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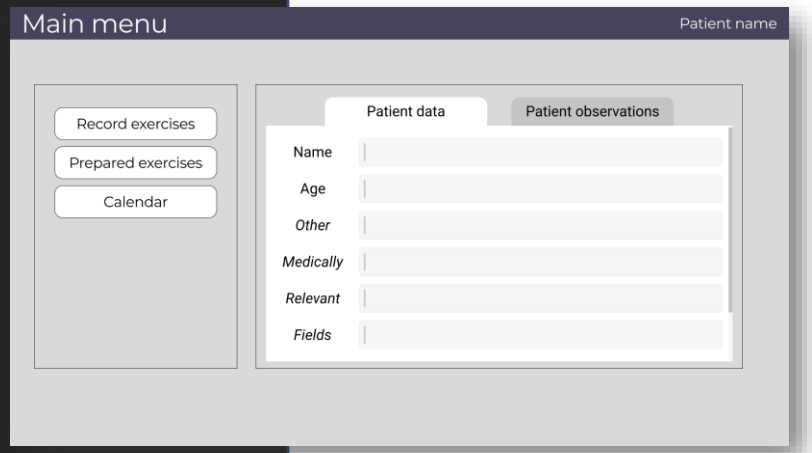
Nikolay Ivov Georgiev

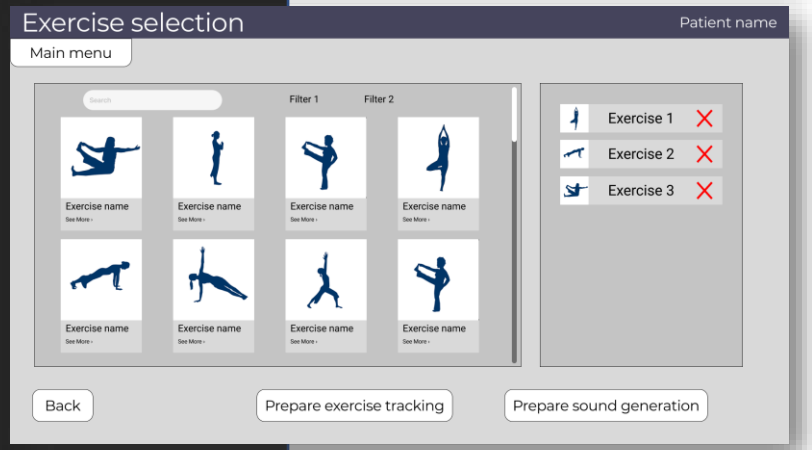
Portfolio

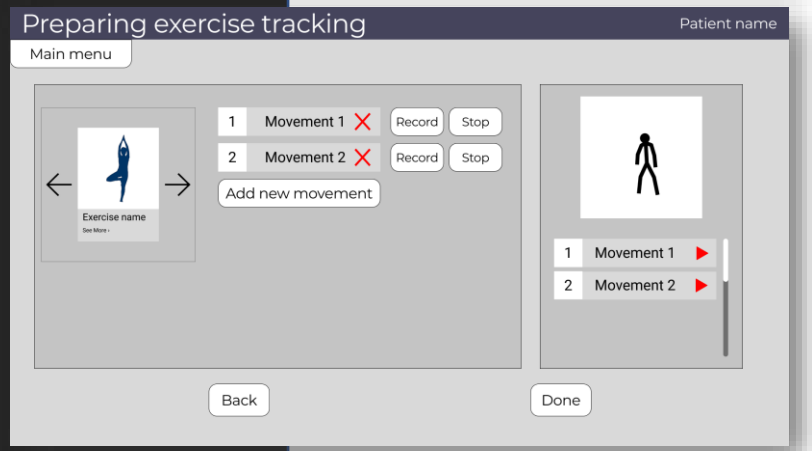
I have graduated the master's programme in Human-Computer Interaction program at Uppsala University.

I want to help build usable systems that serve to solve problems for, or assist real people, through designing for the user and with the user in mind. I ask questions and aim to find answers for them.

I strongly believe in ethical and responsible technology, making it a guiding principle of my design approach.







IML in Physiotherapy

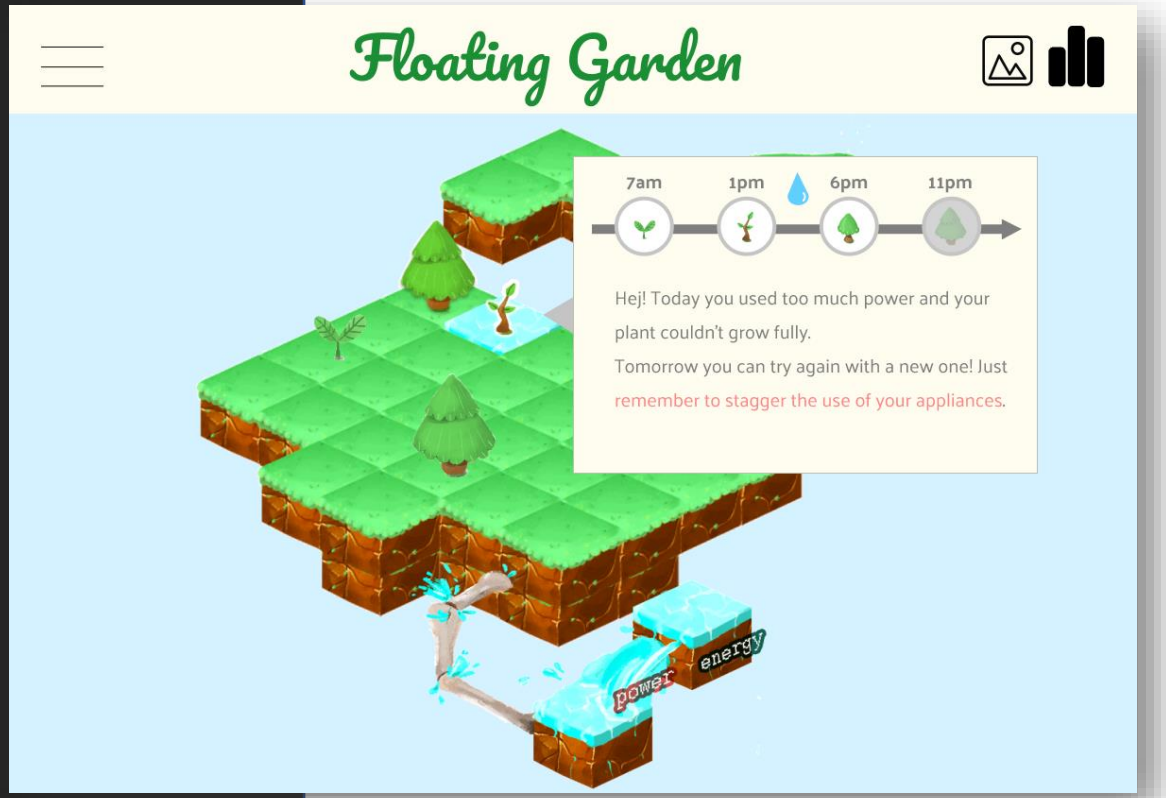
Context **:** This project is my master's thesis (30 hp). I designed a system that is aiming to assist physiotherapists in their practice, by utilising interactive machine learning (IML). This work also serves as a pre-study for a research project with the same objective, which will be developed in the department.

Role **:** I have conducted a literature review on the topic of interactive machine learning and its open-source software implementations, the practice of physiotherapy, as well as what technology has been developed for it. I have designed and conducted interviews with physiotherapists, in order to focus on the specific issues they are facing. From those interviews I ideated solutions and developed them into storyboards. After approval from the physiotherapists, I created pen-and-paper prototypes and interactive Figma prototypes for the interface of the system I proposed, which were also evaluated after each iteration.

Overview **:** With this thesis I am creating a proof of concept for a system that can learn how a patient is performing a rehabilitation exercise to the best of their current ability (under physiotherapist supervision and instruction). Afterwards it will be able to track whether the patient is using proper form and the appropriate range of motion when they are doing their prescribed exercise routine.

Keywords **:**

- Machine learning
- Computer vision
- User-centred design
- Prototyping



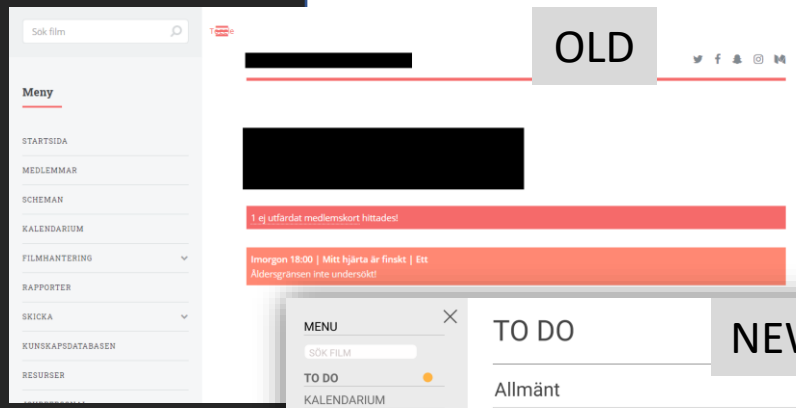
The Floating Garden

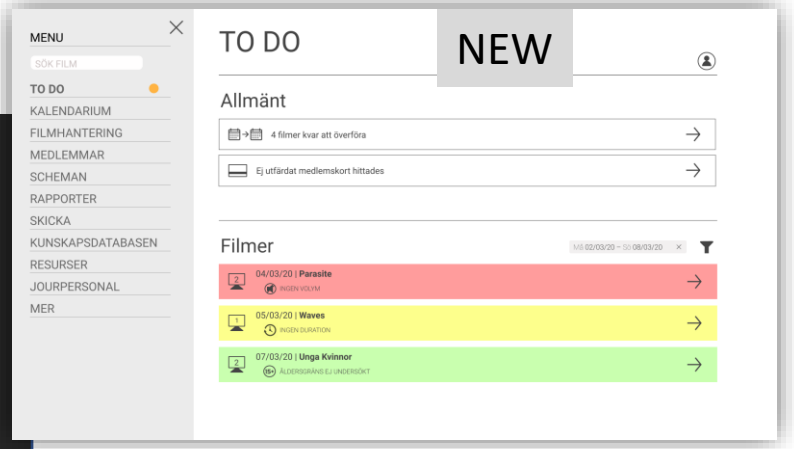
Context **:** This group project was done for the university course Advanced Interaction Design (5 hp). The teacher partnered with a local housing company, which was looking for ways to inform their tenants about their use of power. At the end of the course, our design was one of the few chosen to be presented to the company.

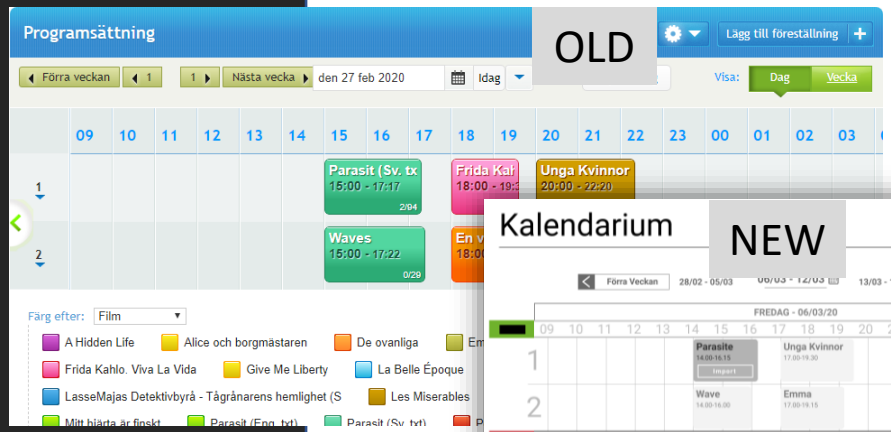
Role **:** I initiated a conversation within the team about the definition of power in physics and how it is different from energy and made sure we kept the proper terminology throughout our design. This led our graphic designer to come up with the metaphor of a waterfall and pipes bursting when too much power was being used. I was mostly involved with planning the logic and functionality of the design and constructing the Figma prototype. I also participated in the research stage, contributing to the bedrock of our ideas. Lastly, I wrote parts of the final report, edited and proofread it.

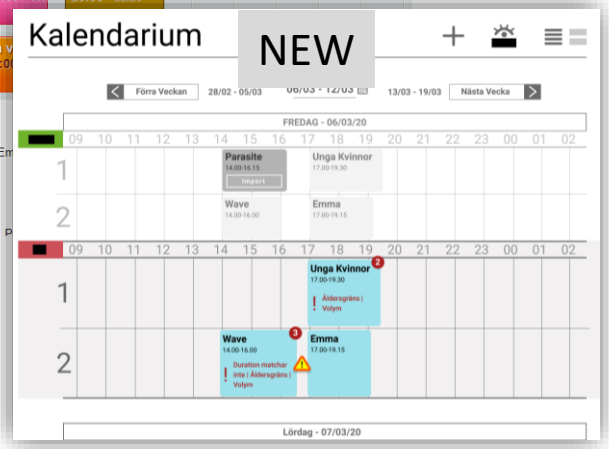
Overview **:** This design is supposed to track the power usage of each apartment and, as long as the value does not reach a certain threshold at the peak hours, a plant will grow fully for the day, leading to a rich garden after each month. The tenants would be able to monitor their usage and adjust it accordingly, assisted by tips.

Keywords **:**
- Sustainability
- Gamification
- UX Design









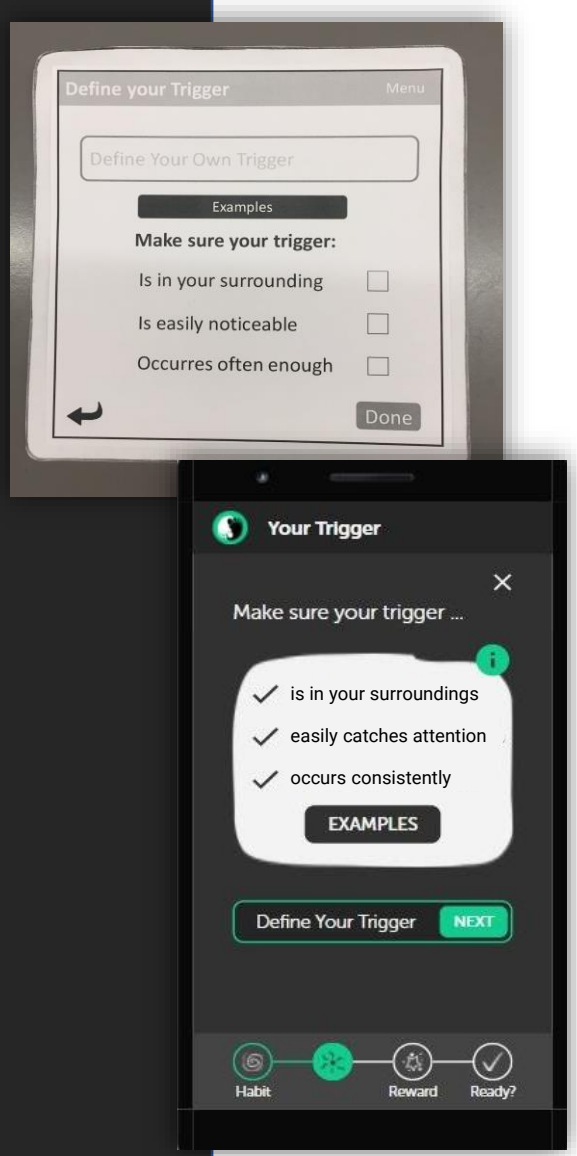
Cinema project

Context **:** This was done in a group project for the course User-Centred Systems Design (5 hp). We worked with a local independent cinema to suggest a redesign of their internal projection scheduling system.
To this end, we conducted a contextual inquiry and discovered breakdowns they faced in their daily operations.

Role **:** I led one of the contextual inquiries and participated in the analysis of all of them. Afterwards I mostly worked on the logic behind the solutions we were preparing and participated in the evaluation sessions with our user.

Overview **:** We redesigned the homepage to include the immediately necessary information which was otherwise spread between multiple places. We also reworked the calendar pages, which are used to plan and create the projection schedule, send the schedule to be approved by the one responsible for publishing it on the customer website. Lastly, we added the ability to directly import the details for the movies from the external source, condensing all the needed information in just one page.

Keywords **:**
- Contextual inquiry
- User-centred design
- UX design
- Prototyping



The Tiny Step

Context **:** This was done in a group project for the course Human-Computer Interaction (15 hp). We came up with a research problem, and proposed and designed a proof of concept solution.

Role **:** I actively participated in every step of the research (e.g. on persuasive design and its ethical implications, bone conduction and how to integrate it into a wearable) and the design process. I wrote parts of the final report and did the editing and proofreading for it.

Overview **:** We chose to focus on improving students' well-being and settled on finding a way to facilitate the building of new healthy habits. We interviewed students, analysed the data, built personas, ideated, and made several different levels of prototypes (sketches, paper and wireframes). We designed a system that provides reminders through a bracelet. The users need to choose a trigger for the habit they want to build (there is a tutorial on how to do that in the application) and the reminders serve the purpose of associating the trigger with the habit. The goal was to make sure the participants are not dependant on the system reminding them to do something, but rather to find an organic trigger for the habit they want to build and not have to forever rely on external reminders. The bracelet was meant to provide the reminders through voice messages delivered by bone conduction.

Keywords:
- Building habits
- Persuasive design
- UX design
- Prototyping