YIDIE LING'S PORTFOLIO

UX Designer

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Hi There! I'm Yidie Ling.

I'm a UX Designer focus on entertainment/game design. I am a dog person.

Education

University of California, Berkeley
Expected Dec 2023
- **Master of Design,** Design for Emerging Technology

University of California, San Diego
June 2021
- **Bachelor of Science,** Cognitive Science with Specialization in Design & Interaction
- **Bachelor of Arts,** Interdisciplinary Computing & the Arts

Experience

UX Designer Intern @ ByteDance
Internship, May 2023 - July 2023 | Guangzhou, China
- Conducted iterative design to improve player decision-making efficiency within the progression and GvG battle systems for Houchi Shoujo.

UX Designer @ TiMi Studio Group
Full Time, April 2022 - July 2022 | Shenzhen, China
- Designed user experience flows, wireframes, low/high-fidelity prototypes for game systems and in-game events for Need for Speed Mobile.
- Worked cross-functionally with engineers, operation specialists, and product managers to improve and expand existing systems based on UX testing results.

Game Operation Manager @ TiMi Studio Group
Full Time, July 2021 - April 2022 | Shenzhen, China
- Conducted user and market research to increase player engagement in communities (Twitter, Facebook, etc.) for Pokémon Unite; increased post engagement by 60% across platforms.

Skills

UX/UI Design

User Research

Prototyping

Usability Testing

Information Architecture

Figma Photoshop

Illustrator Python

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01 Diabetes Design Initiative

Redesigning The Dexcom G6 App To Build A Seamless Onboarding Work Flow For Health Care Practitioners In Hospital Intensive Care Unit During Covid-19.

UX Design

User Research

User Testing

Heuristic Evaluation

dexcom

Intitutional Name

ucsdhealth

Email

ucsdhealth@gmail.com

Password

****

Confirm Password

****

☐ I agree to Term of Use.

☐ I agree to Privacy Policy

Sign Up

Already Have an Account? Login

Send Follow Invites to Your Emails

Send Follow invites to your email address to receive realtime glucose data for your patients.

Email

ucsdhealth@gmail.com

Email

Email

• • •

Send Invites

Enter Transmitter SN

Enter the serial number to pair your phone to your transmitter

Take photo of Transmitter SN on outside transmitter box, or manually enter SN. Ke box for future use.

Transmitter SN is also on bottom of transmitter and in receiver Settings men

Confirm

Scan bar code to connect

CGM in Hospital - Diabetes Design Initiative by UCSD Design Lab & Dexcom Inc.

In order to reduce the direct exposure between COVID-19 patients and hospital practitioners, the FDA had allowed Continuous Glucose Monitor (CGM) to be used in the ICU for remote monitoring. Our project goal was to help Dexcom transfer and improve their CGM, which was originally designed for household usage, to hospital Intensive Care Units (ICU).

1/ Problem Statement

In order to reduce the direct exposure between COVID-19 patients and hospital practitioners, the FDA had allowed Continuous Glucose Monitor (CGM) to be used in the hospital Intensive Care Units (ICU) for remote monitoring. However, CGM initially designed for home use face several challenges when implemented in ICU settings. These include frequent re-setups, absence of centralized control, and medication-induced false alarms, among other issues. Our project goal was to help Dexcom transfer and improve their CGM Dexcom G6 to better accommodate HCPs' needs in the hospital settings.

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2/ User Research: Interviews

To better understand their pain points and needs when using CGM in the hospital settings, I wrote and iterated the interview guides for endocrinologists and diabetes nurse educators. I utilized design methods, such as card sortings, in the interviews to ask endocrinologists and diabetes nurse educators to rate the priorities of different functions of the CGM. After interviewing 3 endocrinologists and 3 diabetes nurse educators, I created two user persona and found that the user pain points were mainly focused on the mandatory onboarding process and the alert system.

Objectives & Questions

1. **Understanding the daily workflow of DNEs (Diabetes Nurse Educators) and Endocrinologists.**
   - *Can you walk us through a typical day in your role as a Diabetes Nurse Educator/Endocrinologist?*
   - *How does the integration of Continuous Glucose Monitoring (CGM) systems shape your daily interactions and education sessions with diabetes patients?*

2. **Identifying pain points in the current workflow.**
   - *Can you provide us with a detailed account of an instance where you felt that CGM posed a challenge in your work?*

3. **Understanding their specific needs and priorities for CGM functions in Dexcom G6.**
   - *Can you describe the key features and functionalities you look for in a CGM system, and how do you prioritize these features?*

Key Insights

1. **A DNE typically needs to onboard 5-10 diabetic patients with COVID-19 each day.**
   A DNE typically needs to onboard 5-10 diabetic patients with COVID-19 each day, conducting POC tests in the morning, afternoon, and evening. CGM is used for continuous monitoring of blood glucose levels. When a CGM alarm goes off, DNEs must enter the patient room to turn off the alarm.

2. **Repetitive onboarding process and exposure to COVID-19.**
   Each time a new patient is onboarded, DNEs spend 20-60 minutes in the patient room to set up the transmitter and sensor. They often need to re-enter the patient room for adjustments, increasing the risk of infection.

3. **Data Monitoring & Customizable Alerts are the most important features for both DNEs and ENDOs.**
   - *DNEs and endocrinologists both mentioned that current false alarms are often triggered by unstable blood sugar levels due to patients taking medication. They wish for customizable alarm settings and higher data consistency between POC tests and CGM.*

3/ Persona & User Work Flow
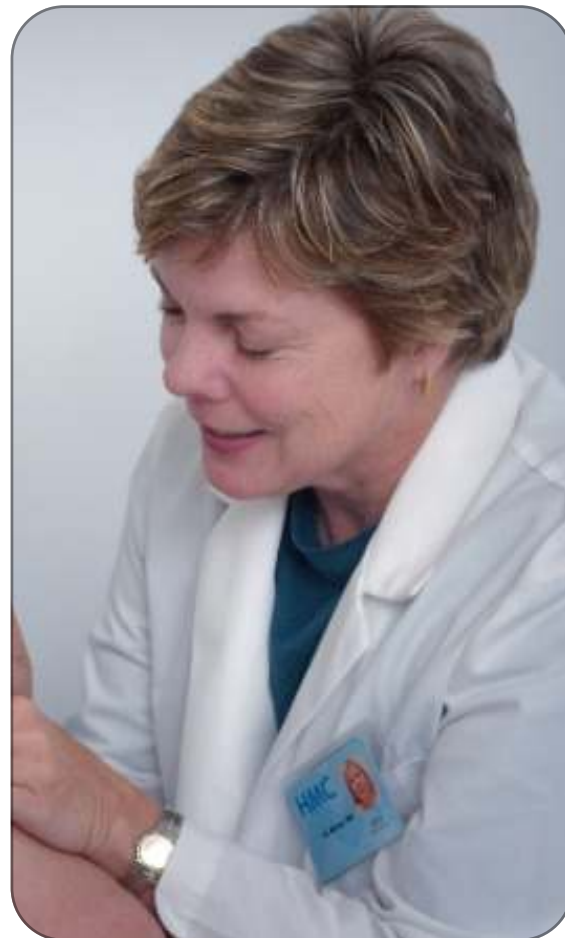
Sara Jones

Diabetes Nurse Educator

Familiarity with the G6 App: Intermediate

"Courtney Henry is a diabetes nurse educator at a local hospital in San Diego. The hospital started to use CGM to monitor blood glucose level of COVID-19 positive patients with diabetes since the epidemic. Everyday, she need to setup the CGM device for new patients and keep track of the glucose levels for each patient. She is very busy and needs a better way to use CGM in the inpatient settings more effectively and efficiently. "

Pain Points:

- Go over the same tutorial over and over again for every time she setup the device for a new patient.
- False alarms that go off in the patient room.
- Data inconsistency between glucose POC testing results and CGM results.

Goals & Needs:

- A more smooth and automatic setup process
- Alarm control that can be accessed without frequently entering patient's room
- A greater consistency between POC and CGM data to raise nurses' confidence in the technology.

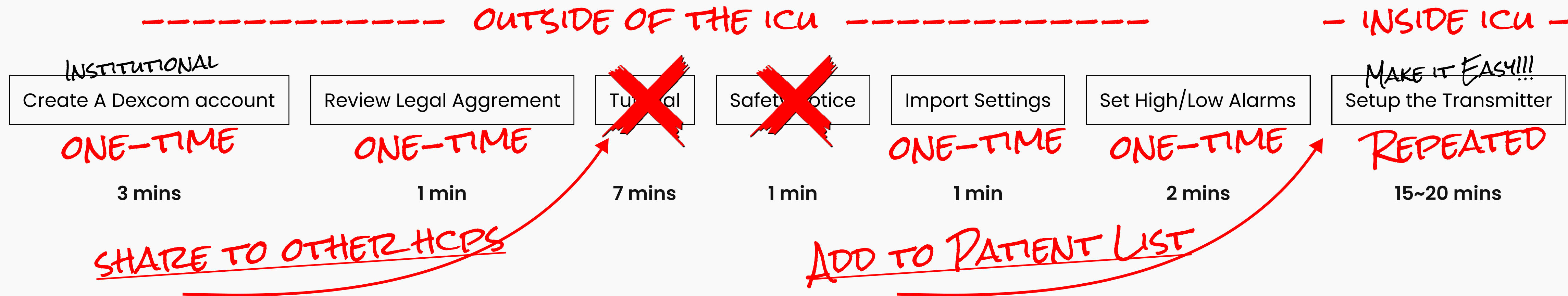## Sara is going through this work flow 5-10 times a day every day...

Create A Dexcom account	Review Legal Aggrement	Tutorial	Safety Notice	Import Settings	Set High/Low Alarms	Setup the Transmitter
3 mins	1 min	7 mins	1 min	1 min	2 mins	15~20 mins
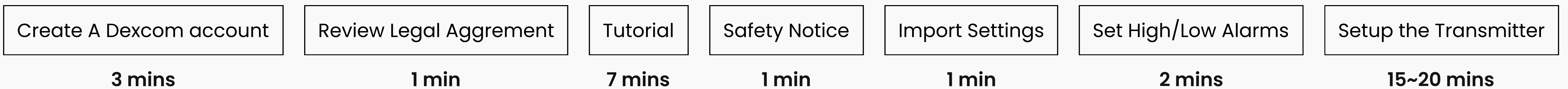
4/ Solution #01: Simplifying the Onboarding Procedure For HCPs

Instead of repeating each step of this procedure for every new patient...

Create A Dexcom account	Review Legal Aggrement	Tutorial	Safety Notice	Import Settings	Set High/Low Alarms	Setup the Transmitter
3 mins	1 min	7 mins	1 min	1 min	2 mins	15~20 mins
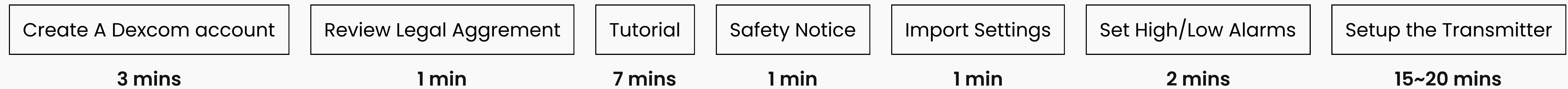
We redesigned the onboarding procedure to remove the repetitive steps and integrated central control for all patient info.

———————————— OUTSIDE OF THE ICU ———————————   — INSIDE ICU —

INSTITUTIONAL   MAKE IT EASY!!!

Create A Dexcom account	Review Legal Aggrement	~~Tutorial~~ ✗	~~Safety Notice~~ ✗	Import Settings	Set High/Low Alarms	Setup the Transmitter
ONE-TIME	ONE-TIME			ONE-TIME	ONE-TIME	REPEATED
3 mins	1 min	7 mins	1 min	1 min	2 mins	15~20 mins

SHARE TO OTHER HCPS

ADD TO PATIENT LIST

DESIGN QUESTION: How can we create a seamless onboarding process to help HCPs better manage patient blood sugar levels and minimize infection risks in the icu?
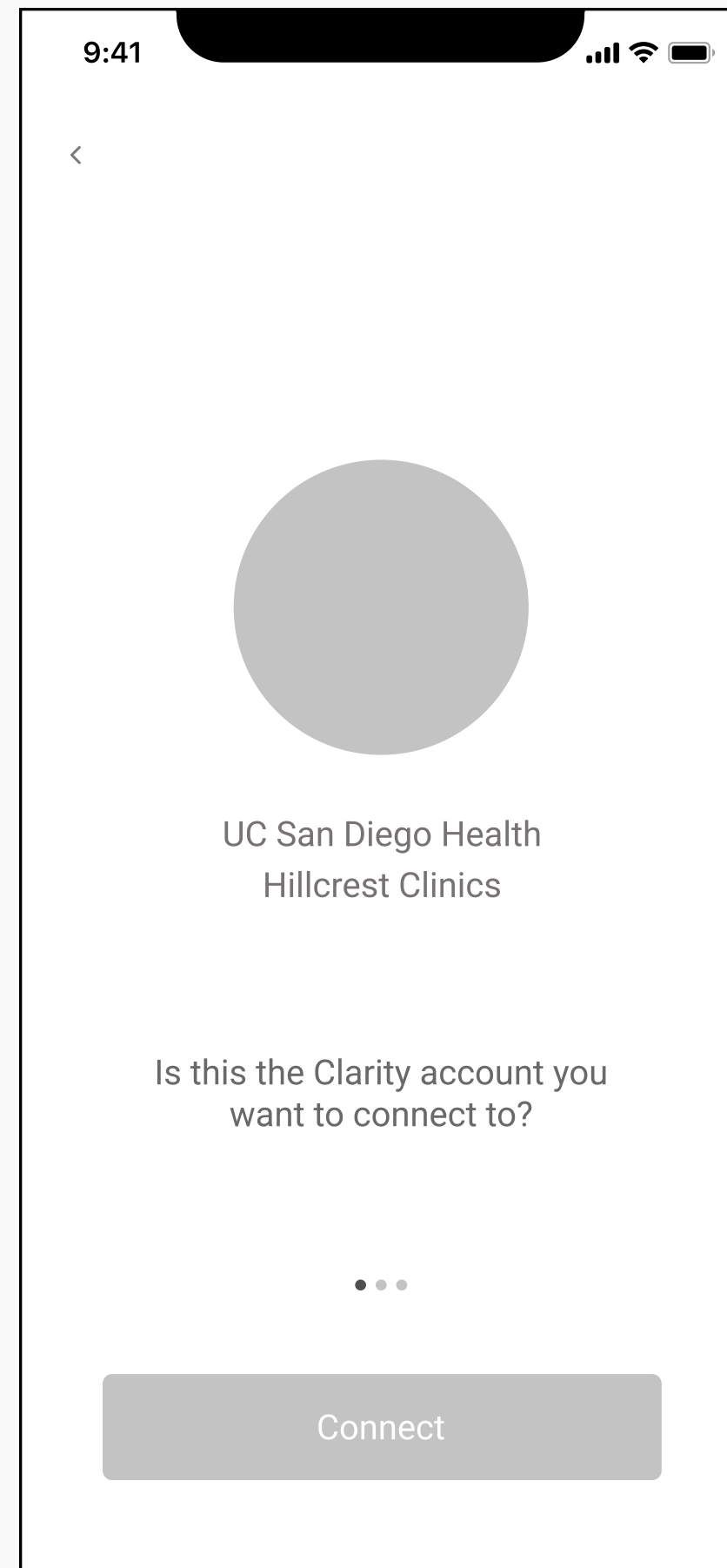
5/ Low-fi Prototypes

Complete OUTSIDE of the patient room | Complete INSIDE of the patient room
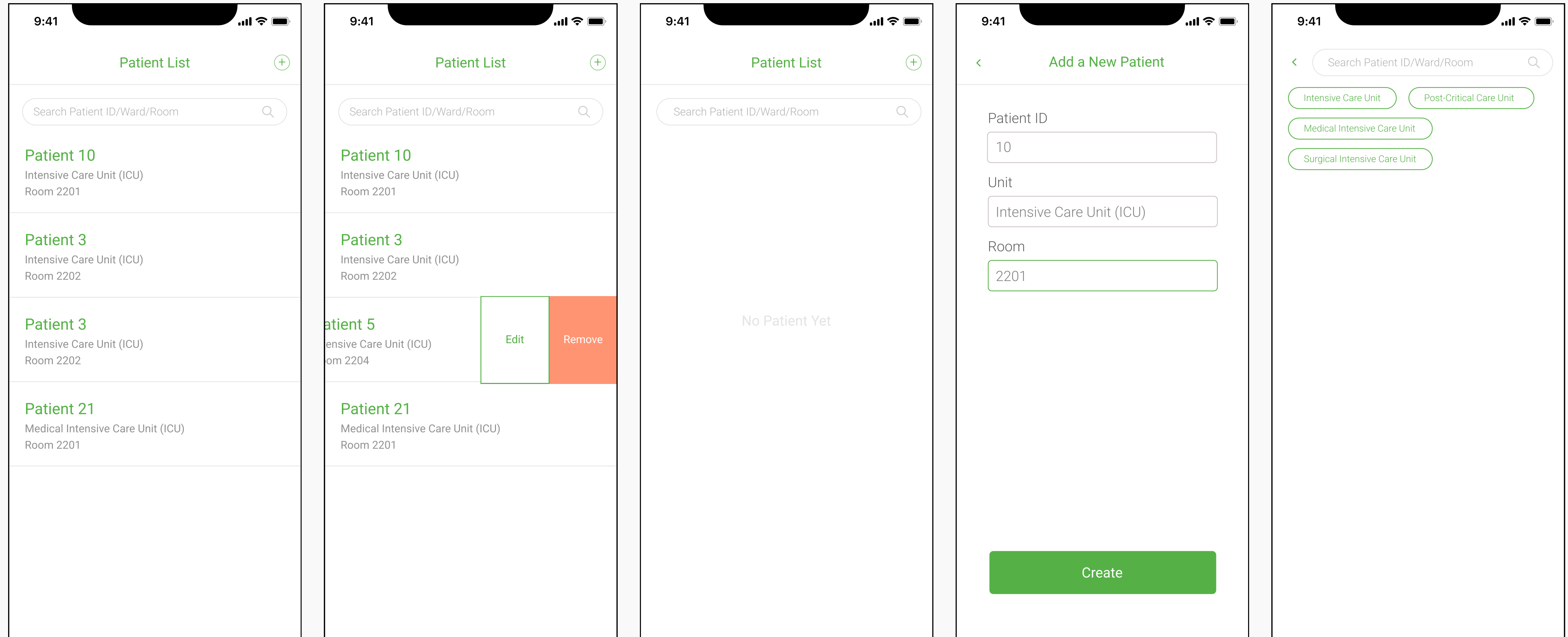
| Login in to Institutional Account | Patient List | Patient Info |

For New Users

| Sign up for an Institutional Account | Add Device | Create a Patient List | Add New Patient | Setup Transmitter | Setup Sensor | Patient Info |

For Returning Users

6/ Wireframes: Login & Send Follow Invites

9:41

9:41

9:41

9:41

9:41

UC San Diego Health
Hillcrest Clinics

Is this the Clarity account you
want to connect to?

**Welcome to G6 Pro!
Connect the G6 Pro to
your Clarity Account**

Scan the QR code in your Clarity profile or enter
your Clarity account to connect your G6 app to
your Clarity account.

• • •

Scan

Enter Clarity Account to Connect

• • •

Connect

**Send Follow Invites to
Your Emails**

Send Follow invites to your email address to
receive realtime glucose data for your patients.

• • •

Invite

**Send Follow Invites to
Your Emails**

Send Follow invites to your email address to
receive realtime glucose data for your patients.

Email

Email

Email

• • •

Send Invites

**You're Ready! Start
Creating Your Patient
List.**

Organize Hospital Patients by Ward & Room.

• • •

Done

08

7/ High-fidelity Prototype: Patient List

Screen 1: Patient List

9:41

Patient List ⊕

Search Patient ID/Ward/Room 🔍

Patient 10
Intensive Care Unit (ICU)
Room 2201

Patient 3
Intensive Care Unit (ICU)
Room 2202

Patient 3
Intensive Care Unit (ICU)
Room 2202

Patient 21
Medical Intensive Care Unit (ICU)
Room 2201

Screen 2: Patient List

9:41

Patient List ⊕

Search Patient ID/Ward/Room 🔍

Patient 10
Intensive Care Unit (ICU)
Room 2201

Patient 3
Intensive Care Unit (ICU)
Room 2202

atient 5
ensive Care Unit (ICU)
om 2204   **Edit** **Remove**

Patient 21
Medical Intensive Care Unit (ICU)
Room 2201

Screen 3: Patient List

9:41

Patient List ⊕

Search Patient ID/Ward/Room 🔍

No Patient Yet

Screen 4: Add a New Patient

9:41

‹ **Add a New Patient**

Patient ID

10

Unit

Intensive Care Unit (ICU)

Room

2201

Create

Screen 5

9:41

‹ Search Patient ID/Ward/Room 🔍

Intensive Care Unit   Post-Critical Care Unit

Medical Intensive Care Unit

Surgical Intensive Care Unit

02 TUTORSPACE

A Platform Dedicated To Quickly Connecting Students With Tutors. It Aims To Help Students Find The Right Tutor For Them And Build A Platform For Sharing Teaching Resources On Campus.

UX Design

Web Development

Interactive Prototyping

Product Management
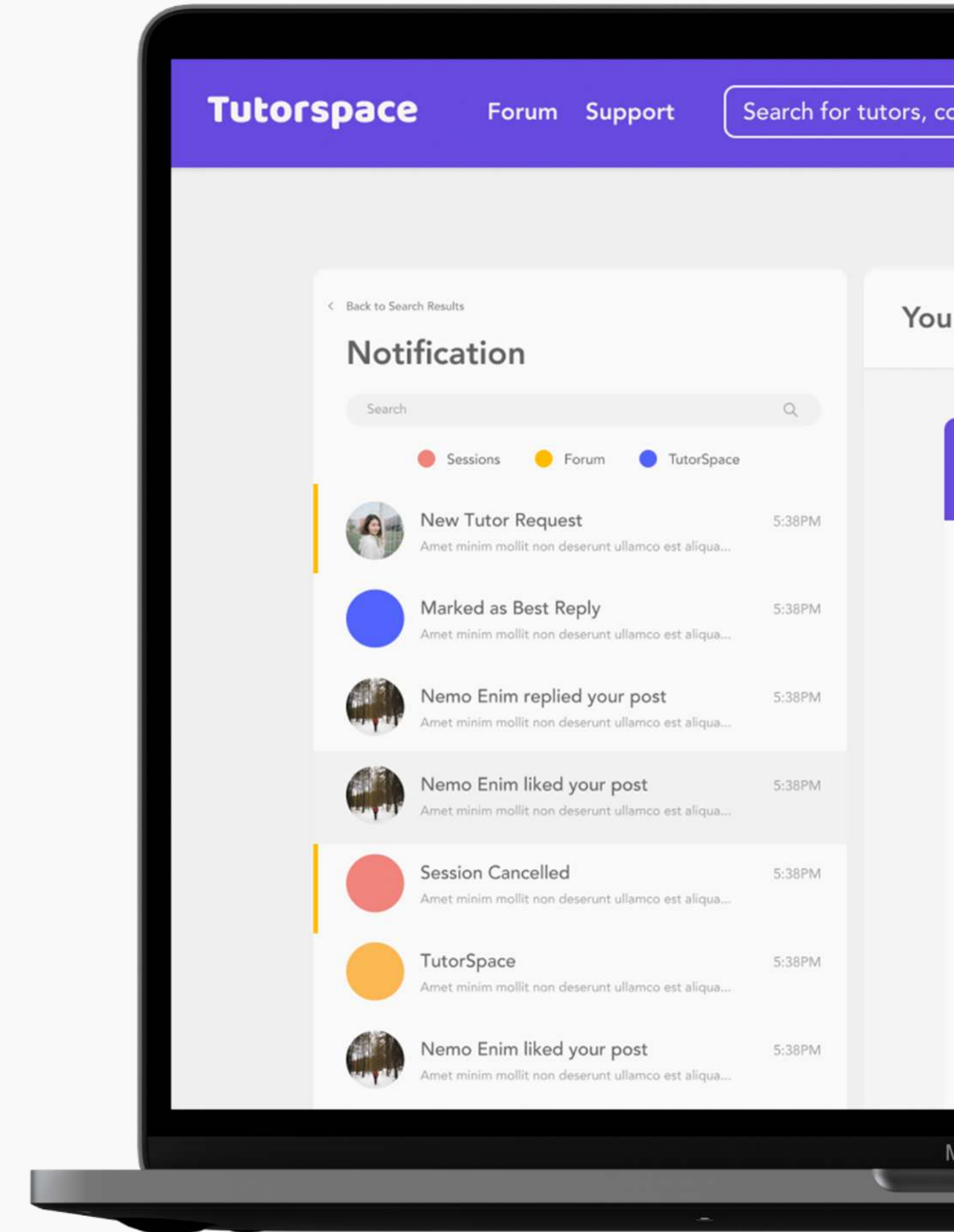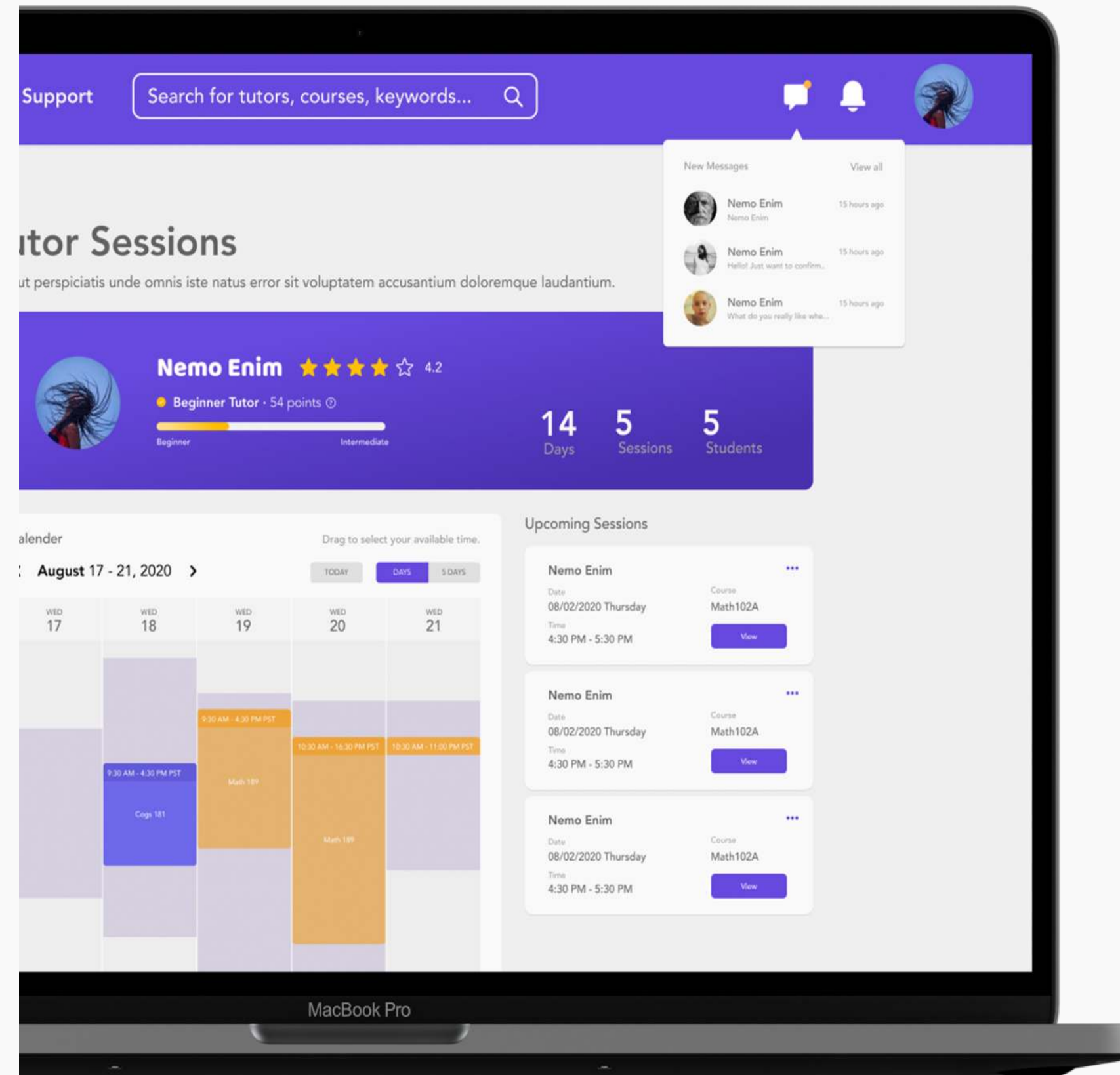
TutorSpace – AN EDUCATIONAL PLATFORM AIMING TO CONNECT STUDENTS AND TUTORS

TutorSpace is a platform dedicated to quickly connecting students with tutors. It aims to help students find the right tutor for them and build a platform for sharing teaching resources on campus. **The product launched at the University of Southern California in January 2021, receiving 60+ user feedback within a week.**

1/ Problem Statement

In this project, we collaborated with International Consulting Club @USC to send out online surveys to 100+ USC students to understand their attitudes and habits towards tutor service. According to survey results, more than 84% of the students had a need for tutor service, especially during midterm and final periods. 78% of the students had used on-campus tutor resources, and about 40% of the students said that the current on-campus tutor resources could not solve their needs because the number of tutors was small and the teaching time was relatively fixed.

84%
of the participants had a need for tutor service on campus

40%
of the participants were unsatisfied with current tutor service

12
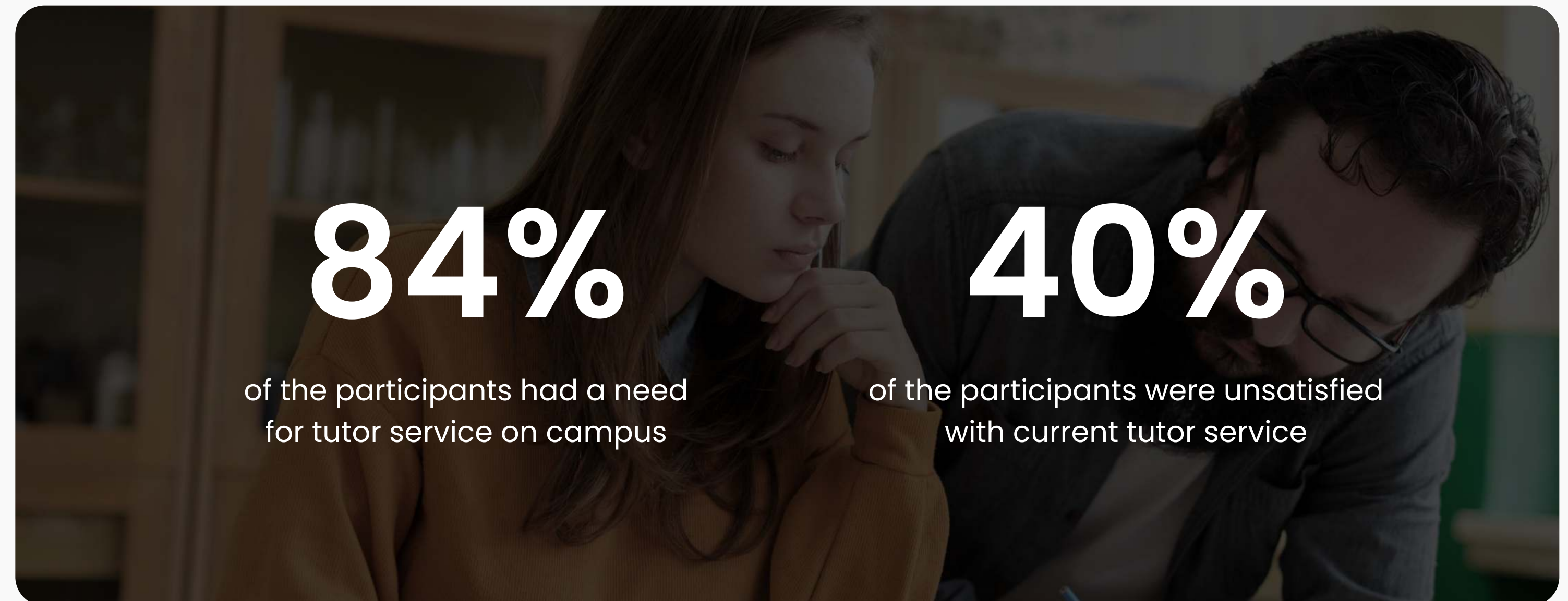
2/ User Journey Map: Complete a Tutor Session

To better understand how our users are currently using the tutor matching service, I interviewed several students. who have used tutor matching service on campus, and then have divided the process into four stages: encounter problems, schedule an appointment, tutoring, and follow-up questions. I created a user journey map to analyze users' pain points and potential opportunities for our product.

Stage	Encounter Problems	Schedule An Appointment	Tutoring	Follow-up Questions
User Action	• Ask friends for help. • Search similar questions on Google. • Browse Tutoring Service online.	• Send an email to the class TA/Tutor. • Go to the office hour. • Book tutor sessions on a third-party platform.	• Join a 10-15 min Zoom Meeting with the TA/Tutor. • Ask questions during the OH. • 1-on1 online/offline tutor session.	• Send a follow-up email for other questions. • Schedule another appointment.
Emotion	anxious — confused	impatient	relieved / happy	positive
Pain Points	• Students often don't know who to ask. • Couldn't find the right studying material. • Tutoring service is high-priced.	• Need to send multiple emails to confirm the tutor's availability. • The office hour doesn't match with the students' schedule.	• Many students go to the same tutor session, resulting in the tutor doesn't have enough time to address each question. • Students/tutors are late/no-show for scheduled sessions.	• The response time is longer and not suitable for last-minute questions. • Tutors don't know how to improve their teaching skills.
Opportunity	• Help students find the tutor who has taken the class with great performance. • Build up online community for class discussion. • Provide incentives for students to share their class experience.	• Present Tutors' availability to students in a more accessible way. • Establish a Standard Operating Procedure for booking 1-on-1 sessions in a safer and quick way.	• Make the 1-on-1 tutoring process more transparent to students and tutors. • Set up credit system to reduce late or no-show situation.	• Real-time communication between students and tutors for quick follow-ups. • Collect session feedback from tutors and students to improve tutor session experience.

3/ Prototypes For Tutors...
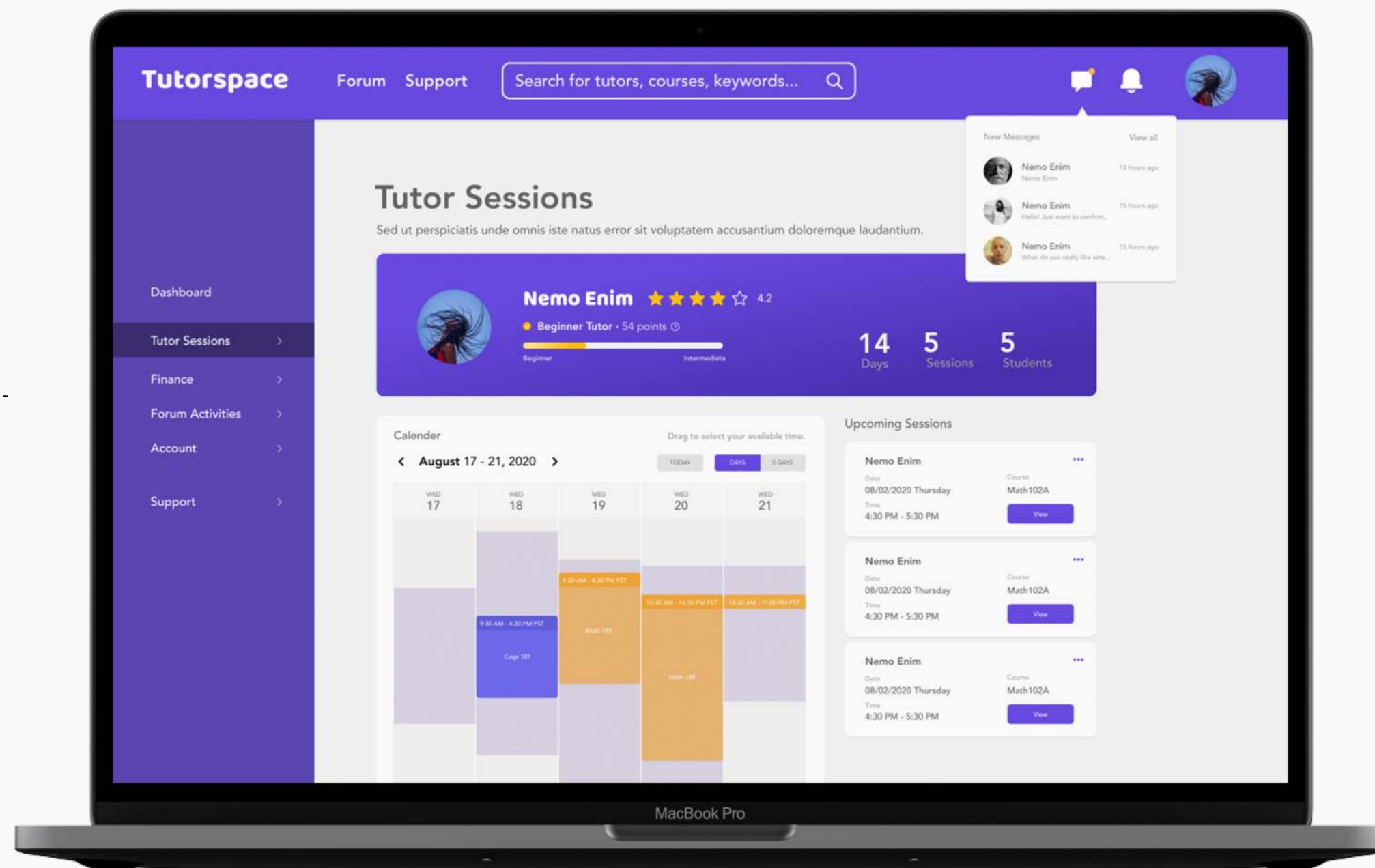


The tutor Session page was featured with an interactive calendar and upcoming session reminders. With the interactive calendar, we expected students to be able to see tutor availability at a glance and book a lesson within minutes. We expected tutors to quickly check their schedule at the first sight.
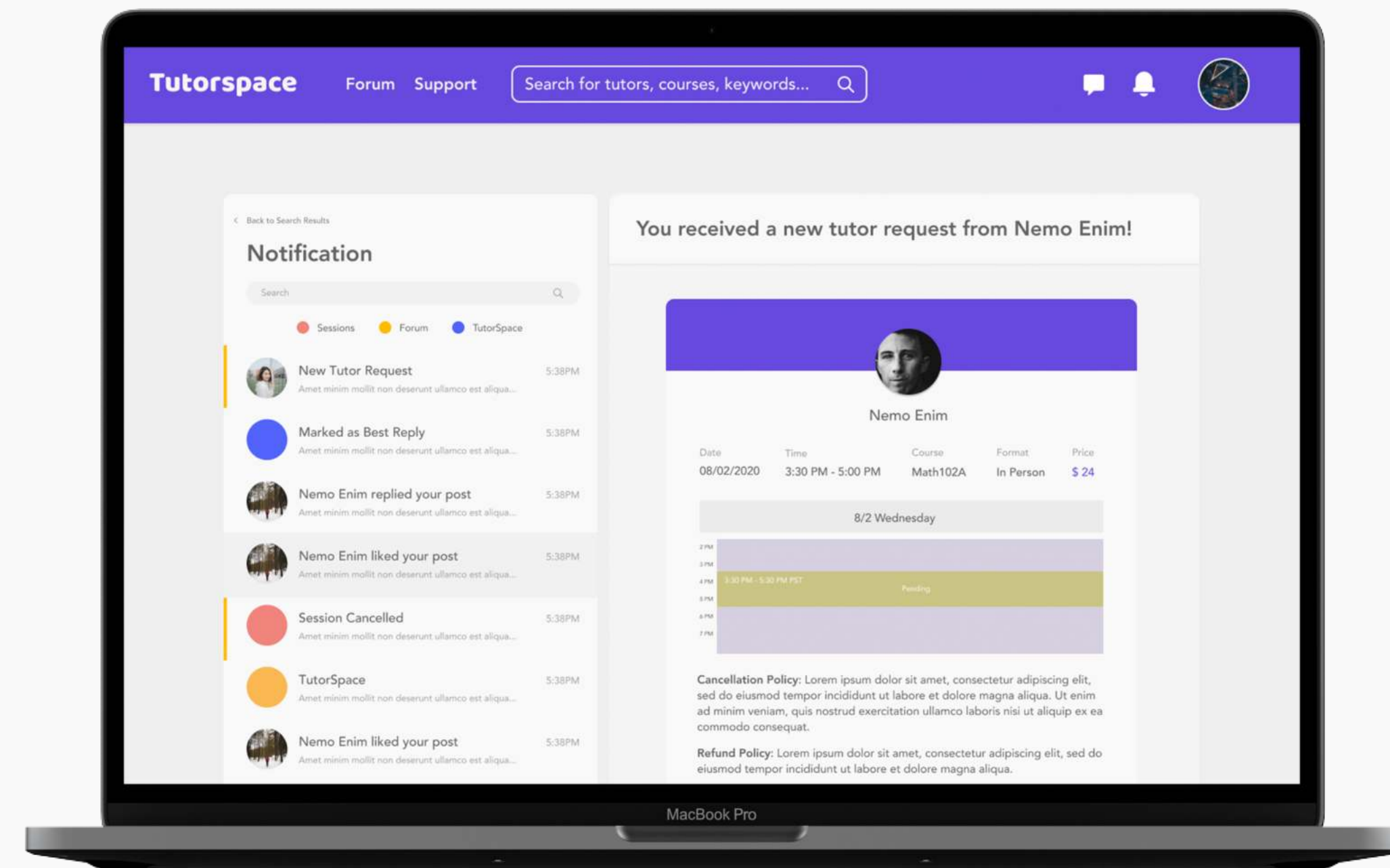
From the Notification page, tutors were able to check new tutor requests from students. Tutors may also quickly view the details of the requested session and accept or decline the request in the notification pages.

4/ Prototypes For Students' End
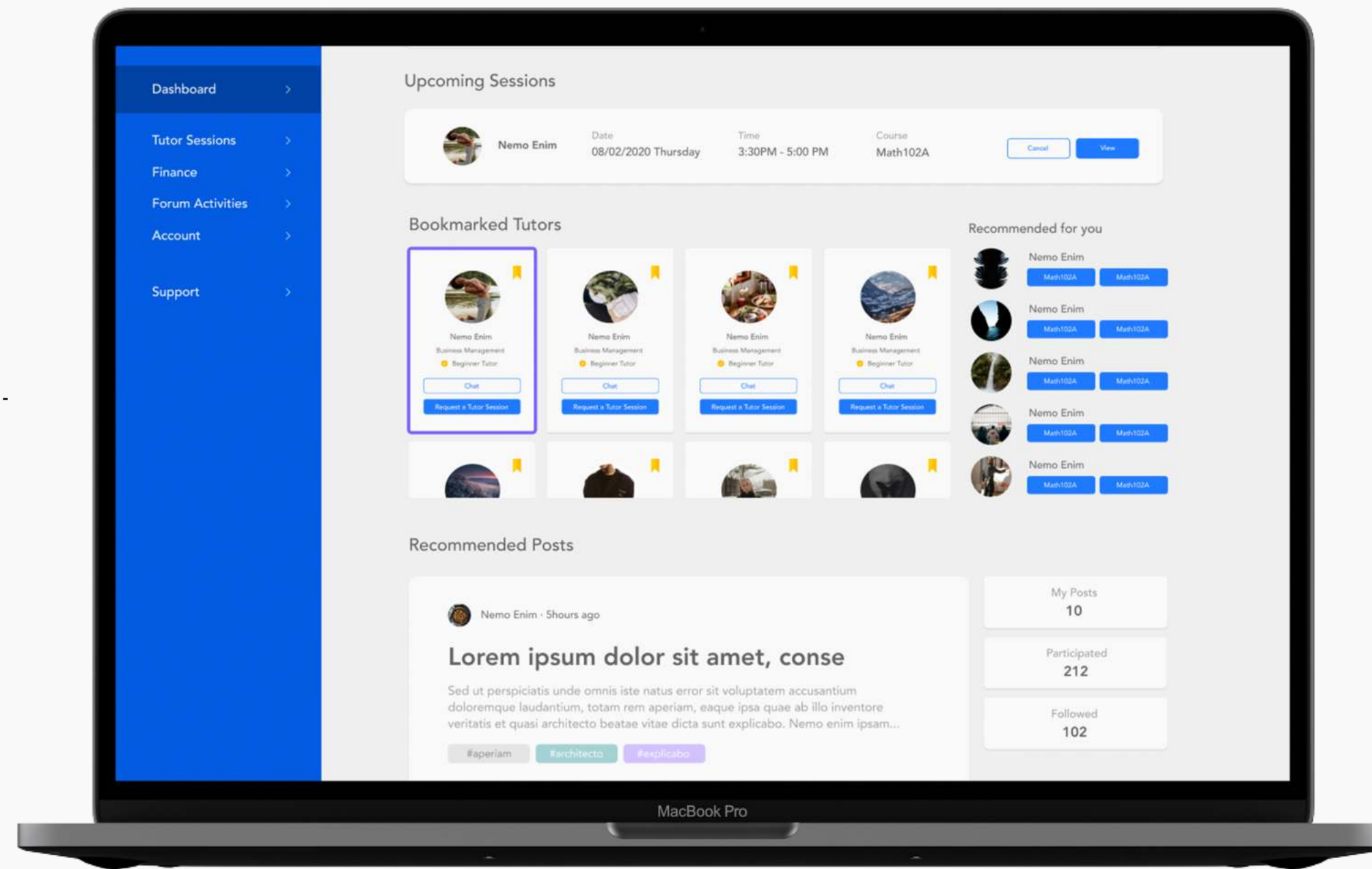
In the student's dashboard page, we added the function of **recommending and bookmarking tutors to help students match with the tutor they like**. At the bottom, we also included **a recommendation system for forum posts through an AI algorithm** to encourage students to participate in discussions and share their class experiences.
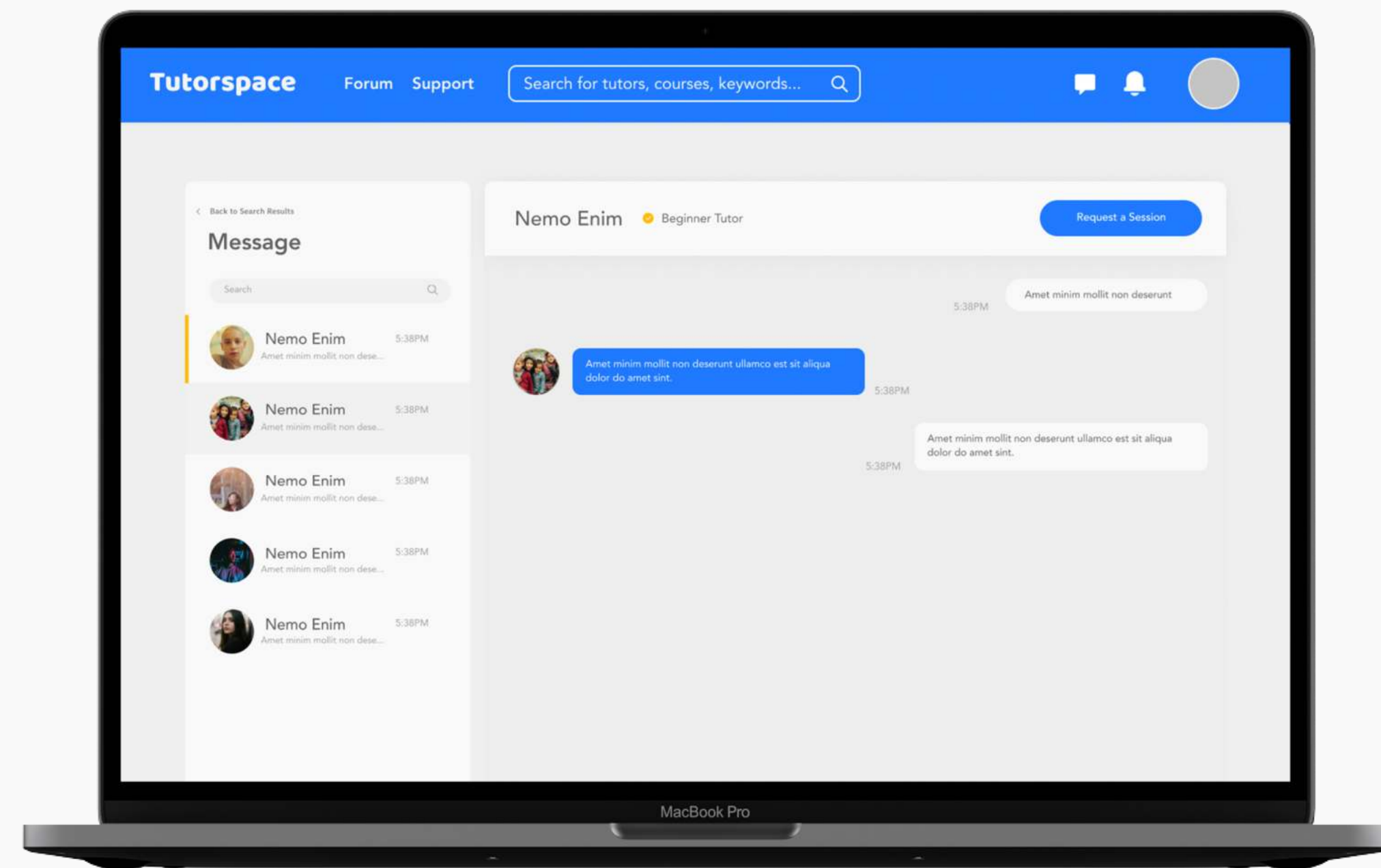
We also designed the Message system for our products. From the Message page, students are able to message tutors directly to ask questions in real-time and to schedule sessions with one click.

4/ UI Components

Primary
#1F7AFF

P Dark
#0075E0

Secondary
#0C4293

S Dark
#07306C

Tutor

Primary
#6749DF

P Dark
#502ED9

Secondary
#30188F

S Dark
#251175

Student
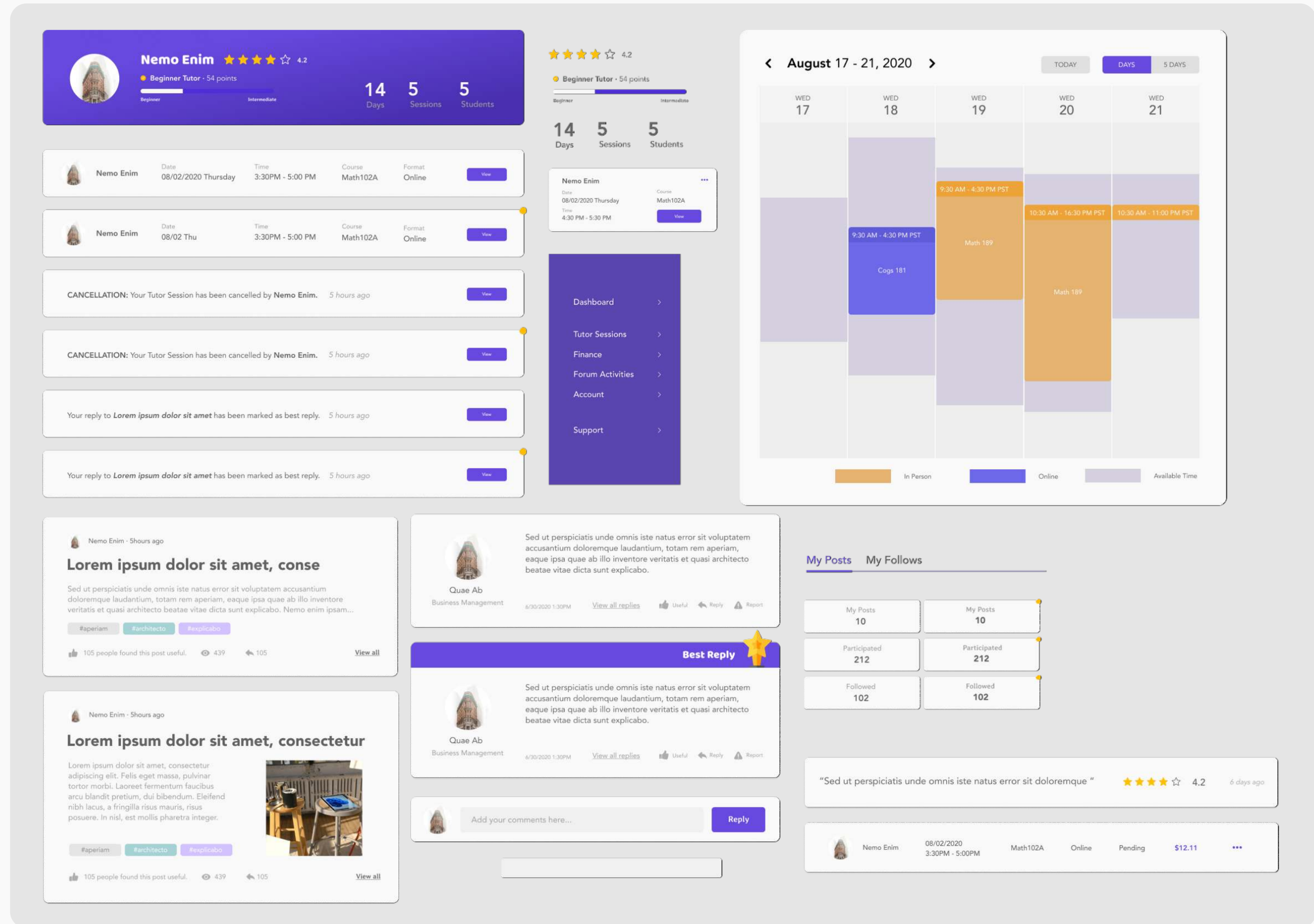
03 ENTERTRO

Extending Theme Park Immersion into
Queues: An Augmented Reality (AR)
Experience in Theme Park Lines.

Tangible User Interface

Augmented Reality (AR)

Physical Prototyping

Game Design

What is Entertro?

Entertro is a gaming experience dedicated to extending theme park immersion into queues by seamlessly incorporating the waiting-in-line experience into a playful adventure.

This is achieved using tangible artifacts, Augmented Reality (AR) technology, and narrative interfaces. It aims to shorten visitors' perceived waiting time through game interactions, encouraging them to engage with their surroundings while queuing. This approach reimagines the waiting area from a passive, dull 'cage' into an active social space for both kids and parents, and transforms the waiting experience into a more engaging and immersive adventure.

| Game Design | Augmented Reality |

| Tangible User Interface |

Behavior

Kids Treat Railings As Play Zones.
While waiting, kids often entertain themselves by climbing and moving along the railings, turning them into a playful way to pass time.

Games, Chats, and Relaxation.
Meanwhile, adults tend to treat the waiting period as a chance for leisurely chats and relaxation, either interacting with family or engaging in mobile games such as Heads Up with their companions.

Experience

Queues Are Annoying But Beneficial.
Queues are annoying but it can also provide reliable and valuable information to visitors, such as attraction popularity and wait times, and serve as pre-show narratives to create immersion.

The Dynamics of Queues in Theme Park Vary Depending on The Type of Attraction.
Queue dynamics change with each attraction type, with thrill rides typically having faster, sporadic movements and more relaxed attractions seeing a steadier flow of visitors.

Opportunities

Lack of Interactivity
This absence of engagement opportunities leaves guests merely passing time, rather than actively participating in a captivating pre-attraction experience.

Introducing Emerging Technology
The integration not only enhances the overall ambiance but also actively engages visitors, transforming idle wait times into memorable parts of the attraction journey.

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Emma (Age: 8)

Behavior: Energetic and curious, Emma actively seeks playful activities and is easily captivated by visually stimulating and hands-on experiences.

Goals: To find engaging and fun activities that keep her entertained, especially during long waits for attractions.

Emma's Dad (Age: 35)

Behavior: Energetic and curious, Emma actively seeks playful activities and is easily captivated by visually stimulating and hands-on experiences.

Goals: To find engaging and fun activities that keep her entertained, especially during long waits for attractions.

Joe (Park Manager)

Behavior: Oversees daily park operations, ensures safety and efficiency of attractions, and addresses guest feedback and concerns.

Goals: To optimize the flow of visitors throughout the park, reduce wait times, and increase overall guest satisfaction and retention.

How Entertro Works ?

Enterto enhances theme park queues with three key components:

- **Queue Barriers:** Equipped with sensor-enabled gameplay boards for children to interact with by rotating and moving elements, completing challenges that activate rewards in the AR game.

- **An Augmented Reality (AR) Game:** Adults use mobile devices to bring the queue environment to life in AR, navigating virtual characters through combined real and virtual scenes to unlock game levels.

- **Ground Tiles:** Serve both as a game interface and a queue movement guide, with flashing indicators directing visitor movement as the queue advances.

AR Entertainment

Queue Barrier Interface

Ground Elements

21
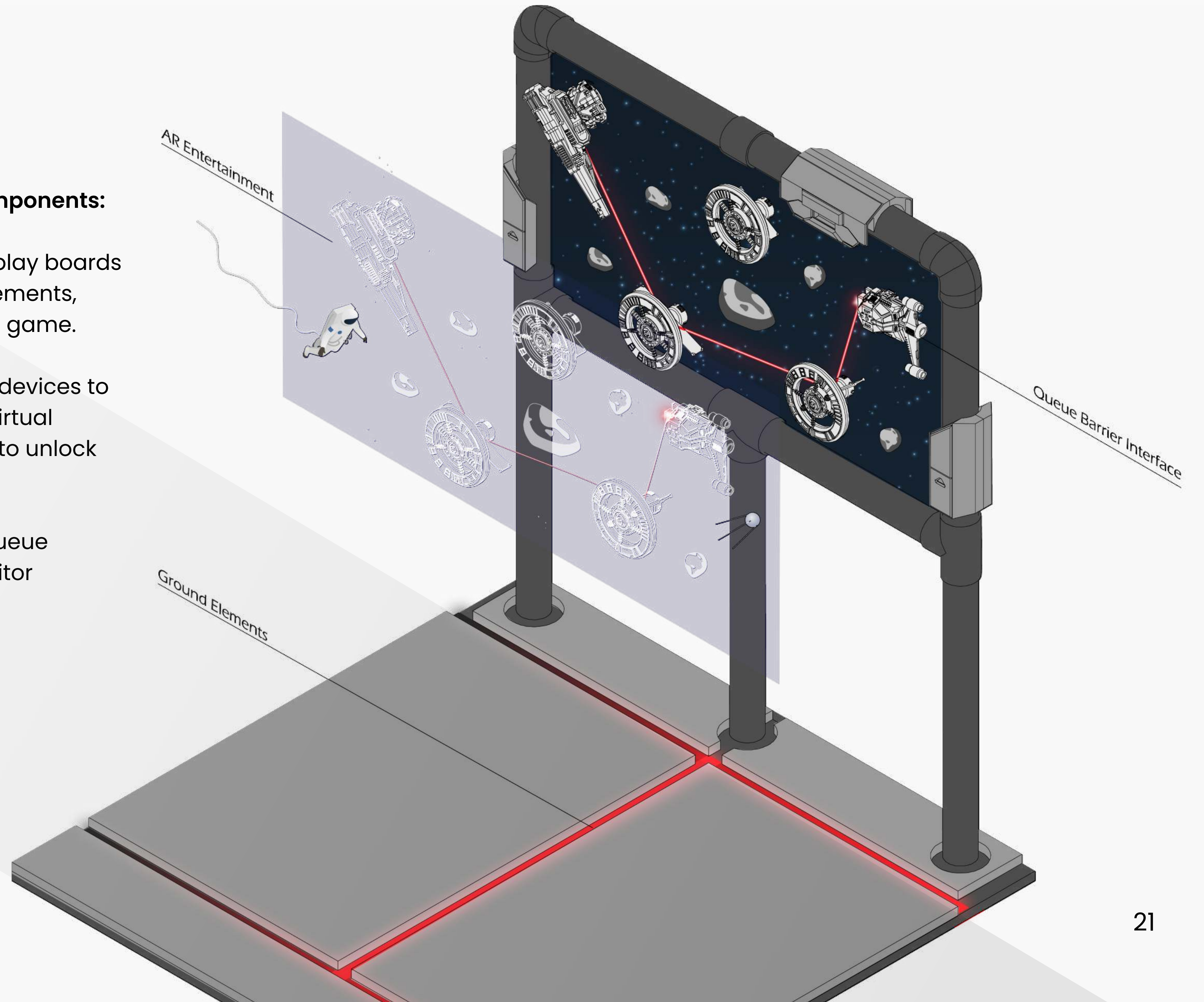
Redesign and Construction of Theme Park Railings

We utilized water pipes to serve as the foundational support framework for the railings. Initially, these pipes were meticulously measured and cut to ensure a perfect fit for the intended design. The railings were entirely spray-painted black to align with our space theme. The final height of the railings was designed to be around 1.2 meters, catering to children's height while ensuring they don't obstruct the view of the queue area.
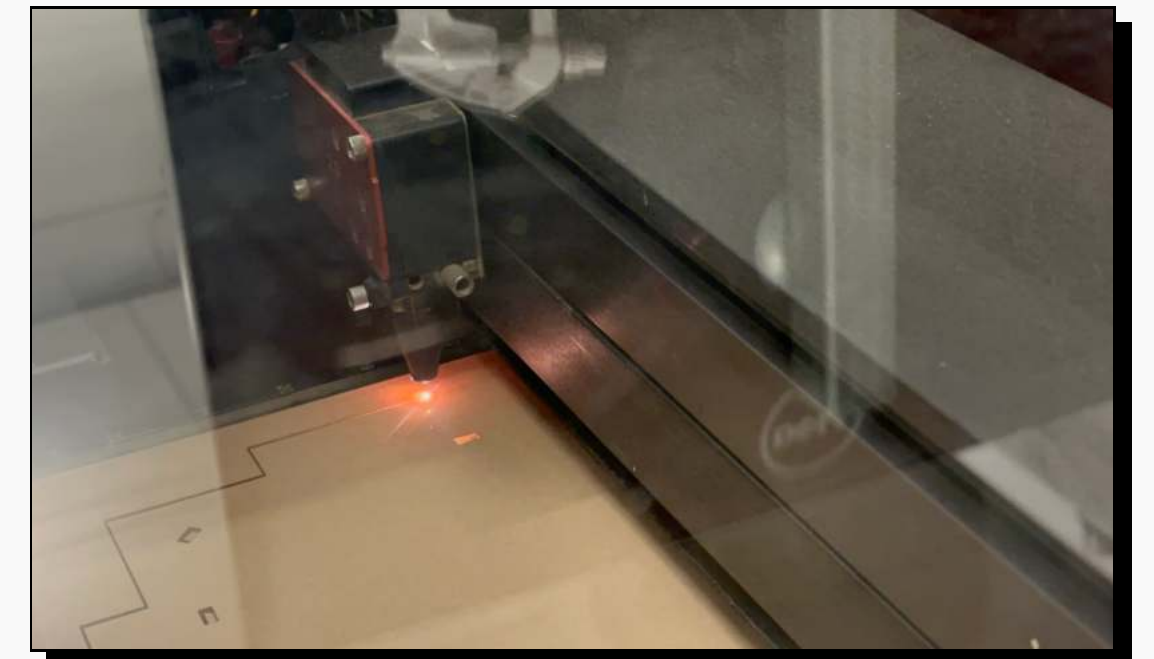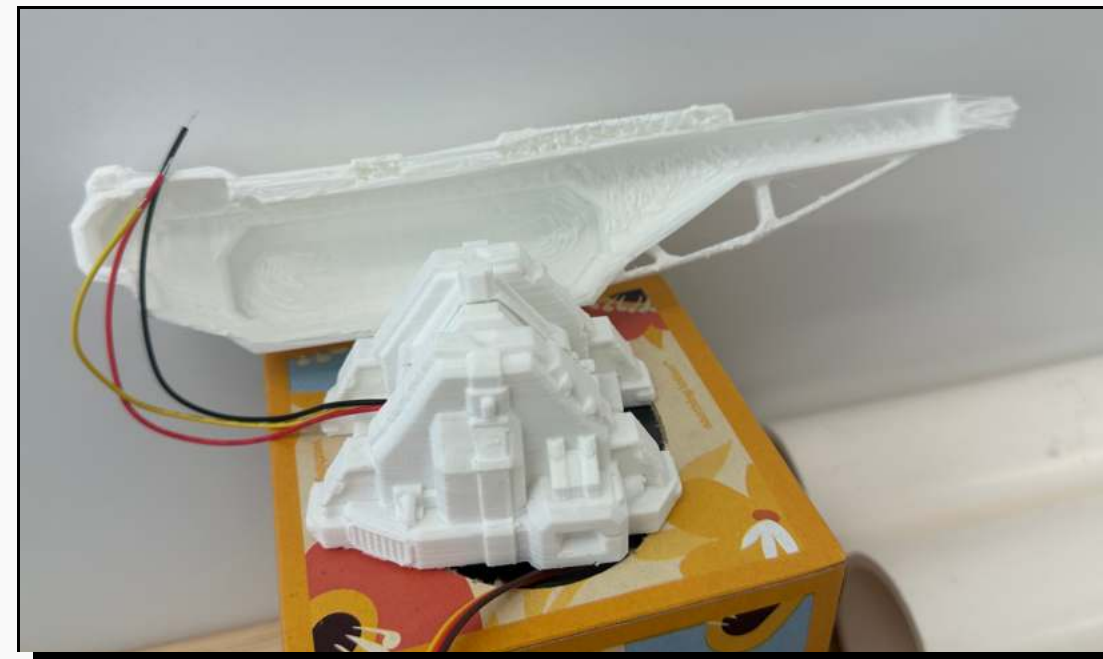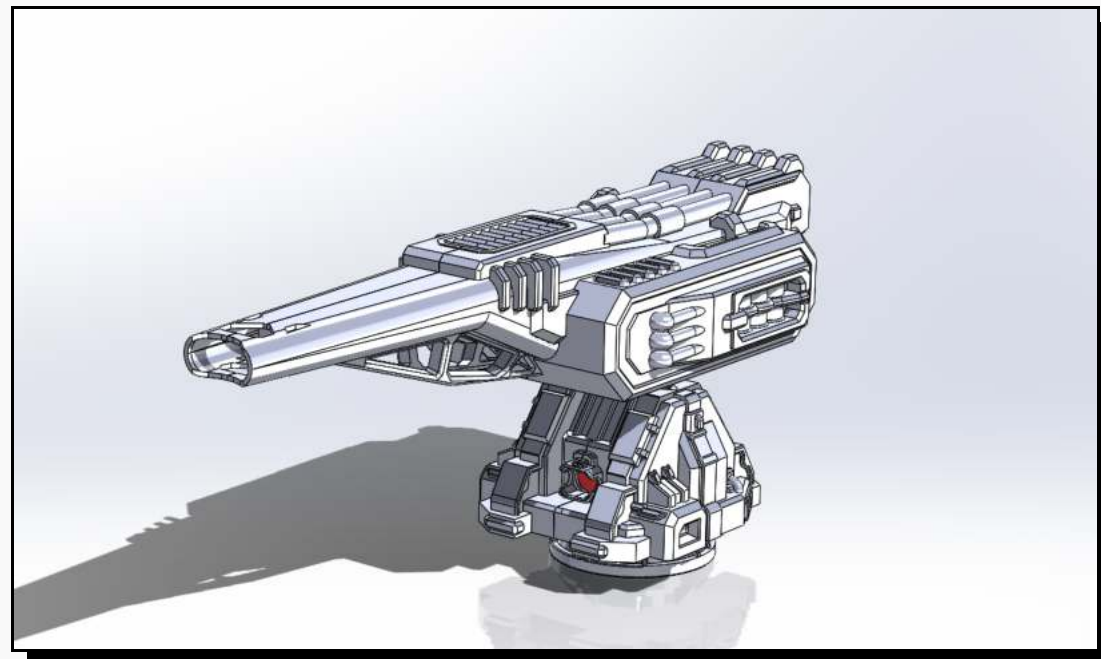
3D Printed Components for Narrative Interface

We utilized 3D printing to craft various components for the Queue Barrier interface, including elements like spaceships, satellites, cannons, and asteroids. These 3D-printed models are designed with hollow interiors to discreetly house electronic parts such as servos and laser diodes, and they also function as anchor points within the AR game's scenarios.

04 BOUNCY

A Game Controller That Transforms Traditional Screen-Based And Hand-Held Device Gaming Experiences Into Physical And Bodily Interactions.

Tangible User Interface

Bodily Interaction

Physical Prototyping

Embodied Cognition

1/ What is Bouncy?

Bouncy is a tangible user interface that transforms traditional screen-based and hand-held device gaming experiences into physical and bodily interactions.

Constructed with an elastic yoga ball and integrated with a microcontroller and sensors, it can detect changes in acceleration, force, and motion, providing inputs to games that control the character's movement and direction within the game.

It employs design theories such as embodied cognition, ludic design, and tangible user interface to offer players a more vivid and enriched gaming experience.

Ludic Design	Embodied Cognition

Tangible User Interface
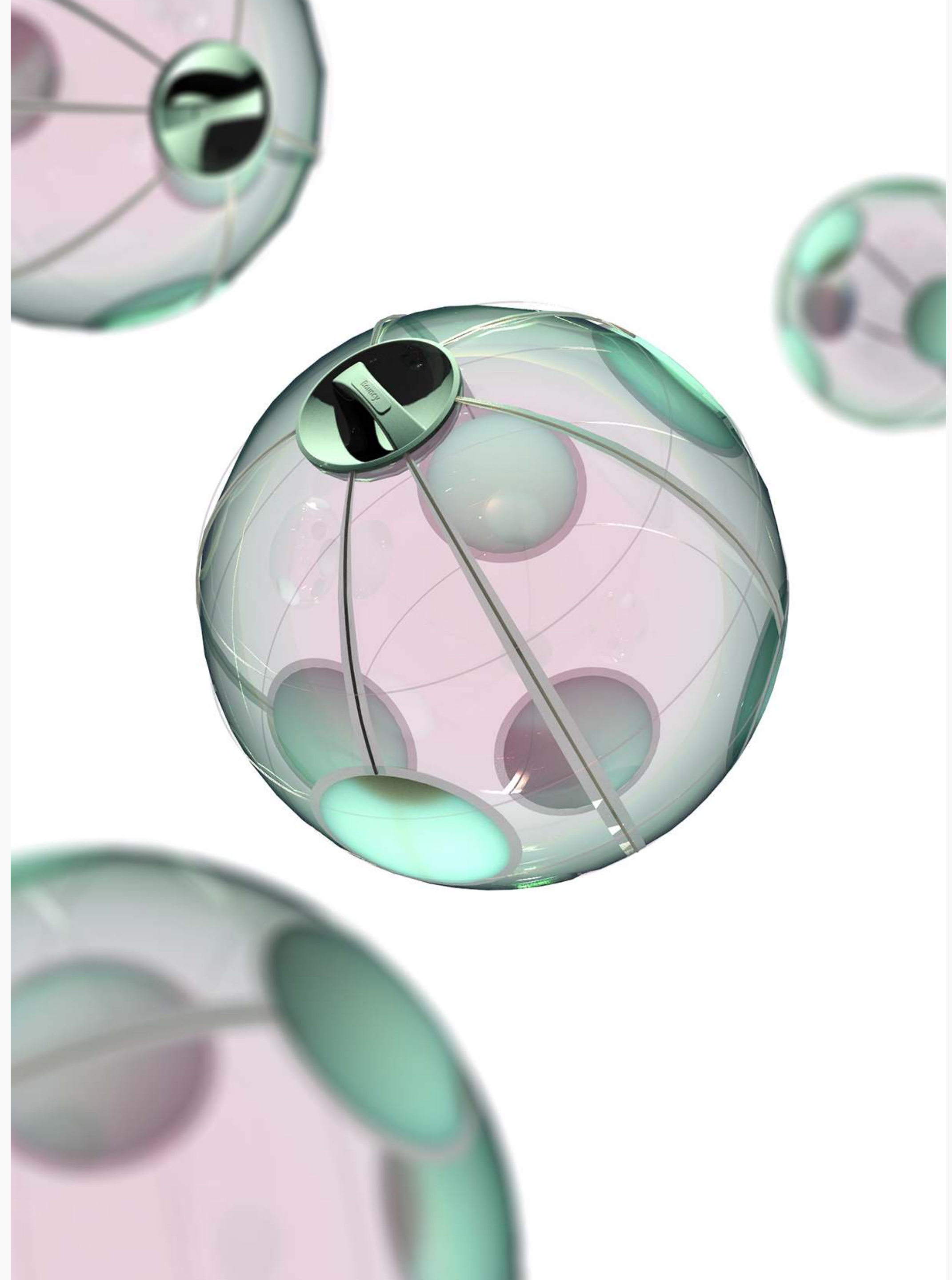
2/ How Bouncy Works ?

Bouncy consists of an elastic yoga ball, a microcontroller embedded with accelerometers, and capacitive touch pads. The project has functionality similar to a trackball, which allows users to immerse themselves into the playful exploration of games with their full body movement.

Tilt to Move

Use Bouncy as a input for games!

How to use Bouncy?

Press to Attack

Hug to Heal
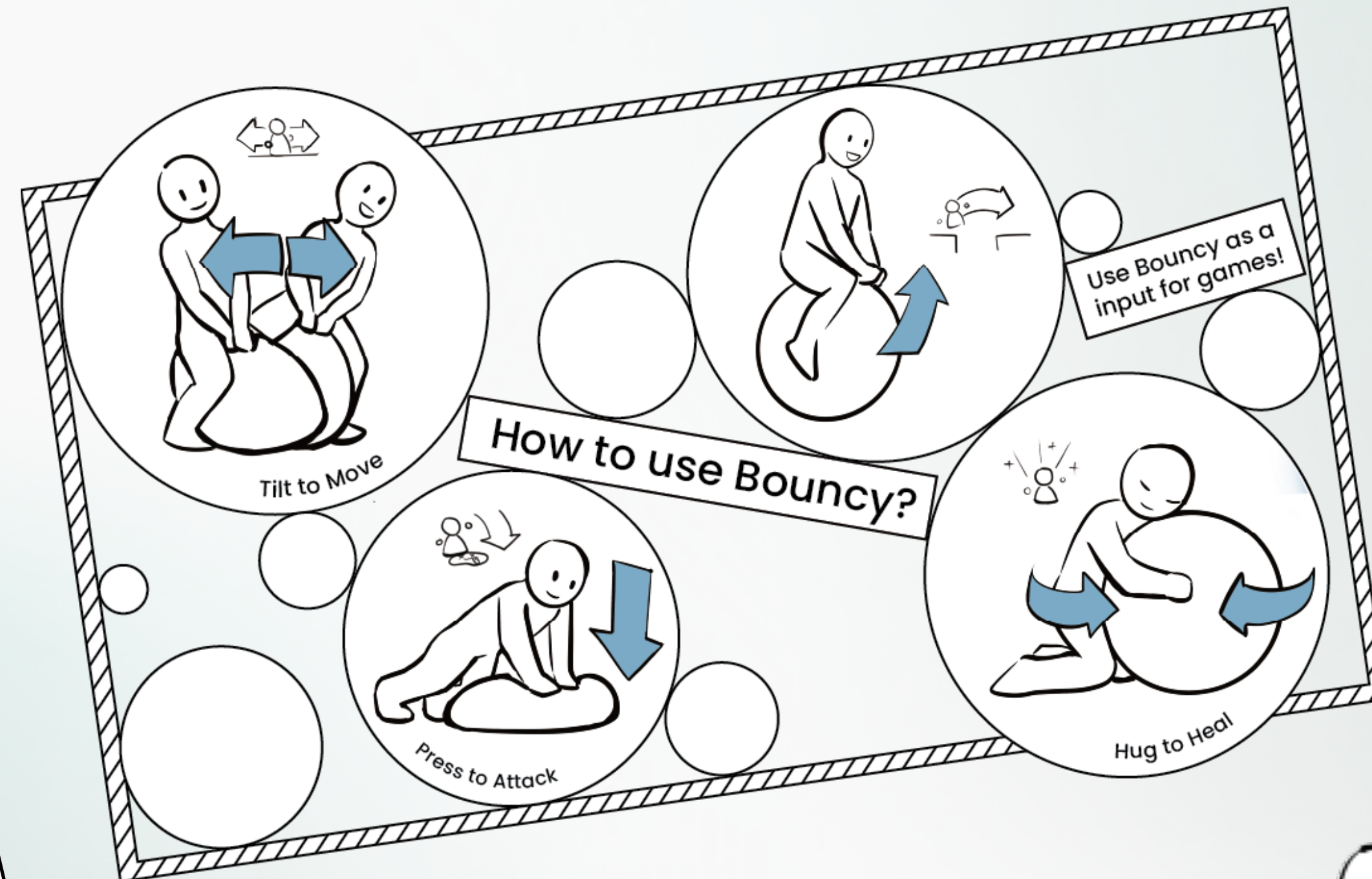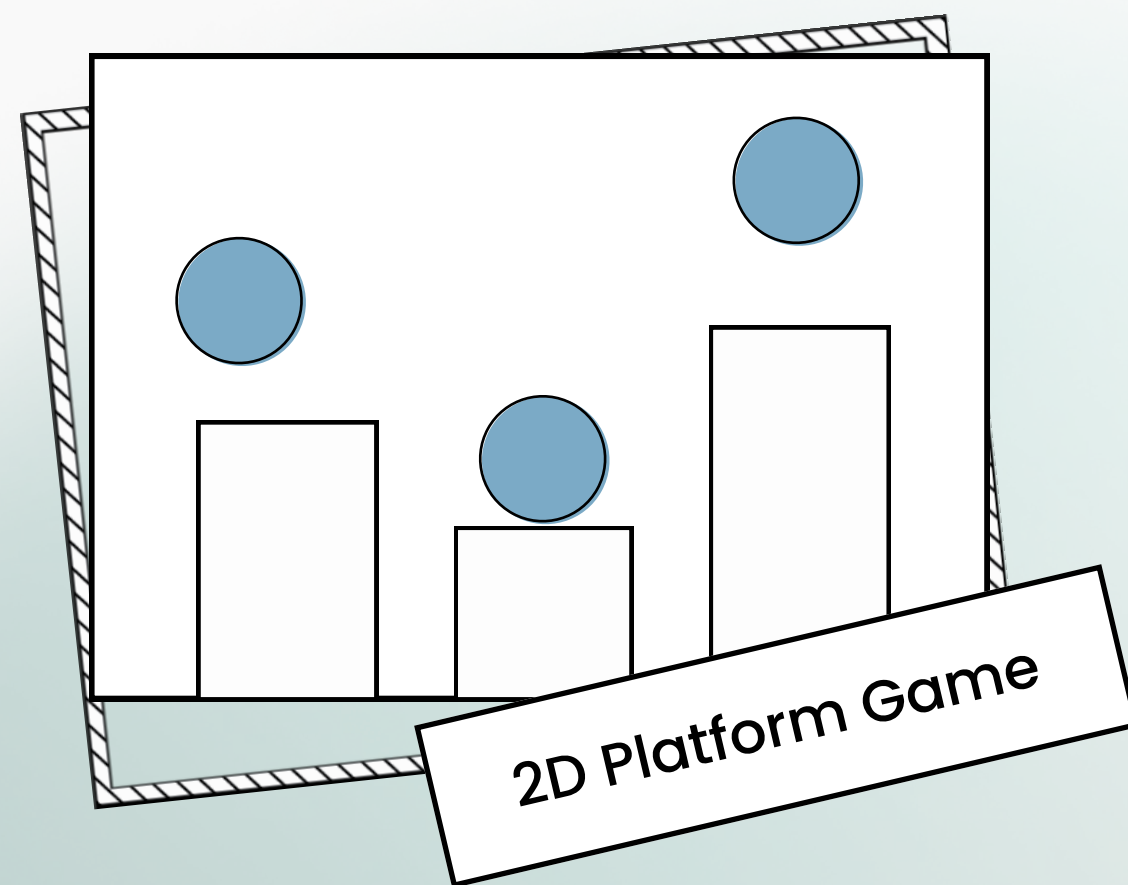
When we played a simple 2D platform bouncing ball game using Bouncy, players could tilt their bodies left or right while sitting on Bouncy to control the ball's left or right movement in the game, bounce to make the ball jump, and press down to initiate an attack.

2D Platform Game

Some future design ideas include: communication between two Bouncys, simulating, and companion features.

Companion

Communication Connection

Simulating

Further Development


Various sizes for all age groups

26
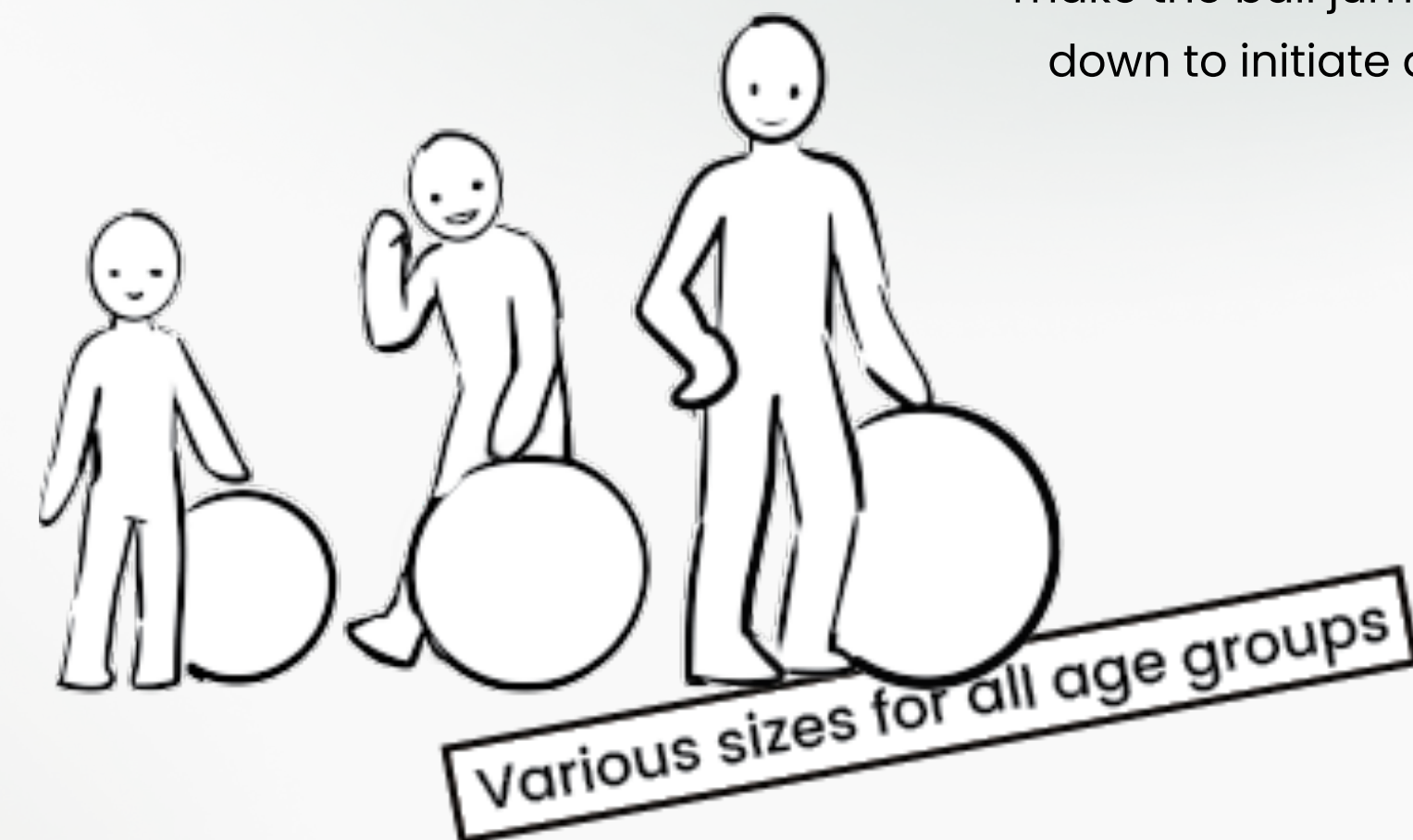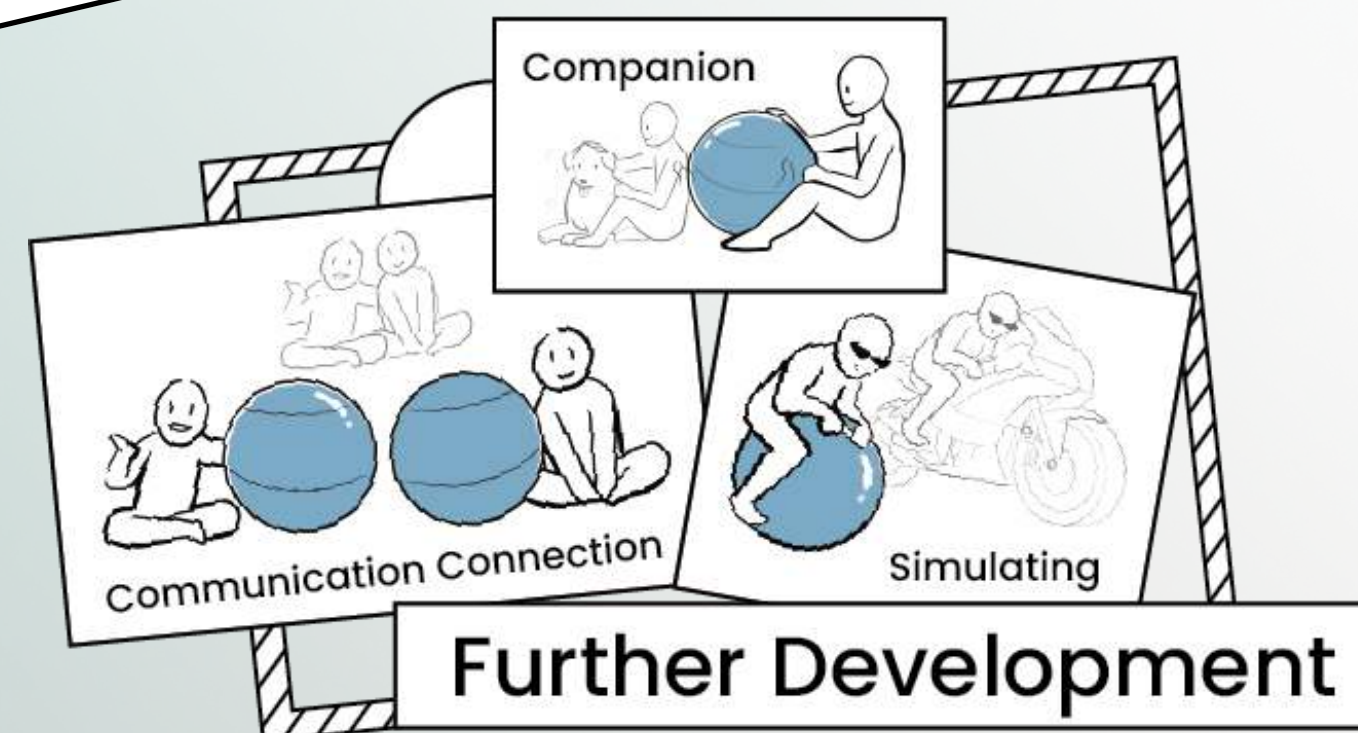
3/ How was Bouncy built?

We built our project on a standard yoga ball. To preserve its flexibility, we opted to attach electronics externally rather than inside. We utilized the Circuit Playground Express microcontroller for its diverse sensors. After connecting a power switch to this microcontroller, we anchored the components with 3D-printed PLA shells. We then linked the controller's capacitive pads to larger conductive ones on the ball.

For prototyping, we connected it to a PC via a micro USB cable and used Arduino IDE to program the microcontroller. We mapped the movement of Bouncy to the appropriate action of the keyboard and mouse, to make sure Bouncy is adaptable to common 2D games available on the market.

On/Off Switch

3D-Printed Shell

Circuit Playground Express

Capacitive Pads
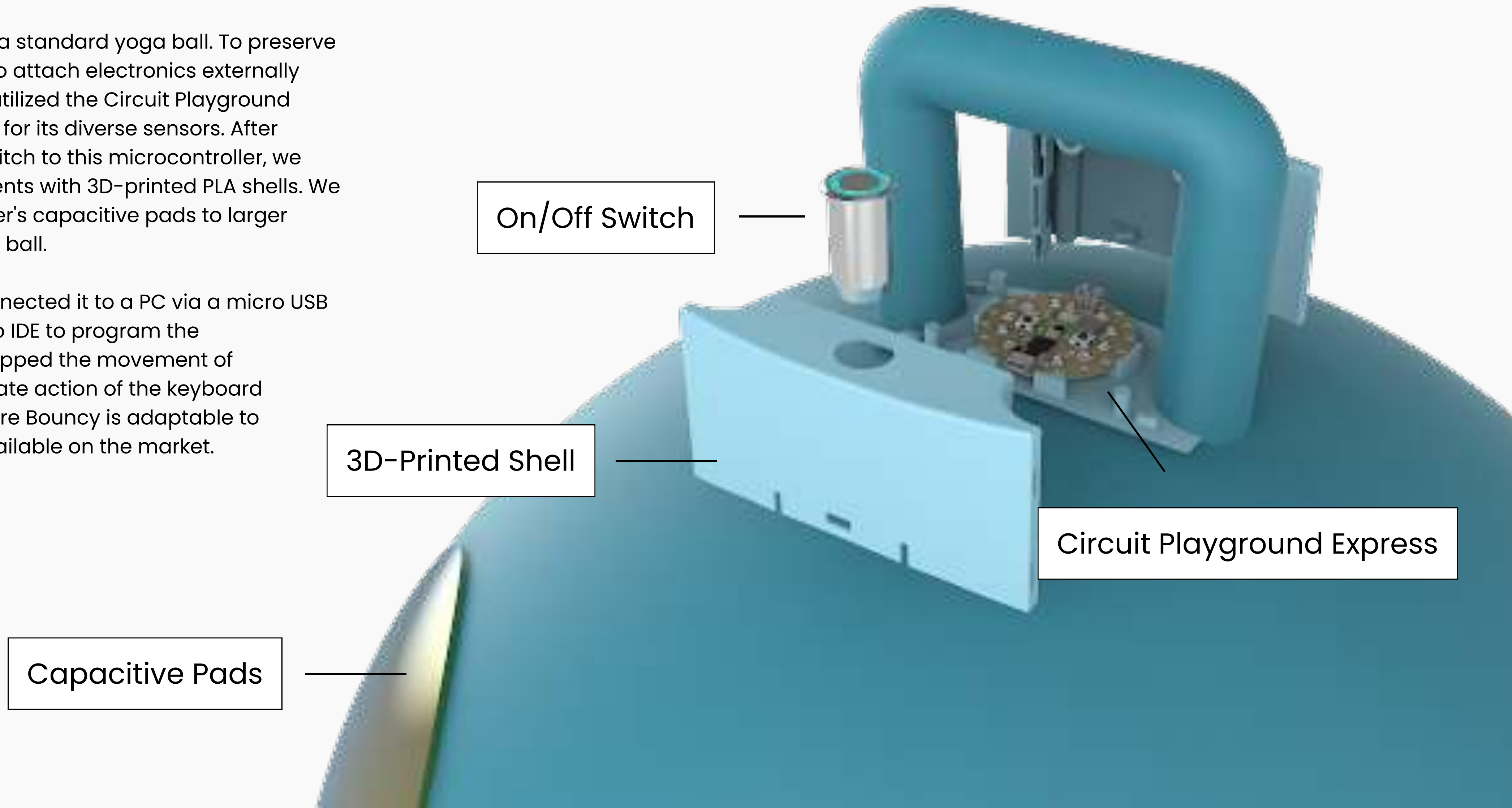
4/ Fabrication
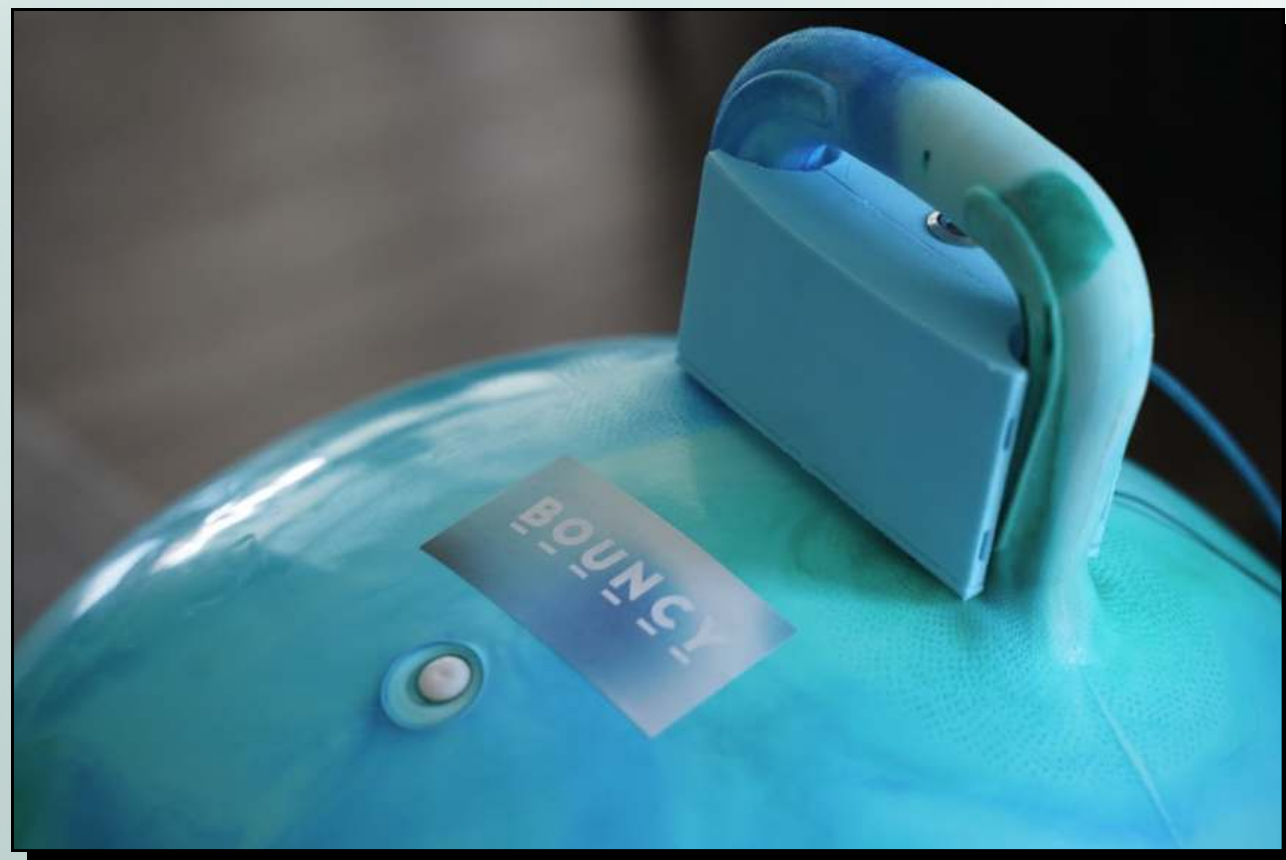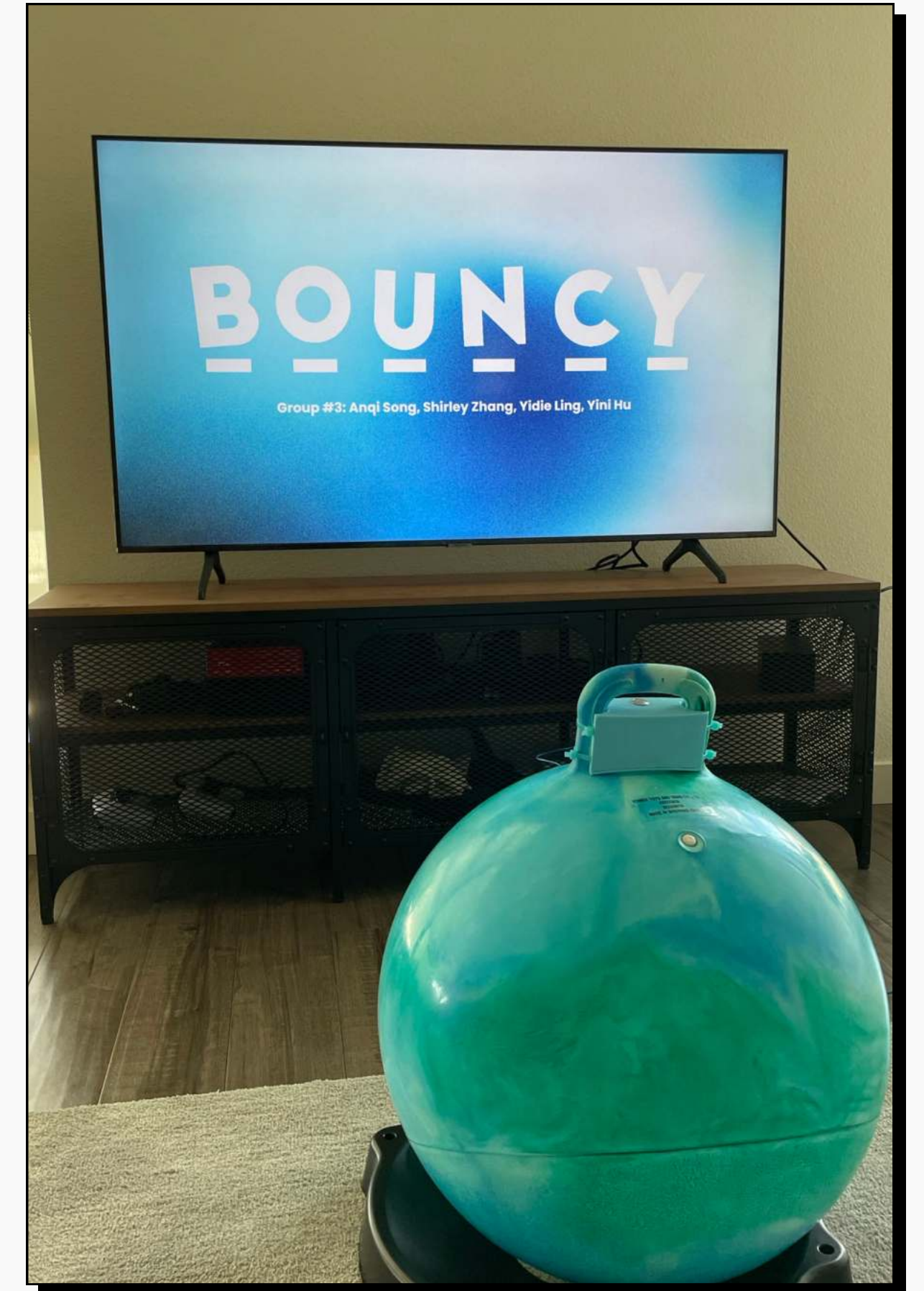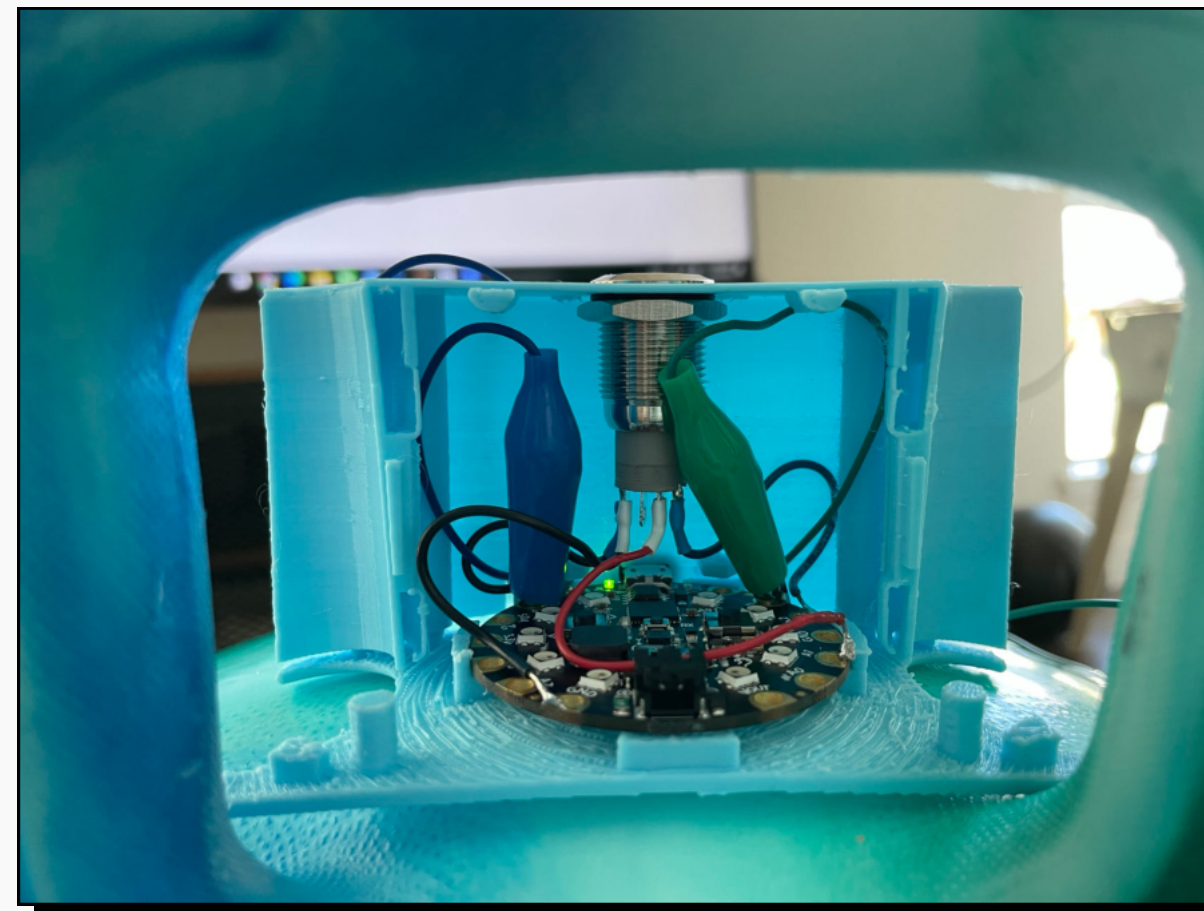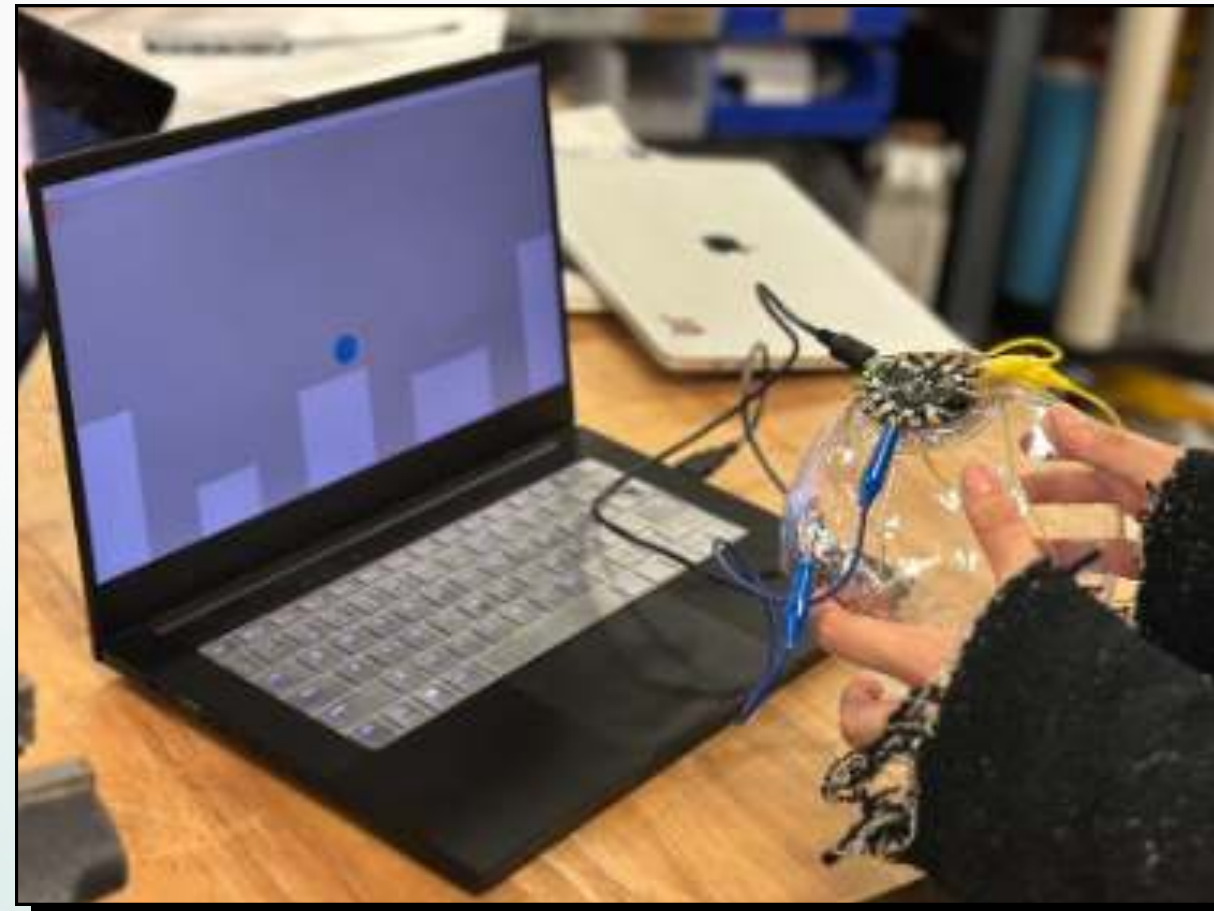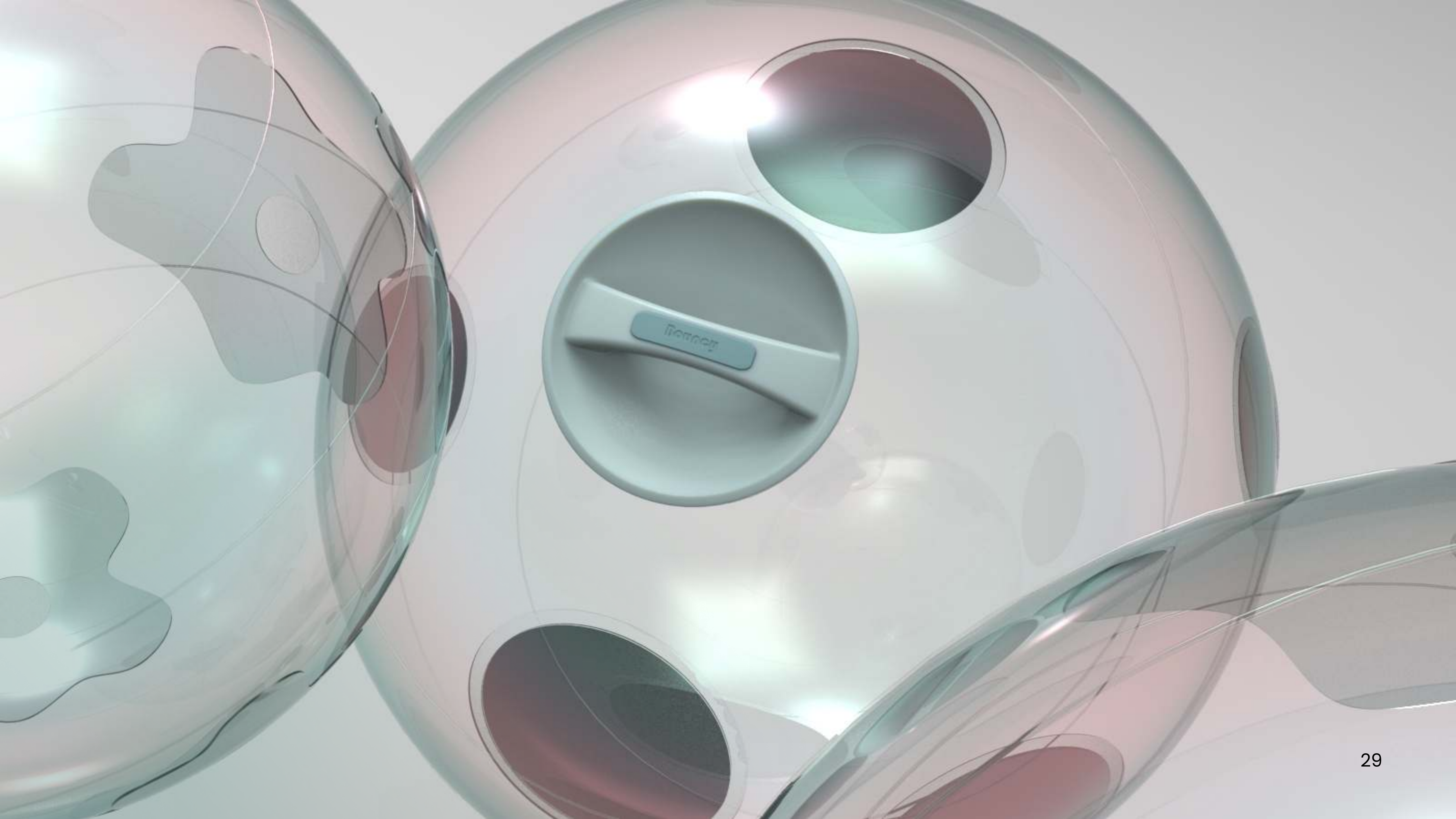
05 OCEAN LUNG

A Speculative Installation That Mimics The Impact Of Ocean Deoxygenation On Marine Wildlife.

Speculative Design

Soft Robotics

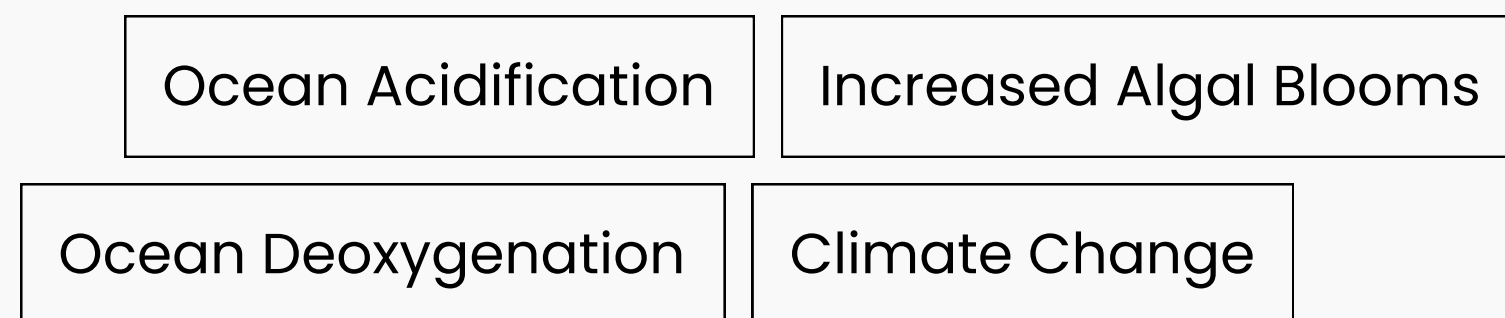Physical Prototyping

Interaction Design
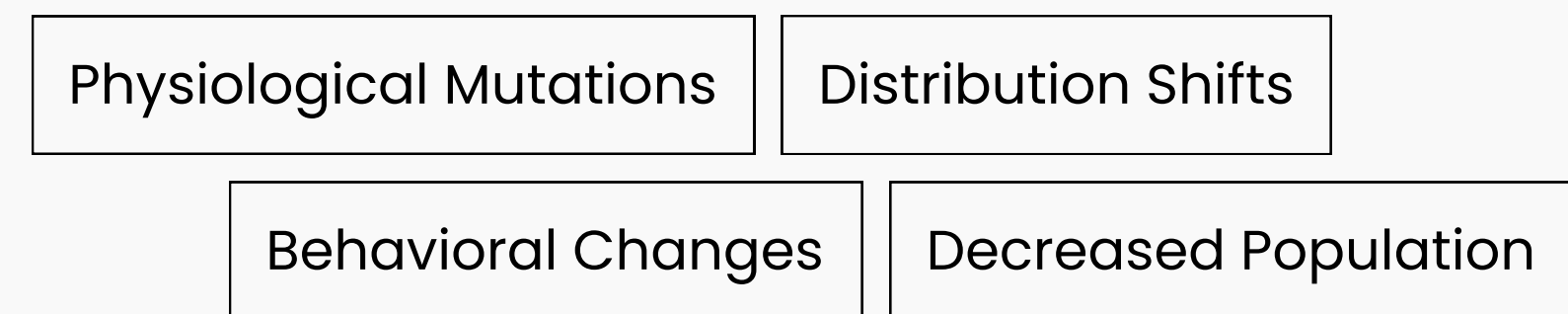
1/ Problem Statement: The Suffocating Sea

Ocean deoxygenation, driven by climate change and pollution, has reduced ocean oxygen by 2% since the 1950s and may decrease it further by 3-4% by 2100. This persistent environmental issue threatens marine life, notably crabs, who show resilience by adapting and moving to shallower, oxygen-rich areas, despite increased dangers such as predation and competition.


PERSISTENCE

| Ocean Acidification | Increased Algal Blooms |
| Ocean Deoxygenation | Climate Change |

RESILIENCE

| Physiological Mutations | Distribution Shifts |
| Behavioral Changes | Decreased Population |

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2/ Ideation
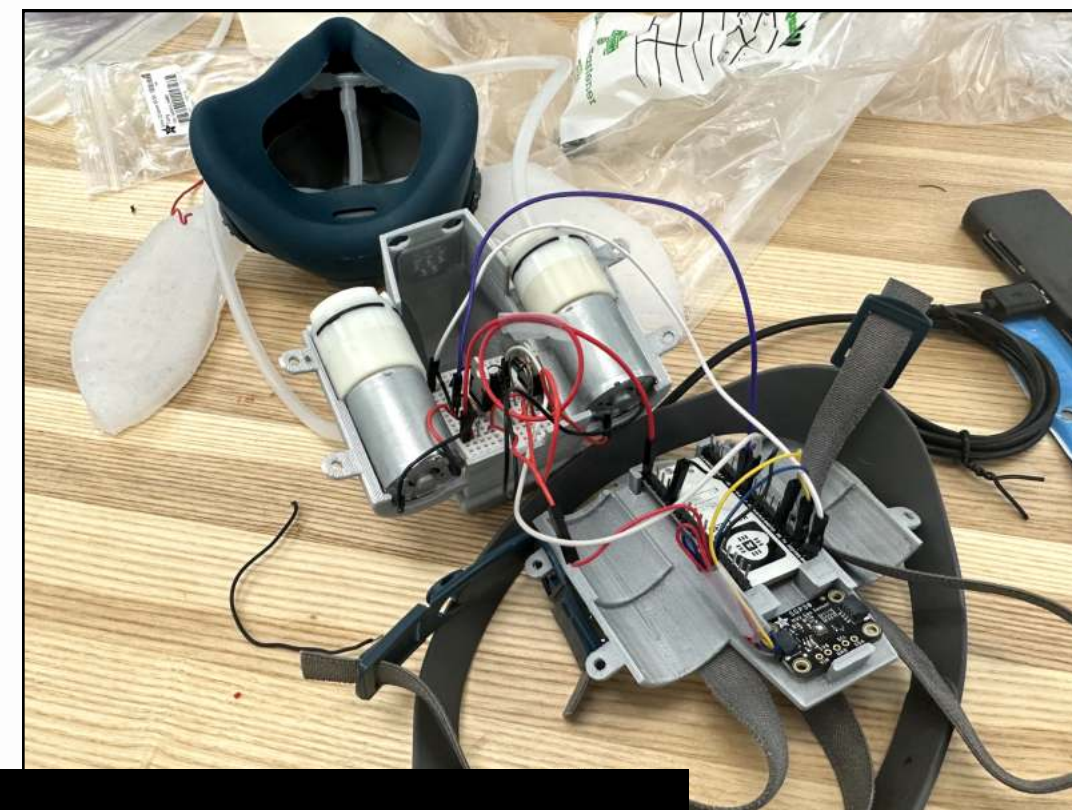
How can we immerse the audience in an experience that simulates the suffocation sensation of marine life in oxygen-depleted environments?

Wearable

Sensors

Soft Shell - Acidificaiton

Visual & Respiratory Simulation
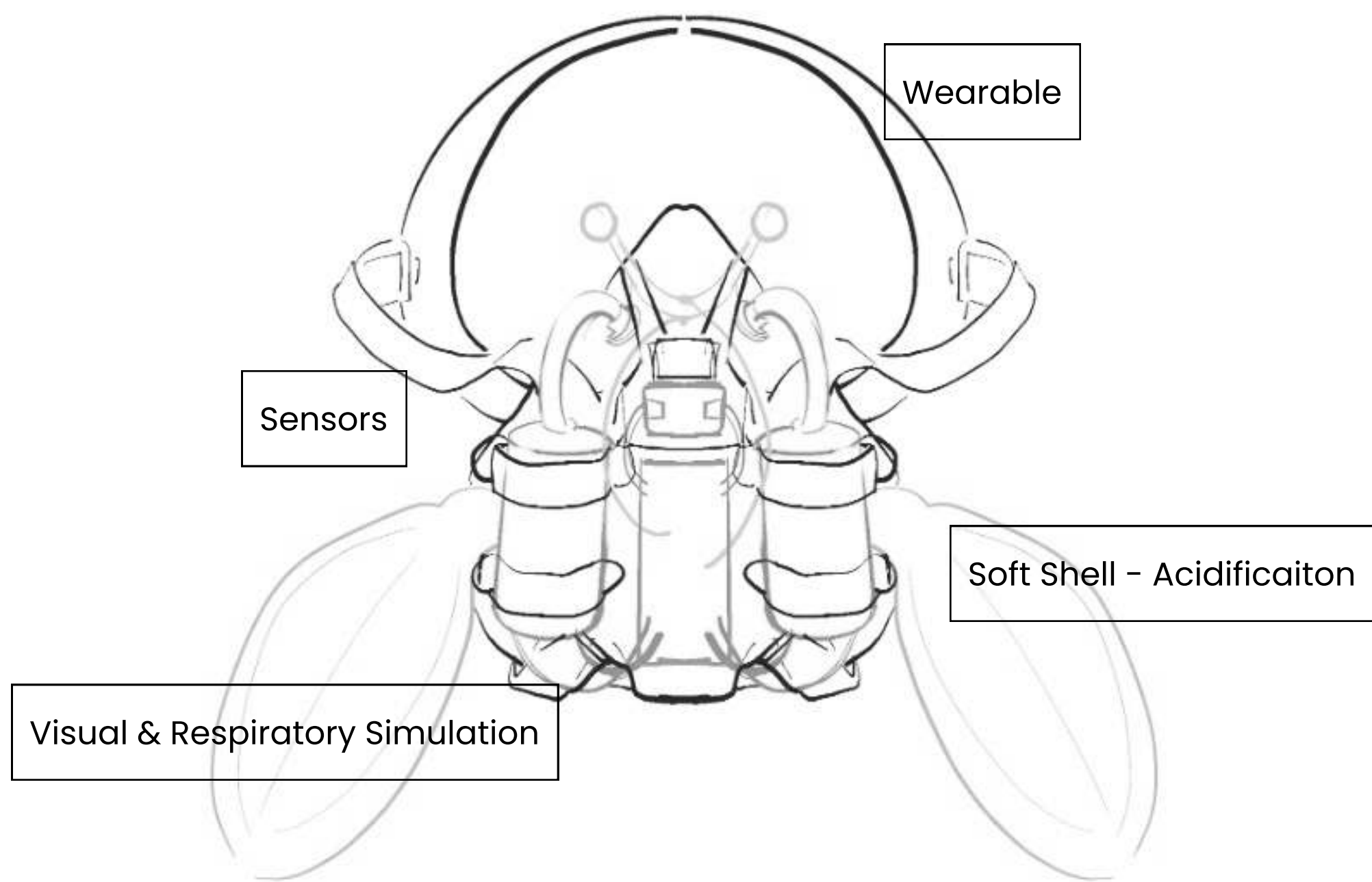
Attachments on A Respirator Mask
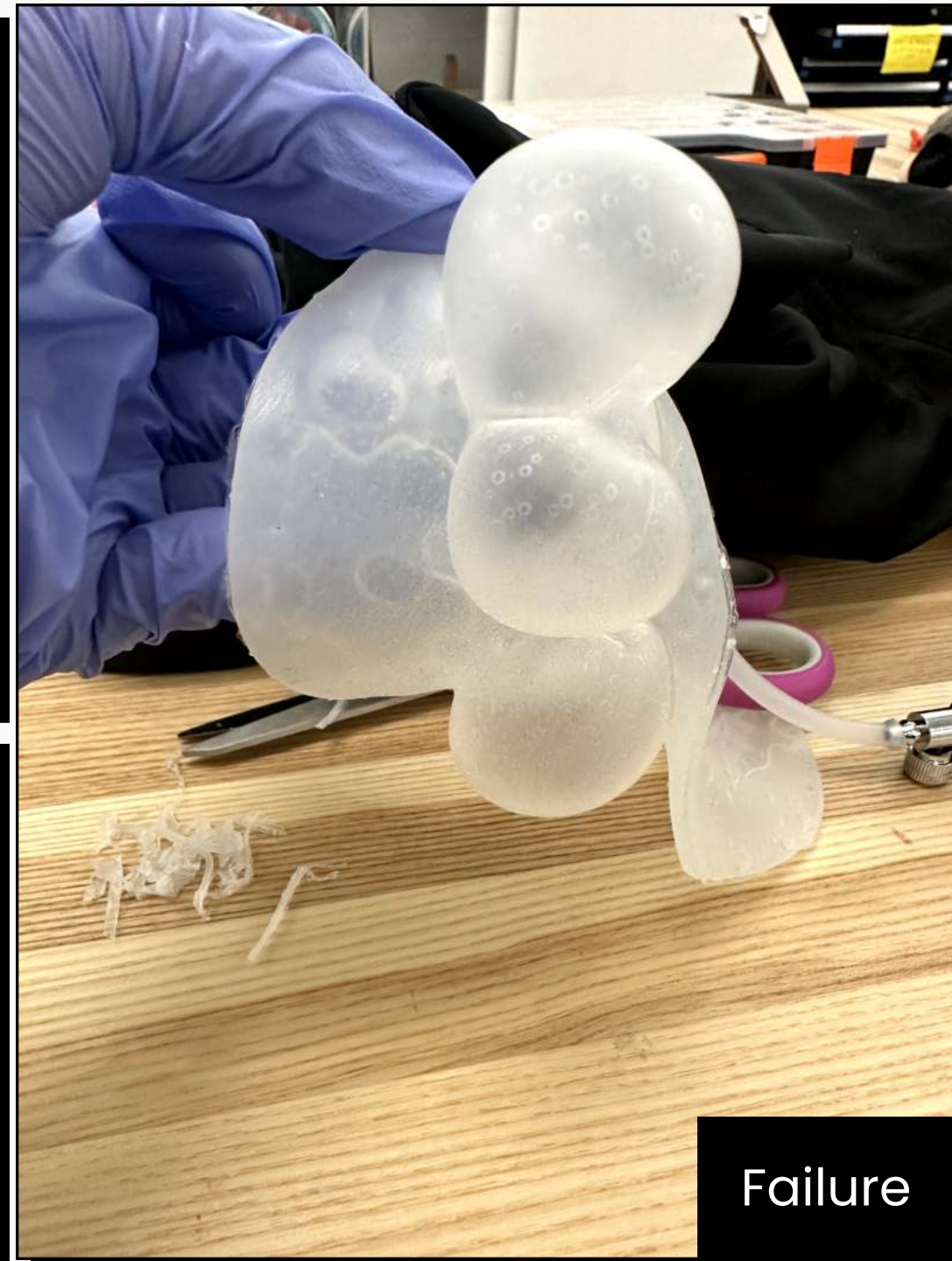
3D Printed Molds

Air Pumps & CO2 Sensors

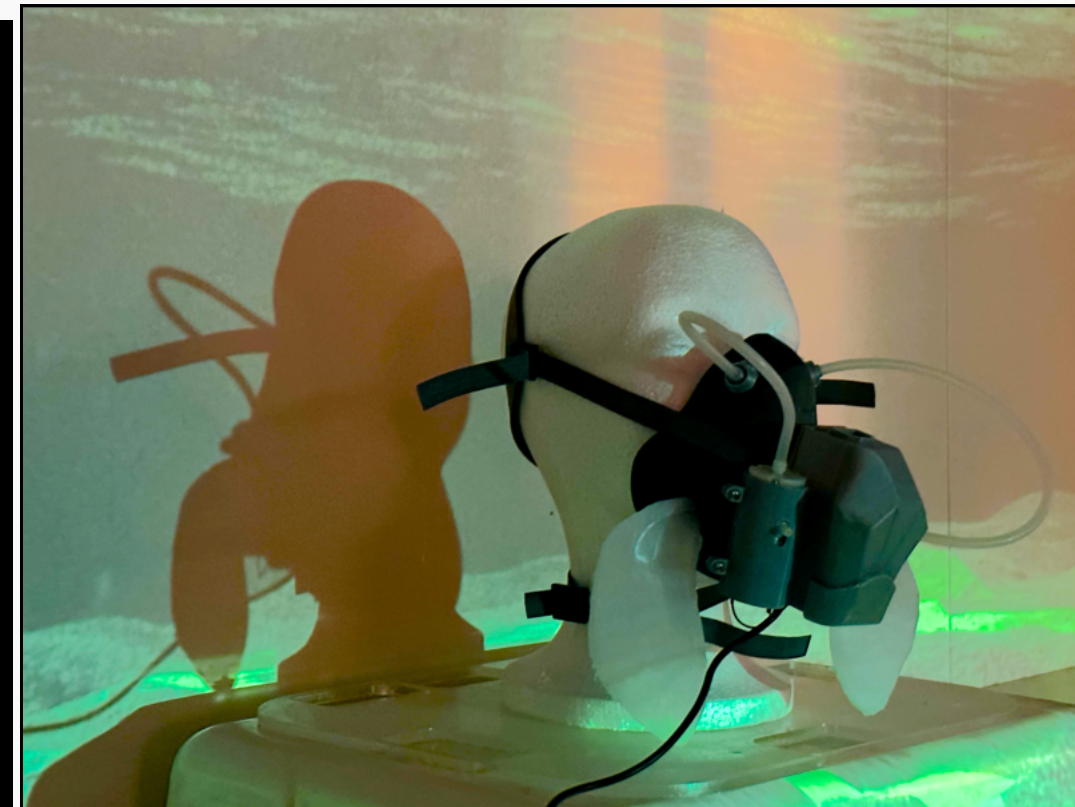Crab Claws - Silicone Air Pockets

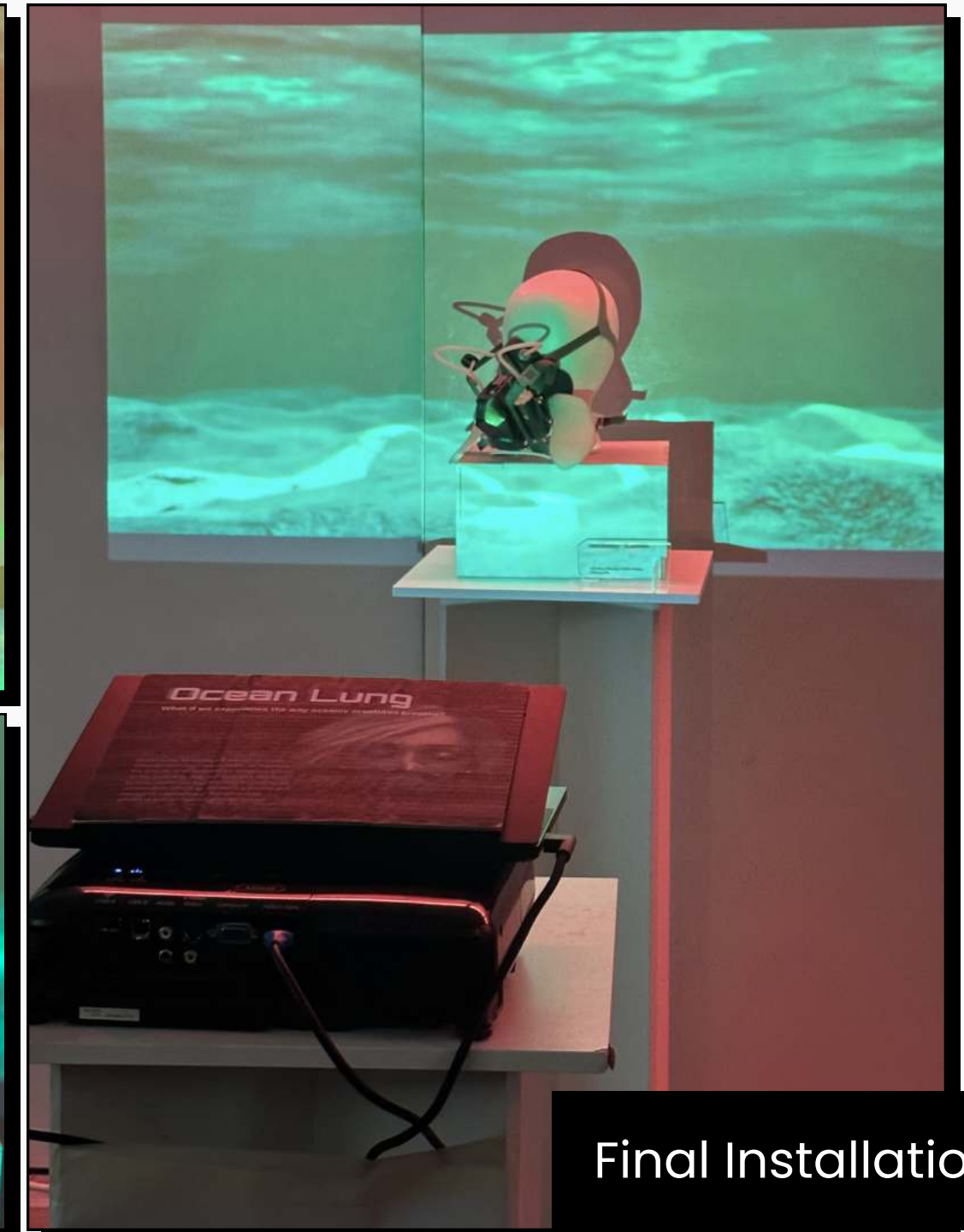# 3/ Iteration & Installation

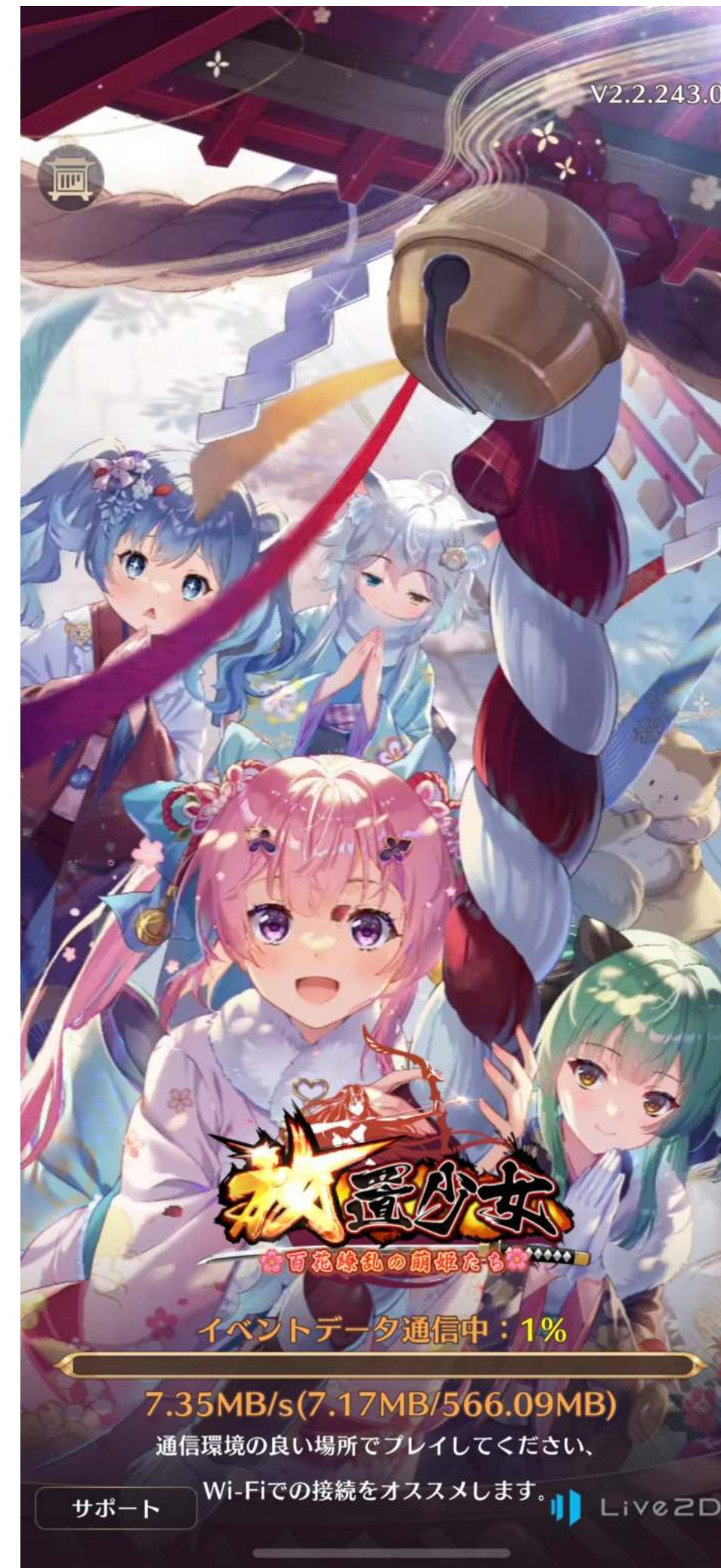Assemble in Studio

Success

Failure

Projection Mapping

Final Installation

06 DESIGN@LARGE

This summer, I worked as a UX Designer Intern for the project "Houchi Shoujo ～Hyakka Ryouran no Moehime-tachi" and another unannounced game at Byteance. I carried out iterative design to enhance player decision-making efficiency in the progression and GvG battle systems for Houchi Shoujo. Additionally, I led competitive analysis and crafted a comprehensive social system for the undisclosed game, which encompassed friending, team invitations, and both in-game and out-of-game notifications systems.

Game Design	Competitive Analysis

User Experience Design	Interaction Design

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