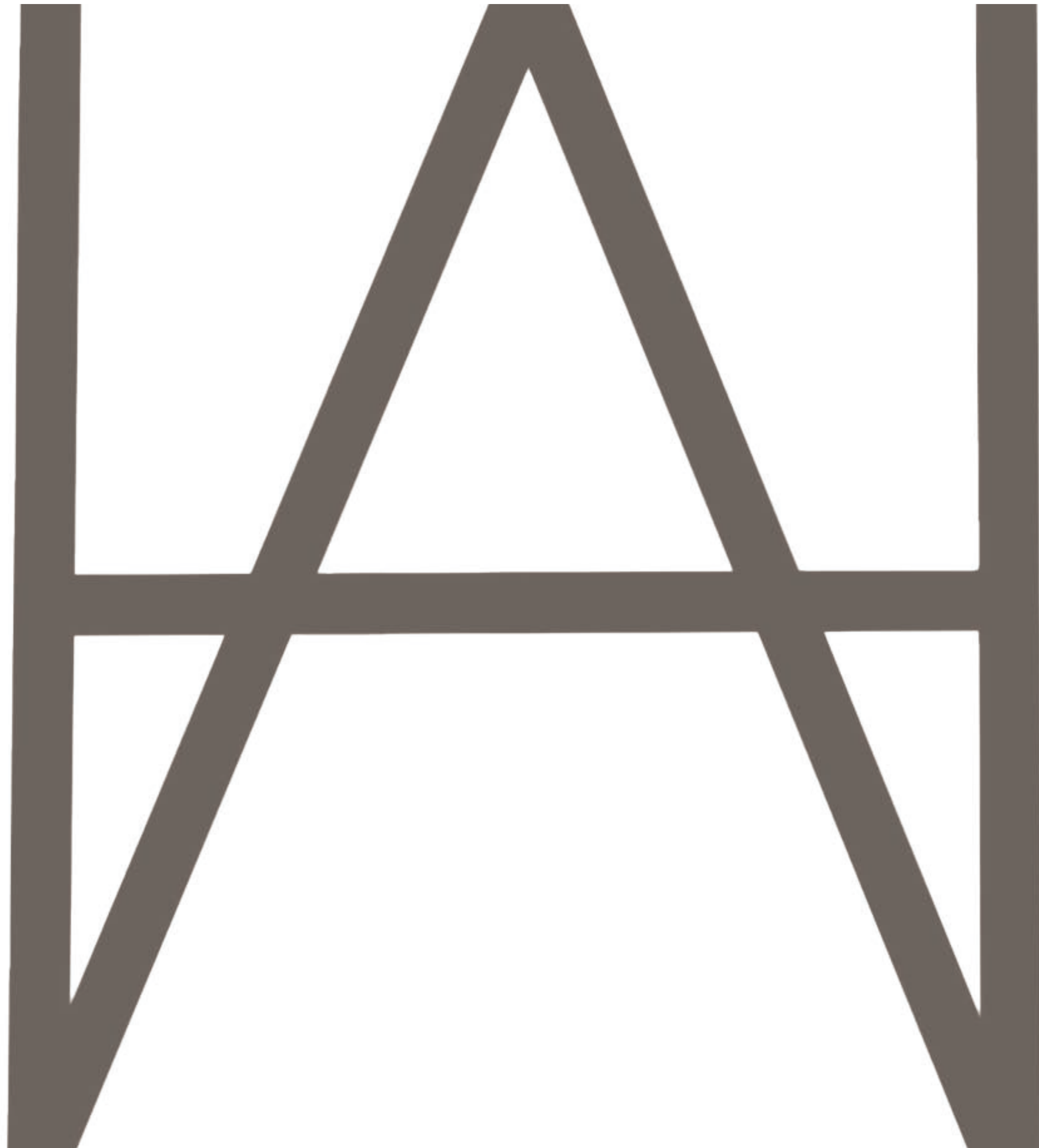




Yunhao Hua

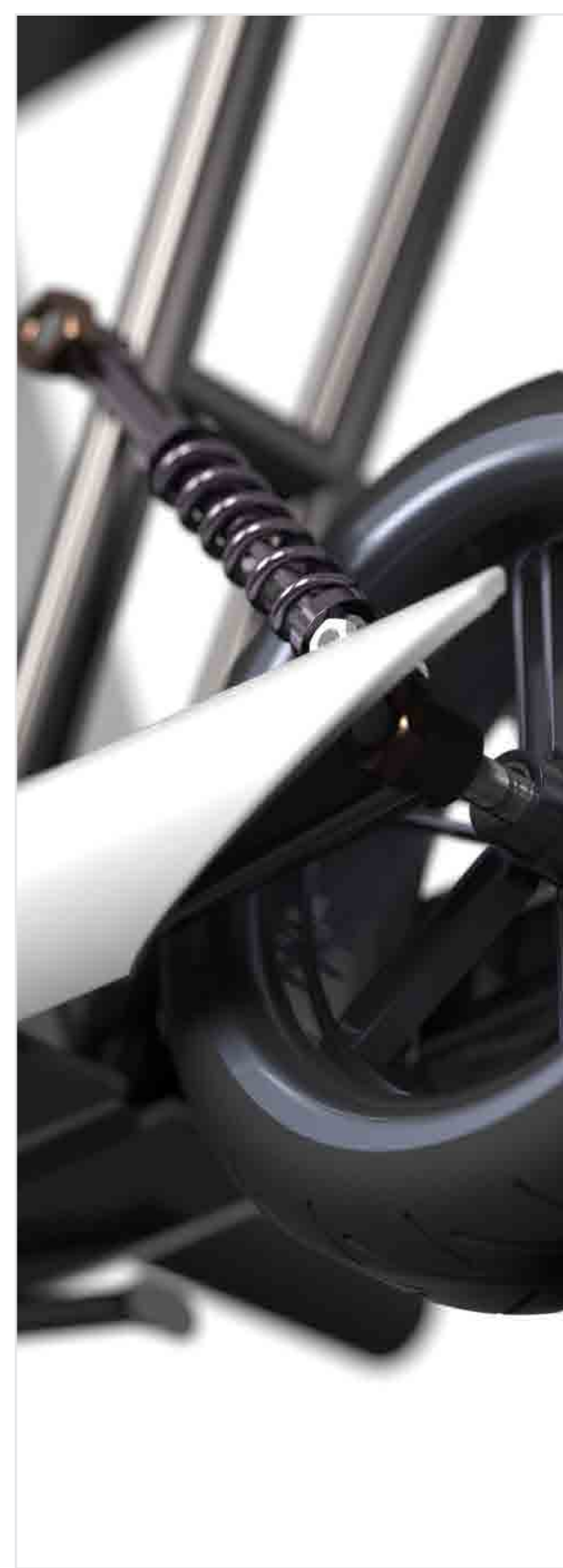
2025 Portfolio



T!ck
Aware of Seamless
Time



Yume
Sustainable Hotel
Bathroom Set



Aurora
Urban Mini-eBike



SHI
A Stone Calender



HydroSkate
Foldable Diving
Scooter with Safty
Alert System



T!CK

Aware of Seamless Time

Sedantary Lifestyle, Analog, Universal

T!ck is a wall-mounted time clock designed for individuals who work from home. It addresses the concern that remote workers often lead sedentary lifestyles, which can lead to serious, sometimes even fatal, health issues as they age. T!ck features a playful visual notification system that users can set as a reminder. The distinct 'tick' sound at the end of the notification period, effectively interrupts periods of intense focus, prompting users to take a necessary break and move around.



PROBLEM

Sedentary Lifestyle

The exact definition of a sedentary lifestyle is when someone spends six or more hours per day sitting or lying down, and they lack significant physical movement in their daily life.

<https://www.healthpartners.com/blog/health-risks-of-sedentary-lifestyle/#:~:text=What%20is%20a%20sedentary%20lifestyle,movement%20in%20their%20daily%20life.>

Cosquences of The Sedentary Lifestyle

Musculoskeletal Symptoms are caused by people who have sedentary lifestyle. Even worse, multiple articles indicate that lethal consequences might occure on these people in long tern. Say so, in short tern, the negative affects can hardly be ingored.

Surveys on Rates of musculoskeletal Symptoms for people with Sedentary Lifestyle

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5618737/>



53.5% Neck Pain



53.2% Lower Back Pain



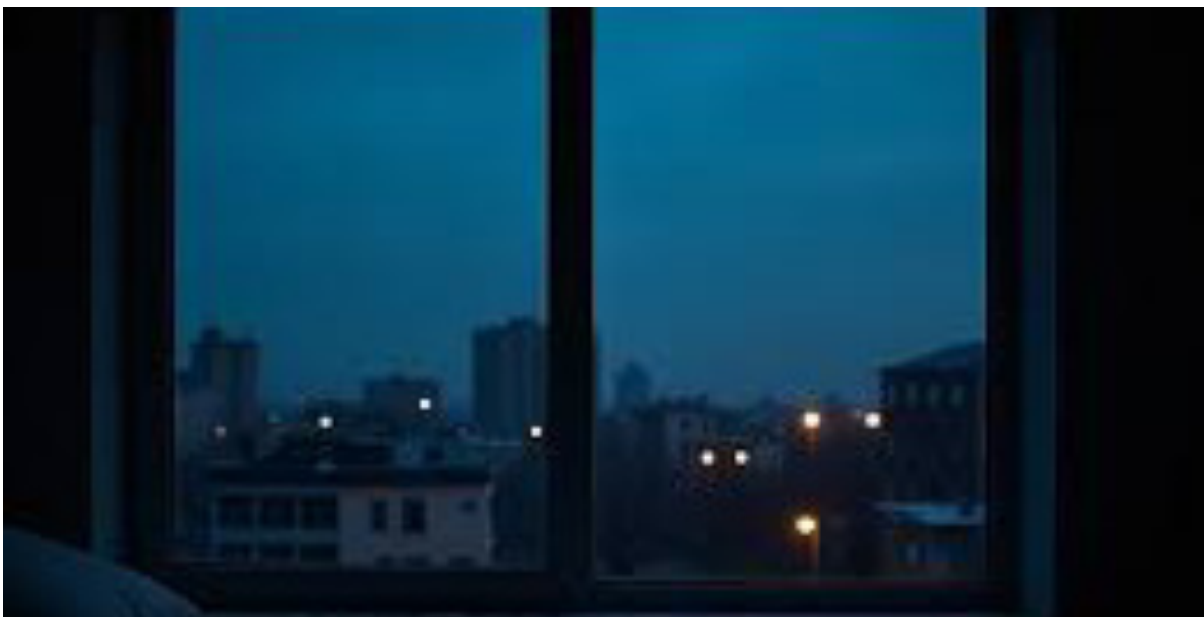
53.5% Neck Pain

WHY IT HAPPENS?

Learning from Observations

Sedentary lifestyle are raised by over focusing on a certain thing. Time becomes seamless to people, and the senses of time are becoming blur.

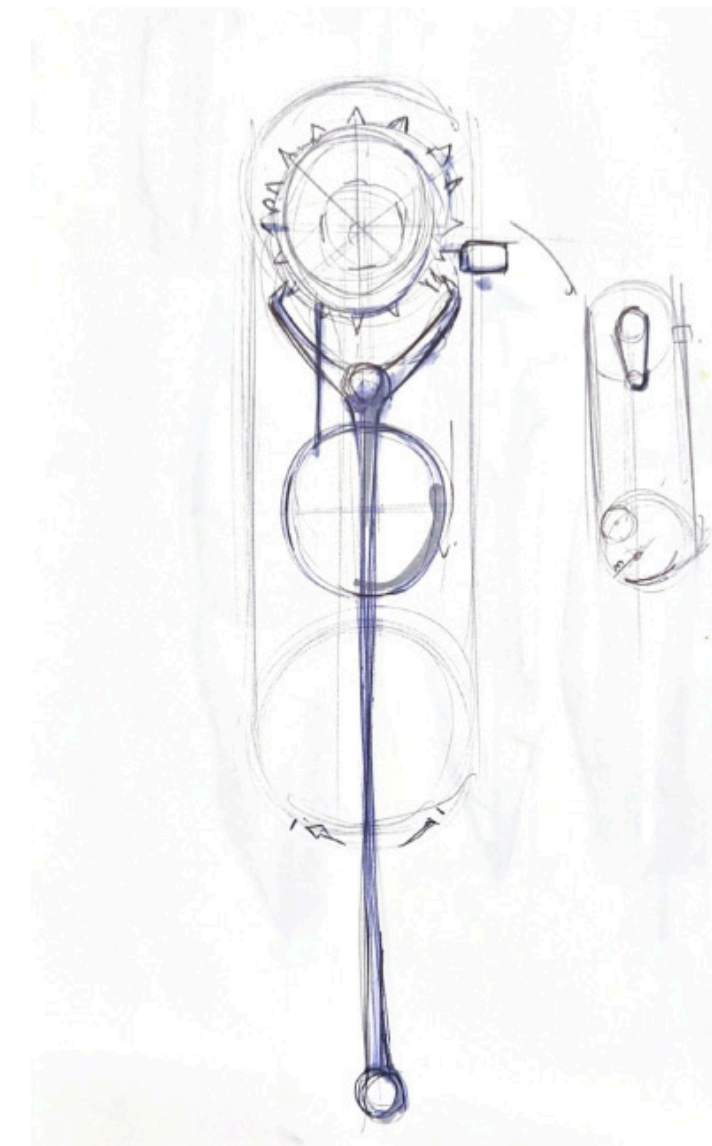
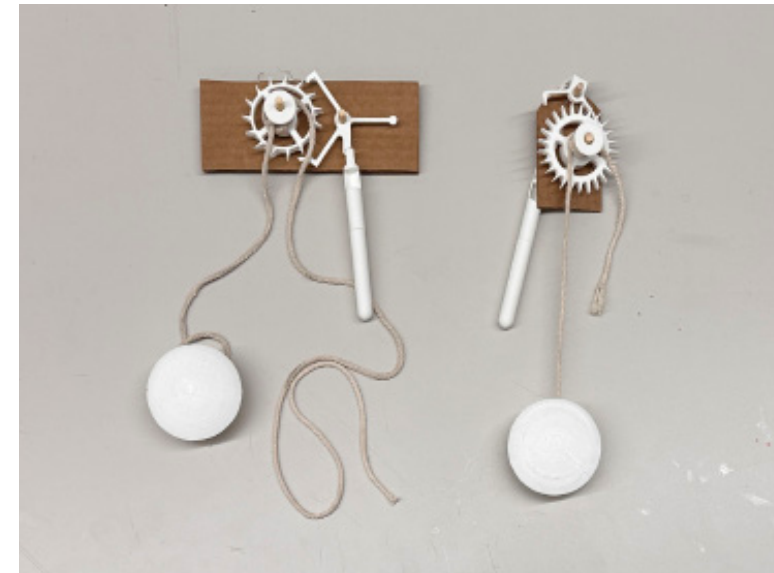
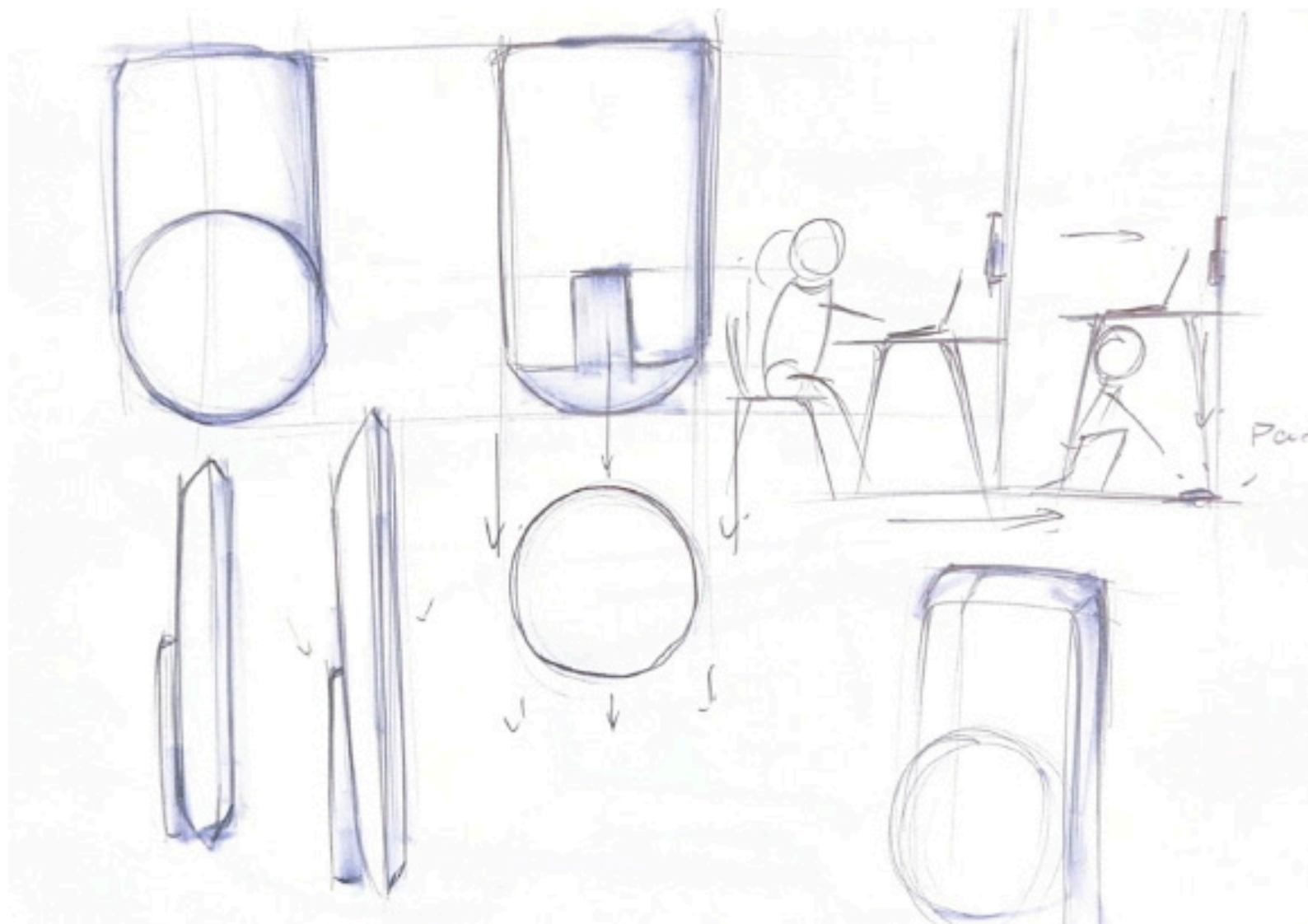
The experiences of seating in front of desk from the morning till night has been experienced by most of the people.



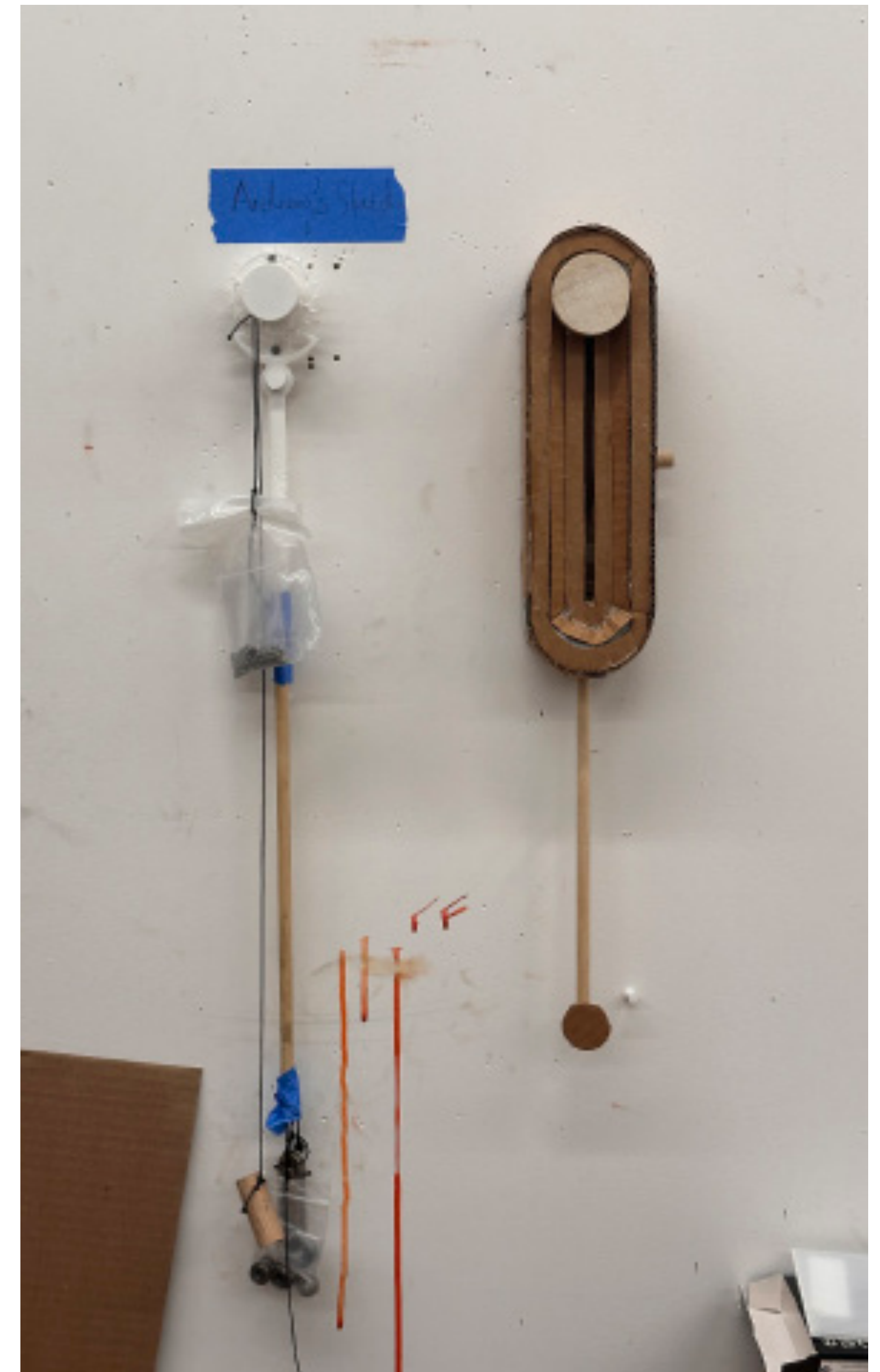
DESIGN PROCESSES

Design Target

A device can raise the awareness of movement of the time, but seamless at home.



Time is noted to the user by a moment breaking acted by T!ck.



FINAL DESIGN

Aesthetics

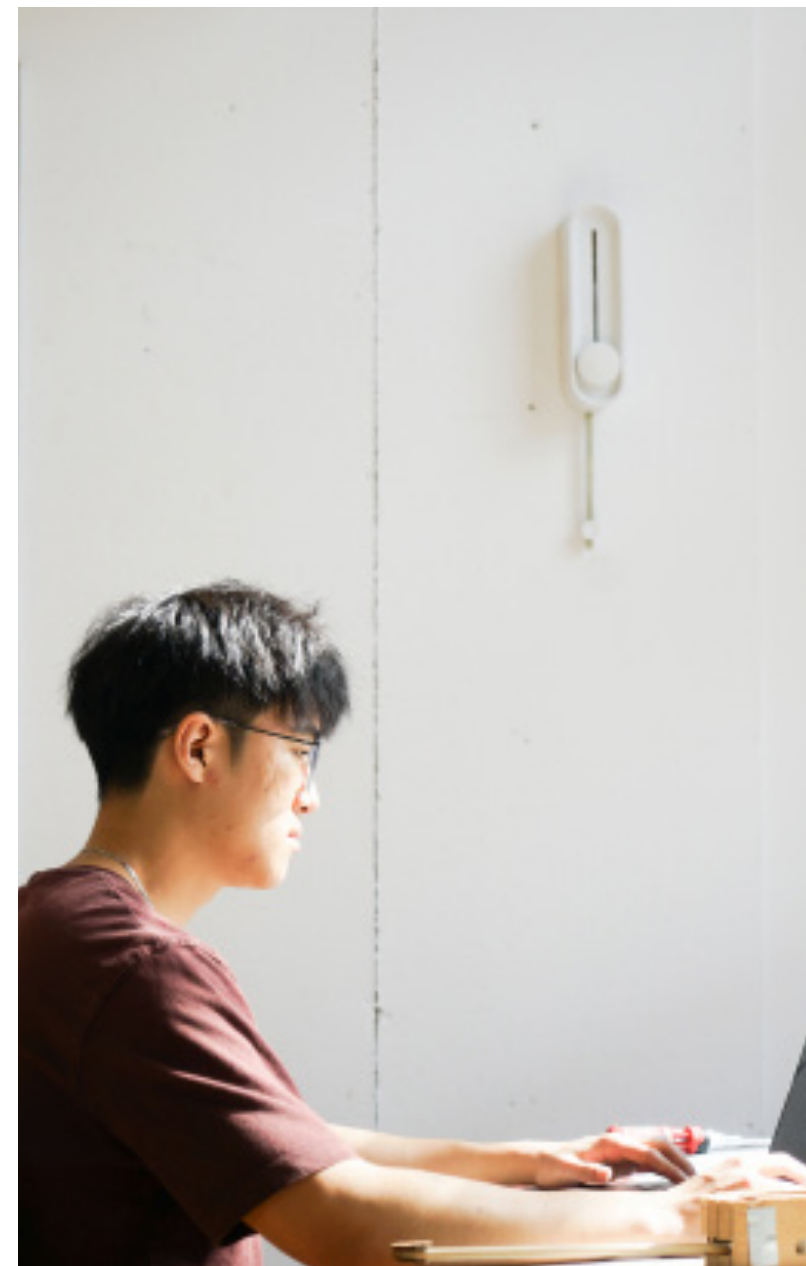
Tick will stay quiet, integrate into your home.



Also will be noticable when you need.

ANALOG SYSTEM

Time can be setted for 1~2 hours depends on the users. User will be noted to take a rest.



1. Working.



2. "TICK!", time is up.



3. Stop working and stand up to re-adjust T!ck.



4. Setup a new clock.



5. Take a break, then back to work.

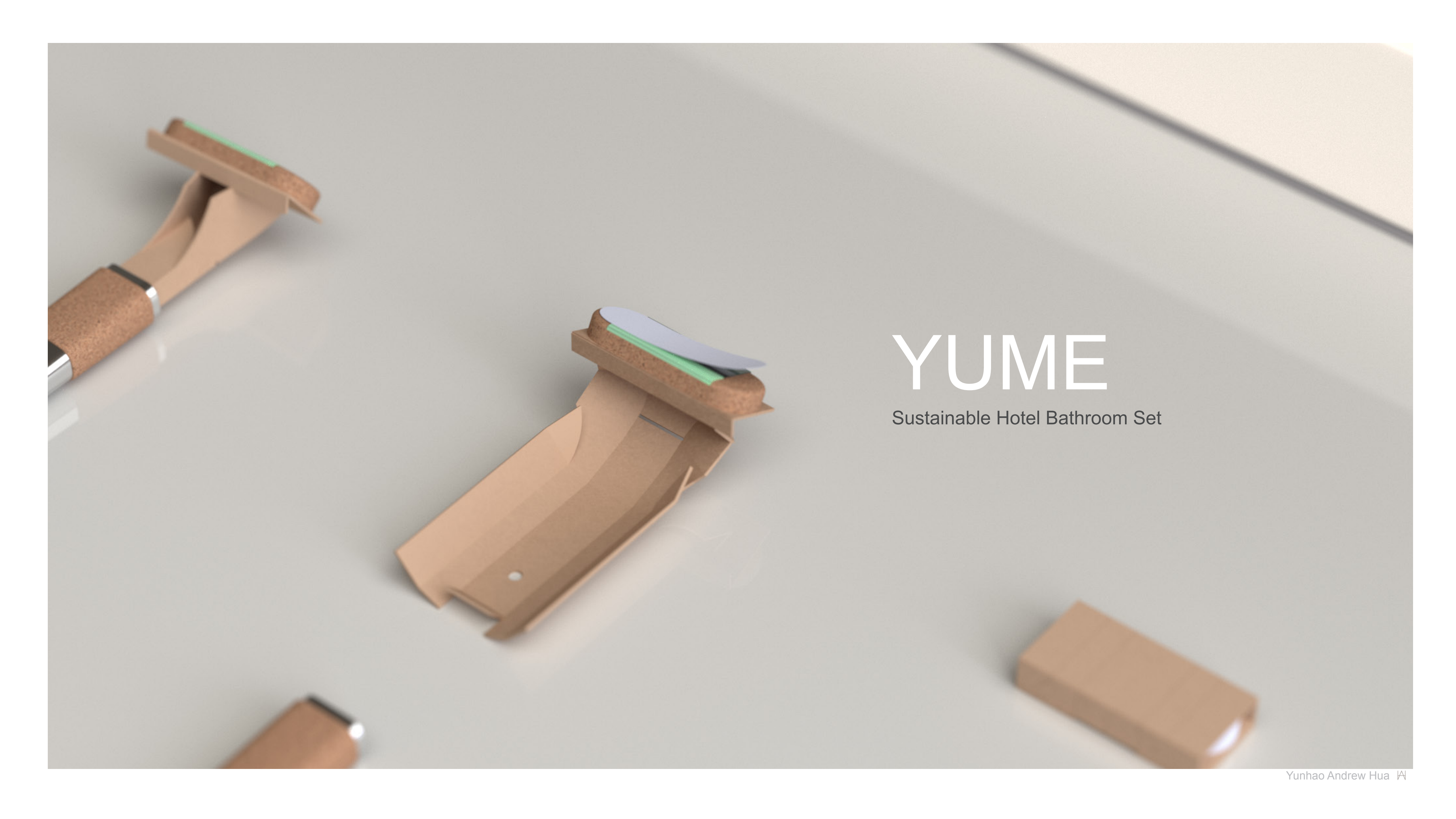
ANALOG SYSTEM

Mechanical Structure



T!ck is a heritage of the escapement analog escapement, for longevity considerations and the white noise created while people working.





YUME

Sustainable Hotel Bathroom Set



Sustainable, User-Friendly, Low-Cost

Yume is an eco-friendly razor and toothbrush kit thoughtfully designed for hotels, combining sustainability with high-quality functionality. It reduces hotel waste while maintaining affordability and an excellent user experience.

PROBLEM

Hotel Wastages

Disposable razors in hotels generate significant plastic waste as they are often unused by guests but must be discarded due to legal requirements, highlighting the need for sustainable alternatives.

93% unsustainable in the current hotel bathroom suppliments

Problem Caused by The Product

- Overcomplicated materials
- Not handy
- Seldomly recyclable
- Common materials: polypropyln, polystyrene, stainless steal



<https://www.channelnewsasia.com/singapore/plastic-environment-sustainable-business-hotel-hospitality-859776>

<https://www.epa.gov/circulareconomy/national-strategy-prevent-plastic-pollution>

PROBLEM

Current Scenarios



1. Check-in.



2. Bathroom kits are provided in the room.



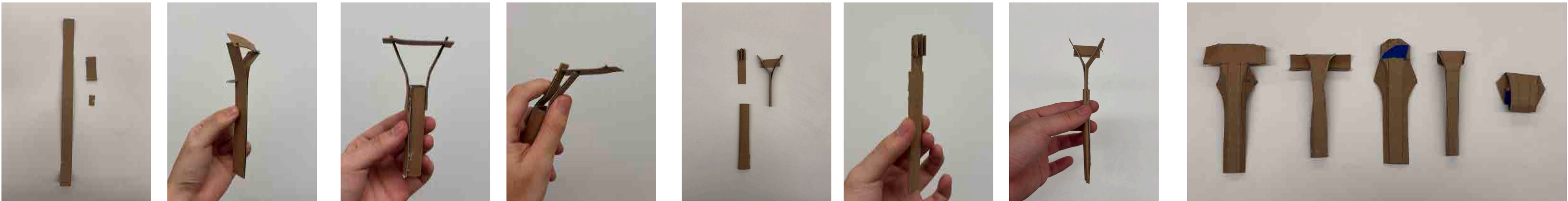
3. Check-out.



4. Throw away all the supplements, and 93% are not sustainable.

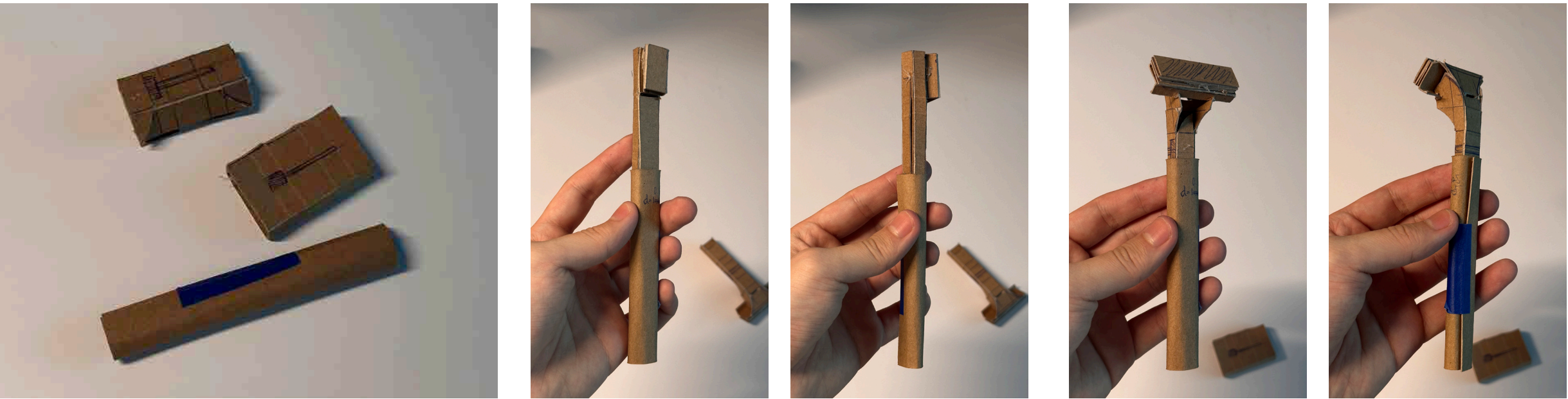
DESIGN PROCESSES

- Simplified Structure
- Changeable Parts



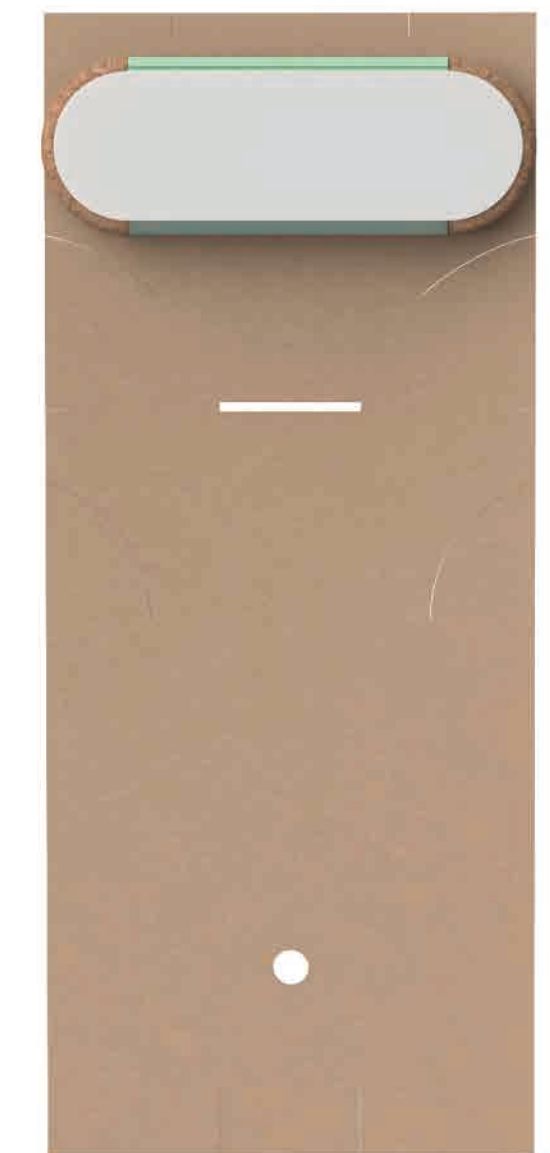
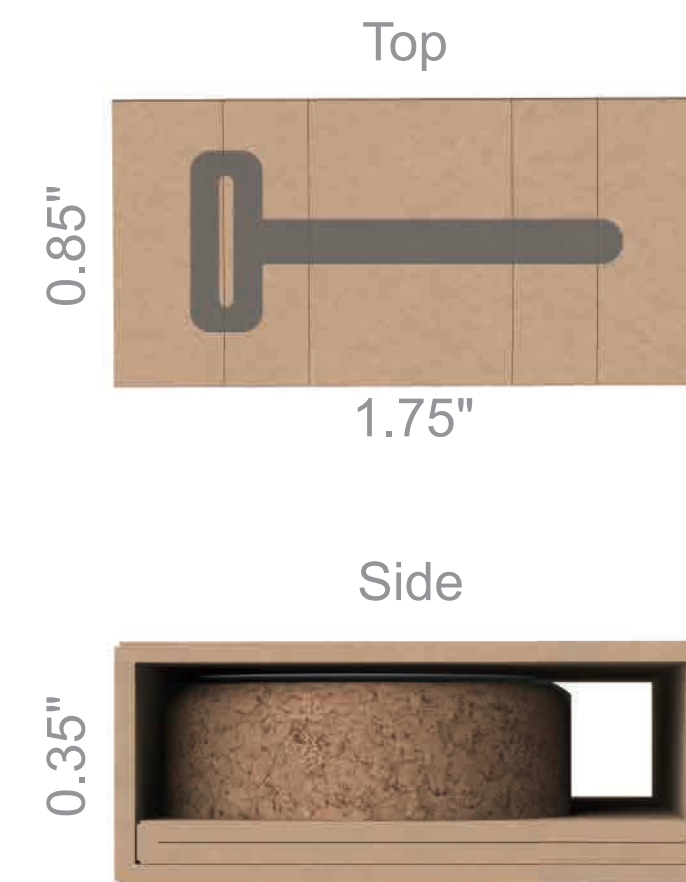
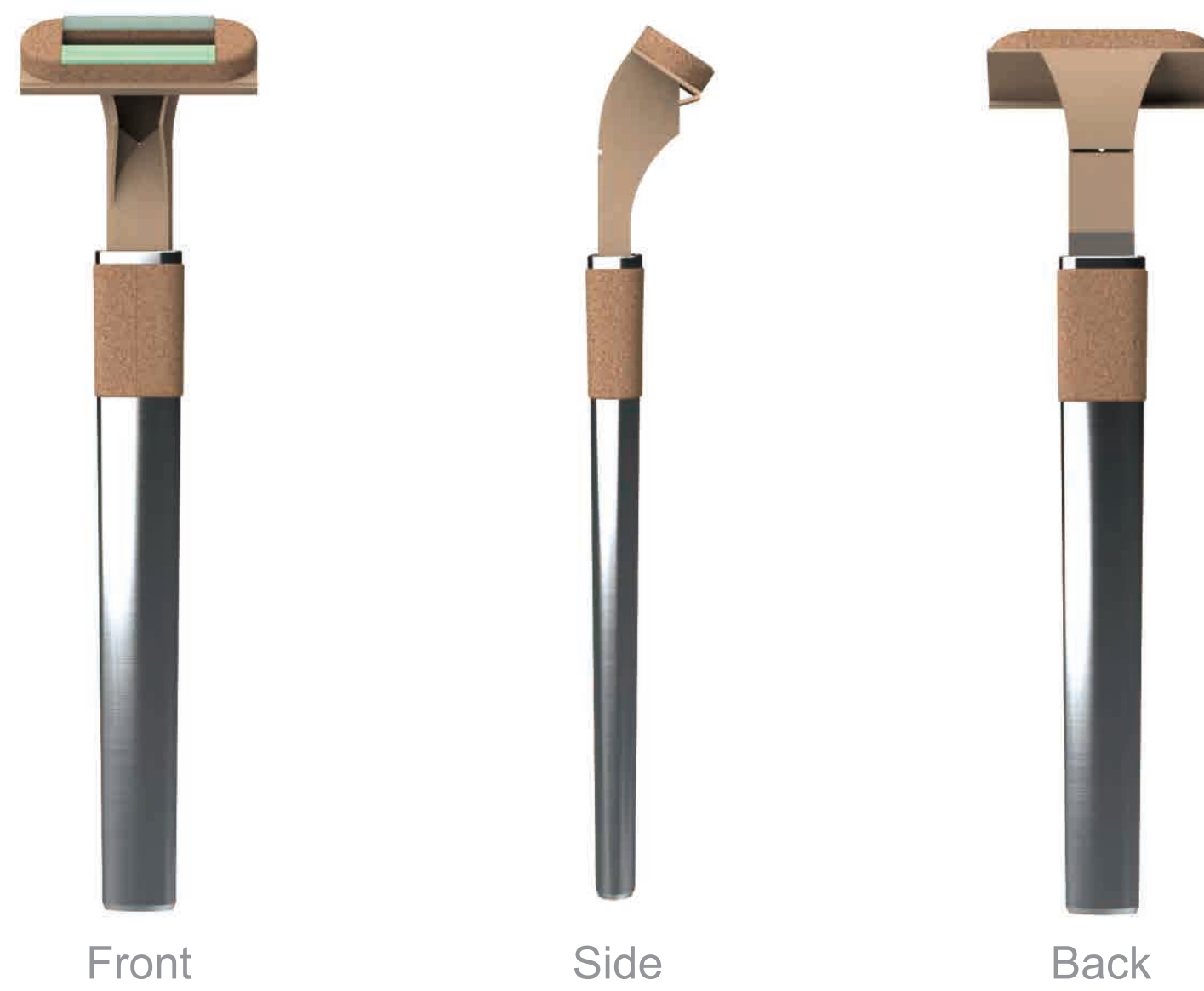
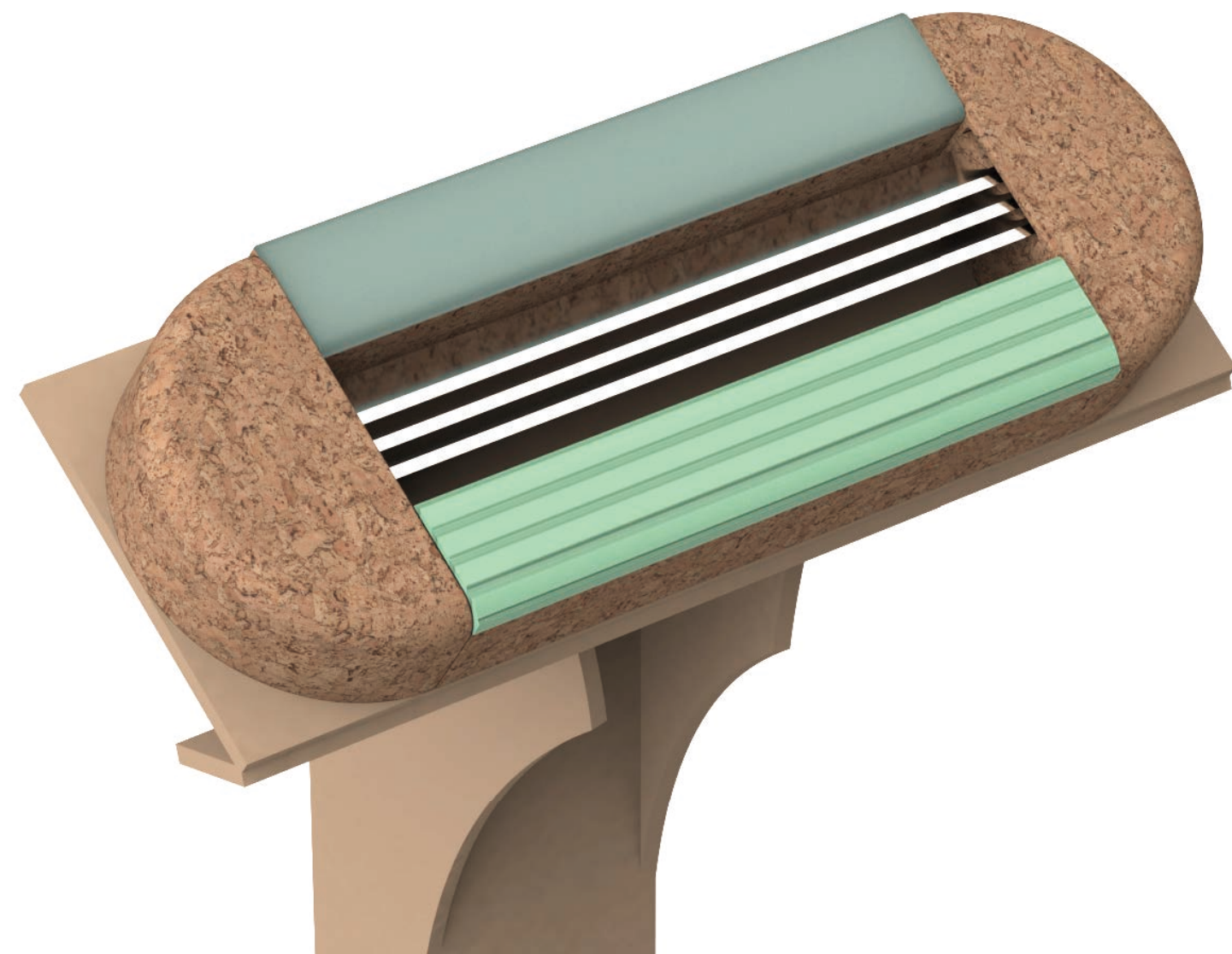
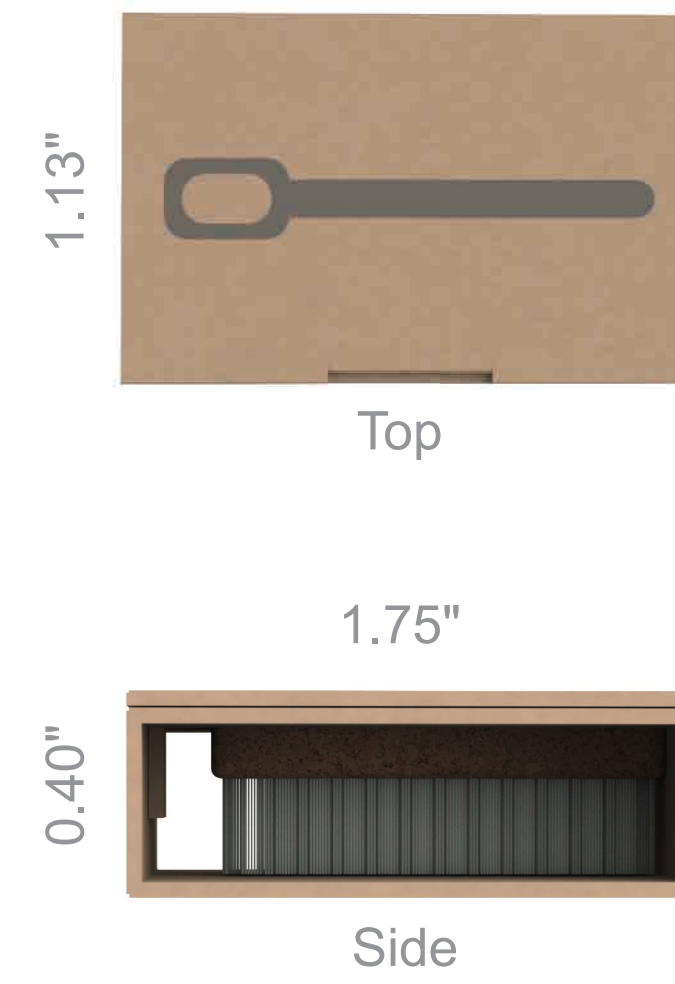
- Origami
- Sharing Handle

- Full Scale
- Finalize Structure
- Ergonomics



Design Target

A sustainable hotel razor and toothbrush kit made with eco-friendly materials and compostable packaging to reduce waste and environmental impact.



FINAL SCENARIO



1. Check-in.



2. Bathroom kits are provided in the room.



3. Assemble before using.



4. Check-out



5. Room service will clean the handle



6. Room service will throw away the head, which is 98% recyclable

Rather than changing the behavior, Yume maintain the behavior, but make the processes sustainable.

MATERIALS

Life Cycle Aessment (LCA)

90% Recycleable
100% Reusable

Stainless Steel

100% Recycleable
75% Reusable

High-Condensed
Cork

Yume is 98% Recycleable

95% Recycleable
0% Reusable

Waterproofed
Cardboard

100% Recycleable
75% Reusable

Aluminum



<https://www.amorimcork.com/en/sustainability/recycling/>
<https://europemc.org/article/MED/28773516>
<https://bioresources.cnr.ncsu.edu/resources/improving-recycling-of-polyethylene-coated-paperboard-with-a-nanofibrillated-cellulose-layer>
<https://europemc.org/article/MED/28773516>
World Steel Association. "Life Cycle Inventory (LCI) Study."
<https://international-aluminium.org/landing/75-of-all-aluminium-ever-produced-is-still-in-use-today/>



The head is the package.

1. Unwrapped 2. Folded 3. Remove Paper film



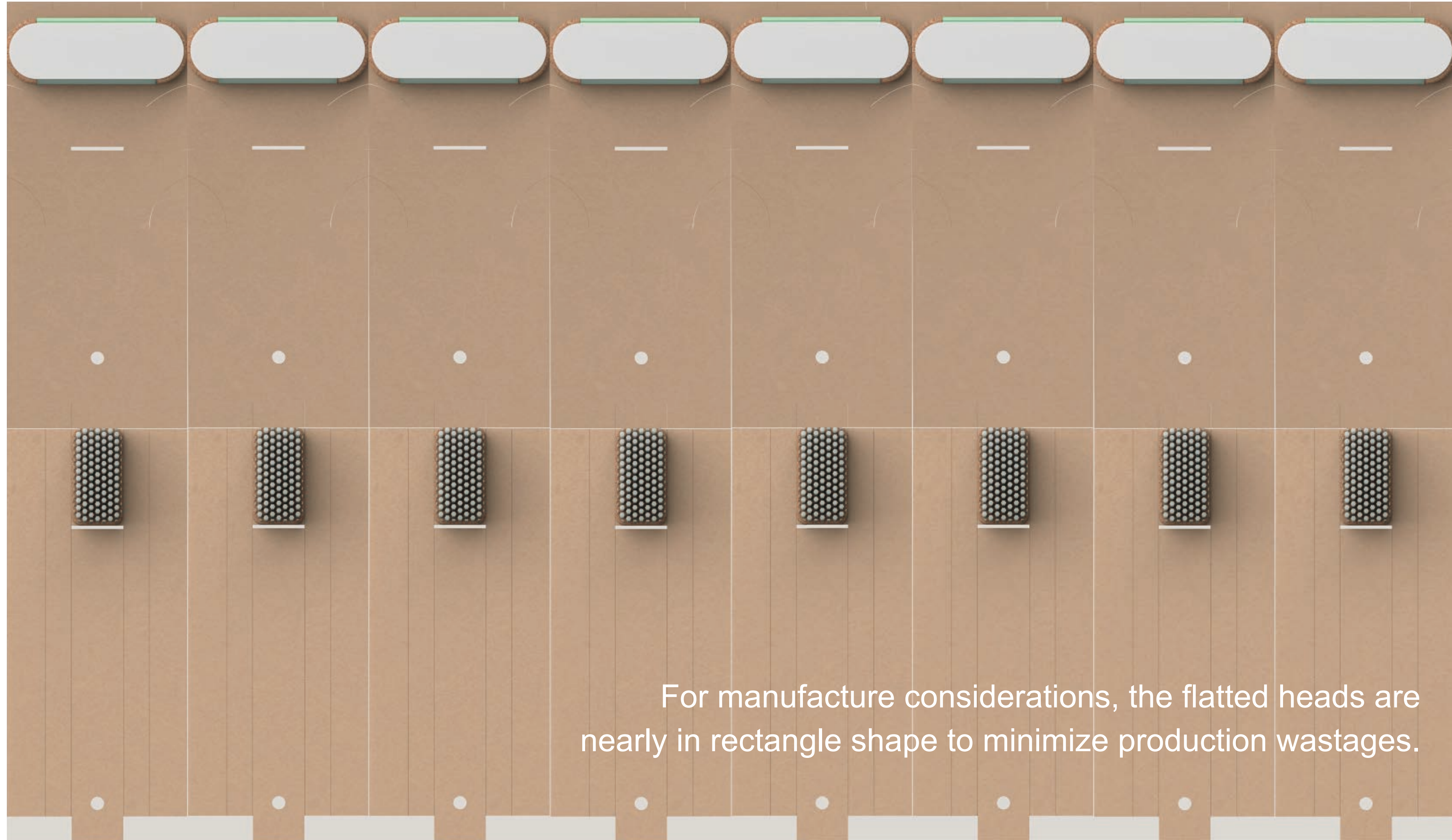
The head is the package.

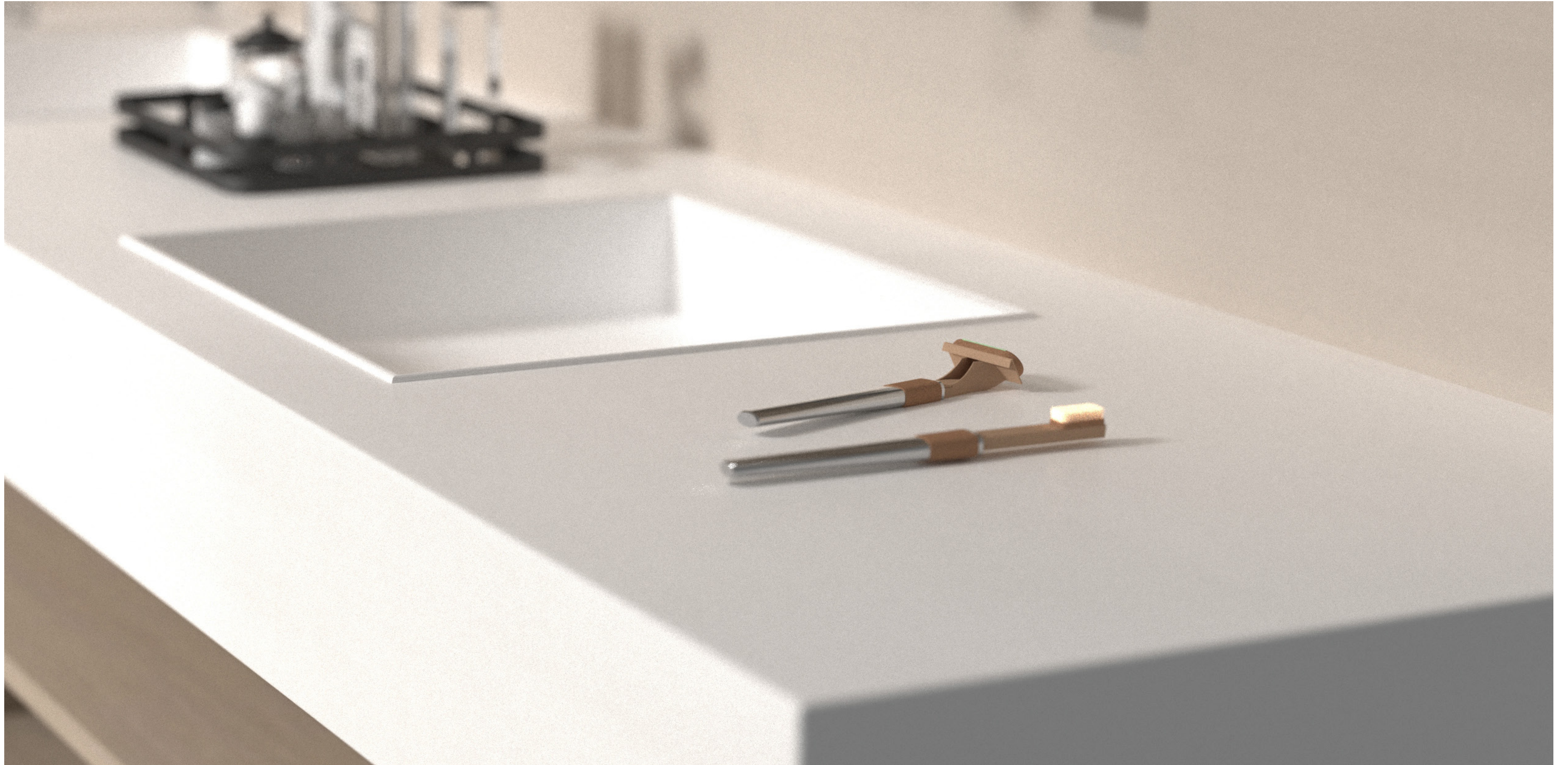
ERGONOMIC

Users are more keen to hold on the neck part of the razor



Users are more keen to hold on the tail part of the toothbrush







AURORA

Urban Mini-eBike



Compact, Safty, Urban

An affordable mini scooter designed for daily middle-class workers who live in a tiny apartment with parking issues, and needs of daily traffic to work and go home. The E-scooter is designed for urban areas and is suitable for at least 10 miles daily traveling. It has foldable components, the steering bar, which makes the design even smaller. The tiny body makes Aurora easier to travel in urban rush hour traffic and can be easily stored under the desks, tables, and so on.

PROBLEM

Intermodal designs become popular in urban area for their convinence, light traveling. At meantime, problems are accompanied.

Bike Theft

During daily observations, numerous bicycle frames remain locked on New York streets while their other components are frequently stolen. This causes significant hardships for local residents, often forcing them to bring their bikes home or resort to multiple sturdy locks for safeguarding their bicycles or electric scooters.

<https://www.nyc.gov/site/nypd/stats/crime-statistics/crime-statistics-landing.page>



Small Apartment in Urban Areas

So many people choose to take their bike and scooter home, but most apartments are too crowded to fit these intermodal mobilities.

PROBLEM

User Interviews

Interview Summary

"I usually use scooters to travel from home to school or to office."

"I usually ride for 3-4 miles per round."

"But I can't ride these scooters during rainy days."

"The road sometimes become so bumpy and even muddy to ride on. I feel unsafe"

"I have considered to buy a bike which is safer, but they are too heavy for me to be carried to my apartment. "

"Plus scooters are cheaper than these e-bikes."

"It will be nice if there are more storage spaces on the scooters. "

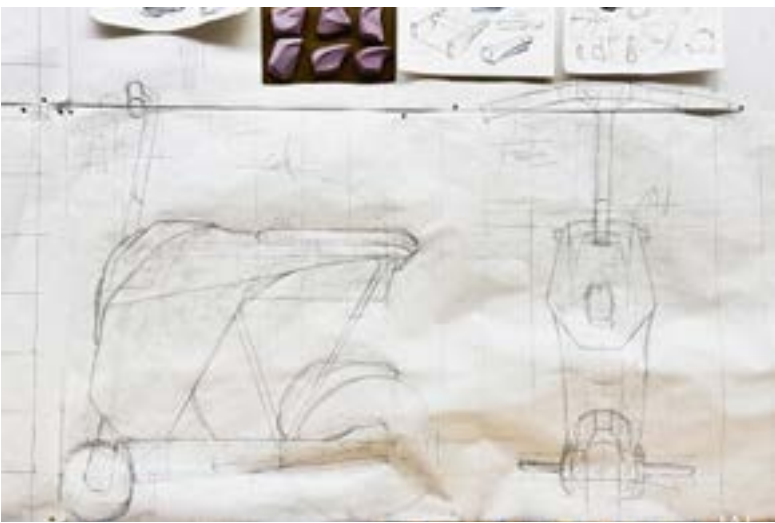
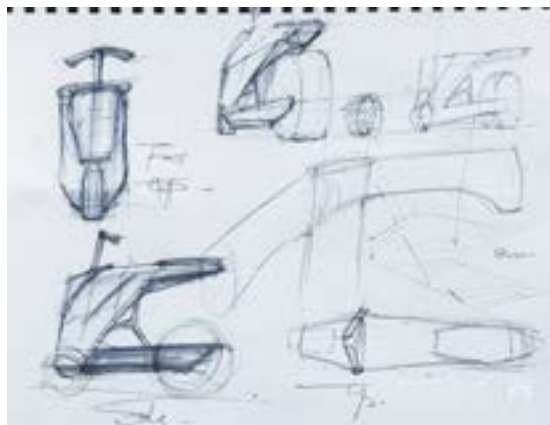
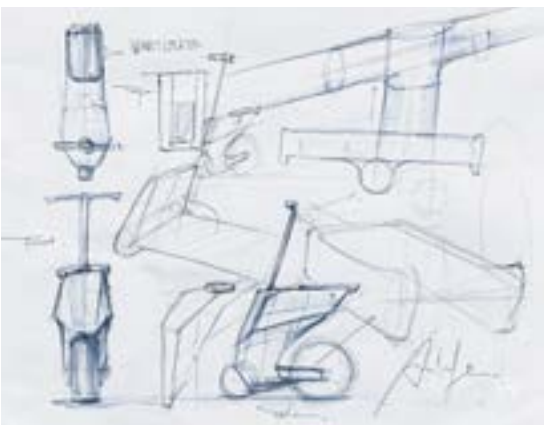
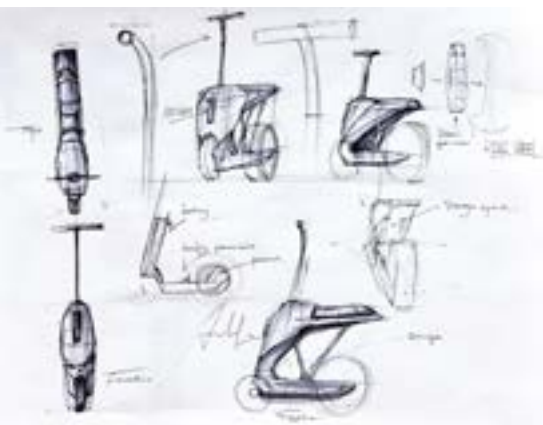


DESIGN PROCESSES

Design Target

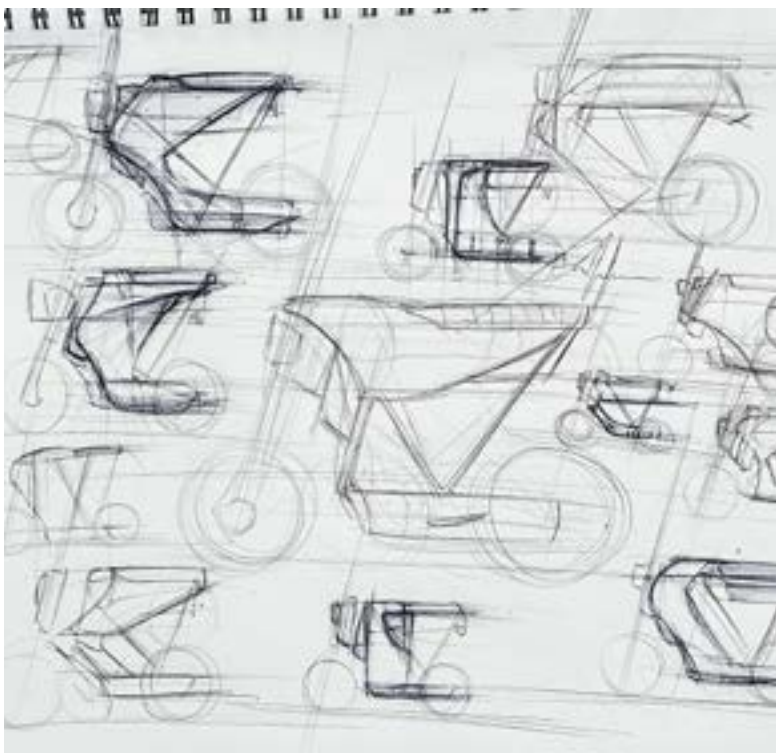
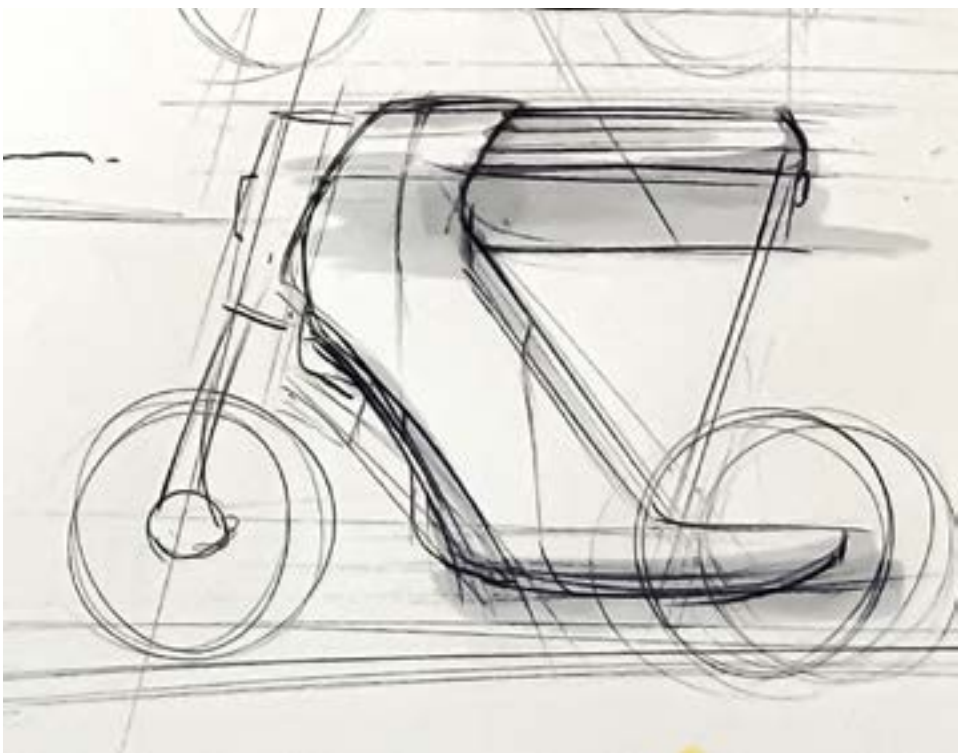
A compact urban mobility that is compact and light enough to fit in a small apartment, while maintaining the safe travelling experiences

- Simplified Structure
- Compacted Design



- Full Scaled Model
- Aesthetics
- Frame Mechanical
- Prosthetics Design

- Refined Aesthetics





FINAL DESIGN

FINAL DESIGN

Aesthetics

Aurora is crafted for seamless urban daily intermodal transportation. Its design language emphasizes simplicity while preserving the joy of riding.

• Front Suspension

• On Wheel Motor



• Tail Light



• Rear Suspension

• Dial Screen



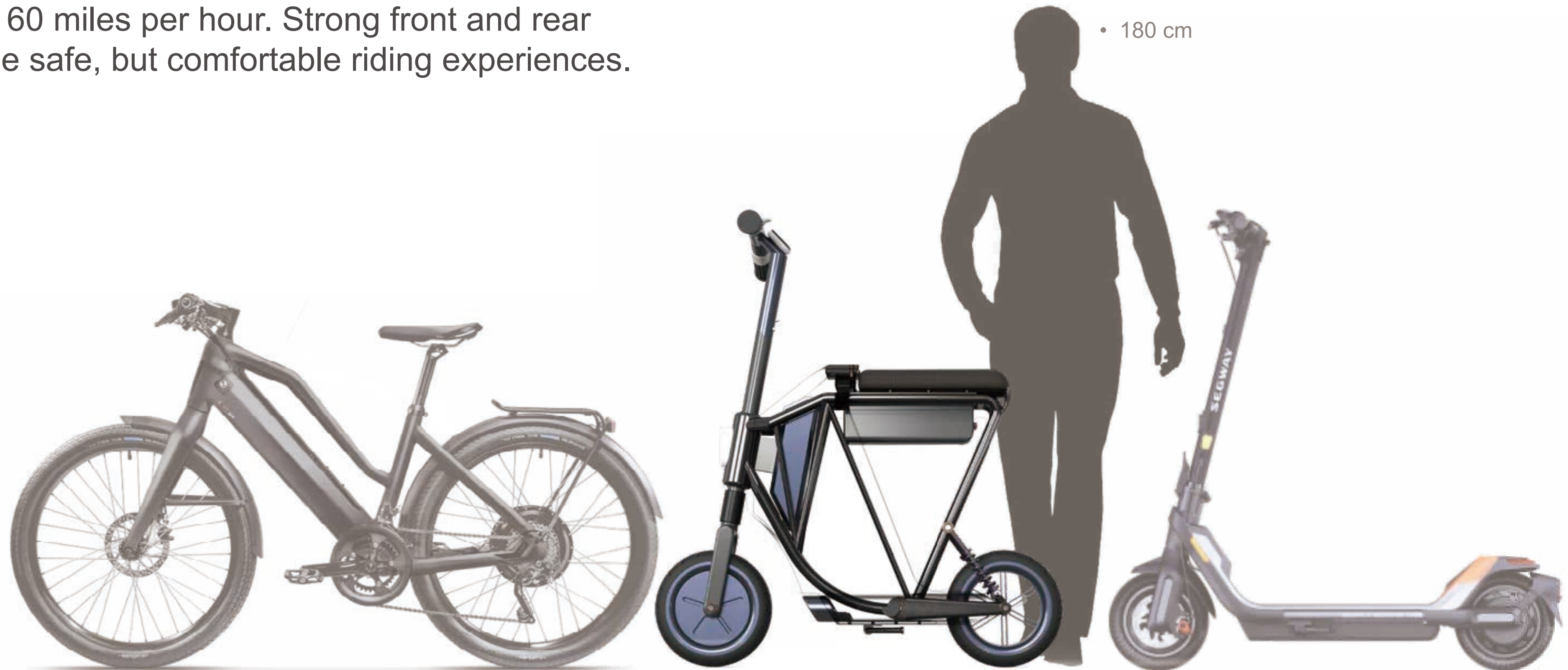
• Storage Space

• Battery

FINAL DESIGN

Compact & Light-Weight

Aurora is built with light weight consideration that makes Aurora can be lifted by only one person. The concept started from the frame which is simplified but protect the body rigidity under the maximum speed of 60 miles per hour. Strong front and rear suspensions provide safe, but comfortable riding experiences.



FOLDABILITY

Foldable Steering Bar



The folding mechanics are designed to achieve the folded mode with easy folding, intuitive, durability, and aesthetics.

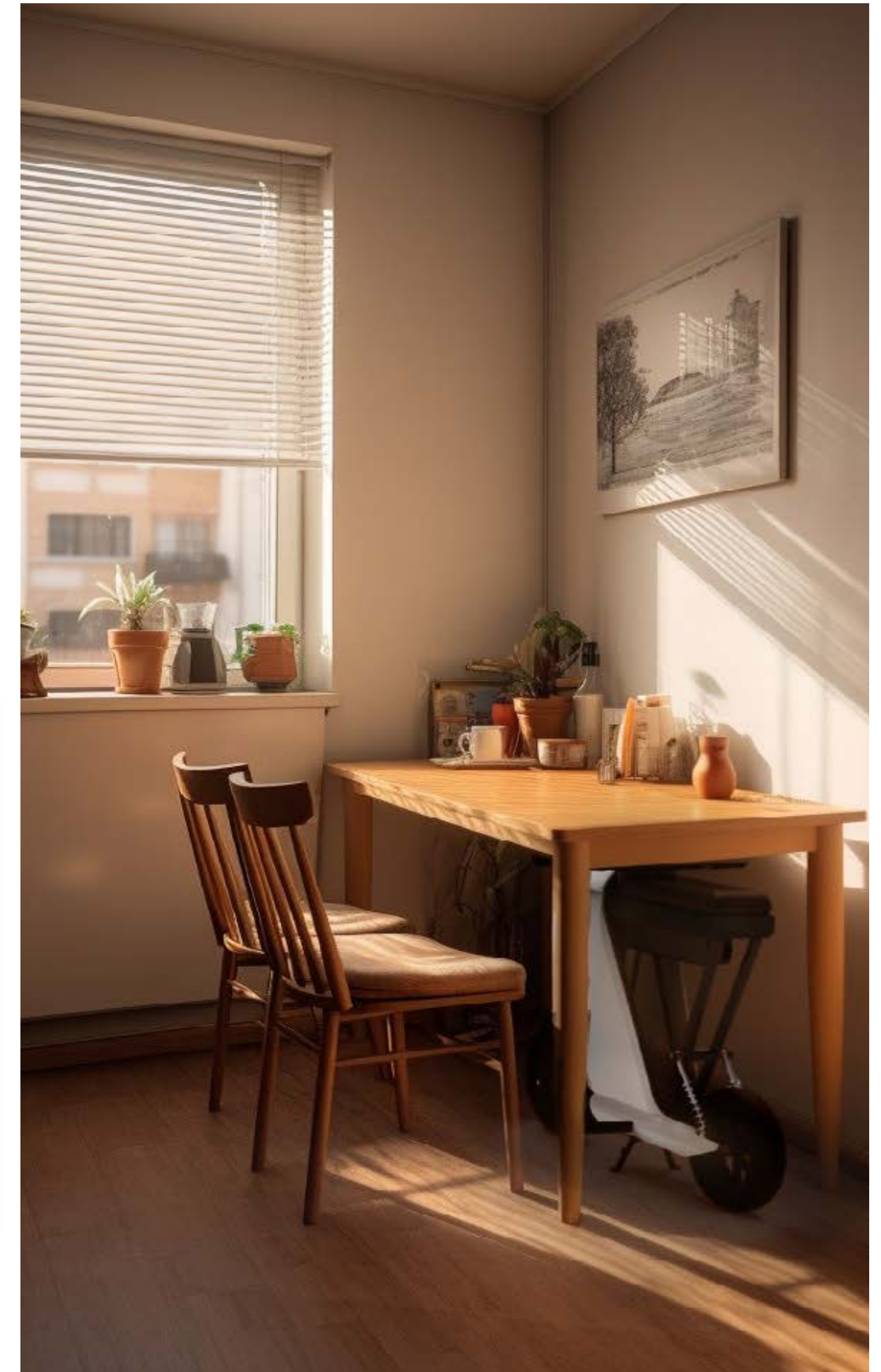


FOLDABILITY

Aurora Lives with You

The folding system can help user easily fold the steering in order to further squeeze the volume by one hand. It also comes with auto-lock system which would not make negative affects during steering.

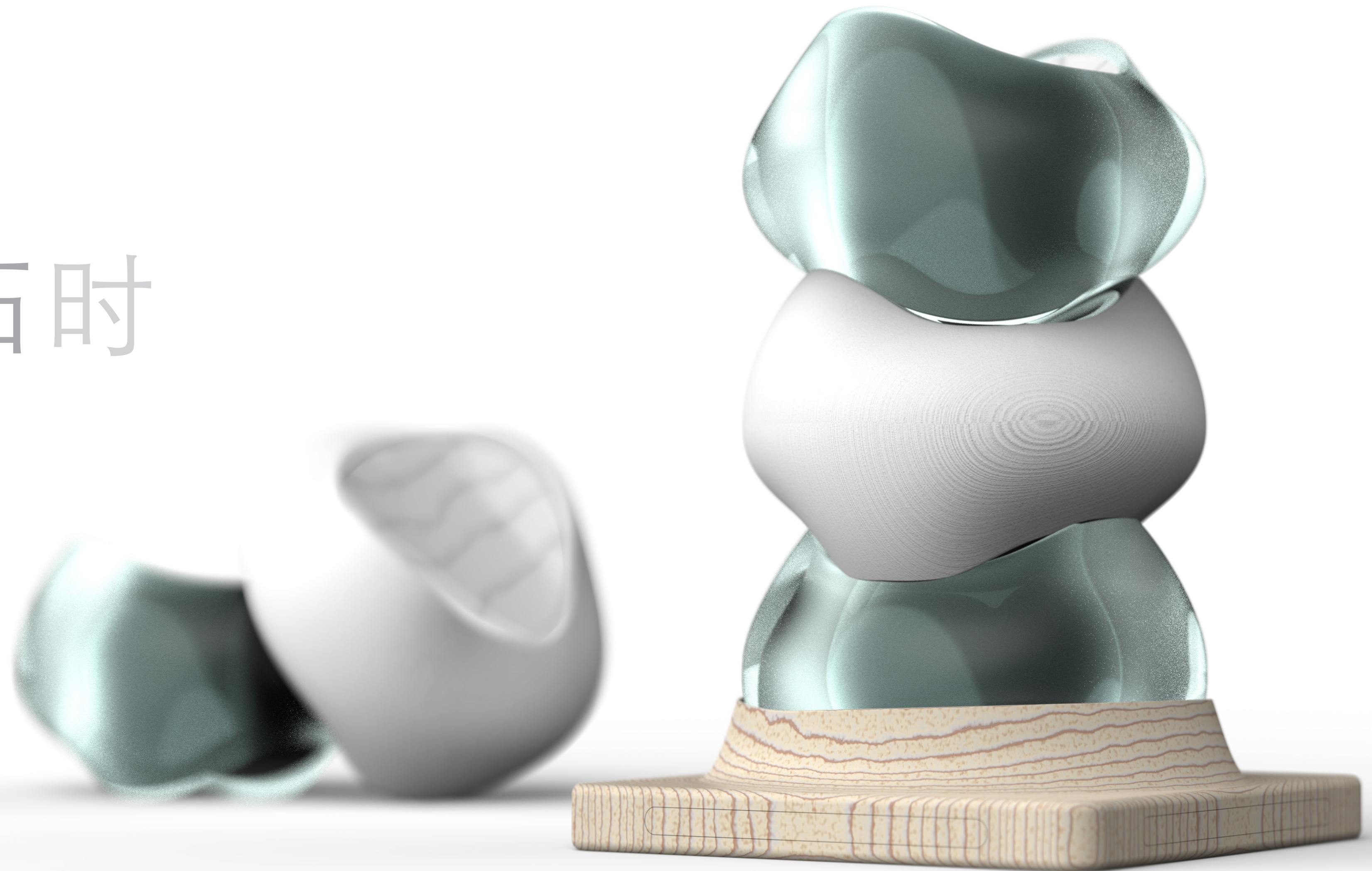
Under folding mode, Aurora can be easily stored under a 35" * "35" * "36" desk.





SHÍ 石时

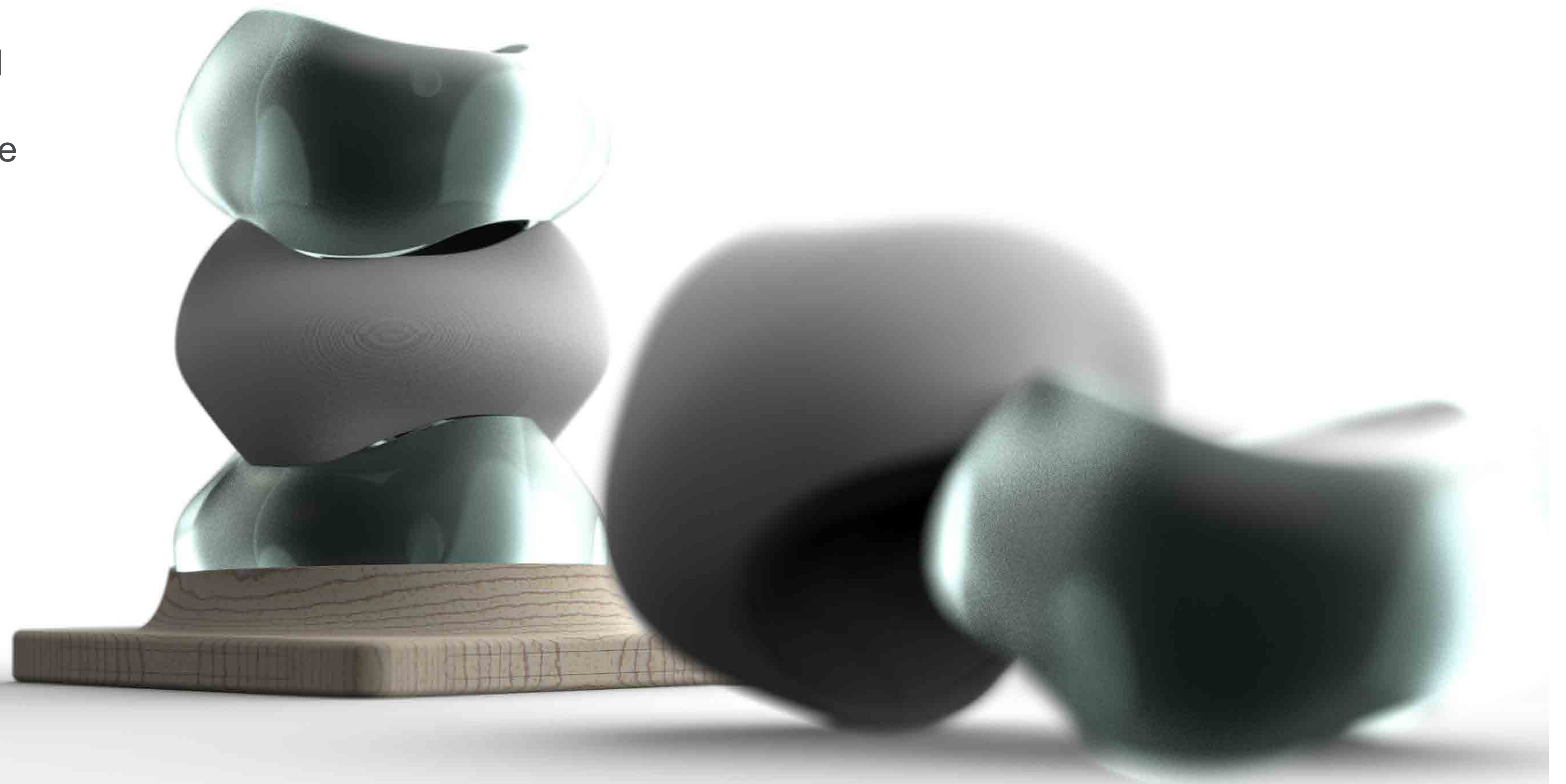
A Stone Calender



Wellbeing, Table Top, CMF

SHÍ is a sensory tabletop object that transforms daily scheduling into a ritual of wellbeing through abstract stone stacking. Blending cosmetic-inspired aesthetics with calming textures and scents, it invites users to feel balance in both time and touch.

"SHÍ" is a pronounce in Chinese, of both "Time" and "Stone". The name serves the Zen aesthetics, and its functions.



My Wellbeing Diary

Personal Wellbeing Reflection Journal

My Wellbeing



"Drop a cup of coffee"

The experiences of making a cup of coffee activate my senses in the morning, creating a sense of amusement can calm.

"Neutral"

Staying neutral means organized, tidy, stable and secured to me.

My Wellbeing Diary

Personal Wellbeing Reflection Journal

My Non-Wellbeing



"Unbreakable schedules"

When schedules and organized becomes into my barriers, withdraws are led by persuading well-beings.

"Caffeine"

experience frustration and anxiety—not just from the lack of caffeine, but from the disruption of my daily rhythm.

Society Background

Scheduling has become into a barrier.



Scheduling is intended to enhance well-being, yet many people find themselves overwhelmed by tightly packed calendars—from work and study to even leisure. What begins as a helpful tool can become a source of stress, as seen in the sighs that follow each notification. Over-scheduling has gradually taken a toll on our lives—I, too, have felt its weight firsthand.

User Persona



Name: Oscar
Age: 21
MBTI: INFJ
Occupation: Student
Education: Pratt Institute
Status: Single
Location: Williamsburg, NY
Home: Studio Apartment

Quate

"I enjoy the peacefulness of sunrise, watching the sunshine gradually emerge through the gaps in my window, carrying a strong sense of time passing. The quietness feels like it comes from the heart. The sun becomes a focus point in the sky, drawing me into a certain feeling that is hard to describe. I believe it marks the beginning of well-being for the day."

Bio

Oscar begins each work cycle by crafting a thoughtful schedule, a ritual that brings clarity and intention. Sticking to it over the days gives him a steady sense of stability and confidence.

Frustrations

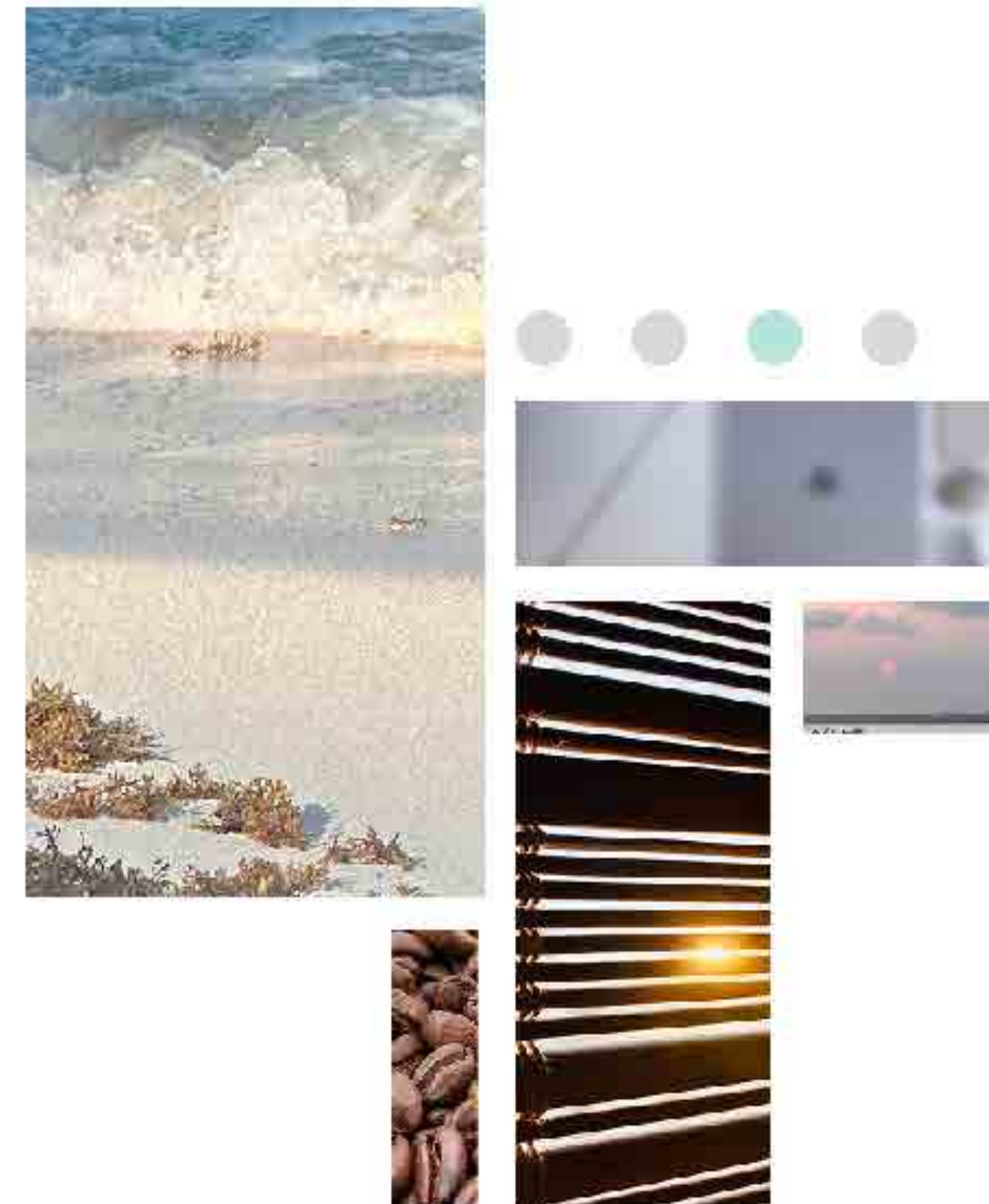
Lack of flexibility directly and indirectly causes unnecessary stress, overwhelms in daily life, and prevents from experiencing some of its joys.

Desires

Wishing for something physical to enhance the wellbeing during scheduling by depicting nature and able to encourage flexibilities.

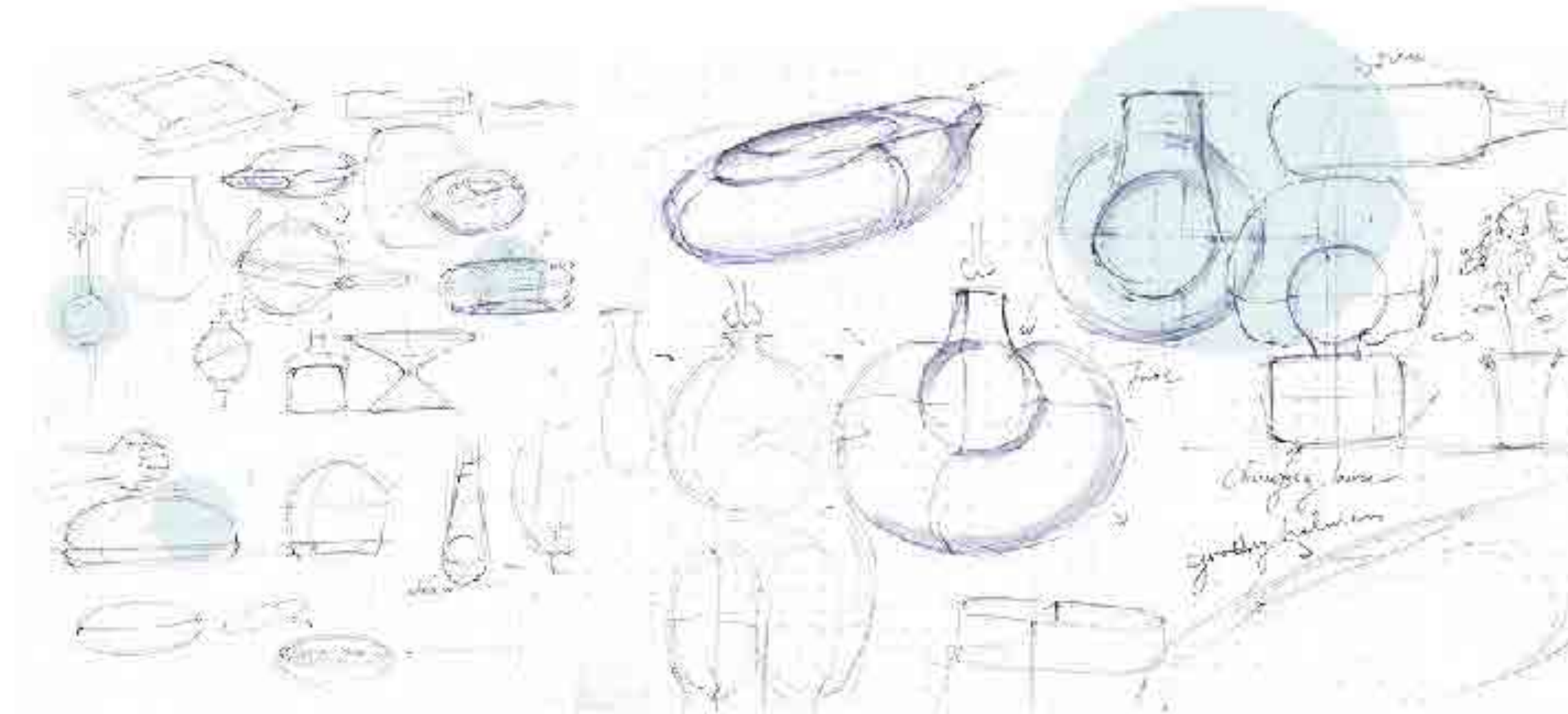
Wellbeing Moodboard

Depicting wellbeing moments from life





Design Process

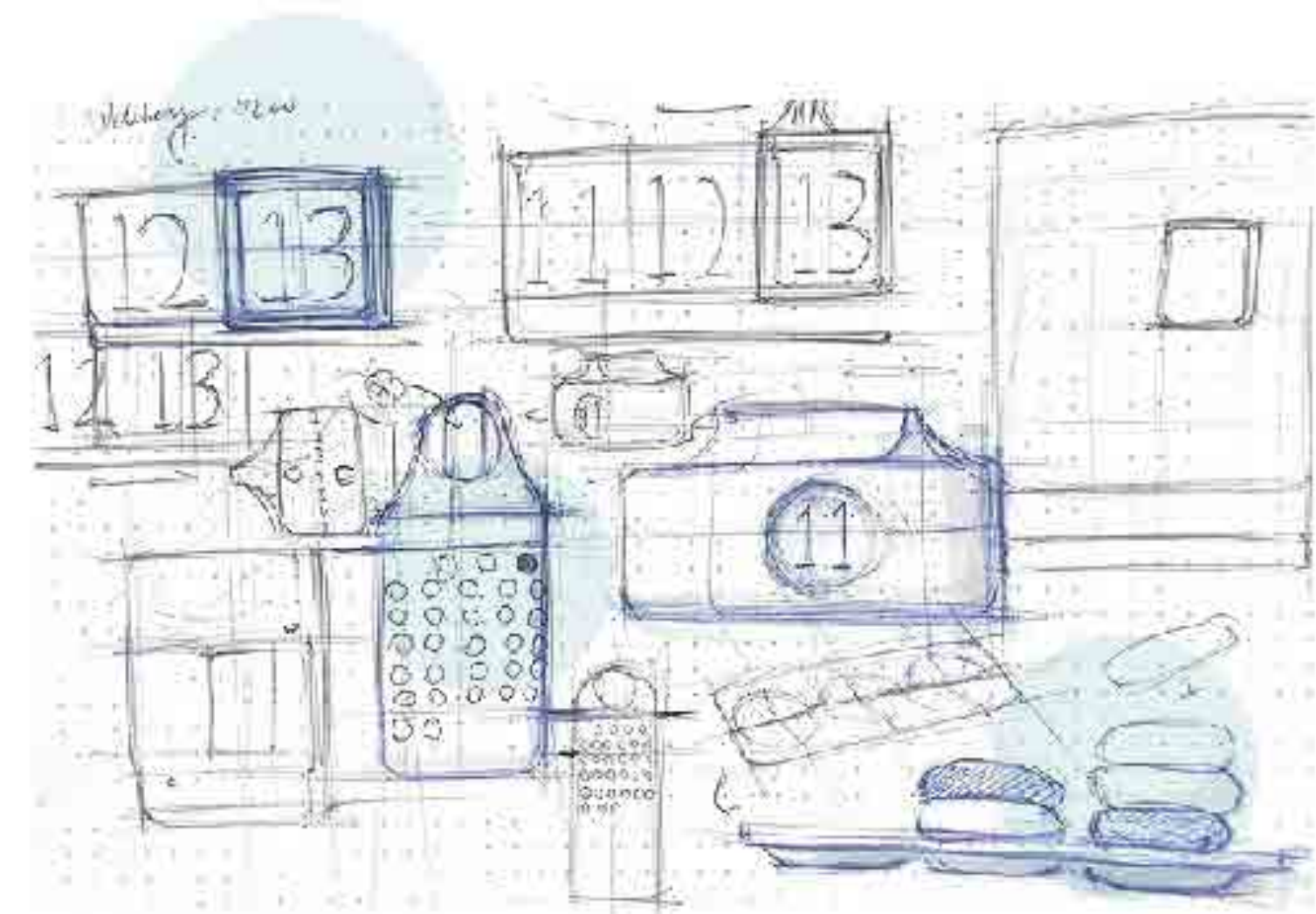


Design Concept 1

A design to support stress management including mood preparations, mood adjustment and able to break the moment of overwhelming.

A schedule system encourages flexibility and increases tolerance for unfulfillment.

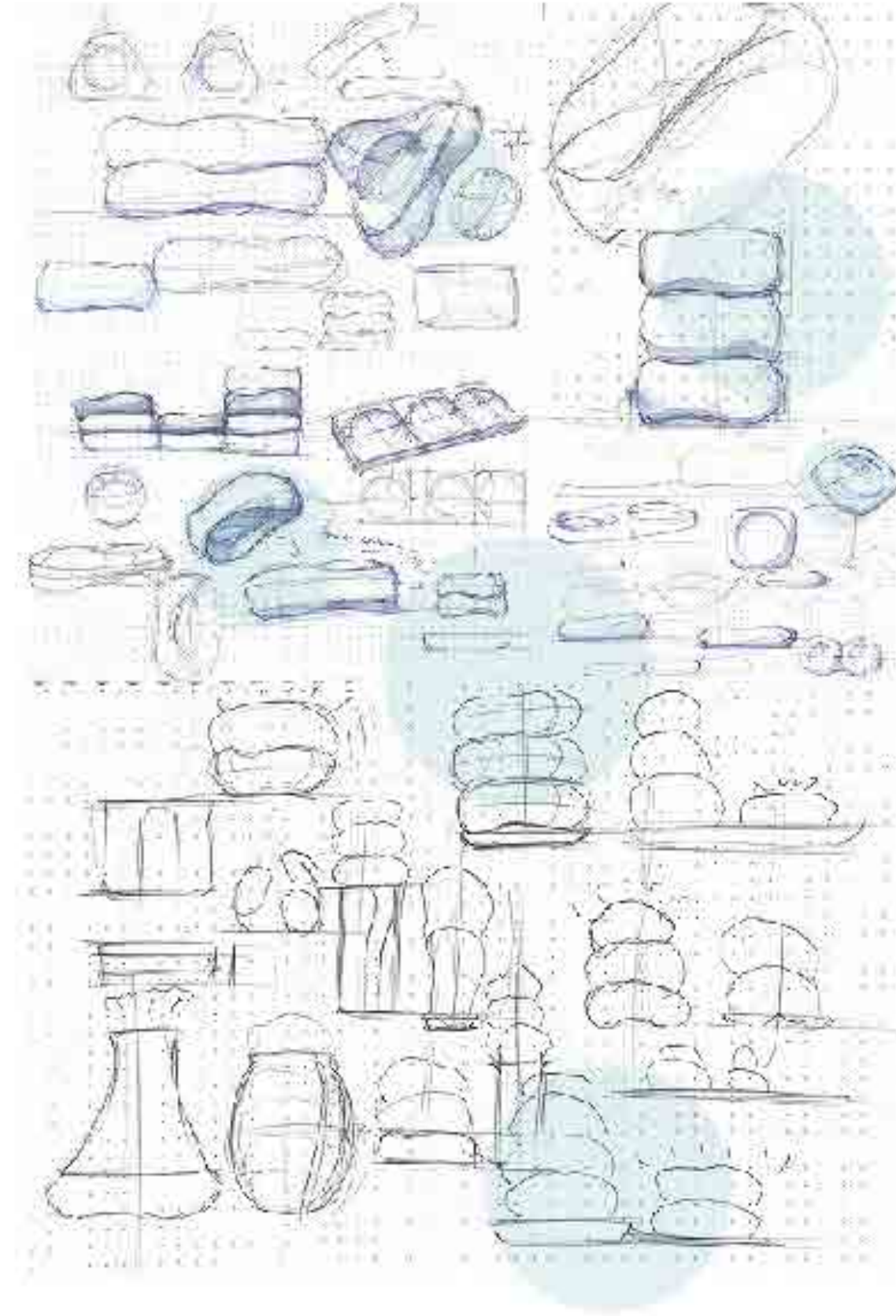
Design Concept 2



Form Development

Form Moodboard

Natural, Sculpture, Stone, Cosmetic

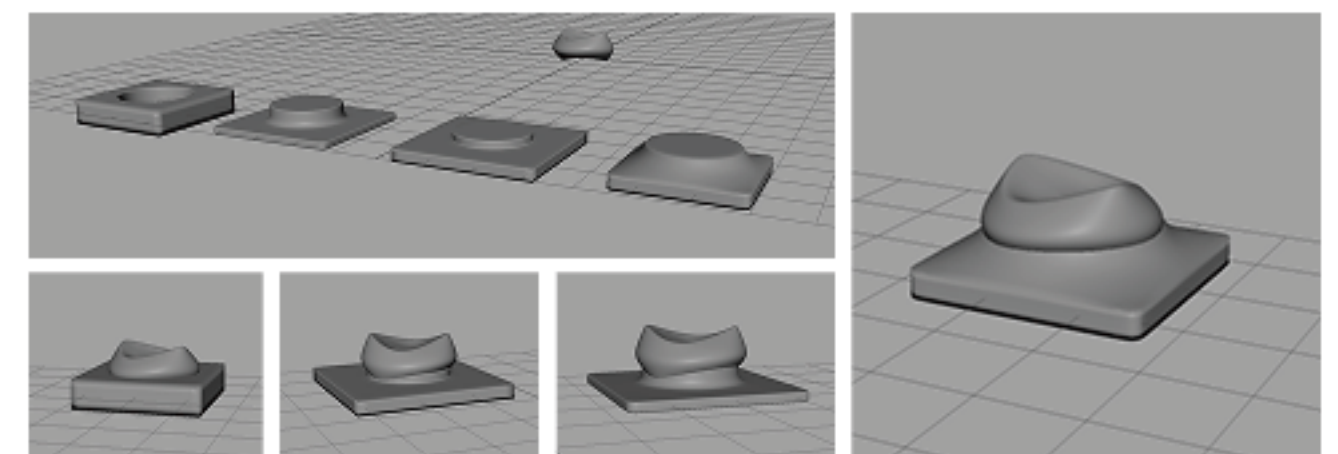


The form of the stone was developed as its naturally formed.



Base Development:

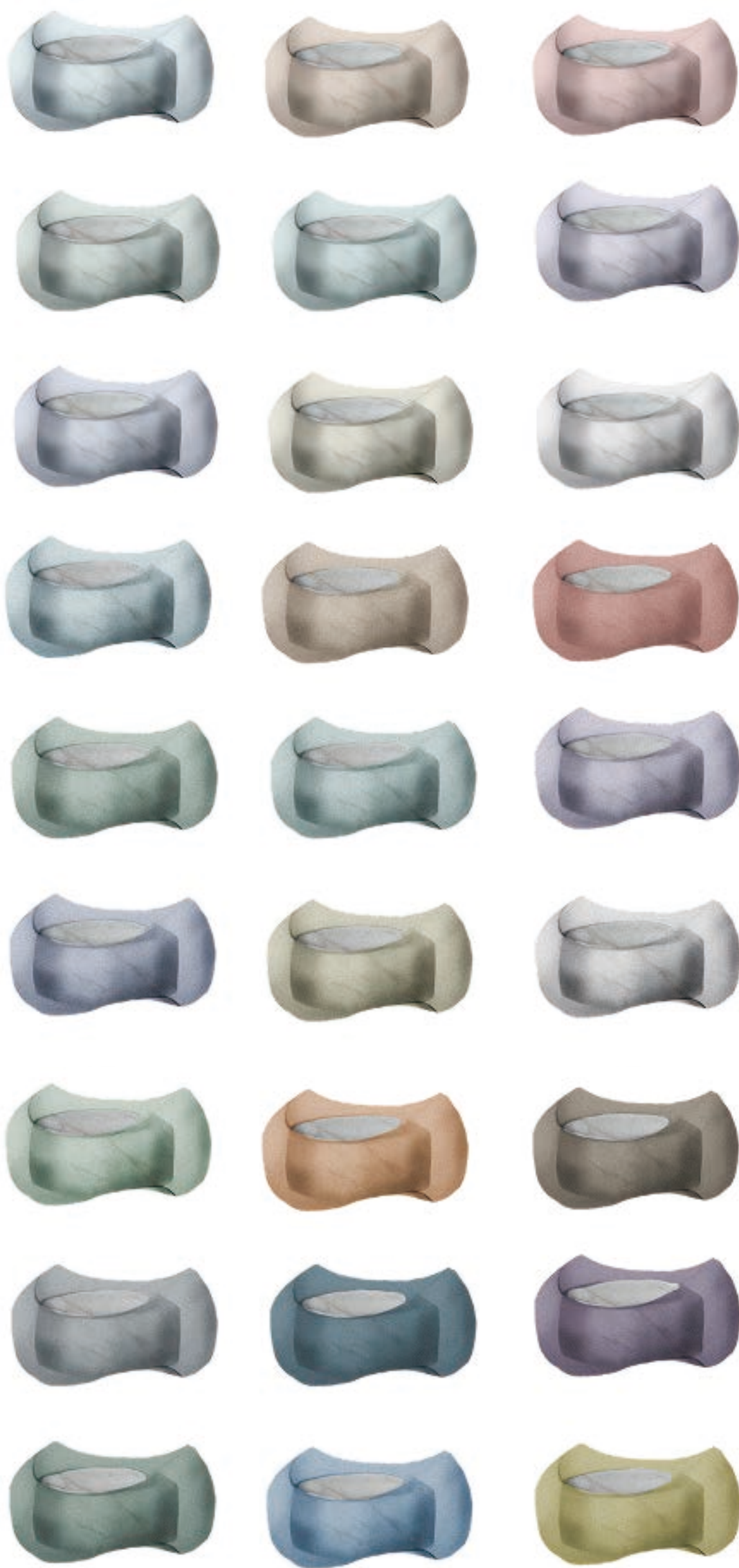
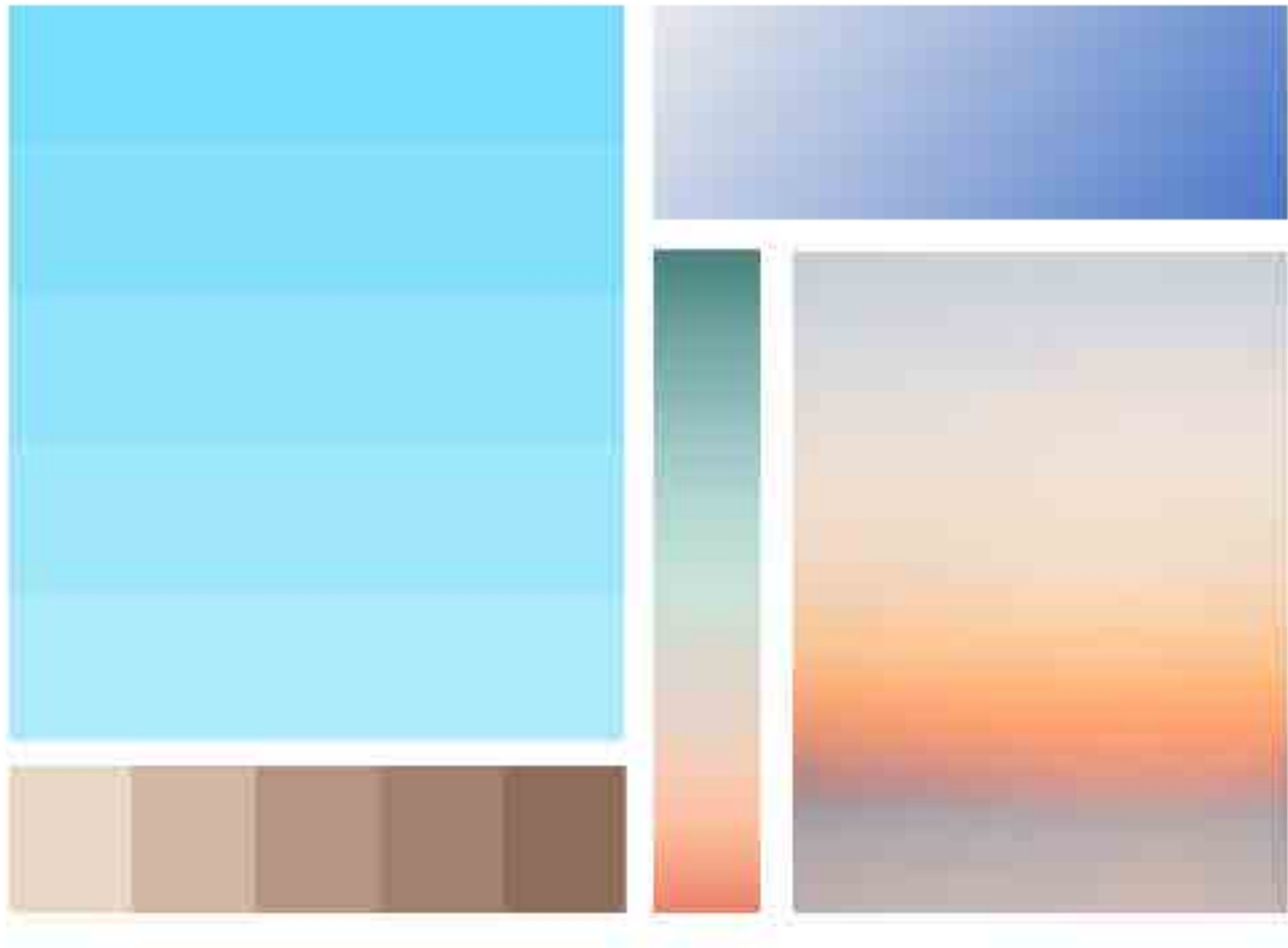
"A stone lies on a pillow"



Color Development

Color Moodboard

Inspiring from the natures, sky, earth, ocean



Final Design

Schedule with Freedom

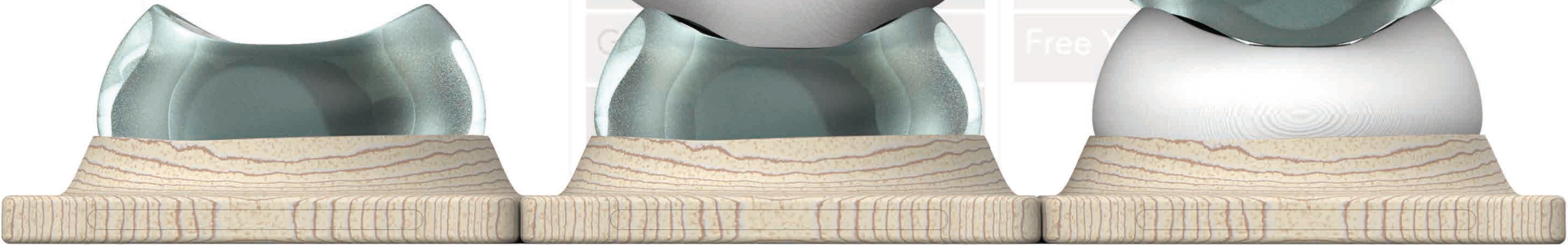
Schedule System meant to be **abstractive** and **free the user from pressure** from the regular scheduling system. User will have the **freedom to rearrange the sets** based on their desires.

Rest Stone

Imagining, Energy, Personal

Work Stone

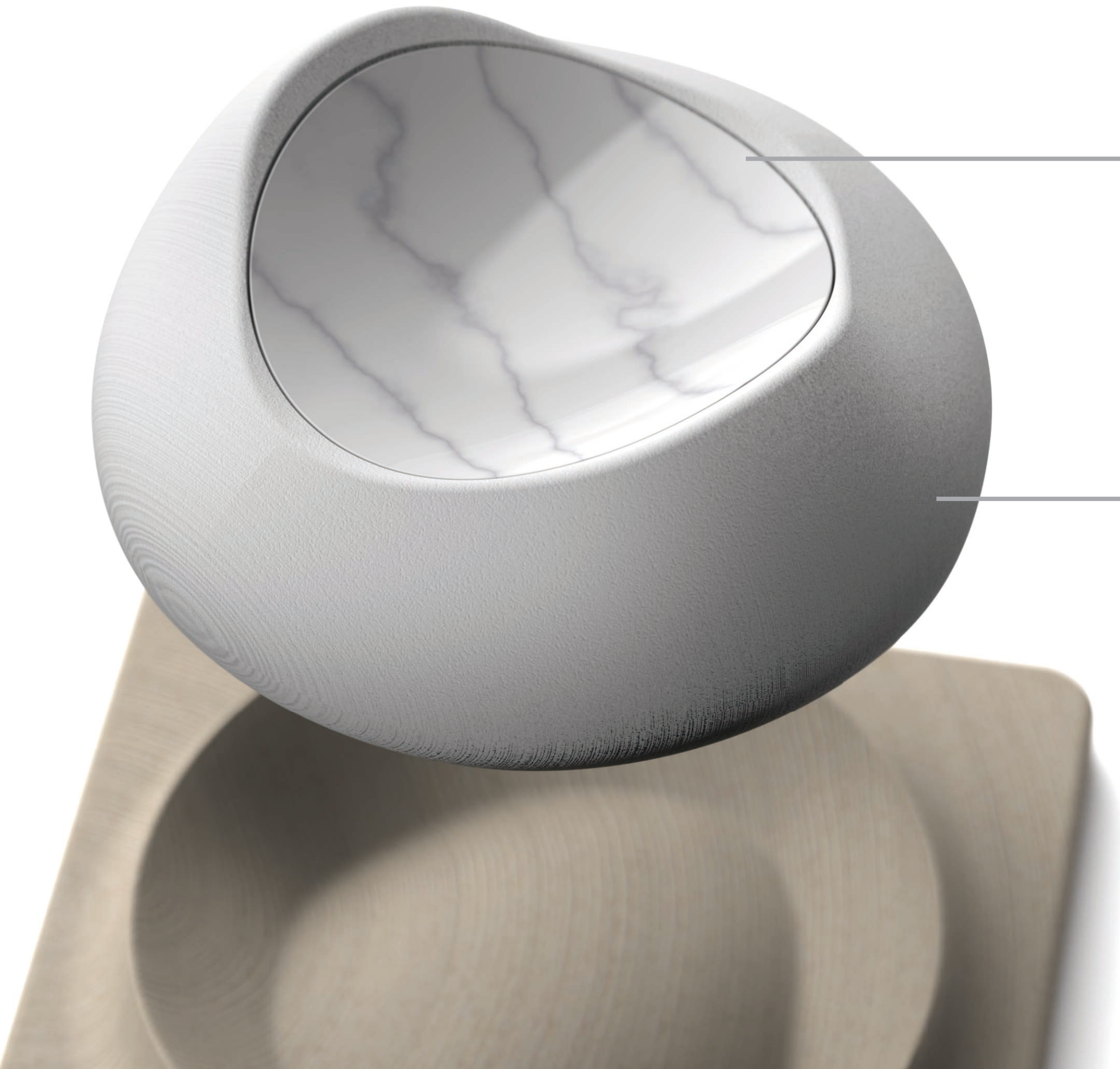
Solid, Simple, Condense



Final Design

Senses Interactions

Interactions during **scheduling and rescheduling** provide **sense wellbeing** through **the fidget elements** of the design.



Diffuser Stone

provides interactive senses of **Olfactory Wellbeing**



Textured Shield

provides interactive senses of **Tactus Wellbeing**

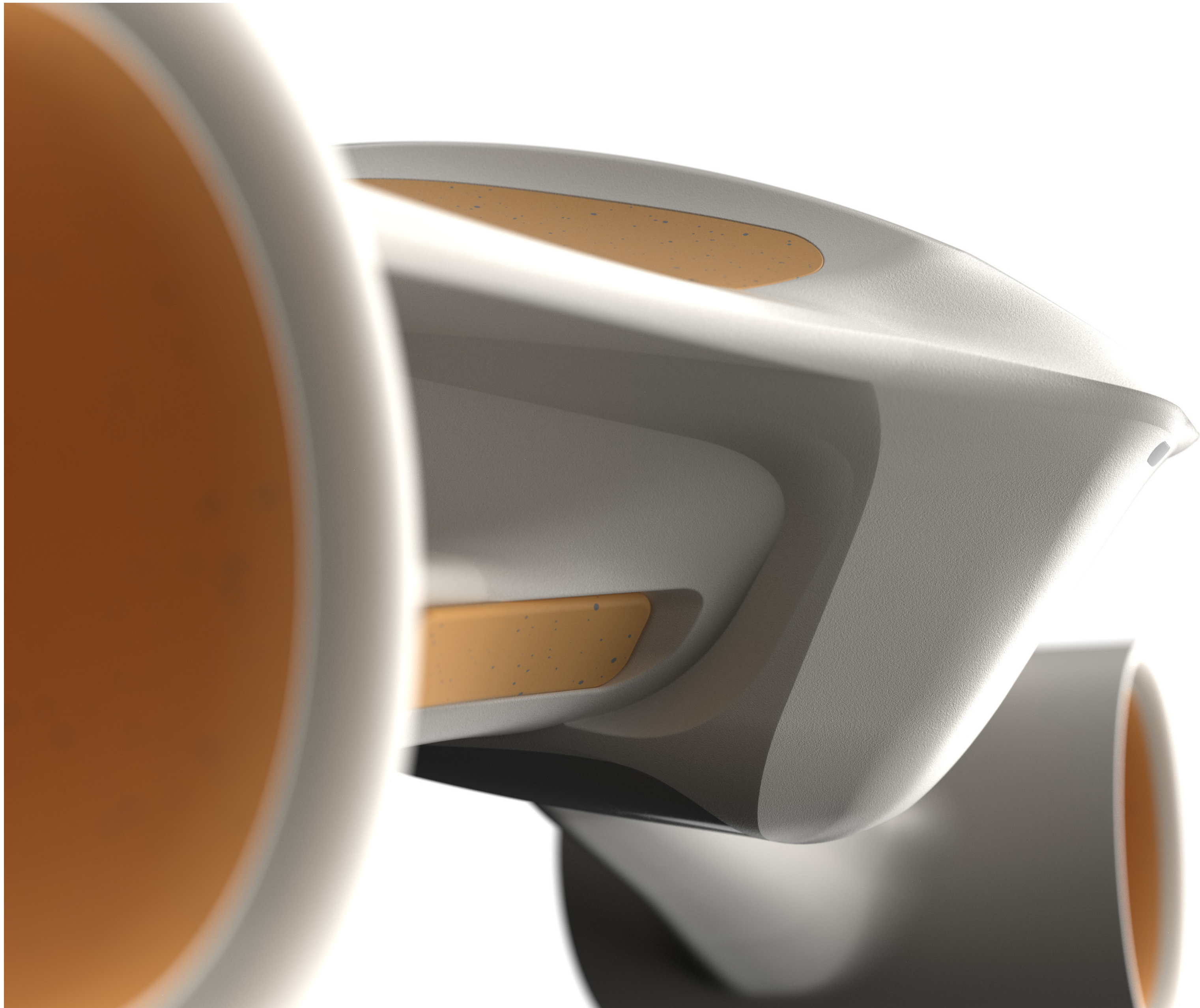


All together provide interactive senses of **Visual Wellbeing**





SHí 石 时



HYDROSKATE

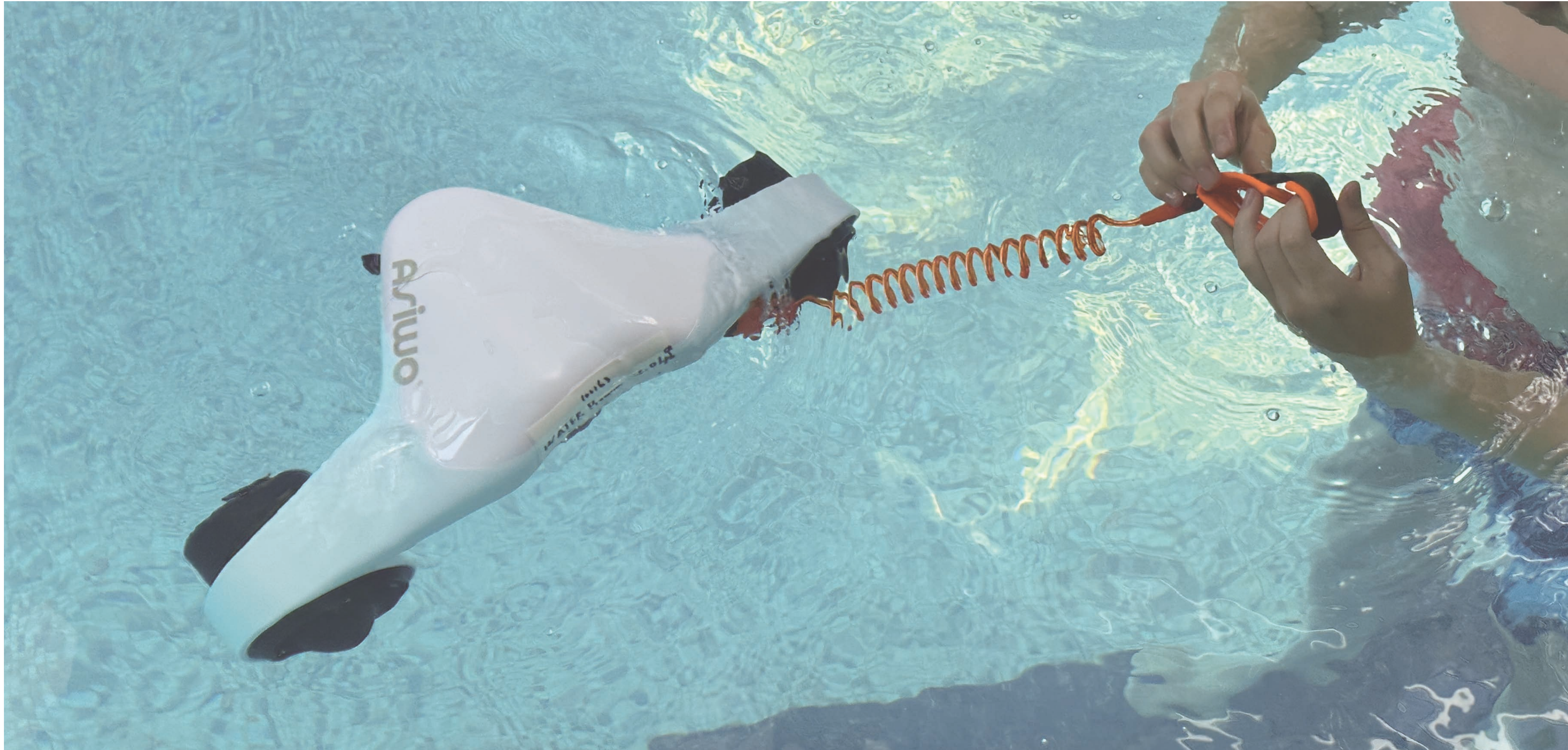
Foldable Diving Scooter With Safty Alert System

Team Members: Yunhao Hua, Siyu Xiao



Safe, Portable, Entertaining

A portable underwater scooter for solo divers with water pressure sensor that can warn divers to shift speed mode to a slower status, provides safer diving experiences.



Market Research & Oppotunity Research

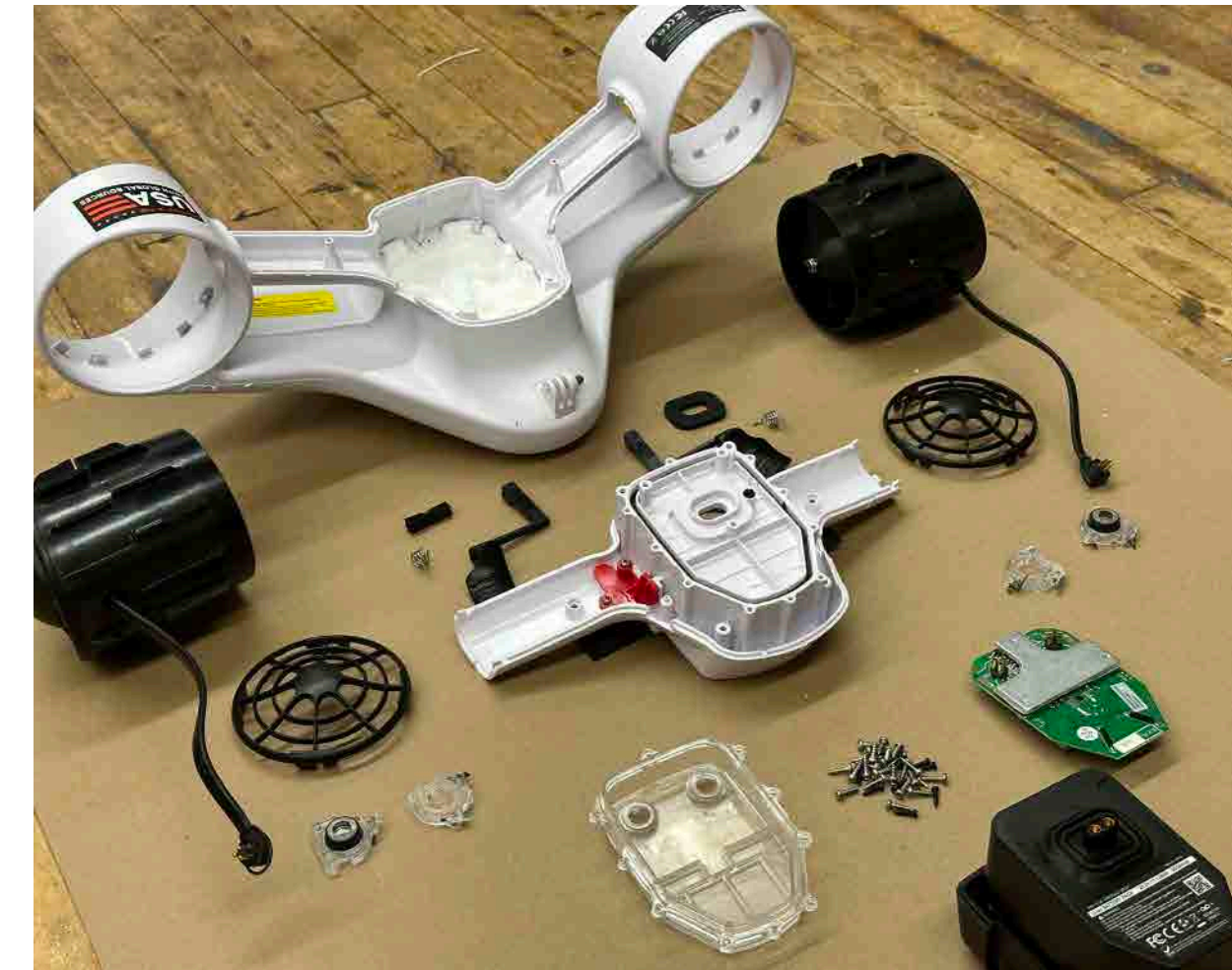
Current Product Study



1. Bought A "Competitor"



2. Test The Device in A Pool



3. Disassemble

Current market products lack an integrated, easy-to-use system to warn divers of speed and depth changes, necessary to prevent health risks.

Literature Review

Richard Moon, "Barotrauma," Merck Manuals Consumer Version, Last modified April, 2023, <https://www.merckmanuals.com/home/injuries-and-poisoning/diving-and-compressed-air-injuries/barotrauma>.

Richard Moon, "Decompression Sickness," Merck Manuals Consumer Version, Last modified

Diving scooters improve underwater mobility but risk uncontrolled ascent and descent speeds, leading to barotrauma and decompression sickness.

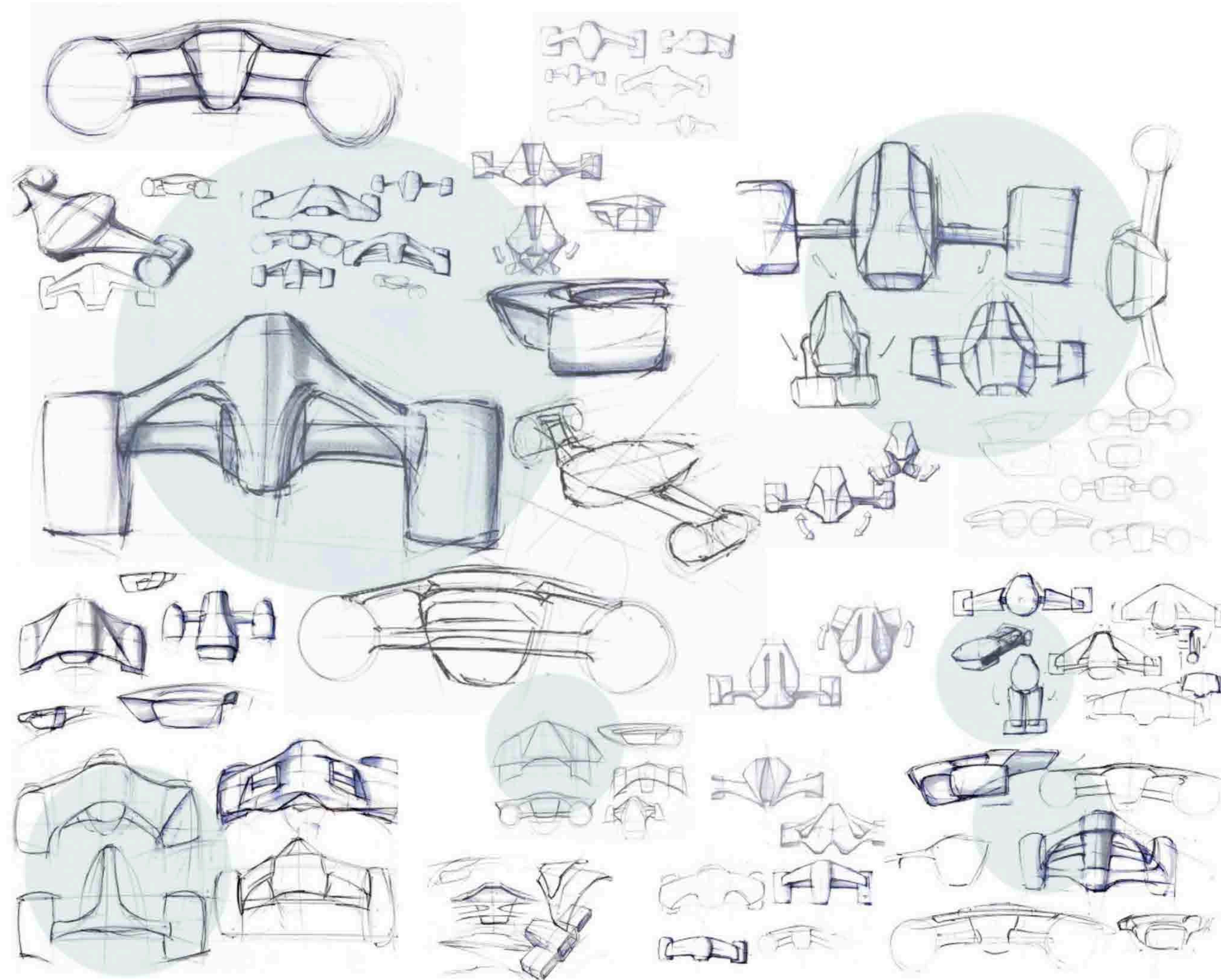


Decompression sickness is a disorder in which nitrogen dissolved in the blood and tissues by high pressure forms bubbles as pressure decreases.

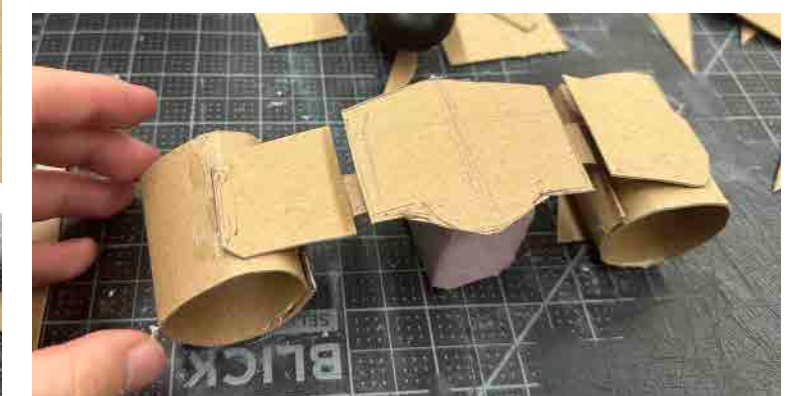


Barotrauma is tissue injury caused by a pressure-related change in body compartment gas volume in air-containing areas.

DESIGN IDEATIONS



- Size Limitation
- Foldable
- Tech-Cooperations



DESIGN EXPLORATIONS

Concept 1



Concept 2



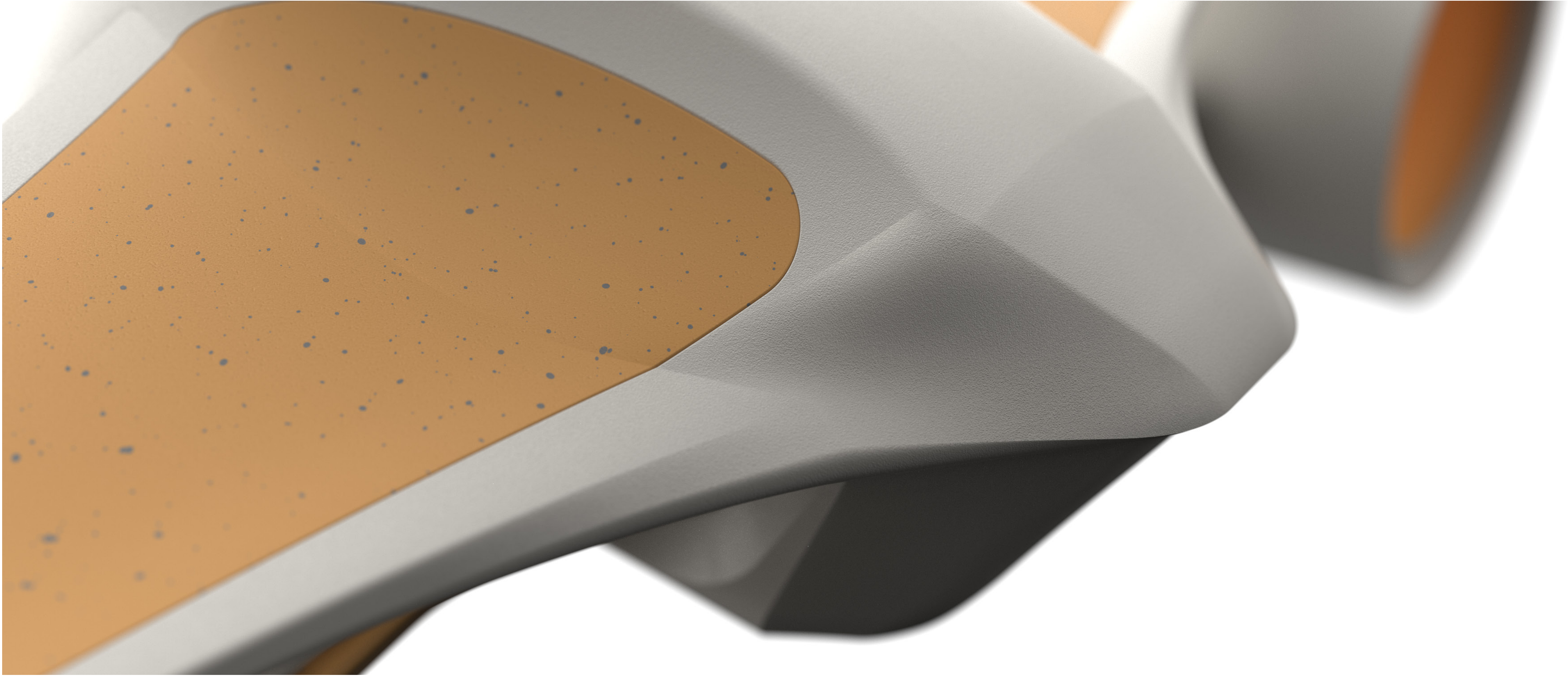
Concept 3

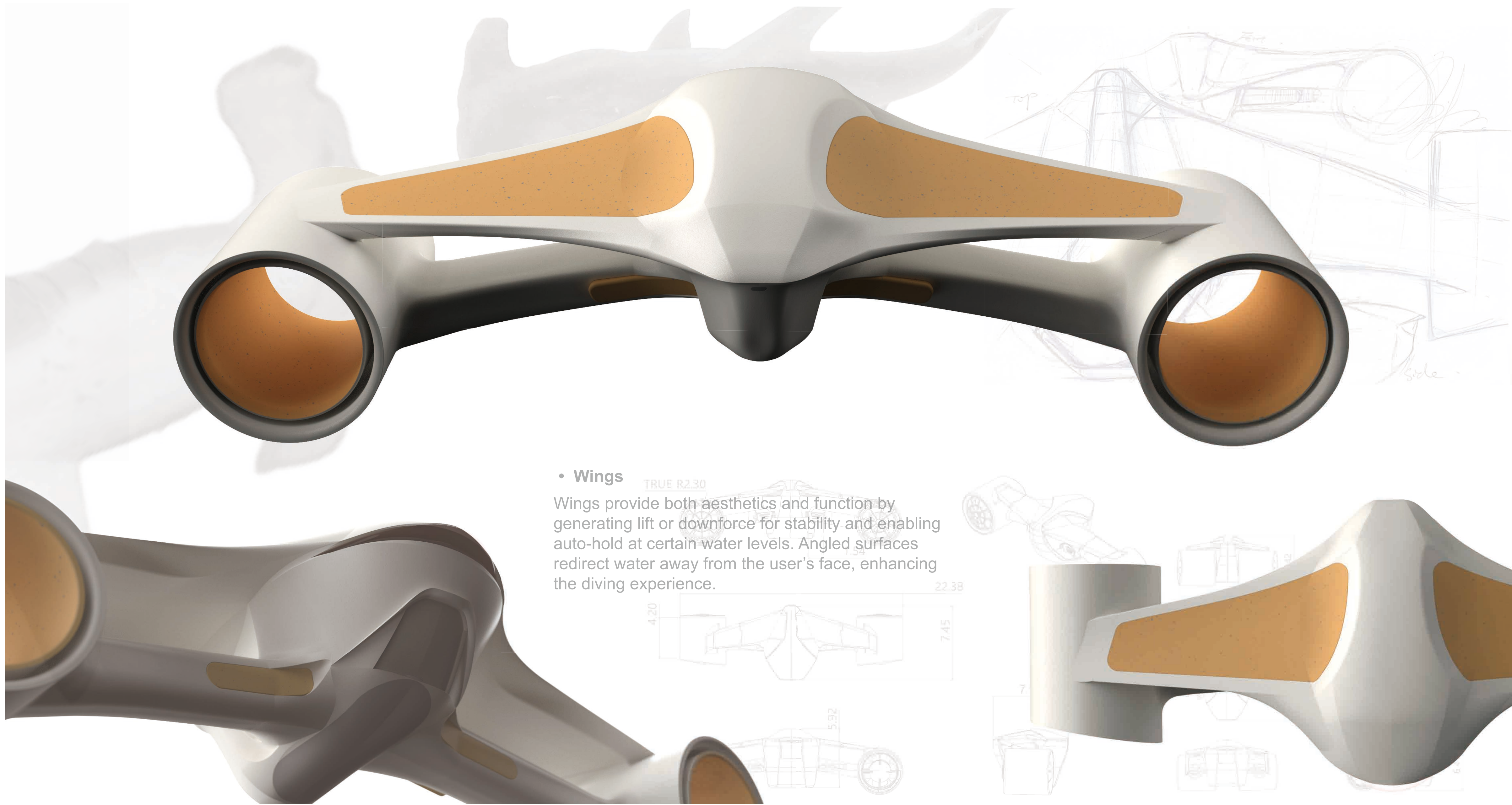


FINAL DESIGN



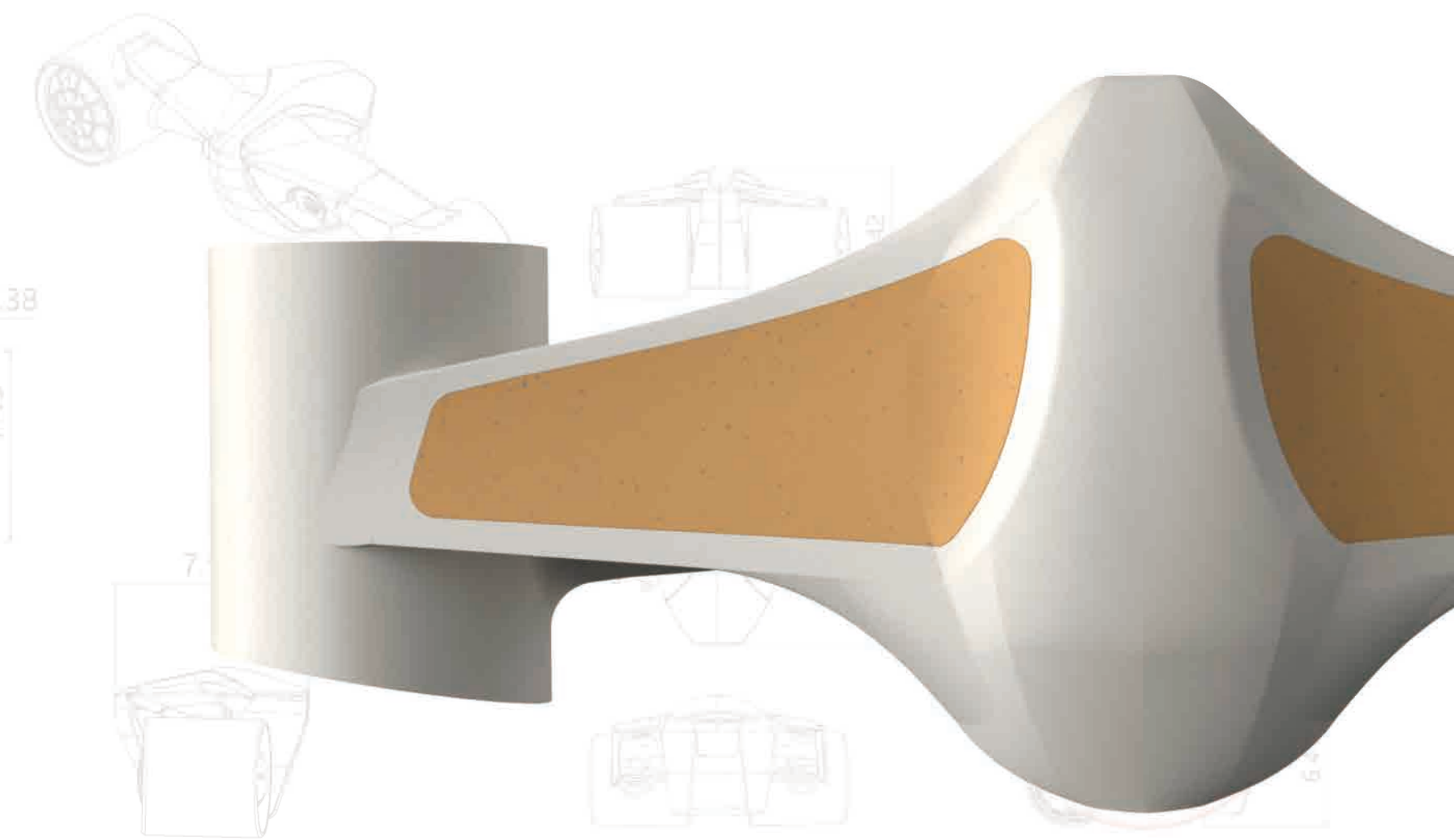
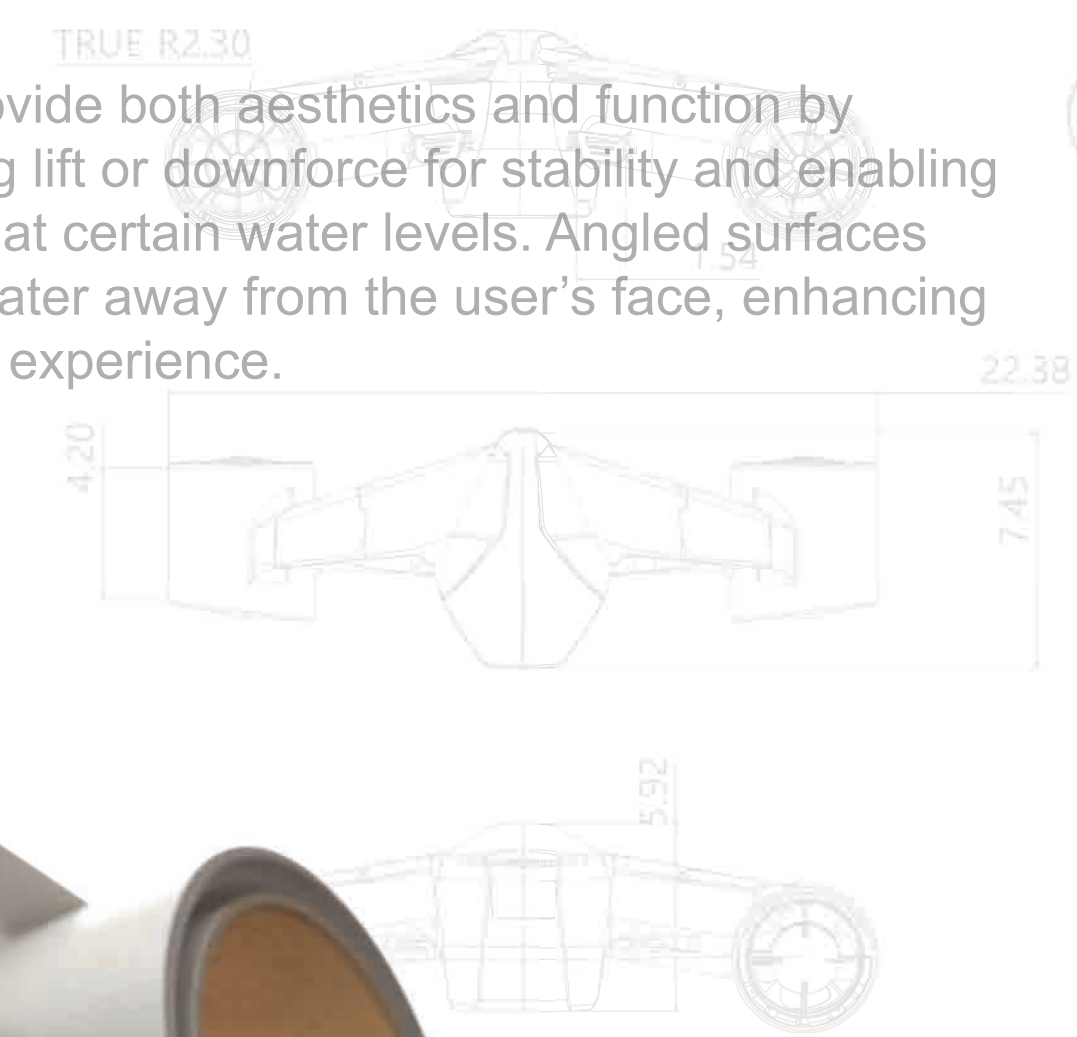
We integrate the three concepts into a single final design. It features foldable wings and handlebars while maintaining a sporty, mechanical aesthetic to enhance user enjoyment during operation.





• Wings

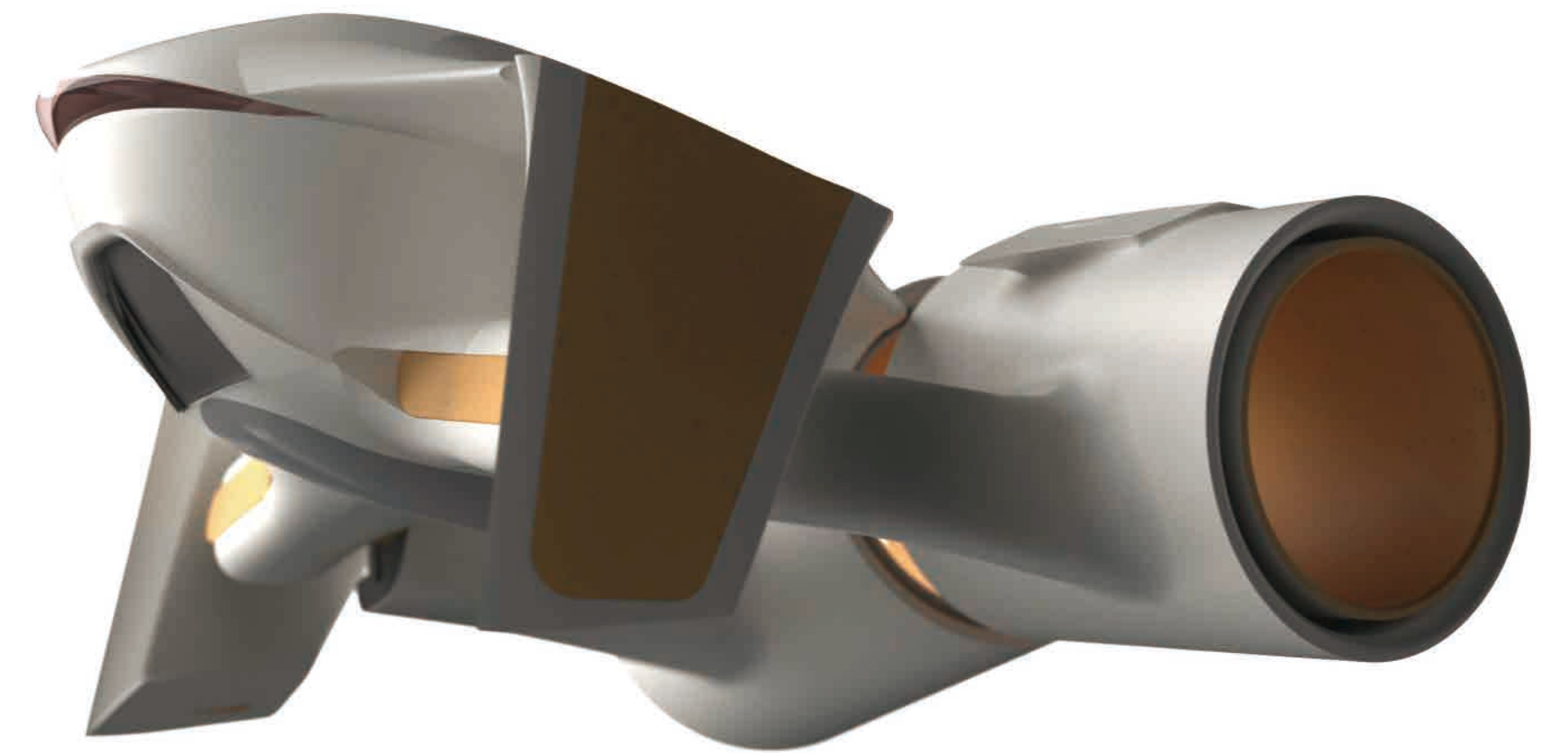
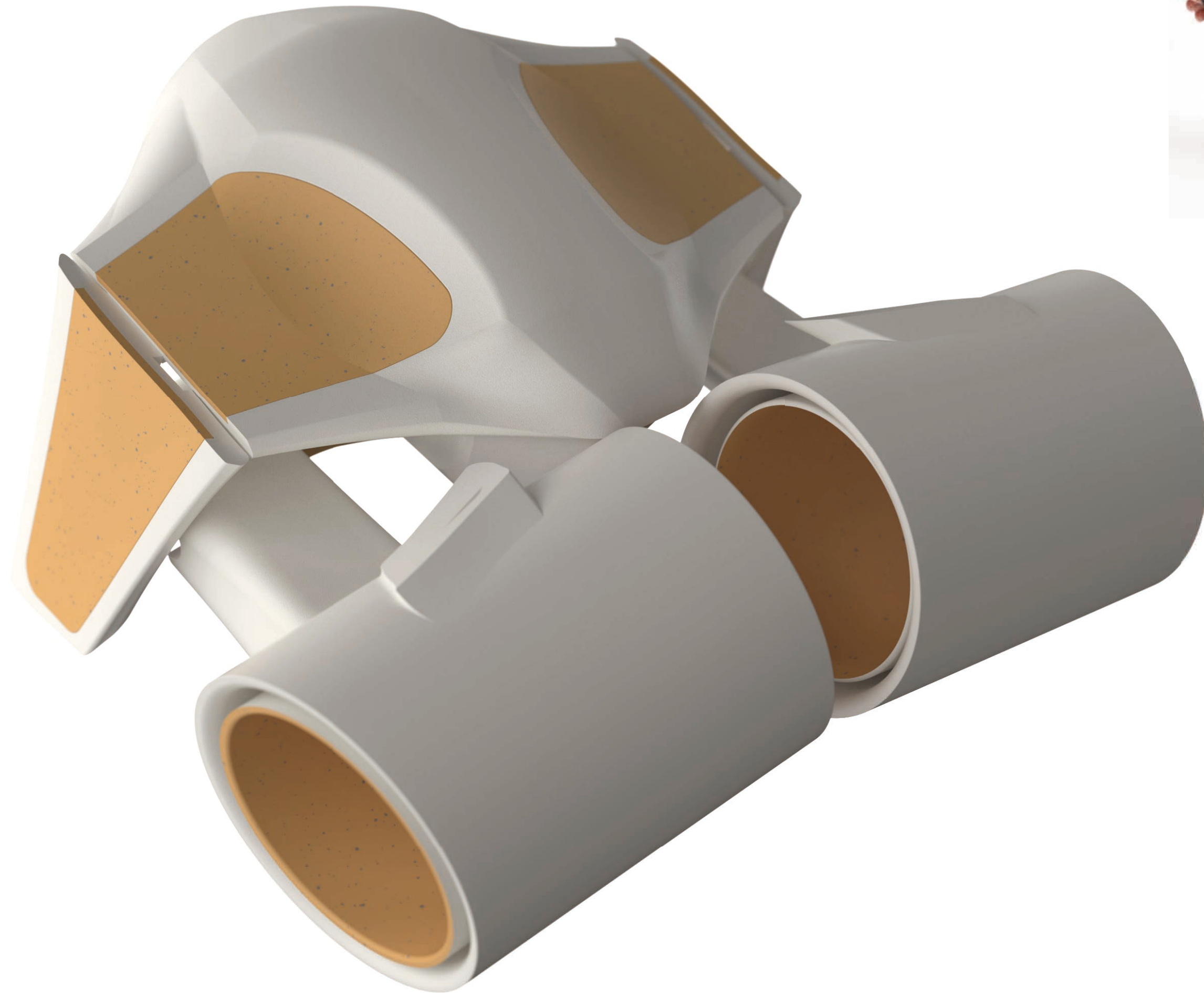
Wings provide both aesthetics and function by generating lift or downforce for stability and enabling auto-hold at certain water levels. Angled surfaces redirect water away from the user's face, enhancing the diving experience.



PORATBILITY

Aurora Is Foldable

Switching between folding modes is straightforward, requiring just five steps. The system relies on two primary locks—one on each handlebar—supported by a single lock on each wing. This streamlined process ensures stability in both folded and unfolded configurations.





Functional Prototype

Functional Prototype

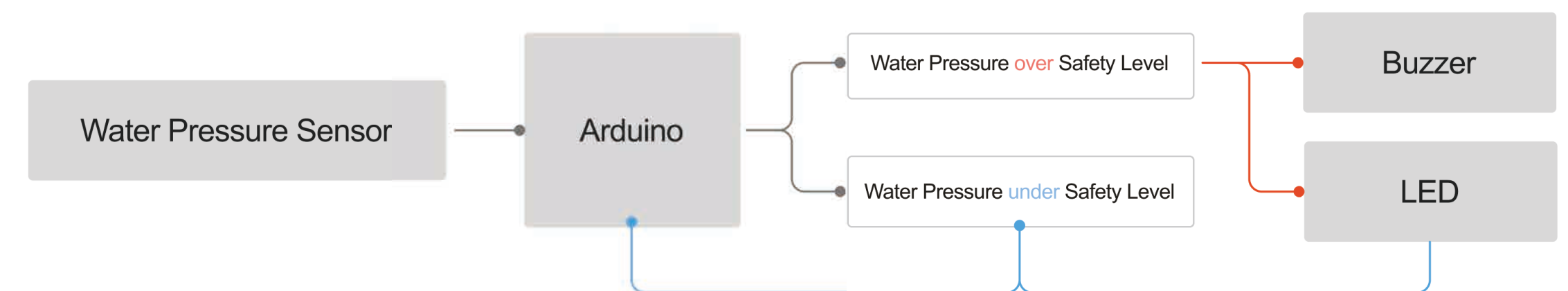
- **Power Unit**

Integrated with current power unit technology to support testing



- **Inserted Diving Computer**

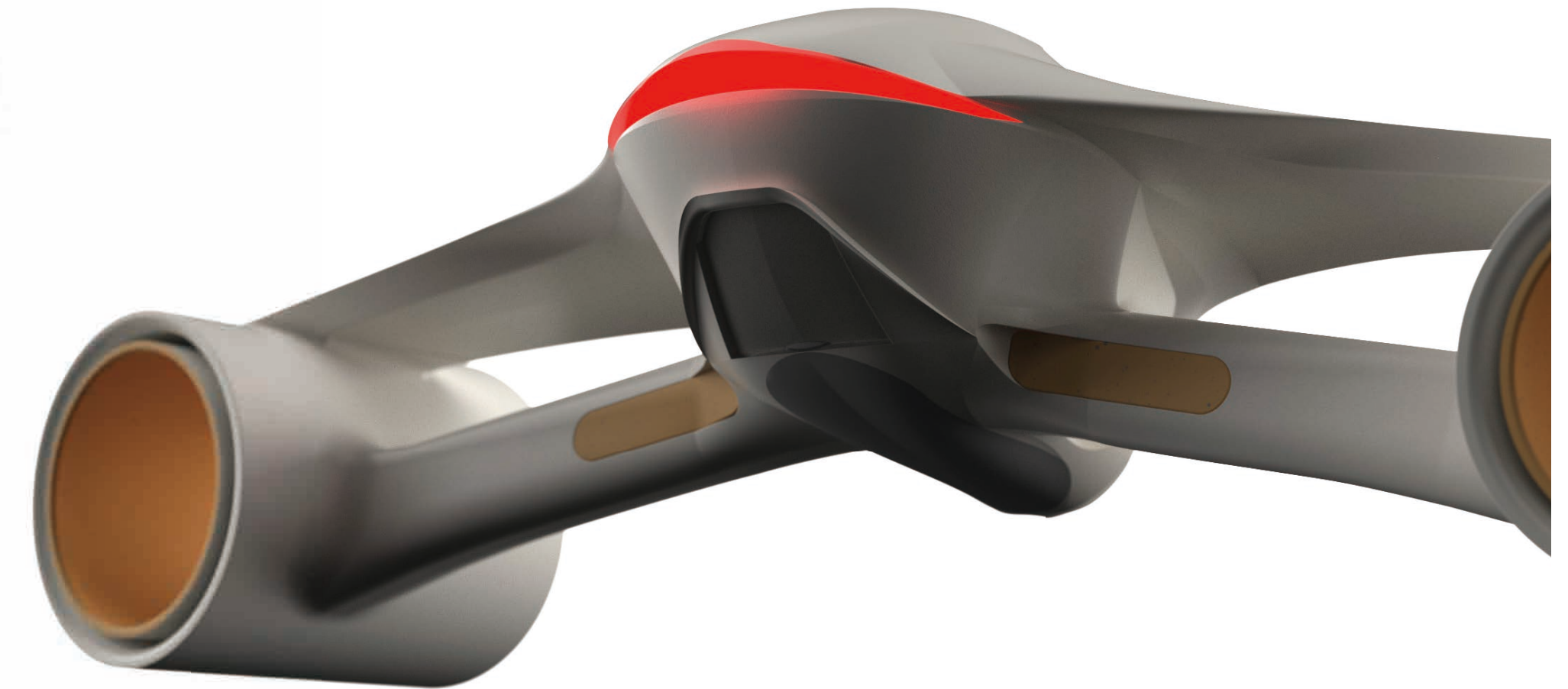
Use arduino system to prototype the safety alarm system with input, water pressure sensor, and output of buzzer and LED.





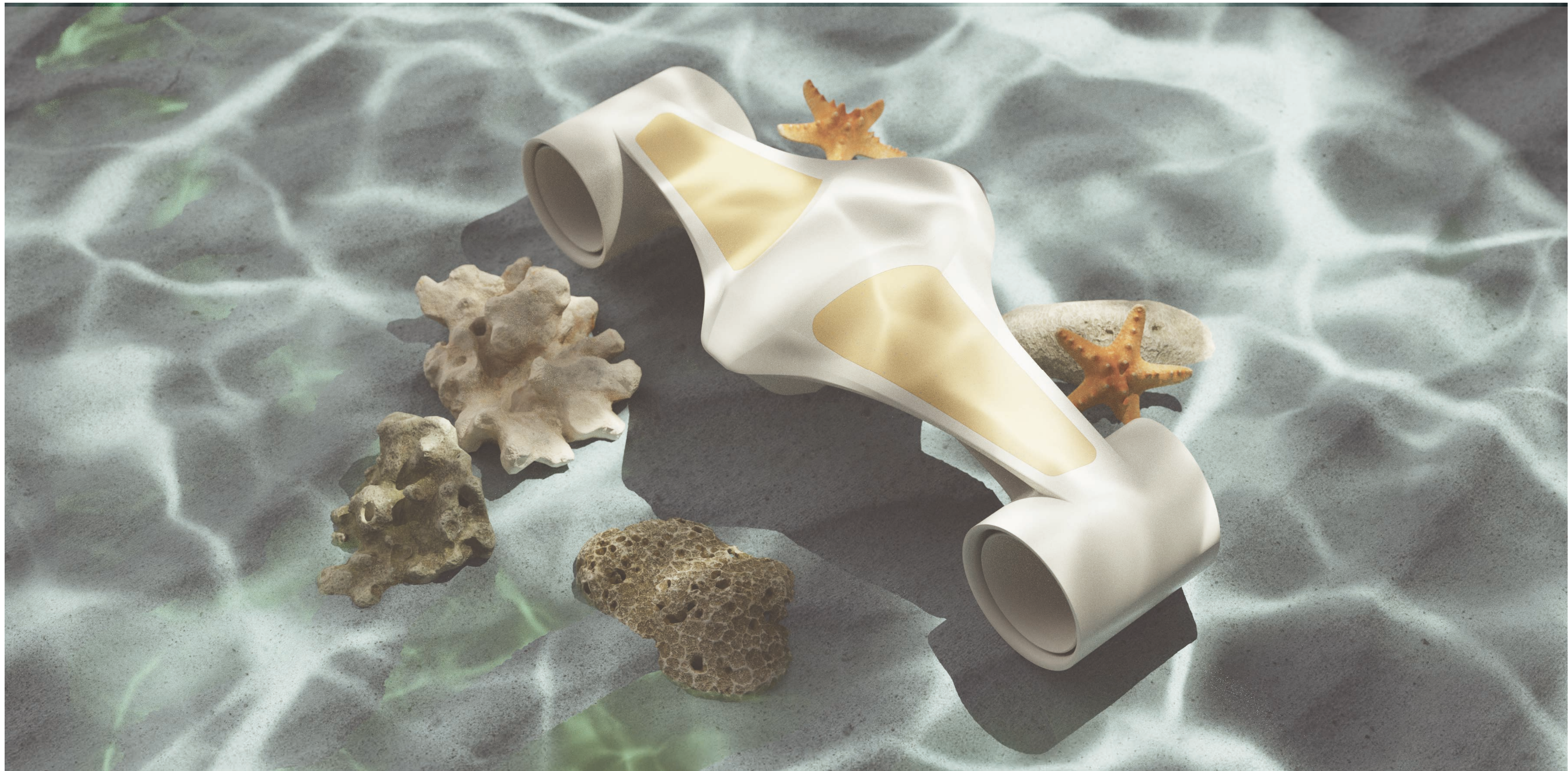
Operation

- Throttle: Click both triggers at the same time.
- Up-Shift Gear: Double click right trigger.
- Down-Shift Gear: Double click left trigger



Build-In Diving Computer

The diving computer will indicate important data, such as speed, time, and water pressure through a display board on the back. An over-speed warning system is designed to notify the speed limitation during ascending and descending, avoiding from Decompression and Barotrauma. With Hydro-Skate, you can enjoy an entertaining diving experiences with reliable smart safety system.





Yunhao Hua

Tel: (1) 929 544 5867

Email: andrewhyh0326@gmail.com

Web: <https://www.ahdesigns.co/>

Linkedin: <https://www.linkedin.com/in/yunhao-hua-andrew/>