

Nicholas Berry

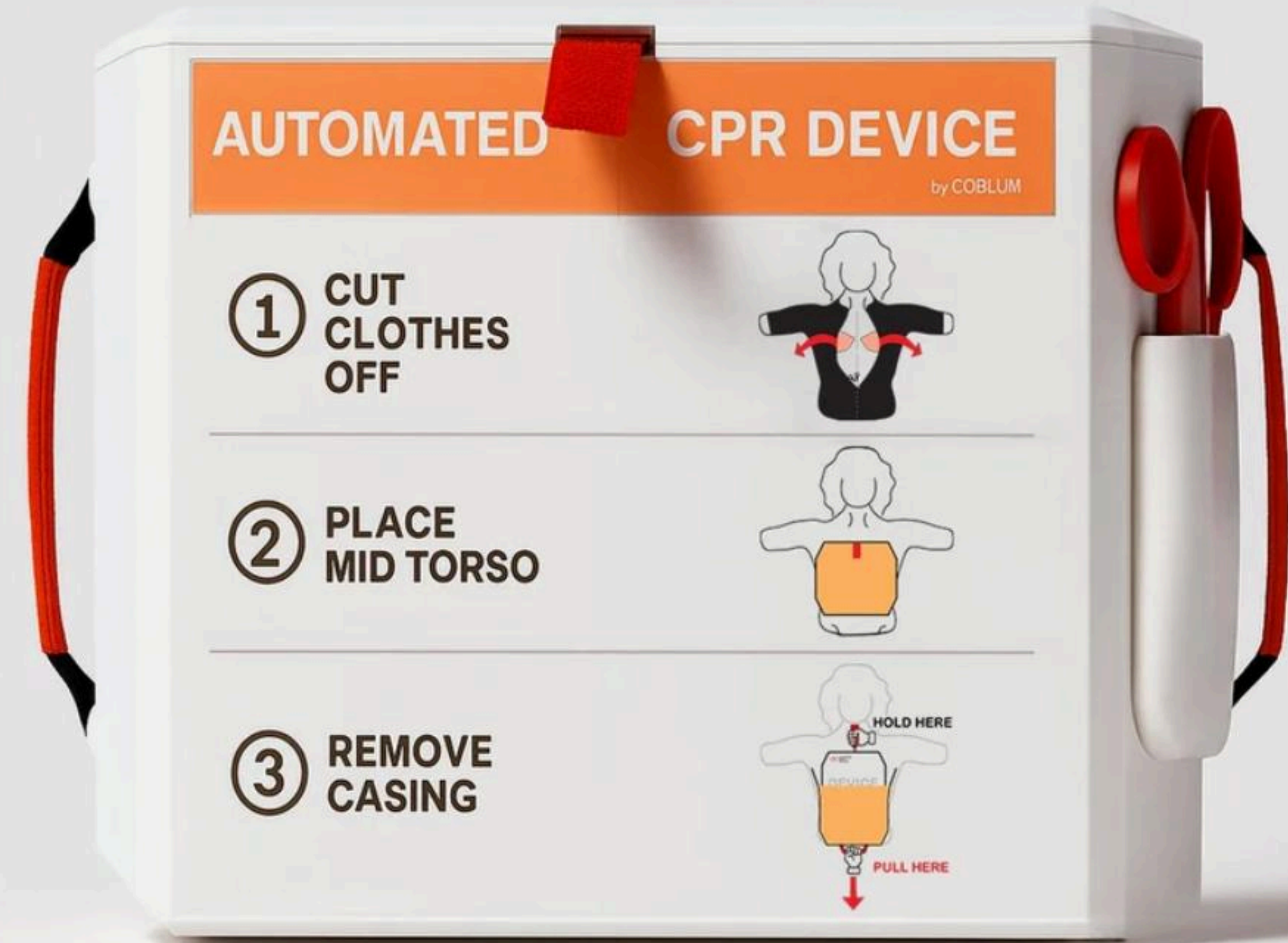
MA/MSc Innovation Design Engineering

Coblum

Working at Coblum, an InnovationRCA start-up, I participated in the development of an **innovative life-saving technology** that is aimed at equipping any bystander with the ability to perform **high quality CPR** on the victim of out-of-hospital cardiac arrest. The unique conditions of work in the start-up company provided the opportunity to look at the **product development cycle** as a whole and use **pragmatic approaches in engineering** and problem solving.

Relevant Skills:

Rapid Prototyping | CAD (Fusion360) | Product Development | Mechanical Engineering



Roles & Responsibilities

- **Product MVP development:** Successfully combined the "looks like" and "works like" versions of the prototype in order to engineer a holistic Minimum Viable Product (MVP).
- **Product mechatronics and prototyping:** Contributed to the development of the prototype from various angles: mechanical engineering, electrical engineering, coding.
- **Test & Verification:** Constructed a variable-load testing rig fitted with built-in load cells. This allowed accurate analysis of the device's performance under different working conditions.
- **Human-Centred Design:** Undertook research on anthropometrics and chest compression biomechanics to refine the constraints of the device

in order to maximise its effectiveness for people with varying body types.

- **Product Marketing & Strategy:** Helped in preparing for entry into prominent design awards such as the James Dyson Award by creating compelling visualisations that captured the value proposition and impact of the product to potential stakeholders.



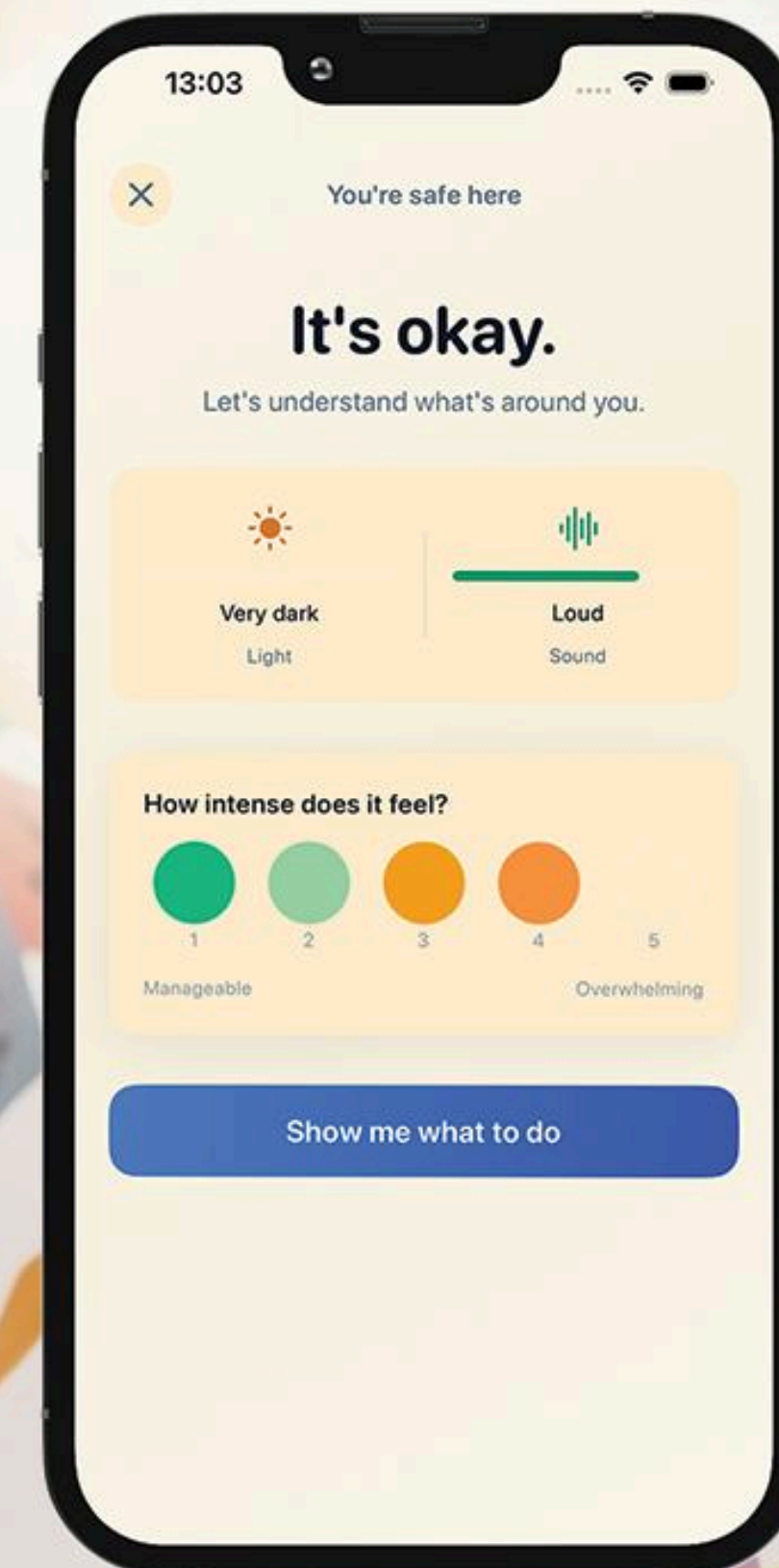
MakingSense

MakingSense is a service that aims to assist university students prone to **sensory overstimulation** by helping them to better **understand and support** their **specific sensory processing and needs**.

Relevant Skills:

Human-Centred Design | Inclusive Design |

Mobile App Design & Prototyping | AI | UI | Figma | Swift

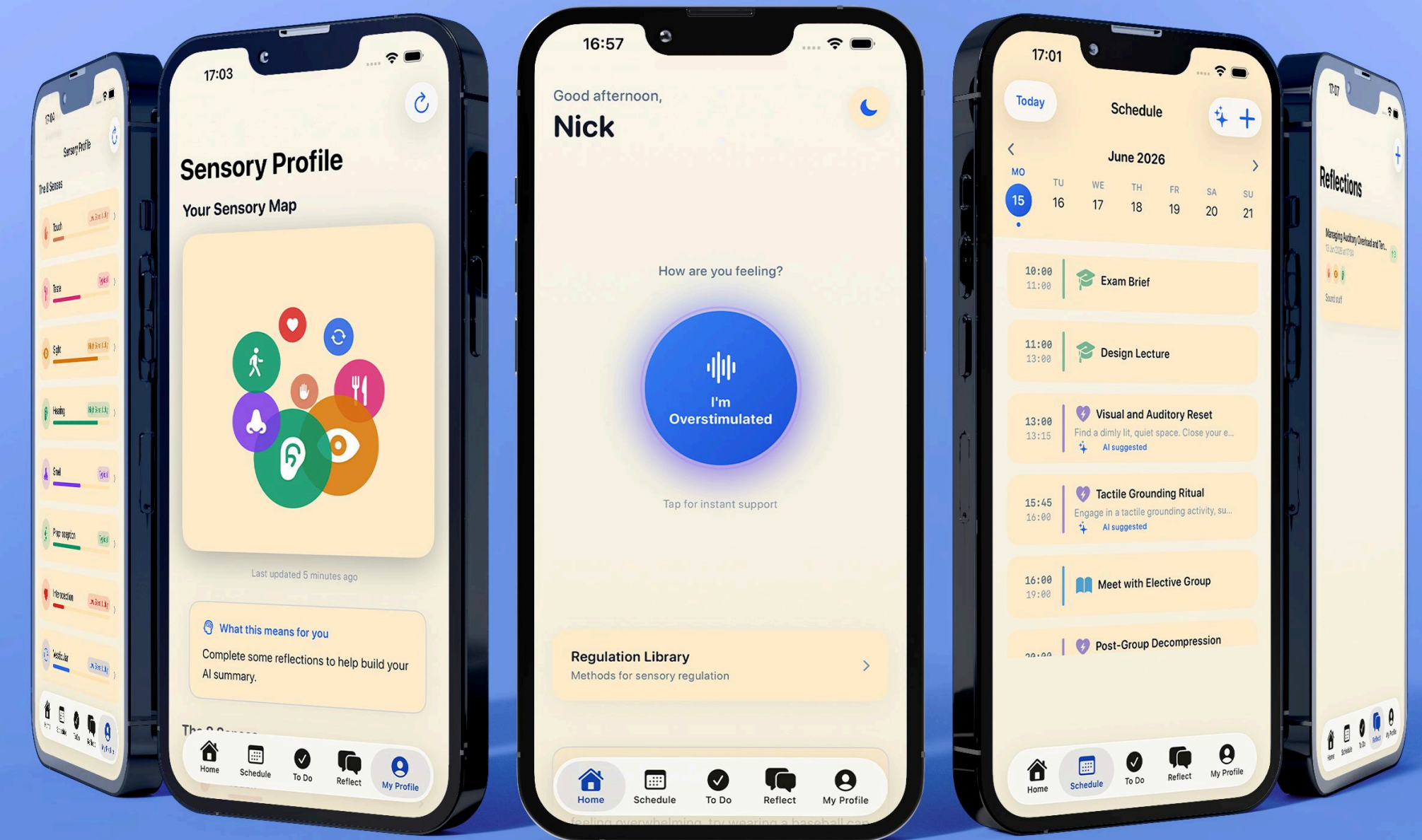


MAKINGSENSE

Function & Features

Everyone's brain processes sensory information in its own unique way. MakingSense is able to understand a user's **unique sensory processing**, sensitivities and needs in order to provide them with the tools and strategies to support those needs. Therefore, **reducing fatigue** and **supporting wellbeing and accessibility** of difficult sensory environments.

The app is able to provide support when the user is overstimulated and **build healthy habits** into daily life that work to prevent overstimulation entirely.



“

This is a really good way to bring awareness to sensory processing needs and to help students track and understand their unique needs.”

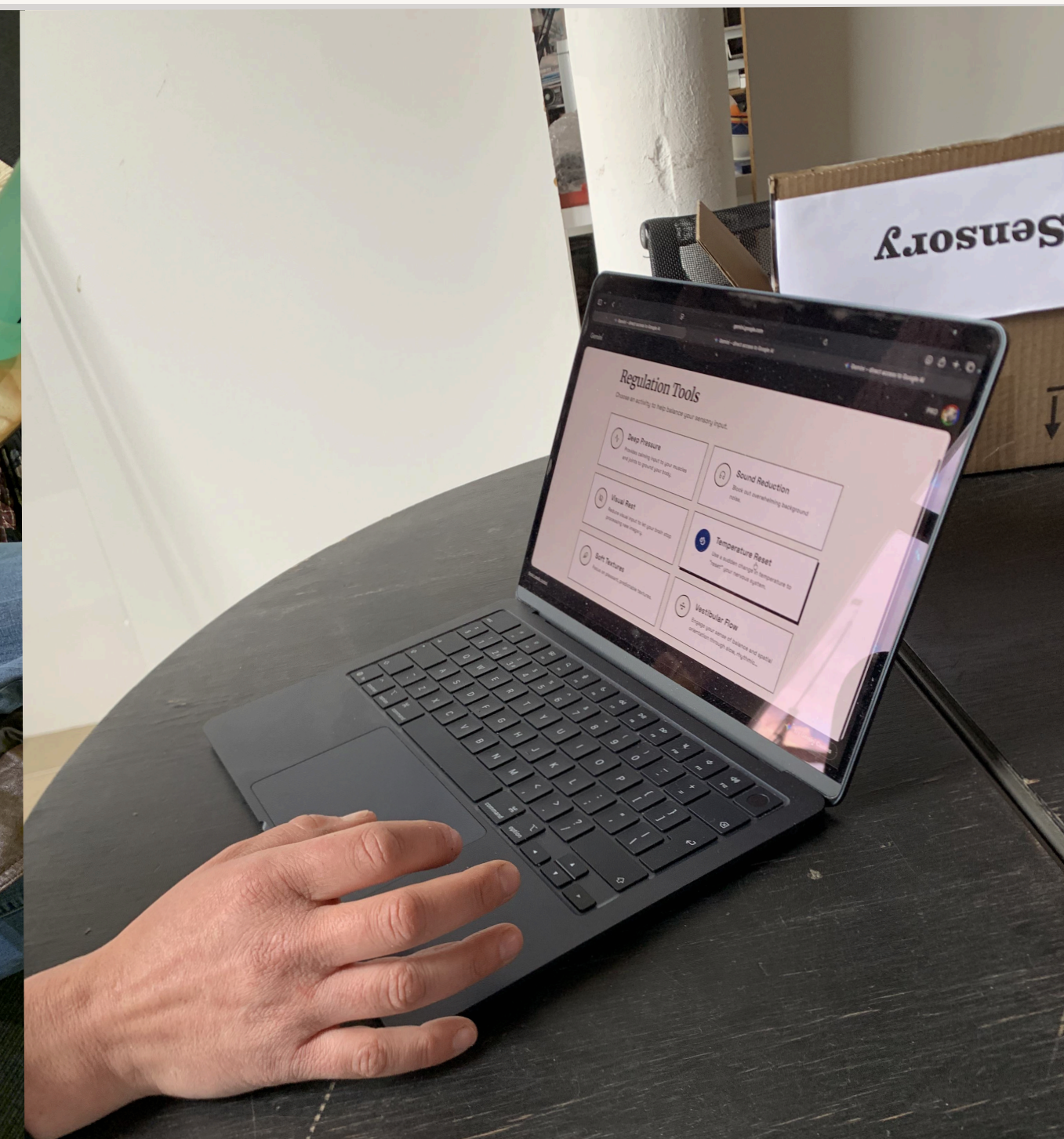
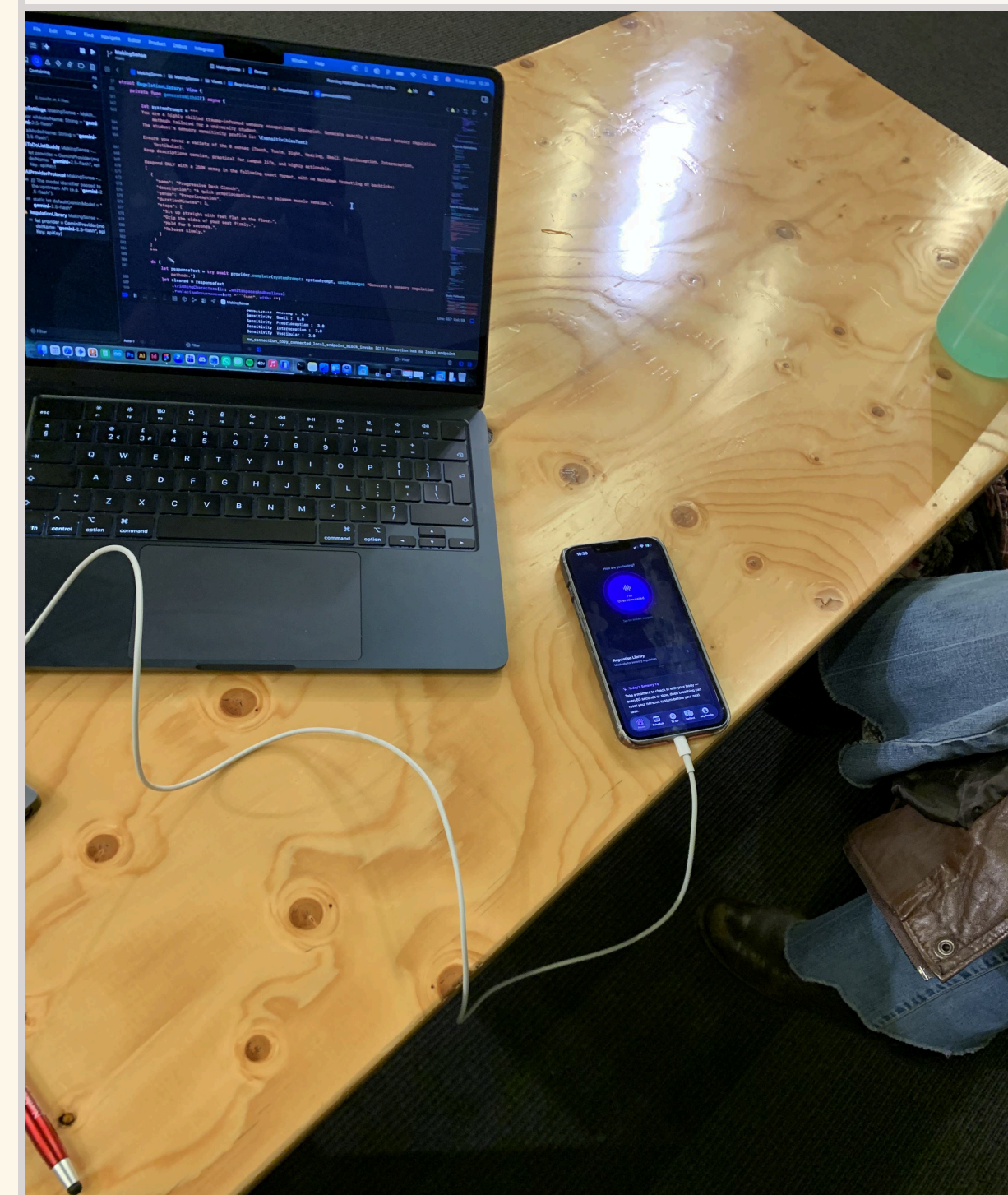
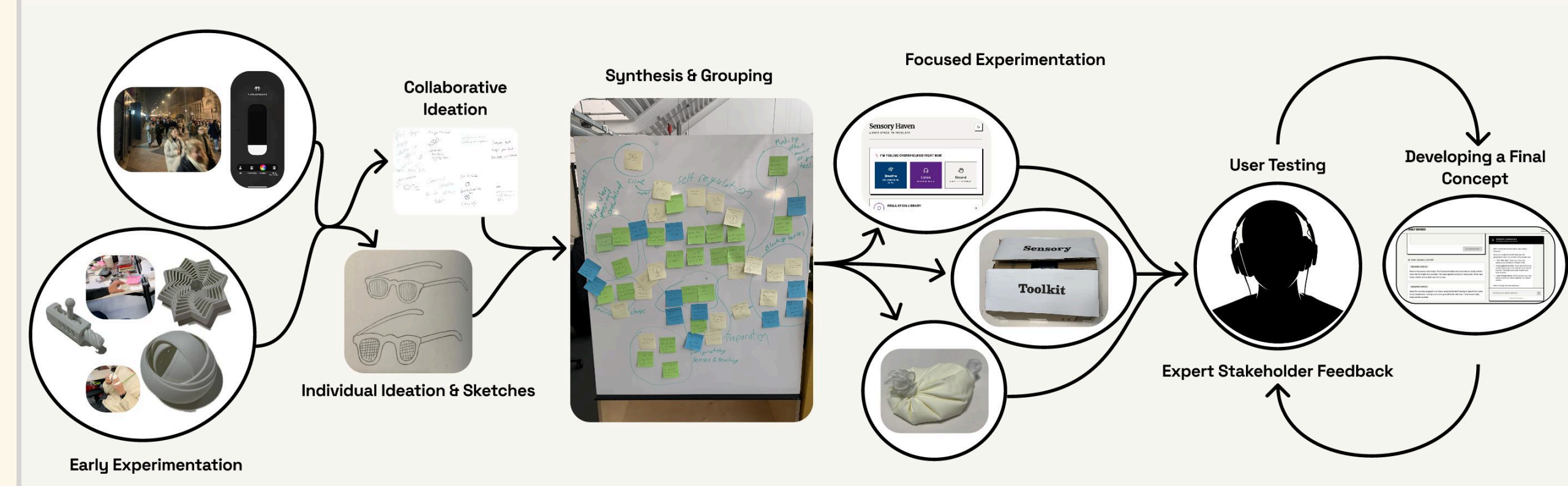
— OCCUPATIONAL THERAPIST

MAKINGSENSE

Process & Co-Design

From early experimentation to final development, MakingSense was an **iterative and collaborative process** that built upon **research insights** to develop a **grounded solution**. By partnering with **occupational therapists** and **students for whom overstimulation** is a daily reality, the project successfully bridged clinical understanding with the actual lived experiences of managing these conditions.

This collaboration also allowed me to run **week long trials** of my final design as part of my project **validation**.



Cyber-Tail

As part of our Cyber Physical Systems module, we set out to develop a **wearable, animatronic tail** as an extension of the human body, designed to convey emotional responses based on visual input. This tail serves as a **novel form of nonverbal expression**.

An integrated software pipeline uses **Python** to track audience hand landmarks, which are classified by Wekinator's **machine-learning model** into specific gestures (like a wave or a fist) and sent via **Processing** to an **onboard Arduino Nano**.

Relevant Skills:

Arduino | Python | Machine Learning | Mechatronics



Ray

Winning 2nd Place in the **Student Service Design Challenge 2025**, partnered with ISDIN, Ray helps build **healthy skin habits in children**.

Ray combines **gamification with educational value**, by using a **personalised Tamagotchi character** in a **squeezable sunscreen dispenser** that **pairs with the Ray app** to keep parents informed about their children's care.

Relevant Skills:

Behavioural Design | Service Design |
Human-Centred Design



Precision Healing

At Precision Healing, a **medical device company** specialising in wound care, I played a pivotal role in **preparing a new device for FDA submission**. My work bridged the gap between **engineering and regulatory compliance**. I managed **software verification and validation**, generated detailed **technical drawings** for device components, and **authored the manufacturing procedure**. To optimise production, I also designed **custom manufacturing fixtures** that eased the assembly process and reduced overall build time.

Relevant Skills:

CAD (SolidWorks) | Design for Manufacturing | Mechanical Engineering | Regulation & Compliance



Exergen Corporation

At Exergen Corporation, an industry leader in clinical thermometry, my work centred on **optimising product accuracy** and manufacturing efficiency. I designed custom parts to **resolve device calibration issues** and took the initiative to set up and troubleshoot the company's in-house **3D printing capabilities**, which significantly reduced prototype lead times and fabrication costs. On the production side, I integrated a vacuum chamber into the manufacturing line, executing the **Engineering Change Order** with validation of its performance. Additionally, I fully documented a new assembly line fixture to ensure its seamless rollout into active production.

Relevant Skills:

CAD (SolidWorks) | Manufacturing | Mechanical Engineering



EXERGEN
C O R P O R A T I O N