they didn't come like this? Like with this was what it looks like. This is what that looked like, literally, just like that. Interesting. Uh-huh huh huh. Interesting. Any other thoughts come to mind? Yeah but Builds. Mm. Interesting. Uh, yeah, I'd say so. Mm, I know. It seemed like everything flowed pretty logically. You know from the the the basics to the conce although the whole concepts thing, the whole concepts phase, I don't think I really understood like the concept. Well the id okay the notion of yeah I mean i it's not like I have a concept of a mug's material, it's just it is what it is. You know, maybe i rather than concepts i it should be th thought of we sh I I thought of I thought of rather than in terms of concepts I thought of it in terms of um like proposed idea. And then the final would be like th the actual specified prototype or whatever, I dunno. But. All in all it's kinda interesting. No just this closing one. No we've established that the costs weren't really within budget, but we could s you know do it We did the project evaluation based on um Sarah's evaluation of on off switches and Mm. True. Yeah. 'Cause we di we had a thu think about it. Um. Yeah. And it's all recorded, woo-hoo. Yeah what I'm gonna I'm gonna put

um I'm supposed to do this final report thing at the end so I'll put all that into the final report as well, or as much as seems like maybe not like the articles and stuff, like because and if and so forth, but I'll put most of it in the reports. Nice.

Oh yeah. There's a whole branch of psychology that looks into that, psycholinguistics. Yep, they're called um disfluencies. Yeah we like our fancy phrases and terminologies for things. Exactly uh I will save this into the project documents. Yeah. Oh yeah. Yeah I know. Come on give me some information. Well to be fair we're we're hooked we're all hooked on the internet, so I mean I do the I know, imagine we went the first ten y fifteen years of our lives without the internet. It's only in the last ten that we're like where's the internet? I mean, you know, it just in the past five we've gone from twenty eight modems to broadband all the time. No we have but I not in the sense that it's so un you know uh ubiquitous Mm. Yeah that's our last step. Celebration. 'Kay I guess we can probably call that meeting to an end for the most part. Cool. Where do you find that? Is this one of those media player? W oh. The default track. I thought it was David Burns, look into the eyeball. That's one that seems to be shipping with it uh shipped with for a while, maybe this is the new version. Yeah, I guess we'll call that a a doner. Fab.



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# Meeting ID: 106

Data Source: Train

## Executive Summary

Um alright first off we'll just uh recap from our last meeting . Um which was we got together just to basically decide on well to talk about what it is that we were actually uh supposed to be doing , Um yeah , we're gonna hear your uh th three little presentations , o I'd like to hear who's g who's on the um from from uh Catherine actually first . Um so um for the energy sources we can have a basic battery , a hand dynamo which is which was used uh in the fifties for torches , You can have a kinetic provision of energy , Or you can use solar cells , Well , there's sometimes combinations , I mean , like calculators do combinations of battery with but also using some solar power . but I'm not sure about that indoors , really , but And uh if we want something fancier , I think the kinetic provision of energy could be nice , Think the the uh what would cost the less would be the basic battery , really . For the case of the remotes itself , um they can be a general case , which is just a flat one . You can have uh a curved one or a double curved one , Um then the case material itself , so it can be uh uh either plastic or latex , uh rubber , wood , or titanium . And th for each of them you have uh cases where for example titanium , you can't use it for if you if we're choosing a double curved case , we can't choose titanium . But if we're choosing just the flat case then we can go for anything . So that might be an idea of using the rubber , And also it doesn't break as easily maybe , Rubber , we're all we're all going we're all liking that idea ? so you can have basic push-buttons or a scroll-wheels , like you have on a mouse , um or you could have um L\_C\_D\_ , which gives you a display . Um and if we choose double curved then we have to go for rubber push-buttons . Mean so what's the difference between a normal rubber case and a rubble doub double rubber double curved case ? Let's have rubber push buttons , hey . Um so the push-buttons themselves they can be just simple or they can be If we get an advanced chip which is um used for the L\_C\_D\_ , the display thing , then that's even more expensive . is uh , okay , advanced chip on print , which I presume is like one P\_C\_B\_ and that's got all the electronics on one board including the um infra-red sender ? Well , if if it's not chip on print then , I guess , you get different chip components , and you build them separately and doesn't include the infra-red . If it's something that's inside the the unit . I it doesn't affects whether the customer's gonna buy it or not . So let's not let's uh not bother with the chip on print . What about the just developed uh sample sensor ? Well , what do we need a speaker for in a remote control unit ? I'm just guessing . But it's gonna be the most expensive option , probably and it would be one thing if it was speech recognition where you say something and it turns the T\_V\_ on like , turn

the T\_V\_ on , and i turns comes on , a it just gives you a verbal response . Oh , then forget about it . so we want it rub rubber double curved . So rubber rubber keys , yeah . But the fact that this this rubber i is actually used in these anti-R\_S\_I\_ ps specific Okay , so I'm continuing with the user interface uh topic . Uh and so the manufacturing division uh sent some some samples of of uh interface components that we might be interested in using that have been used in other products , uh like the coffee machine . they they suggested the idea of using a spinning wheel like you use on the side of an M\_P\_ three player like iPod . So I already mentioned the speech recognition interface . I guess , we we basically vetoed that idea . but they suggested uh , you know , going i a little bit into a a niche , but it sounded like from our last meeting we really wanted something that was general , but done well . I can give you an example here of uh , good layout and bad layout So this would be an example of bad layout , where you have volume up and volume down , but they have a V\_ on both of them , so uh Uh this is the example of the giant remote that's impossible to lose . Uh so I was against the speech recognition and against going uh towards anything in in a niche sense . I didn't I didn't think the spinning-wheel or the uh L\_C\_ display were were crucial for us . So we're we're not gonna have any sort of display I think uh . I think we shall have a limited number of buttons , ideally , I mean a a power , channel up , channel down , volume up , volume down , and a numerical keypad . it will either have a a lock button like we mentioned or or a cover or something like that . Um it seems like we wouldn't wanna make it too busy and too sort of gaudy , Yeah , I would say mayb maybe a couple of colours like uh like a black with with yellow and somewhere , I I guess the fact uh also that we are having a rubber case uh would prevent us from having the cover function that we thought of before . Well , I'm just basically letting you know what's happening in the markets So the remote control has to look and feel fancier than the ones that already that we already have . Um second , uh it should be technologically innovative innovative . now the trouble is is we've already decided that we're going with the stuff that works already , that's cheap . I mean it's different , but I wouldn't say like a rubber remote is fancy . That's why I was thinking , Bluetooth , 'cause Bluetooth is the in thing nowadays , like it really is , they don't really care whether , you know , at the end of the day whether it works properly or not . Of course , they do . So is is the advantage of Bluetooth that you can just like synchronise it with other that would mean you'd need a television that has Bluetooth in it , which no no television does , Well , if you're looking at if you looking at something that's going to be bought by people , you have to make it new , you have to make it state of the art . Like it doesn't have to be , you know , Bluetooth , If we want something new , we need to move away from what we already have Okay . Yeah , this that's that's very good . Maybe the kinetic mo provision of energy then . It's been done for watches , but I haven't seen that for remotes , yet . Yeah , we can make the squeezing of the rubber be the be the generating like the energy generator . Next year's fashion i very much in fruit and vegetables are thm are like the theme for cloths , shoes and furniture . Okay , so we could have keys that are like a b like a broccoli key and a uh and an avocado key on them . right , we're gonna go go back to um going with the kinetic thing , and as it's rubber the feel which is in this year is spongy , Yeah , we're we're ahead of the game there . and um I'm not sure about the buttons being in the shape of fruit though . Maybe make it like fruity colours or something . The power button could be like a big apple or something . Um like I'm just thinking bright colours . Wanna make it different colours so anybody can choo like like so we could do like the pink range , the blue range , the green range , the where , you know , you have a variety of colours , that

people feel like they're customising it when they buy it , even , you know , just just by the fact of choosing . from you Catherine wi your y y you know you're gonna be working on the the look and feel design . Um Gabriel , you're gonna be working on , you know come up with the the user interface design . Then basically , you two are gonna be working together on this . come up ki you know , be ab for the next meeting be able to come in and show us some some i some physical ideas . Um and I think you are gonna get a chance to play with some clay . Um and you're gonna be working on the product evaluation . We'll look into this lock key

## Complete Meeting Transcript

I feel like Madonna with one of these on. I said I feel like Madonna with one of these on. Right. Hello everybody. Back again for another wonderful meeting. Is uh everyone ready? Okay, we c we can hold on for a minute. I figured with the spam thing, if you can't beat it, join in. Are you ready? Okay, right, well, I take it that you are all ready now. Um alright first off we'll just uh recap from our last meeting. Um which was we got together just to basically decide on well to talk about what it is that we were actually uh supposed to be doing, and who we all are and stuff like that, mm get bit more of an idea together of what's going on. Um what we are gonna talk about in this meeting is um now that we know what it is that we are doing, now we know that it's a T\_V\_ remote and stuff and you guys have just been off doing some some uh R\_ and D\_ for that, that's research and development for those that haven't heard that before, see I'm learning all sorts of new technologi terms in technology today. Um yeah, we're gonna hear your uh th three little presentations, whether they be on computer or on the whiteboard or whatever you want. Um I'd like to um hear o I'd like to hear who's g who's on the um from from uh Catherine actually first. I want what I'd like to hear about is uh if we've finally decided on um what sort of energy we're gonna be using and It's just that yeah, let's let's hear from you first. Get yourself in position. I don't think any of us remember the fifties. Do sol solar panel things, do they have to work from the sun or can they work from a light bulb? Does anybody know? Okay. Mm. Okay, jolly good. What's a double curved one? Okay. So that might be an idea of using the rubber, but then it should, you know yeah. when a T\_V\_ programme's got one watching the match and your team's just lost, you can fuzz it across the room and it'll bounce off the wall back at you. Yeah, I like that idea. Rubber, we're all we're all going we're all liking that idea? You think you can market that? Ooh, we like rubber, ooh. Uh-huh. Well, we're gonna go with I think we've decided that it's gonna be a rubber case so push buttons instead of the wheel? rubble double double. I'll have a Big Mac, please. Let's have rubber push buttons, hey. Yeah. Simple, yeah. Chip on print. It's a bit. Okay, uh what I'm not understanding here is uh, okay, advanced chip on print, which I presume is like one P\_C\_B\_ and that's got all the electronics on one board including the um infra-red sender? Right. Um what a what alternatives do we have to that? Y um what alternatives do we have to the chip on print? so it sounds So, why would we not go for that? If it's something that's inside the the unit. I it doesn't affects whether the customer's gonna buy it or not. Um we wanna go for an i i all so long as it works, you know. So let's not let's uh not bother with the chip on print. Yeah. S yeah, push buttons. What about what? Well, what do we need a speaker for in a remote control unit? S Yeah. It's not something that we wanna t go into with this product. Yeah. Yeah. Yeah. Yeah. Yeah. Yeah. Basic battery. It's cheap, it's cheerful, it's worked, does work. We were go we were going with the late with the the R\_S\_I\_ rubber, weren't we? The the The double

whopper, please. Yep, but we're going for the simple buttons. Yeah. And it's cheapest all round, it sounds kinda funky, and we can also market it as i 'cause we were s saying earl you were saying earlier in your research that um the the people have the R\_ people were getting the complaining about R\_S\_I\_, and this is anti-R\_S\_I\_. So that's another marketing point that we can use. But anything is gonna have buttons. Even if it's a jog wheel, it's still repetitive. You You see, you can still get it does you still get repetitive strain injury, whether you are pressing a button or pressing a flat bit of screen. It's the v it's the fact that you are pressing the same doing the same movement. It's not actually what you

are doing. But the fact that this this rubber i is actually used in these anti-R\_S\_I\_ ps specific Yeah. And you know, yeah, you can fuzz it across the room and throw it at throw it at your children yeah. Okay, Gabriel. Let's um let's let's hear from you about the um it's the interface. Great. Mm. Mm. Mm. Yeah. Mm-hmm. Yeah. Yeah. Yeah. Do we have an uh example of a good one? Brilliant. Yeah. Mm-hmm. Okay. Well let's um so w what are our definite decisions on this then as a team? The um The the um the interface type we're going for Just the simple s simple straight set of buttons. Yeah. Yeah. Yeah. Okay, and we're not yeah. Are we gonna hav hav an are we d have we decided on whether w we're gonna s supplement it with anything, you know, colours or particular gimmicky bits to it, we're not we're just gonna go for something We're Yeah. Yeah. Okay. Okey-dokey. Yeah, I don't have any other questions on this. Let's move over to Yeah, sure.. Yeah, the button that just does that, yeah. Cool. Mm yeah. Mm-hmm. Yeah, why should people buy this when they're already got a remote that came with the T\_V\_? What's that mean? Okay, now the trouble is is we've already decided that we're going with the stuff that works already, that's cheap. Yeah. Maybe we could um Of course, they do. One hundred per cent, that's your first thing, you go, oh I'm not gonna buy that, 'cause I dunno if it works or not. Okay, well, what do you two think about this? Yeah, what I don't understand what m Yeah, and it this is just gonna all this is being used for is your television. It would that would mean you'd need a television that has Bluetooth in it, which no no television does, does it? That would mean we'd have to make a television as well. No, that would be your telephone in with your television. Yeah, and i Nah, the televi the television would have to be a Bluetooth compatible, basically. An and there is no there is no such thing. Okay. Okay. Yeah, this that's that's very good. And and this is all tying in very nicely. The fact that it's made out of this rubber, we can throw it about. Th we should encourage people to throw their remote controls about, because it charges itself up by doing it. But yeah, by the squeezing it the Yeah, that's a great idea. Well done. Yeah. I wanna watch the pineapple channel. Well spongy, that's where. Yeah, we're we're ahead of the game there. Okay. Alright, yeah, no, this i this is good, so through all that we've we go we're right, we're gonna go go back to um going with the kinetic thing, that's great, using the spongy rubber that we were talking about that anti-R\_S\_I\_ you can as you squeeze it you are not only therapeuticising yourself, you are charging the batteries, and um I'm not sure about the buttons being in the shape of fruit though.. Yeah, this is true. Well, okay, it seems like the only thing that we haven't really finally um agreed on is its image. Like, yeah, we're we're saying no we don't want it to be fruit and vegetables, but we dunno what it should be, or like are we going yeah it looks slick, but what do what do we mean by slick sort of thing? I mean you said earlier on i it should be funky. L keep it clean, keep it clean. Bright, but not too bright. Like the volume buttons should be the all the same colour and the d and the the channel buttons should be one colour and stuff like that, do you mean? Okay, what? Okay. Tha Yeah, I mean we that's we we Yeah. This is the remote control tomato. Yeah. Well, it's it's gotta be chew proof. So, what are you saying, maybe we should market it in different colours for different so we could do like the pink range, the blue range, the green range, the Mm. Well that's that can be down to bit of market researching you know, if that's easy enough to find out what colours are

more popular. Mm. Okay. Alright. Well um, we'll alright let's what we're gonna aim to get together by the next meeting then um is from you Catherine wi your y y you know you're gonna be working on the the loo

k and feel design. Um Gabriel, you're gonna be working on, you know come up with the the user interface design. Then basically, you two are gonna be working together on this. You won't be going off to your separate offices. Um and I think you are gonna get a chance to play with some clay. I think, yeah, it's gonna you know, come up ki you know, be ab for the next meeting be able to come in and show us some some i some physical ideas. 'Cause at the moment, uh you know, it's it's hard. We were kinda going, yeah, it's gotta feel nice, it's gotta look cool and that it's you know now we can actually start, you know, s some sort of physical something or other. Um and you're gonna be working on the product evaluation. Um. And I will be uh talking to the bosses, basically, and uh f fielding off some more spam and uh that's it really. Keeping things t well, uh you know, ho hopefully uh keeping things together. Um. Yeah, that's This is this is uh good. So we know for definite we know we've we've now got some definite things going on. We definitely know how it's powered, we definitely know that um it's gonna be a simple buttons, we're not gonna be going for the new technological chip on print expensive things, so we've we're keeping the costs down. It's this rubber casing that we can sell as um fun and funky. Don't know of any other remote controls that are made out of this stuff. People, you know, people are saying, oh, standard stuff gives you repetitive strain injury, well this remote control is designed to do the complete opposite, It's supposed to fix it rather than cause it. Um. you know, we're gonna we we're gonna as a sort of extra something on it, you know what what extra things are there extra things this product have? We'll look into this lock key facility, although whether or not it happens, or is possible, I don't know, but something to look into. Okay. I think that's um well done everybody. Anyone have any uh any questions, everyone know what they're doing? 'Cause if you don't, you'll I'm sure you'll soon get an e-mail about it. Okay. right well. It's um we're we've still couple of minutes until our meeting's due to finish. But um I got a note saying that you two who are gonna be working together so bef before you all disappear off just hold hold fire. Um. Um I think, it's uh, yeah, I think, it's gonna be par part more of a profit sharing on the product. Yeah, I think i I think that's I think that's the way it's gonna happen at the moment. Yeah. Yeah. I want a share in the space rocket. Did you see that this k that this company we've made a spaceship. Yeah. Yeah.. Yeah. Mm. And the spaceship doesn't have the R\_ have a massive R\_ and R\_ down the side of it but I still want one. Okay. Um I've just had a sign flashing up saying, finish the meeting. Uh. Yeah. Yeah. It's not telling it's not saying do anything in particular just yet. So maybe you should go back to your own offices. Yeah. Yeah, it says you two . Almost. Mm 'kay. No no no no, it's fine I'm just preparing. Okay. Where is that thing? Oh sorry, couldn't see. Would that work? Okay, so that's me again. Um so um for the energy sources we can have a basic battery, a hand dynamo which is which was used uh in the fifties for torches, if you remember that kind of which wouldn't be v wouldn't be v v yeah, yeah. It wouldn't be very fancy. You can have a kinetic provision of energy, which is used on some watches these days. So if you have just a bit of gentle movement that it will give it the energy to work. Or you can use solar cells, but I'm not sure about that indoors, really, but Yeah. I dunno actually. I dunno. Um. Think the the uh what would cost the less would be the basic battery, really. And uh if we want something fancier, I think the kinetic provision of energy could be nice, but I don't know if it's worth the cost. So we've got to discuss that. For the case of the remotes itself, um they can be a general case, which is just a flat one. You can have uh a curved one

or a double curved one, if you know what I mean, so You know, kind of more ergonomic, that kind of suits the palm of your hand, that kind of thing. So Um then the case material itself, so it can be uh uh

either plastic or latex, uh rubber, wood, or titanium. And then for each of them you have uh cases where for example titanium, you can't use it for if you if we're choosing a double curved case, we can't choose titanium. And if we are choosing um solar cells then we can't choose latex for the case material, so we just have to take that into account. But if we're choosing just the flat case then we can go for anything. And I think we discussed earlier on the R\_ S\_ I\_ problem thing, so we could uh Yeah. Yeah. And also it doesn't break as easily maybe, I dunno So rubber would be Okay. Uh s so if d okay. And then there are the push-buttons, so you can have basic push-buttons or a scroll-wheels, like you have on a mouse, um or you could have um L\_C\_D\_, which gives you a display. Um scroll buttons, as well. So if you use a rubber double curved case, you must use rubber push-buttons. So if we're going for rubber then we have to decide for the case. Um and if we choose double curved then we have to go for rubber push-buttons. So it's a constraint. Yeah, but is it a double curved one or not? If it's not a double curved, then we've got the choice for the push-buttons, if it's a double curve, we've gotta go for rubber push-buttons. If that makes sense. Yeah.. No, but na le you see, you've got, okay, the energy that's one thing, then you have the case is uh, whether it's flat or curved. And that's we don't care if it's rub rubber or not, but then we've decided that we going for rubber for the case material. So if we've chosen rub rubber and if now we have the choice for the case whether it's flat, single curved or double curved. And I'm just saying if it if we choose it to be double curved then we need to go I dunno why, but we need to go for uh rubber push-buttons. So, either I dunno we just need to decide on the on the case. Let's go crazy. And then, do I have a last slide? Yes, I do. Um so the push-buttons themselves they can be just simple or they can be so that's just the electronics between the but behind the push-buttons. Um and the price that go with it with it, so the simple push-buttons are gonna be the cheapest. Uh if we get a scroll-wheel, that's a higher price range. If we get an advanced chip which is um used for the L\_C\_D\_, the display thing, then that's even more expensive. Mm.. Yeah. The infra-red. Yeah. Well, if it's not chip on print then, I guess, you get different chip components, and you build them separately and doesn't include the infra-red. It's less expensive mm Technically speaking, it's not as advanced, but it does the job, too. Fo It doesn't, yeah, yeah, yeah. Totally. Yeah. So let's not go for the Yeah, yeah. I agree. So it's either um the scroll-wheel or the push-buttons. Well It'd be it'd be cool, but they are saying they've just developed it, I'm just guessing. But it's gonna be the most expensive option, probably and Hm. Just if you are really lonely, maybe. Channel five. And then it switches on. Okay, so I'll go back, maybe, to the previous slide and we can decide for each problem, what we should choose. So for the energy source, do we go for the battery or the Cheaper option. Are you happy with that? Okay. So we'll go for the battery. Then the case, do you want it flat or curved or sing or double curved? Double? Okay, so then if we use double curved case, then we have to u choose rubber push-buttons, and that's fine? P Yeah. I thought they would give an option of flat buttons or a That they don't. Mm. Alright, that's me done. Sorry. Well Bluetooth would, for example, enable you, I think, to um um connect for example you if you get a w call on your mobile phone, but your mobile phone is downstairs or something, you would get on your television you're being called by this person right now. Things like th

at. No i No, but if you get Bluetooth on the remote, you'd be able to I with the television, yeah. I was just trying to find an advantage. Wha what w what advantage would you get for the Maybe the kinetic mo provision of energy then. It's been done for watches, but I haven't seen that for remotes, yet. Change the batteries ever again. Yeah, well, and in little characters you say, yeah, but not too much. Yep. No vegetables. Well yeah, but Apple would sue you for that. sued the Beatles so Yeah. Why not? I'm gonna write that down. That's yeah. Although I'd be curious to see how many uh You know, there are some colours that I wouldn I would never choose, and I would be curious how many people choose that

colour. Mm. And produce less of the silly colours, maybe. Yep. Alright. Mm. Cool. It is. Great. That's true. Doesn't Yeah. Are we taking these off? Hello. Yeah. That's the kind of spam that everybody likes to receive. Hmm. Do you have any preference uh of order? I think she is still finishing her. Hmm. Okay, it's uh Is it like a crank thing or something. Well, there's sometimes combinations, I mean, like calculators do combinations of battery with but also using some solar power. Uh I think, it has to be on the on the solar energy, but I don't know. Let's have a squeezable remote. If it's rubber, isn't it malleable anyway, it doesn't matter if it's double I mean isn't a rubber case, mean it's completely flexed, I mean, it it flexes to whatever they want it to? Mean so what's the difference between a normal rubber case and a rubber double double rubber double curved case? Okay. Okay. Go rubber. Go rubber the whole way. I think push-buttons is Yeah. Th the the speech recognition um option is it doesn't seem really very promising for us uh, 'cause uh The yeah the example that they're already using it for is with the coffee machine, where, basically, you can program a sample wi um That when you say something it will give a response, and you program the response as well. Just uh clips of tha that you record yourself. So you can program your coffee-maker that when you say, good morning, to it it says, hello Rick, or whatever. But, I mean, it's not it would be one thing if it was speech recognition where you say something and it turns the T\_V\_ on like, turn the T\_V\_ on, and i turns comes on, but it's not that. It just gives you a it just gives you a verbal response. So, yeah, I mean, like what's the point of saying, Hello remote, I mean, hello, how how are you? Yeah, if you're really lonely, it is it's No, tha that w that w that would be more promising. It it's just a remote that talks to you. Uh. I mean to certain cues. 'Kay. Yeah, I'm fine with the basic battery. Hmm. Yeah, so we want it rub rubber double curved. So rubber rubber keys, yeah. Yeah.. Yeah. We're giving them a way to turn off steam, basically, yeah. Not that watching T\_V\_ should be that stressful. Oh yeah, I guess T\_V\_ can be stressful, yeah, if you're watching sports. Alright. Alright. Yeah, some of what I have to say ties into what Catherine was just talking about. Okay, so I'm continuing with the user interface uh topic. And so basically I consulted with our manufacturing division. It sounded like Catherine was also speaking with them. Uh I also took uh Reissa's marketing findings from the last meeting into consideration um, 'cause I think that's that's crucial as far as uh what keys we're going to include inclu what buttons we are going to include and and how they're laid out. Uh and so the manufacturing division uh sent some some samples of of uh interface components that we might be interested in using that have been used in other products, uh like the coffee machine. So I already mentioned the speech recognition interface. I guess, we we basically vetoed that idea. It's it's pointless. Uh it's just a sample sensor sample output. It would just be probably the most expensive part of our remote without any actual interesting functionality as far as operating the T\_V\_. Uh so

yeah, they they also give the uh they they suggested the idea of using a spinning wheel like you use on the side of an M\_P\_ three player like iPod. Um so we've already addressed that and I think that would actually be worse for something like R\_S\_I\_ I mean you got that thumb movement that you're constantly doing. Um the other suggestion, and I I have a feeling that we're interested in in something more general, but they suggested uh, you know, going i a little bit into a a niche, like either gearing our remote towards kids, where you could have lot of colours um, the keys might be you know, funny or or, or uh something for the elderly, where the remote's very large and the buttons are very large and there's only a few buttons. But you know we can we can discuss this, but it sounded like from our last meeting we really wanted something that was general, but done well. Uh um So, the key layout and design are really crucial. You don't want uh you want people to be able to quickly access the buttons that they use a lot without uh always pressing the wrong one um. And I didn't mention that we need a power button in our last I can give you an example here of uh, good layout and bad layout uh from our

manufacturing department. So this would be an example of bad layout, where you have volume up and volume down, but they have a V\_ on both of them, so uh it's sort of confusing for the user. Uh this is the example of the giant remote that's impossible to lose. And for something for kids. Yeah. Um. And so, yeah, I th I think my personal preferences of we've all kind of talked about and seemed to be on the same page um. Uh so I was against the speech recognition and against going uh towards anything in in a niche sense. I think it should be more general. I didn't I didn't think the spinning-wheel or the uh L\_C\_ display were were crucial for us. And, yeah, that's it for me. So we're we're not gonna have any sort of display I think uh. So, yeah, it's just gonna be just gonna be push-buttons. Um. I think we shall have a limited number of buttons, ideally, I mean a a power, channel up, channel down, volume up, volume down, and a numerical keypad. Uh. And some sort of it will either have a a lock button like we mentioned or or a cover or something like that. I guess it's to the point where we need to decide about that. Well now that we've decided on our Um it seems like we wouldn't wanna make it too busy and too sort of gaudy, but um Yeah, I would say mayb maybe a couple of colours like uh like a black with with yellow and somewhere, like maybe the R\_R\_ can be yellow, or something like that. I I guess the fact uh also that we are having a rubber case uh would prevent us from having the cover function that we thought of before. I mean, 'cause uh s so if we wanna have a lock of some sort it would have to be a button. But I think that should be I mean um, I can speak with the button department, but uh I think that it should be easy to have a button that just prevents prevents the other uh the other buttons from operating. So that should be simple. Mm. Yeah. Well it should be it should be maybe cutting edge in some sense, I mean have something that's little more technologically advanced than what's on the market. Yeah. Yeah. Actually, I mean, these first two points we've already sort of gone away from, 'cause our rubber one is not fancy I mean it's different, but I wouldn't say like a rubber remote is fancy. If that's what people want then we maybe we're going in the wrong direction. And it's it's not technologically innovative either. Mm. So is is the advantage of Bluetooth that you can just like synchronise it with other electronics? Yeah, that's basically what it allows you to do, right? Yeah, the that wouldn't be the remote so much, I mean Mm. Yes, so can Yeah, we can make the squeezing of the rubber be the be the generating like the energy generator. we're all about that. Okay, so we could have keys that are like a b like a broccoli key and a

uh and an avocado key on them.. Yeah, that's great for us. Right. Yeah. Yeah, that's great. Yeah, I don't know how we incorporate We don't have to follow every trend, I guess. Uh-huh. The power button could be like a big apple or something. They don't own all images of apples. Okay, we'll make it a uh pomegranate, a big pomegranate.. Yeah. Yeah. Mm. Sure. The one thing I'm wondering about, I hope that we're not going like too much down a gimmicky road of of having I mean if somebody go goes into the store they're gonna see like three or four normal remotes, and then a big spongy pink t tomato uh remote. I mean what are ninety per cent of people gonna take? Mm. Yeah I mean, that that seems to work well with for products like iPod, where, you know, you have a variety of colours, that people feel like they're customising it when they buy it, even, you know, just just by the fact of choosing. Right. Yeah. Okay. Oh right. Yeah. That sounds good. Mm. Right. Alright. Yeah. Yeah. Mm, I think we all know what we need to do now. Okay. Okay, I'll stay in here. Does the pay-raise immediately come into effect on our next pay-check, or is that So we're buying fut I mean, we're getting futures in the company. So we really have a incentive to make this remote work. I'd like to share in the coffee machine profits, because that's really doing well. Yeah.. This company has its its fingers in a lot of different pots. Yeah, we're definitely not in the money making department. Well I I did notice looking at I mean, they told you that they wanted whatev our product to represent the the R\_R\_ brand and and to



be immediately noticeable. I mean, if you look like at the coffee maker at the at the corporate web page, it's not obvious. R\_R\_. Well it is to us, because we we worked worked here for years and we use that coffee machine, but it's doesn't have the colour scheme of of the of the company anywhere on it obviously it's just sil silver and black. No. Mm. Okay. Right, well, I guess that's us. Okay. Right. Oh right okay. I cover myself up.. I've always wanted one of these, I really have. Where do you buy 'em from? They're. Yeah. Oh my gosh. Mm-hmm. Batteries. It's here. Ah. Mm. Mm. Mm. Yeah. Mm. I think rubber's But after my after my fashion thing, I think you'll realise that rubber is more People. What about the just developed uh sample sensor? G there, the sample sensor, sample speaker thing. Mm, I dunno. Be cool. Channel two. Oh, it just gives an answer. Oh, then then I thought I thought it was when they said I thought when they said, voice recognition, they meant um like, channel five, and it will change. Like you talk to it. Can I have channel five? Oh, then forget about it. Oh right okay. Mm. Mm. Yeah. So it will look like something like this.. Yeah. Well the rubber push-buttons. Don't you have to move your Mm. Mm. Yeah, the rubber's good. Yeah, so they can sit there and go like Mm. Mm. That does get annoying. Uh-huh. Well Maybe we can Right. Well, I'm just basically letting you know what's happening in the markets and what the fashions are for next year. Um. So yes, so from looking at this year's trends and fashions and also recent investigation that we've done in the remote control market, we have found that for the remote control market these are like most important aspects like that we really need to which we've already probably discussed. Um the most important aspect is look and feel. So the remote control has to look and feel fancier than the ones that already that we already have. So it has to be Yep. Exactly. Um second, uh it should be technologically innovative innovative. So Technologically it should be like um work, basically, I guess. It should work. Should That's new. Yeah. Yeah. Mm. So, no loose That's why I was thinking, Bluetooth, 'cause if you like put up Bluetooth, and it's like a Bluetooth remote control, everybody's gonna like, oh, 'cause Bluetooth is the in thing nowadays, like it really is, like people and um when

it comes to marketing like that's what people go for, they don't really care whether, you know, at the end of the day whether it works properly or not. Well, they do, but it's like it's not Yeah, but it looks good. If it looks good and it's it can just be there for decoration. But like You could always insert, yeah. Yeah, but, I mean, people like Well, if you're looking at if you looking at something that's going to be bought by people, you have to make it new, you have to make it state of the art. Well, it doesn't Like it doesn't have to be, you know, Bluetooth, that was just an idea, but like it needs do something that, you know, is new. Whether it's a battery it could be something really really minor, you know, like but I think we are really keeping to what is already out there, and people've already seen it, people've already got it. If we want something new, we need to move away from what we already have and um just go creative. And then you can market it. Never have to change a battery again. I think, safety s Yeah. Third most important aspect uh is it's easy to use. And I think we've all um worked that out. Um okay, in the fashion, how it's supposed to look. Next year's fashion i very much in fruit and vegetables are thm are like the theme for cloths, shoes and furniture. So next year people will be buying, I found this really funny, you know, strawberry shaped chairs, and things. Yeah. Rubber things. Um and as it's rubber the feel which is in this year is spongy, so it's it's not quite spongy, but spongy, I would say is yeah, so we're in. Yeah. And so personal what I was just saying like move away from the current remote controls uh like the look and the feel of the current ones and change the look and feel, while still keeping to the company's image, basically. So yeah.. I had to say So we're moving in the right direction like Mm. Maybe make it like fruity colours or something. Some sort. Or Mm. Well I think, if it's rubber it needs to be different. I think, it's it should be I mean, what do you associate with rubber? You know like really

different colours basically. Okay, sorry, I used the wrong word, what do you associate with the material? Um Um like I'm just thinking bright colours. Bright natural colours, nothing too Bright, but too not yeah. Like no lime green or bright yellow or bright pink. Wanna make it different colours so anybody can choose like like Yeah. And on the back of it have the logo. Well I can say in this country, you'll get, you know, lots of people wanting something really funky and cool. Like and kids will be walking in with their parents saying, Mummy I wanna buy that one. And uh parents will see the will see the product as well, because it's um like kids won't break it, it's not breakable if you throw it around. Especially with younger kids, you know they can pick it up and and Yeah. The only thing is that really small kids might chew on it, but Yeah. So so it's really it's quite it's quite like um user friendly and also for different families, like like family use as well, so for little kids and for old kids like teenagers will like it, I think. Especially maybe younger girls if it's in pink they'll be like pink remote control for their room something. Yeah. So like you walk in, you're like, oh I like that remote control, because it's so bright, and then, and then the shop assistant comes up and says, oh what colour would you like? and then they go like, oh I can choose the colour wow. So it puts, I think, even the customer into more control over what they're buying instead of, you've got all colour it's either that or nothing. So they also get to pick. Well, personally I like walking into a shop and choosing a colour. It's um Yeah. Mm. Do you've got the Evaluation. Mm. Yeah. S This gives you all the details? um. Yeah. Mm. Mm.

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# Meeting ID: 3

Data Source: Train

## Executive Summary

Uh oh I've forgotten to mail you the minutes , but I will do . Um Will you guys first with your prototype um before we get to the good news ? Okay , have you got a presentation to make ? No , not mine yet . We made three for you . Um one's based on the banana , one's based on the tomato so this is the um non to non uh no buttons one , or as mm few buttons as possible , mainly speak recognition . If you do need buttons , you can flip it over , and there's some there , Well I like the feel of it , I like the feel of it . but that's the that yellow stand there represents the the charging stand . Um the black on the back is the slogan . but also we're gonna have the company name on the front , which is the little black kind of line in the middle . These are the s two scroll ones which we thought could be channel up and down and volume up and down . it does actually feel quite ergonomic , It would have to be a bit bigger . Um , obviously I don't think that's real sized . Um that's a speaker at the top , Oh that's the charging base prongs at the bottom . And um then the big red button in the middle is the on and off one . and and um we have the banana-based one too . This one is uh , I suppose for the younger audiences . Well , nice to have uh options at least . So are there any um improvements or issues or Um main problem that we have unfortunately being finance . Uh , let's just enter in the um evaluation criteria . the unit we are currently going to produce minus the extra scroll buttons , uh it's gonna cost us fourteen point six Euros . So basically , um in order to save our two Euros um I was thinking that we could have essentially the same shape , but just have it flattened . Doesn't save us quite as much . W why is the uh double curved two of them ? Oh , good point . I think it means double curved as in um like uh a single curve on that bottom half , and the double curved would be if it was that similar curve upward . and why why I've got it two , I don't know , But you think it should be one . Um okay , so that would take away three , which would give us Eleven uh eleven Euros sixty . So we could even add something . Ah yeah , we could add things . Yeah , if we're happy with the design there's no point in spending money , if we don't have to . Project process , how do we think that went ? Yeah I think we have a a winning product . Uh room for creativity , were we happy with that ? W I think we were very creative . Leadership , Great leadership . Uh teamwork . I thought went well . Yeah , everyone got enough input , I think . These pens are are neat though . Yeah , these are new ideas , like glow-in-the-dark or something like that . So just general thumbs up for all of us then . Uh Brian , have you have you finished ? At last mine is also the presentation . Oh , you got a presentation , we forgot to mention it'll be made out of kind of a rubbery latex , new material

that we've got . So now is the final evaluation , final evaluation of the uh uh of our product . whether it meets our standards or not . w we together have to decide wha what rating we will give to this product and everything . We will give the rating to this product based on the user requirements , whether it meets the user requirements or not , this product . Then trends , whether it is as fashion trends or not ? Then marketing strategy of the company . Now comes the criteria rating with seven point scale . what do you think whether it meets all user requirements or not ? It had all the basic buttons that they needed as well as the uh new technology that people said they wanted . Seven is good , yeah , isn't it ? True or false ? Uh one is means highest ranking , So it's one for from your point of view . I'm gonna give it a two . Oh , I'll go for a one . Uh for me personally it is everything fine , but there is one thing which limits the customers , like we are having only two , three designs , But if a person doesn't like banana , or orange , you are limiting him . So we are showing our preference for particular fruits , Is that no is that not trends ? because whatever companies they launch their products in the shape of fruits , they give a range of products , a range of shapes , But in electronics , I think , it's not q always quite so um you don't always have so many choices as with chocolates . we are doing a very wrong thing . We're gonna average them ? About one point f one point eight . I have taken it very wrongly . Well um going on uh the specifications that we had , that fruit and vegetables are quite popular , and that people like something that is good to look at and not many buttons , I would give it um , so I would actually give it a three . 'Kay . As far as the uh technology it its' got the latest trends in speech technology , um but it doesn't have that fancy solar power or the the vibrating energy mechanism . it might be trendy to some , but I'm just not swallowing the fruit , well , because it's hard to make a fruit good to look at , that that looks cool , you know , It is cus spongy also . Uh personally I wi uh I think that in terms of trends , these products are quite good , So what about company strategy ? Well , I think it's the the remote control conforms to the the company strategy . Pretty much kept to the company strategy , so I would go for a a one , as we not only kept it , but we were limited by Uh overall we are getting two something , So we can launch it . Yeah . 'Cause we've evaluated and we are within budget .

## Complete Meeting Transcript

Okay. Mm. Very fun. Oh right. Okay. Mm. Okay. Sure. We made three for you. Um one's based on the banana, one's based on the tomato and the other one is st Look. Oh yeah, well yeah, we had v some red left over. So. Okay, so this is the um non to non uh no buttons one, or as mm few buttons as possible, mainly speak recognition. The yellow there is the um the slogan, yeah, that we need to incorporate, it's very simple. If you do need buttons, you can flip it over, and there's some there, um but mainly it's speech recognition. Yeah. Yeah and yeah they might project things onto the screen which you can do on there. Mm I'm not sure about that. Um and this one is the one w more like the one w that we looked at earlier. Yeah, you guys can have a look at that if you want. Yeah, sure. Um that one is Oh no, it's delicate. That's that's already got its stand that one. That's it stand. It does also lie flat, but that's the that yellow stand there represents the the charging stand. Um the black on the back is the slogan. Uh yeah, that Well, we did think of that. Yeah, if it's standing up it's it's on there, but also we're gonna

have the company name on the front, which is the little black kind of line in the middle. So um and that's the um transmit the L\_E\_D\_ thing. These are the s two scroll ones which we thought could be channel up and down and volume up and down. We n were weren't sure about putting them there, because um i it's it kind of could get bashed. Yeah. Well, if you hold it, you can you all can hold it, is it does actually feel quite ergonomic, if you've got small hands. Um, obviously I don't think that's real sized. It would have to be a bit bigger. Okay. Um that's a speaker at the top, so you can speak into it like a little walkie-talkie as well for speak recognition. Um and um then the buttons. Yeah kind of self-explanatory, just buttons whenever you need them. Tried to keep it simple. Oh that's the charging base prongs at the bottom. We used those. And um then the big red button in the middle is the on and off one. It's not in the traditional place, but um it's quite an obvious place. So there we go and and um we have the banana-based one too. Yeah. Mm-hmm. Yeah. So are there any um improvements or issues or Oh. Oh. Ooh. Mm-hmm. More like a traditional remote control. Mm-hmm. Mm-hmm. Like an S\_ shape. Okay. Okay. Okay. Mm-hmm. Cool. Cool. So we could even add something. Well maybe we could add something, but maybe if What do you th We're trying to save money, so. Yeah, if we're happy with the design there's no point in spending money, if we don't have to. But if there is anything you think we've missed out there, then, you know, feel free to add it. Maybe I mean obviously it would be bigger so there might be more space for the the slogan on the front, because it's not in an ideal place right now. Mm. I think it went quite smoothly. W I think we were very creative. Oh right, okay. Mm-hmm. Excellent leadership. Yeah, everyone got enough input, I think. Yeah. Mm-hmm. Yeah. Okay. Well um. Mm. Yeah, maybe. Oh, you got a presentation, sorry. Yeah. Mm, love to eat that now. Kind of a green banana now. It's this as well, sorry, we forgot to mention it'll be made out of kind of a rubbery latex, new material that we've got. I've got. Yeah. Oh could you pass the tomato please. Sorry. Thank you. Mm-hmm. Mm-hmm. Sorry. Sorry, carry on. Mm-hmm. Okay. Um. Mm-hmm. Um I think Yeah, it did. It had all the basic buttons that they needed as well as the uh new technology that people said they wanted. Um so. Does it work? Yeah. So. I would say seven. Seven is good, yeah, isn't it? I can't True or false? No sorry tr one is true. Yeah. Okay, so one. Yep. Mm yellow. Uh-huh. Uh-huh. Okay. Is that no is that not trends? Mm-hmm. Mm-hmm. Uh-huh. But in electronics, I think, it's not q always quite so um you don't always have so many choices as with chocolates. I think, you know, if you're going to buy a T\_V\_ maybe a company'll have That you're going to

choose from, a company'll have two or three choices, but they're different designs. We were coming up with one product. No, I mean uh obviously your opinion, I'm just trying to Okay. What are we doing? Adding them up? Oh. Okay. Okay, yeah. Mm-hmm. Okay. Well um going on uh the specifications that we had, that fruit and vegetables are quite popular, and that people like something that is good to look at and not many buttons, I would give it um, well, because it's hard to make a fruit good to look at, that that looks cool, you know, so I would actually give it a three. Tha three or four, I'm not sure. Three. Go for three. That's fine. Mm. Yeah. Mm-hmm. Mm-hmm. Um. Yeah, the company strategy, okay. Um there was lot of discussing, that was good. Um I feel I got my say. Um so I'd give the company strategy a two. Okay. Is it? Okay. Okay, so one or two. One. Okay, just leave it, it's fine. Mm. Yeah, one. Okay. Woo-hoo. Cool. Yeah. Okay, almost there. Yeah, yeah. Okay. Yeah, there's good news? Oh. Oh. Cutbacks. Hmm. Okay. Oh. Um maybe we should bring so that the camera can see. Yeah. Okay. Mm. Oh yeah, yeah. This one is uh, I suppose for the younger audiences. A a more friendly type of Right, right. It's to uh induce more television watching I suppose or Yeah. Say it for the camera. Right, right. Yep. It won't stand. Just let it lie down, it wont stand. What's on the uh on the left? Okay. W why is the uh double curved two of them? Is i Mm. 'Cause that's the uh the biggest expense there, right. got two of

them Okay. Well we can work around that um Cut things out. But you think it should be one. Okay. Yeah. Yeah, so we're We should fire the accountants. Fire the accountants. Ah yeah, we could add things. Maybe if you click back in that bottom right cell, where you're starting from, and then use the arrow keys. Does that work? No mm. Is it the other shift button maybe? Did you try both shift buttons? It could be the other side. That's too bad. Oh. Yeah I think we have a a winning product. Great leadership. Yeah, yeah. These pens are are neat though. Okay. Uh so let's talk about our bonuses and the raises we're getting for this, right. Right, right. Uh maybe we should start cleaning up the clay. Something we should get. Oh ok Uh. Anybody Clay covered banana. blue. It's fun to touch. Do we have the uh the marker for the board? There it is. No that's false. Uh. It's hard to know. I I give it a two. Okay. Um yeah, I think i it might even exceed it um. But I guess there is a kind of a shortage of buttons. Um I'm gonna give it a two. Two. What are we doing? We're gonna average them? Okay. So seven fourths. About one point f one point eight. Okay. Yeah round it up to two. So trends. Can you explain what you want us to write there? How it how conforms to the current trends? 'Kay. As far as the uh technology it its' got the latest trends in speech technology, but it's missing the screen, as we said, um but it does have the push-buttons, or the scroll-buttons, um but it doesn't have that fancy solar power or the the vibrating energy mechanism. So I give it a a four. I'd give it a kinda middle of the road for for technology. Yeah. Well it was yellow. Well, I think it's the the remote control conforms to the the company strategy. Is that the question? Um. Yeah. I'll go with two. So one and a half. A two. Yep. S Okay. Uh. Okay. We'll sta I'll use the PowerPoint, I guess. How was that, was that fun? Okay. Uh oh I've forgotten to mail you the minutes, but I will do. Upsidaisy. Um Um we Yeah. Alright, okay, yeah. He's gonna get his pen. Um Will you guys first with your prototype um before we get to the good news? Uh we have budget problems. I'm afraid you're all sacked. Oops. I don't even have this on. Okay, have you got a presentation to make? No. Okay so it's just your your show. Three? Oh. Tomato? What tomato? I don't recall a tomato. Ah I see, okay. Mm-hmm. Logo. Okay, brilliant. Okay. Okay, so the buttons would be like, you know individual users,

or Yeah. Alright, okay. Right. That's groovy. Well I like the feel of it, I like the feel of it. At Oh dear. Alright, okay. Okay, brilliant mm. Okay, nice and obvious there, if it's standing up, I guess, yeah. Oh right, okay, brilliant. Like that from its centre. Where you're, yeah, uh were you're holding it kind of Mm-hmm. Yeah. Okay. Yeah, okay. Yeah, scale model, yeah. Mm-hmm. Alright, excellent. Okay. No. It's out of the way as well, I suppose, so. Excellent. Yep. Okay, so so Barney the banana. Ah excellent, just what we need. Lo Sort of Loch Ness banana. Cool yeah. Well, nice to have uh options at least. 'Kay and Oh there are issues, oh there are issues. Um main problem that we have unfortunately being finance. Uh, let's just enter in the um evaluation criteria. Um unfortunately the unit we are currently going to produce minus the extra scroll buttons, uh it's gonna cost us fourteen point six Euros. So we have to rea Sorry, I've accidentally highlighted somehow Um. There we go. Oh god, why is it doing that? There we go. So basically, um in order to save our two Euros um I was thinking that we could have essentially the same shape, but just have it flattened. Um. Yeah, I mean it's already got a kind of cool shape, so but it wouldn't have to be curved sort of in and out. And by doing so Oh no, hold on. Doesn't save us quite as much. I don't know what's going on with this again. Oh, good point. Um. That's sort of curve in and out. No, I think it means double curved as in um like uh a single curve on that bottom half, and the double curved would be if it was that similar curve upward. Okay, I might be wrong though. I don't think that counts as a curve, I think that's just a shape. A curvature is like the this case. Yeah, and why why I've got it two, I don't know, I can't seem to select any more however. Right. No. It's meant to be one, yeah, I don't know why I put two in there, but um Hold on till I find it, I think this shift

button might be stuck again. No maybe the shift button's stuck in. Um okay, so that would take away three, which would give us Oh that's fine. Eleven uh eleven Euros sixty. Um We cou Oh not quite, have the scroll-wheel, unfortunately. What? Yeah. Yeah, I know, that just extends it as well. I don't know. It One of the buttons is sticking, I don't know. No, it's 'cause the uh the shift button's stuck, or something. No that's fine. Um we've worked out what it would be anyway. Yeah. Cancel. Piss off. Oh well, never mind. Um. Right, so that's finances and I dunno what we what could we reckon we could add? Um Well I suppose that's our that's that's our design that we've got. So Yeah. Yeah yeah. Well that's that's uh Okay, so project evaluation. We have under twelve Euros fifty. Project process, how do we think that went? Are we happy? Okay. Evaluation. Oh we've been writing this up for m months. Uh room for creativity, were we happy with that? No, I mea I think it means sort of individually. Yes, no, maybe? Okay. Groovy. So uh we're just gonna. Uh yeah, okay. Teamwork? Leadership, sorry. Thank you very much. You're all get you're all getting a raise. Uh teamwork. I thought went well. Yeah. Uh and well means, yeah. The technical stuff was brilliant. Let's buy more. Uh Right. Um I don't know what, new ideas found, means, to be honest. Mm-hmm. Mm 'kay. Groovy. So just general thumbs up for all of us then. That kind of unfortunately is too quick. Uh. I suppose yeah. Um. That's it, um I think another couple of days holiday pay might be well in order for all of you. Uh Let's see if I can get this bloody thing to work. Whoops. Does it go back in, does it? Reusable. I don't know what this is but it's really really annoying. Uh-huh. Um I have, yes. Huh? Oh right, okay, you've got more, okay. Sorry uh. It didn't bother to tell me that on this thing. Is it? Okay. Doesn't tell me. Oh you're doing that. We evaluated ourselves, we thought we were great. Mm. O okay, hold on. I wonder w which cell do I want. Okay, I didn't r

ealise you had that bit. Okay. Okay. Alright, okay. The board working again, is it? Uh. Yeah. When the user requirement is essentially just to operate the T\_V\_, so yeah, of course we haven't actually got a working model yet. One, yeah. No it's it's like true is one end, and false is the oth Oh, I'll go for a one. Basic requirements but of the pro of the project. Yeah th Come on that was the tha 'Kay. Being fruitist. He's a tough cookie. Six. Five or six. Oh I see. Yeah, I am sort of pret uh Just the fruit does me in, I mean uh it might it might be trendy to some, but I'm just not swallowing the fruit, so um Uh also uh I would have liked to have seen the L\_C\_D\_ screen in it. Um so yeah I'd say about four as well. Yeah, yeah. Um yeah, a three. Pretty much kept to the company strategy, so I would go for a a one, as we not only kept it, but we were limited by Cool, groovy. Cool. Brilliant. In which case we are done. 'Cause we've evaluated and we are within budget. Champagne lunch anyone? Hmm. E excuse me I forgot my copy. No, not mine yet. Yeah. Uh can I have Oh sorry s Mm-hmm. Mm. And double curve on both sides? Curve. Yeah, this is double-curve, no? This is double-curve. It This one is single curve. 'Cause this is single curve, this is curved on both sides. So double-curve. Like this, one curve on this side, one curve on that side. Hmm. Hmm. Maybe. Mm. Should Uh you can do one thing. You just select one box outsi yeah, this box. Then move it with the help of this Okay. Just uh just uh Okay, just a minute. Okay. No input, like this. Shift. No it's not. Yeah, it's not working. Should we ask Meli Should we ask our technical expert Melissa? Yeah. Yeah, we Yeah. Yeah, these are new ideas, like glow-in-the-dark or something like that. We discussed all the new ideas, but of course we couldn't reach any proper goals, we couldn't use these, but we h we are using these scroll buttons like this. These are new ideas we And new shapes, everything. At le Yeah. Hmm. Hmm. So So Uh Brian, have you have you finished? Uh mine needs also this. At last mine is also the presentation. Yeah, yeah. S Uh is the project evaluated, that is mine. Yeah. So. Yeah. So. So now is the final evaluation, final evaluation of the uh uh of our product. How we are going to means uh at what standard what standard whether it meets our

standards or not. How much? What rating we will give to these products. So of course this will be a team work, we together have to decide what what rating we will give to this product and everything. So what methodology I will tell you on what basis we are going to discuss all this. We will give the rating to this product based on the user requirements, whether it meets the user requirements or not, this product. Then trends, whether it is as fashion trends or not? Means because we have already stated that people do prefer fashionable things nowadays. So this is also an important factor for our evaluation also. Then marketing strategy of the company. As we have already discussed that our company is quite in the market, not only in terms of providing quality products, not only in providing latest technologies, but also in terms of providing environmental safe products, uh yeah like uh keeping uh keeping in mind all the safety issues. So Now comes the criteria rating with seven point scale. I'm having this scale this scale, so we have to do it on a board. the user requirement I think. Thank you. So. So these are the three criteria for our evaluation of our product. First of all uh comes user requirement. So we will see whether this product meets all user requirements or not. I I will first I would like to have your views, what do you think whether it meets all user requirements or not? S So what do you think you will personally give. Seven. Uh. Uh one is means highest ranking, okay. But I think highest ranking is seven, or one? Okay, right right. So it's one for from your point

of view. And what do you say our Industrial Expert? Uh d you can you can tell on on the like I think she has given her views on the basis of design, because she was our i Interface Expert. But you can give your views based on technology, whether the technology meets the requirements of the customers or not? Two. And what about uh you, Brian? You will go for one. Okay. Uh for me personally it is everything fine, it may be having good design, it may be uh meeting all the requirements of the customers like technology-wise, price-wise, but there is one thing which limits the customers, like we are having only two, three designs, like we are having one banana design and the other one is orange, and Uh yeah, lower end. And the third one is what you get uh that is not a fruit look. But if a person doesn't like banana, or orange, you are limiting him. No, don't buy our product, because we are I we like this only. So we are showing our preference for particular fruits, two or three kinds rather, and Yeah. So. Uh no, uh personally as a Marketing Expert I don't believe that, because whatever companies they launch their products in the shape of fruits, they give a range of products, a range of shapes, like if we see, look at the smallest thing, toffee chocolates, they give a variety of different things. Some children like to buy banana shape, some apple shape, some even pineapple shape, some orange shape. So you can what shape a person will like. So in this case giving only one or two choices we are limiting our customers. And by limiting them, we are limiting our sales, limiting our profit also. Uh maybe. Okay but I will I will personally won't give it beyond three. So we can Yeah, on an average we can think three, four sevenths, maybe. Three or four? Uh, no sorry, it should be No sorry, sorry, sorry, sorry, we are doing a very wrong thing. Yeah, yeah, we are taking everything, and that's I have taken it very wrongly. Yeah uh three four four two six seven seven sev Yeah one pe exactly. So we can say one or two. because it is one point eight uh two, so we will do two. Yeah. So where were the trends. Sorry? Yeah, again the the fashion trends, this also like whether it it will be fashionable to have these products in the uh as a fruit shape or something. Uh. Okay. Yeah. Uh Okay. Uh personally I wi uh I think that in terms of trends, these products are quite good, like, these products are in fruit shape, because that what people now our fashion trend shows that people like everything all f everything that is being advertised, like clothes, shoes, and everything is being advertised in the form of fruits and vegetables, or getting them or showing some association with them. So and in this way our product is good. And the second



thing, now people don't want any complicated or bulky products and ours is quite simple and quite handy. So that is also ef that also Our product meets the f the fashion uh trends of the market. And yes. It is cus spongy also. So they can play with it, it's quite good. So then I think, maybe I can give it two. So four five ten thirteen thirteen. So we can Is it fine? So what about company strategy? Okay. So what about you, Brian? Yeah, and me also, like, this product me uh me uh me uh this meets all company strategy like our product should be as per customers' requirement, as per latest technology, and it should be environmental safe. So since our product meets all these requirements, so I would also prefer to give it rank one. So four six six half. So we can say two or one Okay. So th seven seven. Uh overall we are getting two something, but we can round it as two. Yeah. So I think overall uh evaluation of our product is quite good. So we can launch it. Yeah. So yeah. Great.

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# Meeting ID: 49

Data Source: Train

## Executive Summary

Uh , we are actually doing this meeting to start a new project which is about designing a remote control . I'm Fabien Cardinaux and uh I I guess you can present yourself . so my name is Petre . Uh , in the project I'm supposed to be the technic . 'Kay . So my name's Bob Morris . I'm the Marketing Expert for this project . My name is Hamed Getabdar , and uh I'm going to be Interface Designer in this project . We are talking about the project plan , Um . So what is the goal of this project ? Is to design a new remote control . So it's more like we are going to do inv individual work all in o in o our specialities and we are going to meet each other quite often to discuss and to find a good way . Um so now we are going to to get used t to to the tools we are going to use all during all this project . For example we can try to write what is our our favourite animal and write the f our favourite characteristics about it . So I will ask you all to do the same . Well sh should I draw the picture of the animal ? Yeah , yeah , you can draw the picture , of course . Uh we are going to to sell we want to sell uh this remote control for twenty five Euro Euro . And uh our expected profit will be around fifty million Euro . And uh we are trying to to have a market all around the world . We expect a production cost of maximum uh twelve point fifty Euro . Um , so we can start today to have a first idea of what we want to do what are our experiments with remote control , and any idea ? Well , from experience , um I've had remote controls in the past that have had very they've had lots and lots of buttons and they've been very small , and it's been very hard to to to use , because there's so many buttons , you know , on a T\_V\_ remote you only ever use , mostly , you know , f four or f six buttons . Um . Uh first would be that in current remote controls there is no back light , so if you are if you are uh playing with this in the dark room it's it's probably worth to to have something like uh back light . And the second thing , f second point from me would be that in a normal remote control there is uh there are two buttons for volume control . But I prefer like a potential-meter or something like . Are you not afraid that if you take your remote control you can move the slide and it could the the volume can go up very quickly Yeah but we can we can think of these things afterwards , I uh I prefer um remote control working with radio waves , because remote control working with infra-red rays you should you should you should keep it in a specific direction and then try it hard to tune . So we will have a next meeting in uh thirty minutes . Uh the the interface interface developer will work on the on the design of the remote control , you are going to try to to find the user requirements f uh for the remote control .

## Complete Meeting Transcript

'Kay, hello everybody. Uh, I guess you all know what is it about, you all received the email, I guess. Uh, we are actually doing this meeting to start a new project which is about designing a remote control. So I'm going to be the project manager of this uh project. And uh so I'm present myself. I'm Fabien Cardinaux and uh I I guess you can present yourself. So I dunno, you can starts. Okay. And you are? In the project? So, uh, so today we are doing a short meeting to present the project, so um We are gooding we are going to present the tool we are we are going to use during all this project. We are talking about the project plan, and we are going to to discuss about st our first ideas and so on, and, yeah. So we have around twenty five minutes to do this meeting. Um. So what is the goal of this project? Is to design a new remote control. So it should be, of course, new and original, and um it should be trendy, and user friendly. That mean it's a very challenging project, and uh uh. So w it's we will try to do our best, and hopefully come with something very new and that people want to buy. So, um So what's uh what are we going to do during this all this project? So it's more like we are going to do inv individual work all in o in o our specialities and we are going to meet each other quite often to discuss and to find a good way. Um. Yeah and everything is will be like this. Um so now we are going to to get used t to to the tools we are going to use all during all this project. So we can try to use uh the whiteboard here. So uh. For example we can try to write what is our our favourite animal and write the f our favourite characteristics about it. Mm. Uh. So uh So I will ask you all to do the same. Just to get used to the whiteboard. Yeah, yeah, you can draw the picture, of course. Oh. Never mind. Yeah., no worry. You can draw it, if you want. Good. So good um So, let's talk about money. Uh we are going to to sell we want to sell uh this remote control for twenty five Euro Euro. And uh our expected profit will be around fifty million Euro. And uh we are trying to to have a market all around the world. So n not only for Switzerland, but for the world. Uh. So, um. The We expect a production cost of maximum uh twelve point fifty Euro. Yeah, of course. Um, so we can start today to have a first idea of what we want to do what are our experiments with remote control, and any idea? So, if you have some experience, good or bad, with remote controls you can share it and say what you f what is your idea. Anything. Mm. Yeah. Yeah. Okay. Mm-hmm. Yeah. Are you not afraid that if you take your remote control you can move the slide and it could the the volume can go up very quickly and it can Yeah, also if y when you take the the remote control, for example on the table, you take it and you push the button and everything is very loud, and you have a heart attack. Okay. Yeah so you can Do you have something? Yeah, that's true. Yeah without obstacles and. Okay. Let's continue. I have a meeting in five minutes, so maybe we should hurry. Um. So we will close uh this meeting. So we will have a next meeting in uh thirty minutes. Um. Uh. The So I will ask you to do some work. Uh the the interface interface developer will work on the on the design of the remote control, start to to have new idea and read about Yeah. Oh. Industry and Oh. Yeah. So, um For the User Interface Designer, which is Hamed um, uh, you are going to work on the technical functions of the remote control. And for the Marketing uh Manager, I dunno, okay, which is Bob, uh you are going to try to to find the user requirements f uh for the remote control. Um, you will receive by email uh the specific instructions and uh by your personal coach. Yep finished. So I see you in thirty minutes. Thank you. Now what. Okay, so my name is Petre. You can call me Petre, or Peter if you like. I don't care. Uh, in the project I'm supposed to be the technic. Bob, okay. Okay. Okay. Okay. So probabl

y I would try to try to draw the animal. Well sh should I draw the picture of the animal? I I th I think I should. Okay, so. Um. Okay, American, um. Um. I would use the bird. So I tried to sketch it out. I had to first uh write it down because I am not absolutely sure if I can draw it, but ah. Can you recognise it as a bird? Okay it's your turn to Oh it's okay. Yeah. I should get used to the tool, so. Oh just wait a little bit. C could we put it here, to make it as straight as possible? Ah probably not. Okay, it it works like this. Are you left-handed? Oh, pity. Ah, it's maybe better if you leave it. You won't draw them, or? Just try. I would like to see how it looks like. No, I think it's clear. It's okay. It's in it's indeed beautiful. Okay. Bob. Have to remember it. Bob. Per unit, I guess. Y oh okay. Okay. Oh. Okay, I have also some points uh. Maybe two points. Uh first would be that in current remote controls there is no back light, so if you are if you are uh playing with this in the dark room it's it's probably worth to to have something like uh back light. And maybe it could be also dependant on the the amount of of light in the room, so that if if it's in the day it doesn't need to be back lighted because it works on the battery, so. So something like this. And the second thing, f second point from me would be that in a normal remote control there is uh there are two buttons for volume control. But I prefer like a potential-meter or something like. You know, some slider or Not just two discrete buttons for volume, but something which Yeah, but I can reach In uh one second I can mute it down, or or make a high volume. Ah, n. If it drops to the floor then it starts to scream. Yeah, f It depends what what you feel about that. Yeah but we can we can think of these things afterwards, but if you have some more notes on that. Okay. Um. Okay, just a second. Which i which is Hamed,? Okay. Uh I am the Technical Designer, I dunno which one, uh v. User Interf Okay. Okay, so I'm the first one. I see. Sign. Okay. Uh. Uh my name's Bob Mor. Oh, sorry. 'Kay. So my name's Bob Morris. I'm the Marketing Expert for this project. Bob yeah. Yeah go ahead. Okay, okay. So I think my favourite animal would be a c a cat. That's its head. Um I probably like cats the most because they're cuddly and furry and uh playful. Okay. Thanks. Maybe put it up Put it a Maybe put it on the desk or something. Uh, that's better. Your lapel microphone's fallen off. Yeah. Yeah. Maybe we should just continue. Yeah, don't worry about it. No. Oh that's good, it's good. Yeah, and strong. Well, from experience, um I've had remote controls in the past that have had very they've had lots and lots of buttons and they've been very small, and it's been very hard to to use, because there's so many buttons, and you know it's very hard to see which buttons do what, and the buttons are very small and very hard to press. Um and and normally you only every use, you know, on a T\_V\_ remote you only ever use, mostly, you know, f four or f six buttons. Um. So it's frustrated me in the past, th that. Ah, okay. Okay. Okay, n Is that because the of the discrete volume levels, or is that Yeah. Yeah. Okay. He's the Industrial Designer? No, you're the Industrial Designer. Yeah, I think that's the first. I\_D\_. Industrial Designer. And the second one is the User Interface Designer. And then last one's marketing, which is me. Great, okay. Thanks guys. Bye. My name is Hamed Getabdar, and uh I'm going to be Interface Designer in this project. I dunno if I should go with this. If it is enough line. I'm sorry. Okay. They should be remote. Okay, thanks. No. Okay. Should I clean? Okay, I think like horses uh because they are strong and beautiful, so if I want to write it here, I think I can. Oh. Okay. I dunno if I can. Okay. It may be like a cow or I dunno, whatever. I'm not good very good in drawing. Okay, so this is very It's a bird, I think. I dunno what is it. Four. Okay. Mm-hmm. Mm. Yeah.

I'm shameful Yeah. Okay. Mm-hmm. Uh I Yeah, just a simple experience. I uh I prefer um remote control working with radio waves, because remote control working with infra-red rays you should you should keep it in a specific direction and then try it hard to tune. Mm. Yeah. Uh-huh. Mm-hmm. Mm-hmm. Okay. Okay, thanks. Bye.

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# Meeting ID: 92

Data Source: Validation

## Executive Summary

Detailed design Prototype presentation , well first It's basically what we agreed upon , but just a little bit more specified . Basically in what we discussed , cover and buttons will be made of rubber , yellow colour , black components , We chose a different type of colour for the menu . A bit darker yellow And it I guess it's more easier to just paint it on the rubber So we have it's a bit round shaped , We chose the buttons to be uh teletext , okay button , favourite channel and the mute . We have battery power , we have advanced chips and the same the sensor . The sample sensor and uh for speech recognition anyway . we have sin one curve , a design . Rubber design . And we had a special colour . Suppose yellow is a special colour . You have pushbuttons and an L\_C\_D\_ display . You have the total of seventeen Euros in production cost , think I had the best solution that I came up with is just to take out the speech recognition . Uh we don't really have an extra function with the speech sample , Because the L\_C\_D\_ has more support on customer side . so I had to take out the special colour I suppose . and if you want it if you want the custom design , then you can buy the separate covers . So can't we just basically extend it to thirteen ? uh the project is a no-go if we go over twelve and a half , we could take out the curve . I think the colour is more important than the really the curve , but the example is because we do offer the um the possibility of adding your own custom covers . Can we then not also uh change the material ? We take plastic for the basic cover something that's stuck into my mind is that something that really came forward from the marketing research is that people like the the the squishy feeling of the spongy feeling of the We can put those to the to the other covers . Rubber would increase durability so why why uh do we have to keep us uh uh um on the twelve and a half ? and we got our our orders from the pro from the boss of our company But we can take a risk . that's not our decision to take . I think it's the best solution to make those custom covers for the design aspect and keep the functionality between of within the the boundaries of the your f uh your budget . but the one that g has given us the order to design this . and then tell them okay , we had to drop this and that , just that you know . It is still an option , but not for this price . yeah , it's true . So that's what we gotta go with . just to get it through final , I say lose the curve . Oh that's true , Which would , yeah , turn it into something far more ordinary . I second that . So we keep the curve . And I'm in favour of keeping the rubber , we're final on that . because it has more more advantages than the colour yellow has . we could just discuss how the project went . I think it was too bad we didn't have the financial info the last time . Me too , I felt a bit blind throughout

the project , because it's good . I mean it's got everything for the for the reasonable price , let's eval evaluate uh the product of us , our design . I uh will pre present uh some statements and we will decided together wha what if it's true or false So so the buttons , the look and feel . One and a half . And the next one uh yeah , when it's lost uh you can find it . so I think it that's that deserves a one . Definitely . And the next one . Manual . I think the L\_C\_D\_ display could be a little bit more difficult then a normal remote control , it it is pretty straight-forward . What are we uh displaying on the L\_C\_D\_ screen ? Things like brightness and uh those kind of things we've put in the menu , I thought that people wanted previews on their I don't think it's possible really . uh with configuring your remote control for favourite your favourite channel for example , how do you configure that . So that could be done by L\_C\_D\_ display . A three . I mean the shape is trendy . The the sh the the functions are trendy . It's just the colours that are not supporting the basic model . Maybe we should go with a two then , Overall score . Two and two thirds . mostly it's it's influenced by the fact that we didn't have enough resources to implement speech recognition . 'Cause yeah , that gives you a seven , I do admit that we d did miss a little or didn't sp didn't talk talk enough about the possibility of the L\_C\_D\_ display . We could have used it more efficiently , like I said , changing channels , everything hidden in your L\_C\_D\_ display , so you just need the navigation buttons to do everything . For example , I thou I thought we were pretty creative in what we created . I think we did pretty well as team-work though . Because , yeah was very hard to work with one another if you cannot communicate in the meantime , There was just too little information about what things actually cost and if you could use them . I think a SMARTboard SMARTboard is pretty cool . I think uh s especially for design issues , it's very easy just to give your give your thoughts a little it's easier to share them . Although for actual design I'd say the response time should be a little bit higher , The digital pen was definitely better to draw my ideas and to further elaborate on that . The one thing we missed though , we don't have a product name . And it's especially on the triple R\_ that's important . The Real Reaction Remote . Triple R\_ it is . have to write my report now , I guess . Could you guys draw me a picture of the final design to put on the cover of the report ? Yeah , sure . What do we scrap . Yeah . I would say I would agree with you on the colour , So I might make this a two instead of a one , I guess . You can use the L\_C\_D\_ in a good way . So we cannot work on more than one page at same time . That's not possible .

## Complete Meeting Transcript

Can I close this? Oh, okay. There we go. Okay, here we are again. Detailed design oh, come on. Well Ah s Forgot to insert the minutes, but it's about the same thing we discussed before. Uh Could open that anyway, think. Other design anyway, we took as we took w we took rubber as as the material last time. We also that you're just busy with it. Took the advanced chip to t uh implement the advanced features. Well, we discussed the design, no sharp corners, we rounded it off, like you see on the other screen, which is fine. Um we agreed that the colour should be b uh yellow and black. Yellow in the back because it's m trendy, more trendy than black anyway. So then we ca yeah. We agreed that we would implement both the L\_C\_D\_ and speech recognition, but I'll get to that in a moment. 'Cause some changes in the finances have left us implications anyway. So so, like I said, we had no insight in

finances, no prices, but we have 'em now, and it's bad. Anyway. We are Oh. Prototype presentation, well first you guys built the prototype. So you could present that. But um let's see what be handy to do. Nee no, you just go ahead and present the w we'll scrap it later because What? Oh that's hasn't changed that much, huh? I didn't expect anyway. You just coloured it. Mm-hmm. I like the menu. Mm-hmm. And I suppose the the the yellow is not printed on the on the rubber. It's it's part of the rubber, I suppose. I think that's more I think that's more durable anyway than printed on to Oh yeah. Mm-hmm. Okay. Yeah. Okay. Now it's my time to ruin everything. Well, not ruin everything, but no, nah. Finances, that's what we have here, what you drew. We have battery power, we have advanced chips and the sam the sensor. The sample sensor and uh for speak recognition anyway. So which you see the which is de o one of the most expensive parts. So well, we have sin one curve, a design. Rubber design. And we had a special colour. Suppose yellow is a special colour. So just half a Euro for You have pushbuttons and an L\_C\_D\_ display. You have the total of seventeen Euros in production cost, which is higher than the twelve and a half that we are permitted to use. So, easy. What do we scrap. Well think I had the best solution that I came up with is just to s take out the speech recognition. Because the L\_C\_D\_ has more support on customer side. There are ninety one percent of uh the people, or something like that. But ninety percent who favour an L\_C\_D\_ display, and only sixty percent that favour speech recognition. I think it's also harder to. So I ju I took that out. So and so it's still stuck with thirteen, so I had to take out the special colour I suppose. And, yeah, I didn't see anything else I could take out. Yeah, I could take out the push-buttons, but we need those. So, generally what I came up with, in order to be cou to to have production cost of twelve and a half Euros, spe scrap speech recognition and the separate covers can account for the if people want it, we'll just then we'll do it in black. We'll just deliver it in black, have the it has all the function that it's supposed to have, and if you want it if you want the custom design, then you can buy the separate covers. You make it d orange or whatever you want. It was a big issue, but I'll just go back. Uh let's just let's see what okay, let's just see what we no, we we have to be under twelve and a half. It's not uh the project is a no-go if we go over twelve and a half, so. I think you that's what you were ass assigned to do really, to to see how b th both those work together. So I think yeah, it's I think it's y one of the it's a good way to um to help people uh to make to keep the product trendy too. Just keep you just make new covers for the for it, like we agreed before. And everything that's left is is the basic function that uh that we want our product to have. Because the expensive parts are in either the advanced chip. But we need that for the L\_C\_D\_ display. Then again, we hav

e the L\_C\_D\_ display, which is also expensive. B yeah, but those go together. And yeah, we could take out the curve. Could we could take out the curve. Is that an option? For you? Yeah. I think it's it it does ruin it, but the fact that I t took that decision or t Took this example actually, not really decision, but the example is because we do offer the um the possibility of adding your own custom covers. So you can change any colour you want. So it's just you deliver a basic remote control with a possibility to change you into whatever you want. You can take plastic, but I d it's something that's stuck into my mind is that something that really came forward from the marketing research is that people like the the the the squishy feeling of the spongy feeling of the and it really makes it also makes it different from the existing remote controls, because they're all plastic. So which in in turn Rubber would increase durability because it doesn't break. I al like I said, I lost the speech recognition and I lost the special colour, which would make this black a black and grey. Yeah, that's that that that's enough, because I guess those are the basic colours. So Oh. I think those are basic col They want to To ensure the profit. That that's th that's the order. We're just uh we're the project team and we got our our orders from the

pro from the boss of our company which say we don't wanna spend more than twelve fifty for this. But that's not for our that's not our decision to take. We have a budget of twelve fifty per product. So Stick that. I don't think it's really bad either. I mean if we we have the the backup of or the backup design thing to have I think they would do. Th I think they do like because yo we you we agree upon that the that the the the cover thing was a nice idea, because p you could have all sort of designs while at the same time just manufacturing one product, one basic product which you could turn into any any taste you want. So I think it's the best solution to make those cu custom covers for the design aspect and keep the functionality between of within the th the boundaries of the your f uh your budget. So Well I don't think Yeah. Is it worth is it is it does it mean anything to the customer? Like, it like, we don't care we don't care that you had to True, but we did we didn't get that. So I think it's it should either be a pack, maybe we sh that should be sold in in the s in stores with with a standard cover or something. But They could, but uh It's an option, but yeah, it's true. So actually uh it's not that much of an increase, but yeah. We cannot contact them. It's just the order that we got. So that's what we gotta go with. So it's either one fi just just to get it f just to get it through final, it's either turned into plastic, drop the squishy feel, make it make it more breakable, um or turn it yellow. So It's uh something we have to decide on. I say lose the curve. Oh that's true, we could lose the c yeah, I forgot that, sorry. Uh the curve. So That's just this one just d this is the banana curve. So this would this would be straight. No, uh no, that would be a curve inside the thing, I guess. No, would ju then it would just be a straight remote. Just like like that. Which would, yeah, turn it into something far more ordinary. we could make it yellow then, but You second that, you second that we lose the curve. Okay, yeah. So I think it would be a good idea to keep the curve to separate it from the rest of the remote control world, so to speak. So we keep the curve. So the only only solution is either to use the l y lose the yellow or lose the rubber. And I'm in favour of keeping the rubber, because it has more more advantages than the colour yellow has. Mm-hmm. Yeah, um I guess people are willing to pay for that. So I think we can take that option and just with uh with the idea in the back of our head that you can customise your remote control. So I think that would still make it a nice product. O

kay, we're final on that. So it's too bad we can't make the whole super thing. But anyways we're here. Um yeah. This we discussed just now. That's just now just we could just discuss how the project went. I mean, was kind of I sort of expected that everything would turn out this way, but because you yeah, everything cannot be for free. We didn't I think it was too bad we didn't have the financial info the last time. Because that was I th it was really essential really to ma because we spent uh uh entire stage designing a product of which we had no idea what it would cost. So we just put something I think it's really nor not in stroke with reality actually. So Yeah. Yeah, I think would have been. Materials would be ok at least the last meeting I would have expected had to have that. So I suppose Yeah, let's see if it sells. I mean I suppose this sells, because it's very very extended. But I suppose it sells, because it's good. I mean it's got everything for the for the reasonable price, because we didn't know what it's gonna cost anyway. Okay. Have been met, okay. Yeah. They're stuck under menu. For the menu. I think those are totally met, because we we really took them for the they have the feel they want, they have the simplicity they want. I think it's very uh very well met. Either two or one maybe. I think we took that everything they wanted into consideration. So it could either be a two or a one. One and a half. Just create our own option. Yeah. It's perfect. Even for deaf people, yeah. It's I don't think it's perfect, but we did everything possible to to get it back. Because if it's stuck in you couch, you can see the light. Maybe you can hear it. But I mean we tried, so I think it that's that deserves a one. Definitely. I'd use an remote control. It's pretty straight-forward, uh-huh. I think but we didn't even there was no issue on making a



manual actually. We didn't really discuss it, but I don't think it takes no, it really does doesn't take time to learn, I think. We took it s it's so easy, we have so little button, everything speaks for itself really. So I think that's yeah, we didn't it's either two or one, I guess. Maybe it's a two, because d uh the L\_C\_D\_ is a little is a little new and there is there are some option hidden under the menu button. So I might make this a two instead of a one, I guess. So just make that a two. You can use the L\_C\_D\_ in a good way. I think so. I think it's perfect, the w where it is, what it can do, if it useful. I think so. No, y I mean in the L\_C\_D\_ screen, the small screen. What does it display? Well I thought it was I thought it was I thought that people wanted previews on their I'm not sure if that even possible, but 'cause it's this requires a quite quite a bit of band-width. I don't think it's possible really. But the they didn't really define in what should be used for. But I think in for example like T\_V\_ guides, I think that's that th that you can transmit through it and everything. Just for extra information on your programmes. But also things like like like menus or p how about preferences of your uh with configuring your remote control for favourite your favourite channel for example, how do you configure that. So that could be done by L\_C\_D\_ display. I think it's good. No, maybe it's not a one because it's we're not using it perfectly. We didn't give it I don't thing over-discussing. Now we gave it enough thought though. I think we d should just lower this. Maybe maybe it's a three though. We could've used it more effectively probably. Yeah, we are using it, but it's not it's not poorly used, but it's not efficiently used, I think. We could have ev even lost the selection button and uh done everything via L\_C\_D\_ selection. It's now it's just extra to illustrate im uh extra features, but okay. Can you talk to remote control? Well, it can't talk anymore. So we scrap that. Oh yeah Just to be a prick, but of course you can talk to your remote control, it doesn't do anything

. But you c you can talk to it. Well, we did take everything into consideration of course. Uh the shape i shape is i I think we yeah, I think that's okay. Yeah, special co but we took into consideration the fact that it's customisable to the fashi We don't have it we do have it, it's just sold as a package. It does it's not part of the basic product. It that that's what I call trendy. I mean the shape is trendy. The the sh the the functions are trendy. It's just the colours that are not supporting the basic model. Because you ha it's just not affordable at the moment. It's possible, but you have to pay extra for the for the possibility of having it in a f a different colour. Overall score. One two three. sixteen. Two two point some two point something.. Two and two thirds. It's okay, but that's yo m mostly it's it's influenced by the fact that we didn't have enough resources to implement speech recognition. 'Cause yeah, that gives you a seven, which ruins your your average. Without that it would be like under it wouldn't yeah, it would be under two. So I think we have even with this it's reasonable. Well I think it's two is okay. Yeah, two is pretty good. Definitely. Yeah, I think it's probably I I do admit that we d did miss a little or didn't sp didn't talk talk enough about the possibility of the L\_C\_D\_ display. We could have used it more efficiently, we just didn't think of it that way. So like I said, changing channels, everything hidden in your L\_C\_D\_ display, so you just need the navigation buttons to do everything. I think we div I think we did very well, uh ev even if you look at this score, we did quite well. It just looking for improvements what what you could have improved. So. They sh they should get kids, and just stick 'em in T\_V\_ and say change the channel. I don' think so. Uh it's just not it it's not affordable. Or your sh you should lose the L\_C\_D\_ screen probably, but I think that's I think the L\_C\_D\_ screen is more worth than speech recognition. Definitely. Okay, that was that. So that's the final product without the speakers, I guess. Let's see, what was left in the the Another one. Hmm. Yeah, we evaluate the product. General project, what's i in For example, I thou I thought we were pretty creative in what we created. We took the whole new approach of making exchangeable cover for example, which I thought was pretty creative, because it was never never ever listed somewhere. Well Anyways. Yeah, leadership is up to you. I mean perhaps I screwed

up because I'd put a speech recognition into it. But that's not for me to decide. I think we did pretty well as team-work though. Because, yeah was very hard to work with one another if you cannot communicate in the meantime, because when I got the input for the financial results, initially of course I wanted to contact you. Say, look, this is you're doing the wrong thing, you're wasting your time now, because we're implementing stuff that we cannot afford. So it would be better if there was more communication between uh because that's that's what would you what you would normally do, either call or email someone. So that was too bad con was impossible here anyways.. It didn't have or didn't know what they costs or whatever. There was just too little information about what things actually cost and if you could use them. So that was a little unclear I suppose. I think a SMARTboard SMARTboard is pretty cool. I think uh especially for design issues, it's very easy just to give your give your thoughts a little it's easier to share them. It's a little less the response time is le it's very bad. It's good to visualise everything, but I think the response time should could be a lot better. Definitely. Yeah, it's true. No, you don't have to. No, you don't. I just didn't check the finish button. I just you just ditch it and you can copy it or whatever. Uh only if you uh check the notes or press done. Then it um then you can then it

exports to Word automatically. But it's not necessary to check either one of those two. You can just preview your page you can just preview your page in the in the programme. Okay, before starting a new page. Okay, that could be b. Okay. Yeah, okay. That's Yeah, it's understandable, okay. Any new ideas? Yeah, more communication between between uh that's the thing I noticed, that communication is very um very important, because if you get new information, it's essential for the other team-mates to know that as soon as possible, because you would avoid making doing extra work, because you were doing extra work now uh m working on the on the speech recognition, you have limitation both on the technical on the d on the design side. So I think that could have been better. But that's I think it's more of a a setting here that you cannot communicate than uh than somewhere else. So Yeah, I think so. And I less p less spam probably. I'm not sure i I'm not sure you got spammed as well, but I get spammed like every t every two minutes there was a there was another email about master classes or something. So which were totally useless actually. I thought I should probably look into them, but they were all useless. So I just Oh okay. I didn't have any uh more information, it's just always the same here. So that's that's kind of a It would change, but not for me. So I'd I had no extra information to go on that one than what you give me actually. I couldn't do any research myself or I see, that's yeah, w I could have done a little extra work probably, then But I was busy enough anyway. So Any new ideas found? Or is that a 'cause uh yeah, it's well, probably is. I have no clue. That's like oh, but it Should i if the project is evaluated and it was it was in b within budget, we should celebrate. So Uh okay, think that's about it. Uh I'm not sure what we should still do though uh t let's see what all your tasks were finished, right? What you ha from your assistant. So let's Okay, I should I think I sh I still have the the total report to finish up. I think we took very little time now, because Yeah, we're in agreement, everything the design is okay. The one thing we missed though, we don't have a product name. How about you cook a how about you cook up a product name? Just oh, think of a catchy name. I'll be working on this until the beep until it beeps. So What? Fruit? You don't want it to resemble a banana. It's not yellow anyway. It's not yellow anymore. It is curved, but No, it's Hmm. Real Reaction future R\_C\_. Step into the future of of remote controlling your T\_V\_. No that's a that's a catchy slogan. Control your remote control. I go for future R\_C\_ probably. Something like It's short f Real reactor? Uh that that's That makes me think of different products than a remote control really. I'm not sure. Real reaction in a real Real reactor. Didn't notice. Mm. I take f yeah, take a banana. Hmm. No, not like that. It should

be it should be longer, because it's not a product name that you f print on a box. Just write out triple, like a word triple R\_C\_, triple stripe Oh. Triple dash R\_ dash s s C\_. Yeah. R\_ dash C\_. Dash. Triple R\_ or triple R\_C\_? How about do both? Sure if it looks stupid. Uh I think that the the R\_C\_ together takes away the the the image of it's a triple Uh the first the first one looks like it's a triple remote control, but it's only a single remote control. And it's especially on the triple R\_ that's important. The Real Reaction Remote. Yeah, triple R\_ yeah, you can Yeah, triple R\_. Banana remote. I think we're all in agreement about the triple R\_. I think triple R\_ is cool. And it looks cool when you print it in font, looks pretty cool. Just like this just and you just print triple R\_, it looks doesn't look bad, it's short, it's okay. So have to write my report now, I guess. Um Um Yeah, so we have everything. We have the product, we have the costs, we have the possibility of everything. Okay. I think it's adjourned. Ret

ire to my lair and finish the report. That was a short meeting. But efficient though. Probably. See. Okay, goodbye. Could you guys draw me a picture of the final design to put on the cover of the report? Hmm. Hmm? Mm yeah. Okay. Yeah. Hmm. Yeah. Pushbut Special colour, yeah. Yeah, it The p And the p What. But uh the and Yeah. The people Spongy, yeah. Yeah. And But But The people want to pay for for it, so why why uh do we have to keep us uh uh um on the twelve and a half? Yeah. But we can take a risk. Okay, yeah. I hope the people will like it, but Yeah. Yeah. The first sheet. Yeah. Yeah. Yeah, that's better. Yeah. Yeah. Yep. Yeah. And I want to do that. Yeah. Yeah. But Let's um see um Um Let's Uh Oh. Hmm. Okay, let's eval evaluate uh the product of us, our design. Um I have some uh a method, a requirements and scale of. I uh will pre present uh some statements and we will decided together wha what if it's true or false and uh then we see uh if the requirements of the user are fulfilled or not. And I will uh make a new blank sheet. So so the buttons, the look and feel. I thought it was okay, but the advanced uh settings, um screen, audio and channel We are not Oh the menu button is it. Hi Oh, okay. Then it's all uh S it's true. Yeah. So d Oh wait. Uh pen. The p Oh yeah, it's red, okay, but Look and feel is everybo it's true. So Anyone? And the next one uh yeah, when it's lost uh you can find it. It's Yeah. And it's and it's yeah. To. That's okay then. And the next one. How is that? Uh w we had we don't have an uh manual, yeah. But I think that's a part of it. But Yeah, an L\_C\_D\_, it tells a lot about uh Yeah. So it's a one or a I don't know. For the advanced uh settings. No okay, that uh that's true. Oh, so it Takes no ti Yeah. And the L\_C\_D\_, you have to see it. Um mm Oh, it's a little bit learning. Okay. Uh yeah it's uh a little bit same. But it tells you or not? But wha w oh, yeah. What are we uh displaying on the L\_C\_D\_ screen? Just uh only the channels and or What uh? Oh, in the L\_C\_D\_ screen. And for a channel selection, uh or that's not Yeah, I thought I thought too but yeah. But Maybe a T\_V\_ guide or something in your L\_C\_D\_ uh Yeah. Yeah, it must be clear then what what what for we use it. Yeah. Yeah. Yeah, indeed. So everybody's agree with an uh three on it, it's W Yeah. Yeah. Yeah, I A three. Ah, nothing, that's A seven. Uh that's uh Yeah. Yeah yeah yeah yeah. Not with the speech recognition. Uh yeah, all the trends and no colours uh anymore. So Yeah, uh um only in the curves. But the colours, we don't have special colours on it. Yeah, but we yeah, we don't have it, so d In the end product. Now But it's not a one. Yeah. Oh. Oh well Oops. Oh it's a two, right? On the last one. Uh that n that's all. Overall. It's um ten, sixteen three uh two two point seven or something like that. I don't know why. Six. Um So we can say it's it's the product is it's okay. Y not Yeah. Woah. Yeah. Yeah. Yeah. Yeah. Yeah, with. The scale. Yeah. With an L\_C\_D\_ screen. Yeah, you can make 'em another one. Yeah. Yeah. Favourite channel. Yeah, I know. Yeah. Yeah, you're working separate. Yeah. Yeah, yeah yeah. Yeah yeah yeah. Direct uh communication with yeah. Yeah. My handwriting is little bit yeah. Yeah. But th that's Yeah, okay. No. You can Done and then it's okay. Oh, okay. Okay, yeah. Okay. Oh. Hmm. Important to mm Yeah. Mm Yeah, after After five minutes, uh Yeah. Email uh it's Yeah. I want one for

my own. Yeah. Yeah, my personal coach i What Yeah, name. Or fruit name. Fruit name or something like that. The banana remote or something. I don't know. Yeah, it's the form of it. Yeah oh, yeah. Uh yeah. Uh Yeah. That's true. Reaction, Real Reaction... Zapping. The Yeah, sure. The banana. Remote. Banana recei R\_C\_. Remote. R\_ three C\_. R\_ three C\_. Real Reaction Remote Control. R\_ three C\_. Oh yeah. Yeah, triple R\_. Triple R\_C\_. The triple R\_C\_, yeah. R\_ s R\_ three C\_. Triple R\_ dash. That Yeah, this yeah. Triple remote. Yeah. It's okay. The

banana. Banana. Yeah, the deluxe. The r triple R\_. Yeah. It can't work. That will not Okay. Damn. I will write that one in a Word uh document. Oh sh Um Yeah, okay, I will ask you when uh I need the information. So it's oh. Uh Oh. Merge. Sucks. Yeah, but I don't know. Smart no. Ma it's maybe it's not on the network of uh the rest. That one is.. Yeah. Okay. Oh yeah,. Can I see scores? Uh, one one, two threes, two Okay, then we'll overall, two points. Yes. Yeah. Mm. I think it's more or less the same as we had. No much s No no no, not at all. Hmm. Yeah, of course. That's uh the integration story again. No, uh this is just a description of what we see there. So Speaks for itself. Hmm. I d Yeah. Hmm. Hmm. Huh. Okay, but there's another problem. But there's another problem. If we take another cover, for instance black, then we also need another button frame, 'cause black and black doesn't work obviously. Huh. Huh. Yeah. Hmm. Hmm. Right. I agree. Mm-hmm. Or say let's lose rubber, take plastic. Yes. Although we are demolishing a little bit the style. But Yeah. Can we then not also uh change the material? We take plastic for the basic cover and We can put those to the to the other covers. That's true. But okay. But what do you then suggest we'd lose? Because we have to lose two things and I guess. Yes. Okay, and that's enough? Hmm. Hmm. Perhaps we should make m Huh. Perhaps we should make clear to our customer that we had to do this to stay under the cost. And that's uh they know that this is an option and that we had to drop the option to stay under the cost, that they know that. Perhaps they decide tha Of course. Perhaps they uh no, but perhaps they think uh okay, the cover is such a nice idea, uh let's that that then they uh that allow us to make some more costs. We ca we uh we can at least tell them that You don't know that. Huh. No, I'm not uh talking about that cost but the one that g has given us the order to design this. We could at least m uh make it like this, like you said, and then tell them okay, we had to drop this and that, just that you know. It is an still an option, but not for this price. Exactly, but Hmm. I'd say lose the curve and the colour and Hmm. Hmm. Hmm. Oh. I agree. No. Hmm? Yes. Huh. Hmm. Me too, I felt a bit blind throughout the project, because in the beginning I had no list of available materials, and then I d had not list of available c finances. So Hmm. Hmm. Hmm. One. Hmm. Manual. I think the L\_C\_D\_ display could be a little bit more difficult then a normal remote control, but then again, it's for young people. So Yeah, I th Exactly. No, that's true. I think it won't be a big problem. Ah. Um With the more important functions on. Mm-hmm. Mm-hmm. the menus uh Things like brightness and uh those kind of things we've put in the menu, because we have no buttons for those. Yes. Mm. Yes. Nah, it's not really only an extra. No menus. Think about Hmm. But M Changing covers is also trend that we followed. Mm-hmm. Mm-hmm. Hmm. Six. Mm-hmm. Mm-hmm. Mm-hmm. Hmm, of course. Mm-hmm. But I think for this price, this is it's really a reasonable product. It's a good product. Oh. Oh. Yeah. But if pep people really want speech recognition, then they must be prepared to pu to pay more, because it's cannot be done for this. Hmm yeah. Ah but for this price uh you cannot ask that. You cannot th think of that No, it's not. Mm-hmm. Oh It's also more attractive. Hmm. Yes. Hmm. Hmm. Yeah. Huh. Hmm. Hmm. Hmm. That's the same thing that I had in the beginning. Everybody was using materials that s I didn't have. So Oh. Hmm. Hmm. Hmm. Mm-hmm. But there's uh also one problem with this I noticed. Uh you have to finish a page before going to a n Oh. Okay, I saw that uh Hmm. Yeah, but I made Okay, but I made three pages and they

were not finished. And when the third one was finished, I wanted to download it and then it was not possible anymore, because you have to close all the pinnits uh the pages before going further. Exactly. So we ca

nnot work on more than one page at same time. That's not possible. You have to finish it completely, then download it, it's then start a new one. That's not very uh handy, but if you know that, then it's not a problem. Hmm. Mm-hmm. Ah. Well Hmm. Huh. Yeah.. Yeah, Mm. Hmm. Hmm. Hmm. No.. Okay, bring out the beer. I have no more email. My coach is uh being very silent now. No, we haven't think above about that. Huh. It's better than thi I think than a serial number. Sony uh T\_R\_ something uh f means nothing to me. Uh Like fruit names. Uh at least it's not something with numbers. Numbers are so meaningless to the people. I mean. Real Reaction. Real react. The Real Reactor, I don't find that uh that bad at all. Yeah. Because our name is Real Reaction. I'm looking for things in the name. So that the first three letters are s the same. R\_E\_A\_ R\_E\_A\_. The triple R\_. Real Reaction remotes control. Triple R\_? yeah. Yeah, that.. I think triple R\_. Doesn't sound? Yeah. Ah. I think I like it like this more. Hmm. Mm. I would huh. I would lose the C\_ and just name it triple R\_. It sounds like uh thinking about two different things and combining it. I would just say triple R\_s triple R\_ That's also short, catchy. Banana.. Yes. did you do now? Yeah. Yeah. Yep. Mm-hmm. The boss is always the last one to go home. So See you in a minute. Okay. Can't we take this one? Otherwise we have to do it all over again. Is it okay if I try? Is that okay with you? I'll put it back in a minute. Okay, it has been saving something, but where to I don't know. Oh, can I say exp yes, I can. Export as J\_ PEG.. Okay, can I not put this wherever I wants. My document is the wrong one, huh. I cannot. I don't think so. Document and settings. That's a pity. That means that we have to gonna draw it again. Are you gonna do that? Okay. That Yes. Okay. Okay. Okay. Yes, that's correct. Okay. No. Oh, it's export. Okay. Oh, of course. Sorry. Uh we don't have any changes, do we? So no. It's basically what we agreed upon, but just a little bit more specified. Uh s Final design. Basically in what we discussed, cover and buttons will be made of rubber, yellow colour, black components, as you can see right over here. We chose a different type of colour for the menu. A bit darker yellow so that it com really shows in this keypad. If you put them all black, it's not really that good a contrast. So Probab Yeah. That's the be And it I guess it's more easier to just paint it on the rubber than to uh So we have it's a bit round shaped, that's what we had uh We chose the buttons to be uh teletext, okay button, favourite channel and the mute. So that's basically what we chose there. If you have anything to add, please interrupt me. Oh. That's pretty much it. Oh sorry. I'd say that too. Uh we don't really have a extra function with the speech sample, which you can't do with a normal remote control, which people already do. So Well, I'd I tend to disagree with you on that, because the trend issue was a big issue when we started designing this. So can't we just basically extend it to thirteen? Okay. Yeah. We do. We could take out a curve indeed. I think the colour is more important than the really the curve, because if you just end up with an entirely black remote control So black and grey is okay. Which we can fabricate, okay. No, we basically We need to stick to that. But they don't Well And if we So which curve is that ba that's basically that curve. So we could u still have the comfort. I second that. No, that it would turn out to be a pretty straight-forward remote control. So that's not really that I would Yeah. I would say I would agree with you on the colour, because that's an extra option, an extra service we can deliver for a little bit of more money. So we can always do that. Which is basically what we discussed. Yes, we could have Well I hope it sells. Which are basically accessible through the menu button. Yeah. Which is not an option. To make it that way, yeah. Mm yeah. An

d it's pretty straight-forward, you have a navigation no keys to navigate through the L\_C\_D\_ menus. So One I d no, actu No, it it is pretty straight-forward. Yeah. Yeah. Well, basically the menu options indeed. But No. Yeah. Yeah. Two or three. So You can seven. Or we could say it Or we could say neutral, we 'cause we scratched the C No, we don't have the colour. So I Yes, but the end product So Maybe we should go with a two then, because it's not perfect, because we can't do it initially, but we Yeah. Overall score. Ten, sixteen, divided by Is two two third. There's Yeah, if we make it into a four, as in neutral, because we didn't implement it, so we can't say that we that it's really not well implemented. We come out on a average of two one eighth. So which is pretty w good. It's at least on the positive side. So We could definitely have done better if we've had more resources, but Yeah. True. So did you Yeah. And we could share information which we received. Yeah. Although for actual design I'd say the response time should be a little bit higher, because The digital pen was definitely better to draw my ideas and to further elaborate on that. So Oh can you? Okay. Yeah, well it could also possibly be well, is it a more real-time information base, so we can all see which information is available to one another. Well, I personally did not have that, but That's probably your I description. But I also didn't not really. But still, you had that as well. Is that we finished up the design and then we checked the website, and then there was just extra information. There was a little delay in the bit of a c crucial delay. How much time do we have for this anyway? Yeah. Champagne. Product name. The bana 'cause it's not yellow anymore. Well, uh I was going for the R\_C\_ deluxe, but it's not really a catchy name or anything, it's more Something with our company name, can we do anything with that? Maybe there's something on the website which will help us out. The reaction deluxe. Is that a name or a c campaign? Yeah. Or the The real reactor. You should write it down as a an option. So that's one option. Should I write the banana down or Sure? Well I Uh do you mean it like You mean it like this? Dash C\_? Like a C\_ right now or a dash in a C\_? Is it triple R\_C\_s? No. Well, that's another option. Okay, so which ones are we going to scratch definitely? I say this one as well. Triple R\_? Triple R\_ it is. Yeah, sure. I don't really know whether we can save it as a picture or no. Sure. Network places. I wouldn't pick that one, no. Sure. Oh. I see you later.

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# Meeting ID: 21

Data Source: Validation

## Executive Summary

so we've got new project requirements . So basically we've got three things , and we've got forty minutes in which to uh for this meeting to uh to discuss the various options . W I I got um or or three things basically , um relating to the remote being only for T\_V\_ . We discussed that last time Um we've got uh teletext outdated . Right and the corporate image was the uh final thing . So I I got that in email form . Okay I'm gonna be looking at the working design . Um I've just got three sections , Um the basic components are an energy source We then have the user interface , which is basically the like the the buttons on the actual remote . Um the various functions used for changing channel , uh channel up and down , volume , things like that . Um there's also a chip inside the remote which does all the computer type things . And then the sender , which um is usually , I've found , an infra-red device which sends a signal to the actual television . Um and the last part is receiver which is important in the system because that's obviously found in the television . Um I'm gonna have to actually draw on the board because uh it was a little tricky on PowerPoint to get this working , a power supply we then have a particular button , that's obviously there's lots and lots of different buttons . after you press that that sends the message to the chip , and then sends the appropriate message to the sender . that's the components of the remote So this is the uh user interface . And then on the separate thing we have on the on the television we have a a receiver . which then , and that's the that's the infra-red sender . going on to personal preferences , I've said that battery seems the best option for the actual remote , just because of the size . and infra-red um has been used quite successfully . Um and then the sender , Um . Okay so I'm gonna talk a bit about the technical functions design . Um so the m basic method of this is to send a signal from the remote to the television set , so that a desired function is performed . Um here are two example remotes . Um by the look of it they both have um kind of play and fast forward , rewind functions , so I think they incorporate a kind of video function which we won't have to worry about . Uh but as you can see , the left remote is quite um quite busy looking , quite complicated . Um whereas the right remote is much simpler , it looks much more user friendly . Um so my personal preference would be the right remote . it's got a very limited number of buttons . So , it's got nice big buttons , Um I like the use of the kind of um symbols like the triangles and the squares and the arrows as well as the words on the um kind of play functions and all that . So it's very very user friendly , But uh I got uh I got an email that basically said to uh make sure that uh whatever device we come up with at the end of the day had to

incorporate um the corporate colour and slogan . Um we have to remember that we have our own um logo and colour scheme . Would you be able to get rid of the the extra buttons here , the the sort of circular section , So we could dispense with that little bit as well because that seems to be for a video as well . and just get it down to just the numbers and the volume . And I don't really think that you need nine numbers . Well uh for for general television purposes obviously you have channels one to five at this point in time , and we'd have to have some room for uh future such channels . but the the other thing is that with um the current expansion of uh channels uh in the process of taking place , certainly the button up and down , and uh there's uh I don't know exactly how many channels there are on uh when you take into account uh Sky and various other um various others . Maybe you could have a fast forward on the on the channels Um some remotes have kind of favourite options Yeah , I s I suppose in a sense you could have um if you've got a hundred channels then if you had sort of an easy way of getting rather than having to go one to a hundred , you could go one to one to ten , ten to twenty and then have a second button to get you to the actual channel you want But I think a lot of um like Cable and Sky and stuff , that would be tuned to one channel , and then you'd have another remote for all of those channels . Limit the number of buttons , But I suppose nine's not really excessive . you could get fifty by five and a zero or whatever , How many buttons have we got ? We've just got ten , eleven twelve th Well we've we've got um that it's remote for T\_V\_ only otherwise project would become too complex with uh which would endanger the time to market was one of the considerations . we've done some research into the functional requirements that people want out of their remote control . and um how do people use it ? We asked them sort of which buttons were useful for them . And we did that by sort of giving them a questionnaire that we'd prepared and asking them to fill in the answers . And three quarters of them found that remote controls are ugly and that a sort of even higher proportion would spend more for a sort of s uh a fancier remote control And that of all the buttons on the remote control , the sort of setting buttons for sort of the picture picture and brightness and the audio settings , um they weren't used very often at all . People concentrated on the channel buttons and the volume buttons and the power buttons . Uh we also asked them about speech recognition uh for remote control . And young people were quite receptive to this , but as soon as we got sort of over about into a thirty five to forty age forty five age group and older , people people weren't quite so keen on speech recognition . There's a lot more th there's a lot lot more older people who didn't know whether they wanted it or not as well . and the number one frustration was that the remote was lost somewhere else in the room and that they couldn't find it . And the second second biggest frustration what that if they got a new remote control , it was difficult to learn um all the buttons and all the functions , and to find your way around it . My personal preferences from the marketing is that we need to come up with some sort of sleek sort of good looking high high-tech Um and that we should come up with fewer buttons than most of the controls on the market , and we should sort of concentrate on the channels and sort of power , and also volume and that sort of thing , as as Louisa said . Um we could maybe come up with a menu , a sort of a an L\_C\_D\_ menu for other functions on the remote control . Um and maybe we could think about speech recognition as well , because um sort of young people are perhaps the ones that are gonna buy buy our new product if we aim it at sort of you know sort of a high-tech design . And we could maybe think about using speech recogniti recognition as a way to find the remote control if it's lost in a room , rather than sort of um having it to speech recognition to change the



channels . 'Cause there's a problem with that in that the television makes noise , so it could end up talking to itself and changing its channel . What was that last wee bit there ? Um about speech recognition ? But that was only for young people that preferred it , older people didn't . and they might end up costing more than our twelve fifty budget for for the speech recognition . Um . And possibly the thing about the about the remote being lost we could have You know with your mobile phone , you lose that and you can ring it . Maybe we can have some kind of sensor which is kept somewhere where you can some kind of buzzer system between the two . So you can press a button which is always kept in one place and then it maybe buzzes to somewhere else , wherever the remote actually is . Yeah , we'd have t that would mean we'd have to put two products together as well , There's key rings um that you kind of whistle at or clap at , and then they whistle back , or something like that . That'd probably be really simple , Well if you're trying to avoid having a second product 'cause obviously you could have a second product that gave you the right pitch which would set the remote off to say here I am sort of thing , you know without sound recognition . or like the same technology could be put inside the inside the remote . I mean obviously if you've got voice recognition then you can do it in that way Um I was gonna say a sharp noise , you know a clapping of hand or whatever . a set command whatever that happened to be . and you can give it a command , because it'll recognise the voice you could have an option to turn it off . Or So that would solve the problems with the T\_V\_ kind of speaking to the remote and changing its own channels . Um would it take quite a while to sort of develop the speech recognition software in the remote control ? Well if it does then we can't . and it seems to me that the management is uh wanting us to go down a narrow path and not opening out . So anything that uh is to be added , such as voice recognition et cetera has to be very simple and has to be very quick because time to market is is critical . S But probably quick and simple is primary rather than added extras . Uh d d I think I think first and foremost we've gotta get to the end and then get to the end with um added extras if possible . But we have to make the decisions on uh the remote control functions and how we were planning to proceed so that at the next uh meeting each person that's got a a a task to do is clear from this meeting what that task is . And if dur between the time of this meeting finishing and the next meeting starting , if you get any additional information that uh only you have at that point in time you'd think would be relevant to other people in terms of their des decision making um process , then we should communicate that as quickly as possible and not wait until the next meeting . If you get the information just before the next meeting that's fine . But if you get it well before the next meeting , let everybody else know Well , so maybe a clap rather than a whistle would be On the basis that if we've got if we're catering to the whole age range , you want something that's easy to do , Well I think it'd be really easy and it'd be a big advantage if we did have some sort of um kind of whistle back kind of function . I don't really know about the voice recognition thing . clapping , I think clapping , 'Kay we've already decided that we don't need a teletext button , haven't we ? Did we decide on having the ten um the ten numbers and then the the little digit next to it which kind of enabled you to put them together . I think nowadays you can just get ones where it gives you a sort of a second or two to press another number , I'll put delay to allow um multiple numbers . Uh we could possibly put an L\_ a sort of a L\_C\_D\_ menu in , but that again is probably an expense that you only have to probably tune in the T\_V\_ once , So and if finally the T\_V\_ breaks , you get a new one , you're gonna have to be able to tune it . the the product we've got is something that's at the I would have said the lower end of the s of the cost scale ,

so we're not really going for something that's uh terribly high-tech . I mean we're maybe talking about replacing remotes for slightly older televisions , so we maybe need to keep the the tuning function in . Would you maybe have like one menu button , then you'd use the other buttons , maybe the number buttons to actually do the separate functions . Yeah , 'cause you do need um kind of brightness and contrast and everything as well . Well , if we're trying to keep it sleek and sexy as well , have you seen those remotes where kind of um the bottom bit slides down , so there's kind of um everything else revealed ? So you don't use it that much , That is that is a good idea actually . So so keep um keep detailed functions um hidden at the back . And that'll be better for the older generation as well So um we're gonna have to have to work out what's gonna be on these other functions as as well . The detailed ones would be sort of brightness , So on front , about the number . Um the volume up and down . A mute button as well . And probably a power one as well . I know it's probably like um not an issue to raise here , but um the whole thing about not using your standby uh because of the like waste of electricity . Like we should maybe try to discourage people from standby . Yeah , it's maybe too much of a big issue for here . But then they might not buy it if they haven't got one . So so are you having the stand-by on the front , then ? Um are we gonna have the channel up and down as well as the number buttons ? Um 'cause yeah the market research said there is quite a lot of people do just zap around and flick , so . So we've got ten eleven twelve thirteen fourteen fifteen sixteen there ? Numbers is ten , volume is twelve , And a mute , yeah . And then at the back ? You've got brightness and contrast . Maybe if we're gonna run out of time , one of us should come up with a list of these and then get back at the next meeting just at the start and say what they're gonna be . Uh there's audio functions . You're also gonna have the channel tuner , as it were . And then maybe sort of an enter button for sort of s you know , saying that you want that particular thing tuned in . So I think um there's quite a lot of like Dolby surround studio , surround sort of things . Do they have their own do they have their own controls on their actual products , then , Um I think they've got their own controls in this kind of like hidden panel . Yeah I suppose if we've got their if they've got their own controls then we can avoid it for ours just to keep it simple . Right so I'll do the minutes of uh this meeting . Well shall we look into that and just get back together .

## Complete Meeting Transcript

Yeah, I've got one too. Mm-hmm. Mm-hmm. Hmm. There's usually a little thing in the top right for the Oh hang on, it's just coming on. Okay. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. Um I'm not sure. I had I've had some market information, but not from the company, no. Okay. 'Kay. I'm gonna pull this off. Uh-huh. Okay. I'll give it another go. Yeah, there we go. Right, we've done some research into the functional requirements that people want out of their remote control. And first off we should state that th the remote control's for controlling the T\_V\_ and um how do people use it? We asked them sort of which buttons were useful for them. Um how d how does a remote control look and feel for them, and what improvements would would they like to remote control. And we did that by sort of giving them a questionnaire that we'd prepared and asking them to fill in the answers. And three quarters of them found that remote controls are ugly and that a sort of even higher proportion would

spend more for a sort of s uh a fancier remote control And that of all the buttons on the remote control, the sort of setting buttons for sort of the picture picture and brightness and the audio settings, um they weren't used very often at all. People concentrated on the channel buttons and the volume buttons and the power buttons. Uh we also asked them about speech recognition uh for remote control. And young people were quite receptive to this, but as soon as we got sort of over about into a thirty five to forty age forty five age group and older, people people weren't quite so keen on speech recognition. There's a lot more th there's a lot lot more older people who didn't know whether they wanted it or not as well. Um we also asked what frustrated people about remote controls and the number one frustration was that the remote was lost somewhere else in the room and that they couldn't find it. And the second second biggest frustration what that if they got a new remote control, it was difficult to learn um all the buttons and all the functions, and to find your way around it. Okay, so My personal preferences from the marketing is that we need to come up with some sort of sleek sort of good looking high high-tech A design which looks high-tech, basically. Um and that we should come up with fewer buttons than most of the controls on the market, and we should sort of concentrate on the channels and sort of power, and also volume and that sort of thing, as as Louisa said. Um we could maybe come up with a menu, a sort of a an L\_C\_D\_ menu for other functions on the remote control. That's worth thinking about. Um and maybe we could think about speech recognition as well, because um sort of young people are perhaps the ones that are gonna buy buy our new product if we aim it at sort of you know sort of a high-tech design. That that might be the market that we're we're looking for. And we could maybe think about using speech recogniti recognition as a way to find the remote control if it's lost in a room, rather than sort of um having it to speech recognition to change the channels. 'Cause there's a problem with that in that the television makes noise, so it could end up talking to itself and changing its channel. Okay um, and that's the end of the slide show. That's it. Cool. Um about speech recognition? Yeah. Youn young people pref Yeah, they s they said that they'd be interested in a remote control which offered that possibility and as you go up through the age groups, people got less and less interested in sort of a remote control that you could talk to, so. Yeah. Yeah. Yeah. Yeah. Uh-huh. Yeah. Yeah, we'd have t that would mean we'd have to put two products together as well, which which again would probably be a bit expensive, but Yeah. Yeah. Mm-hmm. Mm-hmm. Yeah. Yeah. Mm-hmm. Yeah. Um would it take quite a while to sort of develop the speech recognition software in the remote control? Considering Yeah. Mm-hmm. Okay. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hm

m. So About five minutes. Mm-hmm. Mm-hmm. Okay, yeah. Mm-hmm. Okay. Yep. Yeah. Mm-hmm. So do we need to decide on the functions now? S Mm-hmm. Yeah and Yeah and that was that was the number one sort of frustration that people said, so. I don't think there's anything else on the market that does that, so. Mm-hmm. Mm-hmm. No not everyone can whistle, can they, though? No, clapping, I think clapping, yeah. Yeah. Yeah. Taking out teletext, okay. Mm. I think nowadays you can just get ones where it gives you a sort of a second or two to press another number, so you can press any two and it'll sort of put them together. Yeah. Yeah. Yeah. Uh we could possibly put an L\_ a sort of a L\_C\_D\_ menu in, but that again is probably an expense that Yeah. Mm-hmm. Yeah. Yeah. Yeah. I s I suppose um if people are buying remotes, then they're probably buying it to replace another remote 'cause all most tellies come with remotes, so. I mean we're maybe talking about replacing remotes for slightly older televisions, so we maybe need to keep the the tuning function in. Yeah, that would be a good idea, yeah. Mm-hmm. Hmm. Uh I'm not sure whether the sort of having people have a booklet 'cause one the second most annoying thing that people found was having to learn the new one. So maybe next to each of the buttons, you know each of them could have a number and then also a

function written next to it, so you're basically pressing Right. Okay. Yeah. Yeah, yeah. Mm-hmm. Yeah. Yeah. Yeah. So the detailed ones would be sort of brightness, uh sorta Mm-hmm. Yeah. Mm-hmm. And probably a power one as well. Dunno. Mm-hmm. Yeah. Yeah. Yeah. Okay. Um 'cause yeah the market research said there is quite a lot of people do just zap around and flick, so. Um. Numbers is ten, volume is twelve, th Yeah si One up, one down. And a mute, yeah. That's sixteen isn't it, yeah. I don't think so, no. You've got brightness and contrast. Yeah. Yeah. Yeah. And then maybe sort of an enter button for sort of s you know, saying that you want that particular thing tuned in. So you go up and down and then it pick it finds something and then you wanna press enter to select it, yeah. Yeah. Yeah. Mm-hmm. Okay. Right. Okay. We have a I guess we have a presentation each, 'cause I've got one. Um. Mm-hmm. Uh we didn't, no. I d I didn't personally. Okay that's fine. I'll just um I'll grab the wire out the back of this one. I'm not quite sure how it Control Doesn't seem to be quite working at the moment. Alt function F\_ eight. Again not doing anything. Oh. pressed about five times now. Okay, that's me. Okay, um I have to go again. Hopefully that should be it this time. Okay, I think we're there. That's good. Okay, um Okay I'm gonna be looking at the working design. Um of the of the remote control. Um I've just got three sections, first is the research I made on the on the remote control itself um. And then that involves the components required in it and the systems uh design of the actual the actual remote. Um so having researched the existing models within the market, um I found my research off the internet. Um I've established what the components required for the remote control to function, actually are. And then also the methods in which these components interact together for the remote to actually do what you want it to do and how it connects with the television. Um the basic components are an energy source which I guess um in most existing models would be a battery supply. Whether that'll be sort of two batteries, four batteries, um it may vary. We then have the user interface, which is basically the like the the buttons on the actual remote. Um the various functions used for changing channel, uh channel up and down, volume, things like that. Um there's also a chip inside the remote which does all the computer type things. And then the sender, which um is usually, I've found, an infra-red device which sends a signal to the actual television. Um and the last part is receiver which is im

portant in the system but is not actually part of the remote itself, because that's obviously found in the television.. Um I'm gonna have to actually draw on the board because uh it was a little tricky on PowerPoint to get this working, so. I'll just go through there. S um um do we have a cloth to wipe this down with, or? Oh I'll j Oh I see. Oh okay. I'll get rid of the bear Okay that's great. Okay, so we start off with a um battery suppl Uh no, a power supply which we'd probably get it's probably gonna be the battery. Um we then have a particular button, which may be that's obviously there's lots and lots of different buttons. Um but this is how the basic system works. Um that sends after you press that that sends the message to the chip, which um then sends It sort of interprets which button you've pressed and then sends the appropriate message to the sender. Um. So that's. That's the remote in itself, that's the components of the remote and how they work together. So this is the uh user interface. Um this is the chip itself, which then, and that's the that's the infra-red sender. And then on the separate thing we have on the on the television we have a a receiver. And the sender sends a message to the receiver. 'Kay. Ah yes, that's the power source. Um. going on to personal preferences, I've said that battery seems the best option for the actual remote, just because of the size. You don't want a a cable attached to the remote otherwise it's not it's not really a remote. Um and then the sender, and infra-red um has been used quite successfully. If the battery's on reasonable power, they always seem to work fairly well. You don't have to be point directly at the television itself. Um Yes. 'Kay and that's it for the moment. Would you be able to get rid of the the extra buttons here, the the sort of circular section,

because that seems to be for a video as well. So we could dispense with that little bit as well and just get it down to just the numbers and the volume. Possibly? J yeah yeah yeah j yeah just this little bit is that I think that's still um a video remote part, so maybe we could get rid of that as well. It's just people are used to seeing that, so if we didn't have them then they might think it's Hmm. Okay, yeah. I suppose with nine you've got the the like the last one which makes the tenth means you uh it's like uh multiples you can put them together so you can make any number. So with that we'd kind of by-pass any problems with Yeah. Yeah. 'Cause that facilitates having all the numbers you could ever need. Um. So we could get it down to what? So we get to How many buttons have we got? We've just got ten, eleven twelve th We got fourteen that we need. I guess. Um which isn't really too many. That'll be quite easy to make a user guide for a fourteen button remote. 'Kay. 'Kay. Ah yes yes, that seems good. I think if you just give it a second to maybe catch up. I'm sure we'll have by the end of today. Mm. No what I maybe think is um it seems the technology would be quite advanced for that and they might end up costing more than our twelve fifty budget for for the speech recognition. Um. And possibly the thing about the about the remote being lost we could have You know with your mobile phone, you lose that and you can ring it. Maybe we can have some kind of sensor which is kept somewhere where you can some kind of buzzer system between the two. So you can press a button which is always kept in one place and then it maybe buzzes to somewhere else, wherever the remote actually is. That is true, yes. Hmm. So I guess it'd be something we could like attach to the or like the same technology could be put inside the inside the remote. Yeah. Yeah if we if we could have it in the actual remote like everything in one one device. you could have an option to turn it off. Or Perhaps, um. So that would solve the problems with the T\_V\_ kind of speaking to the remote and changing its own channels. Mm. 'Kay. Yes. Has to be simple enou

gh to I suppose if we could get something in which was quite quick and simple that would give us an advantage over the other remotes. Um. 'Kay. Mm-hmm. Yes. Um. Yes that seems right. Mm-hmm. Okay. Maybe we should concentrate just on the whistle back function at the moment, and if something comes back I'd go more Yeah, f more for clap. Did we decide on having the ten um the ten numbers and then the the little digit next to it which kind of enabled you to put them together. Okay, ten numbers and then some kind of device to allow uh I'll put delay to allow um multiple numbers. Or multiple digits. Did we decide anything about um the other functions? As in setting the audio and tuning it and stuff like that? You had an had an idea about the menu? But just thinking um people probably I mean you don't have you only have to probably tune in the T\_V\_ once, but you have to be able to tune it that once. So and if finally the T\_V\_ breaks, you get a new one, you're gonna have to be able to tune it. You can't really avoid that. Except the new digital markets which do it by themselves. So that'll be in Yes. Yeah. Yeah. Yeah yeah. Yeah. So how would this menu function work? Would you maybe have like one menu button, then you'd use the other buttons, maybe the number buttons to actually do the separate functions. Okay. we're gonna have the the individual numbers and then a menu function and maybe sort of a slightly more advanced um instruction booklet to come with it, to guide Presu uh I think it'd be quite hard just for people to grasp um just off like the menu use different buttons you maybe have to have like some better instructions of how that would actually work. Right, okay um. that also goes back to the original design when we saw those two, and there was the one on the left hand side which had all like the double functions and stuff which kind of looked too busy and had too much on it, so. That is that is a good idea actually. Sor sort of a second. Okay. Uh not quite, but I guess. Keep the other buttons but hide them away. So So um we're gonna have to have to work out what's gonna be on these other functions as as well. So we're gonna have like two separate two separate lists, I guess. So sh Should

we decide in the next couple of minutes, and then So on the about the number. Um the volume up and down. Shall we have a mute button as well? A mute button as well. Yeah. Or But then they might not buy it if they haven't got one. 'Cause people might just be too fickle and not want to change. We can send out a flier with the device saying that you shouldn't leave it on stand-by. I think you probably should. Um are we gonna have the channel up and down as well as the number buttons? Okay, so we'll have um So we've got ten eleven twelve thirteen fourteen fifteen sixteen there? Is there anything else? Um. Maybe if we're gonna run out of time, one of us should come up with a list of these and then get back at the next meeting just at the start and say what they're gonna be. So tuner up and down, I guess. Um up Tune one way, tune the o I I dunno I dunno possibly. Oh yeah and th and a enter button just to select. Yeah, okay. Um I guess we're keeping s it simple. We don't really need any other audio funct uh functions because it's just volume up, volume down. Um. Do they have their own do they have their own controls on their actual products, then, or do you have to do it via the remote? Yeah I suppose if we've got their if they've got their own controls then we can avoid it for ours just to keep it simple. Oh, okay. Right. Um. Maybe unless something comes up then we should I think Well shall we look into that and just get back together. 'Kay. Yeah. No. What is it? I think you've got to do um control F\_ eight. Shift F\_ eight. Ah there, it's doing something. I think it's that little Right. Thank you. Mine's not quite as complicated as all that. Did I press function? Yeah. Oh. Um. Okay so I'm gonna talk a bit about the technical functions design. I'm

Louisa, the User Interface Designer, as you know. Um so the m basic method of this is to send a signal from the remote to the television set, so that a desired function is performed. Um an example of the function could be to change the volume up or down, uh so obviously you need two different buttons for that. Um to change the channel, either by pressing the number that you want or by channel up or down. Um to switch the television on or off, maybe a standby button. Um here are two example remotes. Um by the look of it they both have um kind of play and fast forward, rewind functions, so I think they incorporate a kind of video function which we won't have to worry about. Uh but as you can see, the left remote is quite um quite busy looking, quite complicated. Um whereas the right remote is much simpler, it looks much more user friendly. Um so my personal preference would be the right remote. So, it's got nice big buttons, it's got a very limited number of buttons. Um they're nice, kinda clearly labelled. Um I like the use of the kind of um symbols like the triangles and the squares and the arrows as well as the words on the um kind of play functions and all that. So it's very very user friendly, and it's got a little splash of colour. Could maybe do with some more colour. Um. Hmm. Do we get to see that? Will you be presenting that in a bit? Hmm. What do you mean by the circular section? Like all of that bottom bit? Yeah. Yeah. And I don't really think that you need nine numbers. I mean how often do you use seven, eight and nine? I think just one to six and then channel up and down should be enough. Like how often do you hit nine? Hmm. Um some remotes have kind of favourite options where if you always flick from channel one to channel six, um if that's a favourite you just like by-pass two to five. Hmm. Mm. Um. But I think a lot of um like Cable and Sky and stuff, that would be tuned to one channel, and then you'd have another remote for all of those channels. Like to get to fifty five and the higher numbers Yeah. But I suppose nine's not really excessive. I suppose it does make a good pattern. Okay. Um I think that's just for a video, so we wouldn't need any of that at all. Mm-hmm. Okay, so is everyone happy with that? Right well that's the end of my presentation. Do a lot of um There's key rings um that you kind of whistle at or clap at, I can't remember, and then they whistle back, or something like that. That'd probably be really simple, they're cheap. Yeah. Well I think it'd be really easy and it'd be a big advantage if we did have some sort of um kind of whistle back kind of function. 'Cause that'll solve kind of the frustration of

losing it. Yeah. I don't really know about the voice recognition thing. Mm-hmm. Yeah. And that wouldn't put off the kind of older generation either, 'cause everyone can whistle or clap, and they wouldn't have to be kind of scared of this new technology. 'Kay we've already decided that we don't need a teletext button, haven't we? Is that one of the Hmm. Right. Yeah, I think so, so zero to nine. Hmm. Mm. Yeah. Yeah, like the volume or something. Yeah, 'cause you do need um kind of brightness and contrast and everything as well. My dad was watching a film the other week and it was too dark, so I had to go through it and turn the brightness up. Well, if we're trying to keep it sleek and sexy as well, have you seen those remotes where kind of um the bottom bit slides down, so there's kind of um everything else revealed? So you don't use it that much, you don't have to see it all the time. But it's all there if you need it. Like a hidden panel. Hmm. And that'll be better for the older generation as well 'cause, well my dad doesn't like anything that you've got to kinda flick through a menu, but he can pretty much read a button if it's displayed properly. Yeah. And the volume? Um. Yeah. Yeah I think they're handy. I know it's probably like um not an issue to raise here, but um the whole thing ab

out not using your standby uh because of the like waste of electricity. Have you seen the adverts? Like if you boil the kettle that's full that's a waste. If you leave your telly on standby it powers Blackpool for a certain amount of time. Like we should maybe try to discourage people from standby. Yeah, it's maybe too much of a big issue for here. Uh-oh danger sign. Yeah, but a little bit smaller. Compromise. Right. On mute. so. And then Mm-hmm. Uh there's audio functions. Yeah. I think they normally do. Yeah. So I think um there's quite a lot of like Dolby surround studio, surround sort of things. Um maybe for the younger market. Um I think they've got their own controls in this kind of like hidden panel. Oh no, I mean um like there's kind of individual buttons for them, like on the T\_V\_ remote. But I don't really know what they're for, I've never used them. I just know they're something to do with Dolby. Right. Right uh. So um. So where's the PowerPoint presentation? Sorry? Microsoft PowerPoint, right. Right, okay. So. Right. Okay, so we've got uh so we've got new project requirements. Um. So basically we've got three things, and we've got forty minutes in which to uh for this meeting to uh to discuss the various options. Um. Three presentations. I see, right. That's nice to know, one from each of you. Um new project requirements. Um so do we want to do the presentation first, or do we want to um W I I got um or or three things basically, um relating to the remote being only for T\_V\_. We discussed that last time and in actual fact that was pr pretty well what we came up with anyway. So in fact it actually f we won't be forestalled in a sense. Um we've got uh teletext outdated. Um did you get any information on that? Right and the corporate image was the uh final thing. So I I got that in email form. Um. Right okay. So I guess if we go ahead with the uh with the three presentations. So we'll start with yourself on the basis that uh Sorry, yep. Oh. it going? Okay. Uh there's the rubber on the right, I think. it's magic. So the the top bit's the power source, yes?. So the battery is the in the sender. Okay. So, now more design. That's what we like to hear. Is it control function ei Oh, th there you go. Well there's a couple of things there. Um we have to remember that we have our own um logo and colour scheme. So basically we'd have to uh we'd have to be putting that on um the the product. I haven't as yet, no. But uh I got uh I got an email that basically said to uh make sure that uh whatever device we come up with at the end of the day had to incorporate um the corporate colour and slogan. So uh I'm guessing that uh uh I notice on the bottom there it's got uh what's that? A\_P\_O\_G\_E\_E\_ that might be the corporate colour scheme, although the only the only colour I can see in that is the red. Well b uh w Well th the on the Well uh for for general television purposes obviously you have channels one to five at this point in time, and we'd have to have some room for uh future such channels. But but But, well possibly but the the other thing is that with um the current expansion of uh channels uh in the process of taking place, certainly the button up and

down, but uh I mean how many channels do we have to um actual television channels do we have to uh prepare for? I would have thought that uh it's forever expanding and at the moment we've got although you've only you've got the five standard, you've got the B\_B\_C\_ have come up with a further six and uh there's uh I don't know exactly how many channels there are on uh when you take into account uh Sky and various other um various others. So I would've thought that we wouldn't, you know, rather Okay, if the time of flicking from one to other, but presumably it'll take a second 'cause you have to be able to stop it. Maybe you could have a fast forward on the on the channels that w and then you could dispense with more otherwise. Y you'd want you'd want to get fairly quickly to the cha

nnel that you wanted. Mm-hmm. Yeah, I s I suppose in a sense you could have um if you've got a hundred channels then if you had sort of an easy way of getting rather than having to go one to a hundred, you could go one to one to ten, ten to twenty and then have a second button to get you to the actual channel you want and that would cut down your time. Anyway. Whatever. Okay. Okay. Limit the number of buttons, user friendly. Yeah. Well that's true, yeah, you could get fifty by five and a zero or whatever, that that makes sense. Yeah. Does. So w so what was the circular thing that you were If it's just for T\_V\_, which is what it is at the moment. Mm-hmm. Well we've we've got um that it's remote for T\_V\_ only otherwise project would become too complex with uh which would endanger the time to market was one of the considerations. I'm I don't know d did you have that information behind the marketing, or was I meant to give you that information? Right. Right, okay, so basically time to market seems to be important, therefore speed of delivery. We've only got about another four hours left. Yeah, I think she said twenty seconds to um What was that last wee bit there? Speech recognition, right okay. But that was only for young people that preferred it, older people didn't. Well that's right. Sounds reasonable. Mm-hmm. Yeah. So Well if you're trying to avoid having a second product 'cause obviously you could have a second product that gave you the right pitch which would set the remote off to say here I am sort of thing, you know without sound recognition. But if you I know. Um I was gonna say a sharp noise, you know a clapping of hand or whatever. You'd want to try and av just have the one product that if Yeah. Um I dunno um talking about vo I mean obviously if you've got voice recognition then you can do it in that way because it'll recognise the voice and you can give it a command, a set command whatever that happened to be. But you've then got the point if if you're not going with uh voice recognition then Mm. So uh Any sugges Well, any conclusions? Well if it does then we can't. It's that simple, because we've got uh th th three um primary um uh requisites from uh from and email uh that was sent to me whereby we had The design logo was one, which we've already mentioned. We've got um the remote was only for the television and not for because that would make it too complex and we have to get it market quickly. And the uh third thing was that um teletext uh as far as uh the management is concerned, um is becoming dated uh due to the popularity of the internet. So that means that uh so these are the sort of three um extra parameters that have been put on this uh project. So we're being focused effectively directly at a television and it seems to me that the management is uh wanting us to go down a narrow path and not opening out. So anything that uh is to be added, such as voice recognition et cetera has to be very simple and has to be very quick because time to market is is critical. S It would. But probably quick and simple is primary rather than added extras. Added extras would be nice, but the primary consideration is to get the project finished within uh this short time window, which effectively now is sort of four hours. So and if and we've gotta get to the end. Uh d d I think I think first and foremost we've gotta get to the end and then get to the end with um added extras if possible. Okay. Right okay, uh so I need to Right. So I don't know how long we have left of our uh time. But we have to make the decisions on uh the remote control functions and how we were planning to



proceed so that at the next uh meeting each person that's got a a a task to do is clear from this meeting what that task is. We'll also know w when the next meeting is I um so we'll know how long we've got to complete that task. And then we can report back at the next meeting and say right okay yes, we've achieved this or we haven't achieved this, this is h

ow far we've progressed. Does that make reasonable sense? So we have to come effectively to the decision on the remote functions so that you can decide what you're gonna be doing. And if dur between the time of this meeting finishing and the next meeting starting, if you get any additional information that uh only you have at that point in time you'd think would be relevant to other people in terms of their des decision making um process, then we should communicate that as quickly as possible and not wait until the next meeting. Do it via the email so that rather than coming you know If you get the information just before the next meeting that's fine. Come along with it in the next meeting, we can discuss it then and take whatever action is appropriate. But if you get it well before the next meeting, let everybody else know 'cause that might have an impact on their uh on what they come up with effectively at the next meeting. Okay. Right, is there I would guess so. Yep. I w well uh i Something simple. Uh if if our primary consideration is to get it there in time, time's short, you want something to meet the major concerns of the consumer so that we can have that as a selling point for the product, something that's quick and simple. So, sounds good. Well, so maybe a clap rather than a whistle would be On the basis that if we've got if we're catering to the whole age range, you want something that's easy to do, now something that doesn't like whis uh Well I I I don't know. Well If you think that more people can whistle than clap then that's fine, then go for that option, but if I would have thought that more people could clap rather than whistle, so uh so clap option. Okay. Uh. Ef effectively that's what the that's what they're saying, that uh if uh if people are now using the internet then you don't need teletext, so so take out teletext. Yeah. No. But the but that's relying on the television market changing to an automatic and if it is at the moment, that's fine. But at the moment it's not, so it seems to me that you have to have a device that caters, 'cause otherwise it would make it uh your device would become inoperable, or only operable in certain circumstances and the idea is to have an international market which is And it's also m it's the the product we've got is something that's at the I would have said the lower end of the s of the cost scale, so we're not really going for something that's uh terribly high-tech. Possibly. That's right. Okay, well. Mm. So y Ah That's a very good idea. So you keep um Right we've got five minutes before we wind up this meeting, so I've been told. I don't know if you've got the same. Okay. So so keep um keep detailed functions um hidden at the back. Ah. Mm-hmm. That's right. data functions hidden at back. Can bring out when needed. That's right so we're dis So you've got which ones are gonna be on the front and which ones are gonna be on the back. We have to decide. I guess so. So on front, numbers, volume. Sorry? Mm. Mm-hmm. So so are you having the stand-by on the front, then? Well. Channel up and down. What else have we got? What was that, sixteen? Volume button. How many volumes? Right okay. Power button, stand-by, channel, up and down. So is that it? Okay. That's sixteen buttons, you reckon. And then at the back? Okay. So on the back it'll have brightness, contrast, anything else? You're also gonna have the channel tuner, as it were. Tuner, would that have up and down?. okay. Okay. Um up volume, yeah, I would have thought so. Okay. Yeah. Yeah. Well you might get some research. Okay. Right so I'll do the minutes of uh this meeting. And we'll meet back at I'm not sure. Um forty minutes, I believe is the time. Come on.

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# Meeting ID: 64

Data Source: Validation

## Executive Summary

I'd uh like to welcome you to our first meeting . Um I'm the Project Manager of this project , This is uh the agenda for our first meeting . I will hope we will get acquainted to each other . We'll do a little tool training with these two things . We'll take a look at the project plan . Uh there will be time for discussion . Um as you probably have noticed there are little black uh fields on the table . Um you have to put your laptop exactly in that field so the little cameras can see your face . and there are microphones here also . and uh I'd like to hear uh who you are and what your functions are uh on this project . and my uh function is User Interface Design , I think . uh I'm the Industrial Designer I'm uh Marketing Expert . I said uh we're working on a project and the aim for the project is to to create a to design a new remote control which uh has to be original , trendy and of course , user friendly . It consists of three phases , namely the functional design , conceptual design and detailed design . As you can see , all of these phases consists of two parts , namely individual work part and a meeting But first I will uh tell you something about the tools we have here . They are smart boards . As you can see , you can give a presentation on them . And uh this one here is a white board . Um as you also noticed uh this presentation document is in our uh project folder and every document you put in this folder uh is uh it is possible to show that here in our meeting room . As you can see , this is the same tool bar uh as is located here . Um the most functions uh we will use will be to to add a new page , um uh to go back and forward between pages , Um and this is the pen with which you can draw on the board , for instance Um and then you can write things like test or whatever you want . it's not such a fast board , and of course you can also , when you click here , uh erase things , And um you can also delete an entire page , but we ask you not to do that . because we want to save all the results . And you can also um let's see I think it's here uh change the uh colour of your pen , Um that's what you will need for our first exercise , because I'm uh going to ask you to draw your favourite animal . to do it on a blank sheet , with different colours and also with different pen widths Um and a favourite characteristic can be just uh one word . Or maybe you should guess what I'm drawing , eh . it could be a turtle , or a snail , It's a giraffe . it can reach everything . And I hope I can also reach a lot with this project . Could you write the words , uh underneath it ? I've drawn a dolphin because of its intelligence . You can try out the eraser now . Um from the finance department I have learned that we are aiming for a selling price of twenty five Euros . And we're hoping for a aim of fifty million Euros and uh we are hoping to achieve that uh by aiming for an international market . And the

production cost will be twelve Euro fifty max . it's time uh for some discussion . What's your experience with remote control ? I always lose them . A lot of buttons which you don't use Not user friendly . Black , all black . maybe we should try to make it fun . You had different remote controls for different devices . perhaps you can integrate them or something . but then again you you still have a lot of buttons , there's a possibility to g uh to uh to put those buttons uh behind some uh kind of uh protection but um the usual buttons such as uh um zapping uh as you call it in Dutch . Uh and the volume control uh are only the only possible buttons uh to use directly . maybe a a minimalist design , the least uh possible amount uh of buttons . But you should make sure that you have every button they need on it . Because uh things for uh teletext , I dunno uh , w you don't want to bother people with uh loads of buttons , but on the other hand they need many buttons Because I think a market will be all kind of people . Elderly p el elderly , young people , so . I think the aim is better to use uh the whole world and Britain , yeah . I think uh when p uh when uh the customers will buy this remote control , they already have uh the remote control which uh companies uh uh with uh the the standards uh remote control with which comes uh with the television . but it is impossible to uh to accommodate uh accommodate uh all the buttons on the s on the difference different televisions sets on one remote control . It's impossible . Because uh for example Sony television uh has the opportunity to s to make uh uh to make it possible for to see on one side of the screen uh teletext , and on the other side uh just n uh regular television . Uh Because you can't use a Panasonic uh remote control on a on a Philips television . always with r universal remotes you have to choose the code . Um our next meeting uh will start well we're a little bit early , but our next meeting will start in in thirty minutes . In the meantime uh there's time for some uh individual actions . meeting will close in five minutes . Um the Marketing Expert will uh will take a look at the user requirement specification . The User Interface Designer will work out the technical functions design . the Industrial Designer will take a look at the working design , Um and of course specific instructions uh will be sent to you uh through your personal coach . I think then we have to head uh back to our offices and uh start working . I expect everything will be much clearer with the instructions we will receive uh shortly . see you all in about thirty minutes , then . Where does it says we have to make a remote ,

## Complete Meeting Transcript

Good morning. Well Well uh I'm uh and my uh function is User Interface Design, I think. So uh that's me. Me too. Oh. So we can't erase anything. Right. Alright. It's a sheep. A beaver. It's weird. It has wings? Well the snail doesn't have legs. Oh right. Well. It's a giraffe. Or a dinosaur. Yes. Giraffe. Should I uh Alright. So I can draw, but uh Uh. Well. Oh. Oh wrong one. Uh. Well uh you can guess what it is, I hope. It's a rabbit. And uh well uh it's uh quick, I guess. That's uh my uh favourite animal. A dolphin. Right. Well. With an E\_. You can try out the eraser now. Not really. I always lose them. Yes. Yeah. Yeah. search for the buttons, which one is which and uh Well. Perhaps that you have a lot of road remotes r road con remote controls. Yes, perhaps you can integrate them or something. Yes. Your stereo and your T\_V\_ and uh. Perhaps that's an idea. Yeah, that's right. And which you don't use. Right. Yeah. You should just give it to. Changing channel. Yes. But you should make sure that you

have every button they need on it. Because uh things for uh teletext, I dunno uh, w what's the name? Yeah. But But if it's if it's international you should uh look in think in Britain they have uh different things they can do with the T\_V\_, or so uh that you can choose what you want to see. I dunno if you should uh take that in consideration, or that you just should aim for the normal T\_V\_s that uh And the B\_B\_C\_. Yes. Yeah, I don't know if the they have that anywhere else, though. Yeah, we can leave that. Yeah. Well but but then you have to to find your other remote control if you want to search. That's not Yeah, that's right. Yeah that's uh. Well not everywhere. Yeah, you can choose the code. Yeah. But the people have a new television, and c if you look into the future, then they want will want the button, if their thing is broke. Yeah. Guess not. Yeah meeting will close in five minutes. Hmm hmm. No interface. No the Yeah. So So I should look at uh what you should be able to do with the remote, or uh, or how I don't really Right. Alright. Me too. Alright. Yeah. Yeah. Okay. Good morning. Sorry? Yeah, busy job. Good morning. So Oh, good morning everyone. I'd uh like to welcome you to our first meeting. I've prepared a little presentation. My name is and uh I hope you will introduce yourself uh in a few minutes, as will I. Um I'm the Project Manager of this project, and uh, well I will tell you on what actually is the project. This is uh the agenda for our first meeting. Um this is the opening, then we will get I will hope we will get acquainted to each other. We'll do a little tool training with these two things. We'll take a look at the project plan. Uh there will be time for discussion. Actually we have to discuss because we have to create a product. And then we will close this session. Um but first of all we I'd like to uh introduce you to this room. Um as you probably have noticed there are little black uh fields on the table. Um you have to put your laptop exactly in that field so the little cameras can see your face. Um there are cameras everywhere around the room especially here for your face, of course, and this isn't a pie, it's a a set of microphones and there are microphones here also. But please uh don't be afraid of them. They won't hurt you. Um well uh I said I'm the Project Manager and uh I'm hoping uh for a good project and uh I'd like to hear uh who you are and what your functions are uh on this project. Let's start with the ladies. Okay, so I. Okay, well we have some expertise from uh different pieces of the of the company. That's good. Um well I said uh we're working on a project and the aim for the project is to to create a to design a new remote control which uh has to be original, trendy and of course, user friendly. And uh I hope we have the expertise to create such a project such a product. Um the way we hope to achieve that is uh the following methods. It consists of three phases, namely the functional desi

gn, conceptual design and detailed design. As you can see, all of these phases consists of two parts, namely individual work part and a meeting where we will discuss uh our work so far. Okay. But first I will uh tell you something about the tools we have here. I already talked about the cameras and microphones, but they are not of uh much use to us. Uh we will have to take advantage of these two things. They are smart boards. As you can see, you can give a presentation on them. And uh this one here is a white board. I will uh instruct you about that soon. Um as you also noticed uh this presentation document is in our uh project folder and every document you put in this folder uh is uh it is possible to show that here in our meeting room. Um and yeah there are available on both smart boards but I think we will uh mainly use this one for the documents in the shared folder. As you can see, this is the same tool bar uh as is located here. Um the most functions uh we will use will be to to add a new page, um uh to go back and forward between pages, and of course uh to save it every now and then. Um and this is the pen with which you can draw on the board, for instance like this if everything's okay, but I first have to put it on the pen, you see I'm new to it too. Um and then you can write things like test or whatever you want. As you can see you have to move it a little bit slow, it's not such a fast board, it's a smart board but also a slow board. Uh but you can write things and of course you can also, when you click

here, uh erase things, so we have uh est left. And um you can also delete an entire page, but we ask you not to do that. Just simply create a new one and uh start all over because we want to save all the results. Um does everyone understand this nice application? Well you can erase it with the eraser, but uh you shouldn't delete an entire page, but just create a new blank one. I will delete this one now because we don't use it yet. But you can of course erase when you make a mistake, but don't uh delete entire pages. And you can also um let's see I think it's here uh change the uh colour of your pen, for instance take a blue one and uh change the line width like to five. Um that's what you will need for our first exercise, because I'm uh going to ask you to draw your favourite animal. It's also to gets to know each other because um I'm asking three things, uh for that uh drawing, to do it on a blank sheet, with different colours and I just showed you how to pick a colour, and also with different pen widths which I also showed you. Um and a favourite characteristic can be just uh one word. Well I'm not very good at drawing, but I will uh go first and um try to draw Or maybe you should guess what I'm drawing, eh. Well it uh could be everything. Maybe when I put on this thing it could be a turtle, or a snail, and But a turtle has. And those are slow. And I hope our project group will not be slow, but we will uh work to a good result and do it uh as fast as we can. Okay, time for another animal. Would you like to go next? Mm-hmm. Okay. Could you write the words, uh underneath it? Or more words. Little rabbits. Okay, thank you. And our final drawing. Mm-hmm. Okay, well thank you very much. I can see we have some uh drawing talent uh in this group, huh? Well, nice animals, nice words. Sounds good. Um back to business, back to the money part. Um from the finance department I have learned that we are aiming for a selling price of twenty five Euros. And we're hoping for a aim of fifty million Euros and uh we are hoping to achieve that uh by aiming for an international market. And the production cost will be twelve Euro fifty max. Okay, well it's time uh for some discussion. I've wrote down some examples here of what we can can speak about. Uh what's your experience with remote controls, um what kind of ideas do you have to design a new remote control, maybe for which market segments should we aim, or should we aim for all seg

ments. Uh well actually I'd like to hand the word uh back to you. What's your experience with remote control? Mm-hmm. Boring, it's not fun to use a remote. Mm-hmm. Well maybe we should try to make it fun. Mm-hmm. Mm-hmm. Mm-hmm. Mm-hmm. So maybe a a minimalist design, the least uh possible amount uh of buttons. Mm-hmm. So you don't want to bother people with uh loads of buttons, but on the other hand they need many buttons so they don't have to get out of their seat. Mm-hmm. Mm-hmm. Okay, well any more ideas? No? Okay, yeah well we have some time. Let's see what more I have to tell you. I don't think there is much left. Nope. We're starting to close. Um our next meeting uh will start well we're a little bit early, but our next meeting will start in in thirty minutes. In the meantime uh there's time for some uh individual actions. Um, as you can see, the different roles have uh different tasks. And there's a ping. Is it my laptop? Yep. Ah well that's good, five minutes and uh the meeting's over, uh right on schedule. Um the Marketing Expert will uh will take a look at the user requirement specification. The User Interface Designer will work out the technical functions design. And this was the Interface Designer? Or the Interaction Designer. Or what was it, I\_D\_? Interface Designer, okay, first guess was right. Uh will take a look at the the working design. Industrial Designer, okay, sorry. Let's just use the acronyms. Um and of course specific instructions uh will be sent to you uh through your personal coach. Uh well those instructions will be uh in the email you will receive uh shortly, I hope. And of course you have your own uh expertise. Well uh that was what I had to say. Uh are there any more questions? No? Okay well I think then we have to head uh back to our offices and uh start working. Okay, one question? Okay we're still going. Okay, well I expect everything will be much clearer with the

instructions we will receive uh shortly. Okay well uh see you all in about thirty minutes, then. Thank you very much. My name's. I'm uh Marketing Expert. My job is in the company to promote company or promote products to the customers. So I also hope we have a pleasant uh working with uh with each other. Mm-hmm. S Good. No. Dinos Dinosaur. Beaver. Turtle. No problem. No problem. Mm. It was four months? Nice, okay. To make it a little bit easier. No, it's a giraffe. 'Kay. I think it's easy to recognise as a giraffe. Yeah, the favourite characteristic is that the long neck, it can reach everything. And I hope I can also reach a lot with this project. So that's my favourite animal. Anything else you need to know? Oh, uh Tall. So, 'kay. It's a mouse. A bunny rabbit. Uh-huh. No problem. Bob Ross. Dolphin. Yeah. Complex. No. No. Boring. No. Black, all black. So, yeah. Mm-hmm. Yeah. The the angle you have to use. You had different remote controls for different devices. Yes. Yeah. Yeah but then again you still have a lot of buttons, so Flap yeah. Yeah, okay, that's possible, but it'll get very big the the remote control. Mm-hmm. Mm-hmm. numbers. On and off. Yeah, play, pause, stop. Mm-hmm, of course. No. Yeah. Because I think a market will be all kind of people. Elderly people elderly, young people, so. Yeah I think that's the better one, because I think if you're going to target a lot of people and the whole world and only Britain then I think the cost will rise higher than the twelve fifty, I think. I think the aim is better to use the whole world and Britain, yeah. Not that much. Mm. Standard deliver. Mm. No but Yeah. Yeah, th it it's I think that's not Yeah, okay. No. I think n m n most televisions nowadays do this. So I think numerals. Yeah, but then you have to choose the this always with r universal remotes you have to choose the code. You can use which which type of television you have. That's no problem. But I think like the two pages on the same screen, like teletext and normal television, that's that's

nowadays standard, I think. Simplicity. Yeah. Yeah, yeah. Mm-hmm. Yeah g available. True. Yeah. Mm-hmm. Mm-hmm. Of course. Yeah. Yeah. Interface. Uh-huh. No. I have one question. Where does it says we have to make a remote, because I presumed She didn't know who. Okay, no, no problem. No problem. Yeah. Mm-hmm. Good morning. Okay, uh I'm uh I'm the Industrial Designer and I uh hope to uh look forward to uh a very uh pleasing uh end of this uh project. Yeah. Okay. Hmm. Seal, a seal. A be Mm. With a tail and a mouth. Snail. Okay. Sure. The hell. Make that cute. Tall. B Bunny rabbit. Okay. Okay, um. Uh I uh draw I've drawn a dolphin because of its intelligence. One of the most intelligent uh animals in our world. Yeah intelligent. I've I've uh Eraser. Pen. Well not perfect, but okay. A lot of buttons. And you always lose them. A lot of buttons which you don't use or who you don't use Complex. Not user friendly. Mm. Black colours. They use batteries and batteries uh and poor signal. Uh. Yeah, different remote controls, yeah. Uh for the use of different uh devices. Yeah but you could uh I thin uh there's a possibility to g uh to uh to put those buttons uh behind some uh kind of uh protection so that if y y you only get to see them when you need 'em. That's possible, so that you only get the No n n no, just Uh for example you got th uh the same size uh remote control you use everyday, but um the usual buttons such as uh um zapping uh as you call it in Dutch. Uh and the volume control uh are only the only possible buttons uh to use directly. Or uh the numbers, of course. But uh not uh the buttons used to search on the the channels on your television. You only use those uh the first time, or. So. Uh. Yeah, I think so, yeah. Yeah, uh teletext. think so. Okay. Right. Uh. Yeah I I understand. No. Yeah. When I think of it uh I think the main idea uh of this remote remote control is uh to make it user friendly. So uh I think uh when p uh when uh the customers will buy this remote control, they already have uh the remote control which uh companies uh uh with uh the the standards uh remote control with which comes uh with the television. So uh it only has to have uh the most used buttons. You don't have to integrate the buttons to search the channels on your television. In those in that Yeah but I but it is

impossible to uh to accommodate uh accommodate uh all the buttons on the s on the difference different televisions sets on one remote control. It's impossible. Because uh for example Sony television uh has the opportunity to s to make uh uh to make it possible for to see on one side of the screen uh teletext, and on the other side uh just n uh regular television. Uh Yeah, but uh they don't use the same signal, uh on remote control. Because you can't use a Panasonic uh remote control on a on a Philips television. Okay. Okay. Okay. Okay, but uh I think that most people uh th uh will buy the remote control because because uh the first they lost the one they lost first one or the first one is broken, so uh uh perhaps they have a got a an older television, so that option is not uh optional for those uh people. Yeah, yeah. So we should take that in consideration. Oh mm, no. Things'll come up. Stop the meeting now. Okay. Mm. No? No, the Industrial Designer will take a look at the working design, and the in uh usability interaction Yeah, okay. Okay. Okay. No. Okay. Oh. No problem. Okay. Alrighty. Okay.

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# Meeting ID: 107

Data Source: Validation

## Executive Summary

So we are here for the concept design meeting . So , we will first start by summarizing the mm the previous meeting and the decision we've taken . So each of you will uh show us the various investigation they've done during uh previous uh hours . We'll then t take decision in concert and then uh uh we will uh define the nest next task , to have to be done before the next meeting . So maybe we can start with uh industrial design . you just have a a very simple chip and the mm the user interface is just done usually by push button and in our case we are using a um a wheel control . The push button are usually extremely cheap , but I just have one problem and this is related with the wheel sensor , which seems to be quite expensive . And I think we if we could just talk about that if we really need a wheel sensor or if we can not if if we could combine something with the push button . Uh a wheel sensor is fifty time the price of a a push button . So will will this with uh including all possible things , so buttons , wheel and the chip , be uh lower than twelve Euros to produce ? We should talk about uh the design of the box also which needs some money . You we uh an email from the manufacturing division that they have basically a voice recognition chip already developed . Yeah you reco recognize commands and you can record new commands and stuff , the I I just want to mention the the problem of the the r wheels sensor which is much more expensive than any push button , We we have already some good things uh with um um with the backlight of the push button . Um , what is the purpose of the light ? You can easily find the button in the dark or so ? As soon as you thought to move the the remote control you have the light . I don't think that this is really expensive , Yeah , but I expected also the wheel would be cheap but you tell me that it is very expensive so , But it can be uh battery consuming , no ? To have the light always on ? Yeah , a little bit . So I just look at some current designs uh on the web , of usually more complicated remote controls . And let's look at two of them because uh th even though they have many buttons they look quite simple . And in our case we just uh reject the buttons what we don't need and it become even simpler . We have all these buttons as you can see , but most of them , we just need the ones in the middle . So it's basically more or less how we would like it , with a big volume control , big channel control , and mute and power , So basically , w software we will build will look more or less the same as these two . With a maybe a more ergonomic design on on the bottom part . I think that the volume and the buttons that are there on the top are not very easy to reach with your thumb . Uh you just need to put the channel numbers somewhere a bit out of the way . Uh so we could just basically use one just wheel



and uh user could use just the wheel to do everything with the channels in that case . Maybe the wheel will be a good advantage over our competitors . And there is a fashion watchers in Paris and Milan that have detected the following trends , uh fruits and vegetables will be the most important theme for clothes , shoes , and furnitures . So , maybe if our remote control have to be a fruit form or vegetable form And the mm the material is expected to be spongy . I think we can certainly just put the electronics in a spongy thing , Yeah , because it's robust . I think it's innovative to use the mm the wheel because I think no one else has . that's why I think we have to keep that if it's possible . Maybe uh um a colour that remember some fruit uh , things like that . Well the obvious thing is a banana , I guess . Yeah . Maybe pear yeah or something like that . And for maybe look and feel , what about a a piece of ice , But that's not in the trend . . I think p spongy is good because it it will be robust as well . I think we can keep the wheel Banana is also yellow so you you can't lost your remote control then . but when the banana is curving like that , with the wheel on the top and to control , You can also take into account the fact that the banana fits with the colour scheme of our company . So we will just use a a standard battery ? chip imprint we know exactly which one we are going to use . I just want to have so something to prin to to fix my my components onto that box , and that's it . I think it's the box that should be spongy , banana's shape .

## Complete Meeting Transcript

Okay, I can go? Can I? So now the recent investigation we we have done fo of the remote control um. So, the most important aspect for remote controls is to be fancy look and feel and not current functional look and feel. And um the second aspect is uh that the remote control should be uh technological innovative. And the third most important aspect is to to is that the co remote control should be easy to use. So, are things we are we have uh speak about before. Yeah. And um so you you can go after. And there is a fashion watchers in Paris and Milan that have detected the following trends, uh fruits and vegetables will be the most important theme for clothes, shoes, and furnitures. So, maybe if our remote control have to be a fruit form or vegetable form something like that, or And the mm the material is expected to be spongy. Uh I don't know which material can be spongy, and if you Mm-hmm. Okay It's robust, yeah. Not good. An and and uh this uh you can yeah you can say that. You ca uh you can go uh before, before, yes. And you know here the more iz important aspect is the fancy look and feel, after is uh technological innovative, and after the easy to use. Yeah that's why Yeah that's why I think we have to keep that if it's possible. Innovative. Mm. Yeah. Mm. Oh, colour, yeah. Oh i i I thought about a a pear, for example. You know the pear, is like that and it's it's easy to to have in in hand and uh Yeah. Or a fruit like that. I dunno. Yeah. But you don't have Yeah. Mm-hmm. Abdul al-Hasred is my name. Mm-hmm. Yeah. Mm. Yeah. Also have to say Did you receive the email about the voice recognition? No? Yeah. You we uh an email from the manufacturing division that they have basically a voice recognition chip already developed. Says Yeah. It says that ri right now they just use it to uh to record uh answers to particular questions. But I guess it could be I guess it's possible. I mean instead of recording the answers you can just uh record uh something simpler like a command. Yeah you reco recognize commands and you can record new commands and stuff, so if they already have it as uh as a chip then we we could use it. Okay. Mm-hmm. I have a question about that actually. Um, what is the

purpose of the light? Is But But in th in the dark uh Yeah but is going to be always turned on, the light? But if you move it then you have it, you don't need to find it. You can see the buttons better, of course. Yeah. But if you move it then you have to have some sensor to when you move it to detect your movement. Yeah, but you need another sensor for that, right? Yeah no it's too expensive. Okay. Mm. Extra. Yeah, okay. Mm. Yeah, but I expected also the wheel would be cheap but you tell me that it is very expensive so, yeah. Mm. Mm-hmm. Mm. Okay. So uh my one, it uh should be in the shared folder. So. It was last time I saw it. Okay. So, just move to the next slide. So basically want very simple, right? That's the major idea, as simple as possible. So I just look at some current designs uh on the web, of usually more complicated remote controls. And let's look at two of them because uh th even though they have many buttons they look quite simple. And in our case we just uh reject the buttons what we don't need and it become even simpler. Um. So. Yeah. Well this these uh these remotes are quite big, so go to the next page, so. We have all these buttons as you can see, but most of them, we just need the ones in the middle. So, from the bottom or whatever is there, uh the uh the numbers and then the top, uh until the ten also, this middle part, and on the left one is exactly the same. So it's basically more or less how we would like it, with a big volume control, big channel control, and mute and power, yeah? These are the basic thing. So basically, w software we will build will look more or less the same as these two. Yeah, if you have, for example I think that the volume and the buttons that are there on the top are not very easy to reach with your

thumb. It could be on the right side, for example. Yeah. Because we don't have these input buttons and this other stuff that they have. And I think that the plastic cover is not very good uh idea because you open it, it can break, you ca you can do various things. Uh you just need to put the channel numbers somewhere a bit out of the way. So that they're separate a bit, yeah. Uh and it's easy to press the other the big buttons, but uh, it's not that difficult to press the the channel buttons either. Mm. Yeah, I think that if you put the cover it will be even more difficult for the user. Alright, you won't yeah. Usually what I have noticed that people put the plastic cover on things that you normally don't mess with, like buttons for t uh tuning the channels and stuff like that. Yeah. That you want to protect a bit. And I think it's uh it's reasonable. So, I don't think Yeah, this is just the the wheel. We could use the some wheels can be pushed down, could use the push down of the wheel for the record if we want. Uh so we could just basically use one just wheel and uh user could use just the wheel to do everything with the channels in that case. Yeah, I guess the market researcher will tell us all about that. Mm-hmm. Well, wou wou I think we can certainly just put the electronics in a spongy thing, it it would work, right? Yeah. You can throw it to the television. Hey that's a cool one. We could say that if you throw it, you have a sensor, and you throw it and hits the television and turns it off. When it d uh takes a shock. Yeah. How do we make it look cool is the question. Yeah. Well the obvious thing is a banana, I guess. The banana is also ergonomic. Is there any fruit that is spongy? Yeah. You can make it um It's not hard, the metal. Plastic. Mm. Yeah. Two of the button, yeah. Yeah. Yeah. Yeah so you can just have uh just have this curve, yeah, and you move uh your hand here to press the buttons and then you move uh on the other side. So you can have it on on two sides and it'll be cool, no? You can put also vibrator inside. Ah-ha. You can also take into account the fact that the banana fits with the colour scheme of our company. Yeah. I hope the students of management die, but anyway. Now who are recording this meeting? The only th Yeah. Y Yeah that can be in inside th in the structure. But uh the thing is that the buttons and the wheel have to be I mean if it's spongy then the buttons and the wheel have to I mean if it's spongy then it's going to move, right? So, it's going to be bend a lot. So if we try to push the buttons, it You think it's possible? Okay. Yeah. Well, usually hold 'Kay, we want it to be good also for the left-hand users, right?

Uh Yeah but okay. So let's say that though it has to be basically you can only take two sides, one on this side where is the thumb and the other side where there is uh yeah also the thumb. Basically. Or you could use use this one, but I don't know if it's very comfortable, to use this one for the wheel. This for the wheel and then this for the buttons? Should have the two sides. So if the left, we have the op Wheel Wheel buttons. Yeah, the problem is if you have buttons and wheel then when you turn it around, the buttons are on the other side. So you cannot see them. Yeah. So the buttons have to be here and the wheel has to be Y Yeah I know, but uh if you hold with your left hand, and the wheel is here, and the buttons are here, then when you turn it around the buttons will be on the other side. Okay. Okay. Maybe. Yeah. Yeah. Mm-hmm. Yes master. No. Yeah. Yeah. No. Maybe you can make uh uh mm okay. Uh, I\_D\_ you want? Yeah. I only v have three slides, so. I just look at the mm um just this. On some web pages to find some documentation and I think a remote control is, as I s mentioned previously, you just have a a very simple chip and the mm the user interface is just done usually by push button and in our case we are using a um a wheel control. So uh uh I was looking basically

for that chip, which is uh very very standard, and uh I just looked for the wheel sensor and the standard push button. And um yeah we can change directly. In fact I have the number of that element which is very standard for remote control. The push button are usually extremely cheap, but I just have one problem and this is related with the wheel sensor, which seems to be quite expensive. And I think we if we could just talk about that if we really need a wheel sensor or if we can not if we could combine something with the push button. Uh a wheel sensor is fifty time the price of a a push button. Yeah. Yeah I I th But I don't think that uh we should We should talk about uh the design of the box also which needs some money. But Um that's all yeah. I haven't chec Mm-hmm. Yeah but I think it's yeah Sorry, I haven't written my personal references. Um the I I just want to mention the the problem of the the r wheels sensor which is much more expensive than any push button, and if we could reduce that. We we have already some good things uh with um um with the backlight of the push button. Just to to make something which is uh slightly more design that uh a squarey box with a rubber Yeah. Actually. As soon as you thought to move the the remote control you have the light. Yeah. Again. I don't think that this is really expensive, but at the end this is plenty of unexpen eh very cheap devices but uh the bill starts to be First of all I was thinking to have a a continuous light and you w when t you you you you press the on button you have the light on your remote control, when you want to turn off your device Yeah, a little bit. A little bit. Yeah. Yeah. Mm-hmm. Mm-hmm. To s Mm-hmm. I support an apple. Yeah. Yeah. Yeah. Me too. Ah it's okay. I know that they do that for alarm clock also. Yeah. Mm-hmm. What about um And for maybe look and feel, what about a a piece of ice, with blue L\_E\_D\_ inside? Yeah. Yeah. Yeah. Yep. Yeah. Banana I think, it's a nice idea. Because But You y you don't use the banana when the banana is curving like that, but when the banana is curving like that, with the wheel on the top and to control, and here you have a a push button to Yeah. And everybody knows what is a banana. Basically. If you if you start with uh fancy fruits and fra s and tha Oh, yeah So So we will just use a a standard battery? And uh the chip we chip imprint we know exactly which one we are going to use. Uh what do you mean by case? Yeah. Uh I mean for me if we use a a spongy banana case, doesn't matter. I just want to have so something to prin to to fix my my components onto that box, and that's it. Yeah yeah. Yeah. Spongy also. Oh no I think it's possible. Yeah. Yeah. This is uh like the Mm-hmm. Wheel on the top. Button, where do we want some buttons? Yeah. Yep. Yep. Mm-hmm. Mm-hmm. Mm-hmm. Yeah. Thank you. Okay. So we are here for the concept design meeting. So, we will first start by summarizing the mm the previous meeting and the decision we've taken. Uh I will take notes during this meeting so uh that you can uh look at my uh folder to see the summary of this meeting afterwards. So each of you will uh show

us the various investigation they've done during uh previous uh hours. We'll then take decision in concert and then uh uh we will uh define the next task, to have to be done before the next meeting. So, last time we decided to have a simple interface. We also decided to have a wheel to change channel previous channel button. Channel digit uh buttons should be uh protected by plastic cover or something for the remote control to look very simple. We have also button for volume, and to switch on off the T\_V\_. We have also uh the lightening feature for the remote control to be easy to find, and for fast development and low cost we have decided to have no L\_C\_D\_ no voice features. So now uh we will have three presentations. So the conceptual specification by Industrial Designer, the specification of the U\_I\_ by or U\_I\_ okay. And

uh the last point is uh trend watching by Market Expert. So maybe we can start with uh industrial design. So this is the presentation. Maybe I can switch slide uh on your request. Yeah. Yeah. Okay. Okay. But is it a significant price on the whole remote control? Because we can afford up to twelve Euros for the price of the remote control. So will will will this with uh including all possible things, so buttons, wheel and the chip, be uh lower than twelve Euros to produce? Okay You received something Hmm. And could it be adapted? Okay and there can uh recognize some commands and stuff? Okay. Yeah. Okay maybe we can just uh listen to this presentation and then take decision later on according to those news. Okay. You can easily find the button in the dark or so? It will be turned on when the when the user move the remote control I think, no? Hmm. Yeah. Yeah. Yeah. True. But it can be uh battery consuming, no? To have the light always on? Well we will discuss that after maybe the other presentations. Yeah. And it is. Okay. Yeah. Yeah. Yeah. And also does it uh fit well in hand? Because it was uh th your wrist problem with the usage. Yeah. Yeah. Yeah. Yeah. Yeah. So it's only the central part. Yeah. With a maybe a more ergonomic design on on the bottom part. Yeah. Okay. Okay. Okay. S Okay. Will be down or Okay. Okay. Okay. Okay. Mm. Yeah. Maybe the wheel will be a good advantage over our competitors. Because otherwise it's pretty standard apart the fact that it's very simple. So maybe it's worse to uh to have more expense on that's that aspect. Okay. So we can move to the Is there any question? For designer of user interface? or we can move to the next part, maybe, and discuss afterwards? Okay. Yeah. Okay. Yeah. Yeah. Okay. Yeah. This is good also for Yeah. I think it is good also f to have a spongy material, yeah. Yeah, because it's robust. Yeah uh sorry? No. Yeah. Before? Yeah. Yeah. Yeah. I think it's innovative to use the mm the wheel because I think no one else has. Has it? Yeah. I think it's it makes it both easy and both innos innovative. So I think it's a good aspect and it should be kept. Cool, fancy? We have to make it I look like a fruit or vegetable. Maybe uh um a colour that remember some fruit uh, things like that. Maybe yeah. Yeah, and it's ergonomic as well. A pear. Yeah. Maybe pear yeah or something like that. Yeah. We can discuss that uh. D D Is there anything you want to add? I don't think so. I think we we can have like yeah a pear is good, fit well, or banana as you told. Something like that. But that's not in the trend.. The trend is spongy, and vegetable fruits. I think p spongy is good because it it will be robust as well. So, I think we can keep the wheel because it's uh easy, it's innovative, even if the cost is a bit higher, and we also have to find a, so, a fruit like pear or banana wit uh any others idea you have. What kind of fr fruit would you like to control your T\_V\_ with? Odi Banana is also yellow so you you can't lost your remote control then. I think it's a good idea, yeah. Yeah. Yeah. I think it's a good design and it's innovative as well then. Maybe we can keep the banana. And it will be very easy to find. Yeah. Yeah it's really uh really a good point. I think it So One second. So we have to take some decision on this aspect. So, uh so for sorry, for uh component, so we have to think about those aspects, sorry. Yeah. I think it's the box that should be spongy, banana's shape. But No the button would be In fact it it should be something odd shaped,

with a spongy cover. Okay odd shape with spongy cover. And standard battery okay, a chip imprint, there's no specific problem. So we agree to put the wheel So it have to it has to be symmetrical. Yeah maybe the thumb is more comfortable. Yeah I think it's okay for both right and left. Mm. I think you can turn it this way also. You can do both with both hands. I think it's okay. Well, you you will get used to it. And moreover, th the button ar

are lighted so you you immediately identify the right side, because you have light on buttons. Yeah. No you you I think you will use it only on the right or left hand, whether you are righty or lefty. I think for lefty it's okay. I can do this movement, and for righty as well. I think this doesn't change that much. Yeah? So, for interface we said also that we have uh this banana shape with button on the s on the side. And and uh a wheel on the top. So the colour is yellow. I think it's uh we defined everything according to what we should what the decision we should take, yeah. So maybe we can um we can uh work on those aspects uh until next meeting. So have the final uh look and feel design according to the decision. And have the the user interface design and uh then evaluate the prodyuc the product. That is to say, uh check if it fit the the requirement uh given by the users, but according to uh your presentation it seems to be okay. It seems to be fancy, innovative, and easy to use. So so to prepare the prototype I would suggest that the Industrial Designer and the User Interface Designer uh work together. That would uh be better, I think. And uh And so uh you will receive further instruction by emails, as usual. So do you need to add anything? You feel okay? You feel uh free to express what you want to say? You don't feel too constrained? You don't feel free to answer this? Okay, so See you.

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# Meeting ID: 7

Data Source: Validation

## Executive Summary

The marketing expert and industrial designer had problems with their laptops. The project manager opened the meeting and introduced the project, to design a remote control. The remote should be trendy, original and user friendly. The project manager explained how to use the SMARTboard, and the group did a tool training exercise, using the SMARTboard to draw their favourite animals. The project manager talked about the budget and projected profit. The group discussed initial ideas for the remote, including that it should be a simple design with grouped buttons. They discussed whether the remote should include functions for controlling video and DVD players. The project manager went over the roles of the participants and closed the meeting.

## Complete Meeting Transcript

Hello. Dang it. Alright. What? I've got a touch-pad. Do you know how how I can wake it up? No, my laptop. You with your brilliant ideas. I don't know if I can touch the power button. Do you know how how I can wake it up? Oh. Come on, move it. Now, wake up, bitch. Yeah, so did I. I closed it. That wasn't that wasn't very smart, I guess. Come on. Get back to me. Yes. I closed it. No, I didn't restart it, I just closed it. Yes. Alright. Great. Thanks. Mm-hmm. Yes. Yes. Nobody, I guess. Format. You know, I thought of that actually. Yeah. Its simplicity. Yeah, whatever. I'll go next. Thanks. I haven't got a favourite animal too, so Oh. What should I draw? Thank you, I'll draw a penguin. Yeah. I'll draw a penguin. Whatever. I can't draw, so you can start to laugh already. Whatever. Something like that. Come on. Mm hmm hmm, orange. Whatever. Oh, it's better than your bird. Everything's better than your bird. Whatever. Hey, it's blue. No. Whatever. Um, I like its ugliness and uh Yeah, whatever. The way it walks or whatever. Your turn. Drawing. Or a line. I mean a bird. Hmm. It's a handicapped cat. He's crying because it's ugly because of his ugliness. I wouldn't call it training, but Alright. I don't th I don't think the four of us got problems with remote controls, but if you see elderly people, all these buttons, and then they buy new T\_V\_ because their previous one was stolen or whatever. And then a totally different remote control with with different functions on different places, and half of the functions a are removed, or whatever. Uh, so I think what we need is a clear uh remote control with uh grouped buttons, you know. All th all

the buttons which apply to the text functions in in one uh Well, one area or whatever, not like the button to enter text on top of the remote control and the button to um, yeah, to minimise it to this this or whatever o o other functions totally somewhere else. I think we should group them. And same for the for the volume buttons and the the t Well I was I was thinking uh since a T\_V\_ is uh mostly used together with a V\_C\_R\_ or D\_V\_D\_ player or recorder, and not with a stereo, I think it should be good to include functions for V\_C\_R\_s and D\_V\_D\_ players, recorders. Yeah. I don't know. Hi-fi set is uh not often used uh as I know of in combination with television. Yes. Yes, it is only for television, but uh Well well we we're gonna brainstorm about that. If we think it's useful, we do it. That's right. It's a television remote control. But I was thinking since it is useful with D\_V\_D\_ Yep. Yeah, also no one's gonna buy it. I guess. Yeah. Yeah. Yeah, way too high. Yep. Well that's an idea of course, yeah. Mm-hmm. Yeah. Yeah. Yes, what the market wishes. Yeah. You just got a message. And it said uh five minutes, so we got four and a half. No. He's the whatever. Team Leader. He is the whatever. Yes. Project joc project documents is for showing uh on the white-board. Yeah. Yes. Alright. Okay. Yeah. No. I don't think so. Yes? Great. Yeah. Good luck. I will need it. I've lost my screen. Uh Yes. I closed the No. Yes. Antek. 'Kay. I'm going to draw a cat. I don't know why, but a cat is a very uh smart animal. And you can have them at home. Which is not as the case with uh with bingwings and Ye yes, yeah. It's not very uh very good drawn, but you can see a cat from it. It's Ah, it's not scared. He's crying but Uh it's i most cats are small. You can handle them. Yes. Yes, Yes, that's uh something extras. Yeah. Only the experts. Uh, to go with to go with fashion and Team Leader. No. Oh. And then you have to place your laptop exactly on the marked spot. It's important to place your laptop exactly on the marked spot over here. No. Yeah. Try the power button. Huh. Yeah, my name is name. Yeah? Everybody's ready? Great. Well, welcome to the kick-off meeting. I uh forgot to put my name over here, it's uh it's Martin. Uh, so you all know. Well, this is the agenda for today. Well, the opening is what I'm doing right now.

Uh, we gonna do some acquaintance acquaintance things. Uh give some um examples of the tool training, project plan discussion and the closing. We have twenty five minutes. Okay, the project aim is to design a new remote control. Uh, some of the oje objectives are that is has to be original, trendy, and user-friendly. So now we all know what our goal is. Um, I oh forget I forget the whole acquaintance part, but we we all know each other. We all know each other's names. Joost, Guido, Antek. Okay. I think we uh al already uh been through that part. Okay, it consists of uh three levels of design. Uh we begin with the functional design, then we go to the conceptual design and the detailed design. Every uh level of design consists of some individual work, and we uh close it with a meeting. You all received an email with a example of our explanation of what uh the particular level of design uh means to the different uh functions, and uh you p you probably read that already, so I don't have to tell you about that. Okay, first we're gonna um uh gonna try some different things with the tools we have over here, so you get acquainted with these uh um uh meeting tools. We have the smart-boards, uh the thes those two boards. This is the presentation boards, wh which one I'm using right now. You can uh um there's a document folder called um the sh shared document folder. You can upload your uh documents to that folder and then you can open them over here, so you can do your PowerPoint presentations on this screen. We also have the white-board. Uh, we're gonna skip through th No, no. Just on the on the screen over there. Oh, no. Probably is, but I don't know if the software is on the laptop. Is is if it's mainly a thing for in the meeting, so I don't think it's I don't know if it's important. This an explanation of the smart-boards. There is a tool-bar over here. It's quite simple. You have the the pen function, eraser function. It's like a very simple uh paint application. Uh, we well, we use the same file during uh the whole day, and uh you can make new sheets by uh by pu puttin pressing on the blank button. It works

like this. Oh. If pen is selected, yes. Oh, no no. It's not But it is pen. It's not working like a pen yet. Huh. Huh. It's doing some stuff now. So you can use a pen. You can use an eraser. And you can make new uh fi uh new blanks, and you can change uh the line width and the colour of the pen by pressing on forward, which y you have to select pen format. And then select current colour or line width. So, it's quite easy. Uh well, now you're all uh acquainted with the different tools. Right, we're gonna try out the electronic white-boards. Uh, every participant should draw his favourite animal and some of its favourite characteristics, on blank sheets with different colours, with different pen widths. Uh, I'll start off then. I'll use this uh same sheet. Alright. Oh, let me think. Different colours. Oh. Well, I'm gonna draw um a p piranha. Uh, a fish. Uh. Mm-hmm. I'm gonna use some different colour now. Some a little white. Looks like a fish. Think it is. Oh. Oh. Uh, colour. This is black? I think so. Oh. Oh, this is just uh useless uh drawings but Oh teeth. I need teeth. Well, they're not supposed to be green, or whatever colour this is. Okay. What was uh I have su to sum up its favourite characteris Well, I like its uh sharp razor sharp teeth. Plus, uh the the big uh forehead and uh a small uh, well a small actual face. And I like its overall uh aggressive look and Well, that's what I like about uh piranha. I think that's kind of what uh the intention should be. Well, who wants to be next? You go, Guido? Okay. Uh, make a new sheet. Uh, it's by pressing on blank. Yep. Yep. And uh so in the format menu you can choose the different uh colours and uh pen widths. Well, tell us something about uh your favourite characteristics of these uh particular birds. Oh, okay. Okay. Okay. No, uh it's clear. N no no. We get your point. Okay. W

ho wants to be next? Oh. I'll do so. Okay. Well, you can have a piranha at home. Huh. I don't think uh I don't think uh Darwin would agree with that.. Okay. What do you like about it then? Oh, okay. Okay. Okay. Okay, and then we are uh through the tool training, I guess. Okay, this is uh something about the project finance. The selling price of our remote control is gonna be twenty five Euros. And our profit aim is fifteen million Euros. We're very ambitious on this one. The market range is international, so it's gonna be sold world-wide, and the production cost should be a maximum of twelve Euro fifty per remote control. So that's clear. Yeah? Okay, we're now gonna discuss some stuff when well, we're gonna brainstorm about uh what kind of kemoro romo remote control it's gonna be. Uh, well tell me about your experiences with the remote controls. Do you have uh know what good experiences with remote controls? Or do they annoy you sometimes? Are they difficult to understand, or maybe they don't interact with different kind of uh equipment very well? Yeah, okay. Okay. Different functions of of uh Okay. Yeah. Okay. And uh, is it gonna be a remote control that's um what it can be used for different kind of equipment, like your T\_V\_ and your home stereo? Uh Mm-hmm. Mm-hmm. But uh, the D\_V\_D\_ players and home cinema sets often double as stereo hi-fi sets probably. It's what, from my experience. Okay. But we gonna Oh, it is only for televis So wha what What wha what uh what document But, where where did it uh Where did you find that? Oh, okay. Yeah, but most television remote controls support other functions as well. So we can No, we have to think about that. Okay, uh but uh we've gonna put some a uh is is it so user-friendliness, is a is a pri priority in this case, or Okay. Well, this the maybe is uh some aspect of the uh, or or some point at at which we can excel by making it very useful. That w Well, then you're you're the usability uh man, so this uh gonna be a very important task for you then. Okay. Well, other ideas? How can we make it trendy or something? Do uh by just sh shape and the look of it? Maybe a can opener underneath it? I don't know. Or someth something special, like uh M\_P\_ three player inside of it, or uh Oh, well then the production costs are gonna be too high probably. Okay. Maybe with different type of fronts or uh Well, m has to be something spectacular or uh one which makes it We gonna skip back to the goals probably. Uh, original, trendly, and user-friendly Well, we al also already talked about user-friendliness. No, well something trendy and original, well that that



goes hand in hand I guess. When something is original, it tends to be trendy, probably, or we should make it combination of that. 'Kay, so you the um technical part of the process is something you're gonna look after for, so you have to think about what kind of uh equipment you want to uh, you know, you want to manage with it. Well, and that's an important part for you then, with gogors regards to the user-friendly part of it. Well, and you uh should look out for what makes it trendy. Well, you know, y like some special feature. Or some Does it does it gets some gadgetness or something. Okay. Well, the closing. Next meeting starts in thirty minutes. Individual, I think so. The the Industrial Designer will w or the working design, of course, we will uh Already s said that. The User Interface Designer is it a User Inter User Interface the technical functions design. And the Management Expert of uh the Marketing Expert. User requirements specifi Well, this one was already clear to us. Specific instructions will be sent to you by your personal coach. I don't know how much time we have left. Oh, not many I guess. We started at twelve. Oh, and what does it said? W Okay, well um No, we're uh ahead of schedule then. Yeah, close it. I'm gonna make some minutes or take some minutes. And uh it's it's clear you can put the stuff in the project documents pre

sentations. You can all Or we're all uh Yeah. Yeah, but we're all familiar with uh uh Microsoft PowerPoint, are we? Yeah, okay. I'm gonna wri uh write some stuff down and then we're ready. Or we can leave already I guess. or uh or sh or should we uh or is important that we leave at exact uh Okay. Yes. We'll see each other in uh thirty minutes. Yeah, good luck. Okay. No, that's okay. Joost, your mouse. No mouse needed? Mm. A touch-pad? Slap it. Is Um F\_ five. F\_ five. I don't. You've got your name. Hope it working. Never close your laptop. Yeah. Okay. What is your name? Antek Ahmet. And Joost. Okay. Yeah. Yes. Can we see the white-board on our laptops? No, I saw I saw the file, the smart-board that X\_B\_K\_ but Okay. With that pen? Mm. Mm. Little bit slower. piranha. Okay. Oh. Yellow Hmm. Different. Okay. I will try. Yeah. I will try. Uh Blank? Okay. Then pen again? Okay. Okay, um control. Uh Ah, purple. Um, I don't know what my uh favourite uh animal is, but the easiest animal I can think is is a bird. Uh I will That's my bird. Yeah? Isn't it quite it's a little bit light. Uh, another colour maybe. A red one. A small one. Uh, line width. Two? Three. Oh that's okay. That's another one. Ano Uh uh it's a Yeah, it's uh the most simple uh animal I know, I think. Um, I don't know. Maybe because uh there's there's some s uh free uh maybe in the sky or something like that. Maybe a little bit. Yeah. I don't know. So more uh birds? Okay, okay, okay. M Pictionary. A cow. Okay. Yeah, it's little bit hard. Orange, of course. Uh yeah. Yeah. True. A little bit. Yeah. Don't mess with my birds, yeah. cat. Okay. Okay. Hmm. Different. Yeah. But isn't it It's only for television, I thought. Not I thought it was only for television. So so we probably don't have to have to uh have the functions for D\_V\_D\_ player or V\_C\_R\_. Uh, in the email. I thought it said uh Yeah, television remote control. True. Yeah. True. Yeah, yeah. Yeah. True. Oh my God. Okay. For the bear. Uh I I uh, no I think it Uh, I th I think yo we have to keep it simple, to get a whole market. It's international, so we have to use a standard. Hmm. Use friendly. Yep. Yeah. Yeah, yeah. Interface d Oh, I don't I didn't get a message. Oh, the Project Manager. Okay. Okay. Yeah. I don't think Oh I will need it.

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## Executive Summary

The project manager recapped the decisions made in the previous meeting. The industrial designer discussed different options for batteries, materials, and components, as well as restrictions involved in combining particular materials, components, and batteries. The team then discussed and decided what materials, components, and what type of battery to use in their product. The interface specialist presented examples of existing remotes on the market with good and bad layouts and stated what features the remote required. The marketing expert discussed research from trendwatching reports, finding that products now require technological innovativeness, a fancy look and feel, a spongy feel, and a fruit and vegetable theme. This led to a discussion on whether to use Bluetooth or infra-red technology in the remote. The team then discussed how to incorporate a fruit and vegetable theme into the remote.

## Complete Meeting Transcript

I feel like Madonna with one of these on. I said I feel like Madonna with one of these on. Right. Hello everybody. Back again for another wonderful meeting. Is uh everyone ready? Okay, we can hold on for a minute. I figured with the spam thing, if you can't beat it, join in. Are you ready? Okay, right, well, I take it that you are all ready now. Um alright first off we'll just uh recap from our last meeting. Um which was we got together just to basically decide on well to talk about what it is that we were actually uh supposed to be doing, and who we all are and stuff like that, mm get bit more of an idea together of what's going on. Um what we are gonna talk about in this meeting is um now that we know what it is that we are doing, now we know that it's a T\_V\_ remote and stuff and you guys have just been off doing some some uh R\_ and D\_ for that, that's research and development for those that haven't heard that before, see I'm learning all sorts of new technologi terms in technology today. Um yeah, we're gonna hear your uh th three little presentations, whether they be on computer or on the whiteboard or whatever you want. Um I'd like to um hear o I'd like to hear who's g who's on the um from from uh Catherine actually first. I want what I'd like to hear about is uh if we've finally decided on um what sort of energy we're gonna be using and It's just that yeah, let's let's hear from you first. Get yourself in

position. I don't think any of us remember the fifties. Do solar panel things, do they have to work from the sun or can they work from a light bulb? Does anybody know? Okay. Mm. Okay, jolly good. What's a double curved one? Okay. So that might be an idea of using the rubber, but then it should, you know yeah. when a T\_V\_ programme's got one watching the match and your team's just lost, you can fuzz it across the room and it'll bounce off the wall back at you. Yeah, I like that idea. Rubber, we're all we're all going we're all liking that idea? You think you can market that? Ooh, we like rubber, ooh. Uh-huh. Well, we're gonna go with I think we've decided that it's gonna be a rubber case so push buttons instead of the wheel? rubble double double. I'll have a Big Mac, please. Let's have rubber push buttons, hey. Yeah. Simple, yeah. Chip on print. It's a bit. Okay, uh what I'm not understanding here is uh, okay, advanced chip on print, which I presume is like one P\_C\_B\_ and that's got all the electronics on one board including the um infra-red sender? Right. Um what a what alternatives do we have to that? Y um what alternatives do we have to the chip on print? so it sounds So, why would we not go for that? If it's something that's inside the the unit. I it doesn't affects whether the customer's gonna buy it or not. Um we wanna go for an i i all so long as it works, you know. So let's not let's uh not bother with the chip on print. Yeah. S yeah, push buttons. What about what? Well, what do we need a speaker for in a remote control unit? S Yeah. It's not something that we wanna t go into with this product. Yeah. Yeah. Yeah. Yeah. Yeah. Yeah. Basic battery. It's cheap, it's cheerful, it's worked, does work. We were go we were going with the late with the the R\_S\_I\_ rubber, weren't we? The the The double whopper, please. Yep, but we're going for the simple buttons. Yeah. And it's cheapest all round, it sounds kinda funky, and we can also market it as i 'cause we were s saying earl you were saying earlier in your research that um the the people have the R\_ people were getting the complaining about R\_S\_I\_, and this is anti-R\_S\_I\_. So that's another marketing point that we can use. But anything is gonna have buttons. Even if it's a jog wheel, it's still repetitive. You You see, you can still get it does you still get repetitive strain injury, whether you are pressing a button or pressing a flat bit of screen. It's the v it's the fact that you are pressing the same doing the same movement. It's not actually what you are doing. But the fact that this this rubber i is actually used in these anti-R\_S\_I\_ ps specific Yeah. And you know, yeah, you can fuzz it across the room and throw it at throw it at your children yeah. Okay, Gabriel. Let's um let's let's hear from you about the um it's the interface. Great. Mm. Mm. Mm. Yeah. Mm-hmm. Yeah. Yeah. Yeah. Do we have an uh example of a good one? Brilliant. Yeah. Mm-hmm. Okay. Well let's um so w what are our definite decisions on this then as a team? The um The the um the interface type we're going for Just the simple s simple straight set of buttons. Yeah. Yeah. Yeah. Okay, and we're not yeah. Are we gonna hav hav an are we d have we decided on whether w we're gonna s supplement it with anything, you know, colours or particular gimmicky bits to it, we're not we're just gonna go for something We're Yeah. Yeah. Okay. Okey-dokey. Yeah, I don't have any other questions on this. Let's move over to Yeah, sure.. Yeah, the button that just does that, yeah. Cool. Mm yeah. Mm-hmm. Yeah, why should people buy this when they're already got a remote that came with the T\_V\_? What's that mean? Okay, now the trouble is is we've already decided that we're going with the stuff that works already, that's cheap. Yeah. Maybe we could um Of course, they do. One hundred per cent, that's your first thing, you go, oh I'm not gonna buy that, 'cause I dunno if it works or not. Okay, well, what do you two think about this? Yeah, what I don't understand what m Yeah, and it this is just gonna all this is being used for is your television. It would that would mean you'd need a television that has Bluetooth in it, which no no television does, does it? That would mean we'd have to make a television as well. No, that would be your telephone in with your television. Yeah, and i Nah, the televi the television would have to be a Bluetooth compatible, basically. An and there is no there is no such

thing. Okay. Okay. Yeah, this that's that's very good. And and this is all tying in very nicely. The fact that it's made out of this rubber, we can throw it about. Th we should encourage people to throw their remote controls about, because it charges itself up by doing it. But yeah, by the squeezing it the Yeah, that's a great idea. Well done. Yeah. I wanna watch the pineapple channel. Well spongy, that's where. Yeah, we're we're ahead of the game there. Okay. Alright, yeah, no, this i this is good, so through all that we've we go we're right, we're gonna go go back to um going with the kinetic thing, that's great, using the spongy rubber that we were talking about that anti-R\_S\_I\_ you can as you squeeze it you are not only therapeuticising yourself, you are charging the batteries, and um I'm not sure about the buttons being in the shape of fruit though.. Yeah, this is true. Well, okay, it seems like the only thing that we haven't really finally um agreed on is its image. Like, yeah, we're we're saying no we don't want it to be fruit and vegetables, but we dunno what it should be, or like are we going yeah it looks slick, but what do what do we mean by slick sort of thing? I mean you said earlier on i it should be funky. L keep it clean, keep it clean. Bright, but not too bright. Like the volume buttons should be the all the same colour and the d and the the channel buttons should be one colour and stuff like that, do you mean? Okay, what? Okay. Tha Yeah, I mean we that's we we Yeah. This is the remote control tomato. Yeah. Well, it's it's gotta be chew proof. So, what are you saying, maybe we should market it in different colours for different so we could do like the pink range, the blue range, the green range, the Mm. Well that's that can be down to bit of market researching you know, if that's easy enough to find out what colours are more popular. Mm. Okay. Alright. Well um, we'll alright let's what we're gonna aim to get together by the next meeting then um is from you Catherine wi your y y you know you're gonna be working on the the loo

k and feel design. Um Gabriel, you're gonna be working on, you know come up with the the user interface design. Then basically, you two are gonna be working together on this. You won't be going off to your separate offices. Um and I think you are gonna get a chance to play with some clay. I think, yeah, it's gonna you know, come up ki you know, be ab for the next meeting be able to come in and show us some some i some physical ideas. 'Cause at the moment, uh you know, it's it's hard. We were kinda going, yeah, it's gotta feel nice, it's gotta look cool and that it's you know now we can actually start, you know, s some sort of physical something or other. Um and you're gonna be working on the product evaluation. Um. And I will be uh talking to the bosses, basically, and uh f fielding off some more spam and uh that's it really. Keeping things t well, uh you know, ho hopefully uh keeping things together. Um. Yeah, that's This is this is uh good. So we know for definite we know we've we've now got some definite things going on. We definitely know how it's powered, we definitely know that um it's gonna be a simple buttons, we're not gonna be going for the new technological chip on print expensive things, so we've we're keeping the costs down. It's this rubber casing that we can sell as um fun and funky. Don't know of any other remote controls that are made out of this stuff. People, you know, people are saying, oh, standard stuff gives you repetitive strain injury, well this remote control is designed to do the complete opposite, It's supposed to fix it rather than cause it. Um. you know, we're gonna we we're gonna as a sort of extra something on it, you know what what extra things are there extra things this product have? We'll look into this lock key facility, although whether or not it happens, or is possible, I don't know, but something to look into. Okay. I think that's um well done everybody. Anyone have any uh any questions, everyone know what they're doing? 'Cause if you don't, you'll I'm sure you'll soon get an e-mail about it. Okay. right well. It's um we're we've still couple of minutes until our meeting's due to finish. But um I got a note saying that you two who are gonna be working together so bef before you all disappear off just hold hold fire. Um. Um I think, it's uh, yeah, I think, it's gonna be par part more of a

profit sharing on the product. Yeah, I think I think that's I think that's the way it's gonna happen at the moment. Yeah. Yeah. I want a share in the space rocket. Did you see that this k that this company we've made a spaceship. Yeah. Yeah.. Yeah. Mm. And the spaceship doesn't have the R\_ have a massive R\_ and R\_ down the side of it but I still want one. Okay. Um I've just had a sign flashing up saying, finish the meeting. Uh. Yeah. Yeah. It's not telling it's not saying do anything in particular just yet. So maybe you should go back to your own offices. Yeah. Yeah, it says you two . Almost. Mm 'kay. No no no no, it's fine I'm just preparing. Okay. Where is that thing? Oh sorry, couldn't see. Would that work? Okay, so that's me again. Um so um for the energy sources we can have a basic battery, a hand dynamo which is which was used uh in the fifties for torches, if you remember that kind of which wouldn't be v wouldn't be v v yeah, yeah. It wouldn't be very fancy. You can have a kinetic provision of energy, which is used on some watches these days. So if you have just a bit of gentle movement that it will give it the energy to work. Or you can use solar cells, but I'm not sure about that indoors, really, but Yeah. I dunno actually. I dunno. Um. Think the the uh what would cost the less would be the basic battery, really. And uh if we want something fancier, I think the kinetic provision of energy could be nice, but I don't know if it's worth the cost. So we've got to discuss that. For the case of the remotes itself, um they can be a general case, which is just a flat one. You can have uh a curved one

or a double curved one, if you know what I mean, so You know, kind of more ergonomic, that kind of suits the palm of your hand, that kind of thing. So Um then the case material itself, so it can be uh uh either plastic or latex, uh rubber, wood, or titanium. And th for each of them you have uh cases where for example titanium, you can't use it for if you if we're choosing a double curved case, we can't choose titanium. And if we are choosing um solar cells then we can't choose latex for the case material, so we just have to take that into account. But if we're choosing just the flat case then we can go for anything. And I think we discussed earlier on the R\_ S\_ I\_ problem thing, so we could uh Yeah. Yeah. And also it doesn't break as easily maybe, I dunno So rubber would be Okay. Uh s so if d okay. And then there are the push-buttons, so you can have basic push-buttons or a scroll-wheels, like you have on a mouse, um or you could have um L\_C\_D\_, which gives you a display. Um scroll buttons, as well. So if you use a rubber double curved case, you must use rubber push-buttons. So if we're going for rubber then we have to decide for the case. Um and if we choose double curved then we have to go for rubber push-buttons. So it's a constraint. Yeah, but is it a double curved one or not? If it's not a double curved, then we've got the choice for the push-buttons, if it's a double curve, we've gotta go for rubber push-buttons. If that makes sense. Yeah.. No, but na le you see, you've got, okay, the energy that's one thing, then you have the case is uh, whether it's flat or curved. And that's we don't care if it's rub rubber or not, but then we've decided that we going for rubber for the case material. So if we've chosen rub rubber and if now we have the choice for the case whether it's flat, single curved or double curved. And I'm just saying if if we choose it to be double curved then we need to go I dunno why, but we need to go for uh rubber push-buttons. So, either I dunno we just need to decide on the on the case. Let's go crazy. And then, do I have a last slide? Yes, I do. Um so the push-buttons themselves they can be just simple or they can be so that's just the electronics between the but behind the push-buttons. Um and the price that go with it with it, so the simple push-buttons are gonna be the cheapest. Uh if we get a scroll-wheel, that's a higher price range. If we get an advanced chip which is um used for the L\_C\_D\_, the display thing, then that's even more expensive. Mm.. Yeah. The infra-red. Yeah. Well, if if it's not chip on print then, I guess, you get different chip components, and you build them separately and doesn't include the infra-red. It's less expensive mm Technically speaking, it's not as advanced, but it does the job, too. Fo It doesn't, yeah, yeah, yeah. Totally. Yeah. So let's not go for the Yeah, yeah. I

agree. So it's either um the scroll-wheel or the push-buttons. Well It'd be it'd be cool, but they are saying they've just developed it, I'm just guessing. But it's gonna be the most expensive option, probably and Hm. Just if you are really lonely, maybe. Channel five. And then it switches on. Okay, so I'll go back, maybe, to the previous slide and we can decide for each problem, what we should choose. So for the energy source, do we go for the battery or the Cheaper option. Are you happy with that? Okay. So we'll go for the battery. Then the case, do you want it flat or curved or sing or double curved? Double? Okay, so then if we use double curved case, then we have to u choose rubber push-buttons, and that's fine? P Yeah. I thought they would give an option of flat buttons or a That they don't. Mm. Alright, that's me done. Sorry. Well Bluetooth would, for example, enable you, I think, to um um connect for example you if you get a w call on your mobile phone, but your mobile phone is downstairs or something, you would get on your television you're being called by this person right now. Things like th

at. No i No, but if you get Bluetooth on the remote, you'd be able to I with the television, yeah. I was just trying to find an advantage. Wha what w what advantage would you get for the Maybe the kinetic mo provision of energy then. It's been done for watches, but I haven't seen that for remotes, yet. Change the batteries ever again. Yeah, well, and in little characters you say, yeah, but not too much. Yep. No vegetables. Well yeah, but Apple would sue you for that. sued the Beatles so Yeah. Why not? I'm gonna write that down. That's yeah. Although I'd be curious to see how many uh You know, there are some colours that I wouldn't I would never choose, and I would be curious how many people choose that colour. Mm. And produce less of the silly colours, maybe. Yep. Alright. Mm. Cool. It is. Great. That's true. Doesn't Yeah. Are we taking these off? Hello. Yeah. That's the kind of spam that everybody likes to receive. Hmm. Do you have any preference uh of order? I think she is still finishing her. Hmm. Okay, it's uh Is it like a crank thing or something. Well, there's sometimes combinations, I mean, like calculators do combinations of battery with but also using some solar power. Uh I think, it has to be on the on the solar energy, but I don't know. Let's have a squeezable remote. If it's rubber, isn't it malleable anyway, it doesn't matter if it's double I mean isn't a rubber case, mean it's completely flexed, I mean, it it flexes to whatever they want it to? Mean so what's the difference between a normal rubber case and a rubble doub double rubber double curved case? Okay. Okay. Go rubber. Go rubber the whole way. I think push-buttons is Yeah. Th the the speech recognition um option is it doesn't seem really very promising for us uh, 'cause uh The yeah the example that they're already using it for is with the coffee machine, where, basically, you can program a sample wi um That when you say something it will give a response, and you program the response as well. Just uh clips of tha that you record yourself. So you can program your coffee-maker that when you say, good morning, to it it says, hello Rick, or whatever. But, I mean, it's not it would be one thing if it was speech recognition where you say something and it turns the T\_V\_ on like, turn the T\_V\_ on, and i turns comes on, but it's not that. It just gives you a it just gives you a verbal response. So, yeah, I mean, like what's the point of saying, Hello remote, I mean, hello, how how are you? Yeah, if you're really lonely, it is it's No, tha that w that w that would be more promising. It it's just a remote that talks to you. Uh. I mean to certain cues. 'Kay. Yeah, I'm fine with the basic battery. Hmm. Yeah, so we want it rub rubber double curved. So rubber rubber keys, yeah. Yeah.. Yeah. We're giving them a way to burn off steam, basically, yeah. Not that watching T\_V\_ should be that stressful. Oh yeah, I guess T\_V\_ can be stressful, yeah, if you're watching sports. Alright. Alright. Yeah, some of what I have to say ties into what Catherine was just talking about. Okay, so I'm continuing with the user interface uh topic. And so basically I consulted with our manufacturing division. It sounded like Catherine was also speaking with them. Uh I also took uh Reissa's marketing findings from the last meeting into consideration um, 'cause I think that's that's crucial as far as uh what

keys we're going to include what buttons we are going to include and how they're laid out. Uh and so the manufacturing division uh sent some some samples of of uh interface components that we might be interested in using that have been used in other products, uh like the coffee machine. So I already mentioned the speech recognition interface. I guess, we we basically vetoed that idea. It's it's pointless. Uh it's just a sample sensor sample output. It would just be probably the most expensive part of our remote without any actual interesting functionality as far as operating the T\_V\_. Uh so

yeah, they they also give the uh they they suggested the idea of using a spinning wheel like you use on the side of an M\_P\_ three player like iPod. Um so we've already addressed that and I think that would actually be worse for something like R\_S\_I\_ I mean you got that thumb movement that you're constantly doing. Um the other suggestion, and I I have a feeling that we're interested in in something more general, but they suggested uh, you know, going i a little bit into a a niche, like either gearing our remote towards kids, where you could have lot of colours um, the keys might be you know, funny or or, or uh something for the elderly, where the remote's very large and the buttons are very large and there's only a few buttons. But you know we can we can discuss this, but it sounded like from our last meeting we really wanted something that was general, but done well. Uh um So, the key layout and design are really crucial. You don't want uh you want people to be able to quickly access the buttons that they use a lot without uh always pressing the wrong one um. And I didn't mention that we need a power button in our last I can give you an example here of uh, good layout and bad layout uh from our manufacturing department. So this would be an example of bad layout, where you have volume up and volume down, but they have a V\_ on both of them, so uh it's sort of confusing for the user. Uh this is the example of the giant remote that's impossible to lose. And for something for kids. Yeah. Um. And so, yeah, I th I think my personal preferences of we've all kind of talked about and seemed to be on the same page um. Uh so I was against the speech recognition and against going uh towards anything in in a niche sense. I think it should be more general. I didn't I didn't think the spinning-wheel or the uh L\_C\_ display were were crucial for us. And, yeah, that's it for me. So we're we're not gonna have any sort of display I think uh. So, yeah, it's just gonna be just gonna be push-buttons. Um. I think we shall have a limited number of buttons, ideally, I mean a a power, channel up, channel down, volume up, volume down, and a numerical keypad. Uh. And some sort of it will either have a a lock button like we mentioned or or a cover or something like that. I guess it's to the point where we need to decide about that. Well now that we've decided on our Um it seems like we wouldn't wanna make it too busy and too sort of gaudy, but um Yeah, I would say maybe maybe a couple of colours like uh like a black with with yellow and somewhere, like maybe the R\_R\_ can be yellow, or something like that. I I guess the fact uh also that we are having a rubber case uh would prevent us from having the cover function that we thought of before. I mean, 'cause uh s so if we wanna have a lock of some sort it would have to be a button. But I think that should be I mean um, I can speak with the button department, but uh I think that it should be easy to have a button that just prevents prevents the other uh the other buttons from operating. So that should be simple. Mm. Yeah. Well it should be it should be maybe cutting edge in some sense, I mean have something that's little more technologically advanced than what's on the market. Yeah. Yeah. Actually, I mean, these first two points we've already sort of gone away from, 'cause our rubber one is not fancy I mean it's different, but I wouldn't say like a rubber remote is fancy. If that's what people want then we maybe we're going in the wrong direction. And it's it's not technologically innovative either. Mm. So is is the advantage of Bluetooth that you can just like synchronise it with other electronics? Yeah, that's basically what it allows you to do, right? Yeah, the that wouldn't be the remote so much, I mean Mm. Yes, so can Yeah, we can make the squeezing of the

rubber be the be the generating like the energy generator. we're all about that. Okay, so we could have keys that are like a b like a broccoli key and a

uh and an avocado key on them.. Yeah, that's great for us. Right. Yeah. Yeah, that's great. Yeah, I don't know how we incorporate We don't have to follow every trend, I guess. Uh-huh. The power button could be like a big apple or something. They don't own all images of apples. Okay, we'll make it a uh pomegranate, a big pomegranate.. Yeah. Yeah. Mm. Sure. The one thing I'm wondering about, I hope that we're not going like too much down a gimmicky road of of having I mean if somebody goes into the store they're gonna see like three or four normal remotes, and then a big spongy pink tomato uh remote. I mean what are ninety per cent of people gonna take? Mm. Yeah I mean, that that seems to work well with for products like iPod, where, you know, you have a variety of colours, that people feel like they're customising it when they buy it, even, you know, just just by the fact of choosing. Right. Yeah. Okay. Oh right. Yeah. That sounds good. Mm. Right. Alright. Yeah. Yeah. Mm, I think we all know what we need to do now. Okay. Okay, I'll stay in here. Does the pay-raise immediately come into effect on our next pay-check, or is that So we're buying fut I mean, we're getting futures in the company. So we really have a incentive to make this remote work. I'd like to share in the coffee machine profits, because that's really doing well. Yeah.. This company has its its fingers in a lot of different pots. Yeah, we're definitely not in the money making department. Well I I did notice looking at I mean, they told you that they wanted whatev our product to represent the the R\_R\_ brand and and to be immediately noticeable. I mean, if you look like at the coffee maker at the at the corporate web page, it's not obvious. R\_R\_. Well it is to us, because we we worked worked here for years and we use that coffee machine, but it's doesn't have the colour scheme of of the of the company anywhere on it obviously it's just sil silver and black. No. Mm. Okay. Right, well, I guess that's us. Okay. Right. Oh right okay. I cover myself up.. I've always wanted one of these, I really have. Where do you buy 'em from? They're. Yeah. Oh my gosh. Mm-hmm. Batteries. It's here. Ah. Mm. Mm. Mm. Yeah. Mm. I think rubber's But after my after my fashion thing, I think you'll realise that rubber is more People. What about the just developed uh sample sensor? G there, the sample sensor, sample speaker thing. Mm, I dunno. Be cool. Channel two. Oh, it just gives an answer. Oh, then then I thought I thought it was when they said I thought when they said, voice recognition, they meant um like, channel five, and it will change. Like you talk to it. Can I have channel five? Oh, then forget about it. Oh right okay. Mm. Mm. Yeah. So it will look like something like this.. Yeah. Well the rubber push-buttons. Don't you have to move your Mm. Mm. Yeah, the rubber's good. Yeah, so they can sit there and go like Mm. Mm. That does get annoying. Uh-huh. Well Maybe we can Right. Well, I'm just basically letting you know what's happening in the markets and what the fashions are for next year. Um. So yes, so from looking at this year's trends and fashions and also recent investigation that we've done in the remote control market, we have found that for the remote control market these are like most important aspects like that we really need to which we've already probably discussed. Um the most important aspect is look and feel. So the remote control has to look and feel fancier than the ones that already that we already have. So it has to be Yep. Exactly. Um second, uh it should be technologically innovative innovative. So Technologically it should be like um work, basically, I guess. It should work. Should That's new. Yeah. Yeah. Mm. So, no loose That's why I was thinking, Bluetooth, 'cause if you like put up Bluetooth, and it's like a Bluetooth remote control, everybody's gonna like, oh, 'cause Bluetooth is the in thing nowadays, like it really is, like people and um when

it comes to marketing like that's what people go for, they don't really care whether, you know, at the end of the day whether it works properly or not. Well, they do, but it's like it's not Yeah, but it looks good. If it



looks good and it's it can just be there for decoration. But like You could always insert, yeah. Yeah, but, I mean, people like Well, if you're looking at if you looking at something that's going to be bought by people, you have to make it new, you have to make it state of the art. Well, it doesn't Like it doesn't have to be, you know, Bluetooth, that was just an idea, but like it needs do something that, you know, is new. Whether it's a battery it could be something really really minor, you know, like but I think we are really keeping to what is already out there, and people've already seen it, people've already got it. If we want something new, we need to move away from what we already have and um just go creative. And then you can market it. Never have to change a battery again. I think, safety s Yeah. Third most important aspect uh is it's easy to use. And I think we've all um worked that out. Um okay, in the fashion, how it's supposed to look. Next year's fashion i very much in fruit and vegetables are thm are like the theme for cloths, shoes and furniture. So next year people will be buying, I found this really funny, you know, strawberry shaped chairs, and things. Yeah. Rubber things. Um and as it's rubber the feel which is in this year is spongy, so it's it's not quite spongy, but spongy, I would say is yeah, so we're in. Yeah. And so personal what I was just saying like move away from the current remote controls uh like the look and the feel of the current ones and change the look and feel, while still keeping to the company's image, basically. So yeah.. I had to say So we're moving in the right direction like Mm. Maybe make it like fruity colours or something. Some sort. Or Mm. Well I think, if it's rubber it needs to be different. I think, it's it should be I mean, what do you associate with rubber? You know like really different colours basically. Okay, sor I sorry, I used the wrong word, what do you associate with the mate the material that material? Um Um like I'm just thinking bright colours. Bright natural colours, nothing too Bright, but too not yeah. Like no lime green or bright yellow or bright pink. Wanna make it different colours so anybody can choo like like Yeah. And on the back of it have the logo. Well I can say in this country, you'll get, you know, lots of people wanting something really funky and cool. Like and kids will be walking in with their parents saying, Mummy I wanna buy that one. And uh parents will see the will see the pro as well, because it's um like kids won't break it, it's not breakable if you throw it around. Especially with younger kids, you know they can pick it up and and Yeah. The only thing is is that really small kids might chew on it, but Yeah. So so it's rea it's quite it's quite like um user friendly and also for different families, like like family use as well, so for little kids and for old ki like teenagers will like it, I think. Especially maybe younger girls if it's in pink they'll be like pink remote control for their room something. Yeah. So like you walk in, you're like, oh I like that remote control, because it's so bright, and then, and then the shop assistant comes up and says, oh what colour would you like? and then they go like, oh I can choose the colour wow. So it puts, I think, even the customer into more control over what they're buying instead of, you've got all colour it's either that or nothing. So they also get to pick. Well, personally I like walking into a shop and choosing a colour. It's um Yeah. Mm. D you've got the Evaluation. Mm. Yeah. S This gives you all the details? um. Yeah. Mm. Mm.

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# Meeting ID: 132

Data Source: Validation

## Executive Summary

The project manager introduced the upcoming project to the team members and discussed the roles of each member and the selling price for the remote they will produce. Then the team participated in an exercise in which they all drew animals.

## Complete Meeting Transcript

Yeah. Mm-hmm. So right now? Mm. It's reasonable, I think, yeah. Those things just refer to each of each of us, I think. AMI and okay. Okay. Okay, and Marketing Expert, it's me. You can manage all this, yeah. Good. Um. Not really. So which you, the Industrial Designer. Okay. Yeah. I mean, you have to know. Ah, you have to know it. It's your job, so I hope you you know what it is. Mm. Yeah. Okay. Well. You know. Oh, okay, okay. Not the other one. Yeah, I'm just go I'm trying to give you some trends about what should be done and what the users would like to have and then thi this would I guess converged to the User Interface Designer wi and then Industrial Designer. Mm. Mm-hmm. And you have to keep it under twelve Euros and f fifty, so. That's the problem. Mm. It's clear. Yeah, maybe should go and draw an animal. Many Yeah. Uh it's the same as mine. It's the fat cat, okay. A rat? That's difficult. Yeah. Just go, you you the closest to the whiteboard. Jus Yeah. A duck. Pikachu. Oh yeah. Bugs Bunny one. Okay. I go. What? Oh. So what else? This was my favourite one, but Right. A fish. Oh yeah, doesn't look so fine. Okay, it's your turn. Mm. Good. I think it's done. Yeah. Oh, we have twenty five minutes for the meeting. Okay. Know what time is it? No. Good. Ah okay. It's Ada Longmund? Maybe someone ha we have to this whiteboard, yeah? Yeah, I don't know. I it's it's reasonable, s quite yeah. Twenty five. Is Yeah. I I hope so I\_D\_ is for the Industrial Design, yeah? And U\_I\_D\_, it's for the User Interface Designer, yeah? AMI yeah project. you will be the manager yeah. I am the Industrial Design, yeah I am the Industrial Designer so. It's difficult. You know very soon. So I I think the user the user interface design is he will design how the user will you know the relation between the user and you know the remote control so And the uh industrial design, it is how the object will look like. Yeah. So the materi Okay right. But I was thinking that he's a user 'cause the user interface to design for example where the but button will be, you know. But I don't know. Okay. I'm the industrial designer. So. Okay. So and the marketing expert will Ok Okay. It should be There was a step about drawing something in the in the

board, I don't know. Is it? Are we supposed to do right now? Oh right it's it's from the left to the ri It's I d I was thinking but I n I'm not sure now. Oh Everybody I think everybody should do it, so. It's not matter So. yeah. It's a It's a cat. It is not a fat cat. Yeah, it is a Yes you have to draw a rat if you want a rat. It's your rat. Okay, go right, but in grow, it's everybody has to grow What are you I don no idea, so It's a rabbit. It's not so bad so. So you don't have a A fish. That's a that's a fish? Okay, let's try to draw something. Have to be really careful. Ah it's my turn. Okay. So. It's ok So, what can I draw some more?? No. Mm Yeah, it's it's a se it's my priority this one. Yeah. No. It's a really crazy dog Okay. Transfer. It's a dog in a village. So what are you sug going to do now? It's done? Oh my God. Yeah, it's okay. We have an idea yeah. I have an idea of my job so yeah so. Yeah. So we can start? Suppose I have to do my presentation. Eh um So, I'll present myself, I'm Ada Longmund, and as you may know it, I'm the pr project manager. So um we will have to um speak about m the project. Our project project is to create um a new remote control and as you may know there's lot of industrials interesting in creating a remote control, so the remote control has to be original, trendy and um user-friendly. Record. So the project method is the following. So if we're um the functional design, you have to do uh any individual work and uh also work with uh meetings talking with each other. Uh it will be the same for the conceptual design and also the same for the detailed design. Uh. The tool training is to try out the white board, so Maybe you can draw your favourite animal and make a list of its favourite character

istics. I don't know if we have to do it now, maybe later later. So the selling price of the product will be twenty five Euros. Yeah. Yeah. I think it's quite good price, yeah. And uh it will uh be a an international remote control, as we want to sell it in the entire world, and the product costs will be not more than twelve Euros and fifty centimes. So, as you will discuss about the remote control you will have to experience your um with the remote control. Um just uh maybe be imaginative with remote const con controls, try to create something new and people would like to to buy. And and the next meeting will start in thirty minutes, so you'll ha all have your spethisfispis specif specific role and you know I suppose you know what you have to do. And uh you will have to work on the design and also to work on the design of th technical fun functions of the remote control and think of the user requirement specifications. Yeah. I\_D\_, yeah. So So I will manage all all the group. So you have questions? So you all know what the parts of the work you have to do. Mm-hmm. And you? Mm okay. Hmm. I suppose you have to design it and you have to take care of the industrial way to transform it. And i maybe you will transform it. Maybe, it is the outside and the inside. And yeah. And when designing y the remote control just remember that uh it has to be a kind of international product. So you don't have to do something really specific, as everybody everybody will have to use it, it's sor the same as keyboards. You know, you have Qwerty, Azerty, French and U\_K\_ keyboard, so really the remote control to be international. And not too expensive. As we want to maximise the benefit. Yeah, you have to keep in mind that the product cost won't be maxim more than twelve dot fifty Euros. And to be sure that really people will be interested in buying a new remote control with maybe new functionalities that don't exist in the mm existing remote controls now. So, is it okay? So you think we have to do it now? You want me to draw something? Product manager okay, let's go, I will try. No. A mouse is not too difficult. Mouse is okay. You love the eyes. Yeah, that was the eyes. A clown. Rabbit. It's a rabbit. Yeah. Thank you. You forgot the chips. Fish and chips. Of Oh.? Oh yeah. Yeah, I think yeah. Just have to present project, discuss a little bit about it. Yeah. So, if you have questions. It's okay? You know your job? you know your job? You know your job? Okay. So yeah I think you can do it. Twenty five Euros? Yep. Yeah. That's me. Okay. Yeah. No I'm user interf I'm user interface design. Okay. So what's the difference between user interface design d industrial design? Yeah, I think so. Okay, so I make uh u user interface. You you de

you implement the core functions in the Use it. Make make yeah. Maybe I think uh uh i industrial design's uh, it's the function design. I design the user f user interface, you design the function. Yeah. Okay. Yeah yeah. Okay. Okay. Mm-hmm. Yeah. Mm. Yeah. Okay. Yeah. And uh simple. And easy to use. Ah, yeah. Okay. Okay. Okay. Yeah. Yeah yeah, you try. Try first. You can draw something which is very simple. Oh, maybe we should bring Kemy here. Kemy is really good at drawing. You're going to draw? Okay. What's this? It's a fat cat. Can you draw uh um rabbit? Oh, hat ha rat. Yeah. Yeah, it's okay. Mm. Okay. Oh. Okay, I draw. The only thing I can draw is like this. Oh. Oh. Oh. No. What's this? Okay. Okay. The only thing I can draw, because it's very simple. Oh. Okay, be careful. No problem, no problem.. A person? Dog. Okay. Okay. So we have break. Oh. Hmm. No. Okay.

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# Meeting ID: 73

Data Source: Validation

## Executive Summary

For the first meeting, the task of designing a remote control was briefly introduced along with the plan for the subsequent meetings. The group then drew animals to practise using the drawing platform. They discussed their likes and dislikes regarding current remote controls, including ease of use, multiple systems and power indicators. They then offered suggestions as to what they would like from their remote. They would like the remote to be durable, for it to include a device to help find it when lost and not use too many batteries.

## Complete Meeting Transcript

Yep. Okay. Oh. Well we will try. Where it going? Hmm. Uh Mm. So Now save? Now uh blank? Yeah. Yeah, yeah. I'm not getting anything uh on my screen now. Okay. Wow. Oh. Nice. Uh at home we have a T\_V\_, a video uh recorder, a D\_V\_D\_ player, and a satellite receiver. We have uh four distinctive remote controls for that. That's not really ea easy. So it would be nice if we have one for all. And we also had a remote control for our radio set. But um i it it had a lot of buttons on it, and you didn't know which one was what. And it was uh uh v not easy to use. So we n barely used it. Yeah. Yeah I think it uh from a marketing point of view, it also has to look nice. Or you won't sell it. And um yeah uh on our website we can see what products we already have. And it should work with as many uh as possible of them. Yes. Okay. Hmm. That's uh strange. Yeah. Okay. Let's try this. Uh Um. Mm-hmm. Mm. Uh No, no. Yeah. Okay. Uh blank. No. Uh well I think the the the goal of a remote control is that it's it it has an influence on the T\_V\_ set. And that it controls the channels and the the volume. And uh I I I think it's positive if there's a a LED uh uh a LED on the corner of the of the remote. So that you know it s it still has batteries on it in it. And that if you push the button the LED uh gives a light, and uh and you see that it's working. And uh yeah. Uh Yeah, but No no no. But I my my experience is that it it it's convenient to have that. Yeah. Yeah. Hmm. Yeah. Yeah well that's that are good ideas. Uh Yeah well the LED on the corner, that that indicates that it's working. If you push a button. Um Yeah. And looking on the budget, not too expensive uh material. So probably plastic or something. Uh Mm no. Yes. Nice. An elephant. 'Kay... pop-ups. What is this, Pictionary. Uh a bird. Bird. Yeah. Whoo. Oh not. Oh. Okay. Okay. Yeah. No problem. Shit happens. A parrot. Ish. He did it before. Oh. Thank you. Uh I will start.

Uh Big one, they are uh not easy to use. Um I have one set and uh a remote control, when I dropped it, uh it broke. So that won't be uh our goal, I think. And uh g big buttons, m uh that's easier to use than uh I think. Not all the small buttons, you don't know Big buttons, positive. All all small buttons like when you have uh like a hundred buttons on your remote control, you won't know what they're working for. Thank you. Help also. Thank you. The weight. Not not too heavy. Not much buttons. Bust-free. That when you drop it, it won't break. Like uh some kind of rubber on it. Or hard uh hard plastic. Uh buttons not too small. Uh something like when you uh lose your uh remote control, sometimes it happen. Uh it between the couch and you can't find it. When you push a but a button on the T\_V\_, then you hear some uh some sort of bleep. And then you uh, hey there there's remote control. Next. I have one more idea. Just popped up. Uh it it won't take a lot of batteries. So you don't won't have to change the batteries uh once a week or uh once every two weeks. Okay. Thank you. So welcome. The first kick-off meeting. What shall we do? First the opening, then the rest. What are we going to do. We m have to make a new remote control. It has to be original, trendy and user-friendly. So we will get back th on that. First we have to make a functional design. After that we have to make a conceptual design, and then after that a detailed design. So we'll discuss that later. First we have a look at. So first to we have to make a small painting. What have do we have to do. First you can save the documents. We have to do that every time we make something. You can print it. No. And we have to use the pen and the eraser. So Now. We all have to use this one. You have to make your own favourite animal. So I'll make an example. First don't touch that things. You can use the pen. And then you can make um something. Um you can change some things. Um format, line, and change it. And you can change the colour. So that's it. So So and after it you hav

e to save it. Now we can make a new one. You have to paint now. So you're next. What is going on? What are you What?. Um Is a It is a It is a A duck. Yes. Hmm. Blank, yes. Okay next one. Oh. Very good. Okay. Very good. So um you can always go back. So That's it. So that was two. Now next. The budget. The b Uh we will sell the t at twenty five Euros. And we have only twenty of twelve and a half Euro to make it. So now we have to think about what we will make. First I wanna hear from you. Uh what are your experiences with remote controls. So F first. Is this positive or negative, that uh big buttons? Positive. Okay. What are your experiences? Mm. So and do they always have that? It's easy to you. Okay. 'Kay. Okay so they have too much. So next. For our own remote control we have to think how do we make it. So what ideas do you have for it, for the new remote control? What what does it have to have? Not too heavy. Yes. Yeah. Yes. Like a phone. Okay. So, that's. Okay. Yes. Okay. This is It has to be compatible with other things. Okay. Yes? No battery use. So more ideas? No okay. It's only the first ideas. So uh what are we going to do now is Next meeting is in half an h hour. Uh Okay. Next meeting, half an hour. Um, what you have to do. Well look on your. And Next instructions you'll get in your email. So This is the first meeting. See you later in half an hour.

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# Meeting ID: 108

Data Source: Validation

## Executive Summary

The Project Manager went over decisions from the previous meeting. The Industrial Designer presented the prototype and discussed its look, its internal components, and its interface. The Marketing Expert evaluated the product according to the initial product goals. The group then decided that enough of this criteria had been satisfied for the project to continue. The Project Manager presented the final cost of the device which exceeded the initial projected price point. The group decided to remove speech recognition but to propose to the management that it remain in the design. The group then discussed their effectiveness as a team. All members felt that they interacted well and that they felt they could be creative. The Marketing Expert felt that the market-research based approach would help the project's success with consumers. The group did express, however, that the budget was overly constraining. The Project Manager instructed the group to fill out a final evaluation questionnaire.

## Complete Meeting Transcript

Is that someone's? Okay. Or something. Well done. Certainly. Logged in? Thank you. Oops. Okay. This stage of the evaluation is really for us as a team to evaluate if we have now got a product specification and prototype design that meets the the criteria that we got from our market research. So this is the first stage of the evaluation. Now, the collection of the criteria, as we saw in our previous meeting, was based on the user requirements and trends found in the marketing reports and marketing strategy of our company. So it's what we've discussed in the last meeting, are we actually meeting those trends and requirements? Now the findings that we came up with, just a recap, are here. The criteria that we want in this remote control are a fancy look and feel, technological innovation, it should be easy to use, it should incorporate current fashion trends, and those the two main ones, they were the spongy texture and the fruit and vegetable strong design colours. The design should minimise R\_S\_I\_ and be easy to locate and we were still um uh slightly ambivalent as to whether to use voice recognition there, though that did seem to be the favoured strategy, but there was also, on the sideline, the thought of maybe having a beeper function. Okay, so we can come back to that slide, if you don't have a note of those. I'll just show you how we're going to evaluate our own feedback to this, to what we have so far. We're

going to use a seven point scale, where one is true and seven is false. We look at each of those criteria that I've just mentioned, I'll call that slide back up, and I will just do a preliminary rating of all those criteria on the whiteboard here. Does that seem clear? Any questions there? So we're going to look at these criteria. Yes, we're going to come to where we'll discuss each one and we'll come to a consensus rating between one and seven. Is that okay? One is true, seven is false. Right. So I won't write all of that out again. It will just be criteria one, two, three, four, five, six, or A\_, B\_, C\_, D\_, E\_, F\_ to confuse it with the number rating. B\_, C\_, D\_, E\_, F\_. This is where I realise how tiny I actually am. Criteria and rating. Actually, it might be an idea, if we each did give our own individual rating, and we could take an average at the end. How about that? Okay. So I'll just separate the ratings by obliques, and if we go one, two, three, four, we know who's who. Okay. Criteria A\_, the fancy look and feel. How do we feel about this prototype model relating to fancy it is a fancy look and feel. One is true, seven is false. My own rating for that would be a two. One is true and seven is false. I'll just go this way. Two. Okay. Two. A four, okay. Adding those up, we've got a six and a five, eleven divided by four is what? Uh two and three quarters, is that right. Two and three quarters? Okay. Two point seven five, there we go. Okay, criteria B\_, criterion B\_, technologically innovative. I would give that a three. Okay. Not that you're biased in that it's the designer. The average oh, for you? You want your rating to be a two? Is that what you're saying? Okay. So, I'll work out the average for that again at the end. It's a very slightly altered. Okay, and we're just waiting for your rating of two point five, okay. Losing one decimal place, that's okay. So what are you rating for this one, Paw? Two, okay. So that is eight. That brings it down to two, nice and simple, yeah. Okay, ease of use. Easy to use? Based on what you've said there, I would say a one, true. Two. A two, okay. Two. I should've said a two to make the arithmetic easy, shouldn't I? We'll just put almost two, because I'm not gonna get into silly decimal places. Okay. Or we or if we want to really bring it down, we can do later. Um mm now we're looking at it incorporates current fashion trends, now that's particularly in relation to our market research findings about the spongy texture to the exterior and the fruit and vegetable design colours. Right. So

I'm just thinking, before I give it my rating, you were limited in the use of materials for your prototype here. Is this actually going to be the colours that you would use? Right. So we could use any strong fruit and veg colours and that's what we're intending to do. Okay. And the spongy feel is no problem with that. Okay. In that case it's got to be a one for me. Yep. Everybody? Okay. That part was nice and easy. Okay. Uh moving on to does the design minimise repetitive strain injury. I don't think we've really touched on that a lot. We've we've discussed it, we haven't really come up with anything that we felt could feasibly reduce that. We've talked about pointers, but the very use of a remote control, if you're someone who's zapping, who's sitting like that, and we found so many people did, how do you minimise that on such a small device? Mm-hmm. Mm-hmm. Mm. Mm-hmm. Right. Right. I think I'm gonna have to be neutral on that and give it a four. A five, okay. Four and a four okay. Twenty one is that twenty one? So that's four point two five. And finally, last but not least, easy to locate. Now we talked about voice recognition, we talked about a beeper, have we really have the designers come to any decision on that? It was the I'm here thing, yep. And are we happy with the costs on that? That is going to be feasible, cost-wise. That sounds good then. I'd go for a one because we can adjust the volume on that, just as we could volume on T\_V\_. So if somebody's in the other room or if T\_V\_s in different rooms, or. Right. Okay. You built into the feature. Okay. Logical. That's a one for me. One and one, good. So, how do we feel about this? We've got our our we've got the highest rating of meeting the specifications that is definitely true for two of the uh six criteria there. That is for um incorporates current fashion trends and is easy to locate. The lowest rating we've got, which is really not terribly low, it's close around



neutral is for uh the minimisation of repetitive strain injury. Do we feel on the basis of the of these evaluation findings that we can go ahead and now produce this as a prototype and market it, or do we have to make further modifications? We happy to go ahead? Yeah. I think for most of those ratings that it's high enough at the upper end of the scale for us to go ahead with that, and I really doubt if on the basis of current technology and our current capabilities, we could actually do much more to minimise that. I know. Okay. Well, I hope that's uh clear to the team. Is there anything you would like to ask me about the findings before I sum up? Good. Fine then. I'll just leave it there. Oops. Oh yes. Yes. But it has a slightly flattened bottom so it can sit. So it can rest. It would just be a flat bottom with one curve. like a domed thing. Mm. The other curves at the sides, but it's slightly flattened at the bottom so it doesn't roll over. Yeah. What does it mean if you put point five for that? Mm-hmm. Right, okay. But it is gonna be part of the total cost, and there's nowhere else we can we can put that in, is there? There's nowhere else we can code for the the rubber used in the casing. So do we not have to account for it in the cost somewhere there? Okay. Mm. Might do, if we go for some of the more exotic aubergines and such like colours. S Has that not made any d if you click off that square now, has that not made any difference? Is it oh, it's brought it slightly down. So is is uncurved completely and just actually making the rubber case the curved thing, is that going to make a difference? Oh, it's not made any difference, has it?. It's gone up again. Oh. It's brought it down slightly. Is there anything on the menu No. If we tr um. If we moved away from our much loved idea of a kinetic battery and just went with the standard batteries, would that make a huge difference? And people are used to buying batteries, they're not gonna say I'm not getting this, 'cause I've got to buy a batte

ry for a remote control. Should we see what difference it makes? Um Yeah. Sure. But we're still working to um head o We can put in our recommendations. If we if we're working to head office specifications as this is what this project team's working for, we can put in our recommendations for what we've we've found and what we the consensus that we've come to as a result of the meetings. But we need to work to that specification to start with. And I think the voice recognition sounds wonderful, but our object is so distinctive that that in itself is gonna make it easier to locate as a f you know in a first instance. Um as you say, we can offer the voice recognition initially to business class customers and so Mm. Yeah. 'Cause we've done all the background work to go for that if they want it. Yeah. So if we take voice recognition out we are. Are you sure? Sorry, not meaning to doubt your words there. Right. Are they really going to quibble about ten P\_? Or point zero one of a Euro? Which is less than ten P\_. That's today's kick off meeting,. Mm. I thought that's what it was. So we're okay. Although we had our separate tasks, there was so much interaction, so much that we needed to um bounce off each other. And I've certainly felt heard, listened to in that in relevant areas we've been able to, you know, give and take and adjust our remit where necessary. Yeah. Maybe we should think of branching out into children's toys and fake mobile phones as a side line. And fake R\_C\_s. How do we evaluate the materials we had for communicating and sharing information? Could it've been better, was it adequate? Mm. Yeah. Yeah. It's really borrowing from other areas, it's, you know, bringing things from other areas in, it so it's I mean nothing is new, but it's applying it to a d in a different area. Absolutely, yeah. Mm-hmm. Mm-hmm. Yeah. Yeah. Yeah, the focus isn't on to that, yeah. I think it's really good that this has been very market research based, because just going back to mobile phones, I mean this is the first change in remote control devices that I can really, you know, say is is obvious and visible. We see it in mobile phones a lot, and tha that's where we've borrowed a lot of our ide our ideas from. There are innovations in that that people don't really want. I see people wanting a model of the phone they were really happy with, and they can't get it anymore and it's innovation for innovation's sake, and I think it's

wonderful our company's so R\_ and D\_ based. Yeah. But forcing it onto people, yeah. It's things that, you know, they might want to buy the thing they really want. Mm. Mm. Or there isn't a cover to fit it or whatever, yeah. See I think I think it was just the produc uh just the production cost of the phone. Mm-hmm. But I think in the remit that we were given, it was very specific. I think we've done what we were required to do, and I think there'll have to be another project team or a new project for us to look at at those kind of things. I don't think that's something we have to look at and find a way of raising the cash for. I think we've done very well to get within budget and it still makes such an innovative item that I think people are really gonna want. I know. Maybe it will. Maybe they are gonna steal our ideas and sell it. Mm-hmm. Questionnaire. Questionnaire done. Oh, I didn't have to rate you on how much you influenced the meeting this time. Oh, right. But do we not sometimes evaluate in these meetings too? Yeah. Is that for us? Okay. Yeah, shall I show? I'll show. Though do you do you wanna do you wanna sh do you wanna hold it and I'll I'll show you the presentation. Can I just nick your Whoa. Going a bit crazy over here. Thank you. Okay, so this is our look and feel presentation, the final our final presentation. And we'll first look at the exterior of what we've uh come up with over there. Um It's gonna have a a plastic body um with a sort of standard colour, either we're thinking some something fairly neut ral like a a white or a light blue or something. This is underneath the rubberised the rubberised uh outer casing um which there'd be sort of a wide choice they would be attached, but we can we can come up with that. Um the um wide choice of colours and sort of patterns, so you've got you've got a lot of customisation with it. Um it's obviously an a sort of clam-shell design and uh the um the top L\_C\_D\_ screen that you can see that would b would be sort of um how do you say, it's yeah yeah, it would be sort of inset into the into the top and the buttons at the bottom would d so so it'll fully close flat. Yeah, yeah. And working on the inside we've um already said d decided on the kinetic batteries, which actually, thinking about it now, could y could also probably attach to the flipping open and shut as well, so that you could probably get a bit of Yeah. Yeah. Um we decided that um the voice recognition system, it did actually say on the email that they were sort of coming in and they were fairly easy to get a-hold of, so we presumed that they'd also be quite cheap. So you'd have something like where you'd shout out, where where is the remote and it'll shout back, I'm here, or something. And then yeah. It wo it won't shout out I'm here or something. It'll just shout out I'm here, or something to similar effect. Uh yeah, if it was going like I d well tha that could be something for next time, maybe. You can have a remote that tells you exactly where it is. Um the standard, there's be a standard transmission with the T\_V\_ using using all the standard chips that we've talked about. Um it would it would have obviously 'cause it's split over two two different layers, it would need two separate P\_C\_B\_s, so it would be joined at the hinge through some sort of cabling. And uh because, obviously, all T\_V\_s use this, the same infrared medium, we'd just be using using the same thing to transmit the data. And the infrared um sender would be on the on the one of the bot the bottom layer, just at the front of the we haven't I don't think we actually put it on. Yeah, yeah, something like that. Yeah, on the front on the front side of that, yeah. So when you've actually got it open, it would be facing the T\_V\_. And then finally um on to the interface. The top screen, as we said, is would be an inset um black and white L\_C\_D\_ s touch screen which yeah would uh have all of all of the the available functions for for the remote on it, uh whereas the bot the bottom screen would just contain the standard buttons, like the vo volume up and down, channel up and down, power on and off, and uh things to that effect. And now we've we also decided on the inside, we could possibly either have um some some kind of sort of bezzled uh logo on it, or something inset, or maybe an engraving of the logo on the top. No d not not actually. No, not uh interfering with I the whole look of the the product when it's uh on the thing. And finally that's how we

put the fashion back into electronics, as that is that's the company logo. There you go.. Yeah. Yeah, okay. Yeah. Yeah, I'd uh yeah I'd probably put it uh two yeah, two or three. No, three. Three. Mm yeah. Yeah, yeah. I'd give it a one. No, no, not at all. Yeah. Two. Two. Yeah. D\_. One. Yeah. Yeah, that's No, no, the the base colour was um white or or like or I sort of a light blue, but the changeable fa faces would uh allow you to get any basically any one of a number of colours that uh th it's full sort of customised. Yeah, yeah, yeah and No, no, 'cause th that's that's the the spongy feel would be in the rubber that you put round it, that otherwise it's just sort of hard plastic. Yeah, I'll give it a one as well. Yeah. Mm. No. Yeah. It's meant to be. Yeah. Yeah, I'd uh I'd f I'd go for a five, actually, 'cause Yep. Yeah. Yeah, it was it was uh a voice voice recognition, yeah. Yeah, yeah, that yeah, that's feasible. Um I think it would r I think it would probably be a a stand it would be a stand it would be quite lou

d. So it would be s p yeah. Yeah. Yeah, one. I do realise that we might be being fairly biased, 'cause it is our product, but W I thin yeah, I think yeah. Mm. No. Yeah. It was a regular chip on print and Oh, no, no, no, the um Yeah, it's you you've put in three for the number of kinetic cells, there should just be one. In the top, it's the number of c yeah. Yeah, and yeah, just a no, one reg v uh Yeah, one of them and one sample sensor and sample speaker. And they're double curved. No. Y Two, 'cause it's two. Yeah, I'd say I'd say it was w yeah, I think I think it's One double-curved. And one no, 'cause one yeah, one's double-curved, and then the other one's a plastic. Yeah. And special colour. Yeah. Yeah. No, no, that's it's as an extra. So that shouldn't that shouldn't be actually on there, because that's not incorporated in the cost of the remote you get. Yeah, okay. Yeah, the push-button's one and L\_C\_ display one. And buttons Well yes. Yeah. No, we'll have No, no, you've got to click off to calculate it again. C it might uh you might you might be assuming that that is in Euros. It could be in Dollars. And then it would be fine, because the exchange range would make it about twelve. No. Yeah, the standard, it um it would make one difference. The biggest one would be taking away if you took away If you to Yeah. If if you take away the voice, I I do I don't like to say it, but if you take away the voice recognition, then you've got it. Yeah i yeah. No 'cause it's samples sens sample speaker. If you took away that, that'll make it twelve point three five. They n n yeah, but you p minus three plus two. Yeah. But they but I mean in I don't see why we have to sell it for twenty five Euros now, because they w they were saying they were quite willing to pay more for better product. Yeah. We c we could s Yeah, we could say Yeah, I s And then say we recommend Yeah. Yeah. That'll do it. Twelve point three five. Is it twelve point fif was it twelve point fifty? Ah. Okay. Yeah. No. 'Cause that that was just a bought-on extra, you could just take that out and that would be fine, yeah. Yeah, I think that's brilliant. Yeah. Yes. Yeah, I'd say, as a team. Yeah. Find out from each other, yeah. Yeah. Yeah, no, I thought it it went really well and I yeah, I I feel that everyone was listened to and all the points that were raised seem to have been sorted out, although we didn't quite make the voice recognition in there, but that's that's good. I think it would have made it into the final product if it was actually if if we'd seen the marketing before the initial specification was put out, I think maybe it would've come out a d little different, but yeah. Yeah. Mm. Yeah, well. Discuss which ones yeah. Yeah. Yeah, I think I think we probably woulda used the outer email system more, had we actually had had more time and if we'd been separated more. Yeah. Yeah. Yeah. Yeah. Vegetables. Yeah. No. Yeah, I do I don't think the the companies are really concerned. They're just like we've got a D\_V\_D\_ player, does anyone remember the remote control? Can't you get the one that we used for the last one? Yeah, just jazz it up a bit. Uh d they don't really think about it, because normally, the remote control isn't the product which they're trying to ship. They're trying to ship the D\_V\_D\_ player, the video player, the T\_V\_. Yeah. Yeah. No. Yeah. Yeah. Yeah. Mm. Yeah. Yeah. Well. I think that was just the the physical. Yeah. Yeah. Yeah, I think yeah I don't from the market research. No.

Yeah, it was I it's top secret. Um it's it is it's a conspiracy going on here. That's what it is. In your yeah. Okay. Is that it then? Awesome. Was that not the questionnaire for the how you felt you'd done in your thing? I don't think. Yeah, the the s yeah. I think yeah, questionnaire seven was the one I did just before the meeting. Mm. Hmm. Thank you. Hmm. Hmm. Yep, me too. Mm-hmm. Yep. Me and William worked on a prototype, and I think William is going to make a p present

ation on that. Yeah. I can hold it like Yeah, so It looks crazy. Um not now. Oh. Yeah. Oh, where are the hinges? 'Kay. You able to look? Yep.. The black and white touch screen wherein people can Right. Mm-hmm. 'Kay. Ah oka Infrared could be here also. Yeah, here.. So when it's even if it's open here, the signals would go. Yeah. This one right here.. Which is No. Look up to it. Yay. So this is the one. Sorry. Evaluation.. Mm um I I think this is chip. Mm-hmm. Mm-hmm. Ah, it's perfect. Is it everybody is going to evaluate, or just the Market okay. 'Kay. Yeah, so you can 'Kay. I would say four. Mm-hmm. Almost three. I think yeah. Oh sorry, I I got it wrong. The first one rating, I'm sorry. Can you just make it two? The first. Yeah, I I just it the other way. Uh in Yep, I just got two point f One is a, seven is false, okay. Two. Two. White. With for the plastic? Uh blue. Any Right. Mm-hmm. Yeah, because you'll be having a Because of the rubber case. One. Mm. Four. Voice r recognition. Hmm. You want me to b unplug that? That's all. Yes. Okay. Chip on print. Okay. Yep. Single-curved. Two curves, yeah. Single-cu. Plastic and rubber. Yeah. Plastic one and maybe rubber point five. No I think rubber, since it's being used just as a casing, we can put point five. Yeah, because there are I think it allows the point five, yeah. We can use that. It means we are not using a lot of rubber actually. We're using just a very low quantity of rubber compared to plastic. Push-button. One. An One. I think we could change the battery also. Instead of going for kinetic how about going for a standard battery. Uncurved, flat. No, it just surprises one.. I don't think so. Ri I think it's in Euro. And going to a regular bat Yeah. What I feel is, customers never said anything about the battery. It's internal, nobody looks into the battery. But shape and colours, that's something we shouldn't comprimi Where's that special form? Mm mm mm. Mm-hmm. Make it costly. Yeah we are close to the budget. Two five. It's twelve point five maybe, then. I don't know what it said fifty percent of the cost. So half of the price would be I think it is the first one. So we are under the budget. Seems fine. Except voice recognition, everything is Yeah. Mm-hmm. Yeah. I think we had a nice time. Yeah, I think there was uh very constructive feedback by everybody. It's not like people trying to cut each other. There is more of uh true cohesive teamwork. We came to a very predic creative design, yeah. Yeah, and uh Yeah, I think. And Sarah, you coordinated the work very well. Yeah. I think that was the best part of the 'Kay. Yeah, moving around the room. But I think it's good, like uh we spent times individually. I never thought of a remote control with a flip top. That's mine. Yeah, it's The thing is Yep, sorry, go on Sarah. Surprising to me is like uh people give a lot of attention to modifying mobile phones, like a real want to see a new launch or something like that. And new f television products coming up, but nobody giving uh much idea to this. Like Sarah was telling, everything's Right. Mm-hmm. Maybe fifty percent more. Yeah. Who knows? Yeah. There's a final questionnaire. Celebration, you didn't talk about that. Yeah. If you leave them on the whole time you get to look like a noodle the whole time. Is that. three, apparently. Okay, you all switched on. I presume we're good to go. Okay, um minutes um we decided to use a kinetic charger, standard chip, um 'cause it can come in various different sizes, it wasn't uh uh gonna be a problem factor. We wanted a stand-by function. The case material is gonna be soft, rubbery, changeable. Um buttons with a combination of L\_C\_D\_ and rubber according to the design. Um bright funky designs inspired by fruit, keeping with the hip kind of feel. Um and to try and incorporate voice recognition software into our design until we can find out more about the cost of things like that. Um and the rubber buttons that we'll use will be

anti-R\_S\_I\_. O

kay? Prototype presentation. I think that would be you. Make sure the camera's Yes, yes you can. Wait a second, I'll get it out. Um Okay. You should have one of those things and you can just take it off. Ta-da. Right. Mm 'kay. Mm-hmm. Okay. Mm. So it's flush. Oh right, okay, yeah. So put it in the top section rather than the bottom sections, 'cause it's the top part that's okay. Okay. I'm under the sofa. Or, that would be too complicated. Infrared. Like here. Okay. Actually, no, it would be it would have to be on the on the front. Oh right, yeah, okay, yeah, I've got you. It's still pointing, yes. Yeah, that would make sense. Okay. But not interfering with the outside kind of look of the product once it's Okay. Thank you very much. Wrapping it all up, okay. Um I've now got evaluation criteria. It's to be presented. Okay. It's quite similar to what it was before, though. Sorry. Mm-hmm. Okay. Just write small. Yeah. That works. Mm-hmm. I would agree. Okay. I would say two. A two. It's just two point five for that one. I would say a two. I would say a two. One point seven f five. Okay, mm-hmm. Mm-hmm. One. Well the type of button that we're gonna use in the bottom half, the material, minimises R\_S\_I\_ it's meant to. Um maybe because it's slightl with the size that we've got it's quite small, but with the amount of stuff we're putting on it isn't that much. So maybe because there's more space, it's not kind of moving around trying to hit accurately the buttons in between. It's quite obvious just big buttons. Um Four. A standard. It would be. And if you didn't hear it in the room that you were standing in, then you'd realise that it wasn't in that room, you'd go into another room. One. I don't think so. I think we yeah. I think we're set. Do much apart from having a huge big Don't think so. Okay, thank you. Okay, I've got finance here now. I'm gonna plug this in so you can all see it, if that's okay. Um. Thanks. Right. Now I presume that the screen will go blank, that um Okay. We just type numbers into this and we come out with the final value. So are we still on for kinetic? Okay. See, it woulda been handy to have this at the beginning. Um it might have influenced our choice. Right, what's happening with the electronics? Double-curved. Oh, right, okay. Thanks. So, would there be two? One chip. Okay. One double curve. So what's a single curve then? So just one double Yeah. Um Mm. Um we've got plastic and rubber, haven't we?. Um Do you think? Okay. It would be like saying we're using See, it says case material. So we're not actually using plastic in the case, are we? It's including, it's including. Okay, we'll just put it in as we'll put in as half. Or sh we should just put it in as one, because the plastic is zero anyway. No, we don't step on anyone's toes. Okay, special colour, do we need that? N yeah, okay. Interface. Buttons Has that not gone up? Oh no, it was seven five it's changed not a lot. Oh, it's not calculated it. Okay, there we go. It's not a lot though. We haven't been dealin we haven't been dealing with dollars though, I think Okay, so the highest we've got is the electronics here. Um and the interface. Where's the where's the voice recognition? Right, okay. Well the kinetic is three. If we change it to the battery it's that's minus three. Oh, right. I keep seeing zero. Um We can do it some other way, we can do it doesn't have to be voice recognition. We could do the voice recognition for, you know, business class or something, you know, like an upgraded version. You could choose to have that or not. So should we just change the design specification then? Yes. Mm-hmm. Mm-hmm. Okay, we can make the price fit, and then say if we'd had our budget, we would've had this, because it also sets it apart from the crowd. They like their gadgets, they like something that's completely different. It's s something completely different associated with your company. Right, okay, so It's two point five. No, it's twelve point two five.

Yeah well two, twelve point two five times two is twenty five, isn't it? I think the agenda one was where the um price was, wasn't it? No. Twelve point five. Well done, people. So is that uh got us covered for the electronics then? We don't need something else to take that place? Okay. Okay. Right, so we've done that. Okay. Product evaluation. We've done room for creativity, haven't we? Because we've got

decisions that we would have made that we weren't didn't feel able to make. Um I presume we discussed leadership and teamwork. um in the sense that um did you feel like a team? Or did you feel like uh autonomy? Mm-hmm. Thank you. How did you find it? Yeah. Yeah. I liked the fact that we could say an idea and it'd be suggested that that wasn't the best idea, but no one felt like shot down, you know, y it didn't matter it saying what you thought, because if it wasn't something that was that relevant, then it didn't matter, 'cause it was just another idea in the field. I like that. Um teamwork. Well you two created that wonderful specimen of a Play-Doh model. Um uh I'm still not caught up. But that's nothing to do with the teamwork at all. Um Maybe. No, that was quite fun. Um means, whiteboard, digital pens, etcetera, what does that mean? Any ideas? Had time to kind of Yeah, 'cause we could just sort of say, sorry what did you say about that or what do you think about that, rather than having to email it, yeah. But it was nice having it there. Um like the whole picture of the thing. Yeah, I think it's new ideas in general, rather than Mm. Yeah, no. Well they have to come from somewhere, don't they? And as sh as w sorry, you go. Um as was shown by your presentation with all of the other controls, remote controls, no one's thought about it particularly. I mean they're slightly different, so if someone's been shut in the room and said make ours a bit different from everyone else's, 'cause it's w something we should think about, but obviously no one's put any great deal of thought into it. Mm. But then when it everything is really smart, and you've just got this big chunk of black thing sitting on your coffee table, it doesn't go, I mean if you could have something that's a proper funky thing, a funky item that's individual, individual to you, I mean they could even go into um you go in with an idea and they design it on Photoshop and then they just get it printed on the plastic, you would pray you would pay a lot extra, because it's individually being a plastic was being made for you. But people could have anything that they wanted. Because of the produ Mm. Yes. Yeah. Well, it's innovation for money's sake. The the people have to keep buying. Yeah. And you can't get you've got your handset that works fine, but you can't get the battery anymore for that type of phone, because the phones have moved on, things like that. Yes. It's madness. Um In closing There we go. Um our costs are below budget with recommendations that they the budget be increased, but I think I don't know, d what do you think? Do you think that's takes into account um overheads like us being well paid kind of a thing? And the heating for the building, do you think our budget includes everything, all the costs that are going out? So it looks well it looks like it's gonna be fifty percent profit, you've still got all of the overheads to come out of that. So maybe increasing it, you would also have to increase the price that it's sold at. But I think but you were saying that that's quite Hmm. Yeah. Mm. Yeah. It's a shame it won't ever get made. Maybe it will. Maybe someone'll r run down and patent it. Um the project has been evaluated well and truly. Um and we've got the meeting survey and questionnaire. Oh, so we've got about fifty minutes to catch up with everything that I fell behind with, so I'll be delegating in my um role as Project Supervisor, so good luck. I think the celebration is the twenty five pounds. Either that or we'll be dancing on the desks. Oh. Um ye ah, just the last, I think. I think I've got minutes for two of the meeting and the last thingy. I just got con

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# Meeting ID: 50

Data Source: Validation

## Executive Summary

The goal of the project is to design an original, trendy and user-friendly remote control for TV. The team comprises the project manager, the marketing expert, who is looking at user needs, the user interface designer, looking at usability, and the industrial designer, working on the engineering and materials. The project will be completed with three further meetings: the following meeting concerns the functional design. The project manager gave a quick overview of the equipment available. The remote needs to be produced for 12.50 euros in order to be sold for double that amount. The whole team tried out the SMARTboard, by drawing their favourite animals. Afterwards, they discussed briefly their first ideas, including the use of light materials and usability concerns.

## Complete Meeting Transcript

Okay, good morning. This is our first team meeting. I'll be your Project Manager for today, for this project. My name is Mark will be giving this presentation for you to kick the project off. That's my uh that's the agenda for today. Well, of course we're new to each other, so I'd like to get acquainted first. So let's do that first, I mean Let's start with you, can you introduce yourself? You're our Marketing Expert. Okay, excellent. And you are User Interface Yeah. Excellent. Okay. What should it look like? Okay. Oh, let's kick it off. Oh, there we go. So, our new project is about we need design a remote control for television set, so, which has to be original, trendy and user-friendly. I took this off our corporate website. It's I think well it sums up what we need to do. We're inspired by latest fashion, not only electronics, but also the latest trends in clothes and interior design. That's why our product will always fit in your home. So apparently we need to um be very at um very open to what's currently hot in the market. So that's what you need to do to bring us the latest info and what people want. So So we put the fashion in electronics. So that's what we need to go for. Anyway, we'll take this project in three steps, three pha uh three phase of design. First step will be the functional design. And that's basically what we're gonna do. Everybody has uh a piece of individual work and a meeting afterwards, so we can share information about So I'm gonna keep this short, since we had a technical problem. So skip through this. Uh. Okay. Every meeting we everybody can present their uh their views and everything,

so to help with these, you have we have the SMARTboards here. We can use a regular PowerPoint presentation. I'm supposed to give you an introduction on this doodling board, so it's actually it's very easy. Like it says, very simple, you just take out the pen. Like you see here, I'll just take the take here. That's it, you just put it on the board. You see a pen here. You go here, just like using a pen. You can just draw whatever you want. It's like the eraser, can erase whatever you want. And so it will be easy just to illustrate your views, if you wanna change the format, you just either take out jus just like the pen, and whatever you want, your current colour, your line width, just to make the line bigger. So it should be really easy. This is to take the just take a new slide and back again. We're just gonna keep using this board all the time, so I think it will be it's very clear for everyone, I suppose. So I'll take this out. Okay. We'll use that later. Anyway. Yeah, just just stuff that you wanna share, just put it in the in the project folder, like I put my presentation now. I'll put the the minutes of every meeting, I'll put them there too, so everybody can read up if they have to leave early or whatever. So next, been here. Well, gonna give the electronic white-board uh a shot. So basic idea is we have a blank sheet. Just try whatever you want, and like it says, draw your favourite animal. I think the creative genius should go first. So, draw us your favourite animal. Draw us a technical animal. Yeah, it's still erasing. So that's what we don't want. We want a high-responsive product. So It looks more like nuclear bomb. Let's go easy on it. Anyway, it should It's supposed to be a dolphin, you like the freedom that it that it represents. What do you like? Okay. Well, our Marketing Expert. Show us an animal. Pick a pick a pick a clean sheet. Oh. Take a clean sheet first. Just press next. That's it. It's a cute elephant. It's a nice beard. Okay, so it's just a bee. So I suggest you make us the elephant in the market. The big and strong player in the market. This would be good. Okay, excellent. On to the next one. Press next. Yeah, it's up there. That's it. Sure looks smooth. What does it want? Okay. I agree. Yay, I'm supposed to draw the animal next. I introduce to the world the amazing ant. Great tea

m-workers. Do everything to Uh really small, but together they're really strong. So I'm gonna give it a smiley face. Not sure where the p. Just put 'em here. Whatever. Think it need shoes. So I'm just too lazy to draw it all black, so That's the coolest ant ever. I love to draw ants. It's my hobby. Anyway Nah. Just I think it's very representative what we drew, I guess. Like you take just take your freedom and use a a trendy interface that you design for us. Just Yeah. You're supposed to make i make it different from uh from what other people have, and just make it a little distinct. Anyway. another beep to stop the meeting. See. Warning. Finish meeting now. Uh put this down. Examples. Well I guess we have a little little time extra, but Just a little quick discussion to to open open our work. So what do you guys think about The first idea is just very short. I'll start with you. What are y What are your first ideas for the new product? What The project I got was just for a T\_V\_ remote control. Yeah, I guess so. Okay, so very intuitive design, I guess. Yeah, we want I suppose we want almost everyone to be using it. So I think I mean, really disabled people, yeah, might be a problem, but I think it's a little take it into consideration. Um yeah. I think we really need to cut the meeting short. You have anything you wanna share quickly? It should be light, okay. Um, let's see, where did I Let's skip that. Oh, this is it. Sorry, I skipped this sheet. What do we This Quick What we're going to Selling price, twenty five Euros. That's for you. The production price, twelve and a half Euros, approximately. Just go go for that. We'll reach the uh reach that profit. No, it's not much to work on. I'm sorry, I skipped it. Anyways, that's Yeah, this is it. Do you have anything you you came up with yet? About uh marketing transfer, whatever? Marketing I'm not sure what you what you came up with yet. You have anything to share? Or else we'll cut the meeting just cut the meeting short since we're supposed to stop. Okay. Anyways, the the personal coach will give you the your p your personal assignments and everything. So we'll just meet back in here thirty



minutes. I'm sure we have that. Yeah, thanks for attending. I'll see you back here in thirty minutes. Morning. My name is Xavier Juergens, I'm the Industrial Designer, and there are three main questions that I have to find an answer to today. First one is uh what happens inside the apparatus, second is what is uh the apparatus made of, and the third is what should it look like. Uh-huh. Mm. Okay. Okay, you should press next. Okay. Okay, well the animal I'd like to draw is a tiger. My drawing skills are really bad, so. They are really bad, my drawing skills. I'm not sure how the legs should go, but Uh these are stripes. I've picked this animal because it's very fast. It is uh it knows exactly what it wants. Uh it hardly ever wastes any resources. Uh well, basically uh it hunts for prey, but it does it always in a very well-thought way. Uh it knows exactly what it wants. It never kills an animal uh just for the killing, so it's very efficient. And it tries to do everything as fast as possible. And it always goes for uh security, in seeking uh uh a hide spot and uh and doing everything, security, speed and efficiency is important. And I think uh those things we can use. Yeah. Oh. Hmm. Only one thing uh that has to be added according to me is uh the the material it is made of, it should be something light. That's it speaks for itself, but some uh Yeah. Okay. Okay. Okay. Good luck everyone. Good day. Nick Broer, User Interface Designer. I'm going to uh look at the technical design from the uh user point of view. The creative genius? Thank you very much. Well, I'm more into the technical aspects of drawing, so I'm not really good at drawing animals, but uh the animal which I Oh. Pen. Uh format. Else my animal will be like king-size. I pretty much like a dolphin, because of its uh its freedom basica

lly. Let's see. A head. actually worked with this. It's like uh it's a very Uh high-tech. Bit low-responsive though. Prefer pen and paper. It doesn't look like a nuclear bomb. This thing isn't doing what I'm What I want. So Yeah, well it does look like a nuclear bomb. I'll just finish up real soon, because I'm So it doesn't really look like a dolphin, but then again, this is all new for me. Like the ocean, like swimming. Do that in my spare time, so that's basically an Now we can forget this ever happened. It's not really that responsive, no. And you was making comments on my dolphin. You picked a hard one, didn't you? Got it. You've done this before, haven't you? Well, I basically had a question. Do uh Are we going to introduce a multi remote control? Is it just the T\_V\_ or do we want to in Just for T\_V\_ remote control. Okay. Well, I was thinking about design remote control, with our uh motto and all. Uh thing to keep in mind is that we need to stick to what people are familiar with. No rational changes or whatever, 'cause it revolutionary changes, yes. Uh we might have to consider other design aspects of our product. So that was something I wanted to add, and perhaps some usability aspect. T\_V\_ is becoming central in most homes. Do we want people who are disabled in any way to uh, yeah, to be able to use it as well? Yeah. Okay, well that's not that much to work with. Mm, good luck. Morning. Yes. Um my name is Dirk, Dirk Meinfeld. Um I will be uh Pr Project the Marketing Expert. And I will see what the user wants and uh what we can do uh with the new produ project product. Hmm. Hmm. Yeah. Yeah. Yeah. Okay. Very nice dolphin. Um an animal. I like the elephant. What? Yeah. Um Oh yeah. Oh, a blank. Okay, next. Free, I like the elephant. It's big, it's strong, so uh uh Oh, it's a little bit You have to hold it, right? Hmm. It's a beautiful animal. Oh, you have to p press it pretty hard. With a smile on it, it's very important. Yeah. And uh not to forget its tail. Oh. Yeah, it's okay. Yes. I will beat the dolphin. No. Yeah. Yeah. Yeah. Uh yeah. Yeah. Experience with the tiger. What? They are Okay uh-huh. Oh. Mm. Okay. Uh hard worker. Yeah. Yeah, yeah. Yeah. Uh Yeah. But Yeah. Uh. Yeah. Selling price. international. Um about what? Marketing? Um no, not really yet, but I've some ideas and I will uh say it uh Okay. Okay. Yes.

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# Meeting ID: 48

Data Source: Test

## Executive Summary

The Project Manager gave an introduction to the goal of the project, to create a trendy yet user-friendly remote. She presented a long-range agenda for the whole project. The group introduced themselves to each other and practiced with the meeting room tools by drawing on the board. The Project Manager presented the project budget, the projected price point, and the projected profit aim for the project. Then the group began a discussion about their own experiences with remote controls to generate initial design ideas for making the product user-friendly. They discussed grouping features into a menu and adding an LCD display. They also discussed the look of various materials that may be used in the design, in keeping with the company's goal to create fashionable electronics.

## Complete Meeting Transcript

It's sitting down. Yeah I'll have a go. Thanks. Alright, okay. Well since you guys have chosen the ones I wanted to do, I'll have to have to go for something a bit random. And also, my drawing skill isn't that great so, yeah. Okay, now I'm gonna have to change what is was originally gonna be because that looks like a beak now, so. Yeah, it can be a crocodile, it can be a crocodile. Well it was it was an at first firstly it was an attempt at a T\_ Rex and then it sort of changed into a pelican but it can be a crocodile now actually. Yeah and uh I'll have to think on the spot of uh things that it is. Um uh scary, uh strong, yeah that's about it I think. Uh uh Wo Hmm. Okay. Uh S Uh Okay, some sort of bird. Ah eagle, right okay. They're good at golf. Yeah, no yeah, an eagle. It's about mm, mm yeah. Yeah, yeah, something like that, so that yeah about seventeen, seventeen Pounds, something like that. But Havi having said that though, if you wanna get one of those the the ones on the market at the moment they're s they're about twenty pounds anyway. So, it'd still be yeah, we had to buy one. Hmm. Yeah. Yeah. Yeah. Yeah uh. Use all the ones at the same time. Yeah, 'cause you Yeah. Mm. Yeah. Yeah. Yeah, my grandad's actually better than me at using teletext, so. Yeah. Yeah, what it just needs to be as long as it's sort of self-intuitive and you can can work out what everything's doing, 'cause I mean, menus on sort of new phones now they've sort of got all these pictures and stuff which makes it fairly obvious what you're trying to do. But I don't know how Oh yeah. Yeah, I don't I don't know how for twenty fi, or twelve Euros

fifty how much of a excellent screen you could get, you'd you'd have to sort of keep it down to a black and white L\_C\_D\_ thing anyway, I'd assume. Y Yeah. No uh uh Yeah. Just just a quick thing about the um about what you're saying about the uh does does it need to be fashionable? The sort of I I had a quick look at the company website and it's like the the uh we put the fashion into electronics, so I think think the whole design thing might be qui I mean you don't you you can still have plastic and it'd look quite good but Yeah. Yeah. Yeah. Okay. Hmm hmm hmm. Yeah. Okay. Yep, yep. Okay. Tu tu tu tu Hi, good morning. 'Kay. Oops. Mm. Oh sorry. Mm-hmm. Yeah, me. Cat. Where did this come from? Uh, yep. Thank you. Uh, maybe you can guess what I'm trying to make? Yep. It's actually sitting, so it's sitting, it's not standing. Okay, I see it as one thing it's very supportive. It's your best friend and your you can talk to a dog, it can be your best friend, it doesn't discriminate between you, based on what you are. Second it's loyal and third thing it's got intuition. dogs can som sometimes can make out between a thief and a person so basically these are the three unique features I think belong to a dog. Thank you. Okay. Sorry. Does it look like a dog actually? Mm. Eagle, okay. One point four or something like that. One point four Euro would make a Pound or something like that. Yeah. Okay, pretty huge margin. So then Mm-hmm. Yeah, that c Okay, you wanna integrate everything into one like Okay. So simplification of symbols you could think of. Mm-hmm. Menu, alright. Uh uh Right, I was thinking on the same lines you, instead of having too many b buttons and make it complicated for the user, may h maybe have an L\_C\_D\_ di display or something like that, like a mobile, yeah and with menus. And if it's s somewhat similar to what you have on mobile phone, people might find it easier to browse and navigate also maybe. You mean to save it lesser number. Right. Mm-hmm. Okay. Mm, okay. S It might it might save a b bit of space, it's i instead of looking bulky, it might look small. But it might have its cost implications. Right. Okay. Mm, yeah. Are we we're not allowed to dim the lights so people can see that a bit better? Okay, that's fine. Am I supposed to be standing up there? Okay. Yeah, I've got Yes. Okay. Hello everybody. Um I'm

Sarah, the Project Manager and this is our first meeting, surprisingly enough. Okay, this is our agenda, um we will do some stuff, get to know each other a bit better to feel more comfortable with each other. Um then we'll go do tool training, talk about the project plan, discuss our own ideas and everything um and we've got twenty five minutes to do that, as far as I can understand. Now, we're developing a remote control which you probably already know. Um, we want it to be original, something that's uh people haven't thought of, that's not out in the shops, um, trendy, appealing to a wide market, but you know, not a hunk of metal, and user-friendly, grannies to kids, maybe even pooches should be able to use it. Okay, um, first is the functional design, um this is where we all go off and do our individual work, um what needs need to be fulfilled by the product, um what effects the product has to have and how it's actually going to do that. Um, conceptual design, what we're thinking, how it's gonna go and then the detailed design, how we're actually gonna put it into practice and make it work. Okay, right. We're gonna practice with the pens and draw our favourite animal on the white board, I'll go first, and um sum up the characteristics of that animal. So Okay, I'll leave space for everyone else. Um What's missing? We're running out of blue. Okay. I'm not gonna ask you to guess, I'm going to tell you that's supposed to be a tiger. And I see them as majestic, and independent, and proud. Now, who would like to go next? 'Kay. Is that your lapel then? There you go. Okay, thank you. Okay. Well, as you can see, the quality of the work today is um Gonna be a bird. Is it gonna be it's gonna be a bird. That's lovely. Okay it's fine. Technical help. Hmm. Okay, yeah. A seagu right, not a seagull. Eagle. Mm-hmm. That's lovely. Okay. That was fun, right. Um finance-wise, we've got a selling price at twenty five Euros, which I don't actually know what that is in Pounds, at all. Any ideas? D fifteen? Seventeen. Okay, that's expensive. I

think so, I think so, I'll be able to um pull it up, or I could put it in the shared folder or something. Really? Mm. I think Yeah, um production cost's at twelve fifty, so half of the selling price is taken up by building it. Um, and profit aim is fifty million Euros, which is uh Yi yes, um yeah, I presume so. Um Mm-hmm. No, yeah. So yes, yes, I don't think we have to I don't think it's a case of worrying about different languages and things like that, um making that a key point, just that it's going to be in the international market like Australia, America, things like that. Okay. What are your experiences with remote controls? I mean I've got we got um we had three videos, a T\_V\_ and a sort of amp thing all set up so we got one of the universal remote controls, um that you programme each of your things into, but that kept losing the signals so we'd have to re-programme it every now and again. I think it was quite a cheapie as well, so that might have had something to do with it, but that was quite good, the fact that you could You didn't have six remote controls sitting in front of you. Mm. Yeah, the main that's the main stuff anyway, I mean and you don't want to I hate I hate looking at a control and seeing a million tiny little buttons with tiny little words saying what they all do and just sitting there searching for the teletext button or something like that. Yeah. Um. When they're when you've got the main things on the front of it and a section opens up or something to the other functions where you can do sound or options kind of recording, things like that inside it. 'Cause it doesn't make when you pick it up it doesn't make it really complicated to look at, it's obvious what you're doing, um. What about the older generation? What about granny and grandads? Um, my grandad can answer his mobile phone, but he couldn't even dream of texting or something like that. I don't think they tape things, I don

't think they use Mm, yeah, the age gap. Mm. I don't know, I d I don't like the, you know the new phones that have kind of got a Windows-based running system. I find it really confusing, I kept getting lost in the phone, I di I've not got a new one but uh my friend got a new one and I was trying to do things with it and I just kept getting lost, but that's just me. Yeah. Teletext has got that option as well. Yeah. Or what about kind of a dual function? In that you've got the basic buttons just for your play, volume, programme things and also and then a menu to go into with obvious pictures, obvious symbols and that's where you control recording and things like that. Mm-hmm. I think that's a cost thing, I don't I don't know how much we're gonna know about Yes, no that's important. Okay. Mm. Yeah. Um, right, okay we've got half an hour before the next meeting, so we're all gonna go off and do our individual things. Um I think that's probably about it and then we'll come back and liaise again and I get to do another fantastic PowerPoint presentation. Sure. Okay. Mm. I would it would probably. I mean there's Sky remote controls and everything. They're kind of moulded and look a bit different, and the Telewest remote controls are silver plastic, which looks a bit smarter, so yeah I guess that's stuff we can think about. Okay, so let's break it up there. Okay? So, see you in half an hour. I think so, yeah. So we've got both of these clipped on? She gonna answer me or not? Right, both of them, okay. God. Jesus, it's gonna fall off. A kind of dog? Sorry? Uh. Mm-hmm. Please, please leave me a space at the bottom, I'm little, you can get to the top, with standing on a chair. I think it's outstandingly good. Crocodile? O Beauti that's Okay. Um, I'm very impressed with your artistic skills, mine's are dreadful. Oops this is now coming apart, let me just put the top in. I hope that clicks in, I'll just I'll hold it on, okay. Oops, oh dear, what happened there? Hopefully that'll stay on, two-handed version. Okay, uh Again this is off the top of my head, I was gonna do a big cat too, um. Oh dear, it doesn't look what like what I want it to be. Uh. It's not a vampire bat honestly. Uh and somewhere there's a body behind. That's my dreadful that's the worst yet, that's it's meant to be an eagle you can tell it's a flying animal could have been a seagull, I never thought of a seagull. An eagle, um again I'm thinking on my feet goodness. I suppose they're all so independent, I'd put that one down again. Da dum um. Indepen independent, right, did you say

they're good at golf? Are they? Oh. Oh right, okay, I'm not good at golf. I'd say they're quite free-spirited, flying around everywhere, doing their own thing. And uh, birds of prey aren't they, oh dear, intrepid. I'll put that, intrepid. There we go, hope that pen's gonna be okay. Whoops. Seventeen. Seventeen Pounds. Should we be making notes of this? We can just refer to this later can't we? Yeah, okay. Okay. Right. So so I suppose later it depends if we want to undercut the price, we do or is it going to make our product look a cheapie-cheapie option? Mm. Mm-hmm. In our first year? Mm-hmm. You've got market range international and you did say earlier it's got to be a um accessible and usable by sort of all age groups just that we're not focusing on business market, any particular thing, it's everyone user-friendly to everyone. Okay. Big target group. No. Mm. Alright. Mm-hmm. Right. Mm-hmm. My experience has only been being given the remote control with the object I buy, not doing any tampering with it and programming, using it to programme T\_V\_ and uh uh videos and things. But basically on, off, volume up and down, channel one, two, those basic functions, I don't think I could go any further with it than that, so, I suppose it's got to be something usable by someone like me as well. Mm-hmm. Mm. Mm. And symbols that you don't necessarily understand, symbols you're meant to understand that you do

on't. Oh yeah. Mm-hmm. Mm. Mm-hmm. Actually that just raises a point, I wonder what our design people think, but you know on a mobile phone, you can press a key and it gives you a menu, it's got a menu display, I wonder if incorporating that into the design of a remote control might be useful, so you've got a little L\_C\_D\_ display. With menus, yeah, yeah. Yeah. Mm-hmm. Mm-hmm. Can he programme his remote control or is it basic with that too? Right. Right. So that's a problem regardless of any design modifications you come up with, that's gonna be a problem anyway with the older generation perhaps, and that's another issue how we tackle that. Mm-hmm. Right. Mm-hmm. Is it possible that that for the older generation you could have like an extra button that you press for large print like you do in large print books? Obviously it displays less on the screen, it displays less on the screen but as long as they can read it that's the main thing. Mm-hmm. Yeah. Mm-hmm. Mm. The other thing is, just chucking into mobile phone design features again, it could have a flip top remote control so that when you flip over the top, your screen is you can have a bigger screen in the the flip over. Yeah? Mm-hmm. Yeah, like smaller. And there's no reason we need to make it look as fashionable and stylish as a mobile phone, it can still be lightweight plastic, you know? Something that's easily moulded and produced. Sorry I'm treading on your territory guys. Ah right. Okay. Sure by yeah. But yeah, I mean it doesn't have to be that, you know that that was my main point, we don't have to use metal, I don't know if using plastic does make it cheaper, I presume it would. Yeah, yeah, yeah. Right. Okay. 'Kay. Do we go back to our room? Yep?