

“A human centered design process on designing a new tent model on top of an existing folding trailer.”

J.H. Bussemaker, s2451670

85% of the Dutch population go on holiday every year. 4 million of them go camping. Some camp in a caravan, some in a tent and some in a folding trailer. This assignment focuses on the folding trailer. The average life of a trailer is 20 years. The tent on top of the folding trailer will have started to decay by then. This is not the case with the trailer. The trailer has a much longer lifespan than the tent. The design objective for this assignment was to create a new tent model that would fit on top of the existing trailer, allowing the customer to replace only the tent rather than discarding the entire folding trailer. The new tent aims to promote sustainability and remanufacturing by refurbishing trailers rather than replacing them.

The process used was human centered, involving target group feedback and academic research on sustainability in refurbishing and modular design. The human centered design approach was chosen to be able to create a new tent model that would suit the target group and address some of the issues they have with the current folding trailers on the market.

The project was carried out through an analysis phase, which first focused on a trailer model currently on the market and investigated how the mechanism worked and the pros and cons from the target group's perspective. This research led to a questionnaire being sent out to the target group to find out what their ideal folding trailer would look like, the reasons behind their purchase and the pros and cons of different brands of folding trailers. From this questionnaire, further analysis was carried out on different stakeholders, tent shapes and forms, colors, tent materials and different parts of the trailer (window design, ventilation, compartments, etc.). Together with academic research on sustainability in refurbishing, modularity in design and gender roles in design. These three themes all emerged from analyzing the results of the questionnaire as being important to the target group and ensuring that these values were reflected in the final design.

After the analysis phase, a list of requirements was generated and used for ideation. Ideas were created for the mechanism, the shape of the tent, the use of colors, the design of the windows, the compartments, and the canopy. These ideas were first tested against the requirements to eliminate some ideas and then tested with the target group through a second survey to confirm their opinions. From the analysis phase, ideas had been generated about what the target group wanted and with the second survey these ideas were tested together with their opposites to check and make sure that the target group would still choose the ones they originally liked. During this survey, a deeper analysis was made of the reasons for buying a folding trailer within the different age groups. It was concluded that users between the ages of 30 and 50 make a lot of decisions based on their children, while as people get older, the focus is more on privacy but still being able to look outside. These findings were used to make some final design decisions.

The results of the second survey were used in the conceptualization phase and three final concepts were created. These final concepts all looked the same but worked with different mechanisms to make the concepts different in terms of price range, amount of storage space available and ease of setting up and taking down the folding trailer. These final three concepts were evaluated based on the design itself, the design process followed and a deeper analysis of the target group. Recommendations were also made, together with a discussion of what steps should be taken next to create the product and what parts of the product still needed to be changed. The in-depth analysis of the target group was translated into key points that can influence the customer's decision and can be used for future decisions on specific parts of the product.

During this assignment, three different concepts for a new tent design on a folding trailer were developed. These designs are still in the early stages of development, but they fulfil the wish list of the target group and other stakeholders, as well as the analysis carried out.