Audrey Ji

PORTFOLIO 2025

audrey00ji@gmail.com
audreyji.com
408-685-6868
insta: @jtxaudrey

coro

reinventing the group fitness experience with haptic feedback

accessibility • communicative design • haptics • group fitness

wearable tech • assistive technology • user research and testing

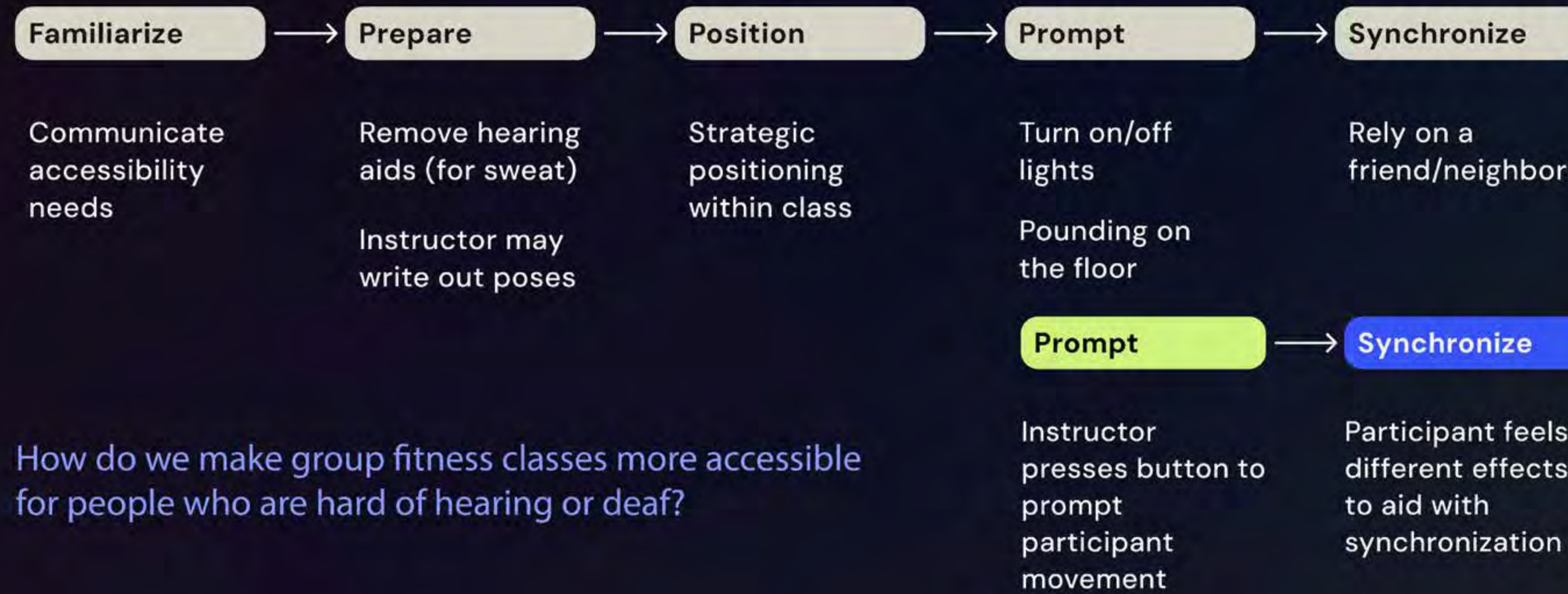|			
Roles	Designer, Design Engineer and Researcher	**Problem**	How might wearable haptic feedback enhance non-verbal communication and improve synchronization in group environments without distraction?
Team Members	Natalia Escobar, Vishaka Nirmal		
Timeline	Spring 2025	**Context**	Reliance on visual or verbal cues aren't enough for many. Wearable haptics have the potential to act as communication.

USER JOURNEY

group fitness classes for a hard of hearing or deaf participant

Familiarize	→	Prepare	→	Position	→	Prompt	→	Synchronize

Familiarize
Communicate accessibility needs

Prepare
Remove hearing aids (for sweat)

Instructor may write out poses

Position
Strategic positioning within class

Prompt
Turn on/off lights

Pounding on the floor

Synchronize
Rely on a friend/neighbor

Prompt	→	Synchronize

Prompt
Instructor presses button to prompt participant movement

Synchronize
Participant feels different effects to aid with synchronization

How do we make group fitness classes more accessible for people who are hard of hearing or deaf?

OBSERVATIONS AND INTERVIEWS
from user groups and expert

OUR EXPERIENCES
(IGROUP WORKOUTS, YOGA, PILATES)

GROUP FITNESS PARTICIPANTS
*(HARD OF HEARING REDDIT USER, YOGA ENTHUSIASTS, JUST DANCE
PLAYERS, PILATES ENTHUSIASTS, HESITANT PARTICIPANTS)*

RIT/NTID *(NATIONAL TECHNICAL
INSTITUTE FOR THE DEAF)*

BROWN BADMAASH
(INDIAN DANCE GROUP)

DAEBAK
(K-POP DANCE GROUP)
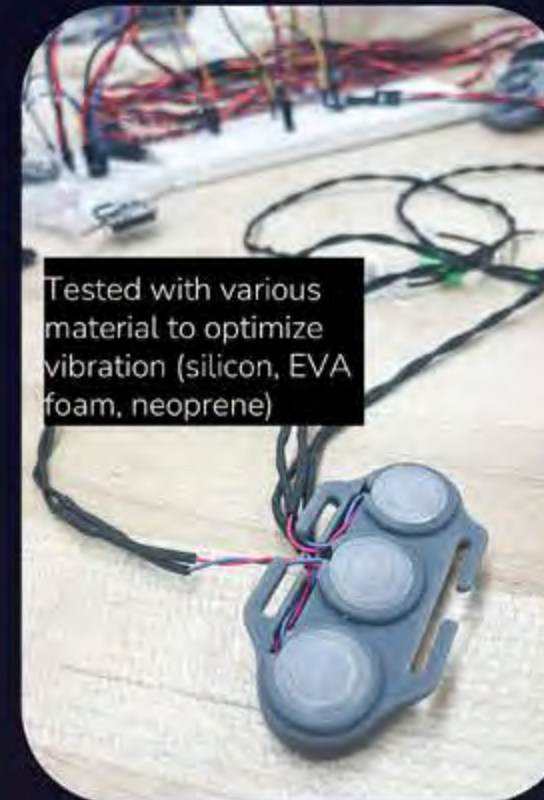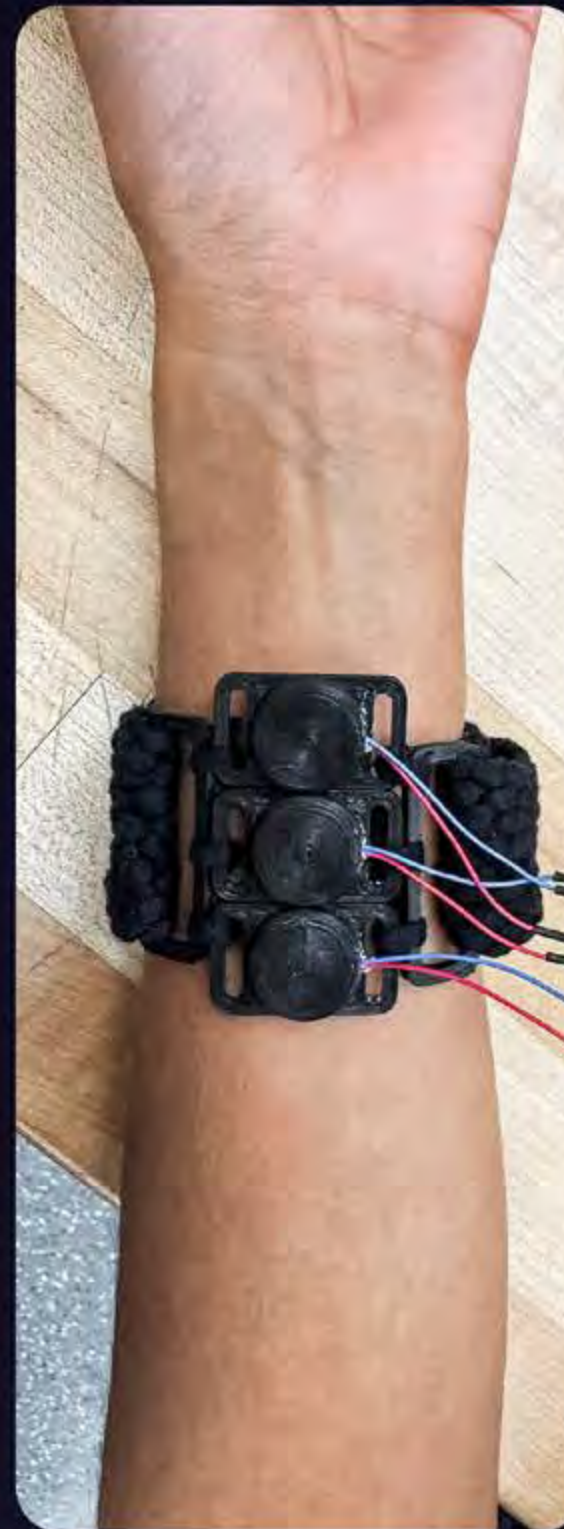

**INSTRUCTORS AND
PROFESSORS**
(YOGA, CONTEMPORARY DANCE, BALLET)

SYNTHESIZING THE RESEARCH, PROTOTYPING AND USER TESTING

How do we make group fitness classes feel friendlier to beginners?

What are alternatice ways to communicate in these classes?

How do we communicate instructions, movements and actions?

How do we integrate with a group fitness class?

Tested with various material to optimize vibration (silicon, EVA foam, neoprene)

Includes a ring of reactive led light

Allows attachment to existing wristbands

SYNTHESIS OF RESEARCH

PROTOTYPING

USER TESTING

The instructor module sends the signal of a cue, metronome or countdown and the user receives corresponding haptic feedback.

Allowing participants to feel more supported during sessions, the band reminds and prompts without causing external distractions

INSTRUCTOR

Secondary users, fitness instructors who curate class structure, progression, and instructional prompts
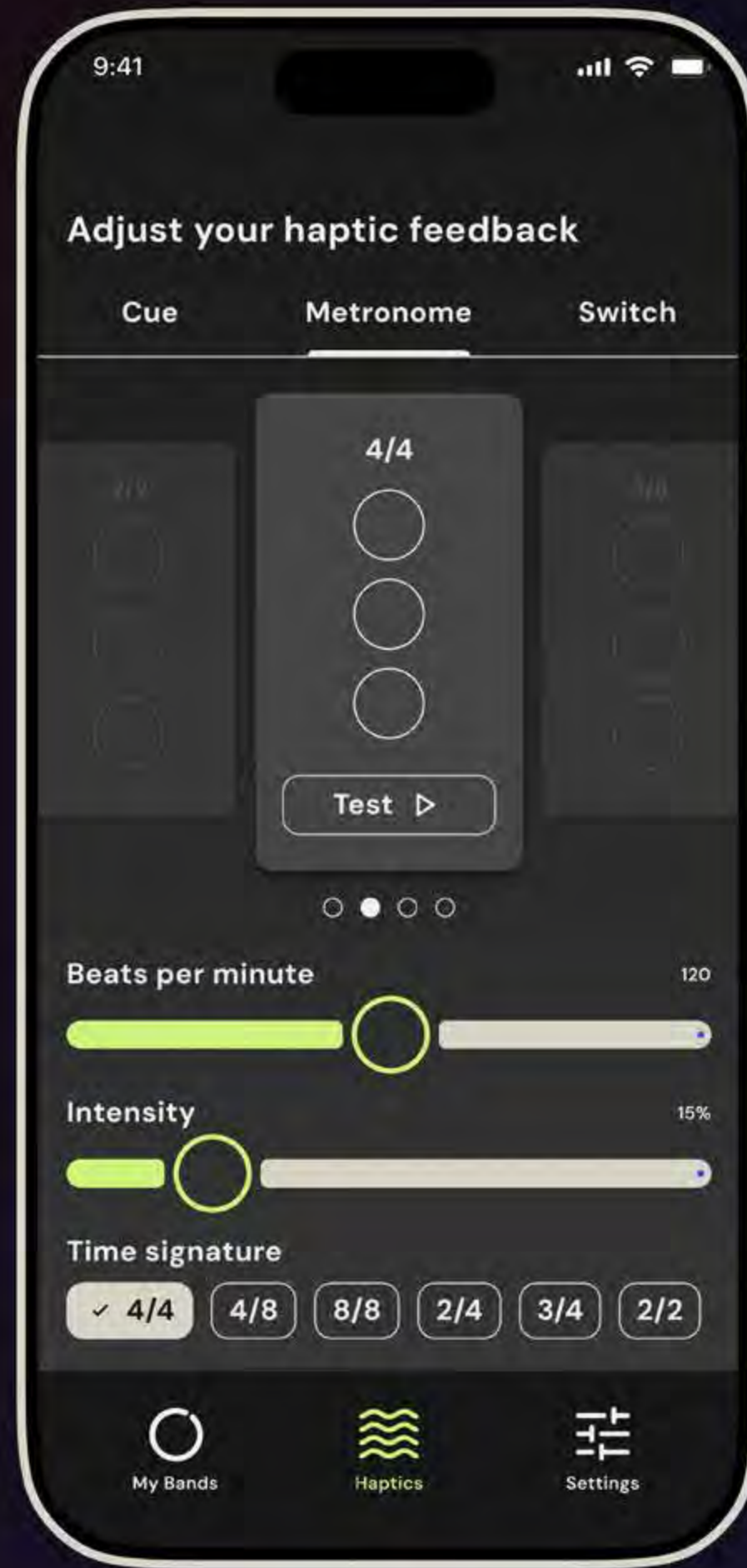
coro
LEAD

PARTICIPANT

Primary user with **audio accessibility needs** (Deaf and/or hard of hearing) who attend/want to attend group fitness classes

coro
BAND

AUDREY JI

9:41

Adjust your haptic feedback

Cue   Metronome   Switch

4/4

Test ▷

Beats per minute   120

Intensity   15%

Time signature
✓ 4/4   4/8   8/8   2/4   3/4   2/2

My Bands   Haptics   Settings

LEAD
INSTRUCTOR

BAND
PARTICIPANT

COUNTDOWN
(COMING UP, COUNTING IN)

GET READY

3.   2.   1.

METRONOME
*(DANCE BEATS(8 COUNT ETC.),
HEART BEAT, BREATHING,
CONTINUED, TOGETHER)*

STAY IN SYNC

1....2....3....4

CUE
(LOOK UP, SWITCH SIDE, NEXT)

CHANGE/LOOK UP

. !

Both instructor and participants can adjust preferences on the Coro app.

Instructors use Coro Lead to send real-time haptic prompts to communicate throughout the class.

Participants receive clear, non-verbal signals with Coro Band to stay synchronized throughout the class.

APP DEVELOPMENT

Through our research we found that there was a wide range of preference in terms of the strength of the haptic feedback as well as the specific patterns it had. We developed and tested a wide range of haptics The app allows you to make adjustments to the basic responses.
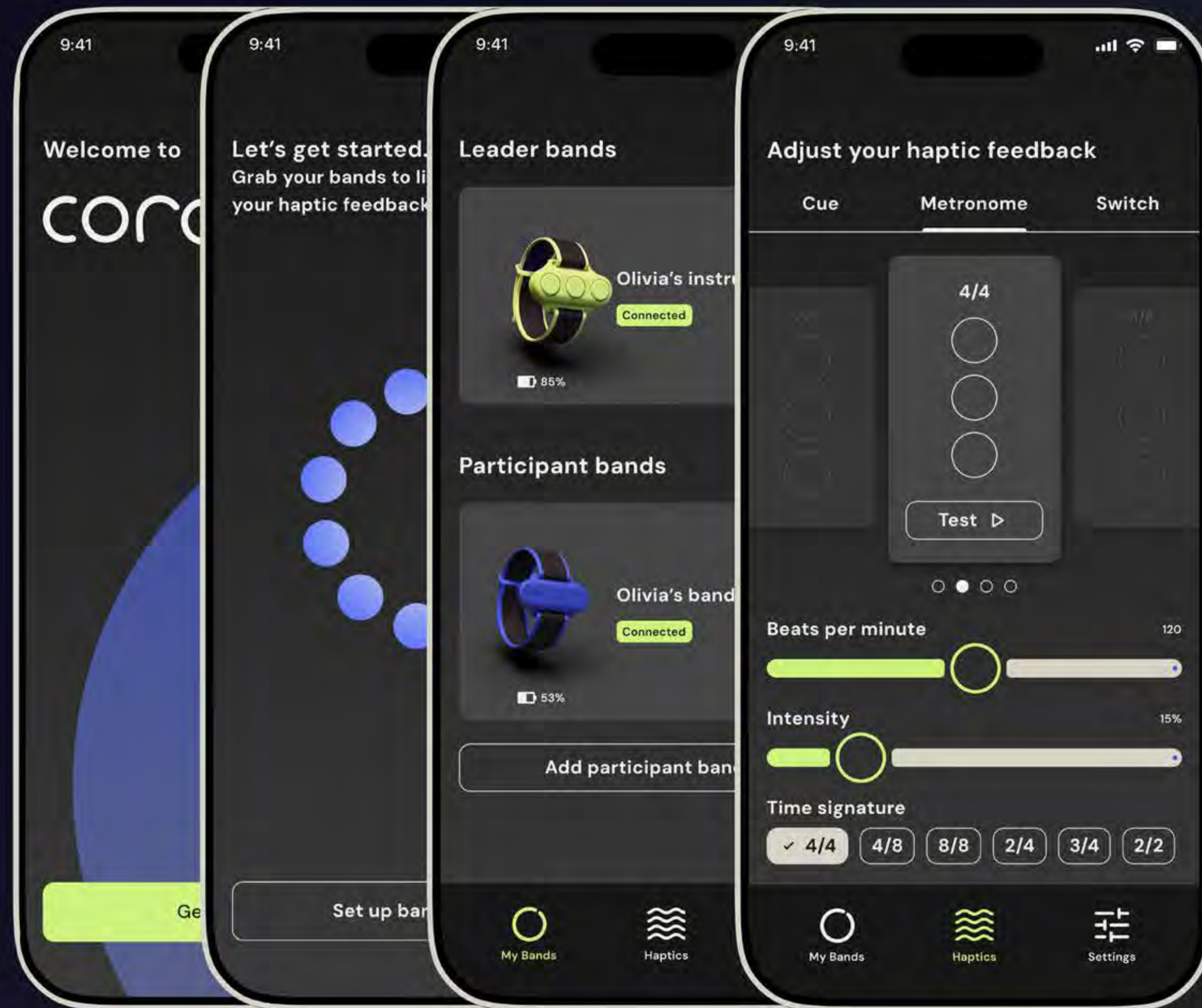
Toy Design

licensing   concept development   3d modeling

cross-team collaboration   deco   presentation development

Roles Product Design Intern, Toy Design @Disney, Marvel

Context Licensed toy development, concept design, deco, cross-functional collaboration, presentation development for various IPs

**Team** Marvel Consumer Products, O &O Team, Licensing Team Disney Toy Design

Timeline June 2022-2023

black panther gauntlet,
derived from original thanos gauntlet

The internship gave the opportunity to design a Black Panther Gauntlet toy based on Marvel's previous success with the Thanos Gauntlet toy. The gauntlet mirror's qualities of the Thanos Gauntlet, including the placement and removable of the Infinity Stones, and articulated fingers. The preliminary designs are inspired the geometric patterns, aircrafts, and the different respresentations of the Black Panther and his suit as well as knight armor and the animal itself. The designs accumilate to a final design to be based upon in development of the physical toy.

BLACK PANTHER GAUNTLET
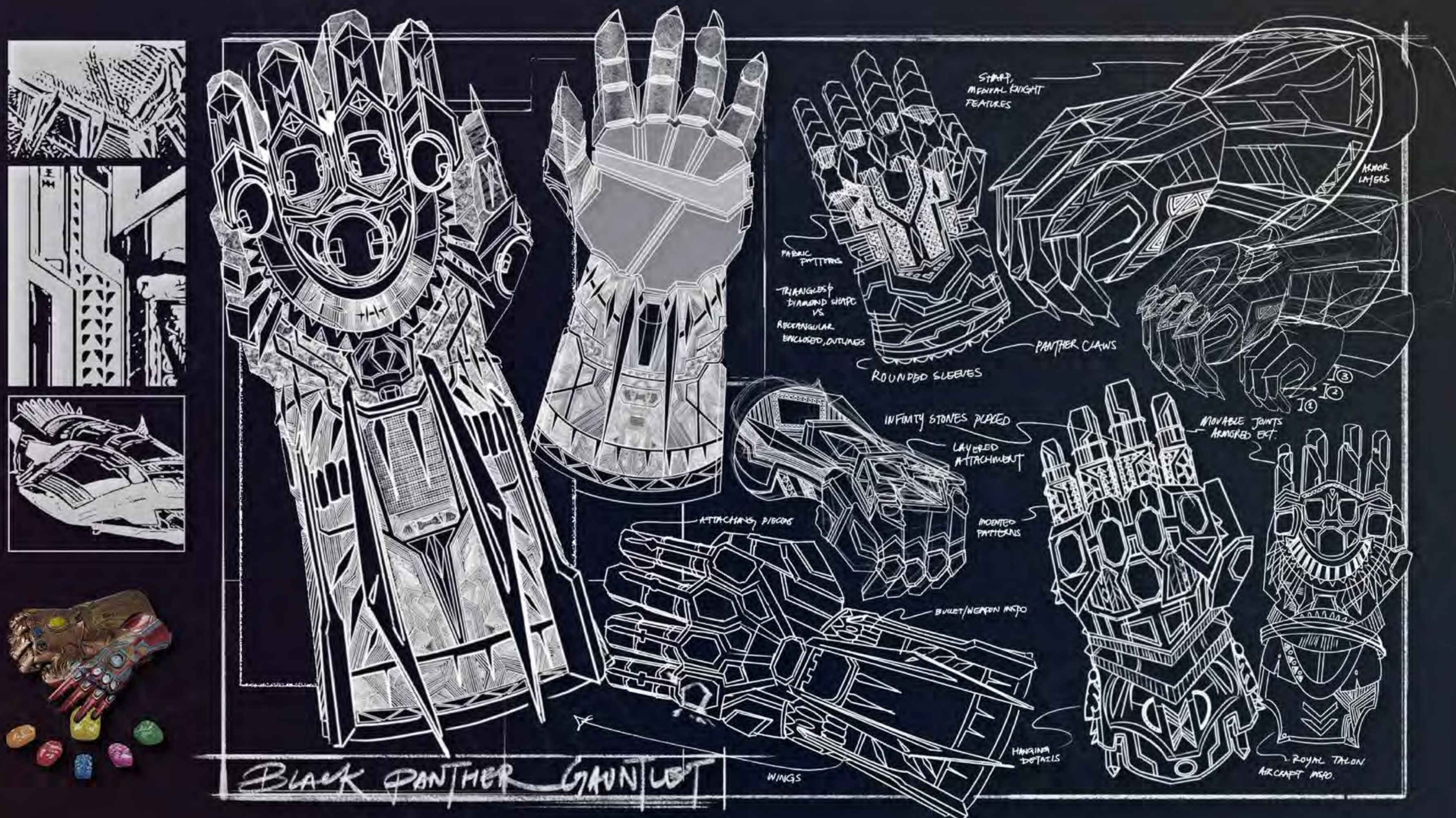
peter parker's first webshooters,
modular and experimental

Designed the preliminary design for the Hero-Tech Build & Play Web-Shooter which includes its different modules, base, its buildable aspects, and its likeness to Peter Parker's first experimental web-shooter. Includes light, projectile and sound.

marvel toy exploration,
toy trends and most populars

Through reimagining current trends in toys, the following expands the possibility of the categories.

Roleplaying Playset- Iron Man Workstation
Sustainable Toys- Wood block Marvel Aircraft Builders
Popular Toy Categories Reimagined- Hero Construction Trucks

playset design   action figures   roleplay

build to play design   plush design   toy vehicles/tracksets

character identity driven design and deco

Designed a unique web-shooter display for spider-man's web-shooters as well as designing the deco for pre-existing product to tell a unique story.

product proposition deck,
storytelling, developing themes to toy categories

Gave various directions, summarizing the value of each franchise and exploring the categories they represent and what it could mean in collaboration in creating new products.

Lay-Z Projector

portable   concept development   collapsible   technical drawing

ideation & sketching   consumer electronics   3d modeling & rendering

Roles   Independent Designer

Timeline   3 weeks

Problem   Watching content from bed is often uncomfortable, with poor angles, bulky tech, and no hands-free solutions for compact living spaces

Context   Created a compact, comfort-focused projector for in-bed use; intuitive form with functional collapsibility to support hands-free viewing from any angle

# What do you do when you just want to watch a movie while lying in bed?

Projector Concept 1: The cylindrical shape of Projector 2 allows for easy turning for different angles of projection but does not allow for easy storage. It is a more common shape found for projectors. Speaker surrounds the entire right side of speaker and left side.

Projector Concept 2: This variation allows to be easily stored, uses handle to support all angles and can be placed steadily, even on a bed. The flatness leads to a lower quality of projection. The small space allows it to be placed anywhere and can easily be stored in a bag.

sketches for compact, adjustable solutions for lazy viewing

A range of compact projector concepts focused on easy adjustability and relaxed, hands-free use. The sketches explore soft, approachable forms that balance comfort, function, and flexibility.
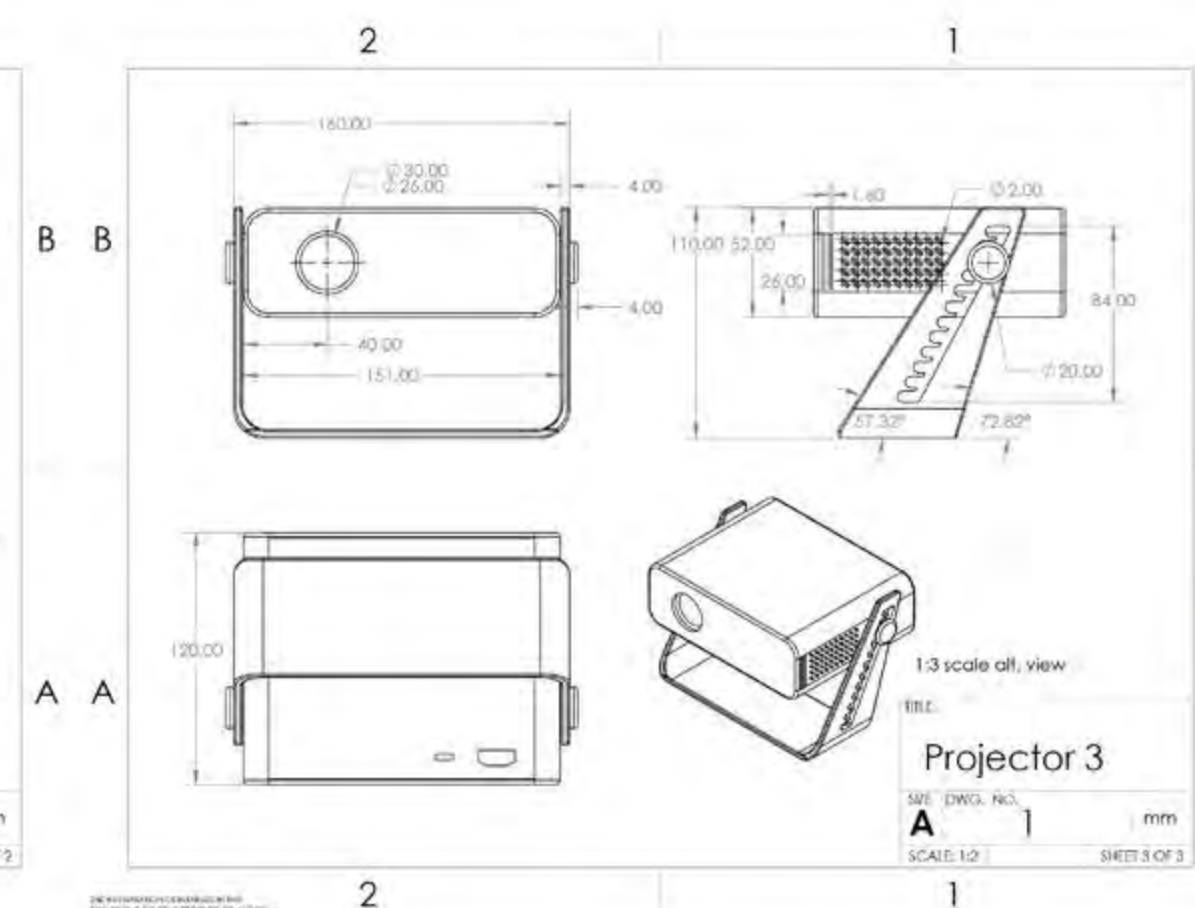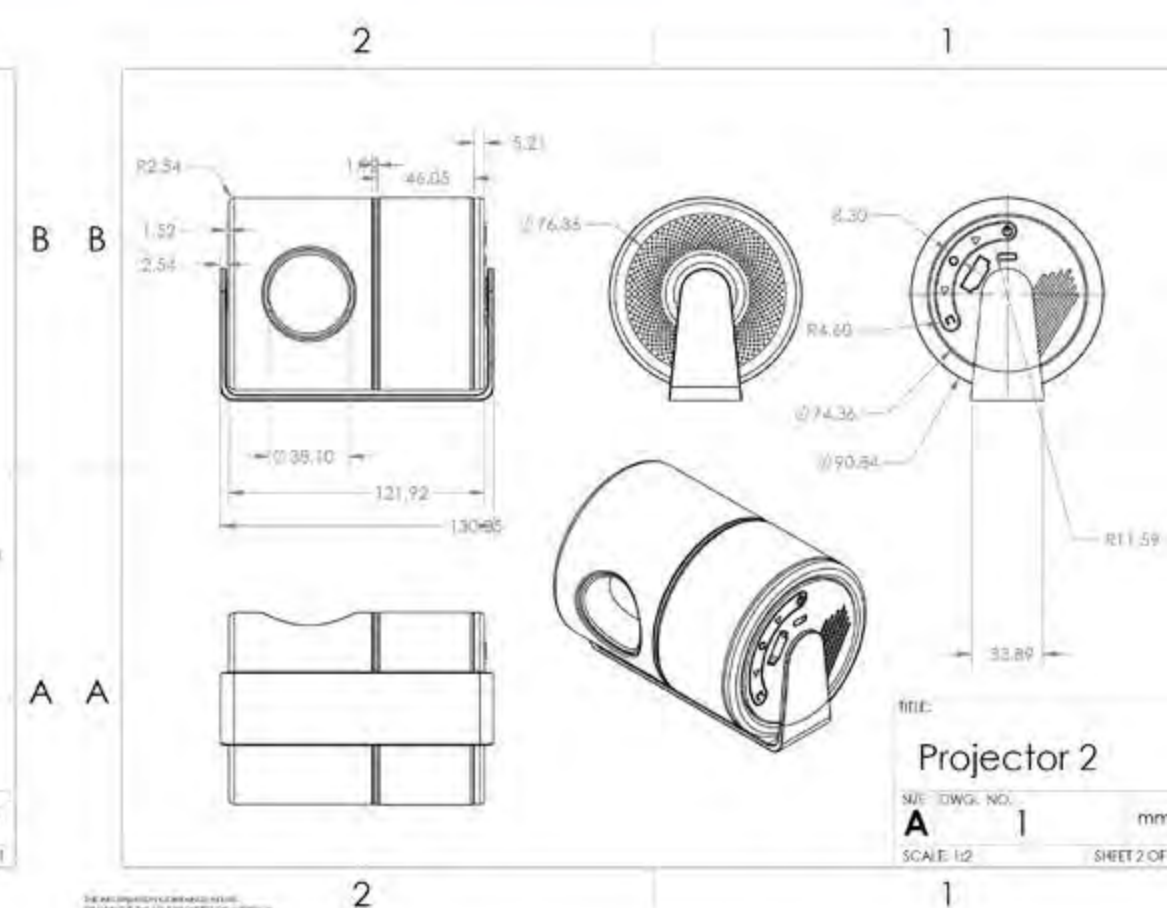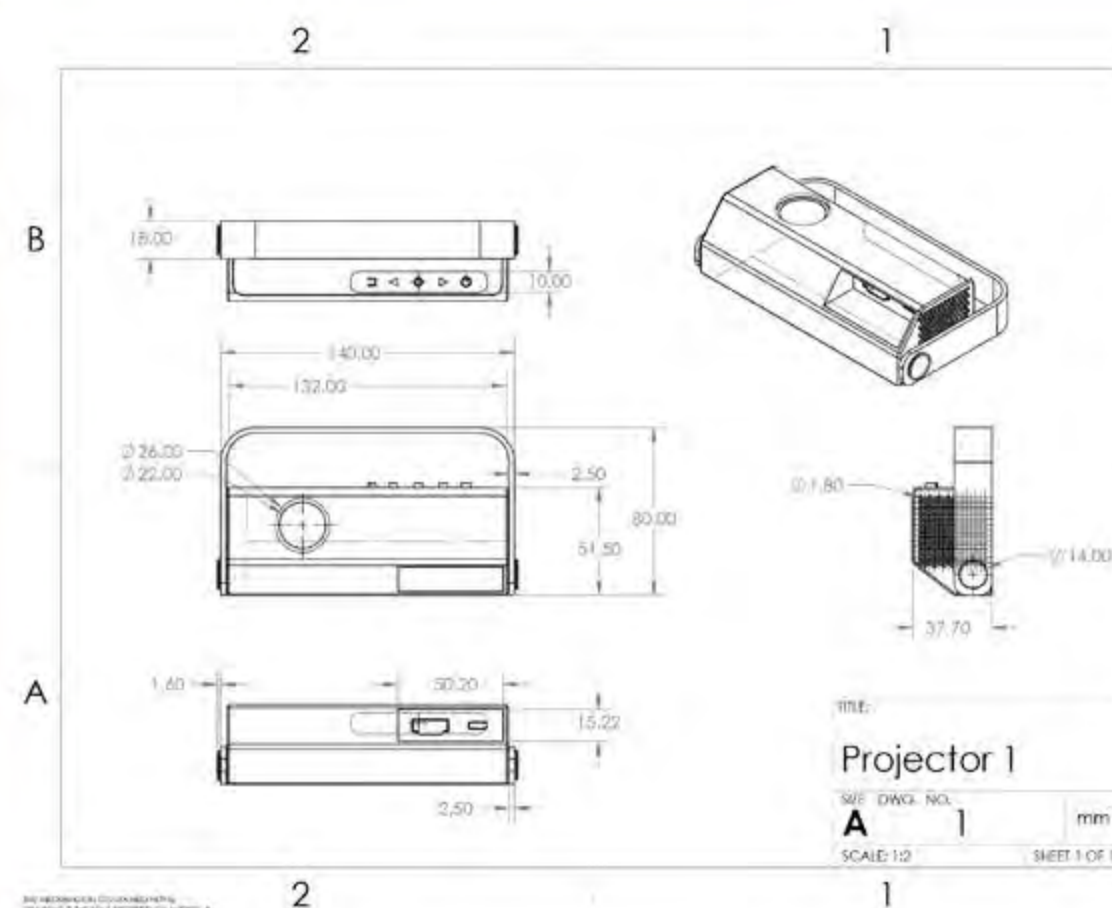

Bento box handles

Can flatten to be easily put away

Lottery ball machine
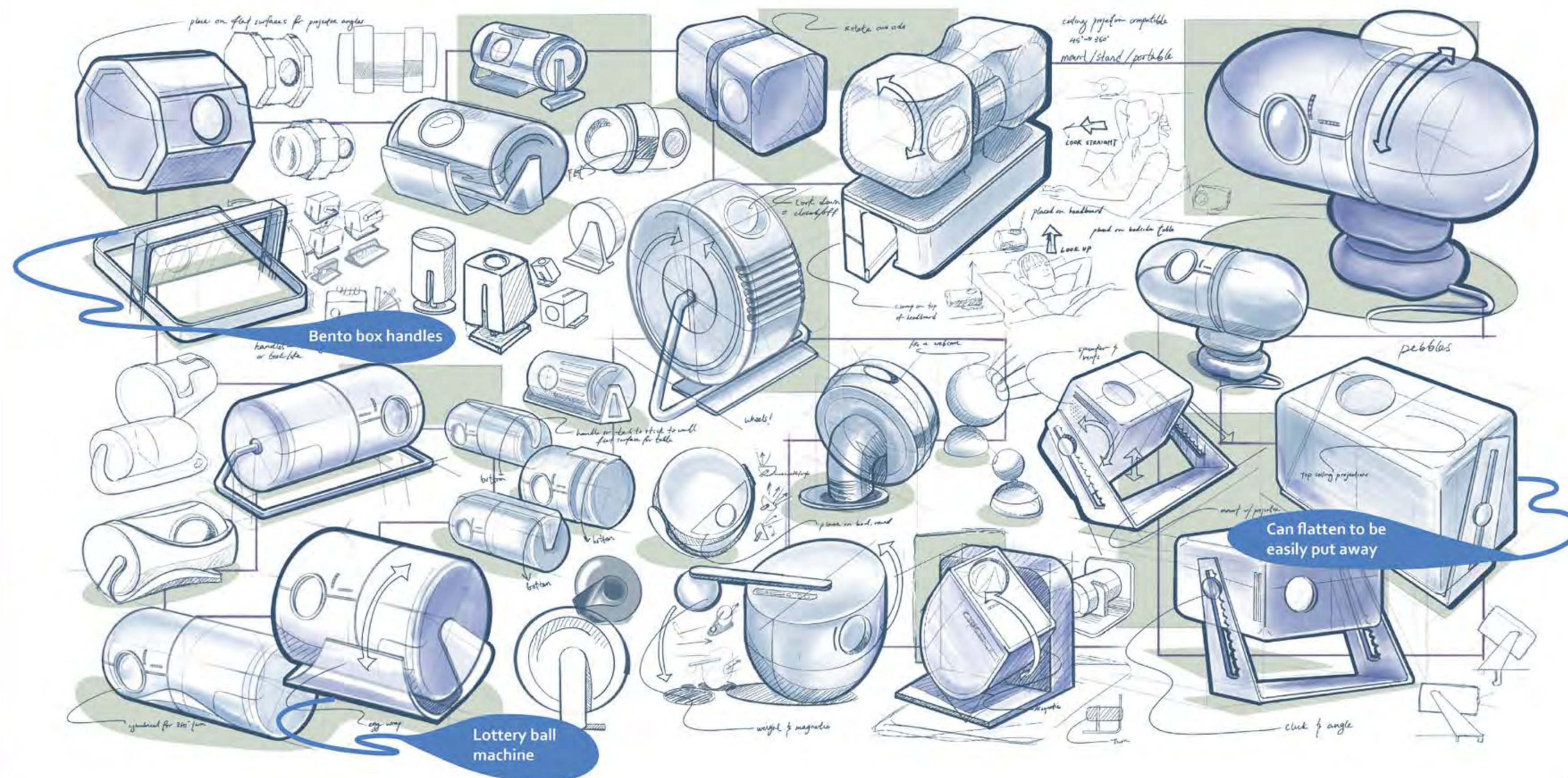
from 3 ideas to 1,
guidelines and usability testing prototypes

Portable
Ceiling and Wall Compatible
Any Angle, Height
Mini

1:1.25 scale model

3d-printed models helped determine the ideal projectors design to solve the problem
main focus on ease of use with joints

Projector 1

Projector 2

Projector 3

Headphone Design

colour & material variations

wearable   client -work   concept dev.   sculptural ideation

colour, material, finish   design for manufacturing   3d modeling

Roles   DFM & CMF Designer, Freelance Designer, 3D modeler, Concept Development

Team   Worked with project manager; led design refinement and DFM

Context   Ongoing freelance work contributing to headphone and audio accessory development

Impact   Refined early concepts through sculptural studies, sketches, and CAD; delivered headphone designs optimized for tooling, materials, and ergonomic fit

Timeline   Multi-phase project (continous)

20

AUDREY JI

design for manufacturing

From conception to manufacturing, a wide range of specifications/limitations and client decisions determined the modifications and changes throughout the design process.

Bluetooth adapters for high end DAC/Amplifiers (Not wireless/wireless)

The original request was of unclear direction or focus in terms of design, and was created purely as a covering of the electronic boards and systems found inside. The design was recreated with the focus on functionality, intuitiveness while maintaining to the constraints of the circuitry and furture considered the shape form while being a small detachable piece.

DAC dials

This shape was not intuitive to sound engineers and sound studios although, was my preferred preliminary solution to their design requests of a high-end product of professional quality.

Spray painting
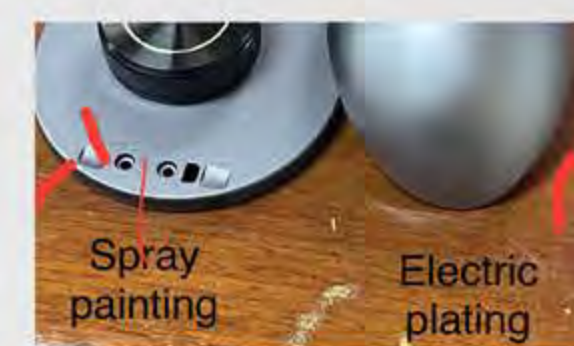
Electric plating

Constant communication with client to discuss engineers, manufacturing, factory as well as surface finishing, sourcing updates to determine necessary adjustments, compromises and further possibilities.
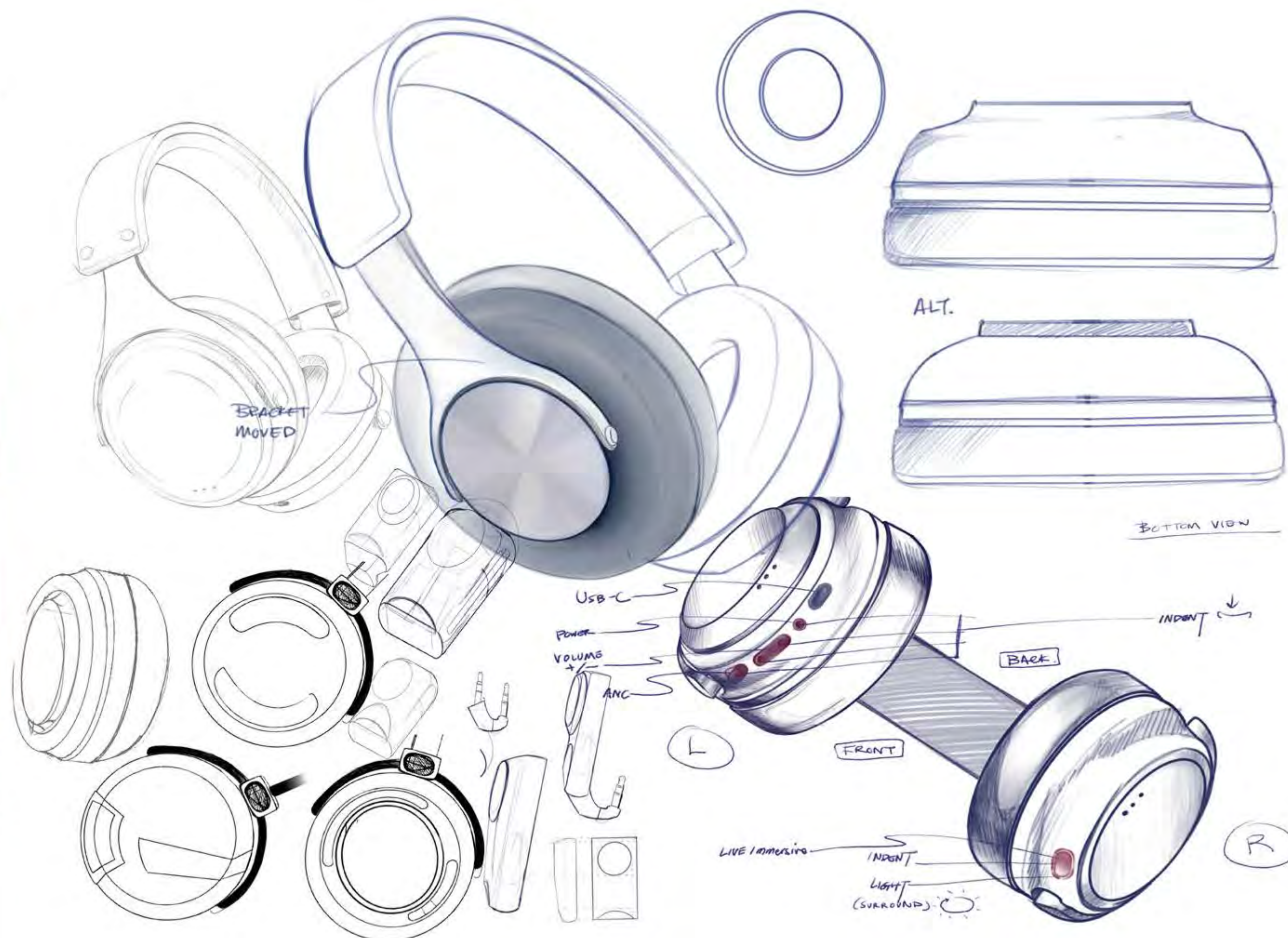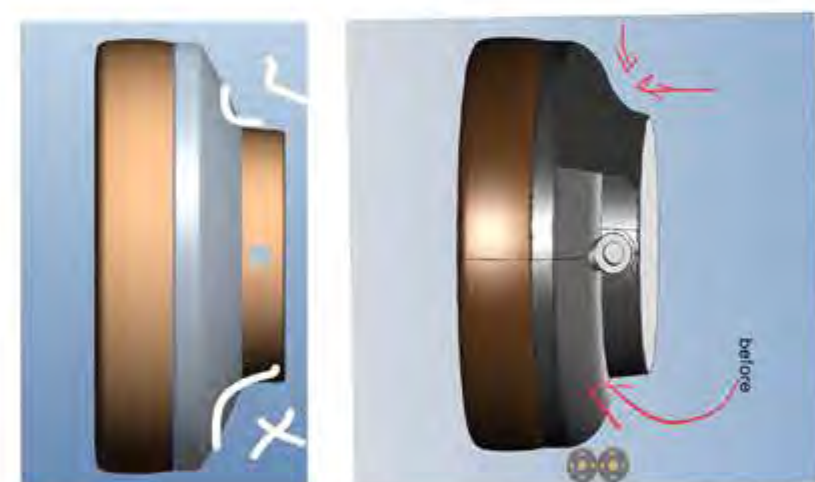
refining and reforming client concepts for manufacturability

Refined client-provided headphone concepts with a focus on form simplification, part separation, and production feasibility. Iterations explore hinge integration, CMF detailing, and optimized assembly for mass manufacturing.

Designed around engineering constraints, these headphones blend cutting-edge technology with premium acoustics. The result is a high-end product where innovation remains hidden within a sleek, intuitive form.

This headphone design prioritizes both technical performance and user experience. Advanced sound engineering and innovative features are seamlessly embedded within an elegant, high-end form factor.

ALT.

BOTTOM VIEW

BRACKET MOVED

before

USB-C

POWER

VOLUME
+
-

ANC

L

FRONT

BACK

INDENT

INDENT

LIVE / immersive

LIGHT
(SURROUND)

R

ear shape conceptual exploration

A study of abstract ear shapes through sketches, sculptures, and form models. This exploration investigates the sculptural and spatial qualities of the ear, using iterative analog methods to inform future wearable concepts.
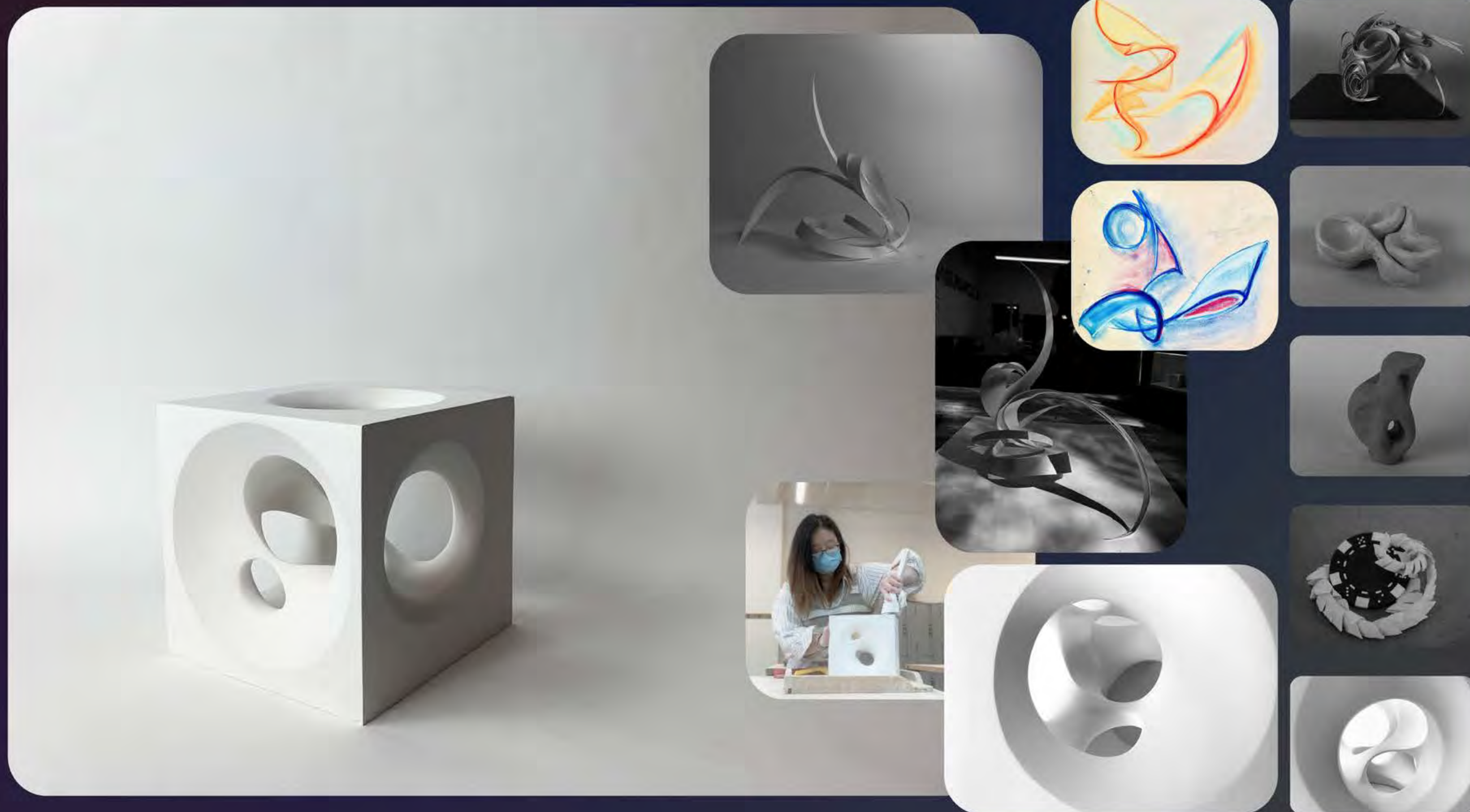
public engagement   spatial experience

third spaces   exhibition design   user flow

social interaction   UI/UX   visual mapping

Roles Independent Designer, Design Reseearcher, Interaction/ Experience Designer, Spatial Designer

Context Capstone Design project in Professor Kate Hixon's exhibition design course

Problem Public spaces don't encourage casual social interaction. As people spend more time on their devices, opportunities for spontaneous, in-person connection are disappearing.

Timeline Spring 2022

Around the Play-scape
Exhibition Design

https://drive.google.com/file/d/1G0d0KKvrvhPVyzyQfApw6nDh3gbuCNNS/view

A playful exhibition space designed to spark spontaneous connection, supported by interactive layouts, vibrant zones, and app-based touchpoints.

the play-scape

Technological advancements are our main source of communication, especially in time of social isolation. We look at our phones for hours without the urge to look up to communicate with the world around us. The Playscape is a space which encourages people to get to know each other in community events, activities and social spaces for people to enjoy and share. The Playscape is a social space experience with the goal of increasing connection between people.

design development
personas, scenarios, concept development

Jess
Age: 22
Work: Graduate student
Goals: Wants to find something new to do, maybe meet some new people.
Likes to play video games and watch TV. Doesn't leave the house much and spends most time figuring out what to do.
Personality: Confident, smart, gets easily bored, doesn't mind being alone.
Skills: Likes lo-fi music, knows a lot of good music and knows a lot of TV programs and dramas.
Day in the life: Wakes up, makes breakfast, dark coffee, reads a book, turns on computer to watch some TV shows alone, chats with friends on imessages, makes linner, watches more TV, eats at midnight and snacks cause why not.
Pain points: Every day is the same when there is no work. Just moved to a different place for graduate school, doesn't have friends close by. Doesn't know what to do and where to go meet people and find things to do. Wants something to do without having to try too hard.

Don
Age: 23
Work: Coder
Goals: Retire before 30.
Personality: Timid, shy, smart
Skills: Keyboard speed is very fast, advanced gamer, likes puzzles and still has a fidget spinner.
Goals: Meet people who are like him, leave his home more, has been told by family that he needs to go out more.
Day in the life: Wakes up at 12, finishes his work around 5, eats, naps, gets ready to play games on his computer, plays till 5 in the morning.
Pain points: Family has started to nag him about secluding himself too much, parents think that at 23 he should have more going on in his life. Doesn't know what is so great about the outside world.

Lexi
Age: 25
Work: Marketing department employee
Goals: Be able to hold a party every week
Personality: Loves to talk and bring people together,
Skills: is a great cook and skilled at everything she gets her hands on, always has people to talk to.
Goals: Find a suitable, new place for her to bring her friends to hang out. Would like to go to new places
Day in the life: After work, she will call up a few friends for a meal, go shopping and hang out , she will travel when ever she has the chance. Likes a cup of tea in the morning.
Pain points: Doesn't the place to be too crowded, too loud but wants to be doing more than just eating and talking. Hates that she has to clean her home when she has people over.

design details
concept, form, material

Different areas encourage different kinds of social interactions, prompted by the technology, colours, environment and interactivity of the spaces. Th space sets the stage by enhightening the feel of isolation and brings you in towards a center of social interaction. This includes social spaces like studios, cafes, game centers, workshops and play centers.

22-24-Couched Ball Pit, Swings, Large Scale Arcade Game

F- Active Playscape

D-Games Lounge

C-Workshop Space

Floor Plan

A	Introduction to isolation	1	Semi-Isolation	13	Board Game Panels and Dice
B	Stage/Visual Sharing	2	Entrance Upper Level 1 view	14	Light Tap Game
C	Gift Store and Workshops	3	Event Stage	15	Photo Arch
D	Games Lounge	4	Large Scale Game Board	16	Bar/Counter
E	Morning Cafe, Night Bar	5	Digital Bulletin Wall	17	Elevated Community
F	Active Playscape	6	Who Are They Mannequin		Seating with Books and
			Crowd Installation		Board Games
		7	Workshop Events	18	Info Light Game
		8	Gift Store	19	Sharing Globe
		9	Mystery Game Box and	20	Broadcast/Radio Audience
			Music Vending Machines		Mobile Seating
		10	Seating Levels	21	5 Player Air Hockey Table
		11	Beanbag Lounge and		and Game Semi
			Photo Wall	22	Couched Ball Pit
		12	Bench with Personalized	23	Swings
			Mannequin Installation	24	Large Scale Classic Games

1-Semi-Isolation

4-Large Scale Game Board

19-21-Game, Interactive Experience, Mobile Seating
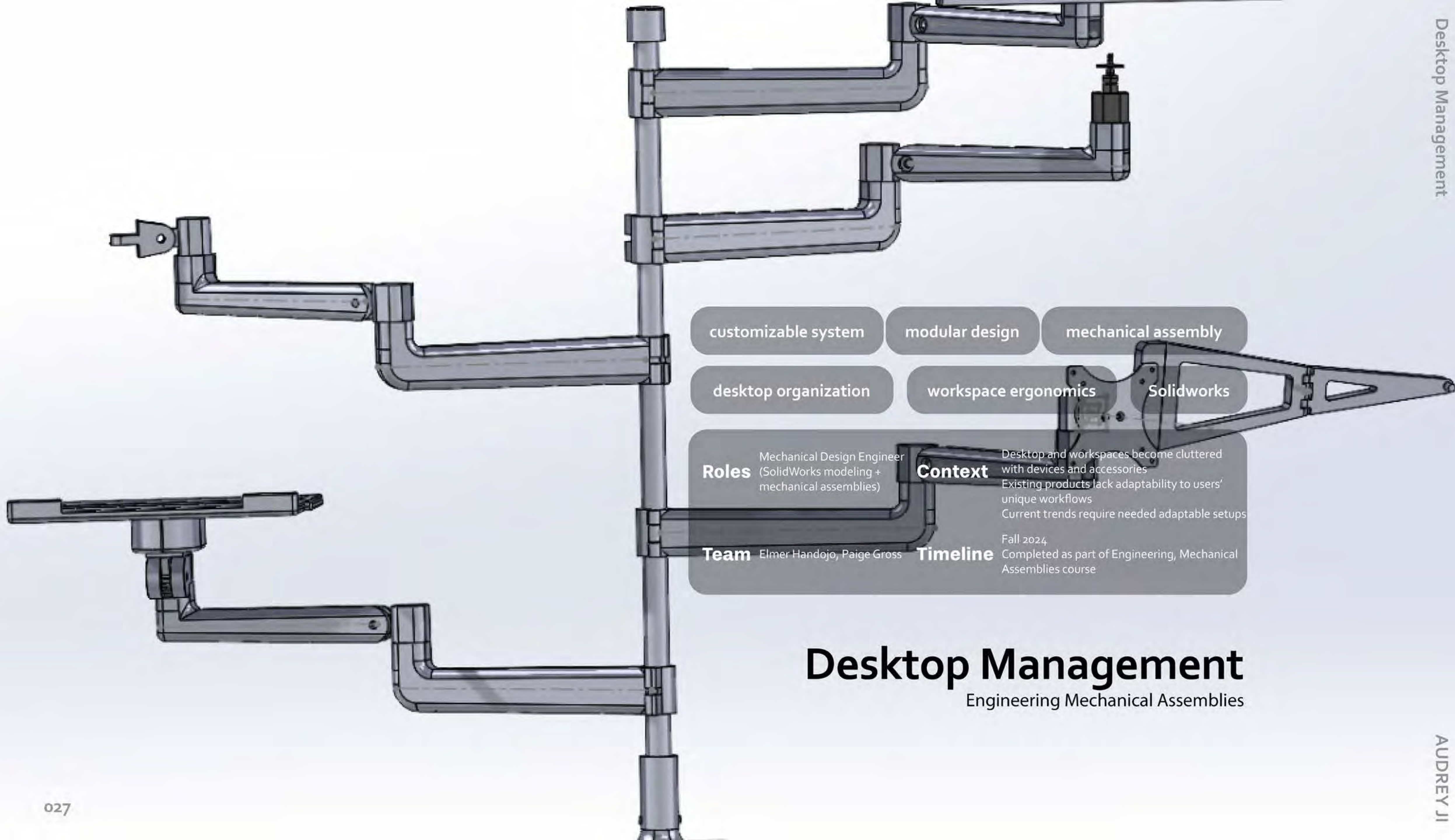
customizable system

modular design

mechanical assembly

desktop organization

workspace ergonomics

Solidworks

Roles Mechanical Design Engineer (SolidWorks modeling + mechanical assemblies)

Context Desktop and workspaces become cluttered with devices and accessories
Existing products lack adaptability to users' unique workflows
Current trends require needed adaptable setups

Team Elmer Handojo, Paige Gross

Timeline Fall 2024
Completed as part of Engineering, Mechanical Assemblies course

Desktop Management

Engineering Mechanical Assemblies

assembly parts

This design creates a modular system for desktop organization, reducing clutter while keeping essential items easily accessible. The system allows for customizable configurations, integrating holders for devices, charging docks, lighting, and storage elements. With interchangeable attachments, users can adapt their setup to fit their workflow, ensuring a clean and efficient workspace that evolves with their needs.
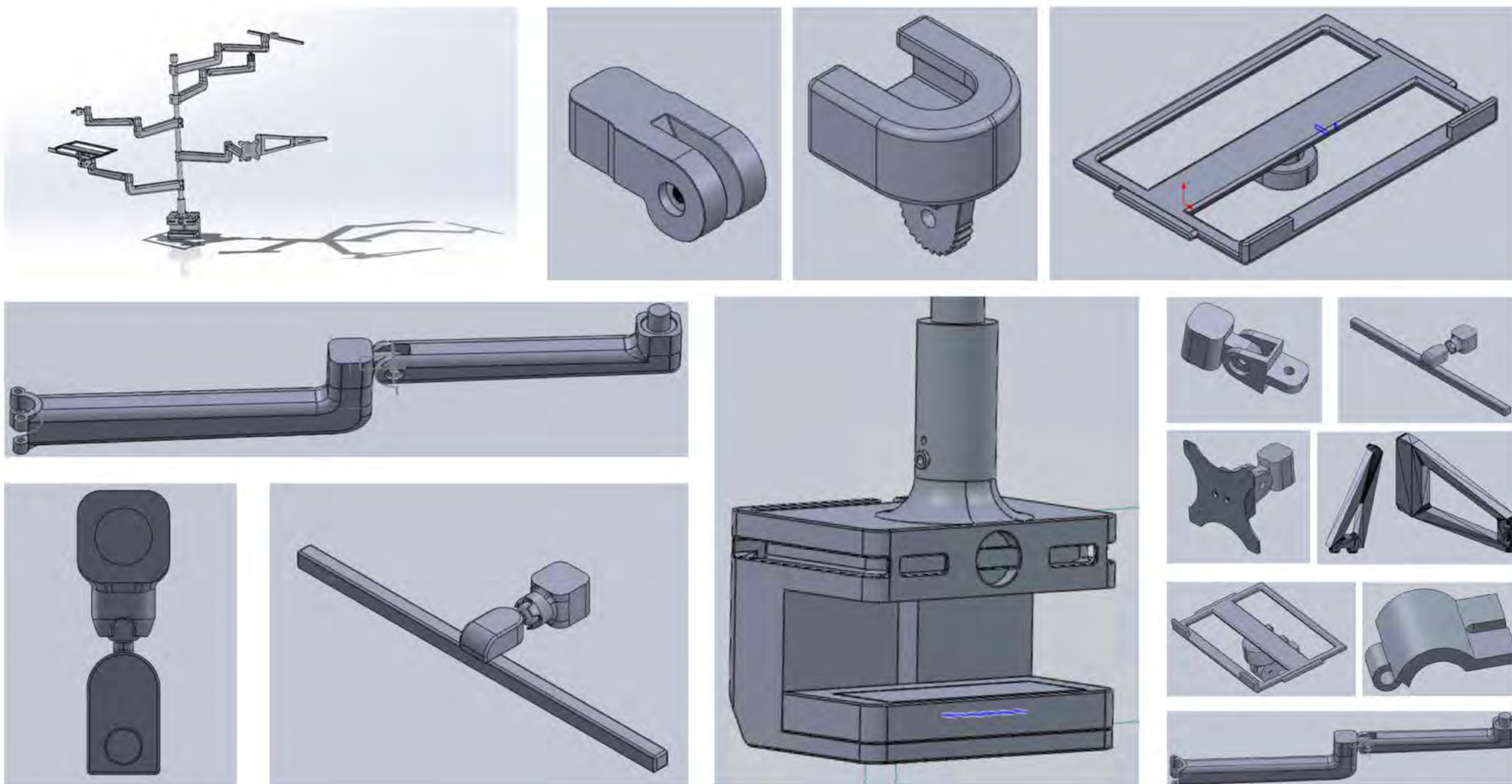
CAD technical
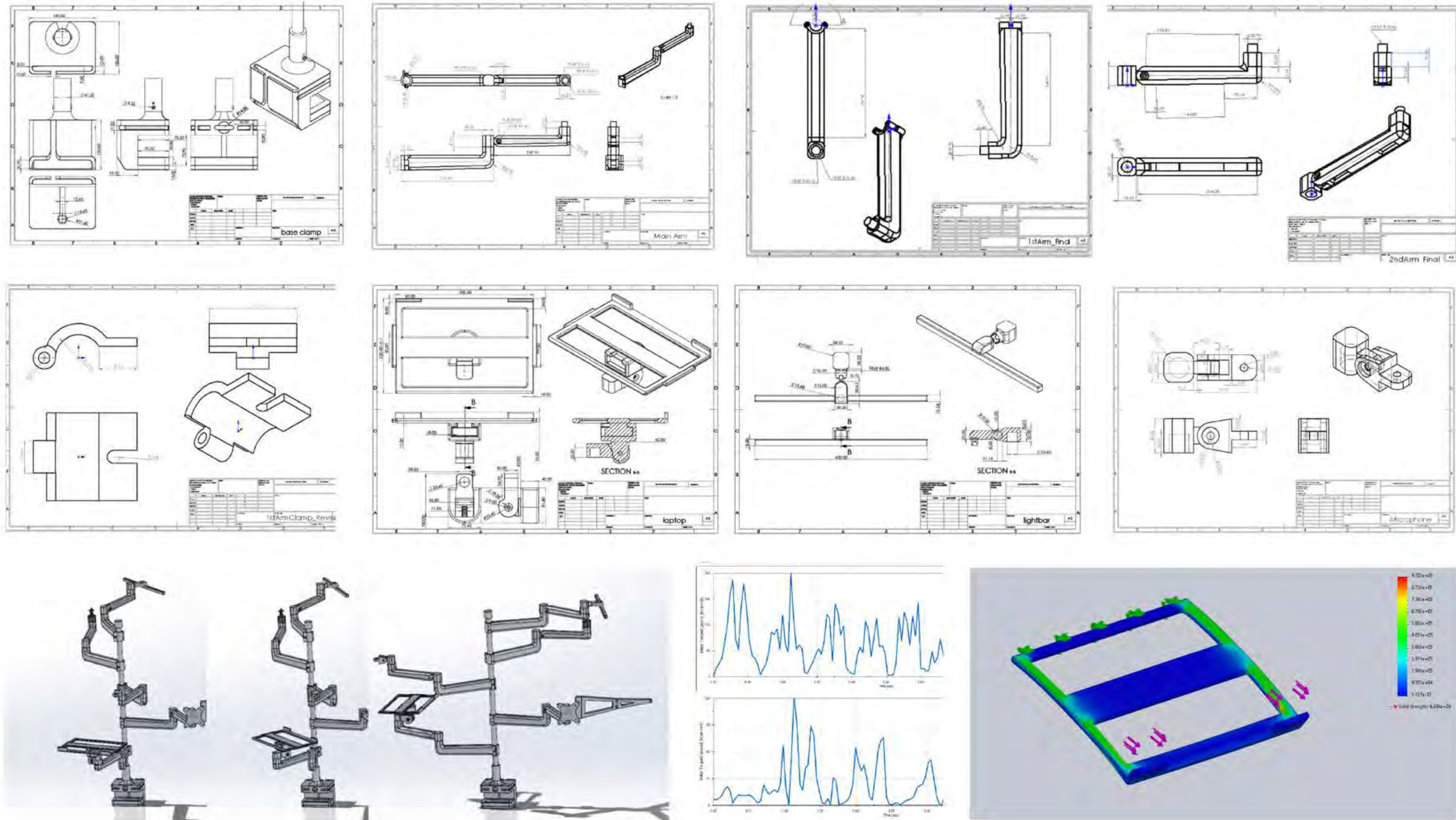
requirement definition and concept variants

Modular functionality: Components can be customized and rearranged to hold various items (tablet, display, fan, light, etc.). (at least 2 modules)

Multi-purpose design: Integrates multiple uses like charging, organization, and device holding in a single system. (at least 2 purposes)

Space-efficient: Designed to optimize desktop or table space by consolidating various tools and accessories. (Doesn't take up all of space of table) (open max space:20x20" (arms fully extended width and height-wise))

Durable: Doesn't fall off the table from overload (Durable and spreads weight evenly) (max load on arm 25 lbs)

Safety: No sharp edges, prevent binding, no hazardous materials

Force: Between 5-10 lbs

Range of Motion: >270°

Mounting: Some sort of clamp mechanism to clip onto the table

How much weight the platform will need: More than 50 lbs

Interchangeable parts/customizable: Allows users to swap or add modules for different needs (e.g., light, charging dock, or fan).

Clean, organized setup: Helps reduce clutter by incorporating storage and organization features (e.g., compartments or cable management)

User-friendly assembly: Easy to assemble and adjust to individual preferences and configurations. (approx. 10-15 min assembly)

Aesthetic appeal: Sleek design that complements modern home or office environments.

Cost: Pay for an arm(base pay) (added attachments)
Base pay: $35-50,
Attachments: $10-25

	Criteria	Weight (/5)
1	Meets Req.	5
2	Manufacturing Feasibility	3
3	Predicted Cost (To buy)	2
4	Safety	3
5	Technical Feasibility	5
6	User Friendliness	4
7	Appeal to Users	4

	Criterias (/5)							
	Meets reqs. 5	Manufacturing feasibility 3	Predicted cost 2	Safety 3	Technical Feasibility 5	User Friendliness 4	Appeal to users 4	TOTAL
A	3	4	4	4	4	3	3	91
B	5	4	4	3	4	5	4	110
C	3	4	5	2	2	3	3	77
D	5	4	4	4	5	4	4	114
E	4	3	4	5	5	4	3	105
F	3	3	2	3	3	5	5	92
G	5	5	4	5	5	3	3	112
H	3	4	4	3	3	4	3	87
I	3	5	4	3	4	5	4	103
J	4	4	3	4	3	4	3	93
K	4	4	4	3	4	3	3	93
L	4	3	2	5	4	5	4	104
M	5	4	4	4	4	4	4	109
N	5	4	4	5	4	5	5	120

Range of Arm Movement
A) Linear movement
B) Rotational movement

Base Attachment
C) Lazy susan
D) Clamp
E) Wall attachment

Peripherals Attachment
F) Magnets
G) Screws
H) Snap fit
I) Slide fit /slot fit
J) Latch attachment

Arm Height/length Adjustment
K) Detent Pin
L) Hydraulics
M) Twist Lock and Slide
N) Fixed pivot hinge

Bonny

A unique sanitary pad experience

Bonny

AUDREY JI

bonny
design approach

Bonny is a brand that redefines the menstrual cycle sanitary product experience, emphasizing subtlety, comfort and effortless preparedness to ensure the user's sense of security. The products are designed to help you feel at ease, minimizing discomfort while ensuring discreet, worry-free security.

Background

Various factors cause discomfort for women during their menstrual cycles. These concerns often pertain to their experiences in public spaces, especially public bathrooms where there is deepening concerns in regards to hygiene and convenience.

Who

We look to empower women (14-35), helping them feel the sense of security and comfort as they face the day ahead.

Current Situation

Women often find themselves in uncomfortable situations in the public, often concerned about hygiene, discomfort and inconvenience during their periods.

Improved Situation

Our product improves the overall period experience, giving our users a sense of security throughout their day. The design looks to focus on issues women commonly have but are disregarded in their sanitary products.

the sanitary pad experience
4 essential components and considerations

The focus on enhancing the sanitary pad experience meant that the products fit our requirements of convenience, subtlety, and hygiene. Most uniquely, we observed concerns of the unseeingly sight of other unsanitary pads opened in the trash of public bathrooms as well as the concerns of smell in our research. Our best solution was a unique way to efficiently wrap and dispose.
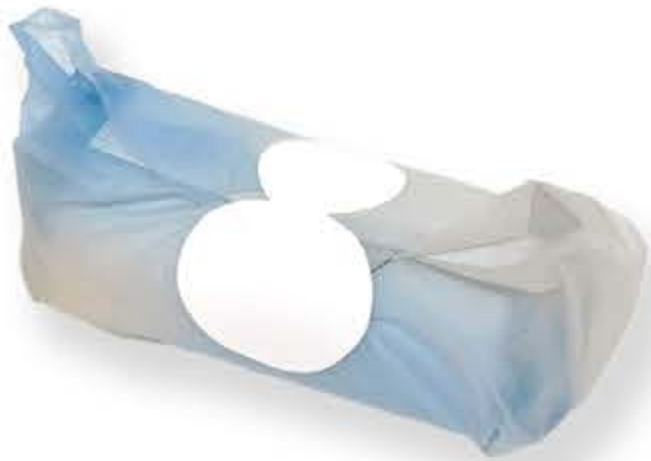
Pads

Fits essentials: Fits the average underwear gusset sizes (below 3") for worry-free comfort all day.

Convenience: Wings of the pad remain intact for over 4 hours.

Subtle: Noise level less than commercially sold pads (<30dB).

Lightweight: Weight does not exceed 15g.

Portable: Folded size does not exceed 4" x 5".

Hygienic: Water proof; holds up to 8 ml (>5ml) of liquid.

Disposable Packaging

Fits essentials: Fits 1 average full sized pad.

Convenience: Takes less than 6 steps to use and dispose of the pad.

Subtle: Noise level less than commercially sold pads (<30dB).

Lightweight: Weight less that 1g.

Portable: Folded size does not exceed 4" x 5".

Hygienic: At least 3 sides of a folded used pad is covered.

Pad Kit

Fits essentials: Fits at least 4 regular sized pads and can carry cramp reliev medicine and sanitary wet wipes.

Convenience: Doesn't require more than one hand to use, hangs and sits where convenient.

Subtle: Fits as a wrist band for average female wrist around the size of 6.5".

Lightweight: Weighs less that 80 kg.

Portable: Fits into the averafe bag pocket size (4.5" x 3" 1").

Hygienic: Strap fits into bathroom hooks.

Packaging

Fits essentials: Fits pad kits that last at least one full period cycle (up to 7 days).

Convenience: Takes < seconds to remove a kit.

Subtle: Less than 2 sides indicate that the product is a sanitary pad.

Lightweight: Can be hung on a door cabinet, weighing less than 800g.

Portable: Fits door cabinets with thickness of up to 1.5".

Hygienic: All pads are individually packaged.

Extended coverage and secure wings for worry-free comfort all day.

Flipping feature that ensures the pad is fully covered and kept from unravelling.

The grab-and-go kit with all your daily essentials in one place, with the convenience of being able to hang the kit in the bathroom.

A personalized experience from in store to a home bathroom. The package transforms into a hanging system that allows for easy access on your cabinet door, and for visual queues to signify pads left in a discreet yet whimsical way.

design details
features of the pad and its indivudual packaging

soft, porous cotton layer
liquid absorbent foam
compostable plastic

Your underwear
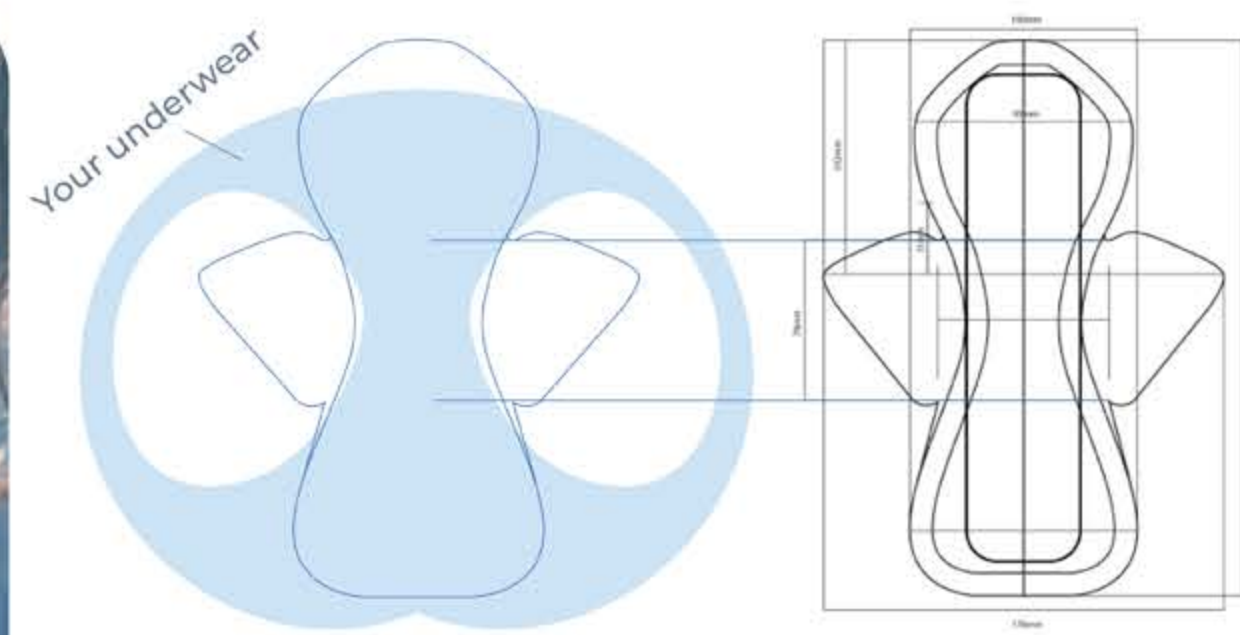
Pads that actually fit, accounting for front end leaks commonly reported in our research
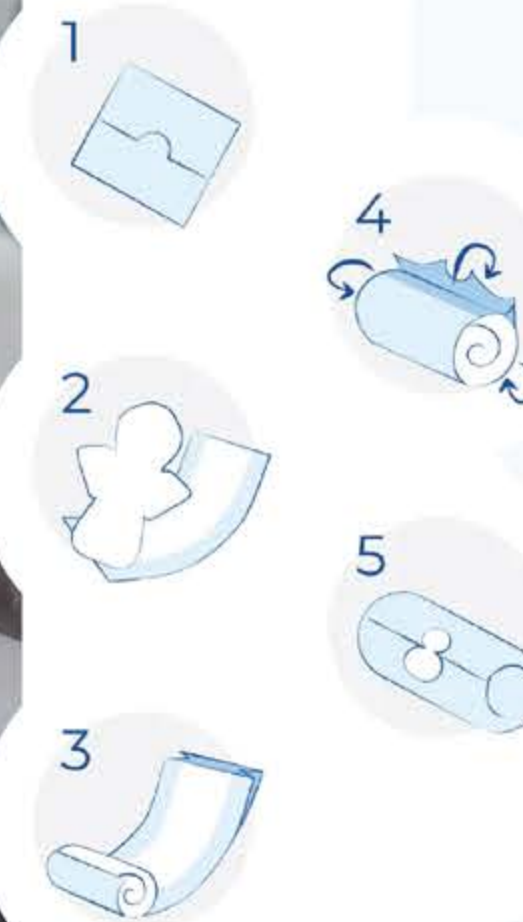
The pad packaging uniquely introduce a simple yet intuitive way to wrap up used pads to ensure a better experience for all. The plastic packaging is engineered to noot create any loud noises to maintain discreetness.

1
2
3
4
5

developmental prototyping

Each component of the design was thoughtfully developed through iterative prototyping and rigorous testing. A key aspect of our process was considering the final manufacturing materials early in prototyping. We selected commonly accessible yet application-specific materials, such as biodegradable plastic for individual packaging, and explored novel printing techniques to enhance functionality and user experience.
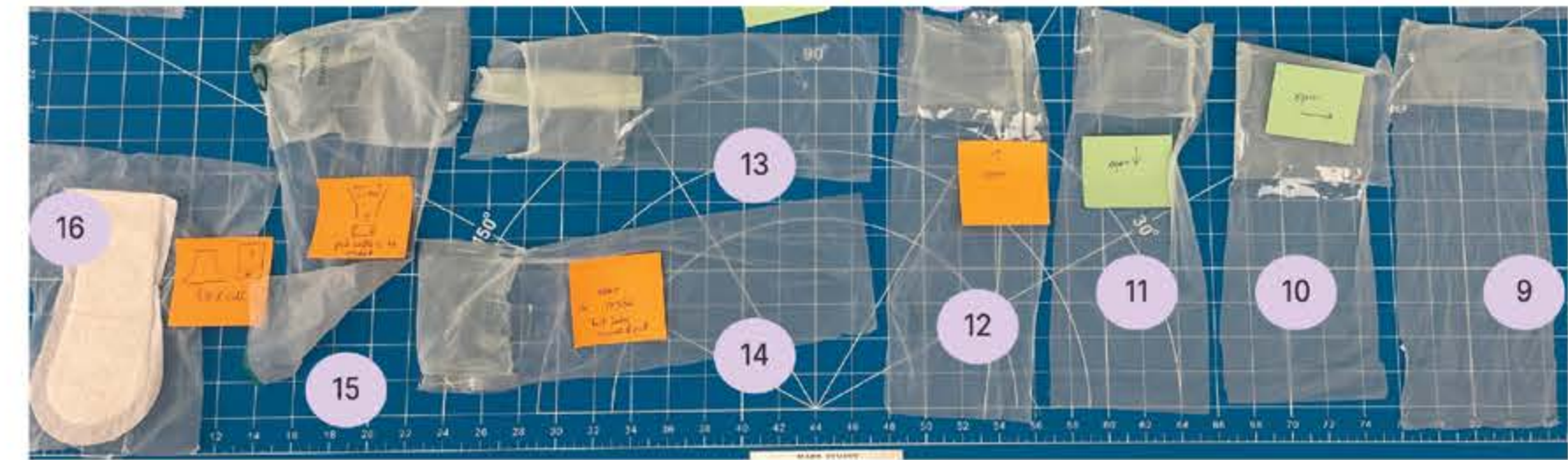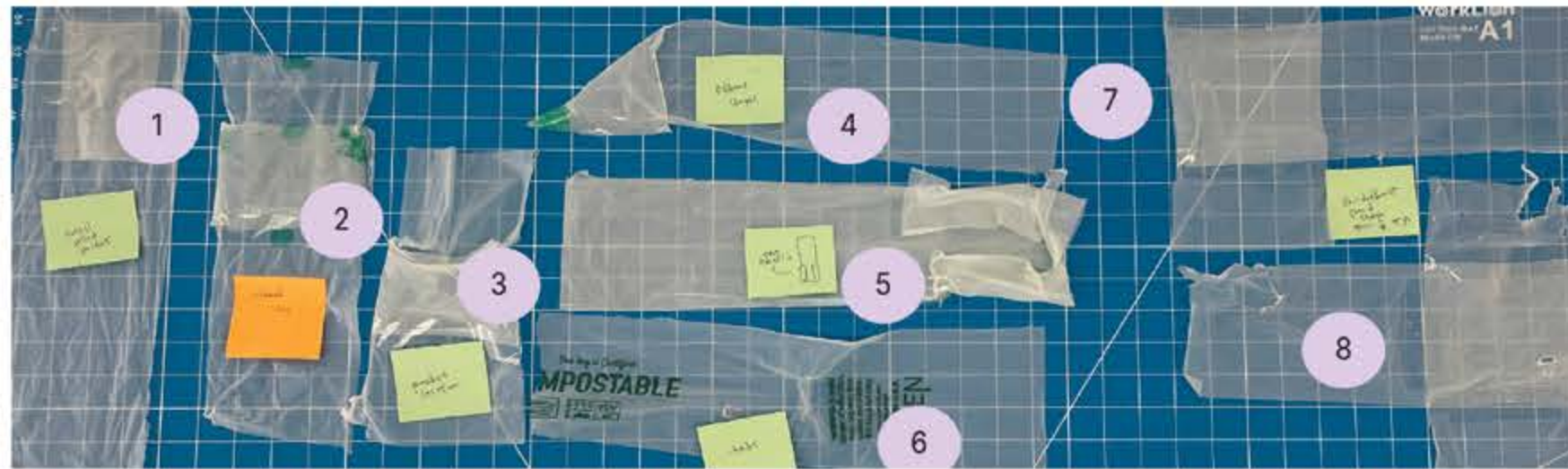
Packaging

Pads

Disposable Individual Packaging

user research
designing for real needs, usability testing

Top insights
Throughout the cycle, shifts in mood and emotions often lead to discomfort, with most women experiencing specific concerns during these times.

Top issues
Physical Discomfort
Hygiene and Convenience
Irregular Cycles/ Health Conditions
Emotional/Mental Health

Testing of the Flipping Feature

3. RESEARCH
3.1 User Journey Map
To understand the user journey of the period experience, we created a user journey map of a woman going through her menstrual cycle, starting from when symptoms start to when her cycle ends (on average, an entire cycle lasts around 28 days) (*Your menstrual cycle: Office on Women's Health*). The cycle was broken down into sub-stages: before the period, start of the period, worst day of the period, middle of the period, and end of the period. For each sub-stage, we recorded user actions, goals & experiences, feelings and thoughts, pain points, and opportunities for improvement of that experience. The main pain points for each stage of the period were as follows.

Table 1. User Journey Map Insights

Stage	Feelings and thoughts	Pain points
Before the period	Confused, worried, cravings	Mood swings, cravings, feeling unprepared
Start of the period	Worried of cramps, cautious, determined	Period cramps, feeling fatigued, unexpected periods
Worst day of the period	Sad, miserable, exhausted, stressed	Leaking, pain throughout entire body, feeling concerned about wasting pads, doing daily activities becomes difficult
Middle of the period	Low energy, relieved	Leaking, adjusting the position of pads, not knowing if pad sizes are appropriate for blood flow
End of the period	Confused, joy, liberating	Leaking, shifting panty liners, getting blood stains out of underwear

Figure 2. User journey map of the period experience

3.2 Buy a Feature
After identifying the pain points of someone experiencing a menstrual cycle, we surveyed 58 women through an online survey and in person surveys to understand the most significant concerns. The results indicated that the top three categories that we are able to solve within the scope of the project were hygiene, social & work implications, and convenience.

Menstrual Cycle Concerns
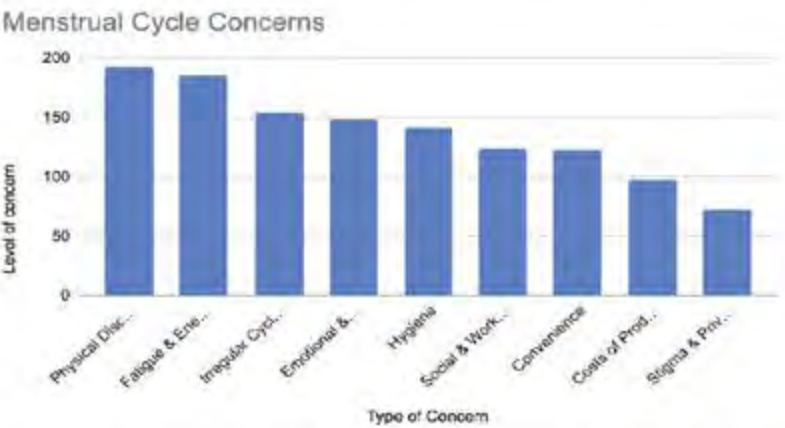
Figure 3. Survey results to the question "Rank the issues that affect you the most during your menstrual cycle from most concerning to least concerning, listed below."
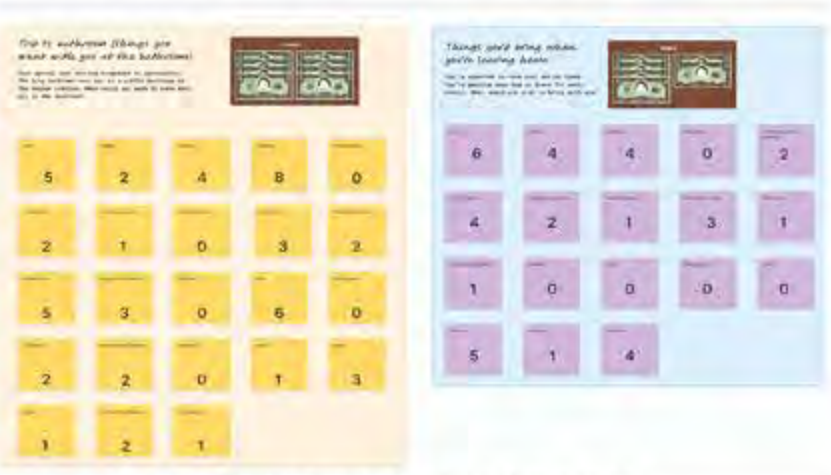
Figure 4: Online format of the buy-a-feature game

branding
discreet, fresh, light and clean
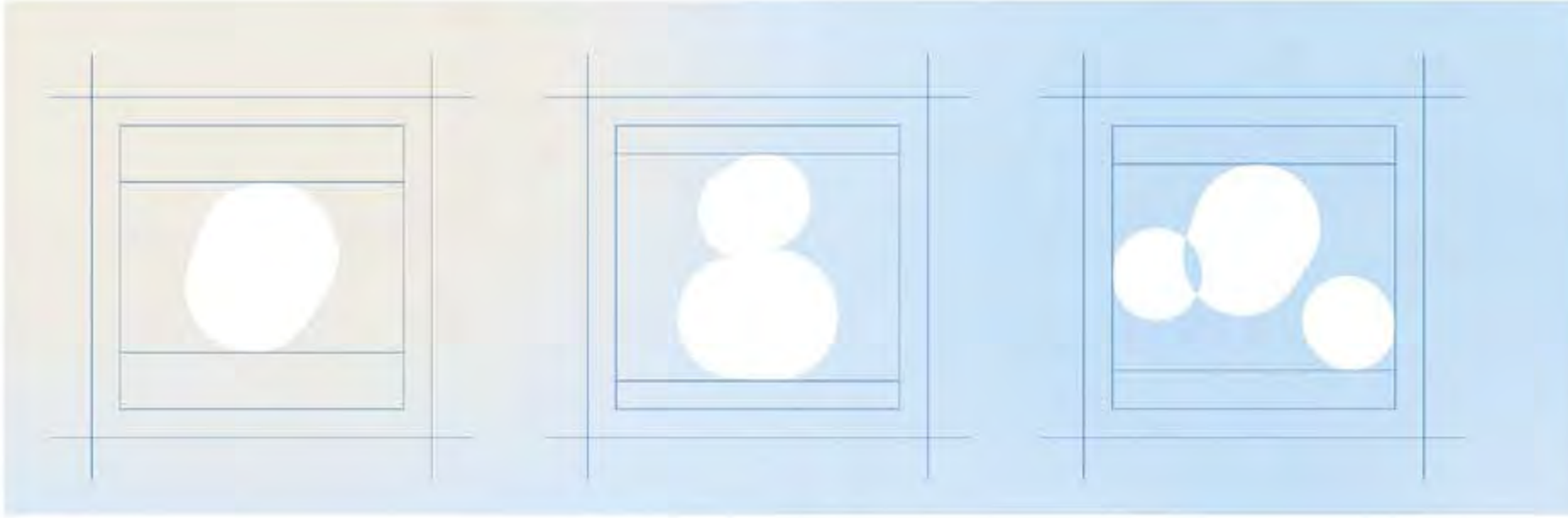
The value of creating branding which represent subtleness was brought to our attention through extensive research. Our product polar to most pad products on th market are about being subtle, and exude the feeling of fresh, cleanliness and lightness..
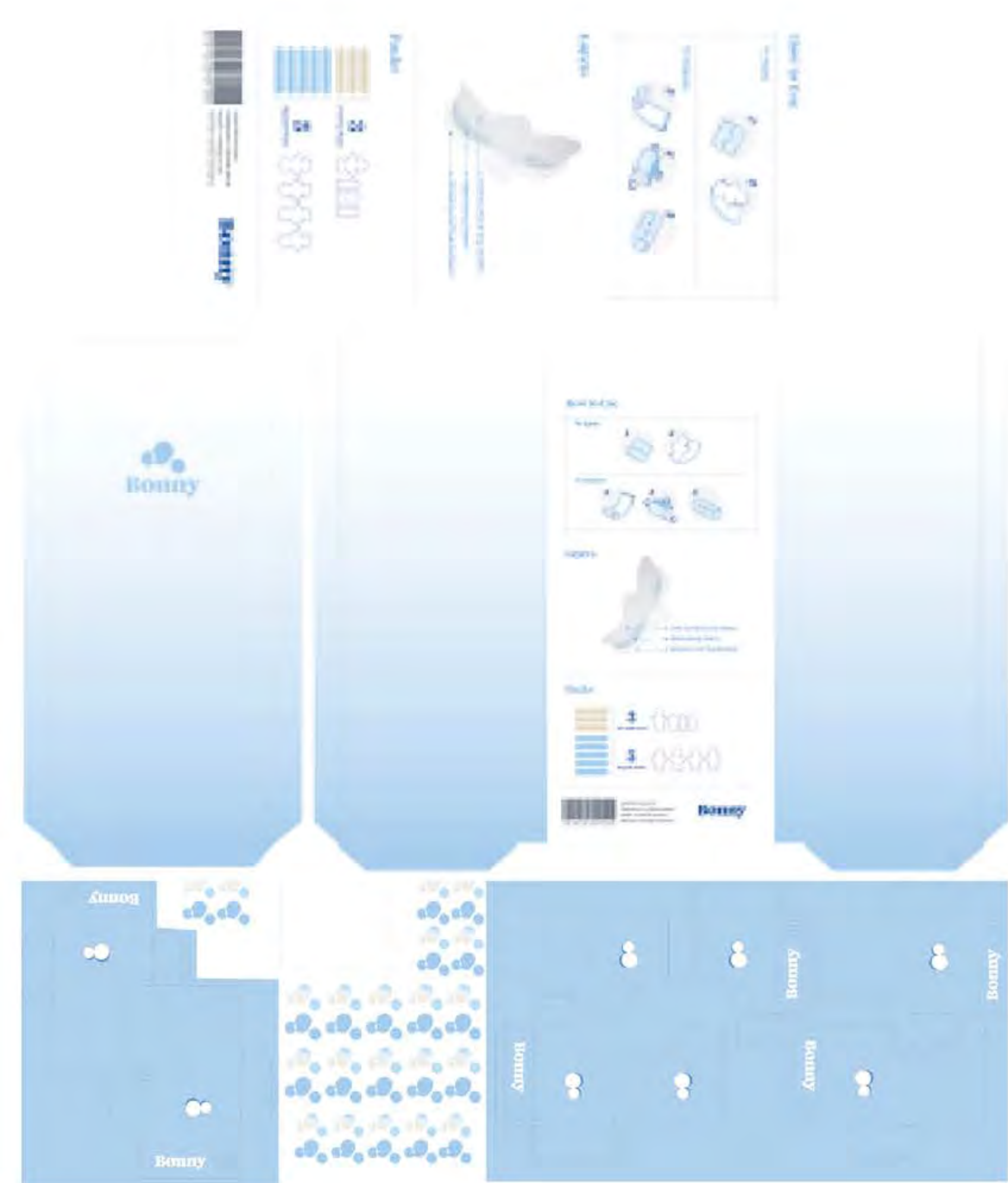
Public Workplace Seating Research

User research, UX Research

AUDREY JI

observational research

We studied how people sit, work, and relax in different environments, observing location, posture, behaviors, and seating preferences. Our findings show that while people adapt to various settings, comfort and posture vary significantly. This research informs the design of seating solutions that enhance ergonomics and support long study or work sessions in public spaces
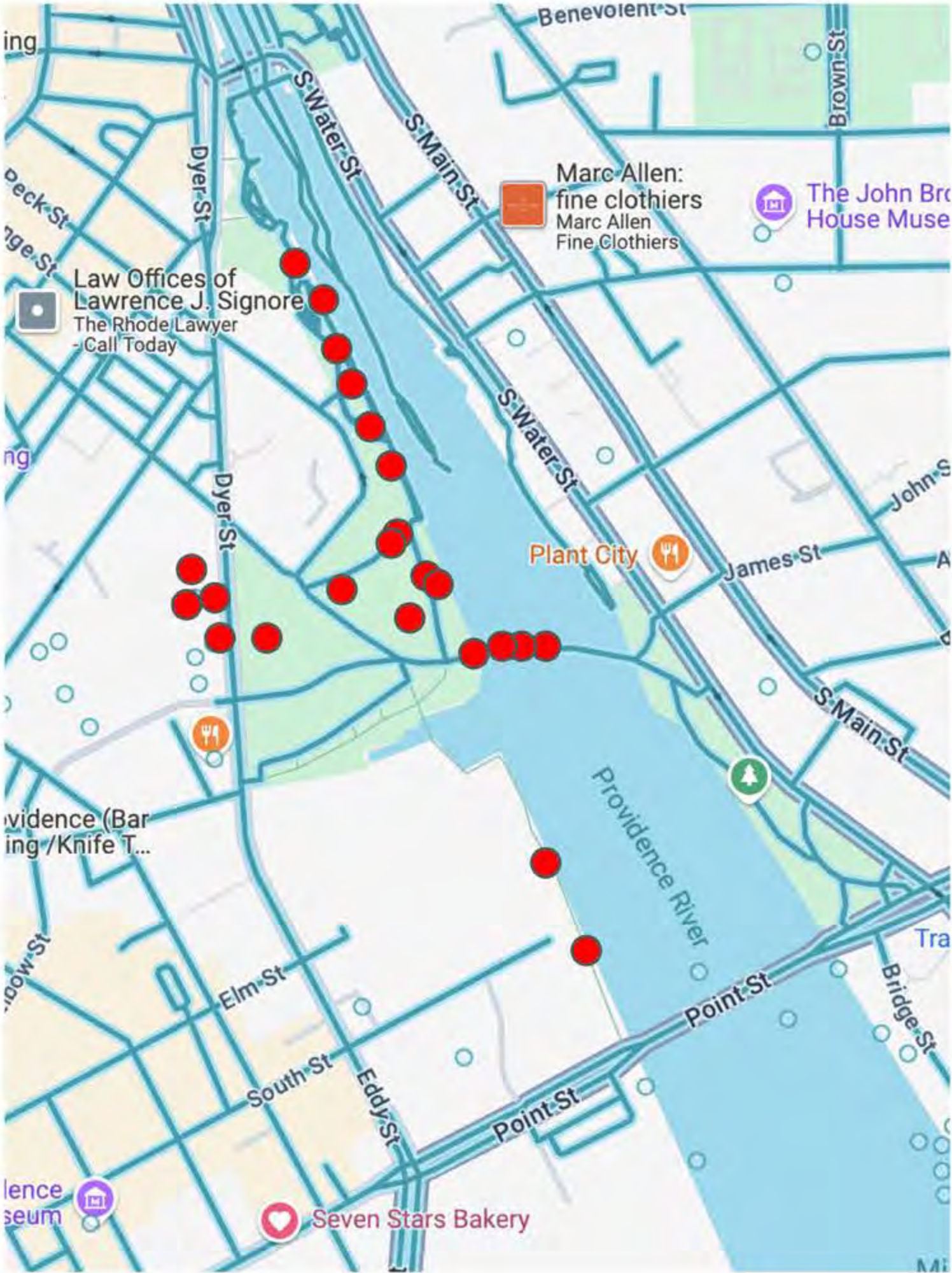
contextual inquiry

Building on our interest in public workspace seating, we conducted a contextual inquiry focused on library environments and work behaviors. We interviewed five individuals across various seating arrangements—solitary rooms, tables, couches, beanbags, and window seats—to understand their experiences. Key concerns included finding a suitable laptop workspace, proximity to power outlets, and an unexpected but recurring issue: table height. Participants also valued external environmental cues for focus, back support (though not always used), and the ability to shift foot placement. While seating habits were highly individual, all interviewees shared common considerations related to laptop use.

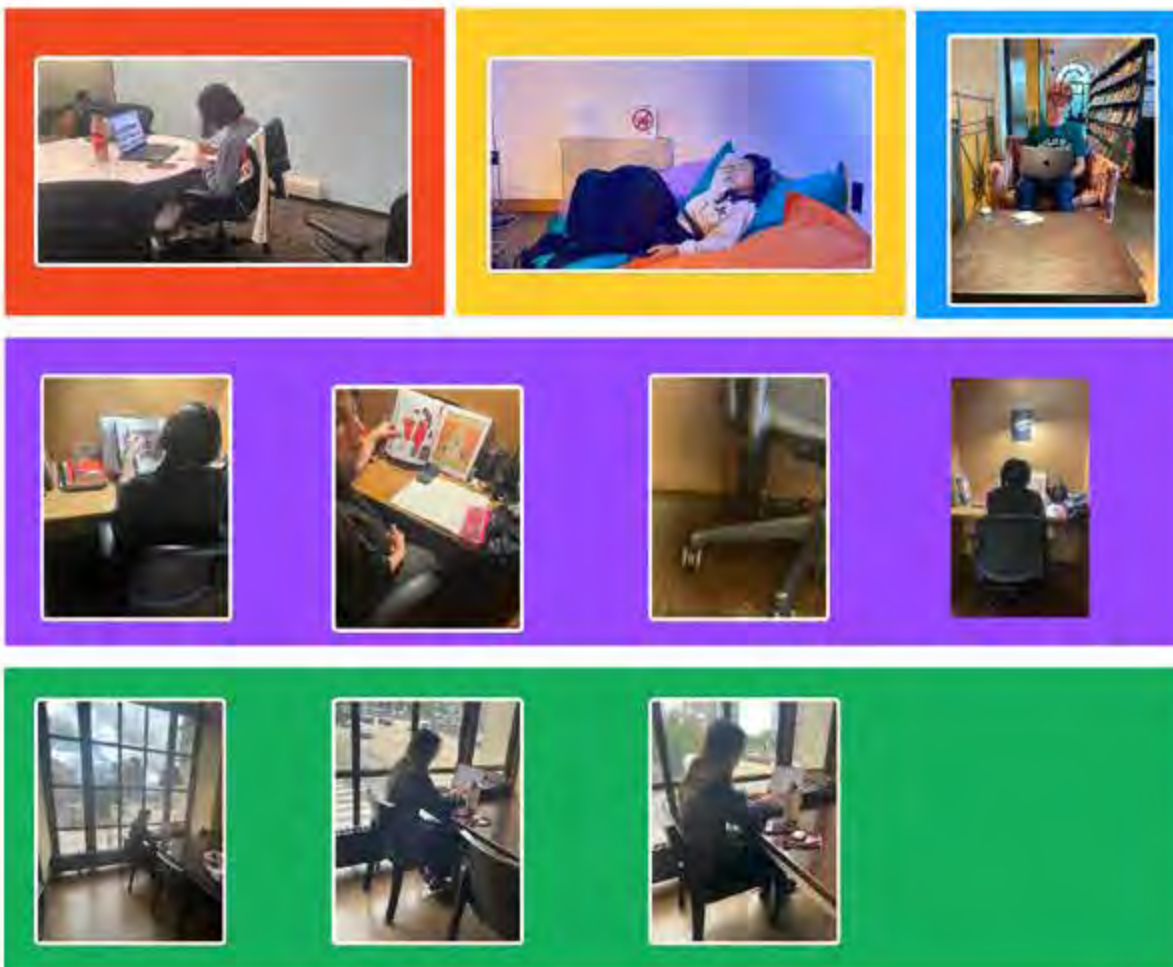| Name	Age	Year	Major	School	Location	Person
Ruchi	23	Graduate	Design Engineering	Brown University	Science Library- Study Room for 4	Person 1
Yadelis	21	Senior	Illustration	RISD	Fleet Library- Corner table facing wall, covered sides	Person 2
Sookyung	19	Freshman	Industrial Design	RISD.	Fleet Library-2nd Level, Window, table, corner of library	Person 3
Lucas	18	Freshman	Econ-Applied Mathematics	Brown University	Fleet Library- One seat-sofa chair, upperlevel, middle of fleet library	Person 4
Dian	18	Freshman	Illustration	RISD	Fleet Library- Room with Bean bags and Tv, under the 2nd level workspace.	Person 5

Stage	Choosing the workplace	Arrival/Entry	Occupying the Seat	Focusing	Break	Leaving
User Goal						
Behavior						
Thinking						
Needs						
Emotions						

Painpoint

- People will work outside of their homes because they need to be able to focus and keep away from distractions. The external () help people stay focused.
- When searching for a seat, most will chose to sit in a corner, where they can feel like they are by themselves but are in a space with other people. Most do not sit in central areas.
- The access to the changing socket
- Most need a seat that will allow them to use their laptops, needs to be convenient.
- None of the people interviewed sat the same way.
- Most still find seats that are comfortable to them or not distract them. Most prefer some form of back support for when they lean back or to keep them in a good posture. But surprisingly not many feel any physical pains after sitting and focusing for long periods of time.
- While seating too long, some of them will concern the manner of taking off/wearing on their shoes for a foot relax
- Most people don't consider eye breaks or quick breaks as breaks and often don't notice them. Some will take breaks , to help maintain longer periods of focus.
- People will leave after working for a long time; have other plans or have finished their work and no longer have a use for the space.

Opportunities (what we can do in our design)

Use flexible material, avoid using cushion	Easy to clean	Create seats that consider table height and allow for table space of laptops	Create seats that are versatile to fit different needs and uses, ways of sitting	Create seating environments that allow people to focus without feeling alone but also keep away from distraction.	Most people had their backs hunched at one point and prefer ways that naturally kept or encouraged good posture.	removable armrests.
add wheels or casters for easy movement within a study space.	include USB ports or wireless charging pads for devices.	add sensors detector to monitor posture and provide feedback.	storage: storing books, electronic devices...	transformations a chair that can transform into different forms such as a recliner or lounge chair	For group study: a chair that can rearranged for group study sessions.	

user research
"Buy a Feature" game, research technique

As part of our research on workplace seating, we played the 'Buy a Feature' game to identify key user preferences. After refining our list of 22 features, we tested it in class and then with 16 students in a common study space. Participants imagined their ideal chair for laptop work and writing, with access to charging emerging as the most valued feature. Using a Pareto chart, we found that the top 20% of essential features included back support, seat height adjustability, and optimal table height. This reinforced our key insight: comfort and ergonomics are crucial in public workspace seating.
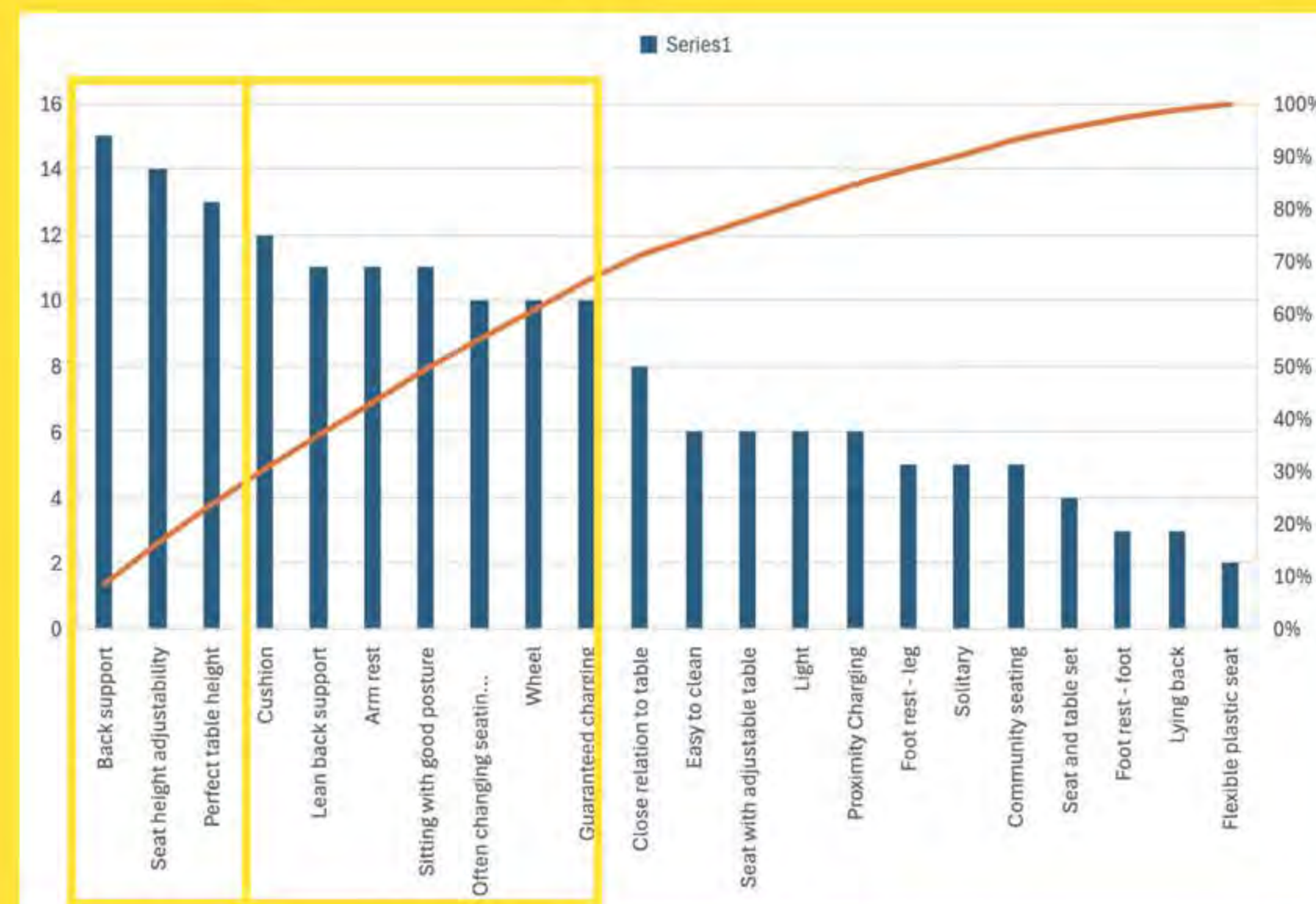

16 people, 22 features

Scenario:
Working on laptops and writing papers

Workspace seating features Pareto Chart

20% (80% importance):
- Back support
- Seat height adjustability
- Perfect height

research direction and development

Observing public seating, we identified two main goals: idleness or productivity. This led us to focus on designing comfortable seating for productive work, particularly in libraries where laptop use is key. Through the 'Buy a Feature' game, we refined our priorities, emphasizing features shaped by laptop usage. Kansei analysis further helped us assess their importance and emotional impact.

Goals

Observation:
Test out different public seating

Contextual Inquiry:
Observe and understand workplace seating choices

User Research:
Find the most important public workplace seating features

Results

Next steps

Moved our research towards public workplace seating

Moved our research towards seating for long term laptop use (studying)

Define determining factors of design

35

research findings debrief

Design a seating arrangement for public workspaces that promotes focus and productivity, reflecting students' connection to the shared environment.

Using Kansei Engineering, key qualities like quietness, productivity, and comfort were identified. Insights from the Buy a Feature game highlighted back support, seat height adjustability, and optimal table height as essential features. The final statement emphasizes designing seating that enhances focus, productivity, and connection to the shared environment as key necessities for any planing to design public workplace seating..

Kansei Engineering
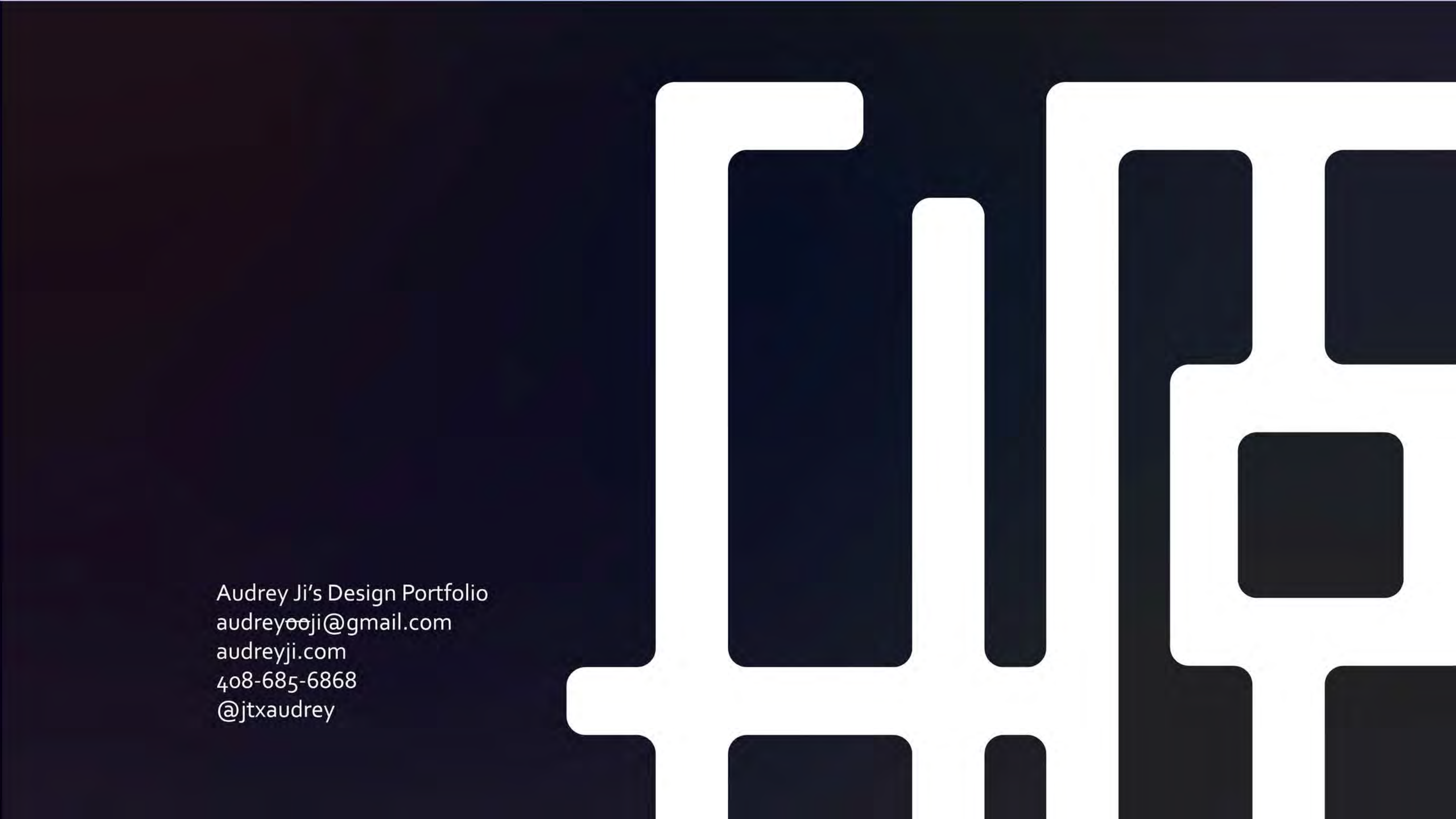Which existing chair has the most Kansei qualities that aligned with our proposed design focuses

Productive	Chill	Quiet	Lively	Solo	Collaborative
Common	Unique	Premium	Basic	Cozy	Spacious
Relaxing	Focusing/Wor king	Movement/C hange	Still	Upright	Lying Down
Adaptable/Ad justable	Rigid	Comfort	Discomfort	Simple	Complex

Top Kansei Qualities(1-8)
Quiet: 6.14
Productive: 5.86
Focusing: 5.57
Adaptable: 4.86
Premium: 4.57
Comfort: 4.29
Unique: 3.29
Movement: 3.14

Audrey Ji's Design Portfolio
audreyooji@gmail.com
audreyji.com
408-685-6868
@jtxaudrey