

**MERCEDES SALDANA**  
INDUSTRIAL DESIGNER  
+ USER EXPERIENCE

WORK SAMPLES



Hi, I'm **Mercedes!**

I am an Industrial Designer, and this is my portfolio.

My main area of expertise is performing research and documentation of customer experience, 3D modeling solutions, prototype testing, and developing manufacturing plans.

In my professional experience, I have worked in developing technological devices.

Currently, I am pursuing a Master of Design at UC Berkeley in the field of engineering and design innovation.

I want to create human interaction through devices that entertain, educate and connect people.

I hope you enjoy it as much as I enjoyed creating them.



# My Projects

MDes 2021 - 2022



01

Lyric



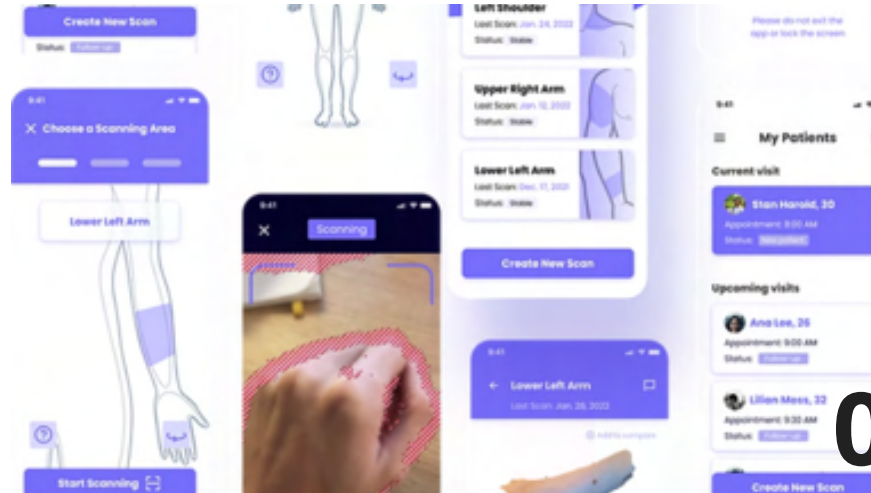
02

Prana



03

Remi



04

DermScan



05

Eureka





# 01

## Lyric

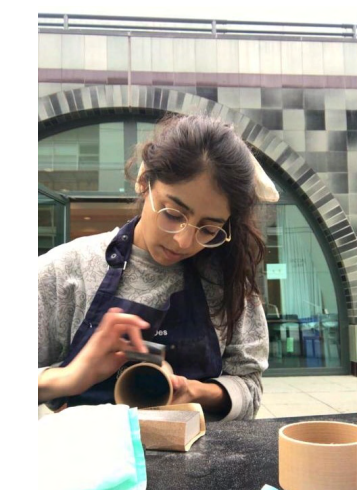
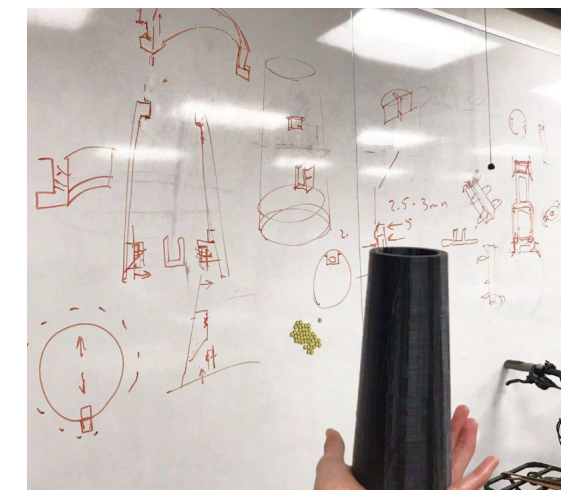
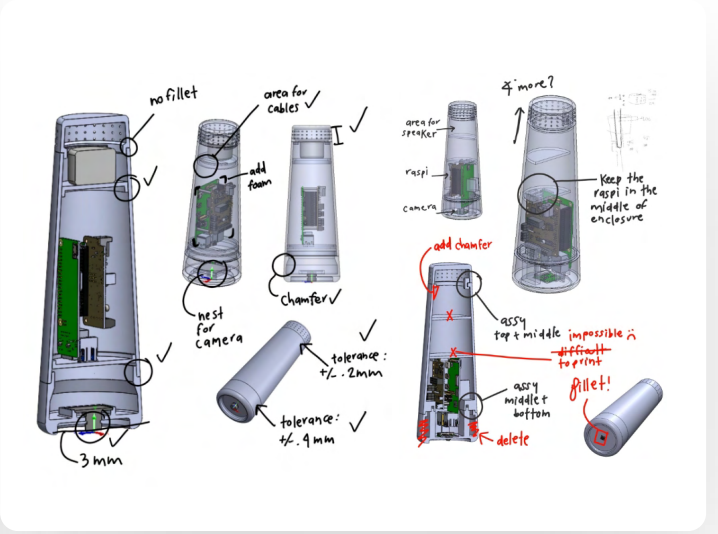
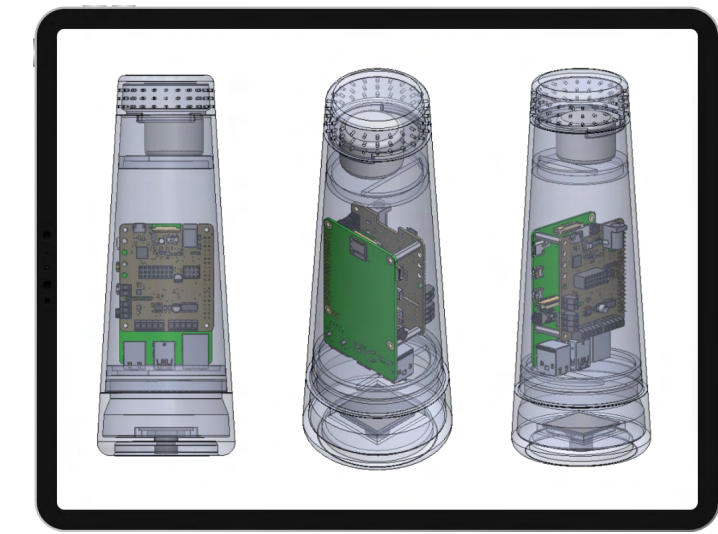
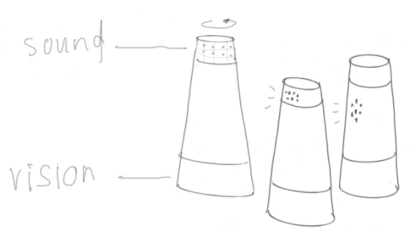
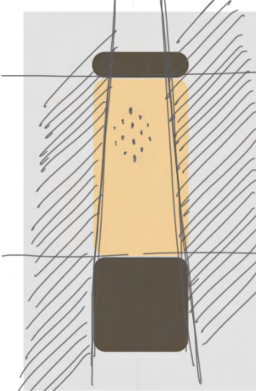
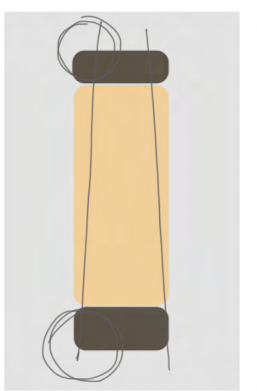
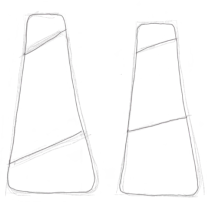
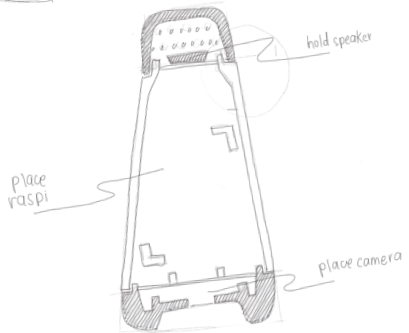
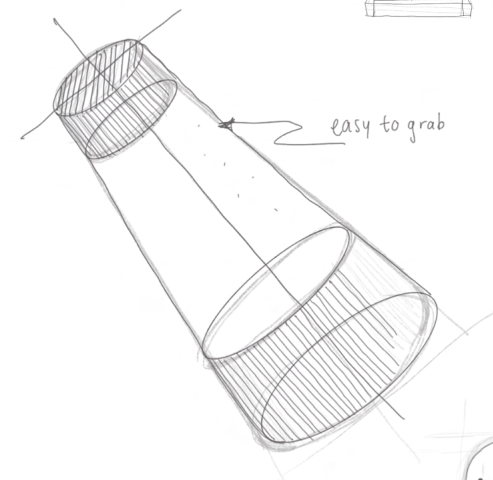
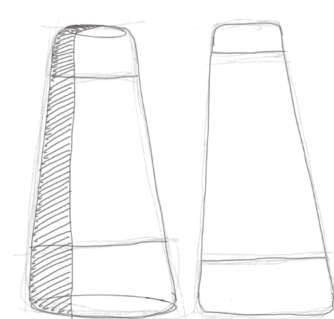
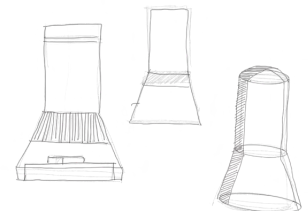
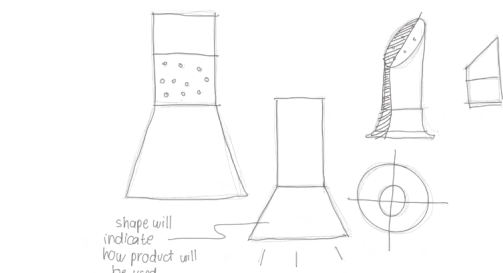
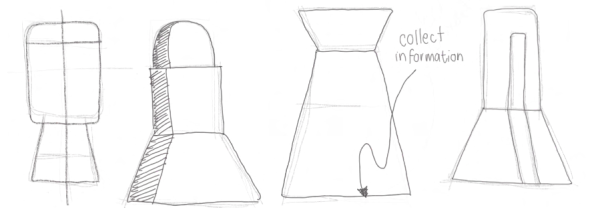
Hear the symphony of your food

Do you imagine if you could create a symphony with the food on your plate?

Lyric is a musical experience that explores the next step in gastronomy. Lyric plays sound based on real-time object detection and color recognition using computer vision. Mapping data to instruments creates musical notes that allow you to play music with your food.

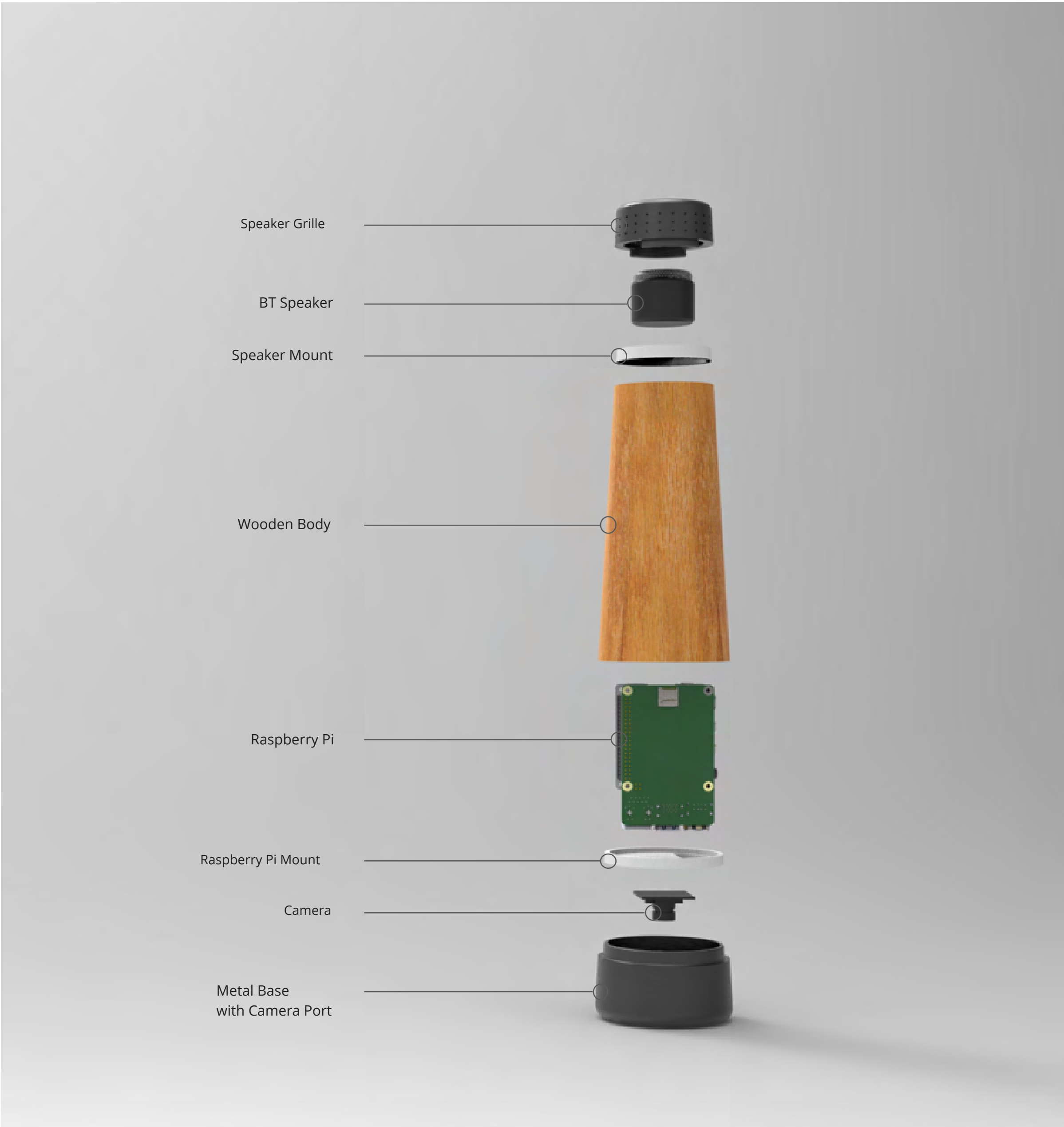
We were inspired by Synesthesia, which allows experiencing one sense through another. Lyric will allow you to explore the different textures of sounds by converting colors from food into sound; how does your food sound?





We selected to design a mobile object after drawing inspiration from salt and pepper shakers on the dining counter since these objects are passed around the table and serve as conversation starters. Further work around form factor exploration and detailed CAD design to house all the components. We continued by doing Lo-fi prototyping, material testing, surface finish testing, manufacturing, final assembly, and testing.





Speaker Grille

BT Speaker

Speaker Mount

Wooden Body

Raspberry Pi

Raspberry Pi Mount

Camera

Metal Base  
with Camera Port







Awarded by :



# 02

## Prana

Four patients, one ventilator

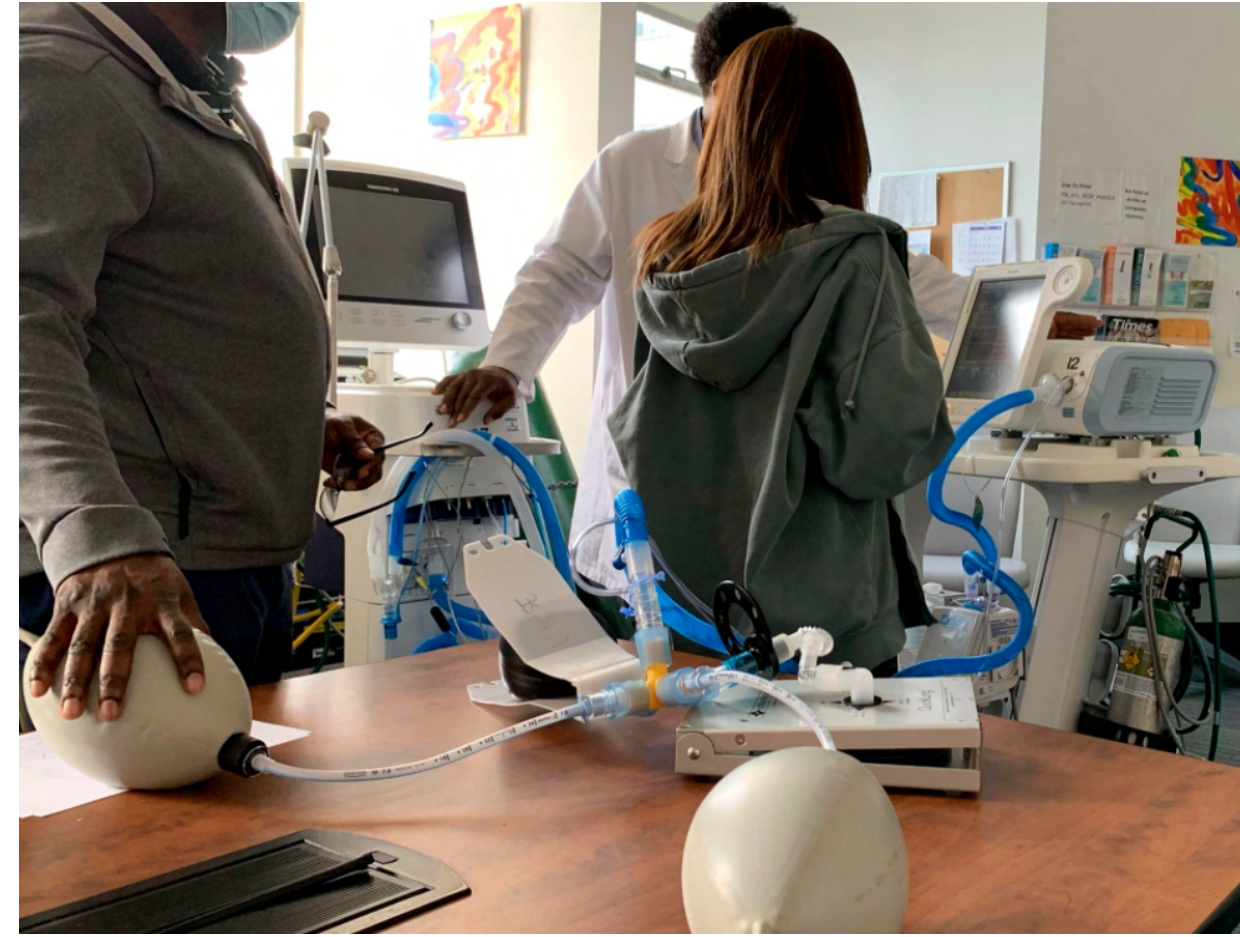
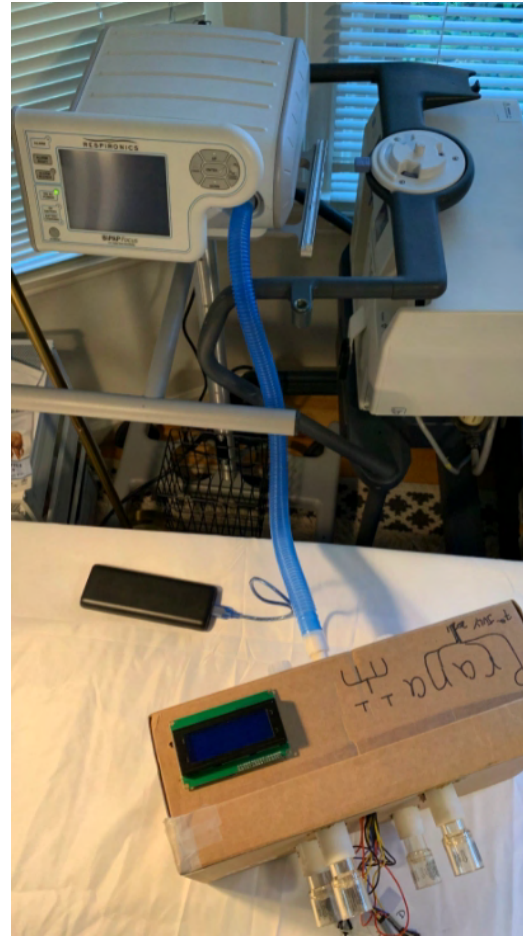
Prana is a passive, multi-patient attachment for hospital ventilators that allows up to four patients to share a single machine safely.

The device was inspired by a series of interviews with doctors and respiratory therapists in Ghana, Cambodia, Mexico, and India where ventilators are a scarce commodity.

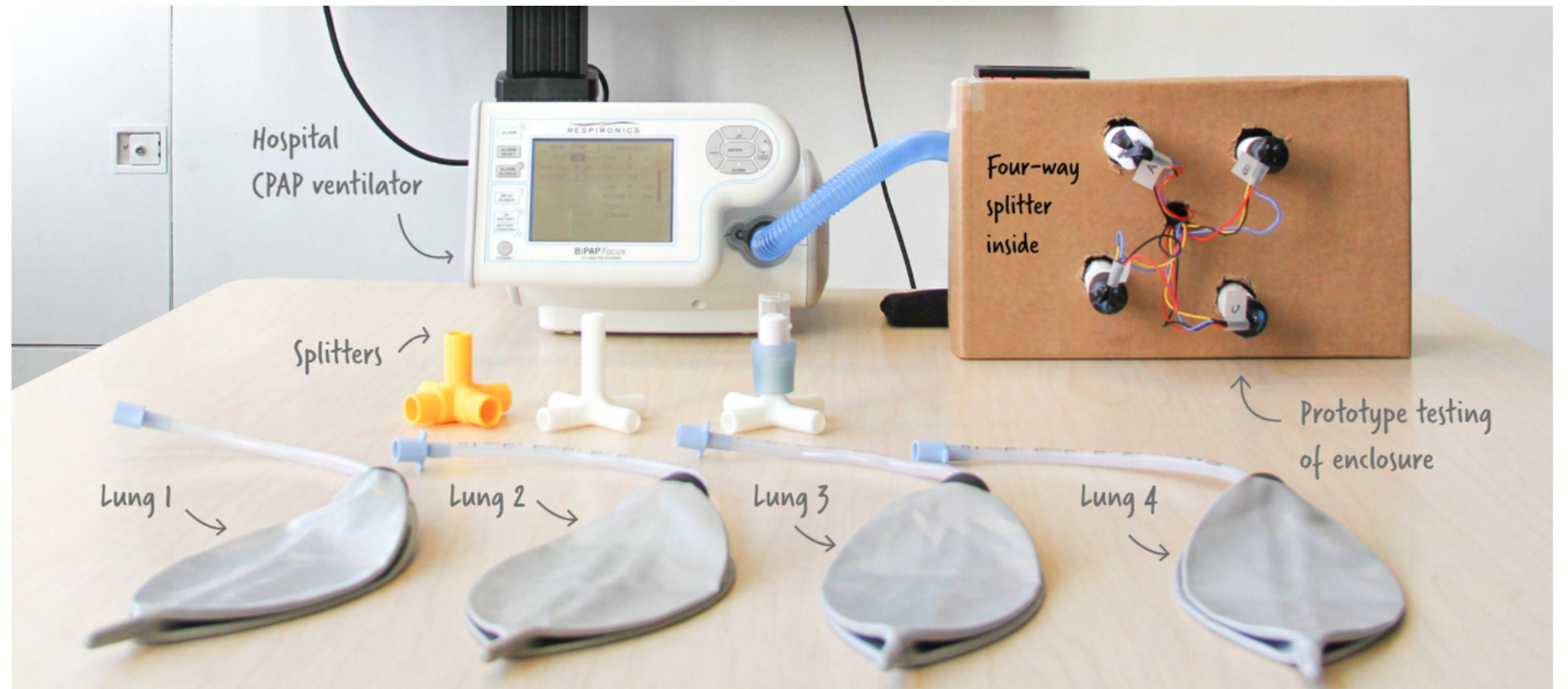
After we spoke with Dr. Aidoo, an anesthesiology resident at Komfo Anokye Teaching Hospital in Kumasi, Ghana, we were disheartened to hear that patients were turned away due to a lack of ventilators at the facility.

These patients either return to the hospital needing critical medical intervention since their conditions escalate, or they end up losing their lives. If we can split ventilators at the preventative stage, we can avoid patients needing critical care and further straining hospital resources, which allows them to save lives.

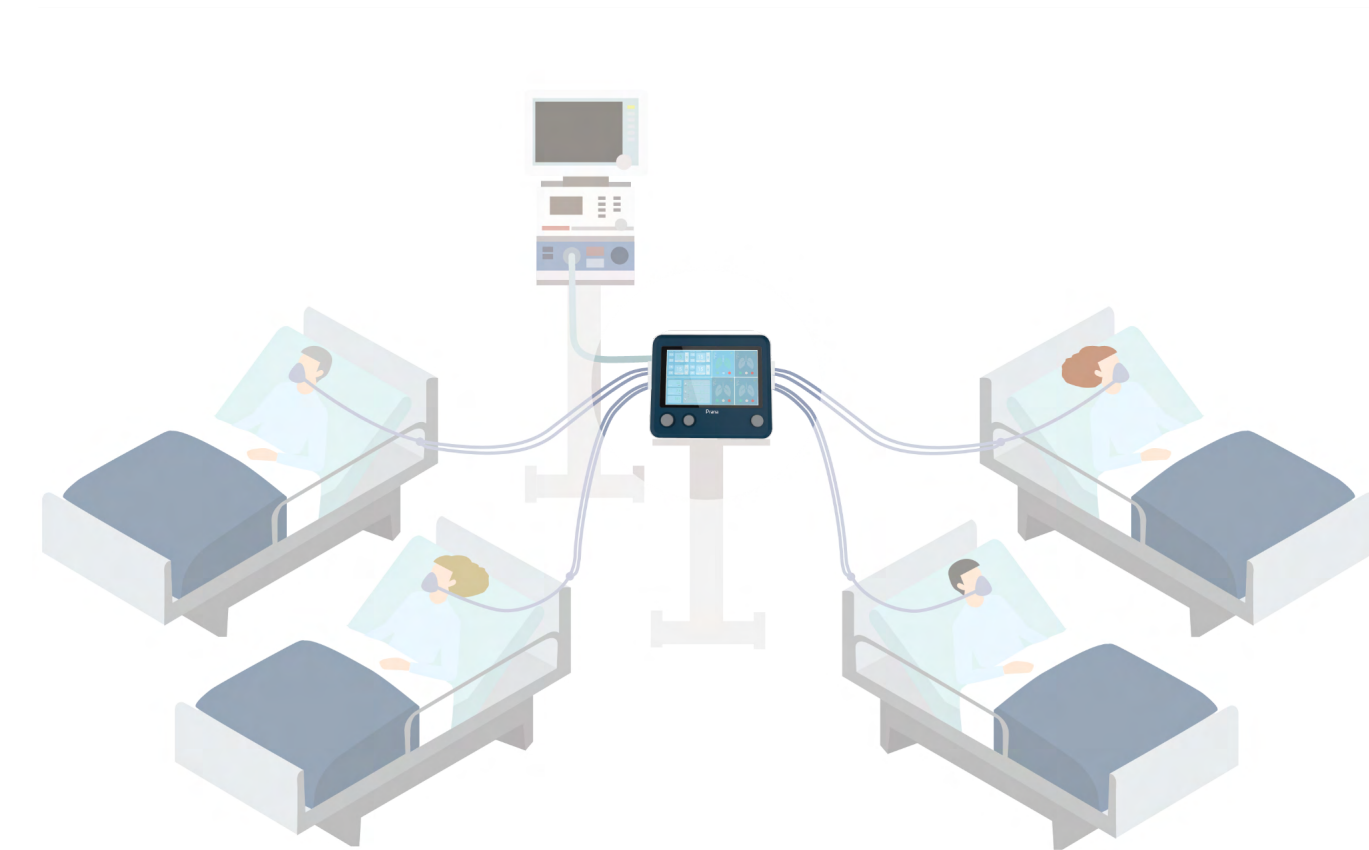
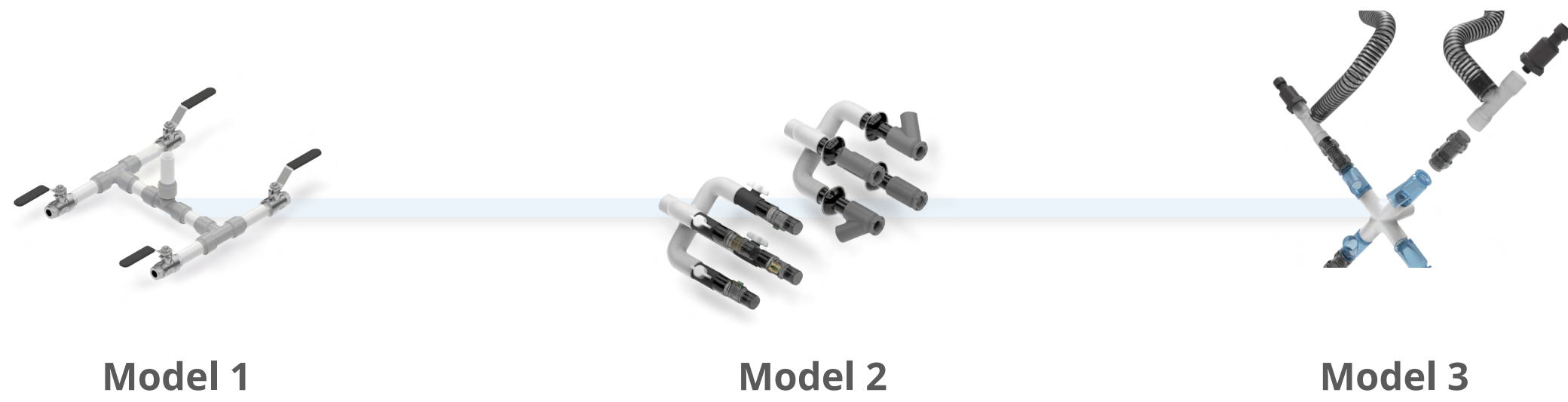




All the components are housed in an enclosure that facilitates rapid assembly and disassembly of parts for maintenance and sterilization. The system can be conceived for less than \$1,000 for four patients, compared to traditional noninvasive ventilators that cost \$5,000 to \$15,000 for only one patient.











# 03

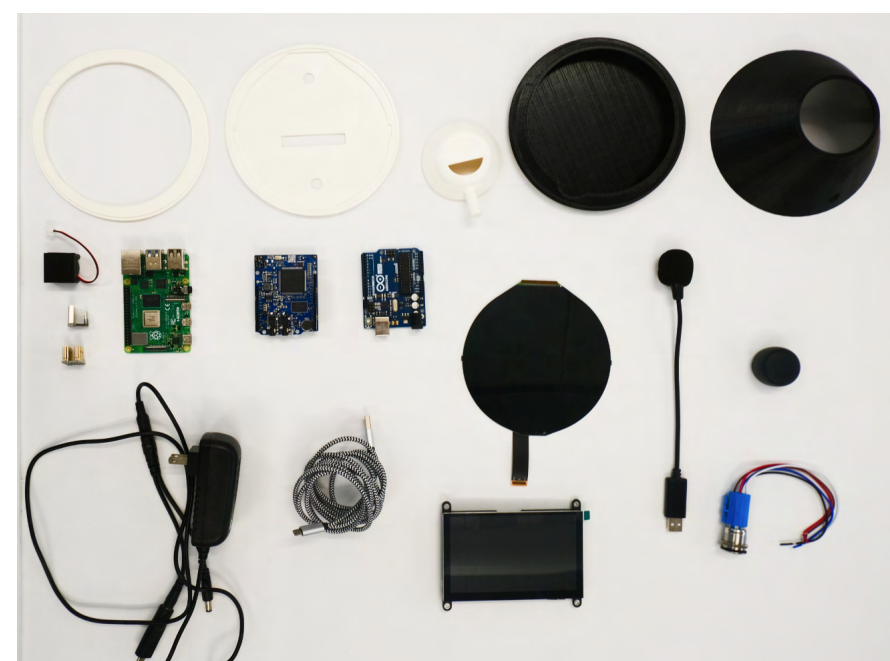
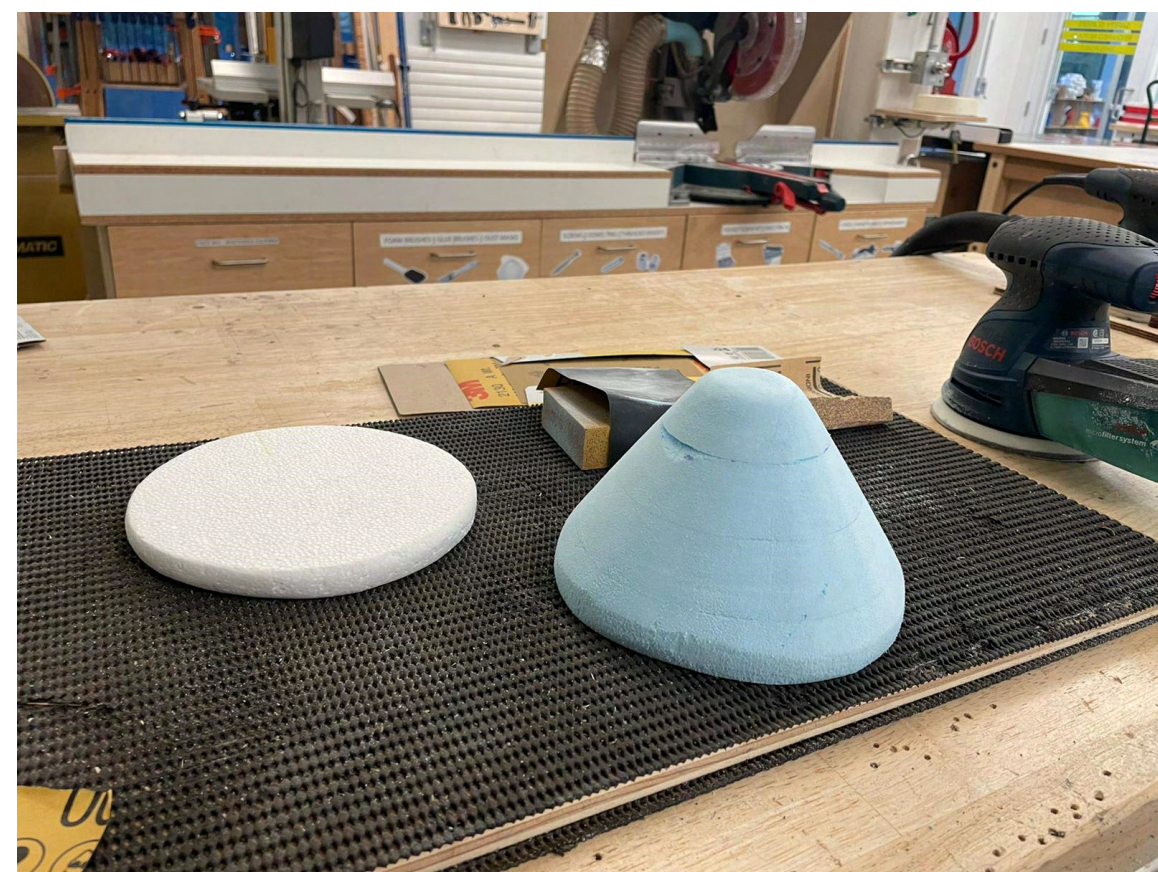
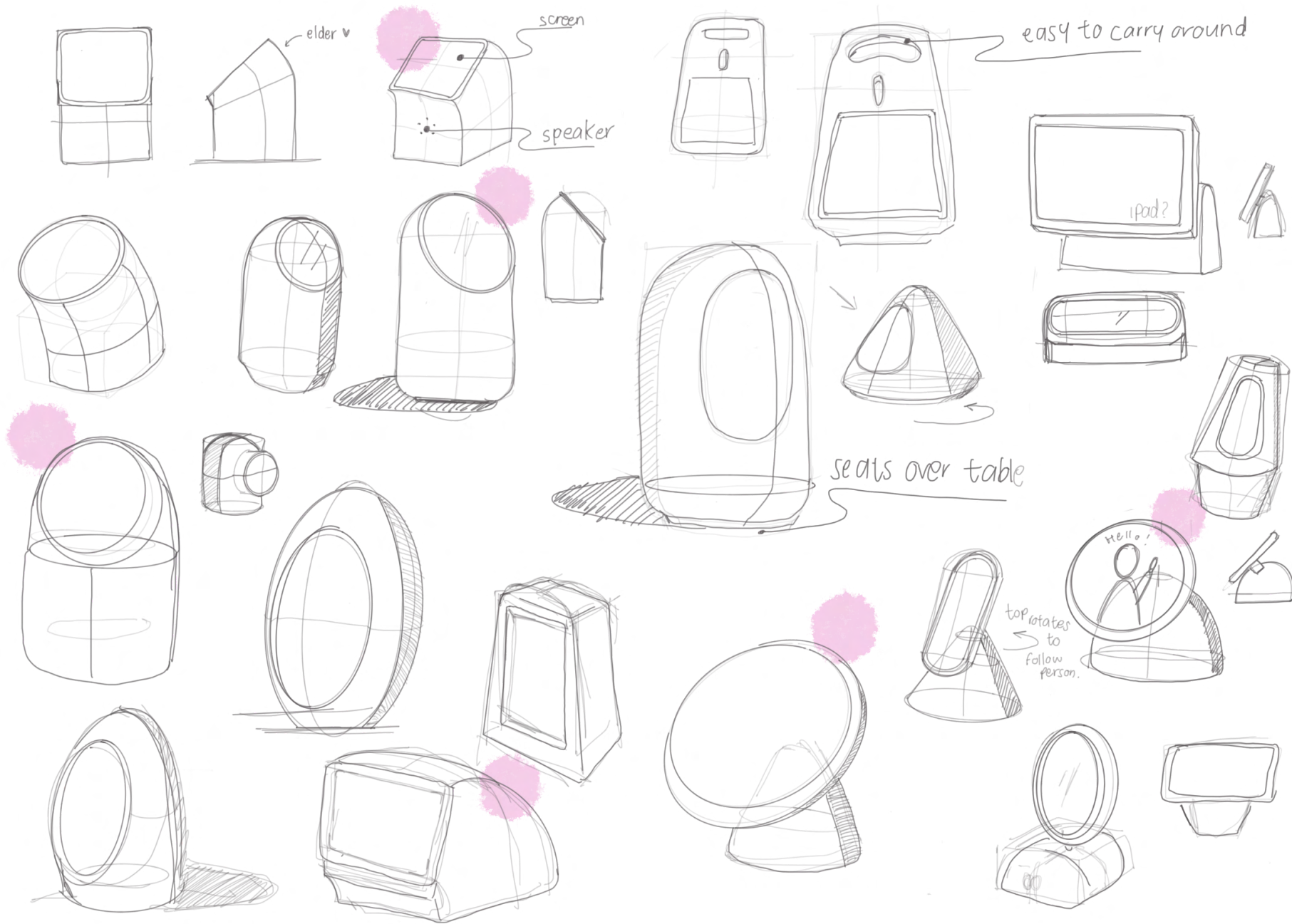
## Remi

Celebrating meaningful memories and experiences of elders living with dementia.

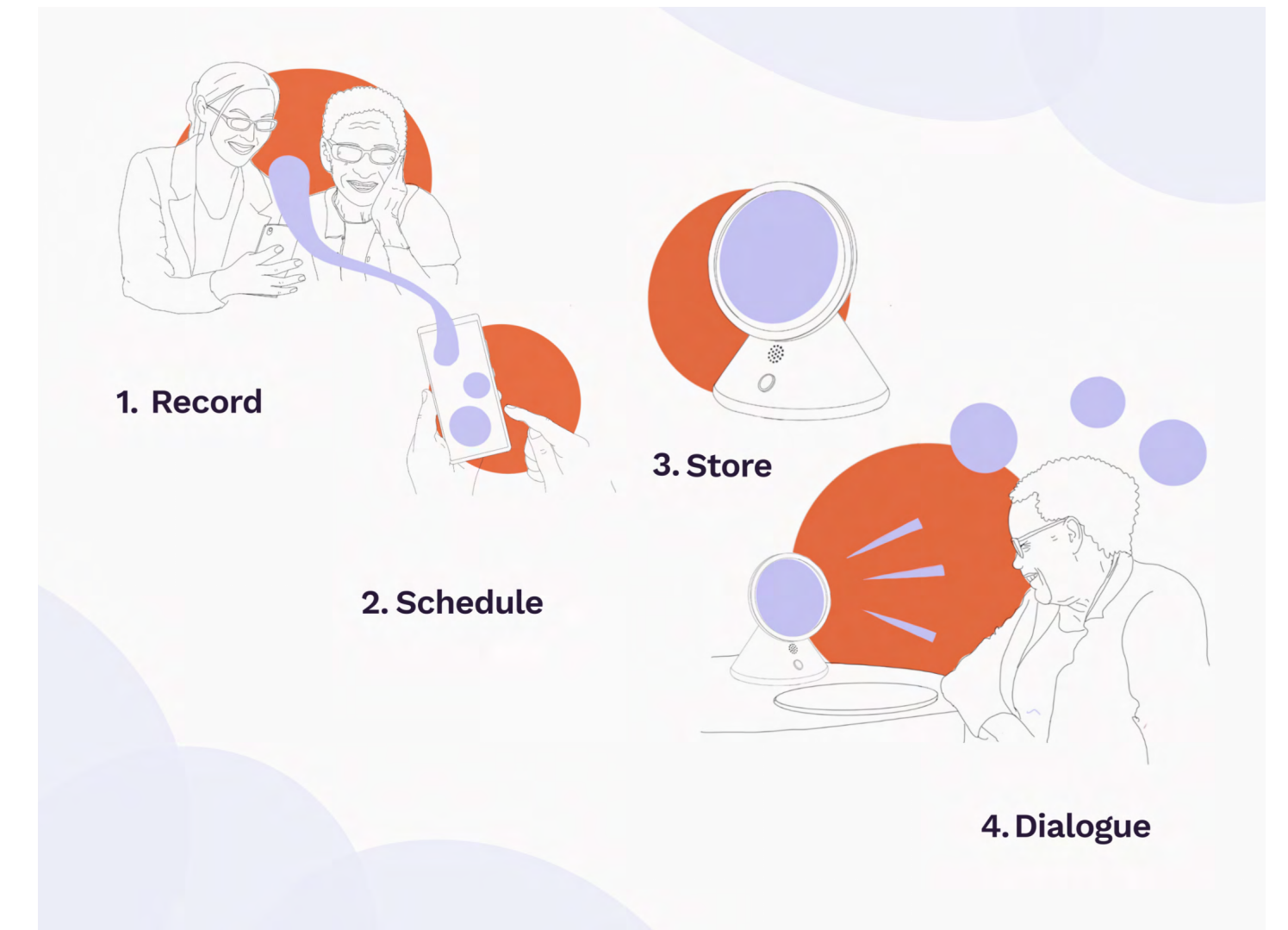
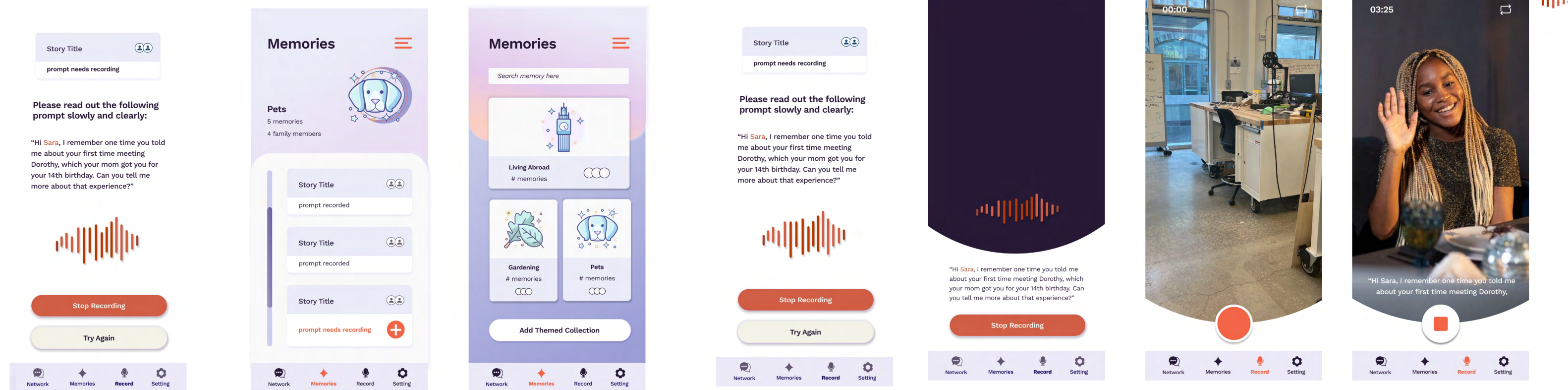
In this project, we want to focus on capturing and celebrating meaningful memories and experiences of the person living with dementia. Remi (derived from reminiscence) is a physical device that engages with the elderly in their leisure time by being an active listener and providing intelligent company. Interviews with caretakers and geriatricians show that people living with the disease benefit from repetition and routine. In terms of memories recall, experiences from their youth or childhood often surface as the memories they enjoy retelling the most.



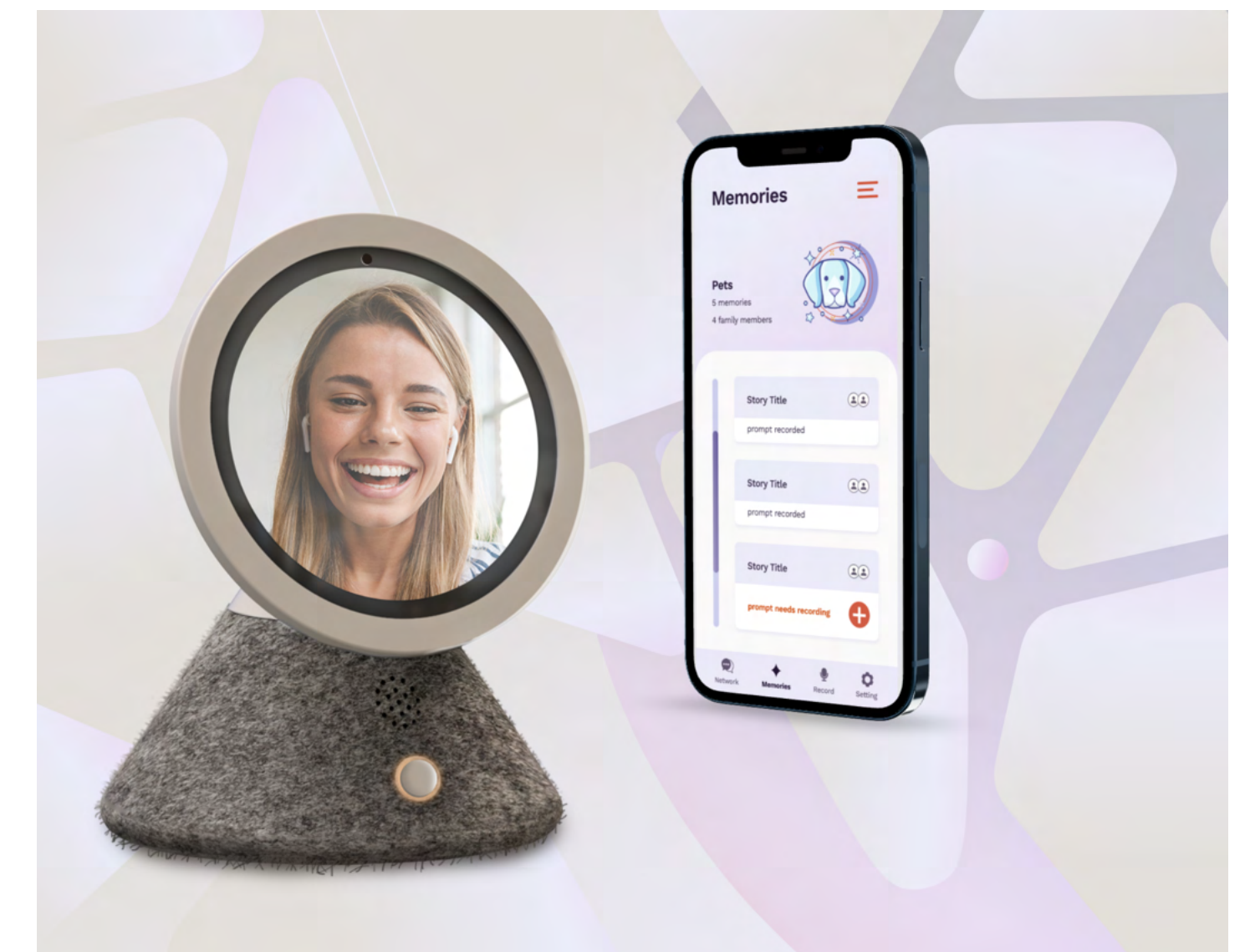
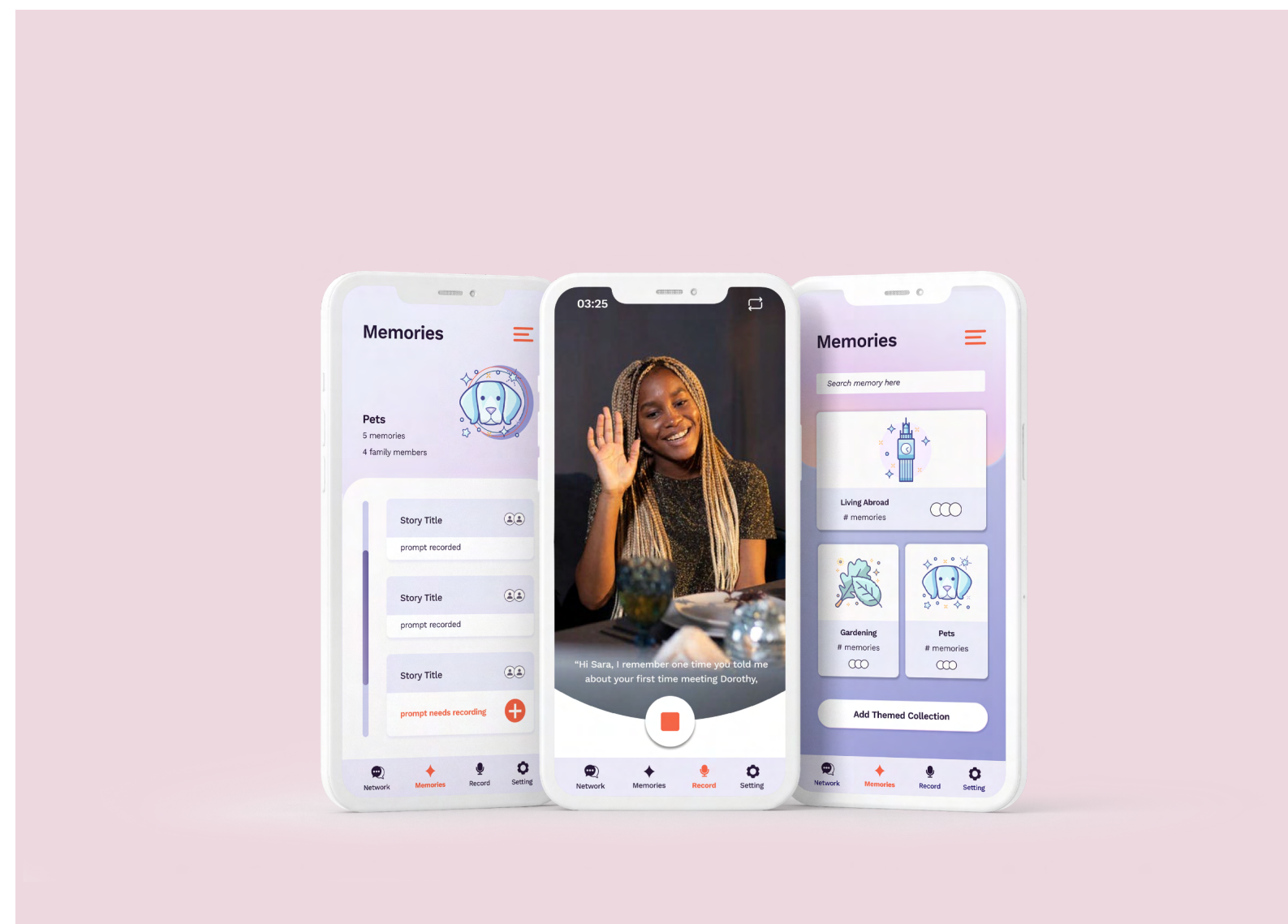
The ideation process started by extracting the general form from the 50s and combining them with the actual shape of the virtual assistant.







Given that many early-stage dementia patients spend time alone in their homes, Remi creates a healthy routine by playing voice prompts of meaningful memories recorded by the user's family and loved ones. Remi also responds and provides supportive cues as the user recounts that memory. Using the mobile application, family members receive guidance on how to select, record, and schedule their voice prompts to be played to their loved one.







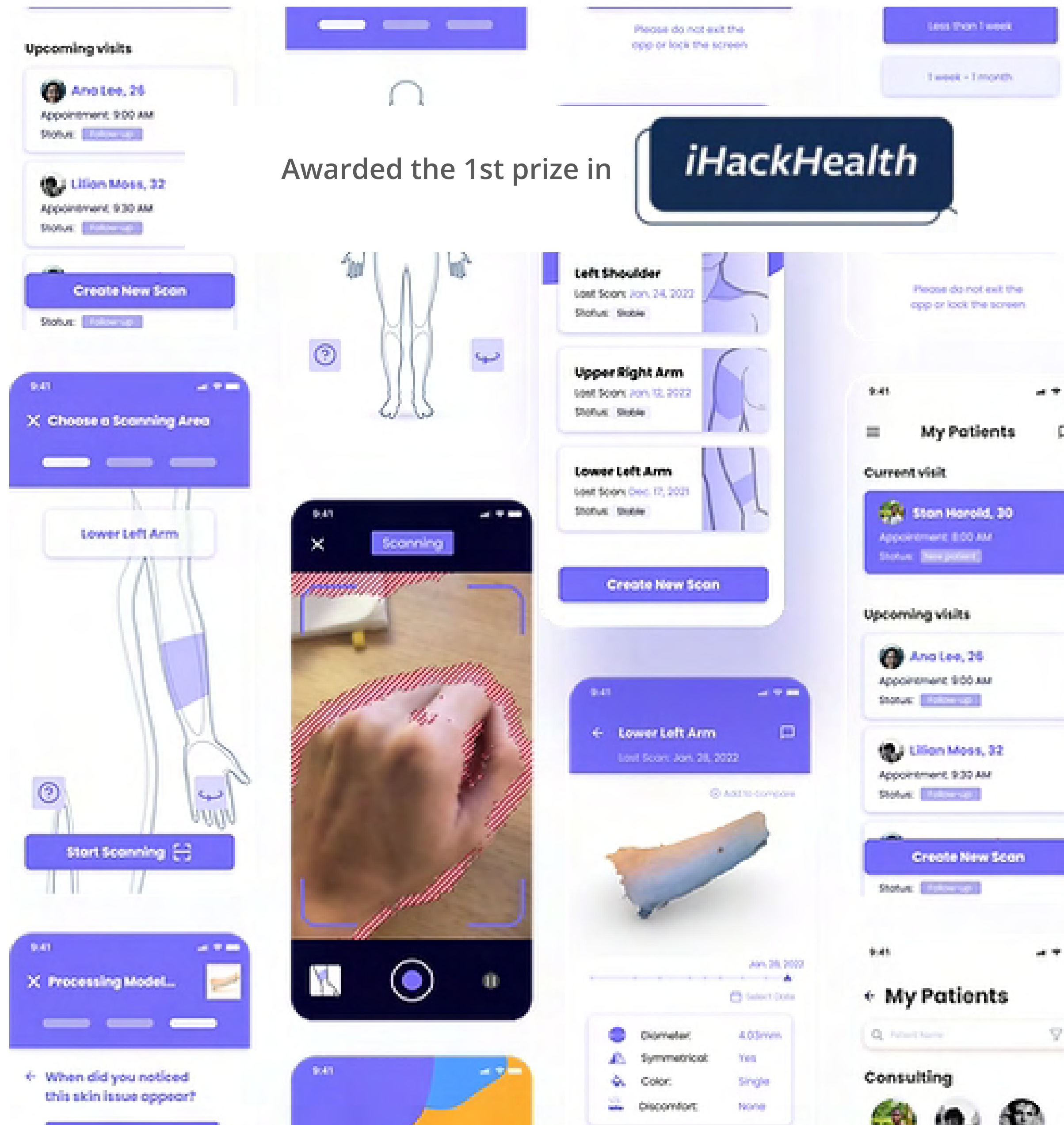


# DermScan

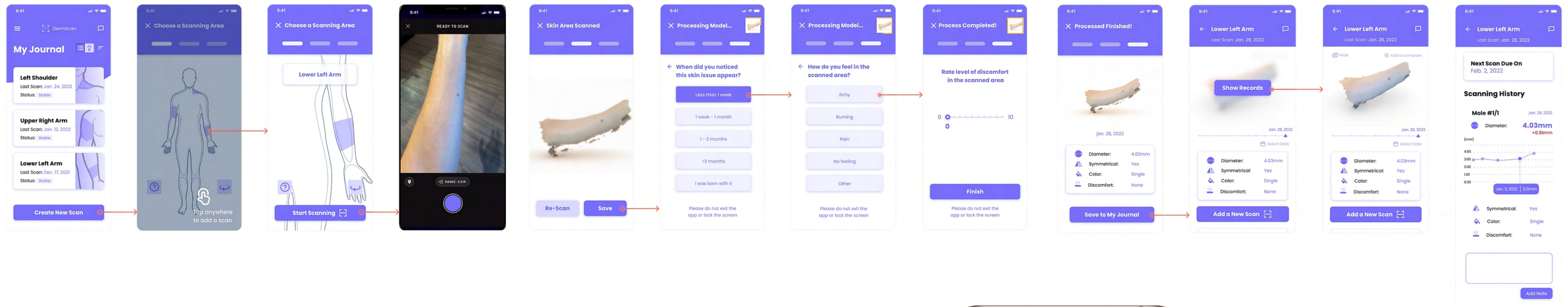
UCSF is a public institute known for its outstanding research in clinical medicine practice. The School of Medicine at UCSF, Apple and Berkeley Fung Institute jointly hold a hackathon “iHackHealth” each year to challenge the participants to develop a solution to some of the pressing problems in the current medical research and practices.

DermScan is a mobile app leveraging 3D scanning technology to track and monitor skin diseases over time and provide a more convenient and efficient communication platform between patients and dermatologists. It is awarded with the 1st prize in the iHackHealth hackathon 2022.

My team focused on the how to provide a smooth and easy-to-learn experience for the patient to scan their skin and monitor the change of any vicious irritation in a scanning journal










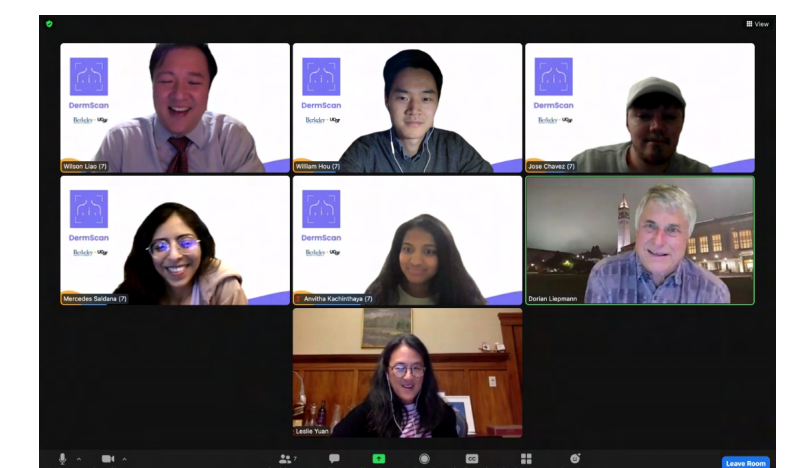
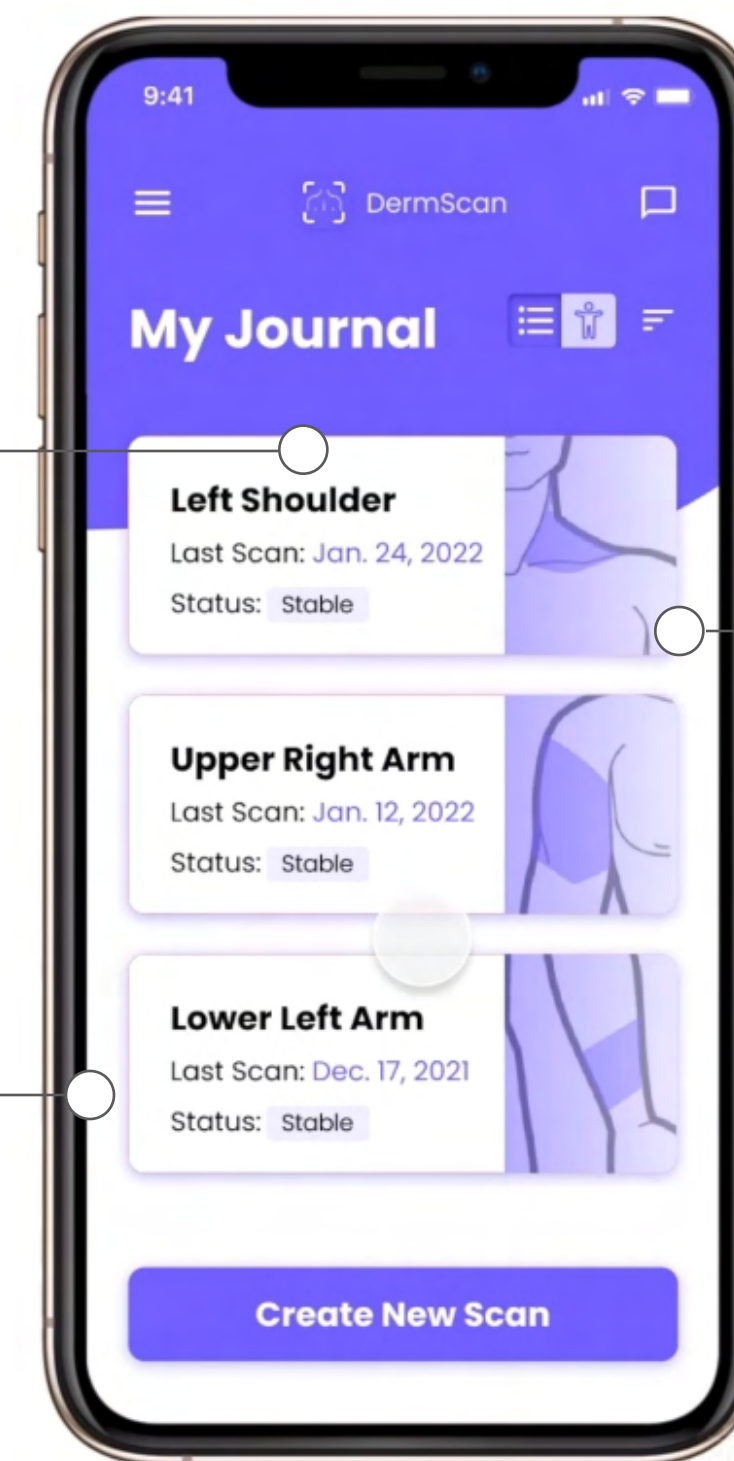
Skin diseases account for 30% of physician office visits. In the US alone, the burden of dermatologic disease exceeds \$75 billion annually. Patients with chronic skin conditions require frequent monitoring by dermatologists, but often fall through the cracks in underserved and remote areas.

Teledermatology has the potential to overcome these barriers and deliver high-quality healthcare to all patients. Crucially, teledermatologists must observe skin changes in a consistent manner over time, from tracking suspicious moles that may become deadly cancers or assessing skin responses to new treatments

  
Instructional 3D Skin scanning Process

  
Cloud Data Shared With Dermatologists

  
Scanning Journal & Analytics







05

## Eureka!

The MDes program hosted a Class Hoodie Design Competition for the Spring 2022 Cohort. The hoodie was chosen through an MDes student competition, where 50% of the cohort participated and submitted their own art.

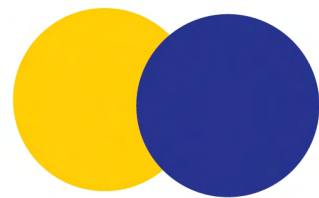
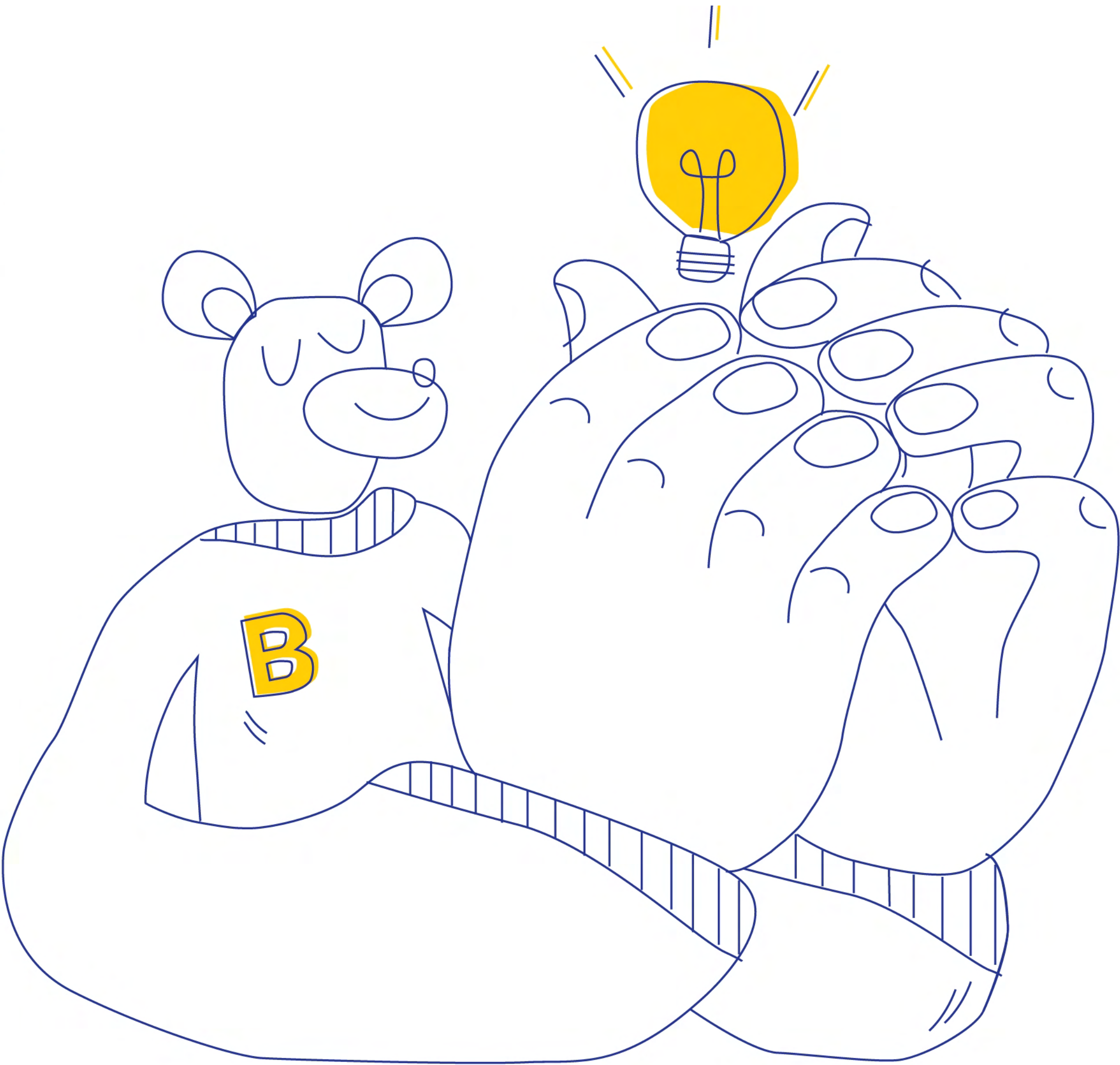
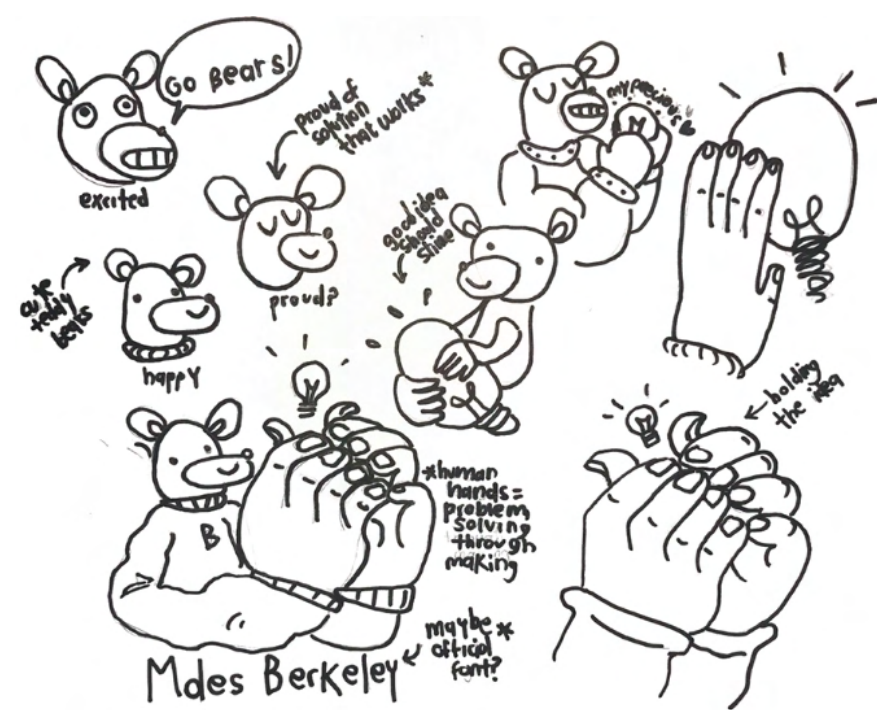
Eureka! was selected as the winner, featuring a Cal bear with hands made to create and spark “eureka!” moments. This Mdes logo was used in a Hoodie as part of the Welcome Package. The design reflect this new generation of designers: 22 students from different backgrounds, nationalities, and experiences. All of us with the same purpose of combining design and technologies to create a new generation of products, services, and experiences. Designer hands that are ready to solve problems through making.



What does it mean to be a Mdes student?

It is inspired by 67 Things a UC Berkeley  
MDes Student Should Know by Eric Paulos:

- 1. When to start using technology
- 2. When to stop using technology
- 3. How to use a hand tool
- 4. How to make a hand tool
- 5. How to take things apart
- 6. How to listen closely ...





# MERCEDES SALDANA

INDUSTRIAL DESIGNER + UX / UI

## EDUCATION

### University of California, Berkeley

Jan 2021 - May 2022. Berkeley, CA.  
Master of design, in the field of Engineering and Design Innovation  
+ MDes Opportunity Grant

### General Assembly

September 2018. San Francisco, CA.  
User Experience Design Bootcamp

### Instituto Tecnologico y de Estudios Superiores de Monterrey

Aug 2012 - Dec 2015. Guadalajara, Mexico  
B.S in Industrial Design  
+ Excellence in Comprehensive Development Award 2015  
+ Cultural Dance Scholarship

## DESIGN SKILLS

### CAD

Solidworks / Fusion 360 / AutoCAD / Keyshot

### Tools

Adobe Illustrator / Photoshop / PremierePro / InDesign / Figma / Sketch / Invision

### Prototyping

3D-Printing / Laser cutting / Woodworking / Mold making / Casting / Hand Prototyping / Metalworking / Raspberry Pi.

### Fabrication

Design for Manufacturability (DFM) / Design for Assembly (DFA) / Geometric tolerancing / fixture Soldering / fixture validation / permanent molds / mold repair / virtual simulation analysis for casting process.

## HONORS

Social Impact Award Winner. San Francisco Design Week Awards (Prana, 2021)

## PROFESSIONAL EXPERIENCE

### PONSTECH / EXPERIENCE DESIGNER INTERN (MedTech)

May 2021 - Aug 2021. San Francisco, CA.  
+ Designed enclosure for portable AI-enabled ultrasound device to perform pregnancy diagnostics and monitoring outside hospital environment.  
+ Performed research, storyboarding and documentation of costumer experience. Information from research was used to define target market and conceptual design of product and user experience.  
+ Conducted interviews with medical experts (Obstetricians) and target users (Pregnant women). Data from interviews was used to iterate design, confirm target market, and improve user experience.  
+ Developed conceptual 3D design modeling and physical prototyping.

### PRANA / INDUSTRIAL DESIGN LEAD (MedTech)

Jan 2021 - Sep 2021. Berkeley, CA.  
+ Designed enclosure & UX/UI of medical device that allows up to four patients to share a single CPAP hospital ventilator safely.  
+ Conducted interviews with medical experts (Respiratory Therapist) and Biomedical engineers around USA, Mexico, and Ghana. These interviews helped us recognize target market needs and key technical differences between USA and developing countries.  
+ Collaborated with UCSF Hospital to conduct prototype functionality testing. These tests helped validate initial hypothesis for product viability and functionality.  
+ Modeled plastic enclosure and 3D printed internal pieces for prototype assembly. The design played a crucial role for the awards. San Francisco Design week, Fast company and Core 77.

### HERRAMENTALES PARA MANUFACTURA / CAD DESIGNER (Aerospace/Transportation)

Jan 2019 - Nov 2019 . Guadalajara, Mexico  
+ Performed Engineering and Design of casting and injection molds for Aerospace and Transportation components.  
+ Developed fixtures and testing equipment to streamline manufacturing process.  
+ Generated mechanical drawings and mold's design improvement by virtual simulation analysis.

### POUNCE CONSULTING / INDUSTRIAL DESIGNER (Consumer products)

Mar 2016 - Aug 2018. Guadalajara, Mexico  
+ Designed plastic injection enclosures for consumer products, electrical gear, street luminaries and medical products. Most notably the development of a Noninvasive Glucose Meter.  
+ Collaborated with in-house hardware and software engineering teams to understand product needs and functionality.  
+ Communicated with OEM in China to ensure product could be manufactured on schedule, budget and complying with quality expectations.

<https://mercedessaldana.myportfolio.com/>  
mercedes\_saldana@berkeley.edu  
206.637.1711

## HONORS

Gold Award, Medical Devices & Technology - Emergency Equipment, New York Product Design Awards (Prana, 2021)

Social Impact Award Winner. San Francisco Design Week Awards (Prana, 2021)

Fast Company World Changing Ideas Finalist (Prana, 2021)

Core77 Design Awards (Prana, 2021)

Innovation Catalysts Ignite Grant (UC Berkeley, 2021)

Good Design Award. (Pounce Consulting, 2018)

## PROJECTS

### ROAR Jr Research

Jun 2021 - Aug 202. Berkeley, CA  
+ Participated in research with Berkeley professor to develop an Autonomous Driving car toy with the intent to teach school kids about programming, AI computer vision and autonomous driving.

### LANCOME PARIS - SCHOOLAB

Jan 2021 - May 2021. Berkeley, CA  
+ Advised Lancome's sustainability team on strategies for reducing carbon footprint by re-using plastic containers.  
+ Identified Lancome's global needs as a company and proposed solutions in collaboration with engineering, marketing, Industrial Design and MBA teams.