

Redesign of the Luisterstoel for an improved user experience

In collaboration with **The Rotterdams Philharmonisch Orkest**

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The Rotterdams Philharmonisch Orkest (RPhO) is a private, non-profit organisation, that provides wonderful orchestra performances in De Doelen based in Rotterdam, The Netherlands. The Luisterstoel (Luisterstoel 1.0) is the product of a campaign that was created for their 100-year anniversary of the RPhO.



Luisterstoel 1.0

The clients from RPhO were satisfied with the current design of the chair but there were a few problems with it they wanted to solve. The current design is very big and bulky causing difficulties during transportation and storage. To move the chair the organisation had to rent a van that was big enough and for the storage they had to rent a storage facility. To make the chair ready for transportation, it had to be split into five parts requiring multiple workers for each part. All of these services cost the organisation a lot of money and effort. To solve this issue, the conceptual redesign of the Luisterstoel 1.0 was required. Furthermore, the user experience provided was not optimal. Hence, with this assignment the research question of 'How can the redesign of the Luisterstoel result in an improved user experience?' is tackled.

For the process of creating the final design, first ideas were created that later led to 3 final concepts. The final design was then chosen as a result of further iteration combining two concepts. This was a result of the clients request as they favoured two concepts; one for its portability and the other for its design and features. The final design was thus validated by following the client's needs and altering the pre planned process of choosing one definitive

concept. The decision for the perspective of the redesign was chosen from the stakeholder analysis (Hovland, 2005). This ensured the redesign remained relevant for the stakeholders affected and prevented any unnecessary design choices.



Luisterstoel 2.0

In the final design, comfortable use is achieved by having an ergonomic dimension that takes inspiration from the Eames lounge chair. This was a result of the design research that was undertaken. Further improvements for comfort was the addition of a cushioned seating. The seating allows the user to be comfortable when using the chair. The seat also resists wear and tear as a result of the chosen materials decided from the design research.

The Virtual conductor is the highlight of the Luisterstoel 2.0 where the user takes up the role of the orchestra conductor. This is the interactive and fun element of the chair that works using the principles of Whack-a-mole. The instrument picture lights up and the user has to hit it in time to create a good sounding orchestra music. This adds an interesting twist to the experience reversing the roles of the user and the music conductor. The UI also consists of an NFC and QR code, to allow the user to access information about the RPhO and it's concerts quickly and with minimal effort. Further information about the concerts can be found in the posters on the back of the chair.

Luisterstoel 2.0 is designed in a manner where the assembly is simple and easy to carry out. For transportation, the separate pieces of the chair can be packed compactly. The Mercedes

Sprinter is taken as the example in this assignment where the compact package can easily fit into.

In conclusion, an answer is formulated for the research question of 'How can the redesign of the Luisterstoel result in an improved user experience?'. An improved user experience for the users is achieved through:

- An ergonomic design that is pleasurable to use
- Increased comfort from the cushioned seat
- User interfaces designed with simplicity in mind
- An interactive and fun feature through the virtual conductor
- Providing information with minimal effort

The workers experience the most burden from the design, because they handle the chair. The streamlining of the design would make their tasks easier. Thus, the redesign also leads to an improved user experience for the workers by:

- Reducing the size for easier handling
- Making the parts lighter to reduce physical stress
- Reducing complexities in the assembly process
- Streamlining the transport and storage of the chair

The aspects relating to actualising the product were not discussed in depth due to time constraints. They were thus discussed as a recommendation for the future which led to the following:

- Testing of the final design
- Specific materials for manufacture of the chair
- Process of manufacture of the chair
- Type of joint to use to attach the parts together
- Decisions based around the electronics in the chair
- Cost estimation
- Strength simulation

The final conceptual design that was produced as a result of this thesis, is a convincing solution for a redesign. Following the implementation of the recommendations, the Luisterstoel 2.0 has great potential into becoming a successful product for the Rotterdams Philharmonisch Orkest.



References

Hovland, I. (2005). Successful Communication A Toolkit for Researchers and Civil Society Organisations. Retrieved from <https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/192.pdf>

Rijnmond. (2018, March 5). Paarse Luisterstoel tourt door Rotterdam [Video file]. Retrieved from <https://www.youtube.com/watch?v=lt9UsGYCMjU&list=LLePLhSurczw1aLJ6eE7WzEg&index=17&t=0s>