

Wake-Up Experience

Megan van Gerwen

1930834

Eindhoven University of Technology, Faculty of
Industrial Design, Eindhoven, the Netherlands
m.v.gerwen@student.tue.nl

INTRODUCTION

To understand what aesthetics of interaction means, a lot of theoretic knowledge is required. How one should interact with a product should be understandable by only looking at it. Affordances make the suggested interactions clear to the user, making the use intuitive [5]. Haptics can be used to give interactions a deeper experience. Aesthetics can be used to indicate what type of interaction is required, and what type of haptic output will be received [7]. Sounds can for instance be used as feedforward and as feedback, indicating the need for action or that an action was performed, like in the frogger framework [6]. Combining affordances, haptics and the frogger framework is very strong for creating interactions in my opinion.

Many methods can be used to make interactions more aesthetic and create better experiences. One method is using extreme characters. This can be done by evaluating a prototype and imagining how one might experience it in extreme cases. Emotions or feelings from the experience can be exaggerated to develop the concept [3]. This method can be useful when a concept feels too safe or simple. Another method is experience prototyping, in which constantly interacting with the prototype is used to develop it [2]. This method is extremely useful when designing interactions, since assumptions about an experience can be wrong. Besides,

experiencing it can lead to many new ideas on how to improve a prototype.

WORD COUNT: 945

INDIVIDUAL PROCESS

This project started with the analysis of an alarm clock, see figure 1. In terms of affordances, this alarm clock is intuitive in its use [5]. However, the buttons do not have a pleasing aesthetics of haptics, since there is no click or sound when pressing the buttons [7]. This also makes it harder to navigate the buttons when trying to turn of the alarm when it is dark in the morning.



Figure 1: Caliber HCG O19Qi-B

To implement better aesthetics of haptics, a new design was created that used rotating elements changing the color of light to turn of the alarm [7], see figure 2. Since the prototype was very low fidelity, the quality of the experience was very low. Furthermore, it was hard to understand how to use the alarm clock, causing confusion and irritation.



Figure 2

Analyzing this alarm clock led to a completely new concept, see figure 3. To stop this alarm, the user has to replicate the wake up pose that is shown by the alarm clock. By showing what the camera sees, it becomes clear that the user has to do the pose. This makes the prototype intuitive in use [5].



Figure 3

GROUP PROCESS

After these 2 individual iterations of creating a wake up experience, the group project started. Together with Ami Gjoca, Aleksi Griffin, Arya Gupta and Chris van Hal (group D), I created the upcoming prototypes.

Iteration 1

We created an alarm for which an NFC tag of a specific item needs to be scan to turn of the alarm, see figure 4. This actively gets the user out of bed, creating a very functional alarm. However, this did not create an embodied experience in the way we wanted.

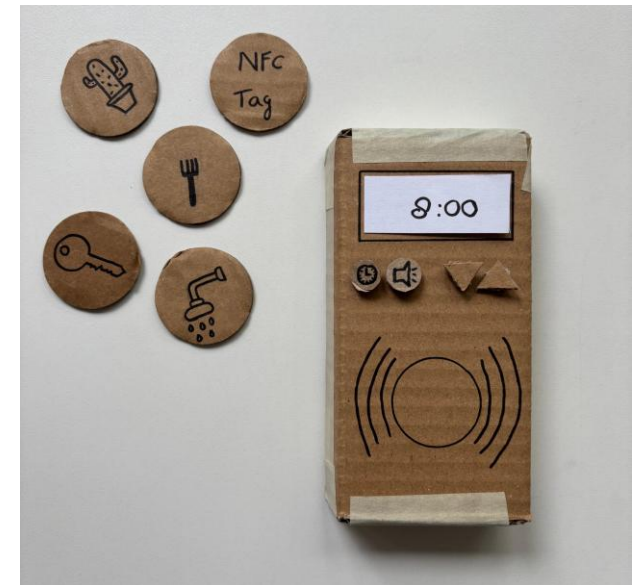


Figure 4

Iteration 2

We aimed to create a more embodied wake-up experience, by stimulating more senses [1]. This resulted in a sleeve that uses vibration and pulses to physically wakes up the muscles, see figure 5. This concept did not fit comfortably and was too product focused.

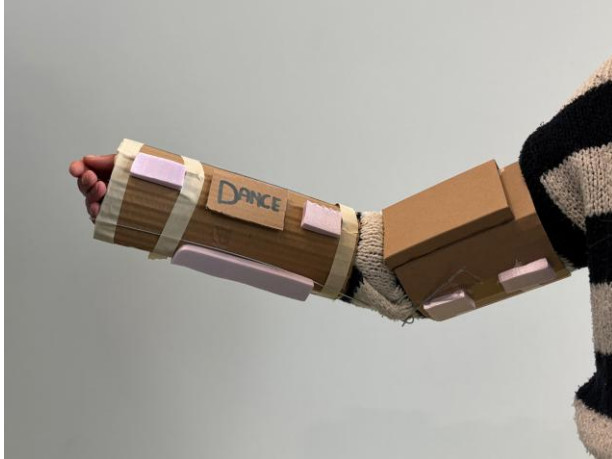


Figure 5

When evaluating, we realized the importance of the feeling the user gets when experiencing the prototype. By using defamiliarization [4], we came up with a new concept that wakes the user up from overstimulation from work. The chair notices the overstimulation and physically pulls the user away from work and forces them to relax using a black box with calming noises, see figure 6.

Iteration 3



Figure 6

Since the box is so small, some users might get a claustrophobic experience. Besides, the experience did not have a clear beginning and ending causing confusion.

By adding lights and finetuning the timing of the chair rolling backwards and the box sliding over the head, it became a better experience prototype [2]. This resulted in a full circle experience.

Iteration 4

We were still not satisfied with the concept and wanted to create something more creative and surprising. We used the extreme thinking method to

come up with a new concept using the same elements as the third iteration [3].

FINAL DESIGN

The final design is a near death experience, waking the user up from the fact that life can end at any moment, see figure 7. This is achieved by entering the dark room that uses sound and a visualization of the heartbeat to simulate death and waking up from the dead. We made a video that show the experience of the prototype [8].



Figure 7

CONCLUSION

Aesthetics of interaction is designing experiences, considering the physical interactions and feelings the experience brings. It can focus on all the different senses, from using sensory and visual cues to gustatory, olfactory and auditory cues. Combining multiple senses can enhance an experience and evoke emotions.

But how can users understand how they should interact with a prototype without reading a manual. Shapes, sizes, symbols, auditory cues and many more can be considered and used to suggest actions or to give feedback.

Aesthetics of interaction is something I will consider a lot in my future projects. My interest in psychology and human senses aligns quite well with this way of designing.

REFERENCES

- [1] Vasiliki Tsaknaki, Madeline Balaam, Anna Ståhl, Pedro Sanches, Charles Windlin, Pavel Karpashevich, and Kristina Höök. 2019. Teaching Soma Design. In Proceedings of the 2019 on Designing Interactive Systems Conference (DIS '19). Association for Computing Machinery, New York, NY, USA, 1237–1249. <https://doi.org/10.1145/3322276.3322327>
- [2] Marion Buchenau and Jane Fulton Suri. 2000. Experience prototyping. In Proceedings of the 3rd conference on Designing interactive systems: processes, practices, methods, and techniques (DIS '00), Daniel Boyarski and Wendy A. Kellogg (Eds.). ACM, New York, NY, USA, 424–433. DOI: <http://dx.doi.org/10.1145/347642.347802>
- [3] Tom Djajadiningrat, Bill Gaver, and Joep Frens. 2000. Interaction relabeling and extreme characters: methods for exploring aesthetic interactions. In Proceedings of the 3rd conference on Designing interactive systems: processes, practices, methods, and techniques (DIS '00), Daniel Boyarski and Wendy A. Kellogg (Eds.). ACM, New York, NY, USA, 66–71. DOI: <http://dx.doi.org/10.1145/347642.347664>
- [4] Sjoerd Hendriks, Mafalda Gamboa, and Mohammad Obaid. 2024. The Undertable: A Design Remake of the Mediated Body. In Proceedings of the 2024 ACM Designing Interactive Systems Conference (DIS '24). Association for Computing Machinery, New York, NY, USA, 2591–2610. <https://doi.org/10.1145/3643834.3660698>
- [5] Victor Kaptelinin. Affordances. The Encyclopedia of Human-Computer Interaction, 2nd Ed. <https://www.interaction-design.org/literature/book/the-encyclopedia-of-human-computer-interaction-2nd-ed/affordances>
- [6] Stephan Wensveen, Tom Djajadiningrat, and Kees Overbeeke. 2004. Interaction frogger: a design framework to couple action and function through feedback and feedforward. In Proceedings of the 5th conference on Designing interactive systems: processes, practices, methods, and techniques (DIS '04). ACM, New York, NY, USA, 177–184. DOI: <http://dx.doi.org/10.1145/1013115.1013140>
- [7] Wendy Dassen and Miguel Bruns Alonso. 2017. Aesthetics of Haptics: An Experience Approach to Haptic Interaction Design. In Proceedings of the 2017 ACM Conference Companion Publication on Designing Interactive Systems (DIS '17 Companion). ACM, New York, NY, USA, 254–259. DOI: <https://doi.org/10.1145/3064857.3079156>
- [8] Ami Gjoca. 2025. Aesthetics of Interaction Group D. Youtube. <https://www.youtube.com/watch?v=UA-ZpxETaB4>

All pictures were taken by me or my group.