Creating a product for screen adjustment

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Currently, the user cannot fully immerse himself in virtual reality because he is bothered by the poor alignment of the screens. In order to solve this problem, a product is made.

This bachelor thesis is carried out in cooperation with Heves Engineering, a young and energetic engineering firm that specializes in executing technical innovative projects and developing products and processes, particularly in the food and process industry. Due to the demand in the market, Heves Engineering saw the opportunity for the development of this product. The research question of this thesis is: *What is the best design for a product that can adjust the position of screens?*

Approach

In order to answer the research question, research was conducted. Relevant information was gathered about the VESA pattern, applicable standards, competing products, the target group, stakeholders and functions of the new product. The research could be concluded with a requirements list, to which the final product must adhere. Based on the functions that the product must fulfil, a morphological overview was created. By combining the solutions of each sub-function, several concepts were made. With the Kesselring Method the most promising concept was developed further.

As the most promising concept had a component which was already patented by another company, the second-best concept was developed further. This concept was 3D printed, as functionality was the most important feature to achieve. However, with the 3D print it was concluded that the functionality did not work as intended. Therefore, in consultation with the client and several experts, it was decided to discontinue the development with that concept.

A new concept was thought of and evaluated with the Kesselring Method. This concept was very promising, so the development process continued with this concept. As can be seen in figure 1 and 2 several 3D prints were made to test the functionality. With the knowledge gained from these models and simulations the final design has been made.

Figure 1 3D print

Figure 2 3D print

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Results

As can be seen in figure 3, the final prototype is made from sheet metal. Powder coating gives the product a neat appearance. This gives the product the desired aesthetic, while being able to support the weight of the screen.

Simple mechanisms allow the user to move the screen to the desired position. Adjusting the position of the screen requires only one tool. The user can therefore quickly get relief from his frustration with this product.

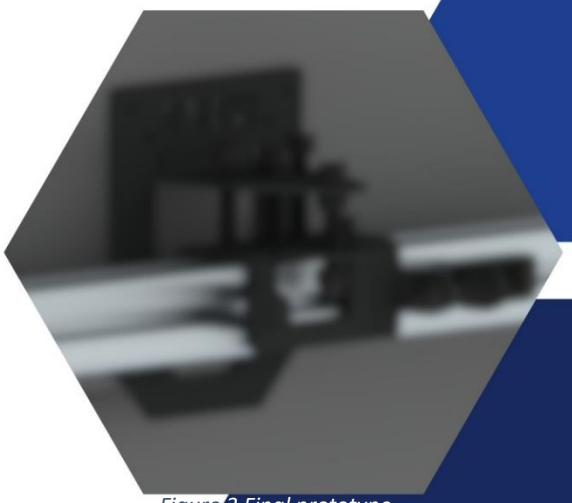

Figure 3 Final prototype

Conclusion & Recommendations

In conclusion, the development process of the monitor mount is not in its final stage to be put on the market yet, but the base is set. However, not all requirements have been fulfilled. Further development is recommended to achieve the best possible product.