

DESIGN OF A PROTECTIVE MASK FOR ACUTE AND FUTURE THREAT SCENARIOS

This Bachelor thesis for the program industrial design describes the process of designing a protective mask for unsafe threat scenarios. The project was interdisciplinary and a collaboration between two different universities.

The aim of the project was to develop various use case scenarios and concepts in conjunction with a low-resolution prototype. These should have then resulted in a feasibility study for the given scenario.

On one hand, the assignment was directed towards a very technical design problem. On the other hand, interdisciplinary design communication was an essential part of the thesis.

During the process, different design stages had been passed through. In the beginning, the actual use case scenario of the finished product was unclear and the designer's challenge was to discover what the customer's desires were and how the product would be used.

To achieve this, a broad analysis was done. Not only the state of the art technology was regarded, but user desires were examined through the use of questionnaires and through meetings with experts. Next to that, lab research was done. This research was necessary, because some requirements could not be exposed through interviewing. An important part of the assignment was to convey the design strategy at a table with experts of different professions.

A low-resolution prototype was utilized during meetings to have a tangible basis for discussion about conceptual solution strategies. In the later process this model was used to put mid-fidelity prototypes into context.

To create an environmental context several calculations were made to get a clearer idea of the surroundings and the likeliness of success for the conceptual solution strategies in those surroundings. The calculations were supported by the laboratory measurements that could be done in the end phase of the project.

In the end, conclusive arguments were listed and a conclusion was drawn of whether the chosen conceptual solution strategy, that was assumed to be most likely to succeed in the chosen context is feasible.

All in all, the project was very educating and helped me to generate a different view on our society and the modern world. What seemed to be a challenging and mostly technical design problem unfolded into being a very complex and interwoven issue.

I am thankful to be given the opportunity to work on such a complex problem with highly educated people from different professions as part of my Bachelor thesis.