**Focus Group - Team 2**

**Interviewer:**  I'm going to present myself a little bit. My name is Orgas Tito, and I am doing research on software engineering and tech startups at Ed. And this is my third year, actually. And I'm really looking forward to this investigation, since I'm also doing investigation parallel with student context.

And I would love to hear a bit around from you guys, you don't have to tell me your names, I can read them. But just tell me your study background perhaps. Yes, [Inaudible 00:00:34.13] you want to start?

**Interviewee:** Yes, I am a fourth-year computer science student, with specialization in databases and search.

**Interviewer:** Yes.

**Interviewee:** I'll go next, so yes, I'm in third year ago industrial economics and technology leadership, I think that's, I don't remember the English term, and I'm in third year, and I choose, I'm in computer engineering and strategic leadership will be kind of my master path.

**Interviewer:** Thanks.

**Interviewee:** I can go next. I'm in the fourth year of computer science, and I specialize in algorithms and computers.

**Interviewer:** Yes.

**Interviewee:** I'm in my fourth year of science, and I specialize in artificial intelligence.

**Interviewee:** [Inaudible 00:01:45.18] I'm also fourth year computer science and I take AI.

**Interviewee:** I have one year program from science and technology studies at [Inaudible 00:02:05.07] but now I'm on my fourth year studying computer science, and my specialization is databases.

**Interviewer:** Yes, thanks.

**Interviewee:** I'm a third-year student at informatics, or not sure how to translate it really. But it's the bachelor's program, that's corresponding to the engineering masters.

**Interviewer:** Yes, thank you, Ingrid. And Carlene?

**Interviewee:** I'm a fifth-year computer science student with a specialization in software systems and interaction design.

**Interviewer:** Yes. It has been the same also last year, right?

**Interviewee:** Yes.

**Interviewer:** Okay. If I bring this up, what are the key motivations for participating to the course, apart from being obligatory for most of you, I guess? Yes, it's a blaster, yes.

**Interviewee:** A real life experience, there are not that many course that provide the same kind of reality to it.

**Interviewee:** Yes, I see parallels with the jobs I've had as like a summer internship. And it sort of works out like that, and I think it's interesting to get that experience with a real client. We had similar subjects like I can't remember, but it was not a real customer, so it was much more like a theater than a, like a real project.

**Interviewer:** Yes, Theodore, if I stop you on that, what wasn't real? What didn't feel real? I mean there was no money here, that was the unreal part if you ask me.

**Interviewee:** No, so the other subject that we had, it's called software development or something. Maybe some other people can correct me on this, but it's a subject where we learn scrum and have a sort of project like this. But I think just learning scrum is the one of the main things to learn.

**Interviewer:** Yes. Any other opinions or motivations? [Inaudible 00:04:30.11] if I keep it on the real aspect of the course, do you see anything missing there or is it everything it's like in real life job?

**Interviewee:** I think that it highly depends on the customer you get. I feel that well we had a lot of contact with our customer, but I don't think it's the same for all of the other groups, so we were quite lucky. But I can definitely see that it's not that real life situation if you get like a customer who won't respond to emails, or meet up in person.

**Interviewer:** Why not? They are bad customers, not probably times.

**Interviewee:** Okay, maybe, I don't know that well. But I think they would be more involved in a real project, but I don't know.

**Interviewee:** Yes. I think also, when I was doing this subject, I thought okay, not everything is not going, or something that didn't that well, like the communication with the customer, and they weren't responding. But I was very assured that this is like, it's just a part of the process. If things don't work out, we've just learned a lot, and that's how it's in handle those cases.

**Interviewer:** Did you have any technical challenges your project that you can speak of?

**Interviewee:** Yes, who wants to have the honor?

**Interviewer:** What was the project about first of all, and then what technical challenges do you have?

**Interviewee:** We had the Bluetooth chip, so we were doing both the embedded programming and we made the website to visualize Bluetooth data. And we were given a development kit.

**Interviewer:** Was it BLE, like Bluetooth low energy?

**Interviewee:** Yes, it was IOT. So we were given a development kit to develop on, but the code was supposed to run on another chip, and the transition from the development kit to the actual chip was quite a challenge.

**Interviewer:** Was it the Nordic semiconductors, Matthias? Or something else?

**Interviewee:** Yes.

**Interviewer:** Okay. Any technical challenges there?

**Interviewee:** We just didn't have a lot of experience with embedded programming, so we didn't really understand how to simulate the production chip on the development kit.

**Interviewer:** I see. Anything else that you feel?

**Interviewee:** It was also a very steep learning curve, because we didn't have too much like experience with like C programming. That was quite new to me. The only experience I had with like that low level was in, I don't know the course name, but with like low-level code and assembly and that kind of stuff. But yes, it was quite different. And also, we had to do some things in the cloud, like with the AWS, Amazon web services, I think that was new for most of the group. So we had to try and learn that as well.

**Interviewer:** Yes. How about the soft skills? Like for instance, did you have any challenges in the communication like you said before, with the customer, communication with the team? Did you find challenging to work together?

**Interviewee:** I think we were we work pretty well. Like we were very different, but we very quickly kind of found our roles in a way that worked for us as a team. And I think it would be different if we were working together every single day.

It's probably different than a normal work, but I feel like the only kind of challenge we had was that, it was sometimes hard to understand what the client wanted to implement, rather than what he wanted us to write in the report. So having the difference in the different, kind of assets of what we were going to deliver versus what he would like us to see in report was probably challenging.

**Interviewer:** I see.

**Interviewee:** Yes, I also I thought it was a bit challenging. Working, it's like a test of like working remote, which is kind of new for me, and I'm not sure if I liked it. It was kind of hard sometimes to know what everyone on the group was doing, and if everyone on the group was doing something.

So we tried to like keep the communication up with slack, and we met Mondays and most Wednesdays as well. But the corona situation made things a bit different I would say.

**Interviewer:** Yes, that's true. Earling, do you want to say something?

**Interviewee:** Yes, sure. Well, I can talk on the positive side as well. I felt like the entire group were invested in this course, and wanted to work, and yes, everyone were willing to work together and collaborate, and that made it easier to communicate, because you knew that the other group members were invested in this course. So I felt like communication was quite easy, as everyone wanted to do well and do their part.

**Interviewer:** How about project management? Was it difficult? Did you find any challenges in doing project management?

**Interviewee:** I'm guessing that's for me, I mean, no, I don't feel like that was very challenging.

**Interviewer:** Yes. What methodologies did you use, Anya?

**Interviewee:** Methodologies? I don't know if I use any.

**Interviewer:** Like Scrum, Java?

**Interviewee:** We used scrum. But I think, we had a known scrum master that did all of that type of work, he's not here today. But he did most of the scrum part. And then I had kind of the overview of what we needed to do, and the communication between clients and customers, and us and the client etc. And so, I feel like that worked really well.

**Interviewer:** Okay. No challenges there in the project management?

**Interviewee:** We had some challenges in estimating how long some tasks would take, especially in the embedded side. Because we had no idea what needed to be done or how to do it, so we just had to figure it out as we went along.

And I think we were lucky that things went as smoothly as they did, because we had no idea how long anything would take. And a lot of that work landed on Matthias, and he had to do a lot of work towards the end, which I don't know if it's a lot of planning, but it was a challenge in that department.

**Interviewer:** Yes, I understand, all right.

**Interviewee:** I agree. There's a lot of planning, when we have spring planning, to see how the sprint will go. But it's quite hard to anticipate. What should be done, it's hard to break down into small tasks that we wanted on our Jira board. I really do think that the scrum works better when we can meet more up and do daily scrums, and check the boards together.

**Interviewer:** Yes, that's true. I will shift the question a little bit, and I would like Caroline to participate if she wishes on this. Don't worry, I haven't forgotten you. The question is more, do you feel like you can create a startup with this project that you have been running? And what are the motivations for that?

**Interviewee:** I can start, maybe.

**Interviewer:** Yes, thanks.

**Interviewee:** I'd say probably no, because I feel like there are a lot of factors, a lot of motivation that goes into wanting to create a startup, and you have to have a lot more than this, I think. This feels more like as Theodore said, kind of a summer internship or something. And I think there's a lot you have to learn about the business side of things, to go into a startup. So that's my opinion.

**Interviewer:** Yes. What do the rest think, of the team?

**Interviewee:** Yes, can I say something? Our problem was to create a showcase of some way to use their Bluetooth chip, but it's not necessarily a product that actually makes sense in the real world. It's just a toy showcase project, if that makes sense.

**Interviewer:** Yes, it's a toy project, yes. Anybody else that wants to add something on this topic? I think it's interesting.

**Interviewee:** I can elaborate a bit more, because our customer didn't have well, they presented the beacons and trackers, and they wanted us to find our own use case for this product. So we spent a lot of time of thinking of ways we could use this data that we collected. But in the end, we didn't have time to find like perfect market, we just found like a possible solution. We didn't dig too deep into other solutions, and what was possible in the market.

**Interviewer:** Yes. Why was that? Did you believe the customer that he said this is what I need, and there is no explanation why I need this, right? This is how it went. He asked for a product, and that's it?

**Interviewee:** Yes, I think it was mostly, well, this is my opinion at least. I think it was, let's just showcase the functionality of the product that they make, which is the trackers and the beacons, and showing the possibilities that lies within this technology. It wasn't the front-end solution that was important, it was just presenting what's possible.

**Interviewer:** I see, proof of concept, perhaps. But many cases, proof of concepts are done because you want to experiment in the market afterwards, and you present them to other companies, that's the purpose of proof of concept. Was it like this, Caroline, for you last year?

**Interviewee:** Well, yes, we had also a proof of concept and my customer was actually the same as these groups, so Norbit's. We were working on Bluetooth beacons and creating an app that could pick up the different beacons as you walked around.

So an interesting concept, but I think the market was not very, the market had gone beyond that already. So it was just kind of a difference, a way to do it, not as good perhaps. So I didn't get the feeling that I would not go out and try to make a startup out of that idea definitely.

**Interviewer:** I see. Should you be able to have a different project, and like a project that has more relevance to the market? Because most software engineering solutions, they should have some relevance in most cases, when you develop them. But if that is the case, would you involve each other in doing so? Like creating a startup in the future, not with this particular project.

**Interviewee:** Okay. So I would just start a startup, would I contact my team members from this semester? Is that the question?

**Interviewer:** Yes.

**Interviewee:** I'm not sure. I'm not that like business minded, I'm not the startup guy. But I do get to know the people of the, so if I want to do yes, I do want to do some sort of IOT embedded C thing, I would definitely get Matthias, because he's the only one that, that's got the good crafts.

**Interviewer:** Yes. Mathias, you are a candidate for IOT developments.

**Interviewee:** Yes, we are. But we got to know each other well, but I don't feel maybe that well that I would kind of include him maybe, I'm not sure.

**Interviewer:** I understand. It's a tricky question, because you said we had a very good process like a communication team, dynamics was good, but then of course you have other motivations that you might speak of about startup formation.

When it comes to adding a boot camp event to the course, sort of at the very beginning you work intensively for three days, or bootcamp hackathon Innovation workshop, whatever. But you had a three-day event where you work closely with the customer, and explore the potentials of the product that you are going to develop, and you also have some saying in the product. It's not just like you are given this task and you just obey, like master slave approach.

But it's more like an approach where you have a saying, and you have the opportunity to, yes, to discuss brainstorm and so on. And Elias is gone, Elias, I'd like you to participate on this final question. Maybe ideas has something to do, but it's okay. What do you think about that?

**Interviewee:** I think it could be interesting to try, because I know that a lot of groups have, they think that they'll have a say in how the product ends up. But in the end, or after the course, some of them feel like they didn't really have a say even if they thought they did in the first place. So it could be cool to try it out, and see if one can actually affect the product.

**Interviewer:** Yes. Would it help also to get acquainted with the technology, and like three days, you work intensively. You understand what are the things to do, and what technology to use and so on.

And apart from that, you brainstorm on how this product is relevant to the market. Any other opinions from the team? From this year's team? Elias, would you like to share your opinion? I have to ask it on [Inaudible 00:20:28.24]

**Interviewee:** What was the question again?

**Interviewer:** Yes. It was if we run a three days boot camp at the very beginning of the course, would that be interesting in order to brainstorm and to have a saying in the project?

**Interviewee:** Yes, maybe. At the beginning, I don't think I would know too much about what you would do in this project, so I don't know how much I would have to say.

**Interviewer:** Yes. Any other opinions?

**Interviewee:** I think it could have been interesting to kind of be more part of the process. For us, we created our own user case, but it would have been more, I think it would have given us more motivation if we did that with the customer to see the aspects of the business, and maybe that would also affect you know if we would wanted to do a startup, or if given them a different aspect to this course, right? So I think that would have been interesting.

**Interviewer:** Yes, it makes us more like, yes, Caroline.

**Interviewee:** Yes, I just have a little comment. I think it depends very on what do you want to use the course for? Do you want to use it to encourage people to go into startups? Then it sounds like a good idea. If you want it to be just like a real-life software development course kind of thing, then maybe not.

**Interviewer:** But just, to emphasize something, it's no difference from my perspective, if you work for as a consultant in a company, or if you want to develop your own software solution and put it in the market.

You still have to do good software engineering; it is the same. So the real life expectancy of the project wouldn't change. Like it would increase, it would improve at some level. Because if you are working hard to put a product in the market, then you would work even better perhaps in putting a good product, good solution.

If you do consultancy, you get paid and that's it, and you do whatever the other people ask you to do. And if you are very good, this was a discussion that we had before your presentations. Some of the sensors were like saying you, I think, Erling, were you there? Yes. They were saying that oh, we want projects that they have done more, more passion, they have surprised us with what they have done.

It's not just a matter of being good, being excellent, that was the discussion. What I'm trying to say is that of course you do this project, it's good. And you come up with a good solution at the end that works. However, it's very important to see what motivates you guys to do this course.

Of course, it motivates you to do a real-life project, that I understand. But if you make a startup out of it, it doesn't change the setting in my opinion. It still stays a project that you have to develop, and it should work well or a minimal viable product, that's what you have developed.

**Interviewee:** I think that it's a nice thought. But if I may be a bit more cynical, I think that there are a lot of students who take the course because it's mandatory, and they want to finish what they have to do. And I do believe that if you want to go on and create a great product, and you want to go on doing a startup, there has to be that extra bit of motivation. And I think that there are a lot of students that maybe doesn't have that in this setting.

**Interviewer:** Yes. But the question is more would that be interesting for you as students, yes, for the rest of the team. You don't have to say yes, you can say no. This doesn't affect either your grading, I forgot to say. Don't worry, I'm not judging, I'm not correcting, I don't know what happens next, but I mean you have to express openly, that's what I expect. Yes, Evan.

**Interviewee:** Either way, even if this makes more people make startups or whatever, I think it anyway is that it will be a good thing anyway, because you won't get in contact with the customer, and they will probably be more involved in the process. And you will also have these three days to like set the expectations for the rest of the semester.

So I think that would be nice, I think that would be nice for us at least. Because then we would like understand like exactly what the task was, and don't waste that much time on communication during the whole semester, and just yes, know from the start.

**Interviewer:** And maybe get a bit passionate about what you're doing. In engineering, it's also important to like what you are doing. I know some people get frustrated they are into companies they don't like; they are working on projects they don't like. This is random for you, right? You didn't pick the project, so it was quite random and you didn't have a saying. So that's a pity somehow.

Because if you are like some projects, you work hard on them, and then you get the best out of your skills. Yes, but I mean done, you told me you have time until 12, it's 12 or 3. If you have something to add, I would really like to listen, and like what do you think about the course, in the sense that do you think something you need to get improved or whatever. Or something that you feel it should be part of the course in addition for next year. What suggestions do you have?

**Interviewee:** I think maybe the electors shouldn't be mandatory, because I guess mostly stuff that has been covered before.

**Interviewer:** Yes.

**Interviewee:** I also had some comments about the evaluation criteria, it wasn't that clear what we were or what we are evaluated on. Like for the presentation for example, we didn't necessarily know what to include, and what we had like a rough thought of how it should be, but we didn't really know what kinds of criteria we would be evaluated on. Like should it be should we have presentation skills, or is it only the content that matters? So that was kind of hard when making the presentation.

**Interviewer:** Yes. Caroline, did you bring this up, this topic? Perhaps, I don't know. What I did with my group, I sent them the form, the evaluation form. And I told them this is how it's going to be evaluated, more or less.

**Interviewee:** I didn't send the group the evaluation form. I talked to them about the presentation that they should mostly follow the compendium. But I don't think that there was a lot of information about the presentation for anyone.

**Interviewer:** No. I think the presentation was not even part of the evaluation process somehow, you didn't quite have a point.

**Interviewee:** I think it was just presentation, and it didn't say anything.

**Interviewer:** Yes, but it was also a presentation of the document, so it's a different thing. A document presentation is like how well you have written things and how well they look and so on.

**Interviewee:** Yes. But that's another thing.

**Interviewer:** Yes, it's another thing, yes. That's what I'm saying. Anna, you wanted to say something.

**Interviewee:** Yes. We did get the criteria’s from, I think with you two, but I wouldn't say that they were very extensive, it didn't really show us what we were going to do, it was kind of very vague.

**Interviewer:** Okay, yes. I found the criteria to be good to be honest, because we wrote our assessment support yesterday, what is we had to deliver yesterday. So I thought they were extensive enough, but of course maybe, I don't know, you have communicated with Leticia and she has said something different, I'm not sure.

But yes, the idea is that the customer and the sensor is who gives the grading, it's not us, but the customer and us we supervisors, we give our opinions on the parts of the evaluation. So I think it was clear. And yes, I feel yes, anything else that you want to bring up? How important is it to get an A in this course? And then I'll stop. Is it very important to get the A?

**Interviewee:** Well, we had a discussion about it in the beginning of the course. And we came to the conclusion that we wanted to aim for an a at least. Like well for me specifically, I don't really care about grades. But I think as a group, we wanted to get an A.

**Interviewer:** That's good. Okay, it's Friday midday, so I think you have better things to do than talk to me. I wish you a great weekend, unless you want to add something more, and I'll just ask Anya to send me an email please with the pizza preferences. I wish you guys be quick on this, hopefully today.

And with the date and time which is not Monday, so sometime next week, whenever you can meet. And I will send the order immediately. So thanks a lot for the very valuable insights, and I wish you a great end of the year. And I hope you stay safe with this Corona situation until it gets over hopefully soon.

**Interviewee:** Likewise, bye.

**Interviewer:** Bye.

**[End of Recorded Material]**