



## REFLECTION

### Working with a client with an NDA

For my FBP, I had a client, with which I had an NDA with. At the start of my FBP this caused some delays due to administrative work. At the start of my FBP, I focus too much on the aspects that were under NDA. This caused difficulties, as I could not share everything with my coach. Therefore, the scope of my project was changed. I would focus less on the EffiTex technology, and more on the perception that shared cars are filthy. This left enough room to dive deep into a topic, which did not fall under the NDA. I learned how to work the NDA, by using a code word for the technology, and by scoping the project in such a way that the emphasis does not lie on the parts that were under NDA. I learned how to deal with a company and an NDA in a professional way. I now know how to work around an NDA in such a way that the project remains understandable for others.

### Prototyping

Past years, I noticed that I became better at prototyping, but that the quality is not where I want it to be. I want to be able to prototype at a higher level as most of my prototypes were low-fidelity. I have come to appreciate low-fidelity prototypes more in the past semester, as I was able to quickly test a new technology with different types of structures and materials. However, I want to gain more experience with higher levels of prototyping. I also wanted to become more confident in prototyping with soft materials.

During this project, I had been working with soft materials a lot. I worked with soft materials to create a car seat cover from scratch and to create a simple communication with it. I spend a lot of hours working with the sewing machine, which I did not have much experience with. I became more confident working with soft materials and a sewing machine. I really learned to make something from scratch; by sketching, measuring, making patterns, cutting, and sewing. In addition, I made an interactive interface (an app with Adobe XD). I became more confident working with Adobe XD and noticed I became quicker at it.

I also explored making prototypes with fabric and thermochromic paint. Different ways to apply the thermochromic paint and to let it change color were explored. Fabrics were for example painted by applying the paint with a sponge, and by applying the paint with a stencil. The change in color was explored by putting the fabric on a 'hot' plate and by sewing conductive yarn through the fabric and letting a current flow through it. Both ways triggered the fabric to change color.

I thus learned to work with different techniques and materials. I also noticed that I really enjoyed working both digitally and with my hands. I especially enjoyed working with the soft materials and I enjoyed working with Adobe XD. I found out that I am interested in combining the digital with the physical. I want to explore this further in the future.

### User interview and usability testing

Before this project, I already had experience with performing and analyzing online questionnaires, however, I have not been able to perform other user studies. My goal for this semester was therefore to involve users more and to be able to set up, prepare and conduct (physical) user studies by myself.

At the beginning of my FBP, I set up, prepared, and conducted two semi-structured indepth interviews with two experts in the mobility sector. These interviews gave me new insights and allowed me to validate certain ideas. I learned that it is important to leave room for further questions. This is where the most interesting insights usually come from.

In addition, I set up, prepared, and conducted six user interviews and usability tests. Setting up these included finding and selecting the right participants. I learned that a screener questionnaire is a good way to find the right participants. It helps to reach the people you want to survey and screening questions help to ensure that respondents meet your target specifications. Each interview took an hour, which allowed me to go into depth with the participants.

I noticed that I really enjoyed performing the user interviews and usability tests. I felt more energetic after I physically talked to the users and I was eager to further iterate on the concept based on the new insights I got from the user interview and usability test. I did notice that there is still a lot of room for improvement. I learned for example that I don't have to keep asking questions as quickly. It is important to give the participants time to think. Another learning point for me is that I have to be more aware of when to keep asking questions ('doorvragen'). During the usability interview I sometimes missed an opportunity to keep asking questions about an interesting topic. I also learned that when letting the participant explore the concept it is interesting to not explain what the concept is or does. This can give new interesting insights you hadn't thought about yet. I will continue this in future projects.

At the end of the project, I also conducted a quick user test to validate the final concept. I asked six participants to review the final concept without telling them beforehand the idea behind the concept. This was very useful, as I could find out whether the communication of CLEMO was clear, without receiving extra information.

Overall, I learned that I enjoy the engagement with the users a lot. I became much more confident about performing usability interviews, and I learned a lot about how to set up, prepare and conduct user interviews and usability tests. Although I still see a lot of room for improvement, I have learned a lot compared to the beginning of the semester and I believe that by practicing it more often I will develop my skills here even further.

### Implementing circular design strategies

During past project, I had never really thought about the sustainability aspects. Especially since past year, I began to see the big influence designers can have on sustainability. During my internship I also started taking sustainability into account a bit in the project. There was looked at the processes of textile materials in relation to sustainability.

Sustainability is of importance for me. A design should be of added value, considering the end-of-life cycle, the production and the effect on the environment. Not only regard to the materials used but also regard to its production process. A linear supply chain must be avoided by 'closing' the circle. When closing the circle, it is important to retain value as long as possible. Therefore, during my FBP, I wanted to develop a circular design and gain more experience in circular design.

I followed a Circular Design Class – Product design, provided by CIRCO. During this class I learned how I (as a product designer) can contribute to the circular economy and how I can ensure that products last longer. I learned how to implement sustainable design strategies and sustainable business models. I applied these skills during my FBP by implementing 3 circular design strategies and by applying a circular business model. I learned that the circular design strategies really added value to my designs, as it contributed both to the goal of the design (which was positively affecting the perception), and to the circularity of the design. I want to continue using these techniques in my next designs.

### analyzing big data sets

This semester, I wanted to improve my skills in the field of gathering and analyzing big data sets, as I was not very experienced with this. During a course I followed at the TU/e I worked with a bigger data set before and analyzed this, however, I want to implement this in a design project and use the gathered information to further iterate on the design. I believe this is important to gather unrecognised user needs and with this information improve the product-market fit.

A lot of (qualitative) data was gathered during the user interviews and user tests, as they took 1 hour. The user interviews and user test were recorded and transcribed, leaving me with a lot of qualitative data. By performing thematic analysis, general themes were identified, and valuable insights were discovered. I learned how to analyze qualitative data by performing thematic analysis. I learned thematic analysis is a valuable technique to analyze qualitative data, as it allows to discover patterns of meaning that come up repeatedly.