I = interviewer; P8 = participant. Refer to DDM2020 dataset documentation for more information.

I okay so let's get started with the actual questions erm so I asked you by email to tell me briefly about one product that you'd like to talk about which had some sustainability relevance that you've designed could you remind me what that product is

P8 so I was referencing to it's a sensor that measures the health of plants and then displays that in the form of icons so if the plant is thirsty or if it needs water so basically it's an iot device er to encourage urban farming

I mhm

P8 and this this was designed when I was at ((school name)) which is a programme here in Amsterdam

I okay

P8 and we were working with the client which is ((company name)) which is telecommunication company erm yeah it was a five month research and development project

I and did the client provide a project brief

P8 yes so the brief was that the client wanted to use their technology in this case five g er and sensors to erm to begin to to promote products that are internet connected so iot devices for their clients so the idea was to create a sensor that measured er the health of plants encouraging urban farming so that was part of the project brief

I okay and so was there a sustainability focus in the brief

P8 no on the brief there wasn't but we proposed that as a team because er I was already engaged in researching into sustainability so once I started researching about it I always bring it to the projects I'm designing because as well I'm feeling like we don't need to design products without sustainability in mind

I yeah and so how many other people were you working with on the design

P8 so there I was the only designer on the no there was myself and another designer and then we had

er game developers we had two game developers and the business strategist so it's like five team members

I okay so who came up with the the concept and who I guess who made most of the decisions

P8 er I think it was a collaborative um idea like we always knew that we wanted to sense the plants because of the different components that we were working on and I think that the idea of making it sustainable or thinking of sustainability came from my end because I had been um I was already engaged in err initiatives that were focused on recycled plastic so the sustainability aspect that we proposed for this project was instead of using raw plastic or raw material to make the casing for the device we would use upcycled plastic err in a different form factor like colourful recycled plastic that would be designed into shells for the components

I okay and how did the client react to your suggestion about this sustainability aspect

P8 I think that er they reacted well actually including in meetings inside ((company name)) people were interested because each project each of these devices are very unique in colour and shape so it's an innovation erm to have like recycled plastic in and then once we were also tackling the subject of urban farming and connecting humans to nature erm that also ties up to this subject of caring for nature and caring for the planet

I mhm and how did the other team feel about the recycle er the other members of the team feel about the recycled plastic aspect

P8 I think that we were all very interested to see where it would go and it was an open project that we were able to experiment

I okay

P8 so it's an experimentation round at ((school name)) so everybody was open to the idea of exploring that um

I yeah

P8 that that you know recycled plastic

I and did the product get made

P8 no only prototypes we had like working prototypes er I designed some concepts for how to recycle

plastic and how to to finish it but it wasn't a made it was a five month research project

I mhm okay and what would you say were some of the things that you had to make design decisions about

P8 um the shape of the product obviously and also I think the the usability how do you use it because part of the brief is to make this low cost er which sometimes to design that means that you're making it out of a cheap material

I mhm

P8 so the design decisions in terms of like how to actually make it low cost but er something that the person would keep for a long time it so so it would last longer so other erm areas that we explored for this project was instead of making it out of recycled plastic we were thinking about making it out of something biodegradable

I yeah

P8 but er there is a clash there because you're inserting this product into the soil and we didn't want it to just decompose right there so plastic is the best er material for this user case because there's water in the soil er but creating a demand for more raw plastic was something that I was not going to propose because

I yeah

P8 I know the impact of that so this is all inspired in I'm not sure if you know the global movement called precious plastic

I I'm not sure

P8 so it's this initiative it started in the Netherlands like in two thousand and fifteen or so but it's an open source movement where erm this guy created templates for machines that are able to grind and melt and recycle plastic so very simple to assemble machines so everybody all around the world were able to download these templates of how to build these machines and then build their little workspaces er generating a lot of income to different stakeholders around the world so precious plastic today is like a super huge movement focused on enabling people to recycle plastic

I okay

P8 in their cities or in their communities er removing the power simply from the companies the big corporations and giving it to to people

I okay

P8 and that's how I started to learn about sustainability when I started precious plastic in my hometown in Brazil

I mhm

P8 so then I was working with other projects there erm per se recycled plastic projects and then since I have an industrial design background I brought that philosophy to whatever project I design

I mhm okay and so what would you say was the most important decision that you had to make in terms of sustainability for this product

P8 current iot product

I yeah

P8 I think the material

I yeah

P8 like what material it would be made out of and what the looks of that because when we design with iot projects we think of like apple super sleek beautiful

I yes

P8 style of products which are like high quality and when you add something like recycled plastic which sometimes has a stigma of it being downgraded or not as pretty as a raw material

I yeah

P8 so I think that the decision of making it unusual or like super colourful and unique colours that recycled plastic is more ((inaudible)) so recycled plastic technique gives it's kind of daring but also interesting because it shows the story behind the device

I yeah

P8 there's like something more than just you know caring for plants but it's also caring for the planet and the way that we design products

I and did you

P8 and then we also proposed that this would be like in a circular model where ((company name)) for example would be responsible for the devices after they're done using and

I yeah

P8 we were proposing that as well

I how did they react to that suggestion

P8 I think that again since it was more of like a research and development project that had like a date to end er they were very open to hearing the different ideas because that was part of the

I yeah

P8 the collaboration is to like innovate how can we innovate

I yeah

P8 so I think that they were they were interested but obviously there's a lot of logistics that go behind that and they are not focusing on sustainability at all right now so it's a new subject yeah

I yeah and do you think that this project may have influenced them at all in that direction

P8 erm I would hope so I hope so that this would be a beginning of a seed that if they hear this again in the future that they can start to consider that in erm the products that they're designing I think so I think that every little thing counts

I mhm and so you said that the choice of material was the most important for sustainability did you because you also mentioned originally the um biodegradable option did you try out different materials options

P8 no we were very set on the recycled plastic er because that was like the recycled plastic is something I've been studying for the past two years so when I proposed this to the team we were very excited to see how to design an iot device with recycled plastic

I mhm

P8 we did use three d printing for the purposes of designing like shapes and see how things fit er which was really interesting because I ended up

using recycled filaments from 3d prints to do some of the the actual final prototypes

I okay

P8 to kind of like close the loop of the project

I yeah and so you didn't have to do any extra research on the recycled plastic materials did you already know enough to make that decision

P8 yeah because I was er I started this in two thousand and eighteen

I yep

P8 like with precious plastic

I mhm

P8 and then I was in the you know the wave of designing with recycled plastic so it was kind of happened naturally that I would experiment with that including technology

I okay and so I'm interested to hear whether you think your your personal values influenced that

P8 yeah I think they hundred per cent influenced because to be very honest as a designer I was not taught to think too much about sustainability

I right

P8 I was taught to design products and how to study human behaviour with products and how to design with technology er and sustainability was something I knew about but I didn't practice up until two thousand and eighteen when I learned about the climate crisis and erm so from then on my values changed before I was only focused on internet of things and designing for therapy and for children with autism and solving their needs through technology and data collection erm but once I found out about plastic pollution and everything like related to climate crisis then I incorporate that a hundred percent in all the projects that I designed from then

I okay

P8 because there's no going back on knowing and

I yeah

P8 once you know about it then I think that yeah I couldn't er turn my back so every time I have a project I bring that

I yeah

P8 consideration always er sustainability first

I and what was it specifically that made you more aware of sustainability in that caused this shift in values

P8 it was well I did my masters in the us for like four years I lived there

I mhm

P8 so I was used to the American lifestyle and when I went back to my home country Brazil which is a third world country or less developed I noticed that there is a lot of trash in the streets

I mhm

P8 so like literally the streets with trash and plastic bags and then you see that there's a lot of poverty around that too people can ask for a little bit of money and risking their lives whatever so that opened my eyes even though I already knew the reality of Brazil by spending time away from it and then coming back gave me a different point of view and then I started to research about circular economy and plastic pollution

I yeah okay so something just it was just what you saw yourself and then you you took the initiative to research it

P8 yeah

I okay

P8 I saw that there was an issue regarding plastic and trash in Brazil and then I thought how can we use design how can I connect designers and engineers to talk about this so then I started er hosting workshops on the theme of circular design which was something I'd briefly known about and then I started to like really look into to circular economy and circular design

I yeah

P8 then I hosted workshops in Brazil

I okay

P8 I founded the movement precious plastic centre ((city name)) there and through that a bunch of workshops with professors from engineering and design schools and then students and then all of the sudden and I was giving erm workshops on

303 techniques of how to recycle plastic for er
304 communities that don't have income that were very
305 need so that was eye opening to me because I was
306 able to show them a tool or technique that they
307 can use with the trash that they are interacting
308 with and exchanging for a little amount of money
309 I was showing them them they can use that to
310 create meaningful products for the community
311 without having to sell the plastic for little
312 amount

313 I okay that sounds really interesting the kind of
314 shift that you had and all these initiatives you
315 then created that sounds really interesting so
316 who do you think is responsible for the
317 sustainability of products

318 P8 the sustainability of our products

319 I of products yeah

320 P8 I think that it's okay obviously those that put
321 the products out there and I know that there is a
322 demand for it in the part of consumers are asking
323 for it because they're consuming but I think the
324 responsibility is there from those that created
325 in the first place er and then we can take
326 individual responsibilities for the choices we
327 make

328 I mhm

329 P8 but without the right information it's also hard
330 to make the correct choice so when information is
331 not given

332 I yeah

333 P8 I think there's a bunch of stakeholders that are
334 responsible

335 I sure

336 P8 ((inaudible)) a responsibility to everybody

337 I and when you say that at the start the
338 responsibility of those that create the products
339 do you mean the companies the designers who do
340 you mean specifically

341 P8 yeah I think the companies and the value that
342 they bring yeah what are they trying to sell and
343 why as I see as many times what's causing the
344 various issues or products that we don't really
345 really really need erm

346 I yeah

P8 and yeah we can do it differently especially if we look at vegetables we don't need to wrap them in plastic erm but some might say that we do because it needs to travel so I think that yes it's the companies and the values and they should be responsible for at least the end cycle of what they create

I mhm

P8 and you wanna create plastic okay but it's your your responsibility because you're bringing it to the world

I yeah and have you have you so far found yourself working in a company that doesn't have values that match your own

P8 yes er I actually have erm experienced that of working with companies that have clashing values or there are not in with the knowledge that I currently have about the climate issues so but I think it's also highly important that professionals like myself that do have the knowledge work with companies that don't

I yeah

P8 because then we will have a bigger change if you're able to show them the impact of their actions or the impact of their models and then also show that there are alternative ways to to continue their business and that just by shifting a little bit of what they're doing they can already have a more positive impact and what I noticed is that many times these companies are operating for I'm making a general assumption but some companies are operating for a long time in a linear system and it's working and it's successful er so I see that it's really it's a harsh change to ask these companies to change their models because they're already proven to work um so I think that showing little examples of how a more sustainable alternative can work and it is positive can can open a lot of possibilities to those that don't know yet or are free to try

I okay and and have you managed to convince any companies yet working as a designer

P8 yes actually

I okay

P8 I have been able to do a positive work on erm selection of materials

I yep

P8 for products so yes some companies are designing products but just by a shift of material for example shifting instead of making a product out of wood which is a tree that takes a long time to grow erm I was proposing that this company use bamboo which is a much faster growing plant and erm has er collects more co2 from the atmosphere so yeah this is still erm generating a product but through an awareness that maybe just a selection of material can be beneficial

I mhm

P8 I think that that was already a seed that I planted in this specific client

I mhm

P8 or instead of using paper made out of wood erm this client might choose to use paper made out of hemp or bamboo that are faster growing plants

I and and were the costs comparable for these materials switches

P8 well that is always like where it comes down to is like always way cheaper to produce the traditional way er but the work that we've done with this specific company was interesting because we were able to show that it's a more premium long lasting product and that the company would have also something to talk about er why they made those choices why they're innovating in that specific field and they were enthusiastic to be a change

I okay

P8 but I do have to say that they continued also with their traditional let's say wood papers erm but they're experimenting as well in parallel

I right

P8 so I think that that's highly important so you could compare potentially your eco friendly erm line is going to sell more than your other one

I yeah so it's about convincing them of the benefits to them

P8 yeah the benefits also giving context of like the impacts of the the traditional ways of doing industry er but then also showing that there's a big trend that is erm green and positive and that it's growing and it's where the world is heading

including with their laws so if you just show let's say some of the goals that erm say the Netherlands has of going circular erm

I mhm

P8 it's also giving these companies a heads up that if they don't change their ways they might have to change it without being prepared in the near future

I yeah

P8 just depending on on the laws of single use plastic and that's also something we eliminated for this specific clients is er do you actually need to use unnecessary wrapping on your packagings and you know little changes that start to make those behind the company which are just humans reflects on their choices and the impact

I yeah and so with this company were you er like a contracted designer were you working in house

P8 well I worked in house as a designer industrial designer because of my three d modelling skills er and then that lasted for six months and now I'm erm freelancing for the same company so now they're my client er focused a lot on finishing some of the sustainable collections and erm yeah just consultancy in general

I yeah and did you feel there's a difference in in and how you're able to influence them depending on if you're in house or freelance

P8 I think that once you're free like in house it's more you're there for the everyday needs of the company

I yeah

P8 so you're there to you know for anything that they might need and er it might be sometimes off subject of why you're there because you're on a contract of nine to five every day er when you're freelancing you're talking to your clients mostly about a specific project or task and er all the you know the shanannin like the things that that have been like when you're working full time you might erm I don't know just get sidetracked sometimes because there's just so much that you can do and when you're a freelancer you focus on the task and the project and then I could go do something else with my time

I yeah

P8 other projects

I and do you think they listen to you more as a freelancer about sustainability or the other way

P8 um I think yes more as a freelancer because then you are people reach out to you because of what they know that you know

I uhu

P8 and not just because you're there as their employee

I yeah

P8 so right I prefer being a freelancer for that for that sense because then you're you're valued for what actually you bring to the table and not just because you're there making the wheel run on a daily basis

I yeah that's interesting

P8 and then er also it gives you the possibility to get engaged with other projects and I think that that also gives you a little bit more value in a sense that your time is also being occupied by other initiatives and other people are valuing your work as well so it's not only that one er job that you have so I think that overall that helps also for you know valuing your time

I mm hmm okay well those are the questions I had you've been so clear with your answers which is really great

P8 yeah

I very focused on what I was asking you that's really great was there anything else that you'd like to share in relation to this topic

P8 um I think I really enjoyed the subject that you're bringing to the table cuz I don't really think about these things that you're asking

I okay

P8 so it's interesting to see what you're asking me um yeah I don't know if I have anything else to add to this but I think that the bottom line is that once you know about the current issues that we're facing as humanity and planet no matter where where you are and what profession you have I think that you you bring those values along so I could see that you do that in your research because you are aware of what's going on so

		you're active on doing it and I think it's awesome that we're able to connect
I		yeah
P8		and talk about this and
I		yeah thank you
P8		yeah I I think that's all I have to say I'm happy that there's a lot of people engaged in erm talking about these issues and the solutions that we can bring
I		mhmm yeah
P8		I start to to see the bright side of the story happening
I		yeah yes slowly but yeah there's a lot of people trying to change things so we'll see whether we can change things in time I don't know
P8		yeah we're trying
I		we're trying haha okay well thank you so much for sharing your insights is really useful for my research erm but otherwise that's it
/end/		