Design, Art, Technology, Business

Inclusive, human-centered,
data-driven.

Portfolio

Impactful Experiences with
strategic planning, research
and the technology

HI I AM CLOVER

Design with Emerging Tech

ChengLin(Clover) Li

Education

University of California

Design Engineering: Master of Design

Expected December 2023

New York University

B.S. in Interactive Media Arts

B.S. in Business and Marketing

September 2018-2022

Experience

SLB

Digital Technology Intern *June 2023 - August 2023*

- Researched and enhanced user experience through VR, AR design
- Refined and iterated interfaces to enhance information presentation

Endless Health

Product Designer *February 2023 - March 2023*

- Refined the design of the premium purchase process resulting in a 28% increase in new users purchase, and a 36% increase in retention rate
- Redesigned layout, content of main page led to 62% increase in view
- Conducted research to understand customer journey and purchase preference about premium subscription plans including 18 interviews
- Collaborated with PM engineers to implement data monitoring, visualization, and Al coach function in the App to facilitate patients' recovery

Repsol-Berkeley Schoolab

UX Design Intern *September 2022 - December 2022*

- Led 20 interviews, 5 field studies, and 50+ surveys to build personas, user journey map, and online offline advertises for oil collection service
- Designed oil collection function from 0-1, developed 7 short-term solutions and 6 long-term solutions to expand the service nationwide
- Collaborated with multi-disciplinary teams for the launch of service

Generali China Life Insurance

Product Design Intern *December 2021 - February 2022*

- Refined users' purchase process and redesigned interface aesthetic of the Mobile App increasing user stickiness by 22%
- Designed user journeys, user flows, and system maps of insurance services to communicate product visions to partners and clients
- Led competitive analysis and provided strengths and weaknesses of insurance products to agencies' sales teams. Strategic planning resulting in a 10 million deal and increase in national rank to 4th

01 Thesis

XR Accessibility

02 Sofar

Physical Prototype

03 Ocean Lung

Futuristic Design

04 D@L

Design at Large

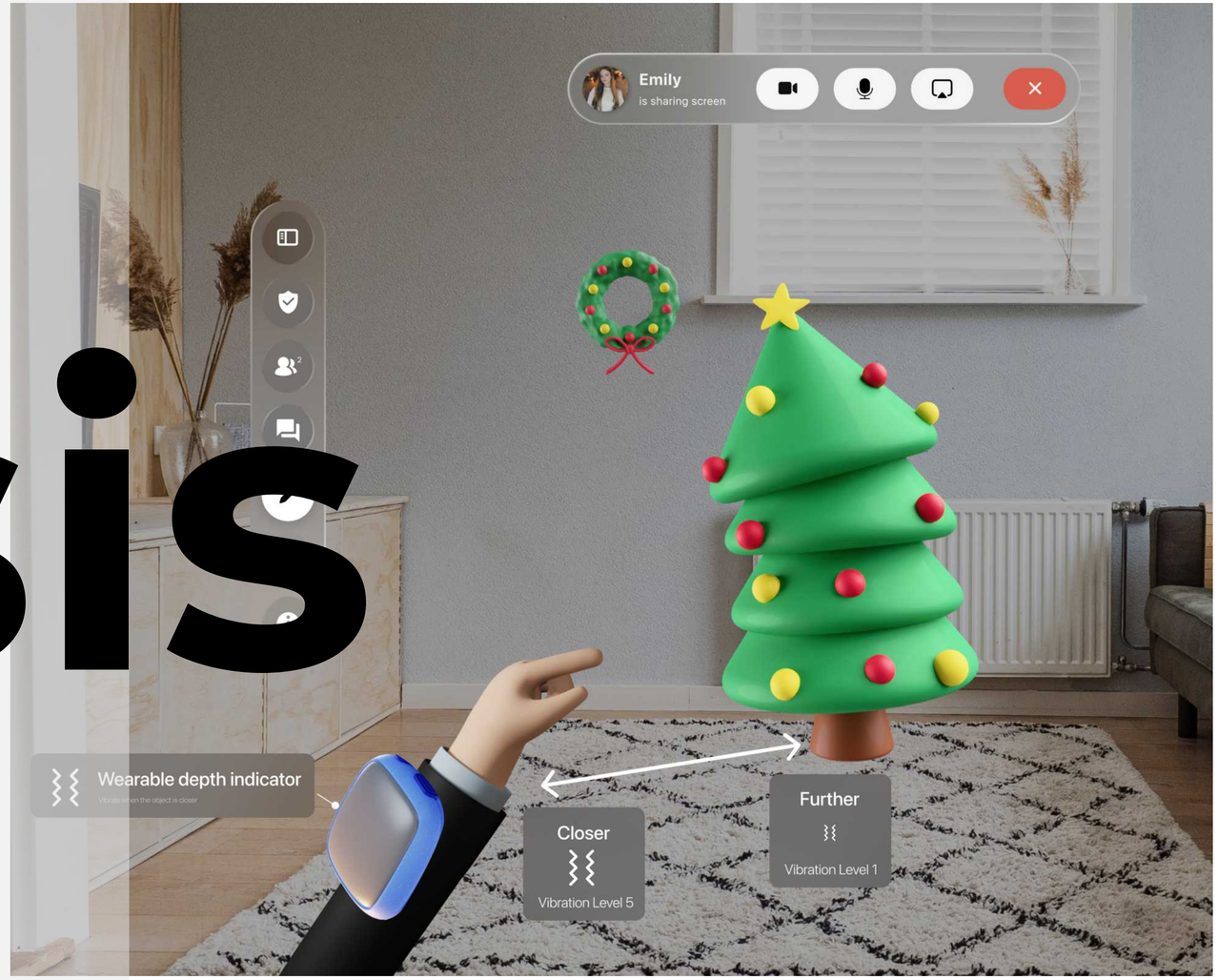
MDes
Thesis

Chenglin Li, Simian He

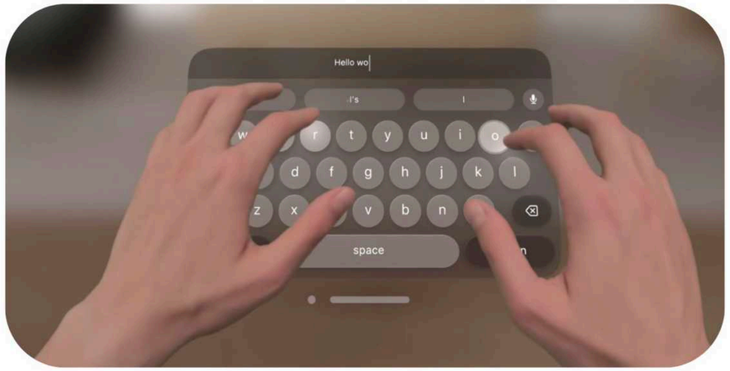
UC Berkeley, Master of Design
Thesis

2023

Enhance depth perception for poor vision people



the INTRO



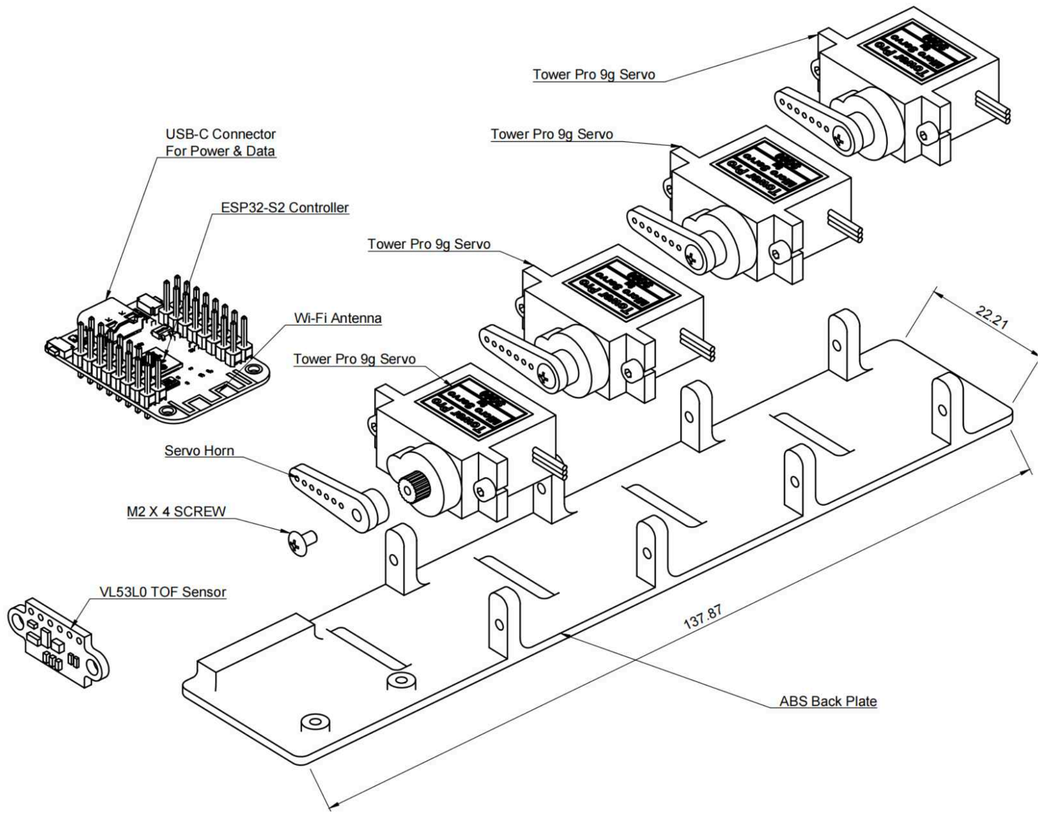
presenting a barrier to those with limited sight. The predominant use of visual cues, especially in conveying depth, fails to accommodate the needs of poor-vision users, thus limiting the accessibility and benefits that XR can offer. Our research aims to bridge this gap by exploring alternative methods to enhance depth perception within XR environments, aiming to forge a path towards truly inclusive technological solutions.

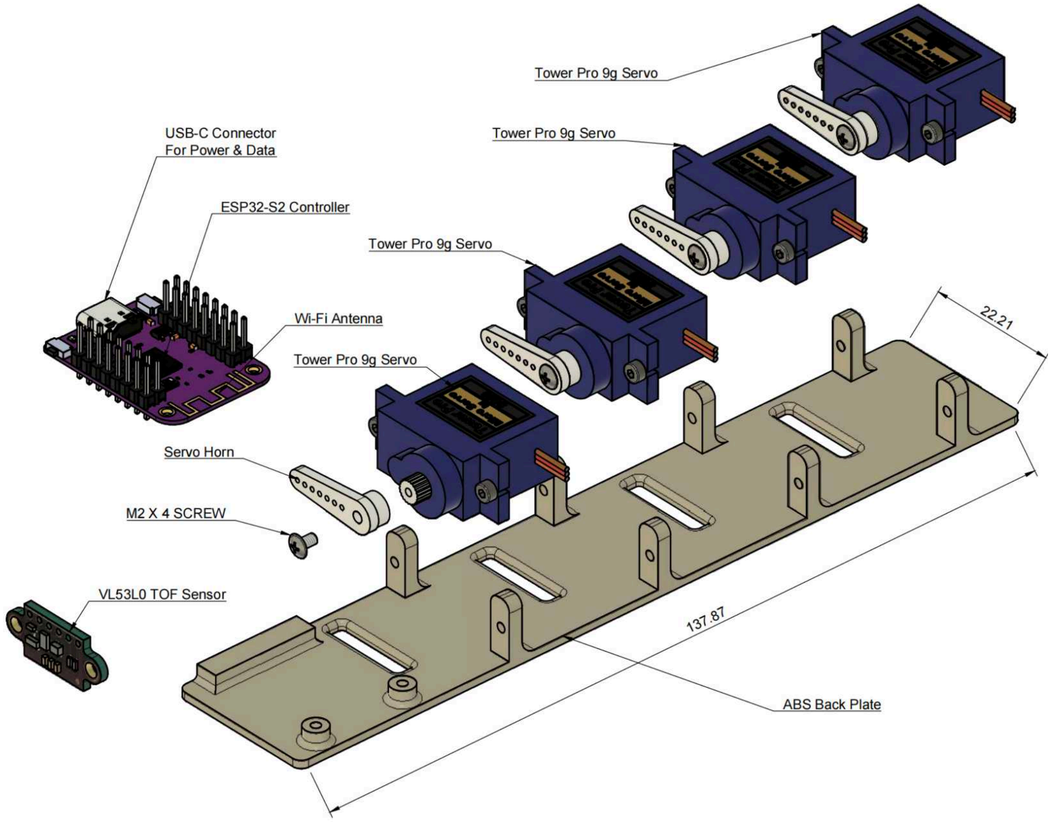
XR accessibility design for for poor vision people

Our Design Introduction

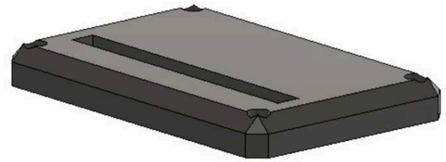
Extended Reality (XR) technologies herald a new era of inclusivity, offering unparalleled opportunities for individuals, regardless of their abilities, to participate fully in diverse aspects of daily life, including education, work, entertainment, and fitness. As XR technology continues to evolve, there is a growing expectation among the public for its seamless integration into our everyday experiences. This surge in interest underscores the potential for XR to revolutionize assistive technologies, especially for those with poor vision. Nonetheless, the current landscape of spatial computing is heavily skewed towards visual interactions,

the Technology





design
Prototype



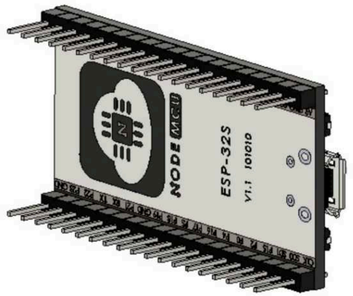
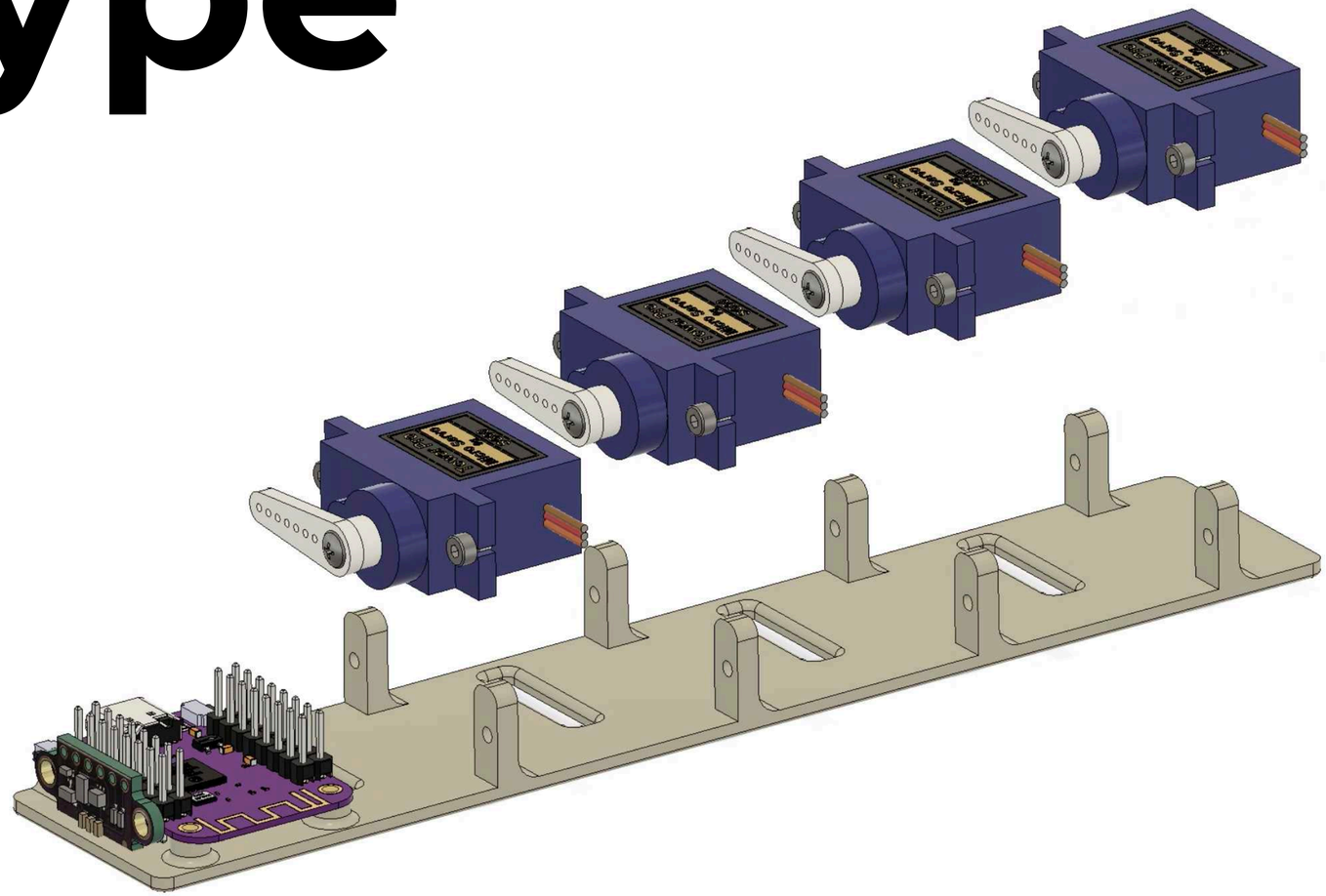


Image demonstrating the working prototype

Our Design Methodology

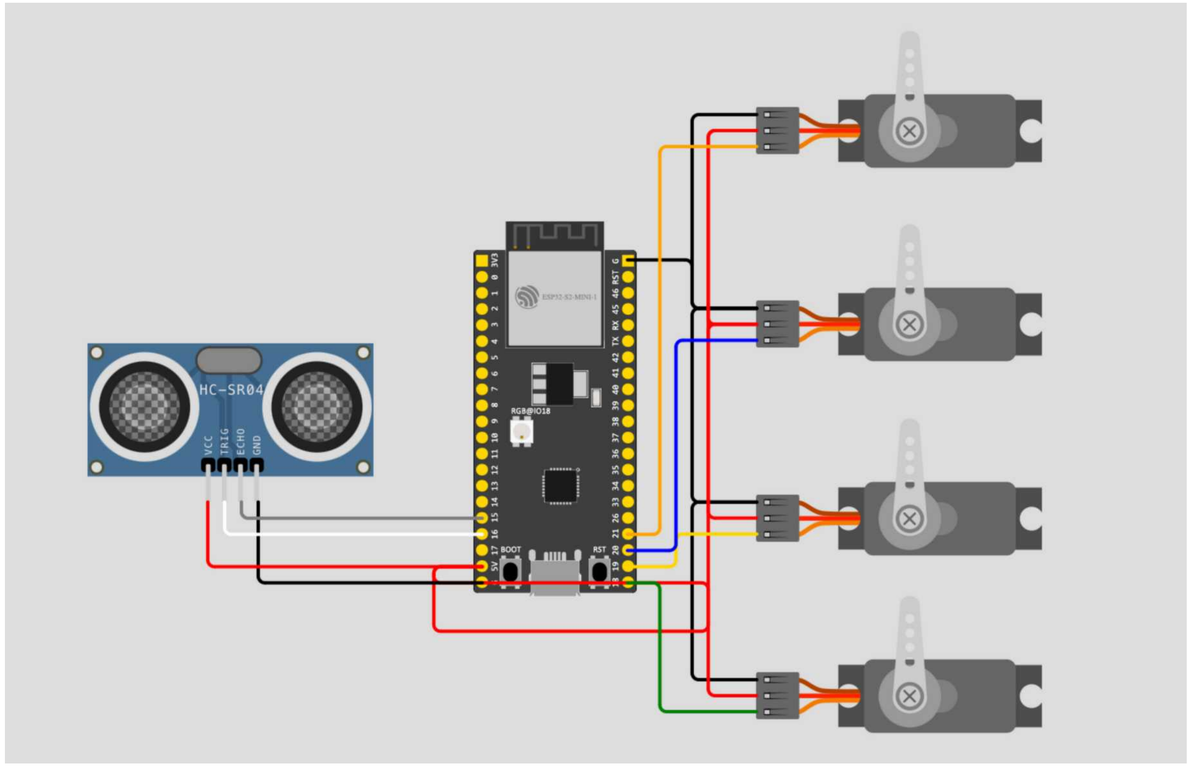
In the context of workplace collaboration, we explore the integration of non-visual cues within XR to facilitate more intuitive interactions, moving beyond traditional controllers towards more natural, gesture-based inputs. TouchSpace is committed to designing for individuals with visual disabilities. It's essential to acknowledge the diversity within visual disabilities, as they can manifest at different life stages. Some individuals are born with these disabilities, others may develop them in youth, and some experience a decline in vision in their senior years. These variations impact expectations and experiences with new technologies, underscoring the importance of segmenting user groups for a clearer understanding of our target audience, which is vital for project development. audience.

design
Prototype



Our Design Methodology 2.0

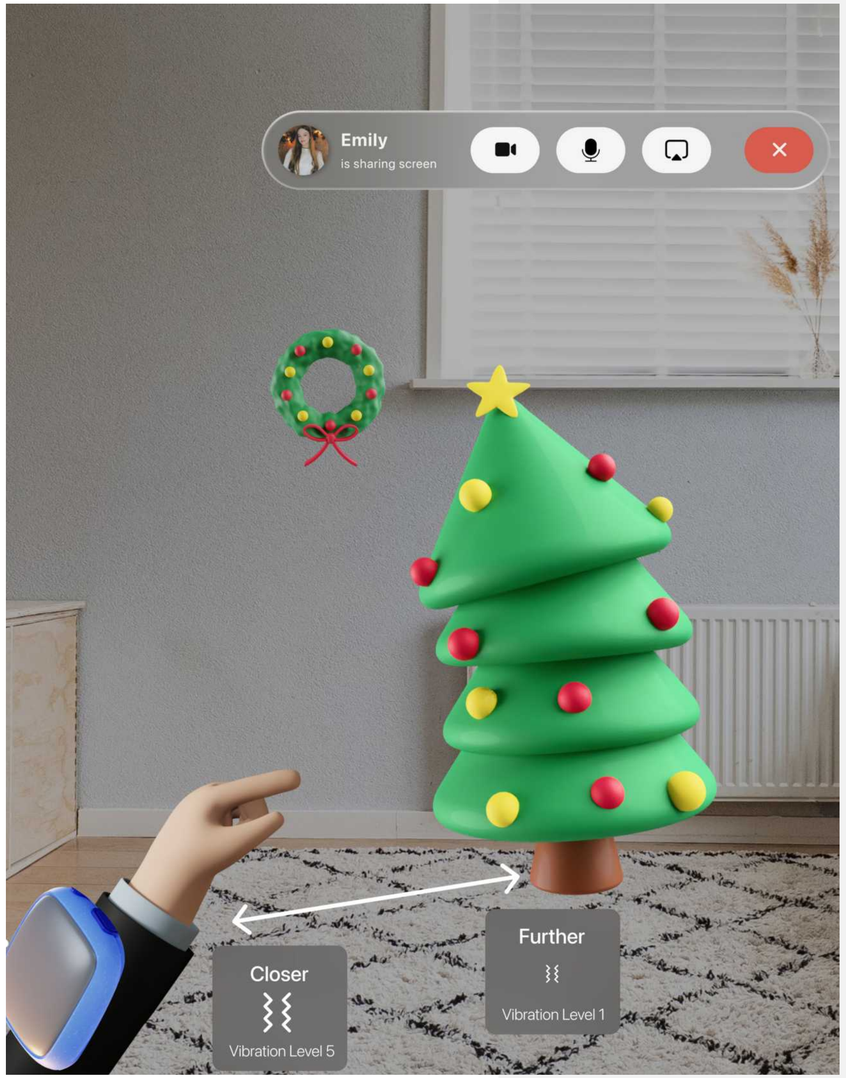
Through qualitative research, which includes interviews with low-vision participants and observational studies, we have gained insights into how these individuals perform tasks at home, in shopping, and at work. This research has identified a profound impact of XR on their work efficiency and self-sufficiency. Participants have expressed that technologies like screen readers have significantly amplified their capabilities. However, they also highlight challenges in navigating XR environments. These challenges are particularly evident in perceiving depth and engaging in team collaborations. Addressing these issues related to depth perception is crucial. It will help in creating more inclusive and effective spatial computing experiences, not only for users with diverse visual abilities, as well as for everyone.



design Circuit

Our Circuit Design

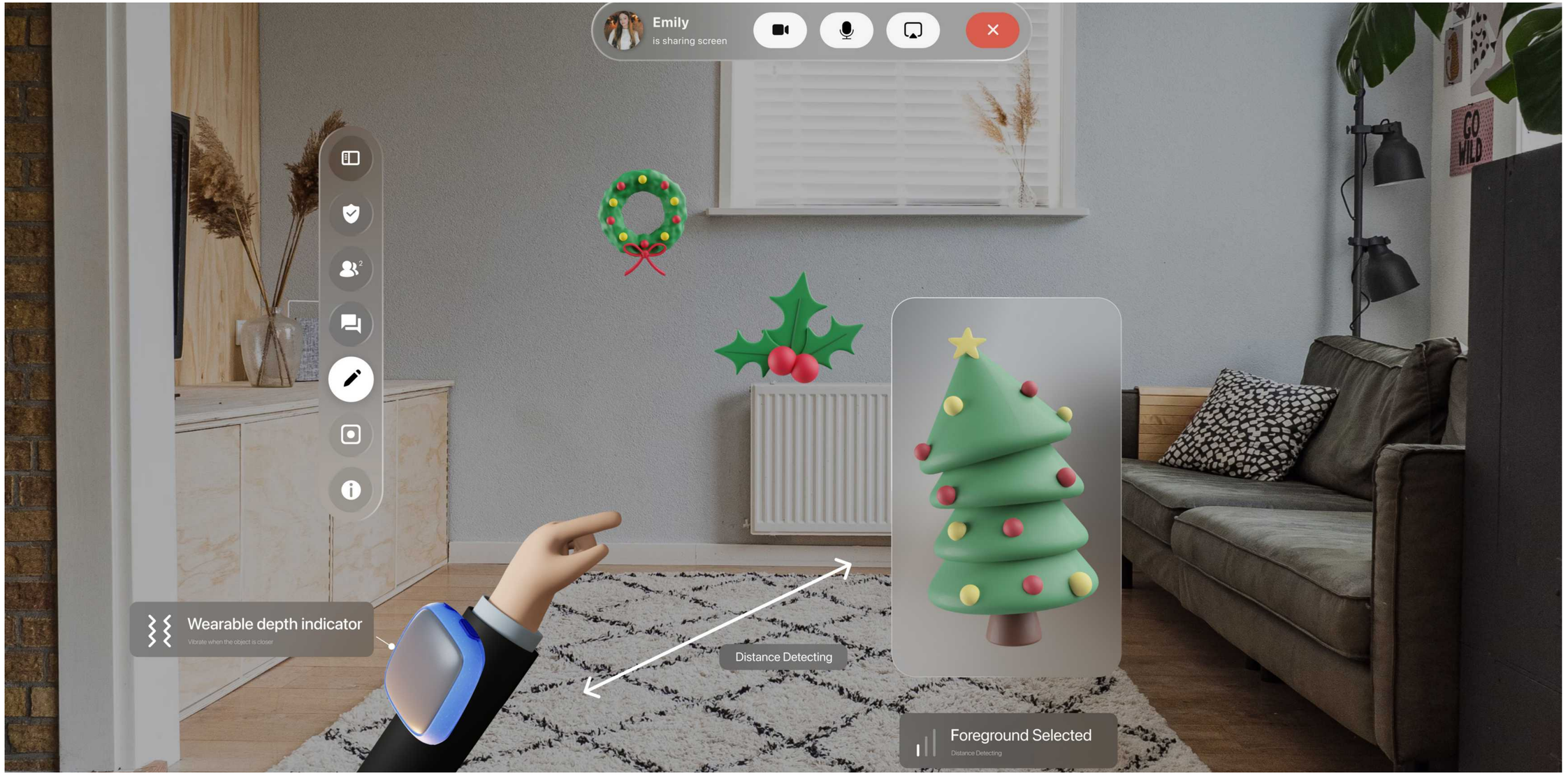
Our study combines a literature review and iterative prototype testing to improve XR design for poor-vision users. We identified a critical gap in current XR interfaces and accessibility tools. They don't effectively communicate the depth and spatial positioning necessary for immersive interaction. This deficit significantly hinders individuals with low vision, who struggle with depth perception and discerning spatial relationships.

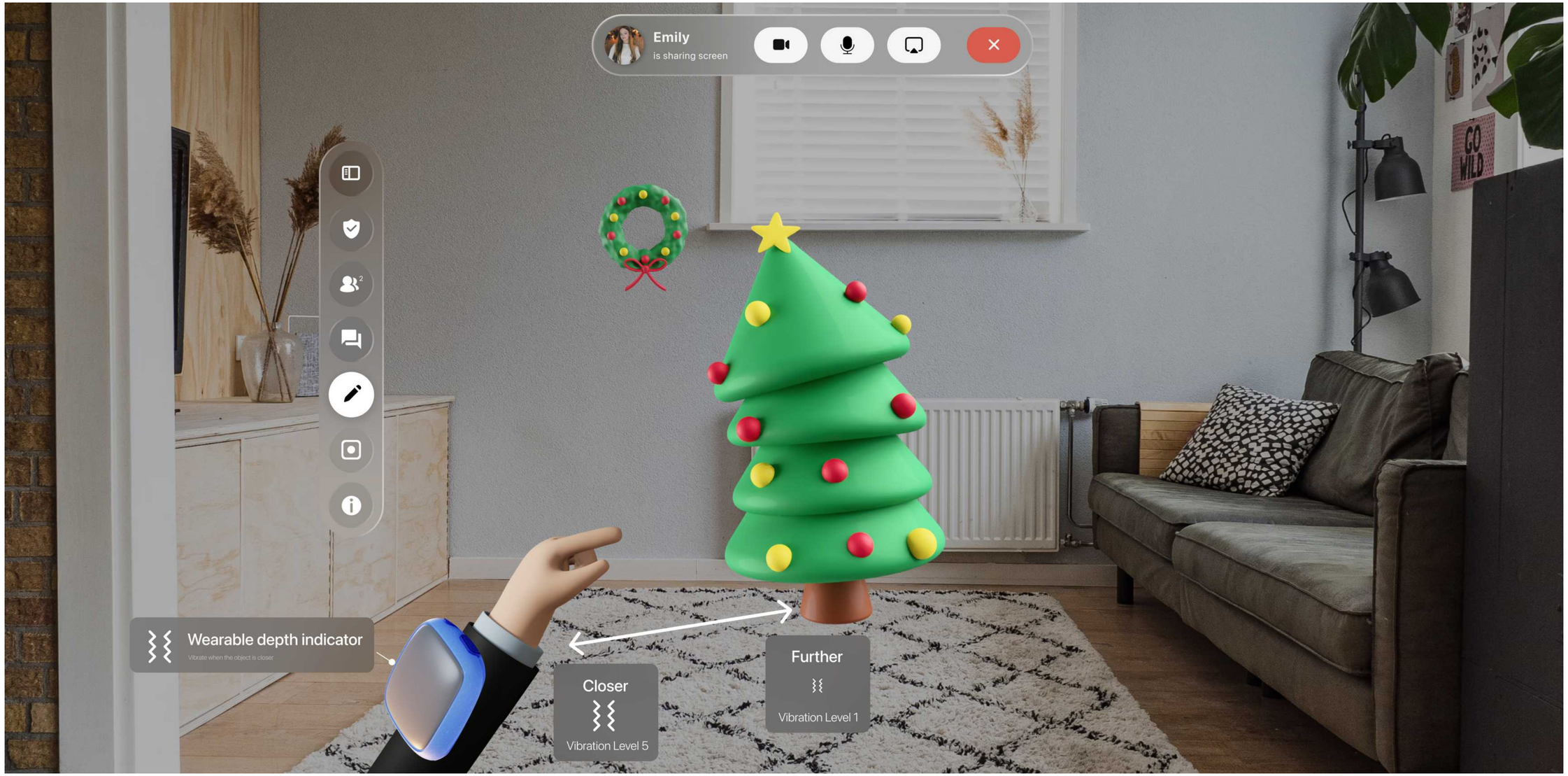


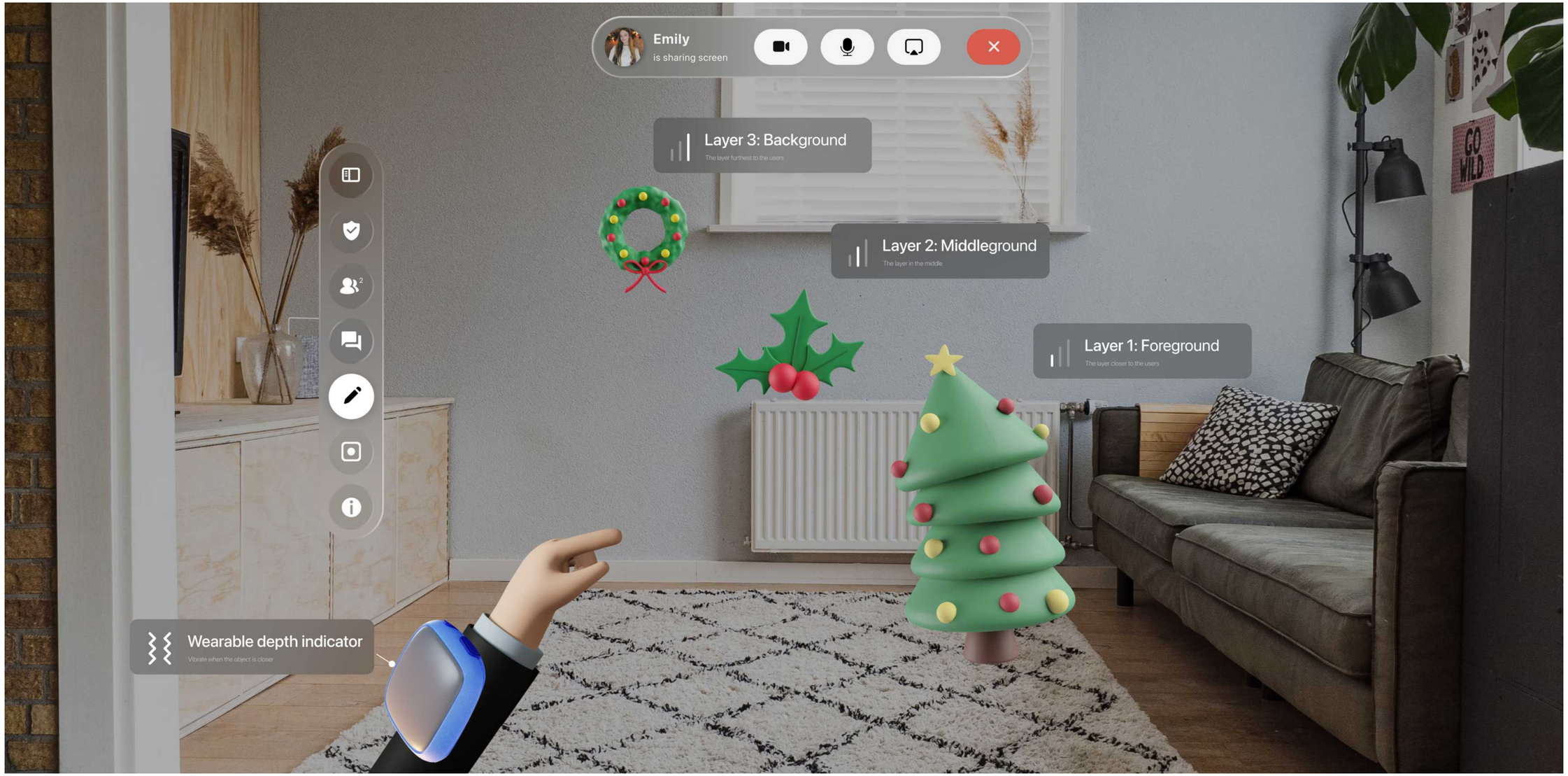
Demonstration
Use Case

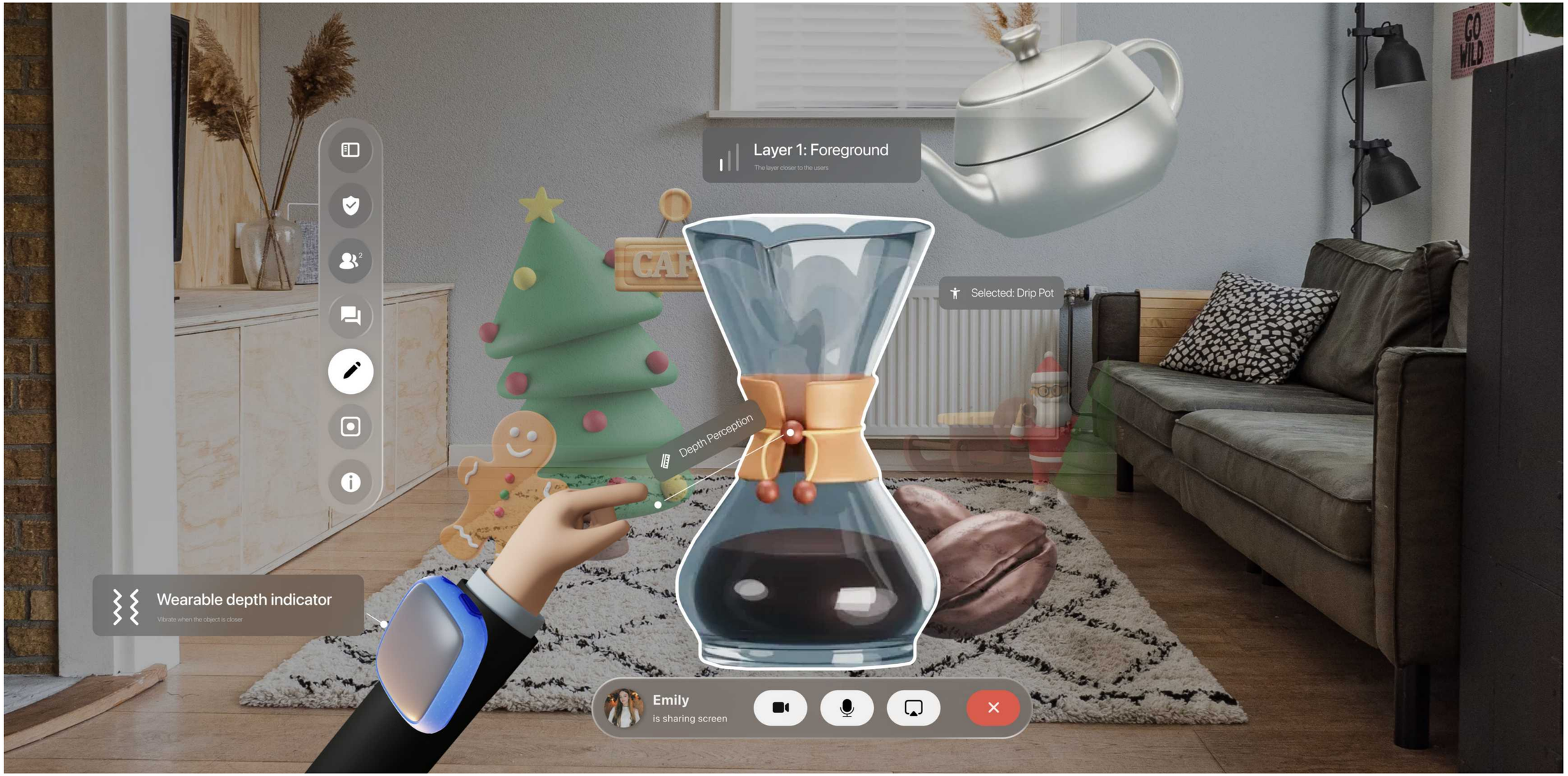
The below is a user journel of how oth-ers use our design

The project develops a prototype simulating a collaborative meeting scenario, focusing on two key aspects. The first is envisioning changes in human interaction with the virtual environment, particularly concern-ing depth perception. The second involves developing a tactile approach to enhance these interactions. The interaction design, based on prior research and our vision, is illustrated through animation, while a physical device conveys depth perception through tactile feedback.

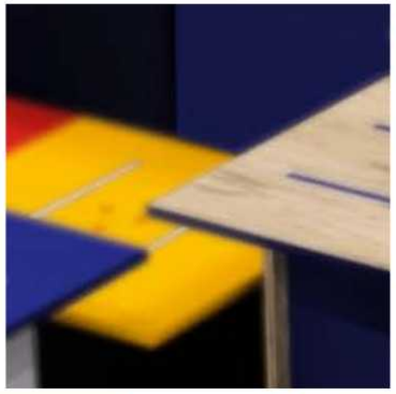

Emily
is sharing screen
Wearable depth indicator
Vibrate when the object is closer
Distance Detecting
Foreground Selected
Distance Detecting


Emily
is sharing screen
Wearable depth indicator
Vibrate when the object is closer
Closer
Vibration Level 5
Further
Vibration Level 1


Emily
is sharing screen
Layer 3: Background
The layer furthest to the users
Layer 2: Middleground
The layer in the middle
Layer 1: Foreground
The layer closer to the users
Wearable depth indicator
Vibrate when the object is closer
GO WILD


Layer 1: Foreground
The layer closer to the users
Selected: Drip Pot
Depth Perception
Wearable depth indicator
Vibrate when the object is closer
Emily
is sharing screen
GO WILD

Sofar



Meet the Team

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Overview

Sofar is an interactive sofa that creates remote physical presence for people in long distance relationships. It provides an opportunity for distance couples to connect without staring at a phone or computer screen.

Design Process

01

IDEATION

We collectively brainstormed 100 ideas to explore a range of ways to accomplish our goal of creating remote physical presence.

PROTOTYPE

We sketched several approaches to envision how we might create a sofa that conveyed presence.

02

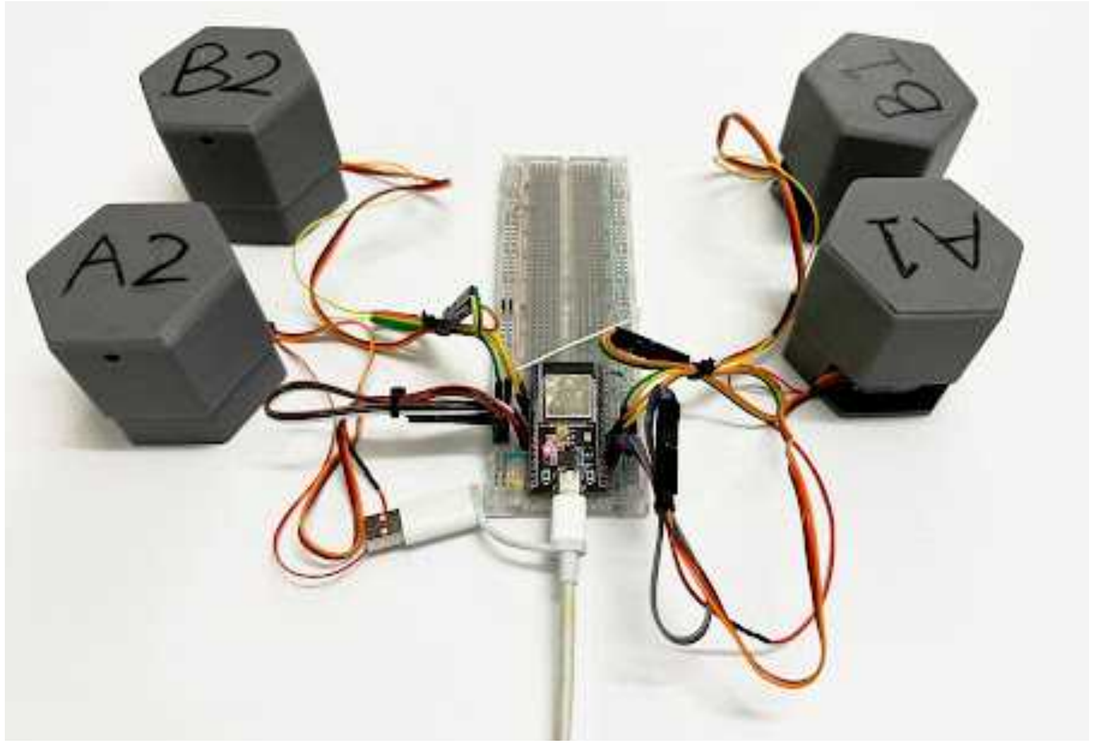
03

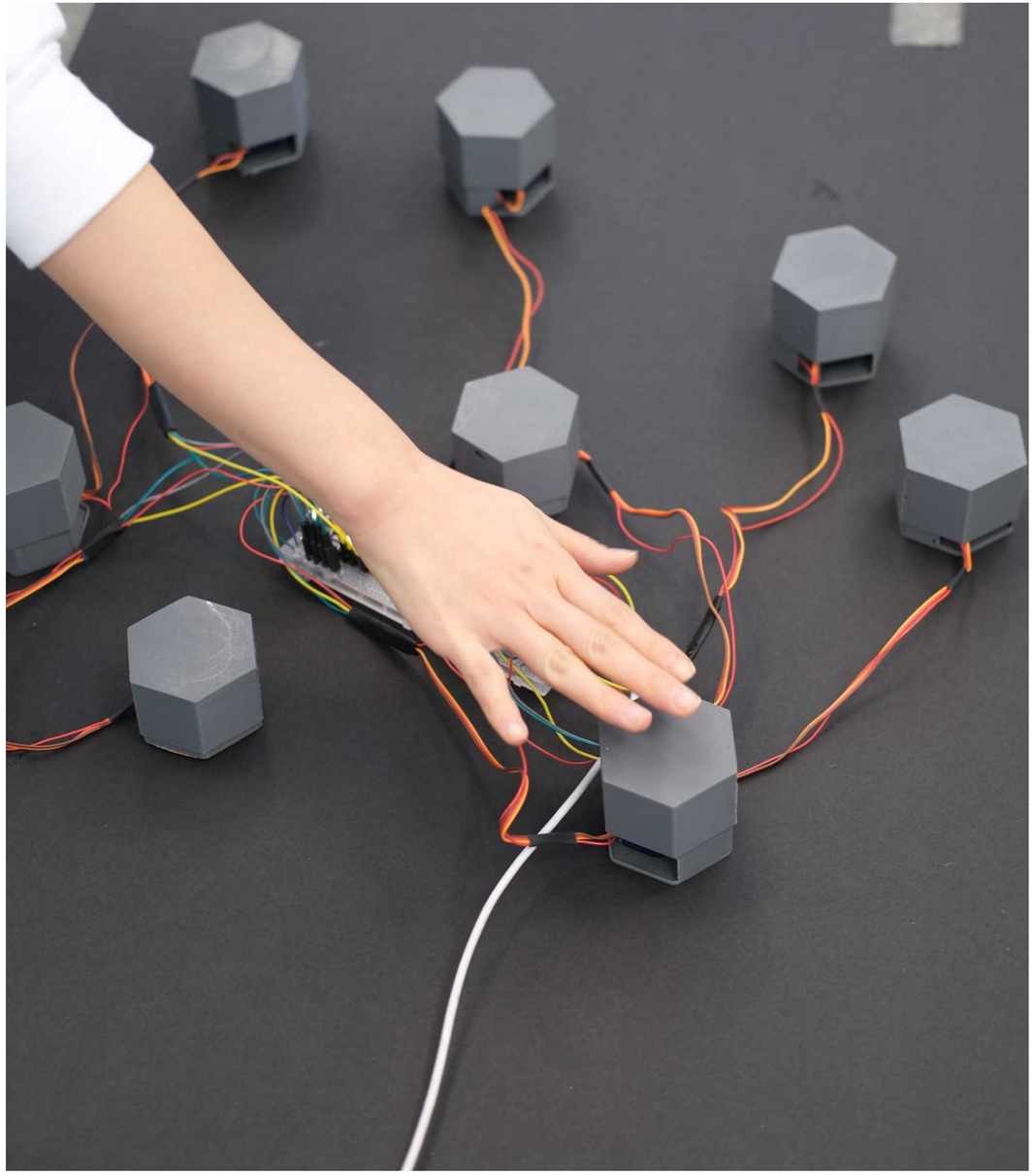
MANUFACTURE

Finally we had the form and the aesthetic established. We cut, primed, sanded and painted the plywood that assembled into 8 seats.

Ideation

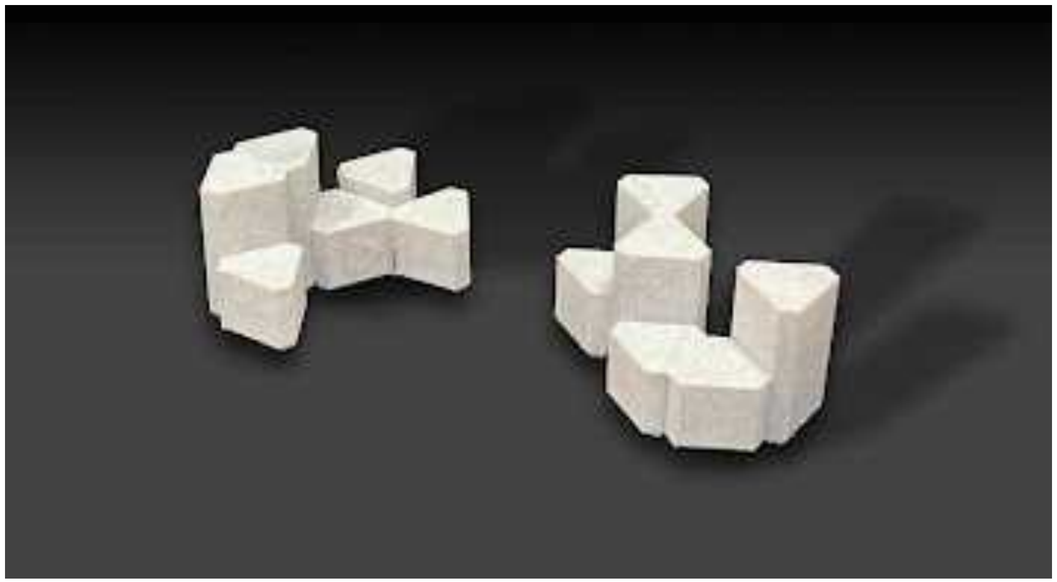
We start from small working prototypes to test the functionality of our ideas. We added the ESP32 and sensors in the prototype.





Form Study

After the testing of working prototypes, we decided to move forward to the testing of the sofa forms. We tried three different forms: Pentagon, Rectangles, and Triangle. Finally we decided to move forward with the rectangles shape form because of aesthetics and manufacture evaluations.



Final Prototype

CMF Study

Unit A
Outer Top: Primer + Blue (Edge White)
Outer Walls: Primer

Inner Bottom: Primer + Blue
Inner Walls: Primer + Blue

Unit B
Outer Top: Primer + Yellow (Edge Black)
Outer Walls: Black

Inner Bottom: Primer + Yellow
Inner Walls: Primer + Yellow

Unit C
Outer Top: Primer + Red (Edge White)
Outer Walls: White

Inner Bottom: Primer + Red
Inner Walls: Primer + Red

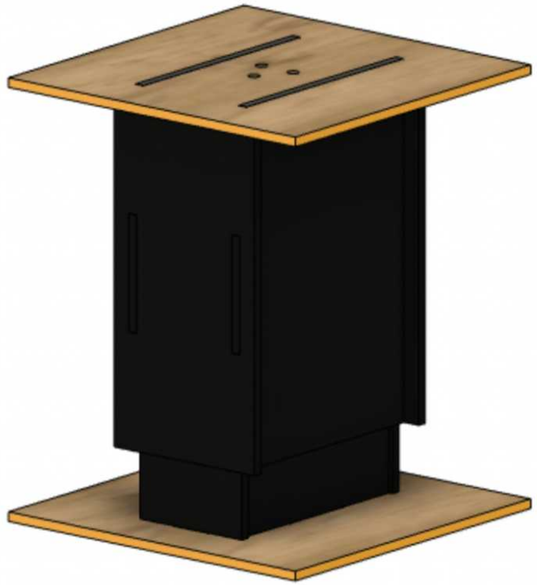
Unit D
Outer Top: Primer + Black (Edge Yellow)
Outer Walls: Yellow

Inner Bottom: Primer + Black
Inner Walls: Primer + Black

CMF Study

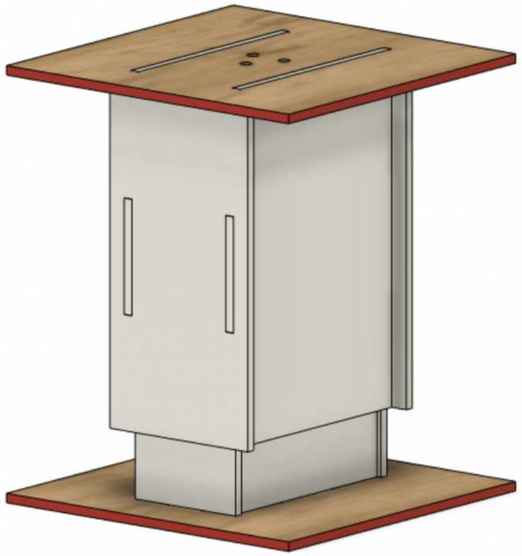
Unit a
Outer Top: Edge Primer + Blue
Outer Walls: Primer

Inner Bottom: Edge Primer + Blue
Inner Walls: Primer



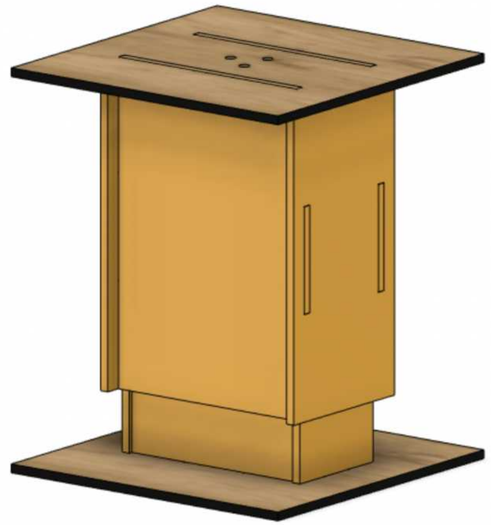
Unit b
Outer Top: Edge Primer + Yellow
Outer Walls: Primer + Black

Inner Bottom: Edge Primer + Yellow
Inner Walls: Primer + Black



Unit c
Outer Top: Edge Primer + Red
Outer Walls: Primer

Inner Bottom: Edge Primer + Red
Inner Walls: Primer

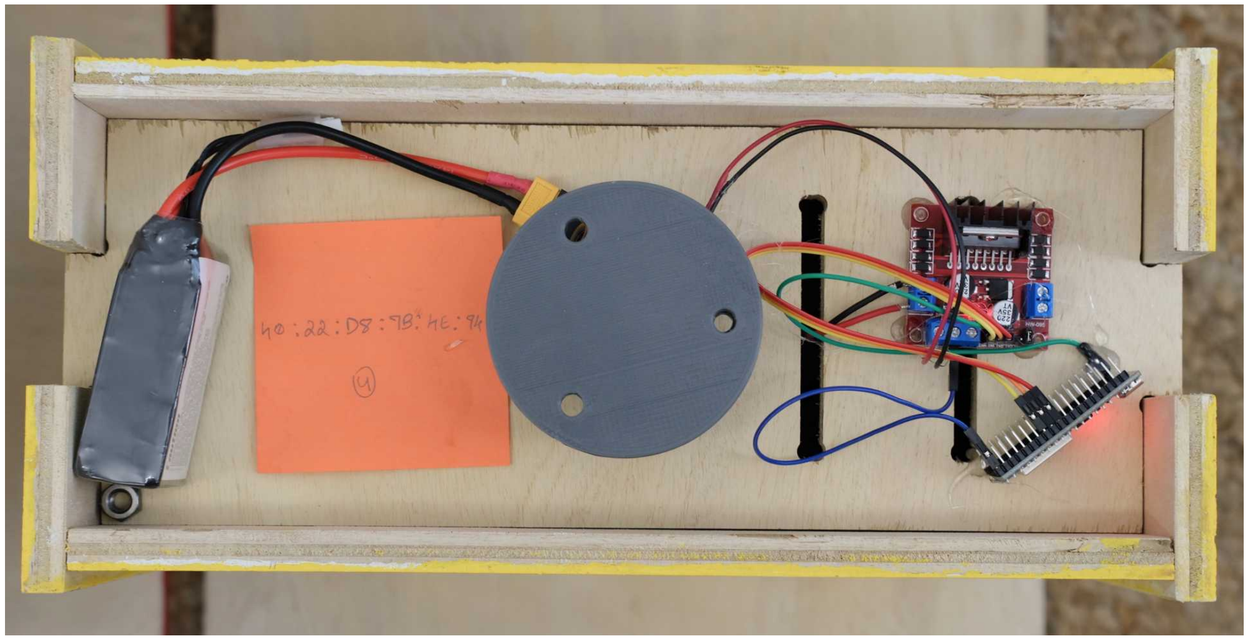


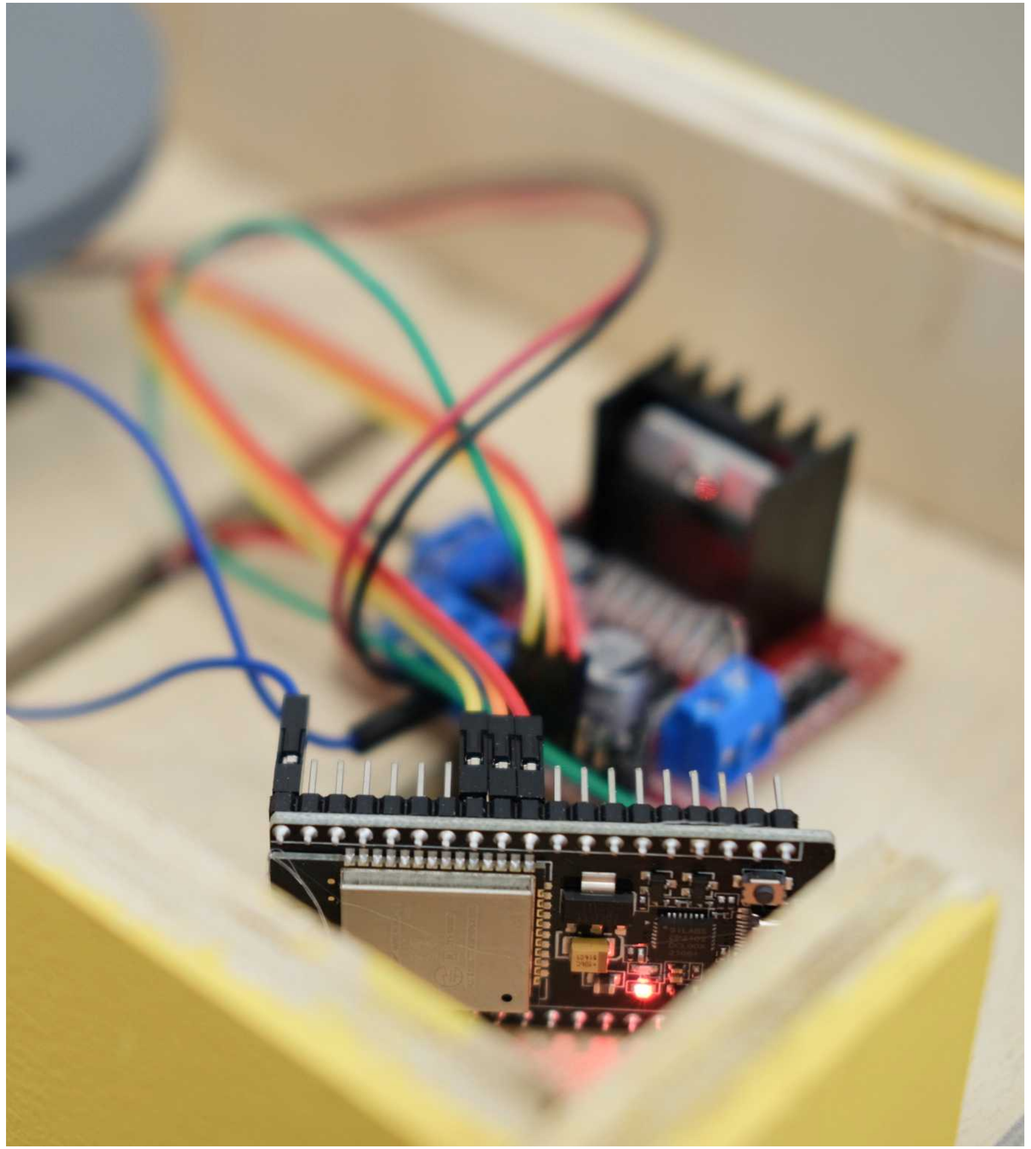
Unit d
Outer Top: Edge Primer + Black
Outer Walls: Primer + Yellow

Inner Bottom: Edge Primer + Black
Inner Walls: Primer + Yellow

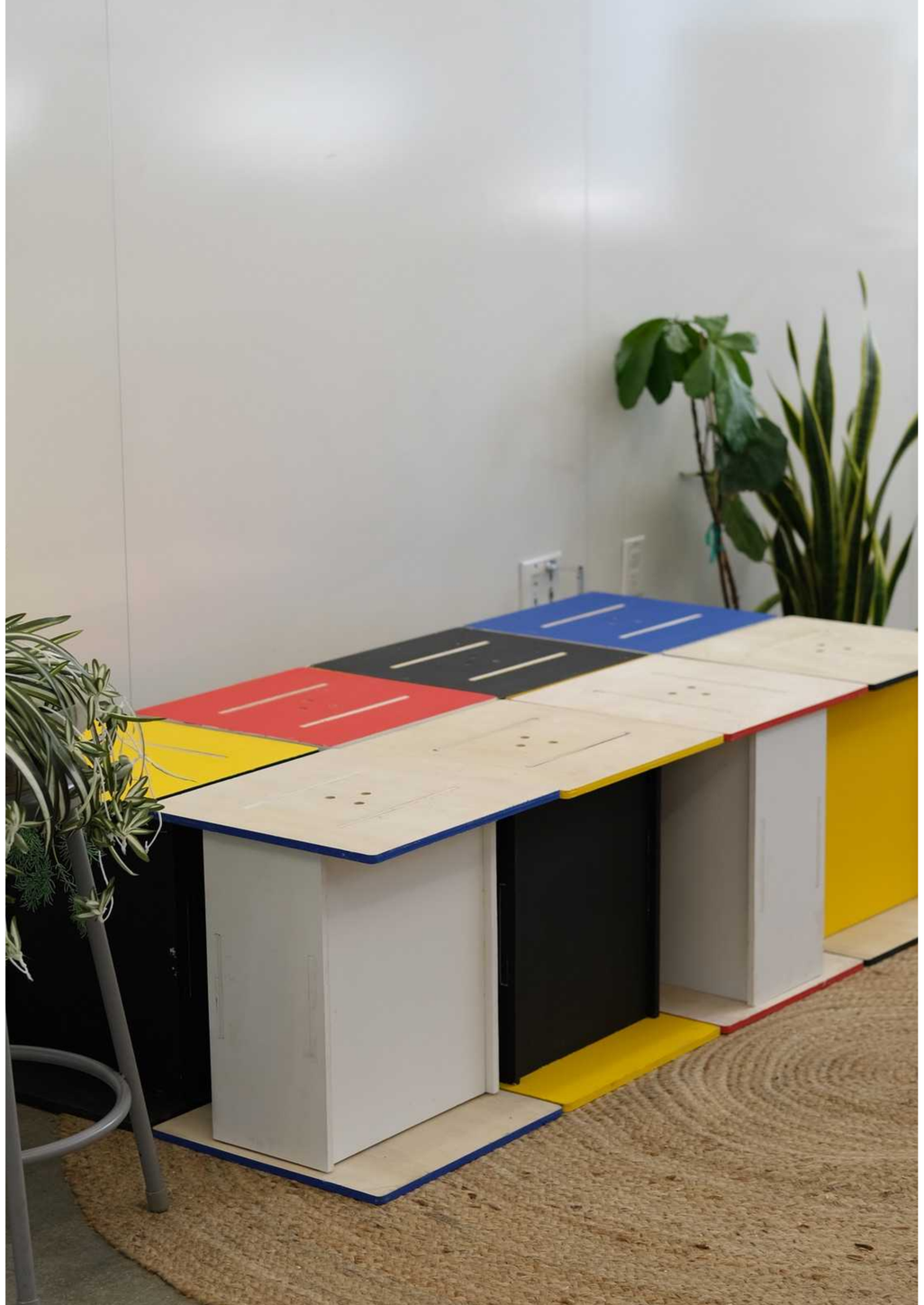
Build to Scale

After we decided on the color of the sofa, we build to scale and move to the final manufacture process. Because we need to make 8 sofa (4 sets), we label each component and sensors with its own name. We first wood-shop the shape of sofa, then we painted it in the color code shown in the previous images.





The sofa shape can change when people sitting on it, provide a dynamic interaction and accompany for long distance friends and family. This is a demo of sofa working stage.




sofar
yet so close

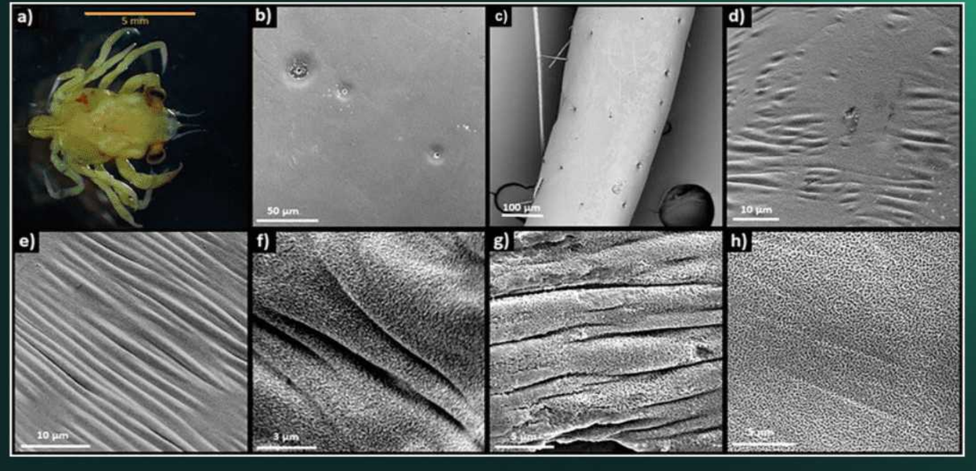
DET SPRING 23
FERAL DESIGN

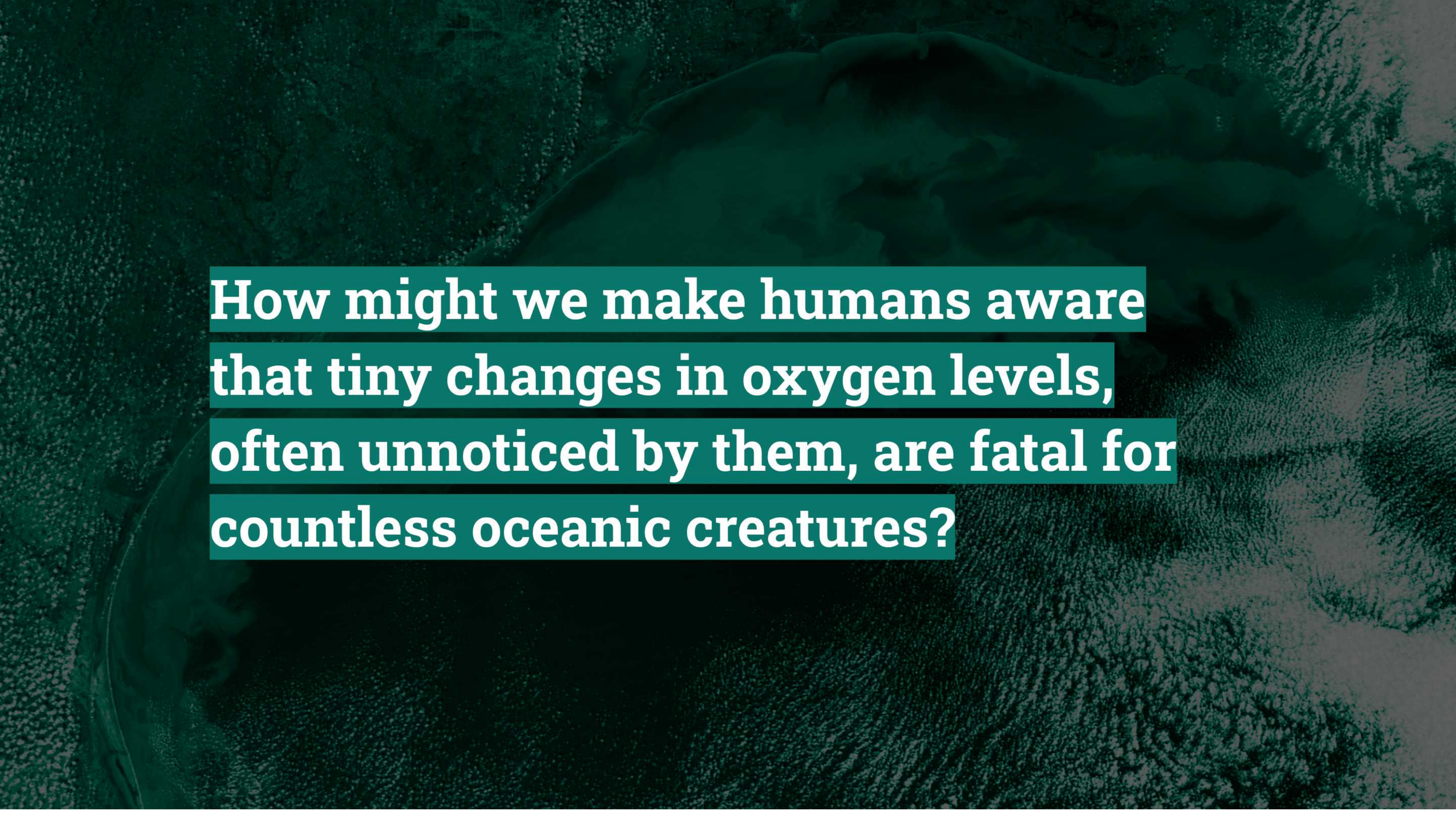
Ocean Lungs

Clover Li | Yidie Ling | Shirley Zhang

Research Insights on Ocean Deoxygenation...

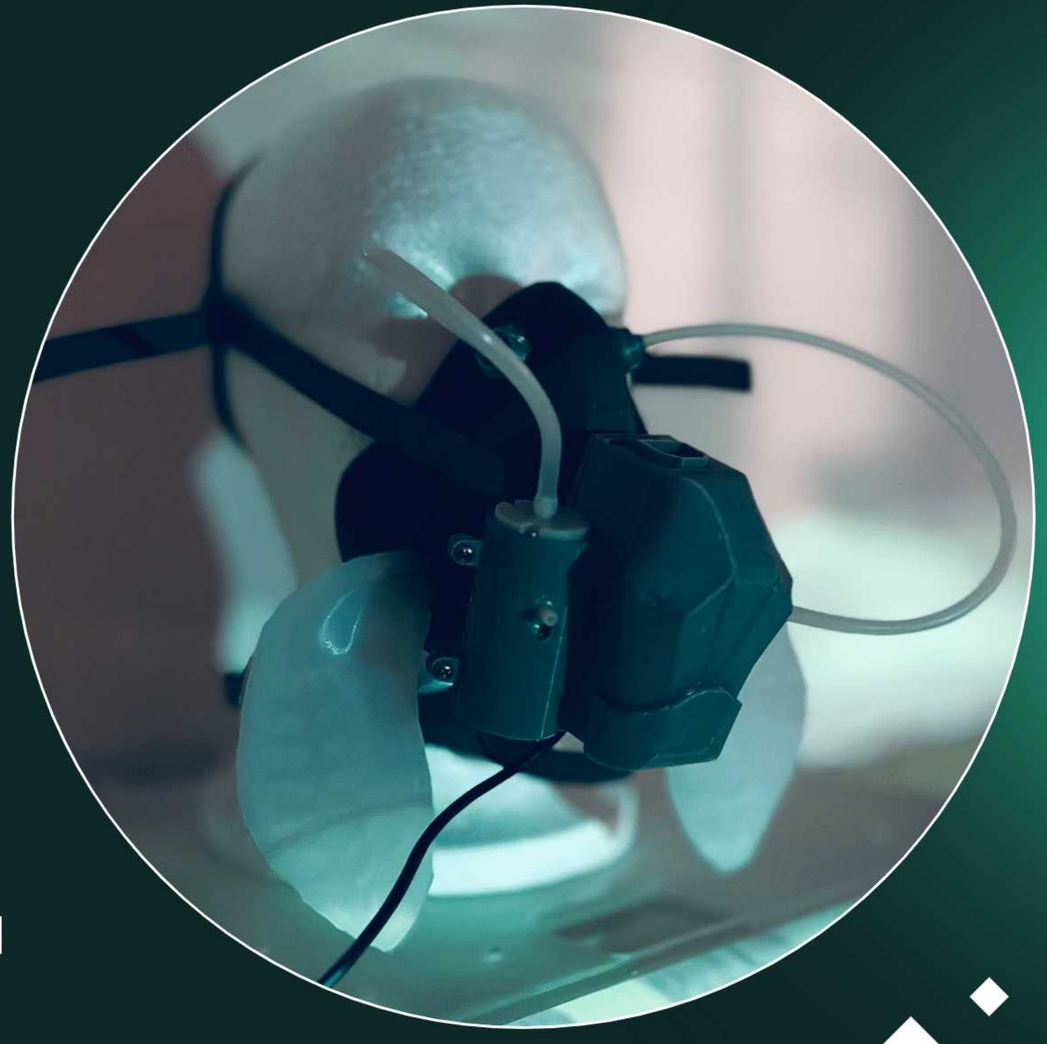
- The ocean's oxygen content has fallen by **2%** since mid-20th century and is expected to **drop 3-4%** by 2100 due to climate change and nutrient discharge.
- The decline in ocean oxygen levels results in **reduced biodiversity**, **species distribution shifts**, and **increased algal blooms**.
- Lower oxygen levels pose **physiological challenges** for marine animals beyond food web disruptions. **To survive with ocean hypoxia, marine animals' behavior and physical structure have altered.**


a)
5 mm
b)
50 µm
c)
100 µm
d)
10 µm
e)
10 µm
f)
3 µm
g)
h)


How might we make humans aware that tiny changes in oxygen levels, often unnoticed by them, are fatal for countless oceanic creatures?

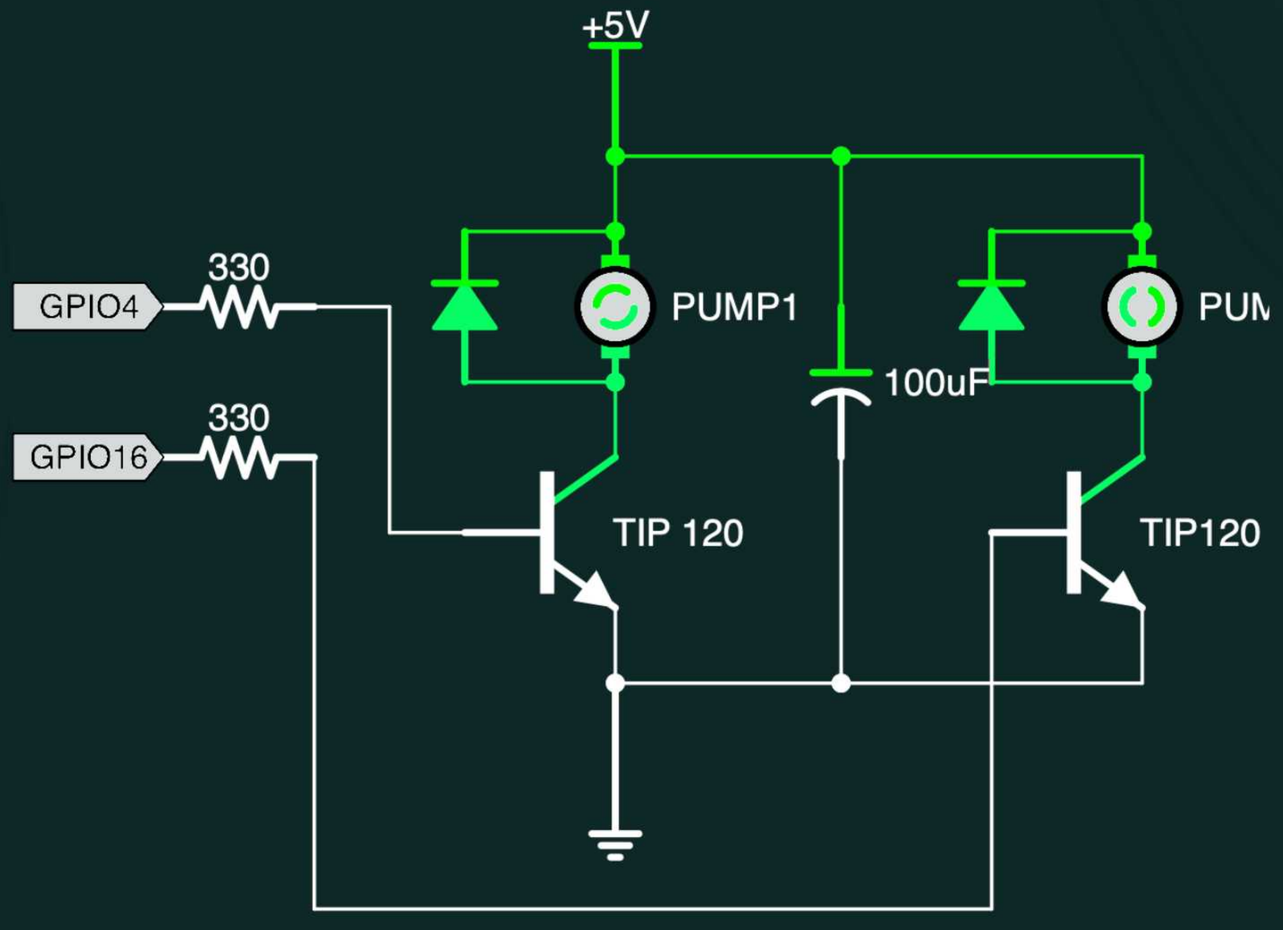
Ocean Lungs

Ocean Lung simulates the impact of ocean deoxygenation on marine wildlife by adjusting the amount of air available for breathing based on the level of air pollution detected.

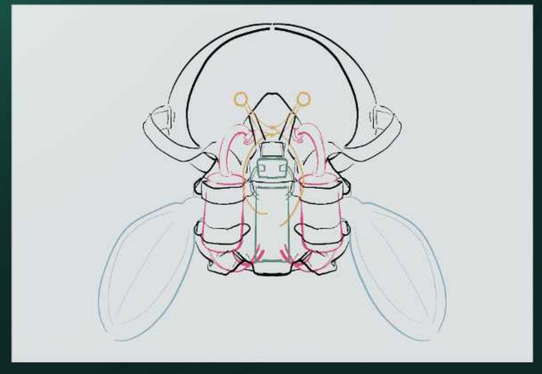


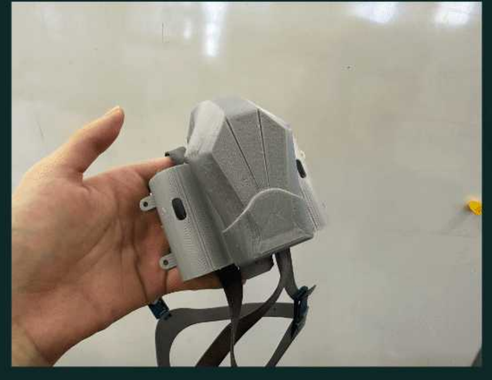
System diagram

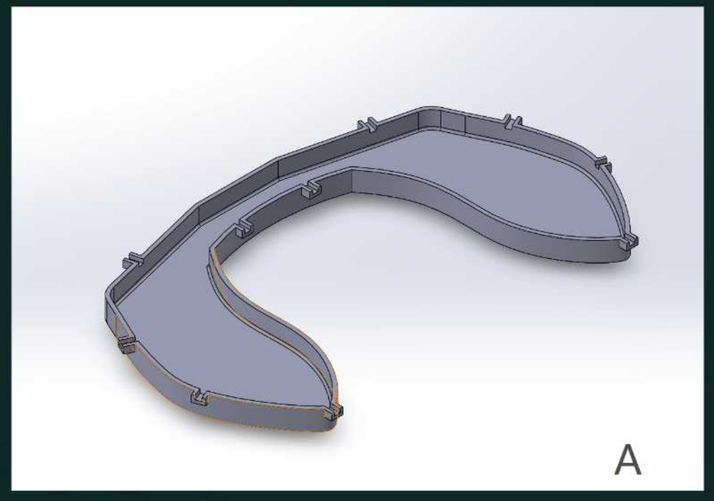
Schematic

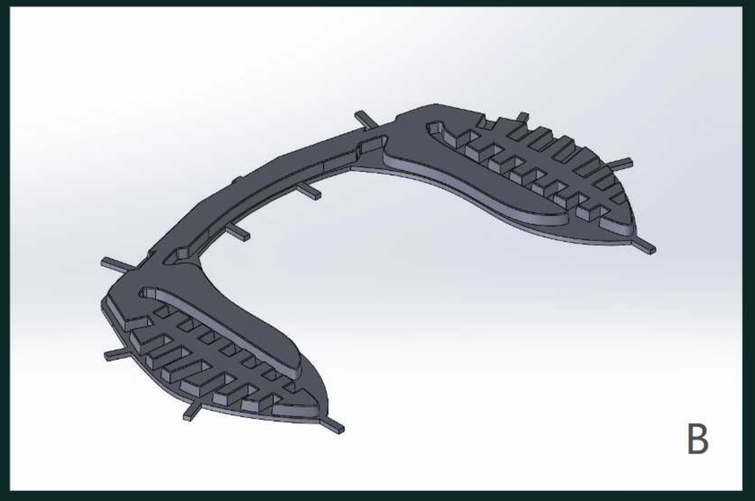


Process






A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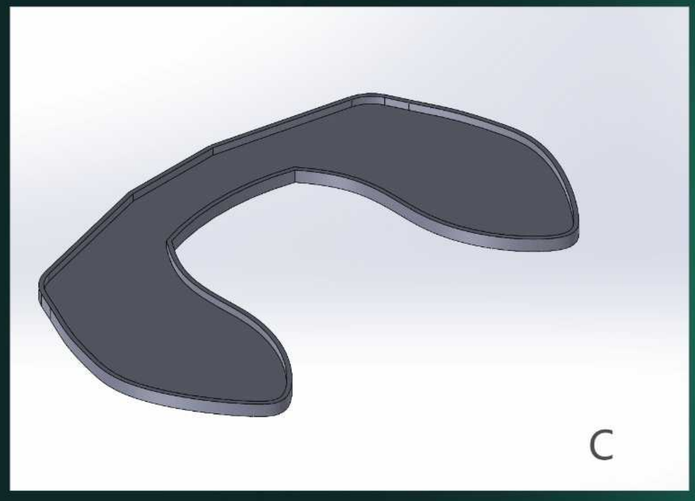
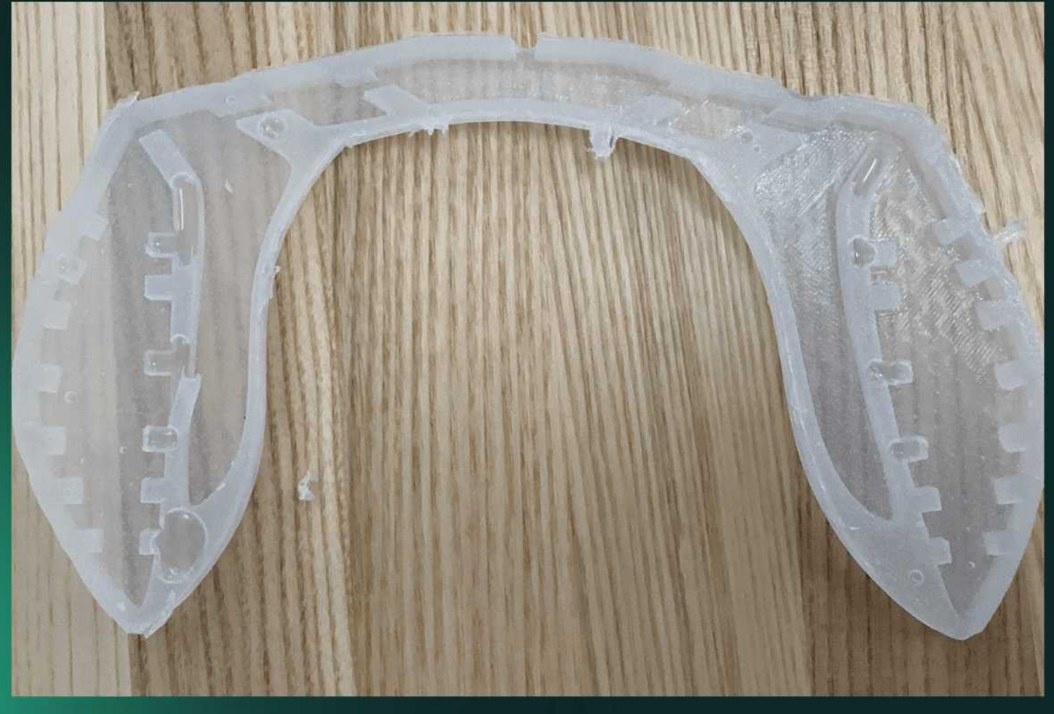
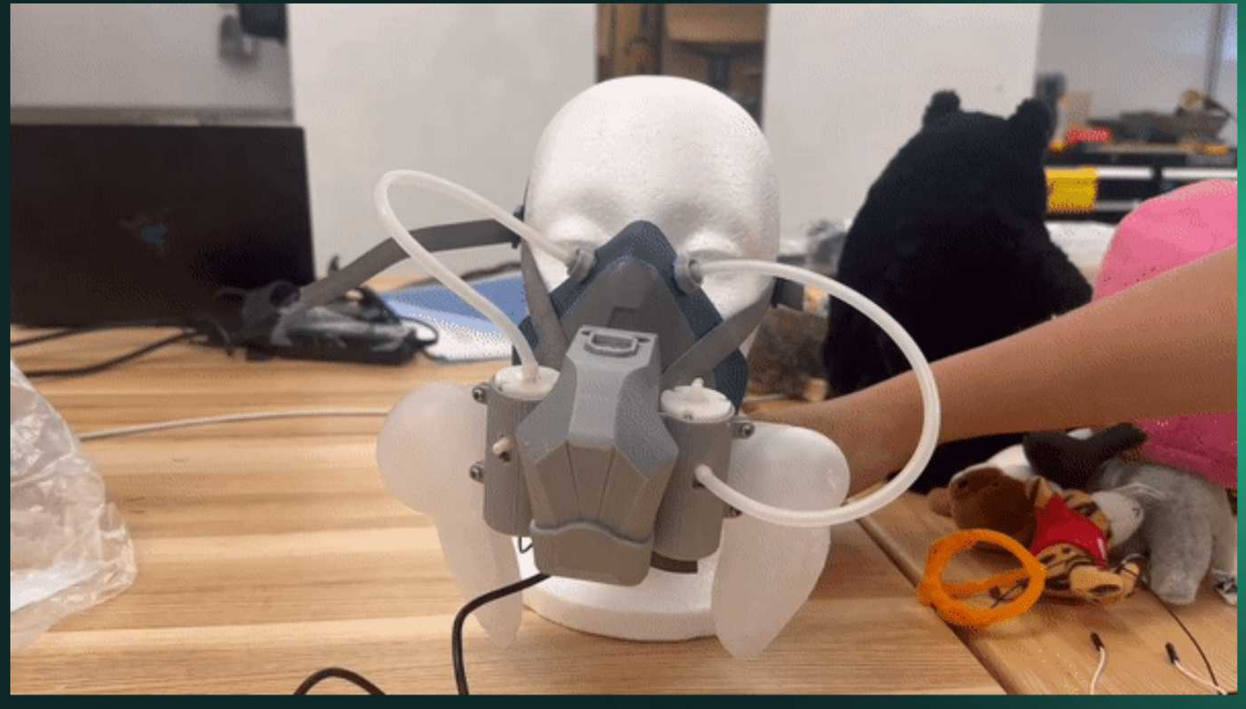
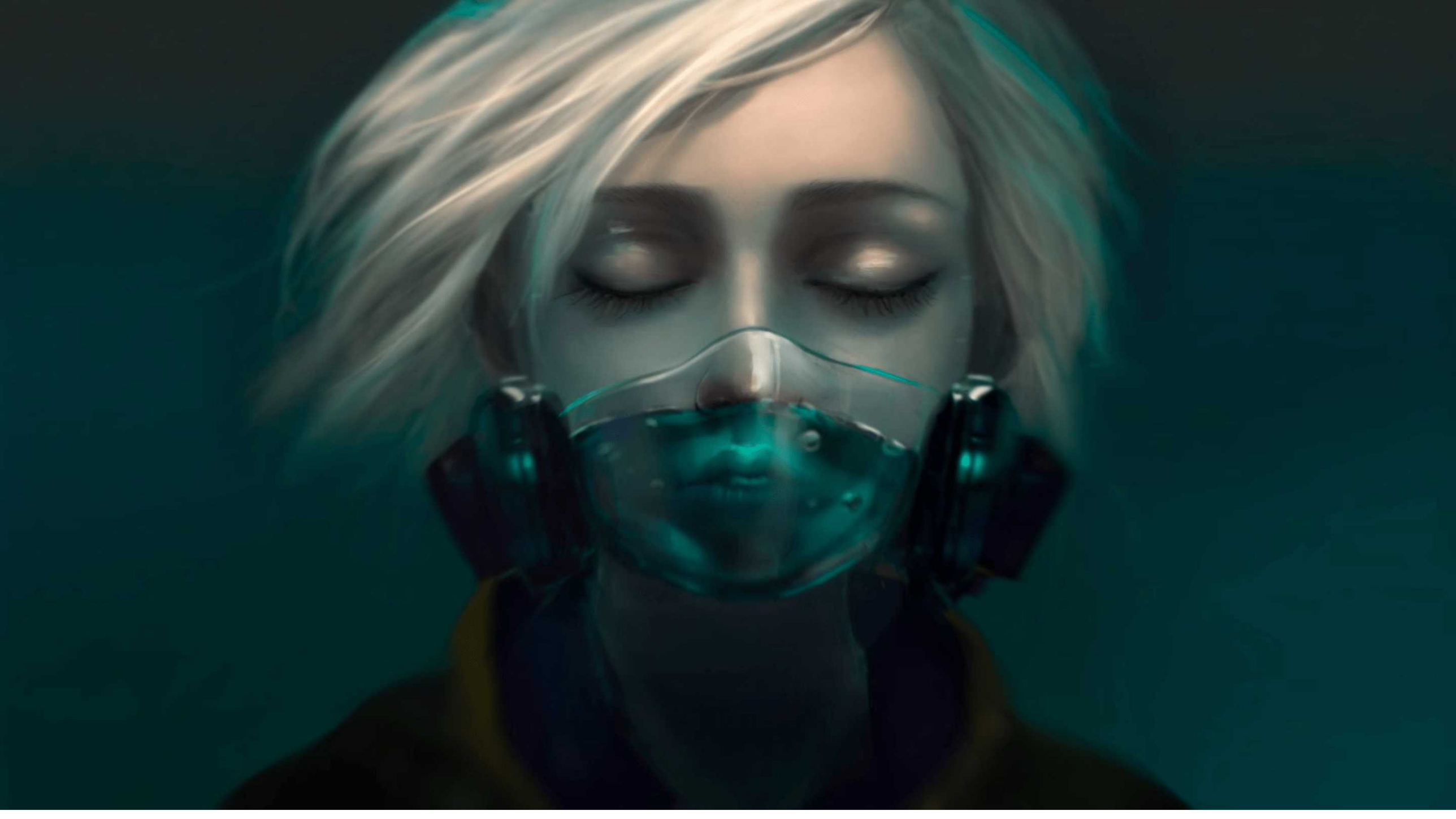
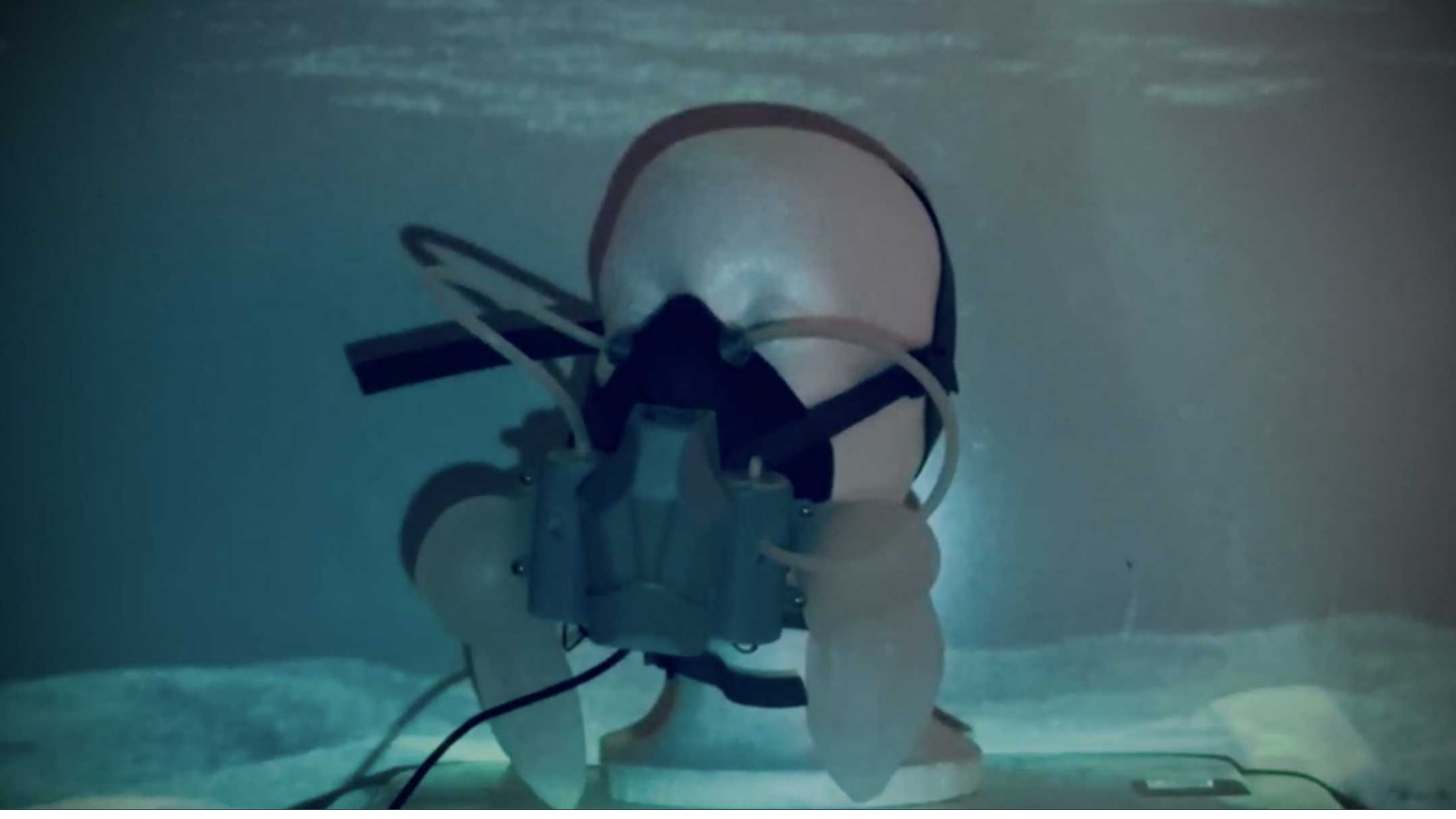

C









Design at Large

- Digital Technology Intern
- VR, AR user experience design
- VR, AR prototyping