Froukje Temme

Hi, I'm Froukje - welcome to my portfolio!

UX designer focused on human-centered solutions that align **real user needs** with **business goals**. With a broad, **multidisciplinary background** and extensive international experience in **multicultural teams**, I use creative **design thinking** to create meaningful experiences.

9 educational/work experiences abroad • **4** languages • **4** universities • **2** masters

View My Work

Download resume

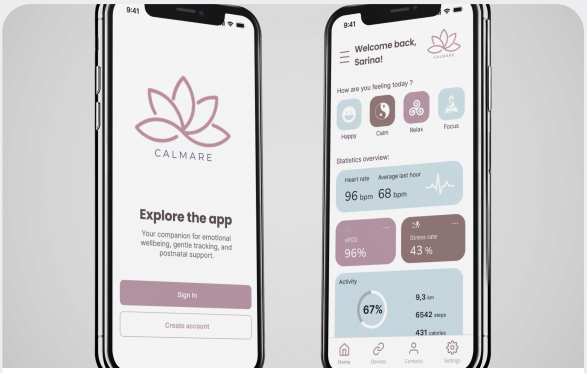
Portfolio

All Work | UX design | Programming | Physical installations (HCD)

UX DESIGN / PRODUCT DESIGN

Inclusive Sports Instruction

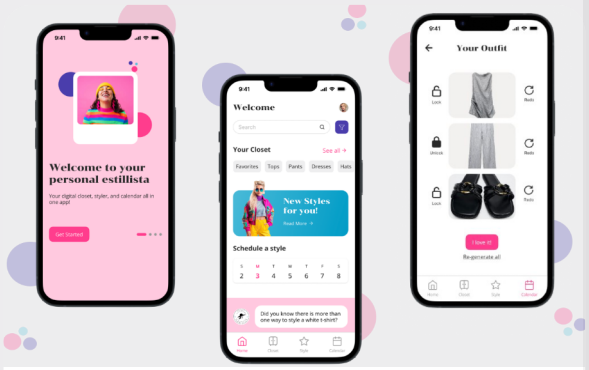
Problem: traditional coaching methods don't meet the needs of athletes with intellectual disabilities.



UX DESIGN

Postpartum Depression Detection

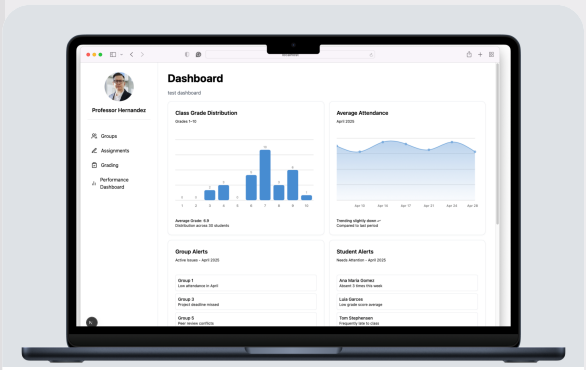
Problem: early signs of postpartum depression often go unnoticed due to fragmented care and reliance on self-reporting.



UX DESIGN

Smart Styling Assistant

Problem: frequent clothing decisions contribute to cognitive overload and



REACT & TAILWIND / HCD

Redesigning Group Evaluation

reduce efficiency in daily routines.

Problem: tracking individual contributions and spotting issues early in group work is nearly impossible with current grading systems.

HUMAN CENTERED DESIGN

Cat friendly veterenarian

Problem: veterinary clinics often cause anxiety in cats due to shared spaces with dogs and stressful environments.

PHYSICAL INSTALLATIONS

Smart Vertical Garden

Problem: the rise in urban living disconnects people from nature and food sources, while long supply chains increase environmental impact.

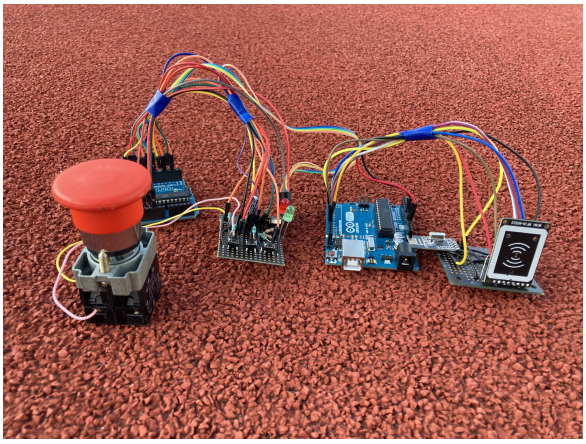
VR DEVELOPMENT

Using VR for health

Stay tuned: how to solve 'unsolvable' health problems with upcoming VR applications?

Inclusive Sports Instruction

Exploring the Use of Alternative Media to Facilitate the Instruction of Motor Movement for Special Athletes - *2022 (6 months)*



An athletics case study – Bachelor Thesis

Challenge

While interactive technologies are increasingly present in mainstream sports training, athletes with intellectual disabilities are often overlooked in their design. These athletes face unique challenges such as **language comprehension** difficulties, **memory deficits, short attention** spans, **impulsive behavior**, and/or hearing impairments. Traditional verbal instruction methods often fail to engage them or effectively communicate motor movement exercises, which limits their participation and progress. This project was in collaboration with the **special athletes team of MPM Hengelo** in the Netherlands.

> *"Sports participation rates among children with an intellectual disability are low, which consequently makes them miss out on positive health benefits that sports participation provides"*
>
> **King, et al.**
> Research in Developmental dissabilities, vol. 34

Solution

This thesis explores how alternative media can enhance instructional communication for special athletes. The outcome is a prototype: an **add-on instruction system for athletics equipment** that uses non-verbal cues to guide athletes with intellectual disabilities through exercises. The system was designed to improve clarity, reduce reliance on verbal explanations, and boost engagement.

My role

This project followed the **Creative Technology Design Process**, encompassing ideation, specification, realization, and evaluation. This was an individual thesis and I was responsible for:

- Conducting literature research and user interviews
- Observing training sessions to identify key user needs
- Designing and prototyping the system
- Running user tests with the target group
- Analyzing results and reflecting on improvements

Tools used included qualitative research methods, rapid prototyping techniques, and basic interaction design tools.

The process:

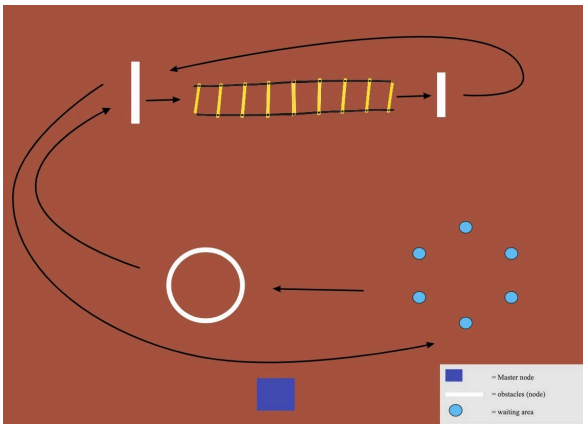
1. Research & Discovery

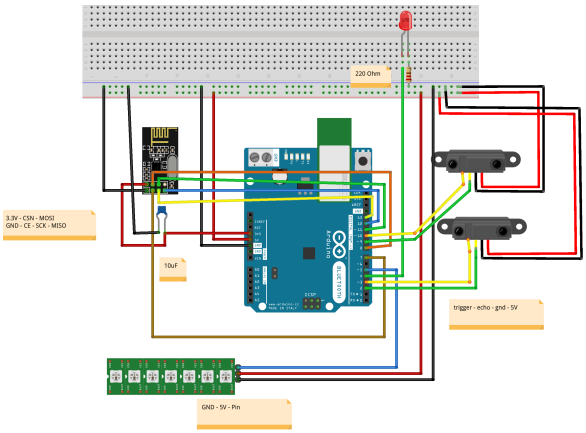
Literature reviews, trainer interviews, and field observations highlighted key cognitive and sensory challenges faced by the athletes.

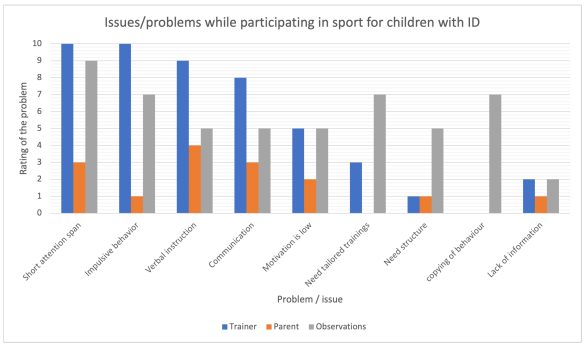
2. Ideation & Specification

Identified user needs and gathered insights from trainers and athletes through interviews and field observations, as well as defining functional and non-functional requirements for the prototype.

3. Prototyping







Developed an add-on instructional system using visual and/or auditory cues to support equipment-based training.

4. Evaluation

Conducted three rounds of user testing with special athletes. Observations focused on the number of mistakes, training efficiency, and user engagement.

Impact

The testing showed that the special athletes of the MPM Hengelo team:

- Made **fewer mistakes**
- Exercises were completed **quicker**
- **Less verbal explanation** was needed from the trainer
- **More athletes understood** the exercises simultaneously

Both the athletes and the trainer responded positively. The prototype effectively addressed the problem it set out to solve: making physical training more accessible and engaging for athletes with intellectual disabilities. Further research with a larger group and broader scenarios is needed to generalize the findings, but the results are promising and indicate a clear potential for impact.

Learning opportunities

- **Full design process:** Completed research, prototyping, and evaluation; would test in more diverse environments.
- Designing for **children with intellectual disabilities**: Learned patience, empathy, and adaptability.
- **Collaborating with trainers**: would involve them earlier in the ideation process.

Project overview

PROJECT TYPE
Bachelor Thesis (Academic Research Project)

DURATION
6 months (Spring - Summer 2022)

TOOLS
Arduino (sensors), Processing (coding communication), Fritzing

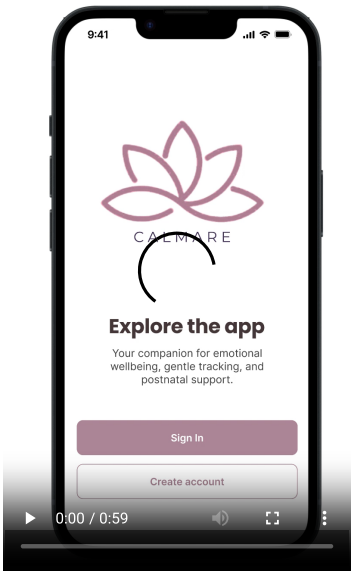
CATEGORY
UX design and Product design

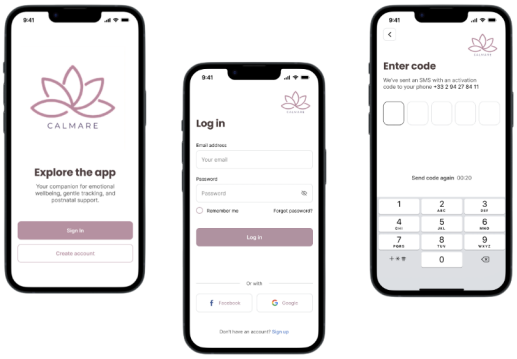
See thesis

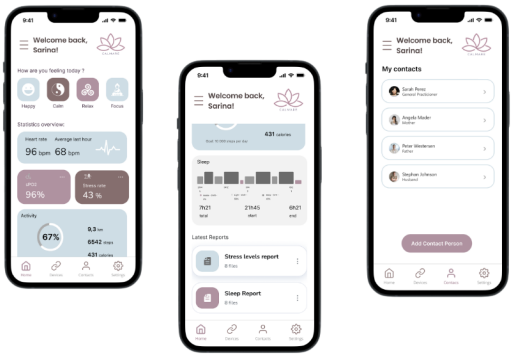
← Home / Postpartum Depression Detection

Postpartum Depression Detection

Early signs of postpartum depression often go unnoticed due to fragmented care and reliance on self-reporting - *2025 (2 weeks)*







Calmare – A Postpartum Mental Health App

Challenge

Postpartum depression (PPD) is a common yet often undiagnosed condition affecting millions of new mothers worldwide. Despite growing recognition, **many cases remain overlooked**, especially in health systems where mental wellbeing isn't systematically monitored after birth. Interviews with hospitals in Barcelona revealed a fragmented landscape: some public units offer integrated psychological care, while many private institutions lack any structured mental health follow-up. Women are typically expected to self-evaluate, which often delays recognition until symptoms have escalated. This gap calls for a proactive, scalable solution that bridges early postpartum care and mental health. This project was in collaboration with the **StartUB UPBEAT program at Universitat de Barcelona**.

> *"Three out of five women who later reported PPD showed no signs in the first two to six months postpartum."*
>
> **CDC Study**
> Postpartum Mental Health Report

Solution

Calmare is a mobile app that works with smartwatches and wearable devices to passively monitor a woman's mental and physical wellbeing from pregnancy through postpartum. It's not a diagnostic (self-reporting) tool, it's a **non-intrusive early-warning system.** Calmare continuously collects and contextualizes behavioral and biometric data—like sleep patterns, activity, heart rate variability, screen time, and GPS-based movement trends—while ensuring user privacy and full data control. By establishing a personal baseline during pregnancy, the app detects subtle changes post-birth that could indicate early signs of depression. If significant deviations are observed, the app notifies the woman's chosen healthcare provider (e.g., OB/GYN, therapist, midwife), prompting a check-in.

My role & tools

This project was conducted in a multidisciplinary team of four with members from Italy, India and the Netherlands. My responsibilities included:

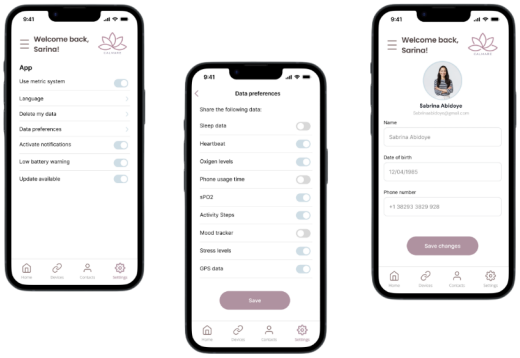
- Creative thinking and solution ideation
- Conducting literature research
- Preparing of expert interviews
- Desiging the full Figma prototype

The process:

1. Literature research & expert interviews

Literature research and interviews with experts to understand care gaps and confirm clinical needs.

2. User needs validation



Confirmed insights and refined requirements with potential users and clinicians.

3. Ideation & Specification

Creation of first UI screen, UX flows and system requirements.

Impact and reflection

Although the project only lasted two weeks, it provided valuble insights into rapid product development and team collaboration. To further asses the impact of this project, a MVP should be developed with clear ethical and legal guidelines for patient data.

Learning opportunities:

- Recognizing the importance of the **surrounding ecosystem**, such as the Barcelona health startup hub.
- Realizing the **value of immediate validation** with users, as we did through hospital visits
- Realizing the need to be **open to ideas**, acknowledging everyone in the team has something unique to brainstorming

Project overview

PROJECT TYPE:
UPBEAT Barcelona summer school 2025 (winning project)

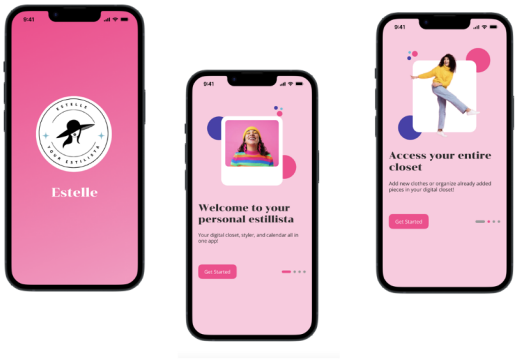
DURATION:
2 weeks

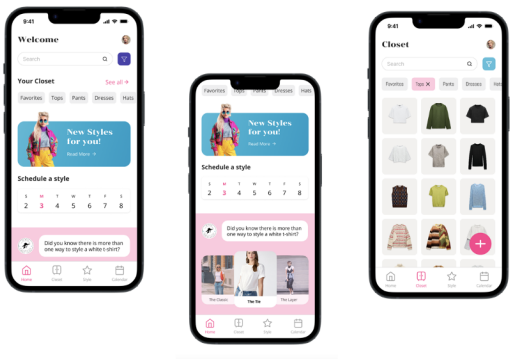
TOOLS:
Figma, Miro

CATEGORY:
UX Design, Health Tech, entrepreneurship & innovation

Smart Styling Assistant

Deciding what to wear daily is for many people overwhelming, especially with changing weather, trends, and occasions - *2024 (10 weeks)*





Estelle — Your Digital Wardrobe Assistant: A UX Design Project

Challenge

In today's fast-paced world, deciding what to wear can feel like an unexpectedly heavy task. Many people spend significant time each day choosing outfits, often leading to **frustration, self-doubt, and decision fatigue**. A lack of styling knowledge, overwhelming wardrobe choices, and pressure to look appropriate for every occasion can impact confidence and self-expression. It's especially challenging to take into account factors like changing weather, current fashion trends, and special occasions, which adds to the complexity of outfit selection. Existing wardrobe or fashion apps rarely address these emotional and practical challenges in a holistic, user-centered way.

> *"I waste so much time staring at my closet, trying things on, and end up having a bad start of the day by feeling overwhelmed"*
>
> User research interview

Solution

This project explores how a virtual styling assistant can improve personal wardrobe management and styling confidence. The result is a prototype called Estelle: an app that transforms your physical wardrobe into a smart digital assistant. Estelle lets users **upload their clothes and receive intelligent styling suggestions, generate new outfit combinations, and share** looks with friends. By tailoring suggestions to weather, trends, and user preferences, Estelle helps users save time, gain confidence, and make fashion fun again.

My Role & Tools

This project was conducted in a multidisciplinary team of four with members from France, USA, Bulgaria the Netherlands. This project followed a human-centered design process. I was actively involved in all stages, including:

- Idea generation
- Creating personas and journey maps
- Designing and prototyping the app interface
- Running usability tests (including a **5-second test** and the **User Experience Questionnaire - UEQ**)
- Iterating based on data and user feedback

The Process

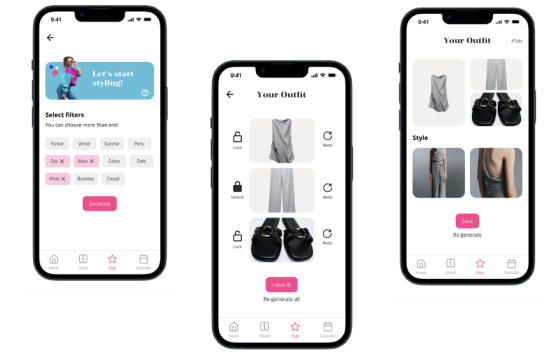
1. Research & Discovery

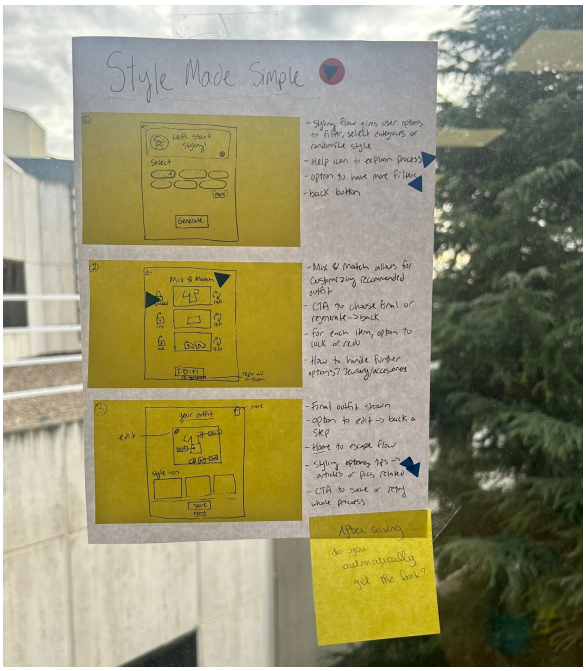
Through user journey mapping and brainstorming, we identified key pain points: time-consuming outfit selection, decision fatigue, lack of inspiration, and confidence issues in styling.

2. Ideation & Specification

We mapped user goals and frustrations to core app features: uploading clothes, generating outfits, receiving style inspiration, and sharing looks.

3. Prototyping





Developed low- to high-fidelity prototypes in Figma, focusing on four core flows: closet upload, outfit generation, styling suggestions, and sharing. Each element was designed with personalization and ease of use in mind.

4. Evaluation

Performed usability testing including a 5-second test to measure first impressions, and a UEQ to quantify usability and desirability. Key findings led to improvements in clarity, visual hierarchy, and entry points for critical features.

Impact & Reflection

- Overall user experience KPI score was **1.49**, indicating high satisfaction
- Most UX metrics of the UEQ scored **above 0.8**, showing the app was perceived as attractive, clear, and engaging
- Users appreciated the visual clarity and bright aesthetic
- Feedback from the 5-second test highlighted some minor confusion about the app's purpose on first glance, prompting UI refinements and clearer feature labeling

Learning opportunities:

- Kill your darlings: dont fall in love with your own project but stay open for new ideas
- The importance of clairty in visual hierarchy and entry: some users were confused about the app's purpose during first glance.

Project overview

PROJECT TYPE
UX Course Project

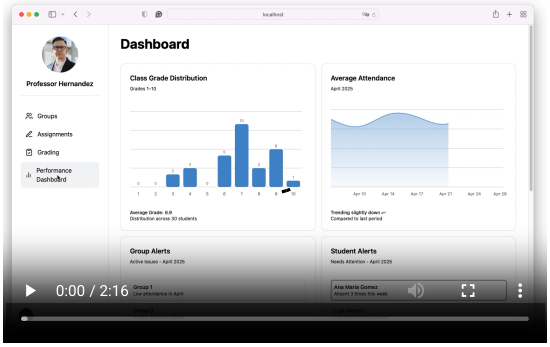
DURATION
2 months (Spring 2025)

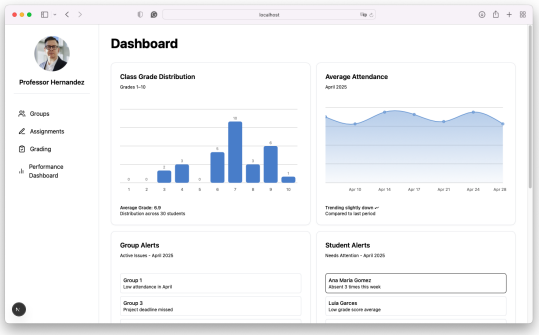
TOOLS
Figma, Excel

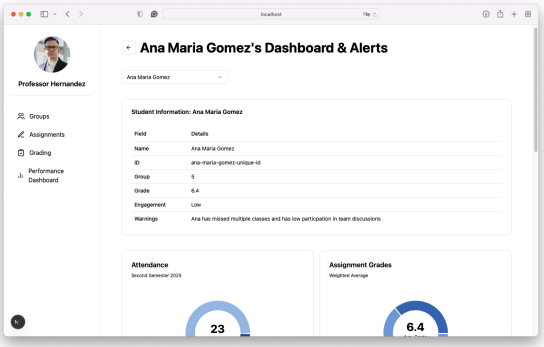
CATEGORY
UX Design, Interaction Design

Redesigning group evaluation

Tracking individual contributions and spotting issues early in group work is nearly impossible with current grading systems - *2025 (4 months)*







Grade Assistant – HCI Project Case Study

Challenge

Professors in higher education frequently assign group projects to simulate real-world collaboration. However, **evaluating individual students fairly, transparently, and efficiently** remains a serious challenge. Existing tools like Excel and Moodle lack the flexibility to handle real-life group dynamics, forcing professors to juggle scattered spreadsheets, inflexible rubrics, and time-consuming manual processes. This lack of overview not only leads to inefficiencies and frustration but also **limits opportunities for early intervention**, especially for students who might be underperforming, disengaged, or overwhelmed.

> *"There's no perfect formula, I keep changing the rubric, but it always depends on the student, the context, the group... it's hard to be fair every time."*

Professor
Contextual Inquiry, Spring 2025

Solution

Grade Assistant is a web-based tool designed to help professors streamline the evaluation of group projects. It enables dynamic rubric creation, flexible group formation (via drag-and-drop), and structured, per-student feedback, all within a clean, task-oriented interface.

Its core innovation is an **interactive dashboard** that provides a real-time overview of all students and groups. Professors can immediately see what's going well, where problems are emerging, and which students may require extra support, giving them the tools to act earlier and grade more fairly.

My role

This project was conducted in a multidisciplinary team of three with members from Italy, Iran, and the Netherlands. This project followed the full **Human-Centered Design process**, including research, iterative prototyping, and usability evaluation. I was responsible for:

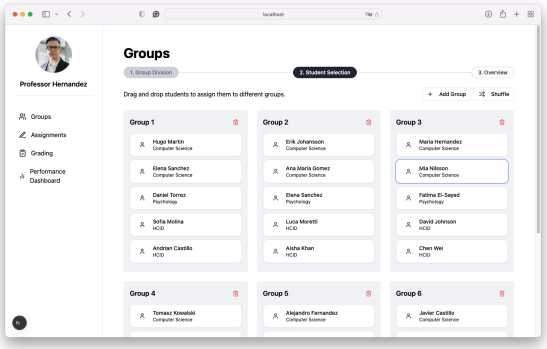
- Conducting interviews and contextual inquiries with professors and students
- Developing and testing with **paper prototypes** (lo-fi)
- **Programming** and testing web-based prototypes (hi-fi)
- Facilitating and analyzing **usability tests**

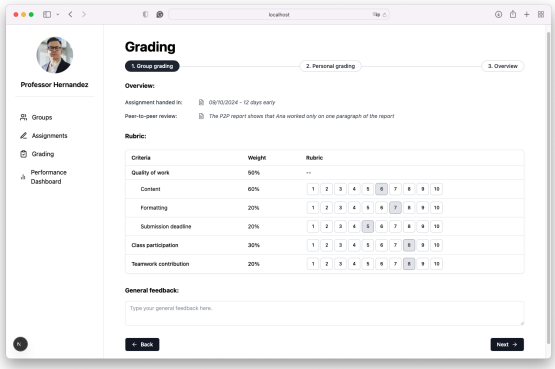
The process:

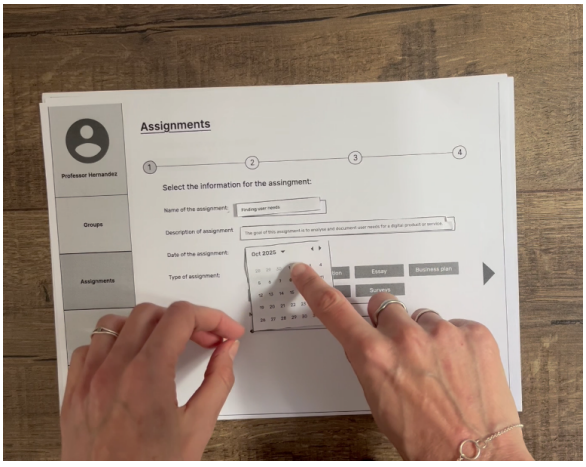
1. Research & Discovery

Through field observations and interviews with **9 students and 4 professors**, we uncovered critical pain points: lack of grading flexibility, time-consuming templates, and limited visibility into contributions. This led us to shift our focus from students to professors, the users most affected by these issues.

2. Ideation & Specification







We identified key needs: intuitive interfaces, customizable rubrics, minimal repetition, and visibility into group dynamics. These insights shaped the system's requirements, such as drag-and-drop group creation, rubric editing, and feedback flow.

3. Prototyping

We developed two low-fidelity prototypes:

- **Menu & Forms –** a traditional navigation model
- **Drag & Drop –** a direct manipulation model

Based on user testing, the **Drag & Drop** prototype was strongly preferred and became the basis of the high-fidelity version, with selected features from the other model integrated to improve clarity.

4. Evaluation

We tested the high-fidelity prototype with **five university professors** using realistic grading tasks and both SUS and UEQ questionnaires. We evaluated effectiveness, efficiency, and satisfaction, alongside qualitative impressions.

Impact & reflection

The final prototype was highly successful:

- **SUS Score:** 96.5 – excellent usability
- **UEQ Feedback:** High ratings on attractiveness, efficiency, and dependability
- **User sentiment:** 4 out of 5 professors described the tool as “very intuitive” and “easy to use”

Professors especially praised the **interactive dashboard**, with feedback including:

- “Wow, I would actually use this!”
- “This is what we’ve been missing.”
- “Finally, I can see everything in one place; it would really help with follow-ups.”

While some usability issues (e.g., scroll bars, subcriteria clarity) were noted, all professors expressed that this tool could meaningfully improve the grading experience in group-based education.

Project overview

PROJECT TYPE
4-month HCI Course Project (Academic Group Work)

DURATION
Spring 2025 (February – May)

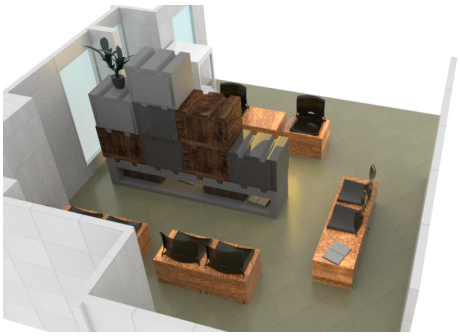
TOOLS
React, Tailwind and ShadCN UI (programming), Figma (lo-fi prototype), SUS, UEQ

CATEGORY
UX Design and Interaction Design

← Home / Cat Friendly Veterenarian

Cat Friendly Veterenarian

Veterinary clinics often cause anxiety in cats due to shared spaces with dogs and stressful environments - *2020 (10 weeks)*



Reducing Feline Stress In Clinics – HCI Project

Challenge

Veterinary clinics serve a wide range of animals, but they are rarely designed with the unique needs of each species in mind. At **Animal clinic Slangenbeek in Hengelo, the Netherlands**, the daily reality involves a high volume of animals (up to 30 per day) and intense time pressure. **Cats, in particular, are easily stressed by dogs** in the waiting room, making examinations more difficult and reducing the overall quality of care. Despite the clinic's commitment to professionalism and empathy, its physical layout and workflows aren't aligned with its goal of becoming a **certified Cat Friendly Clinic**.

> *Cats experience stress in the waiting room. Sometimes they are so tense that we can barely treat them.*
>
> **Veterenarian at Slangenbeek**
> User Interview

Solution

We designed a **modular, sensory-enhanced cube system** to provide cats with a more comfortable and calm waiting experience. Each cube fits a cat carrier and includes **calming light, warmth, scent, and gentle sound**, all adjustable via a simple interface. The cubes also create **visual separation** from dogs and foot traffic. This affordable and scalable solution supports the clinic's workflow and helps meet Cat Friendly certification criteria, without requiring structural renovation.

My role & tools

This project was conducted in a team of four and followed the **Creative Technology Design Process**, encompassing ideation, specification, realization, and evaluation. I was responsible for:

- Conducting field research and veterenarian interviews
- Analyzing the clinic's layout, operations, and pain points
- Developing **3D design concepts in Maya**
- Developing an explanatory videos to explain the concept (project during covid, so unfortunately nothing was allowed to be build)

The process:

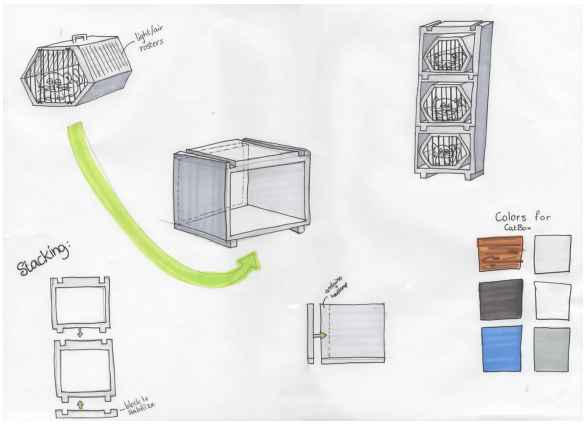
1. Research & Discovery

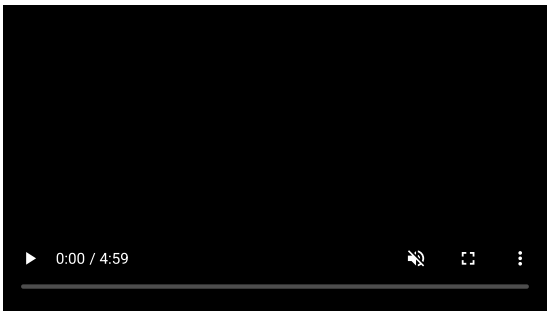
We visited the clinic multiple times, observing workflow and patient interactions. Interviews with veterinarians and assistants helped identify key issues. Research into feline behavior and Cat Friendly Clinic standards further shaped our understanding.

2. Ideation & Specification

Based on our findings, we defined three main goals: **reduce feline stress, integrate seamlessly with clinic workflow, and stay within budget**. We explored modular systems, sensory environments, and compact designs.

3. Prototyping





We started with rough sketches to explore design ideas, then refined them using electronic sketches and 3D models in maya; boxes incorporating light, sound, scent, and heat. This helped us better visualize the space and workflows for a cat-friendly environment.

4. Evaluation

While live animal testing wasn't possible during the project due to covid-19, we developed a future testing plan based on:

- Behavioral observation of cats before and after cube use
- Owner perception and satisfaction
- Impact on staff workflow and noise levels

Impact & reflection

Feedback from clinic and academic staff was highly positive, and the project became to be **the winning project** of the competition of all 150 students of that course. The cube system was seen as a realistic and desirable improvement.

This project demonstrates how HCI can play a role in **animal-centered design**. The prototype offers a viable step toward Cat Friendly certification for Dierenkliniek Slangenbeek, with minimal cost and disruption. The solution balances the needs of animals, owners, and staff, showing promise for future implementation and testing.

Project overview

PROJECT TYPE
Course project 'Living and working together' (winning project)

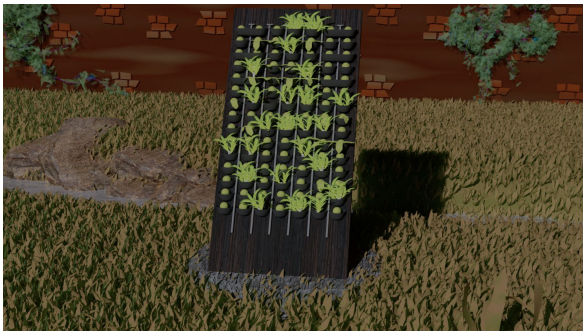
DURATION
10 weeks

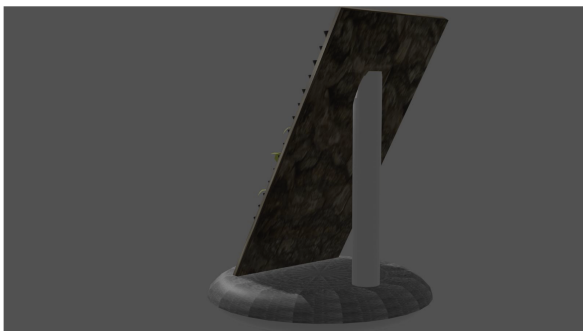
TOOLS
Field research, contextual inquiry, 3D modelling Maya

CATEGORY
UX Design, Product Design, Human-Centered Design

Smart Vertical Garden

Urban residents lack the space, time, and knowledge to grow their own food, leading to disconnection from food sources and reliance on unsustainable supply chains - *2019 (10 weeks)*





Automated Urban Gardening – a Smart Environments Project

Challenge

With the global population rising and urban density increasing, the space available for traditional agriculture is shrinking. This creates a dual problem: the food supply chain becomes longer, increasing CO2 emissions from transportation, and urban residents become disconnected from their food source. Many people living in apartments or homes with small gardens are interested in growing their own food but are often discouraged by lack of space, time, or horticultural knowledge.

> *"I'd love to grow my own herbs, but I live in an apartment with a tiny balcony, and honestly, I have no idea how to keep a plant alive for more than a few weeks."*

Solution

The Smart Vertical Garden is a consumer-focused, automated system designed to make home gardening effortless and efficient, even in small urban spaces.

The result is a smart, self-regulating garden that:

- **Follows the sun:** Using an automated rotation system, the garden turns throughout the day to ensure plants receive maximum sunlight, with a predicted 25-35% increase in sun exposure.
- **Waters itself:** Integrated humidity sensors monitor moisture levels and activate a pump to water the plants precisely when needed.
- **Is built for the user:** The design features easily replaceable plant sockets and a sturdy base that houses both a water reservoir and the required hardware.

This concept was brought to life through a functional prototype, featuring laser-cut MDF gears and an Arduino-controlled motor, which successfully demonstrated the core automated features.

My Role

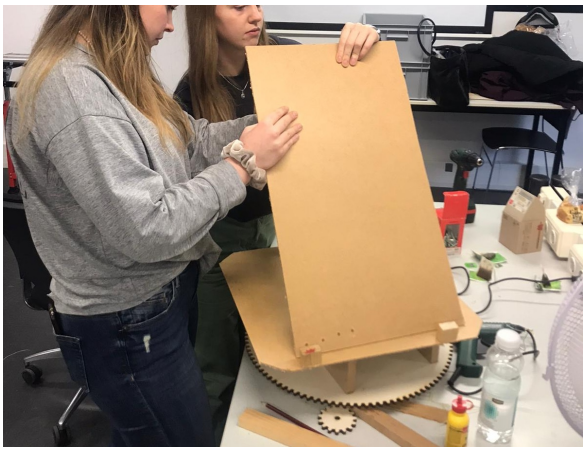
This project was a collaborative effort within the "Smart Environments" course. As a team of five, we followed a full design and development process. My responsibilities included:

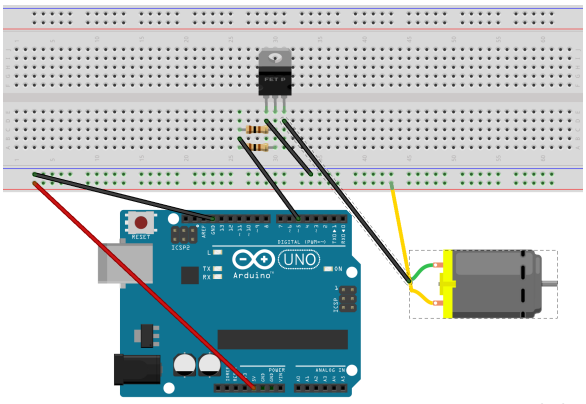
- Conducting literature reviews and problem analysis to define project scope.
- Ideating and specifying the core features of the smart garden.
- Designing and **programming the construction of the physical, Arduino-powered** prototype (communication via 'Processing').

The Process:

1. Research & Discovery

Through a comprehensive literature review and problem analysis, our team investigated existing smart agriculture technologies and identified key challenges in the current food system, confirming that a small-scale, automated solution could address multiple issues simultaneously.





2. Ideation & Specification

We brainstormed several potential solutions before focusing on a vertical garden for its feasibility and direct consumer impact. We defined the system's core requirements: it had to be automated, compact, and user-friendly for beginners.

3. Prototyping

We developed two parallel prototypes:

- **Software Prototype –** Using Processing, we built a simulation to validate the algorithm for the optimal sun-tracking rotation.
- **Physical Prototype –** We constructed a functional model using laser-cut gears, a PVC support structure, and an Arduino to demonstrate the mechanical feasibility.

4. Evaluation

While a formal usability study was not conducted due to time constraints, we evaluated the prototype based on its functional success and existing research. The prototype successfully demonstrated the intended automated rotation, and its potential is supported by data on similar single-axis trackers (predicting a 25-35% increase in sunlight capture).

Impact & reflection

The final prototype successfully met our primary goal of creating a functional, automated vertical garden, demonstrating that the core concept was viable.

- **Predicted Efficiency:** Based on existing data, the sun-tracking feature is projected to increase sunlight capture by **25-35%**.
- **Functional Success:** The physical prototype successfully demonstrated the autonomous rotation powered by an Arduino and integrated sensors.

The key reflection was the importance of early physical prototyping to identify and solve unexpected mechanical challenges. The project confirmed that smart, user-centered design can make sustainable living more accessible and serves as a meaningful step toward healthier, more localized food systems.

Project overview

PROJECT TYPE
Smart Environments Course Project (Academic Group Work)

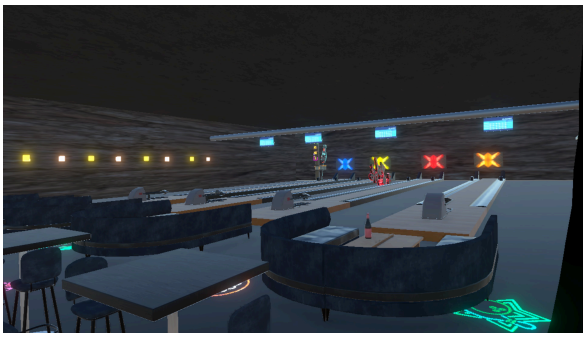
DURATION
10 weeks

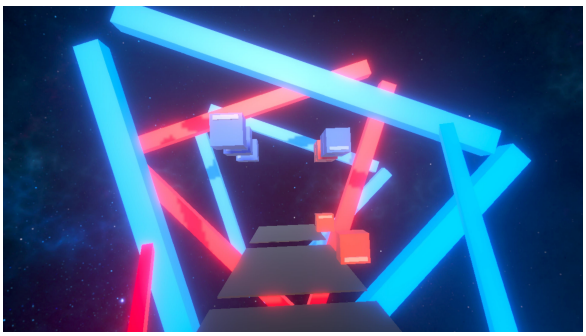
TOOLS
Arduino, Processing, 3D Modeling Software, Laser Cutter, MDF, PVC

CATEGORY
Product Design, Physical Prototyping, Smart Environments, IoT

Using VR for health

Stay tuned: how to solve 'unsolvable' health problems with upcoming VR applications?*Upcoming project!*





Work in progress

Challenge

I'm really excited about how VR applicatoins can offer fresh perspectives/solutions to existing challenges and healthcare matters. To gain experience, I'm currently exploring various VR coding projects. With technology advancing so rapidly, I see tremendous potential in this area and can't wait to share some of my work soon.