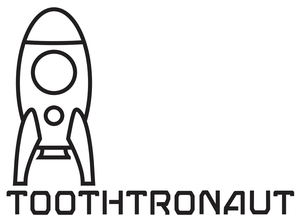
DESIGN PORTFOLIO



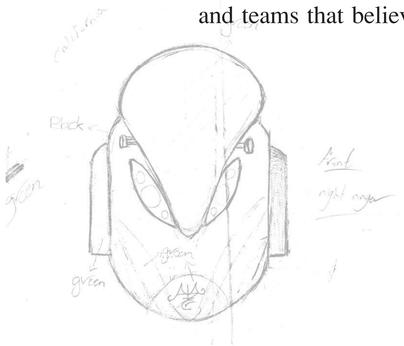
Mohammad Reza Laali

From a young age, I dreamed of giving people superpowers, not the kind from comic books, but real tools that make people feel strong, included, and limitless. One of my earliest design inspirations came from a close friend in school who wore a metallic back support. While the rest of us ran and played, he sat on the sidelines. It broke my heart, and sparked a fire in me. I began imagining a solution. Not a medical device, but something joyful, Empowering, Something that could bring him into the game.

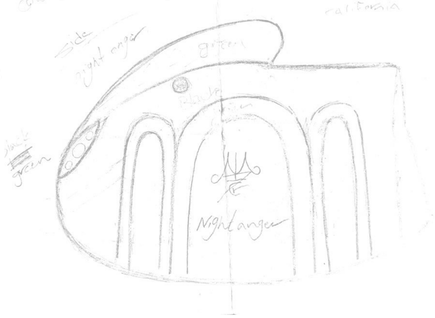
At 14, I designed my first pair of shoes. Inspired by Toothless, the dragon from ‘‘How to Train Your Dragon’’, these were no ordinary shoes. They had motorized wheels to help my friend move and run more freely and an automatic open and close system so he wouldn’t need to bend down or get on his knees to put them on. Just like Toothless received a custom tail to fly again, I wanted these shoes to feel like a superpower. That mix of empathy, imagination, and design thinking was my first real step into this world, and I’ve never looked back.

Design, for me, is a way to turn care into creation. It’s the art of listening deeply and responding through form, function, and feeling. I’ve always found joy in building things that improve lives—even in small ways. Whether it’s a product, a tool, or a piece of wearable design, I start with empathy and aim for impact. My work blends storytelling with functionality. I believe great design doesn’t just solve problems—it inspires, includes, and connects.

Today, I’m ready to bring this spirit into professional collaborations—with companies, investors, and teams that believe in the power of thoughtful design to change lives.



Let’s build superpowers



A

B.A. in Psychology

My foundation is in psychology, which continues to shape how I think and design. As a designer focused on human-centered design, my academic background gives me a distinct advantage in understanding users, not only their expressed needs but also their unspoken motivations, habits, and desires. This perspective allows me to design with deeper empathy and create experiences that resonate on a psychological and emotional level.

M.A. in Industrial Design

In my design master's, I gained strong skills in design process, research methods, and prototyping. always through the lens of emotional and human-centered design. I brought together my backgrounds in psychology and design for my thesis project, ToothTroNaut, a science-based, educational toy that helps children build healthy dental habits through role-play and a reward system. It was designed to change behavior in a fun, emotionally engaging, and evidence-informed way.

M.Sc. in Mind, Brain and Behavior (ongoing)

Currently, I am deepening my understanding of the human mind through a multidisciplinary program that brings together neuroscience, psychology, and computer science, with a focus on the visual cortex. As a designer, I'm fascinated by how humans perceive visual beauty, not just subjectively, but through cognitive and neural mechanisms. I aim to make aesthetics in design more evidence-based while also exploring, like many designers before me, the timeless question: what is the essence of beauty? My current research focuses on how people perceive abstract forms, studying eye movements, form hierarchy, and the role of imagined visual axes in shaping perception.

3D Modelling & CAD

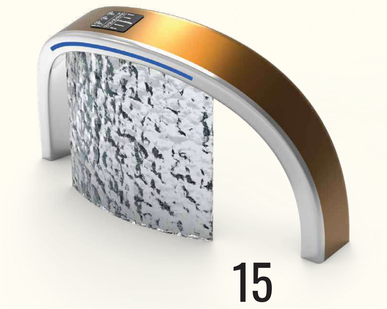
Rendering & Visualization

Graphic & Visual Design

UI/UX Design & Development

Programming & Simulation

Productivity



IDA
DESIGN
AWARDS
HONORABLE
MENTION
2022

TOOTHTRONAUT

BY USING BEHAVIOR CHAINING METHOD
AND ROLE PLAYING GAME LIKE ACTIVITIES,
IT TEACHES PRIMARY SCHOOL CHILDREN
WHY ORAL HEALTH IS IMPORTANT,
HOW TO BRUSH THEIR TOOTH,
DEVELOP BRUSHING HABIT,
DEVELOP FINE MOTOR SKILLS,
MAINTAIN ACCURACY AND FOCUS
AND MOST IMPORTANTLY: MAKE IT FUN!

Design a product to improve oral health in primary school children

Oral health is multifaceted and includes the ability to speak, smile, taste, chew, swallow,and express emotions through facial expressions with confidence and without pain, discomfort, or disease of the craniofacial complex.

Oral health is a fundamental component of both physical and mental well-being.
It exists along a continuum influenced by the values and attitudes of individuals and communities.
It reflects physiological, social, and psychological attributes essential to quality of life.
It is shaped by people's changing experiences, perceptions, expectations, and their ability to adapt.

Evidence-Based Design*

56% of 12-year-olds in Iran do not brush their teeth once a day.

90% of teenagers aged 13–15 report negative impacts of oral health issues.

43% of Children struggle with efficient grasp patterns.

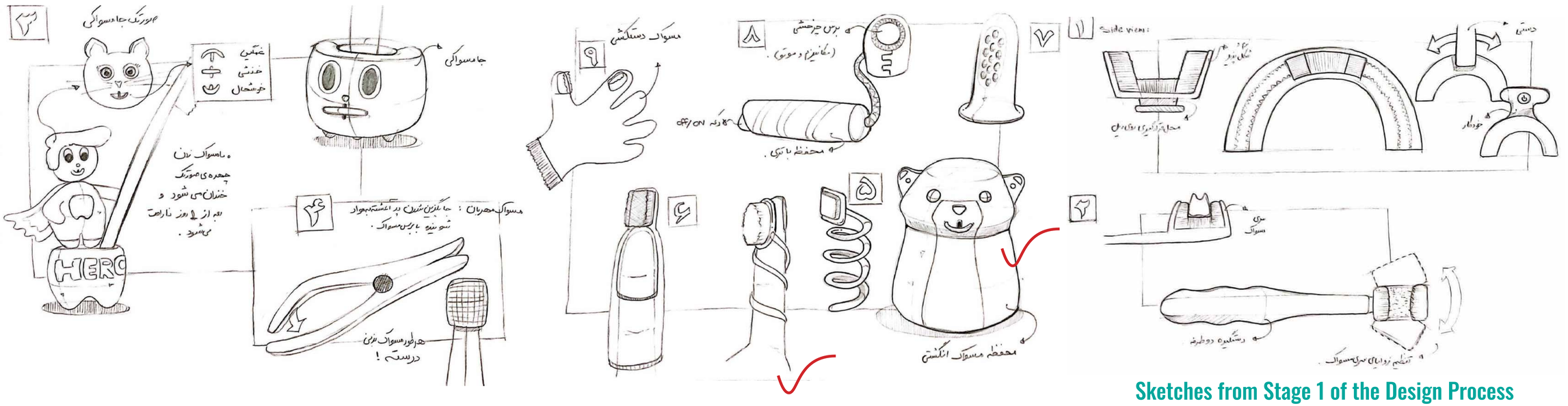
46% of the global population experiences oral health disorder.

92% of brushing occurs in bathrooms, 8% in kitchens.

20% of children under 12 year olds experience dental trauma.

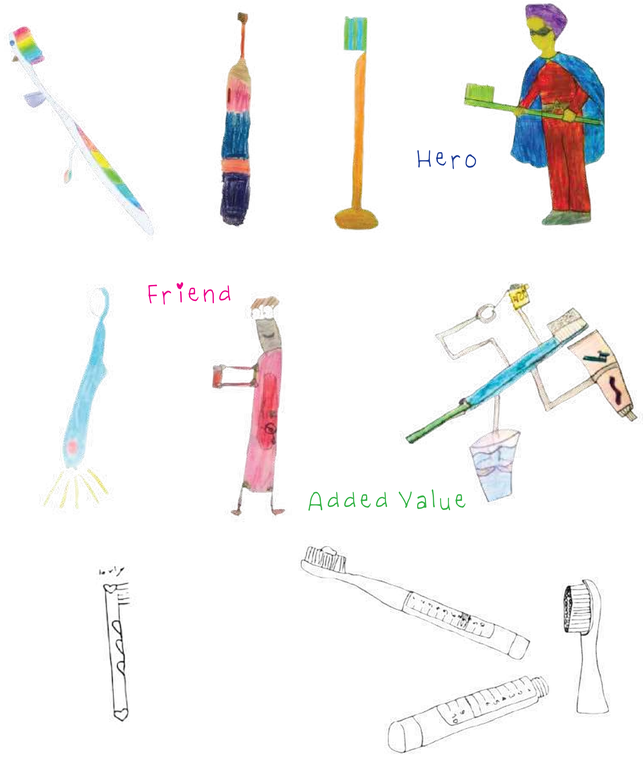
Observed children's behavior and environments while brushing their teeth to identify limitations in fine motor skills and emotional engagement.

Visual Ethnography*



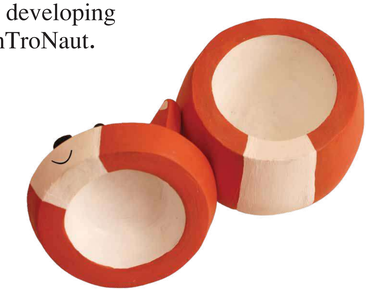
Sketches from Stage 1 of the Design Process

* Refrences at Page x

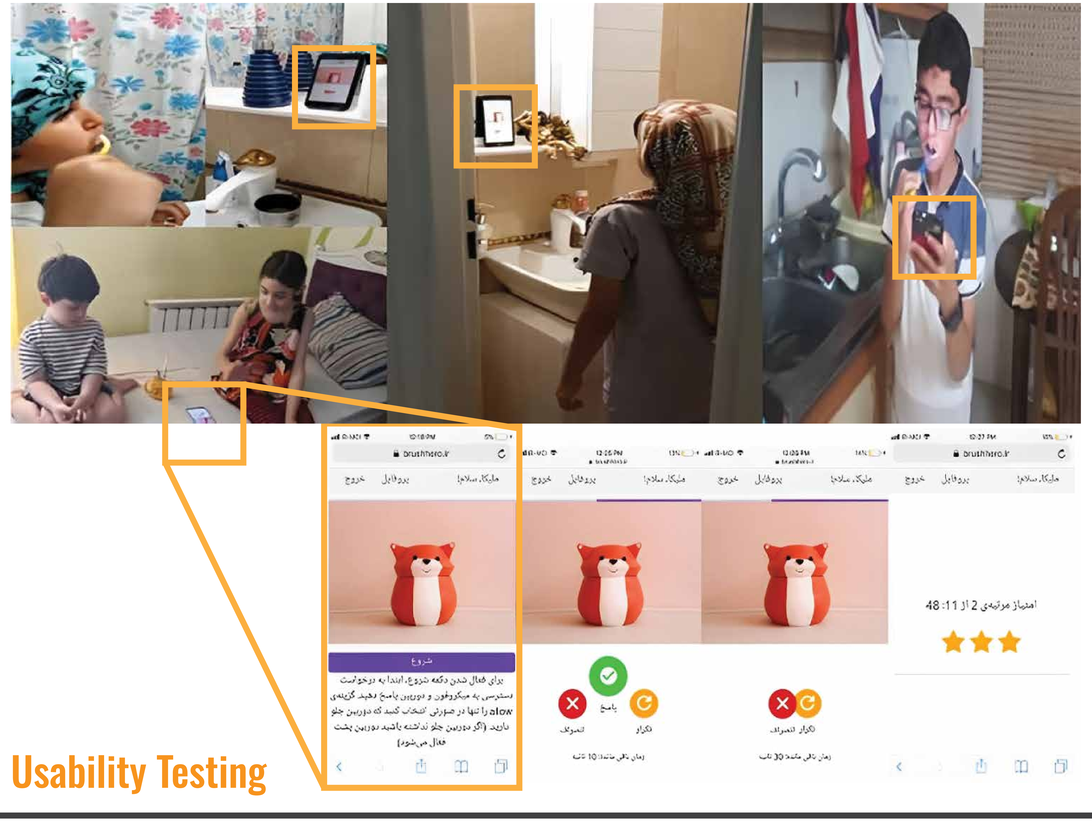


Co-Design Workshops

To understand children's emotional connection to dental care tools, I invited them to participate in a drawing activity where they imagined and designed their ideal toothbrush. The results revealed rich insights: children didn't see the toothbrush as just a hygiene tool—they wanted it to be a hero, a friend, and a character they could connect with. They envisioned brushes with personalities, superpowers, and extra functions, transforming routine brushing into a playful, story-driven experience. These drawings became a core inspiration for developing the emotional and interactive aspects of ToothTroNaut.

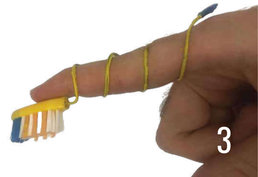


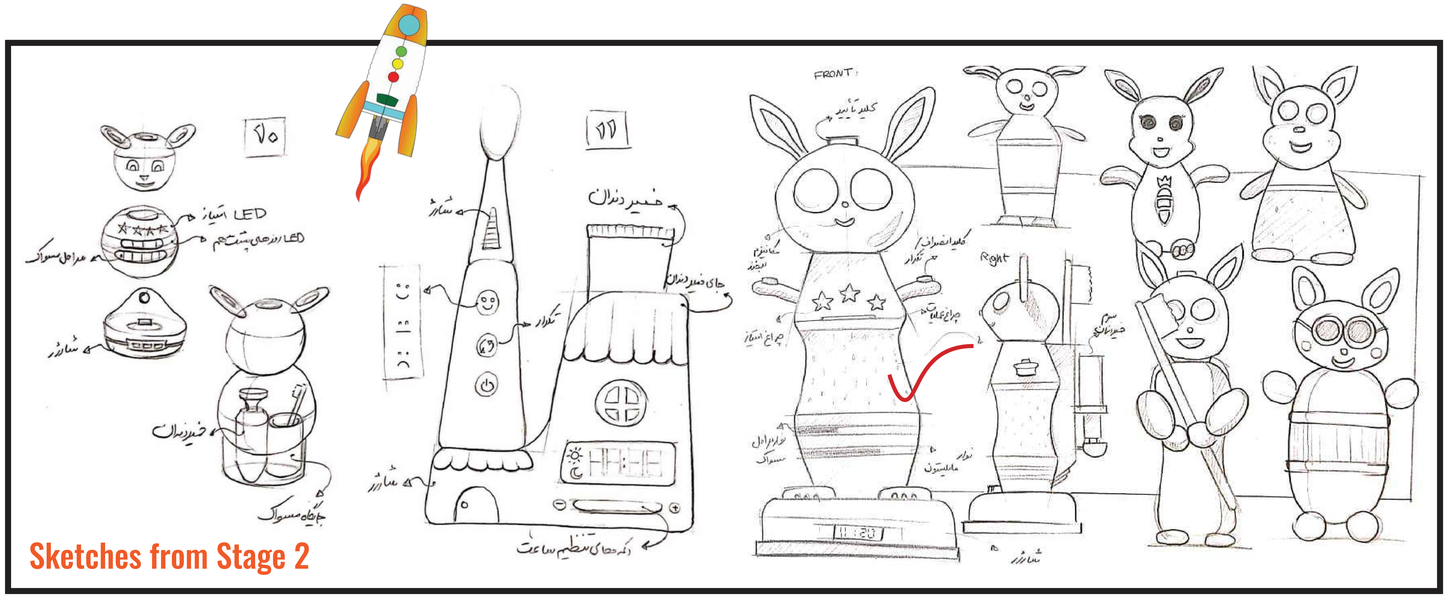
Stage Two Design Process



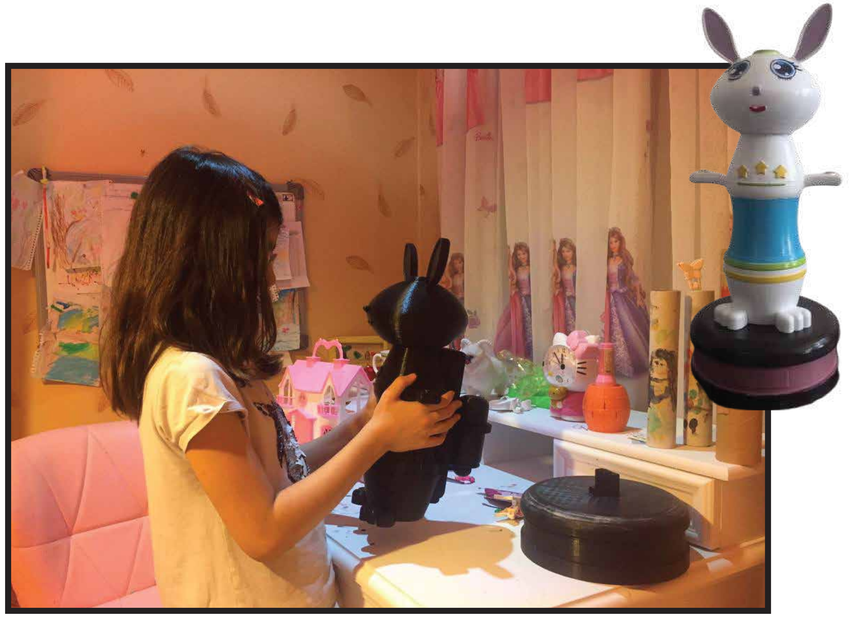
Usability Testing

Due to restrictions during the 2019 pandemic, we conducted remote usability tests to simulate how children would interact with the product at home. These sessions focused on evaluating brushing routines, digital interactions, and user engagement with gamified feedback systems. Despite the distance, we were able to observe children's real-time reactions and gather valuable data on their behaviors and needs.





Sketches from Stage 2

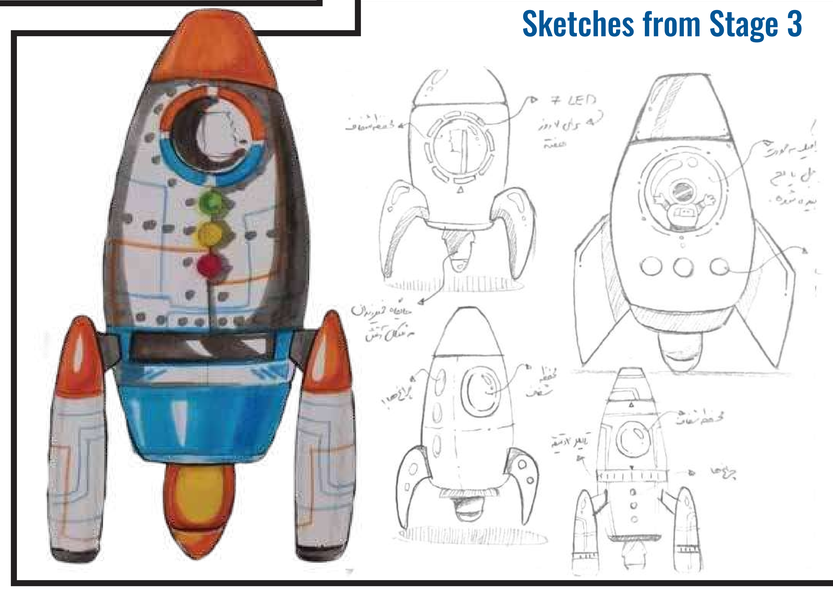


	Physical skills		Limited fine motor coordination		Overcoming brushing challenges
User (Children)		Cognitive skills		Lack of oral health knowledge		Teaching the importance of hygiene through storytelling and play
Oral Health Care		Creating healthy habits		Motivating and persuading		Improving attention and accuracy during brushing
Environment		Usage setting		Correct usage instructions		Educational training on dental care
	Storage location		Proper storage conditions		

Design Framework

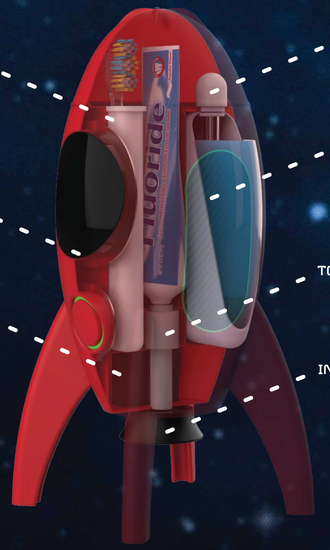
To test the final concept in real-world conditions, I created a 3D-printed, mountable model of the design. This physical prototype allowed for hands-on user testing with children to evaluate usability, interaction, and emotional response. Additionally, the modular structure supported exploration of manufacturing feasibility, assembly logic, and material constraints bridging user-centered design with production awareness.

Prototyping & Evaluation



Sketches from Stage 3

Confirm the step to go to next step



SMILE ALL THE WAY

TOOTHTRONAUT

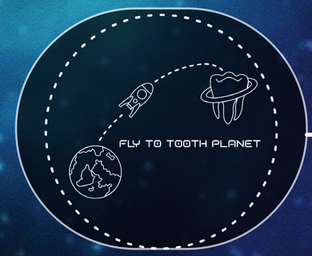
SLEEP AND WAKE UP TIMES ARE SET

EXPERT
11 : 11
NEXT SPACE MISSIONS
06 : 30
21 : 00

CLOCK RINGS

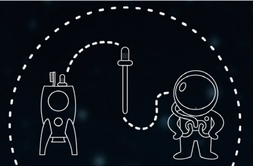
IT IS TIME FOR SPACE MISSION
06 : 30
06 : 30
21 : 00

START OF MISSION



PREPARATIONS FOR SPACE OPERATION

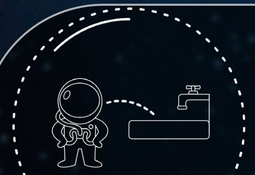

PUT THE SPACESHIP NEAR A WATER SOURCE TO LAND IT ON TOOTHPLANET

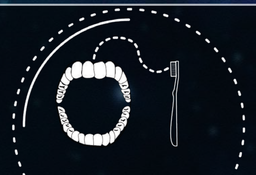

PRESS TO FILL DROPPER AND POUR MOUTHWASH IN THE MOUTH OF TOOTHTRONAUT


FILL SPACESHIP DOOR WITH WATER


TO PUT TOOTHPASTE ON TOOTHBRUSH, PLACE IT UNDER SPACESHIP EXHAUST

PERFORMING SPACE OPERATION


POUR OUT MOUTHWASH


BRUSH FRONT OF THE UPPER TOOTH OF TOOTHTRONAUT

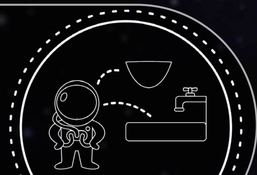

BRUSH FRONT OF THE LOWER TOOTH OF TOOTHTRONAUT


BRUSH UNDER OF THE UPPER TOOTH OF TOOTHTRONAUT


BRUSH TOP OF THE LOWER TOOTH OF TOOTHTRONAUT


BRUSH BEHIND OF THE UPPER TOOTH OF TOOTHTRONAUT


BRUSH BEHIND OF THE LOWER TOOTH OF TOOTHTRONAUT


WASH TOOTHTRONAUT'S MOUTH WITH WATER IN SPACESHIP'S DOOR

COLLECT SPACE EQUIPMENTS


EMPTY SPACESHIP DOOR AND WASH TOOTHBRUSH UNDER WATER


PUT TOOTHBRUSH IN FLIGHT PIT AND CLOSE SPACESHIP'S DOOR


FLY TO HOME PLANET

GET POINTS BY COMPLETING EACH STEP
(SHOWN HERE ONCE TO PREVENT REPEATION)

TOOTHTRONAUT

BACK IN HEAD QUARTER


PUT THE SPACESHIP NEAR YOUR BED TO LAND IT ON HOME PLANET

YOUR MISSION TO SAVE TOOTH PLANET

ToothTroNaut was awarded 8 Student Honorable Mentions at the 2022 International Design Awards (IDA) across multiple categories including: Educational Toy, Children's Products, Self Learning Devices, Behavioral Correction Tools and Toy Design. The project was recognized for its innovative approach to health education, combining behavioral science, emotional storytelling, and user-centered design into a playful tool for lifelong dental habits.

To evaluate visual hierarchy and graphic effectiveness, I conducted an eye-tracking study on the ToothTroNaut interface and physical design—focusing on elements such as balance, focal points, and instructional graphics. This ongoing research is part of my broader exploration into how visual beauty is perceived and how design decisions influence attention and user experience. In this portfolio, I briefly present key insights from this study as a reflection of my continuing pursuit to understand beauty through evidence-based design.

Eye-Tracking Study

PIECE HOLDER FOR MITRE SAW

OmniSaw – Designed for All Angles, All Cuts, All Hands

Challenge

Woodworking is one of the most injury prone crafts,
with the mitre saw being both a popular and dangerous tool.
Reported injury data shows:

18% skin lacerations

39% tendon or nerve injuries

43% severe injuries like partial or full amputation

These numbers represent not just statistics but real human risk
especially to the hand, the most vital organ for skilled labor.
Despite this, safety solutions often remain underdeveloped or impractical.

Research & Discovery

I began by studying failure modes and reviewinguser experiences across
various mitre saw models. Through direct observation, expert interviews,
and safety incident analysis, I uncovered a gap:
Users either felt unsafe or developed unsafe workarounds to maintain control
over small or irregular pieces.

Using Failure Mode and Effects Analysis (FMEA) and anthropometric data,
I mapped where hand placement and material slippage most often caused danger.

- Keep hands outside the cutting hazard zone
- Maintain firm control over the workpiece
- Allow easy adjustments without extra tools
- Fit the existing saw structure without obstructing motion
- Be ergonomic, intuitive, and manufacturable

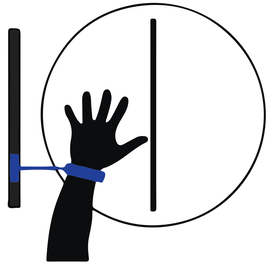
Design Goals

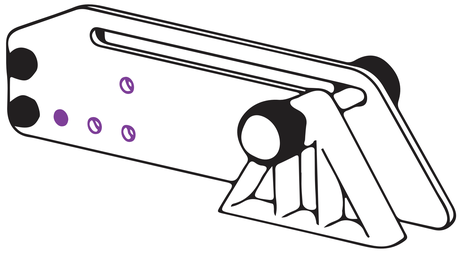
I explored various mechanical and modular clamping methods
through sketches and low-fidelity models.
Key breakthroughs included:

Ideation & Prototyping

- A pivoting holding arm adaptable to multiple cut angles
- A dual-surface clamp to stabilize workpieces without touching the blade zone
- A handle designed using human grip data for maximum comfort and minimal fatigue

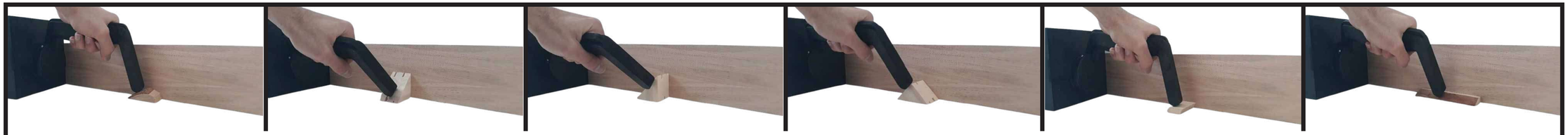
I developed multiple iterations of 3D models, ultimately 3D-printing a full prototype
using PLA to test alignment, reach, and force feedback.





From Concept to Comfort

Prototype 2 introduced a dual-surface clamp to stabilize workpieces without entering the blade zone. Building on that concept, the final product evolved to include a handle ergonomically designed using human grip data ensuring maximum comfort and minimal fatigue during extended use

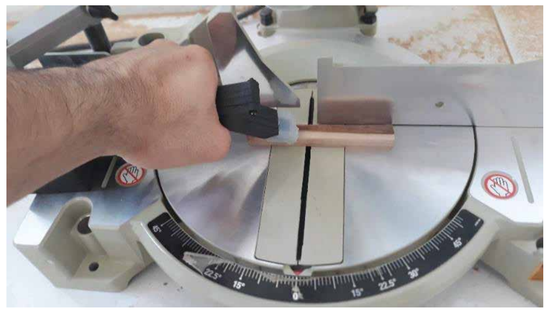


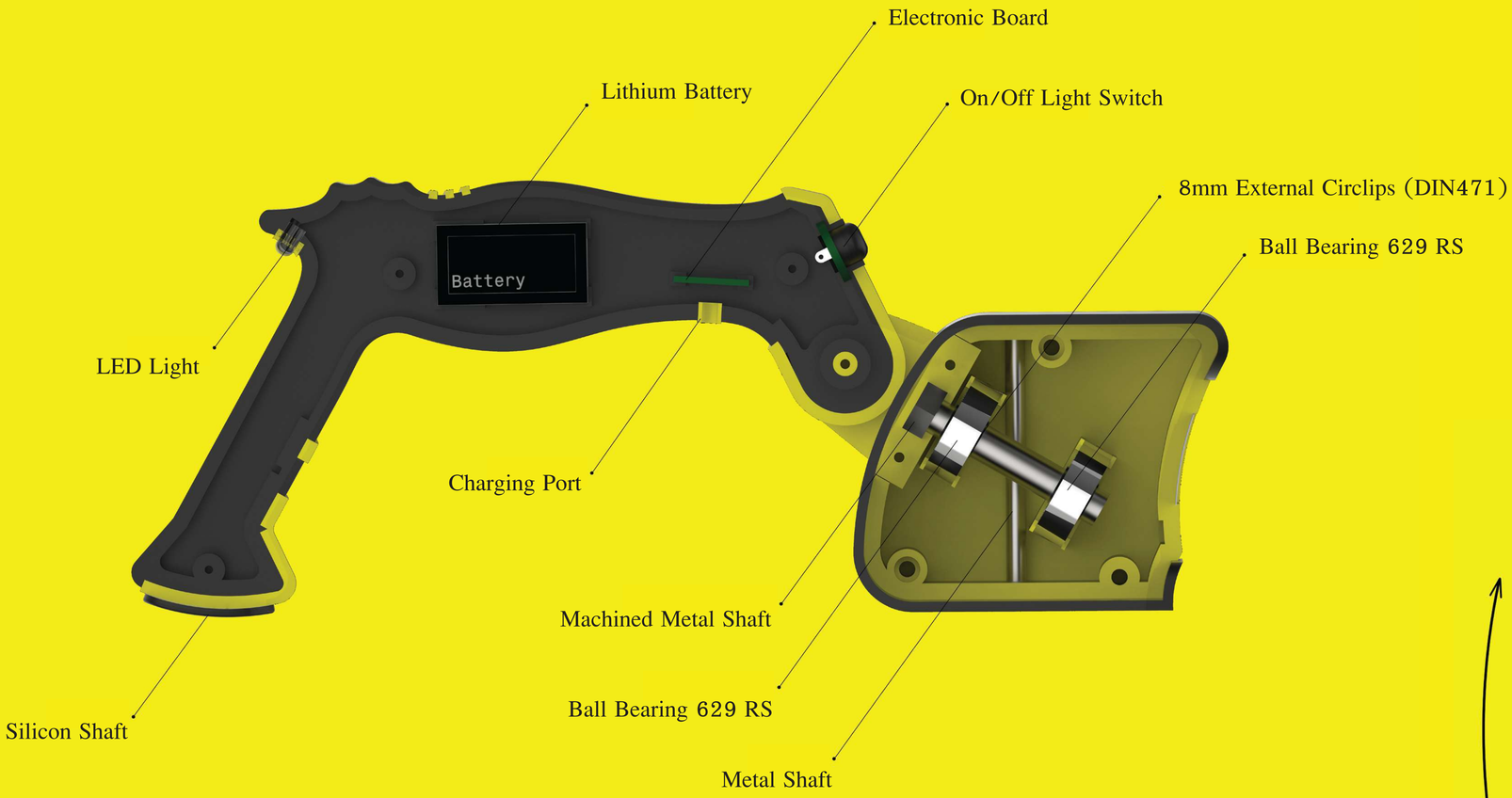
Testing & Feedback

The prototype was tested in simulated cutting scenarios with woodworking instructors and experienced users. Feedback confirmed:

- Significant reduction in hand stress
- Greater confidence in handling smaller parts
- More precise cuts due to better stabilization

The design also showed manufacturing feasibility using standard materials and injection molding.





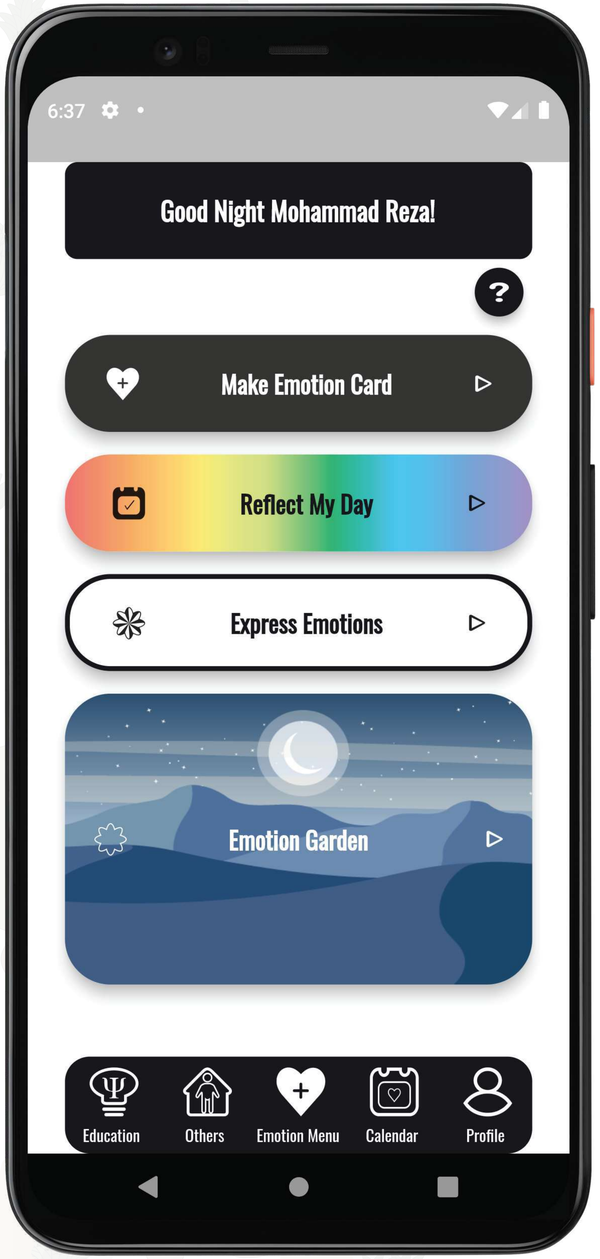
OmniSaw secures firmly under the mitre saw's clamp. The jointed handle and silicone base work together to lock small pieces in place, keeping hands out of harm's way, and minds focused on the task

To design for safety is to design for confidence. Every detail of OmniSaw was developed with the user′s hand, posture, and precision in mind.
So we shaped the grip around human hand data, building a form that fits naturally in the palm, with anti-slip textures that feel secure even in gloves.
Comfort reduces fatigue, and comfort makes safety repeatable.
Every surface tells a story soft silicone for grip, rigid composites for structure, and bold color segmentation to visually separate functional zones.
This not only helps with manufacturing and assembly, but also makes the product more intuitive to use..

Emotion Diary

Every Emotion Matters

I created Emotion Diary with the belief that every emotion matters and all emotions are valid—there are no “good” or “bad” feelings, only signals to understand.
To reflect this, I designed each emotion as a unique flower beautiful in its own way.
As users log and reflect on their feelings, these flowers begin to grow and evolve, visually representing their personal emotional development.
The more consistently they engage with their emotions, the more their Emotion Garden flourishes, turning emotional awareness into a living, growing experience.



Globally, 1 in 7, 10-19-year-olds experiences a mental disorder, Accounting for 13% of the global burden
Our target audience is teenagers and young adults. The consequences of failing to address adolescent mental health conditions often extend into adulthood, impairing both physical and mental health and limiting opportunities to lead fulfilling lives. Most of these issues stem from a lack of emotional awareness and poor emotional management and regulation.

Design Challenge

There is no problem with experiencing emotions;
The problem comes with the way we express them.
To manage and regulate Emotions Users need:

Ability to (To be Aware / Define / Track / Express / Valuate Expression of) Their Emotions

Make this into a Habit (Unconscious & Repetition)

Through habit-building and self-reflection,
The app nurtures emotional literacy and long-term well-being

Design Framework

We provide

- simple and easy to use platform to define emotions
- game-based learning to make emotions awareness fun
- track and analyze emotions
- revaluate and improve relationships and enviourmnets based on emotions
- platform to help express, track expression status and rate expression of emotions
- make this into habit by Playing a video game that gameplay happens in real life

In results

By repeating this process
customers will be able to be
Aware of the Consequences of
Their Emotions and Expressions.

Awareness of disorder
Find Appropriate treatment method
Encourage treatment

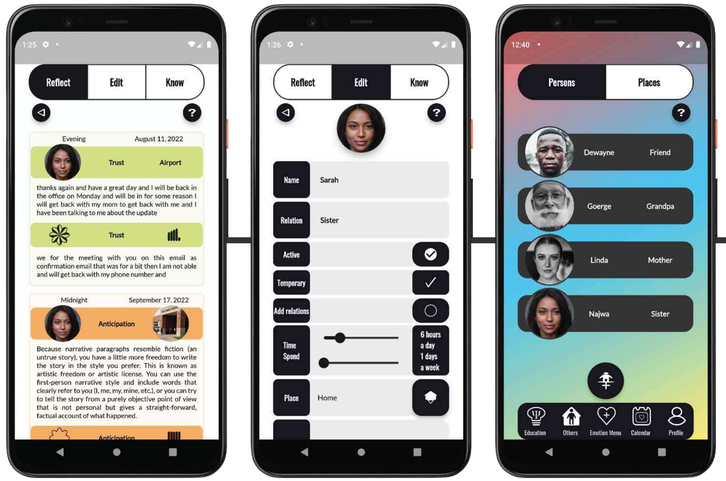
Establishment of Maturity of Ego

Emotion Diary is an emotion awareness, management, and regulation as well as relationship and environment adjustment mobile application for teenagers and young adults,with an in-app mobile game as a rewarding system when the gameplay happens in real life. By analyzing the user's emotions, relationships, and environments, it can detect disorders and find appropriate treatment. It also makes a custom emotion profile for the user for affordable, 24/7 on-demand therapy.

Design Vision

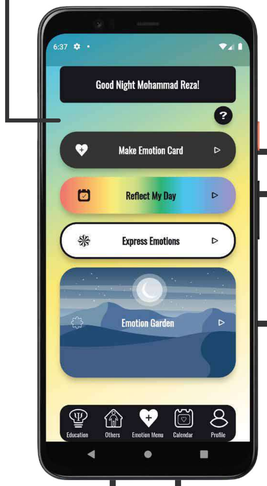
MVP stage

Define Relation

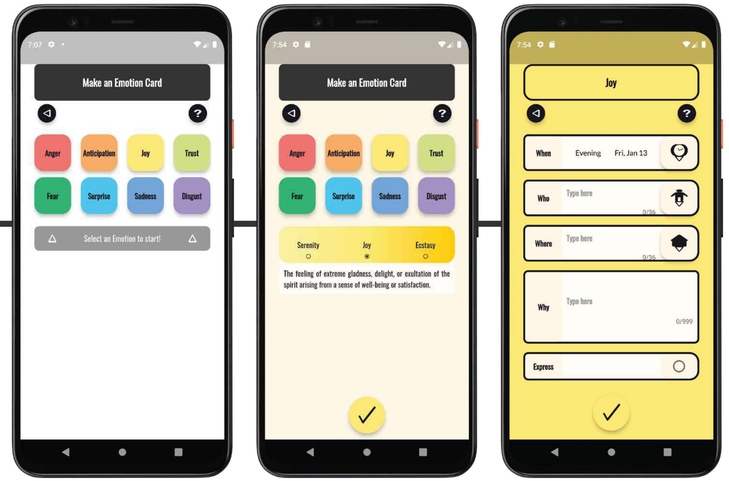


Define Enviourment

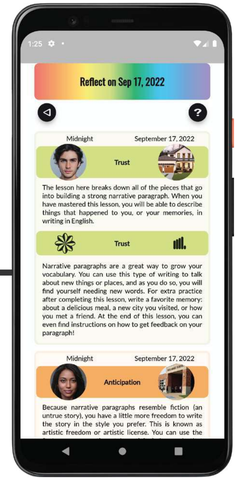
Dynamic Emotion based background



Define Emotion

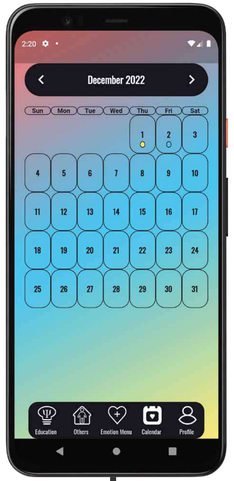


Reflect Emotions



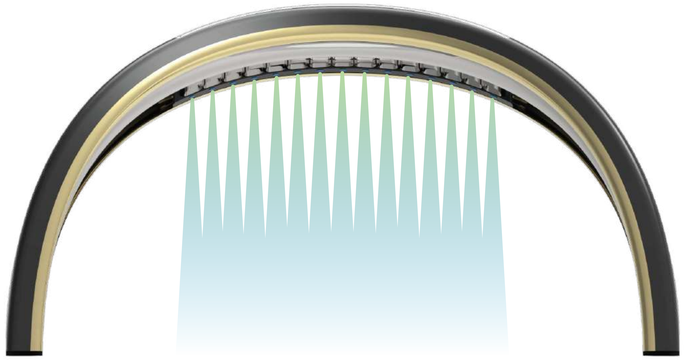
Game based Rewarding System

Track Emotions

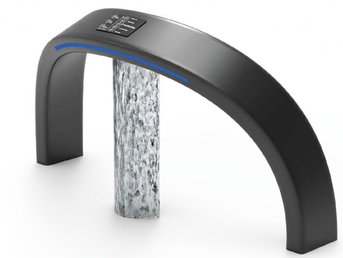


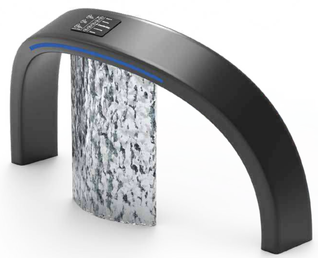

bshar

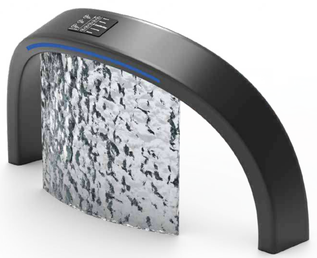
"Abshar" (Persian for waterfall) is a smart, sensory-driven water tap designed to blend sustainability with convenience and emotional design. Abshar uses gesture recognition to dispense water based on the width and position of the user's hand, ensuring just the right amount of water flows, no more, no less.



Always Just the amount you Desire

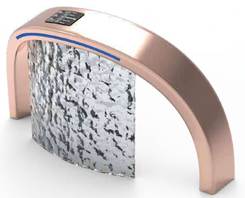


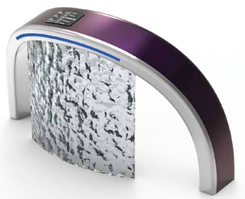


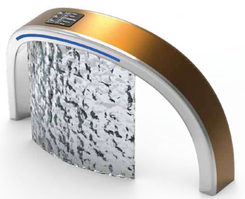


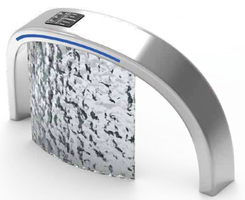
And Everything Between

Gorgeous, Any Color, Any Style





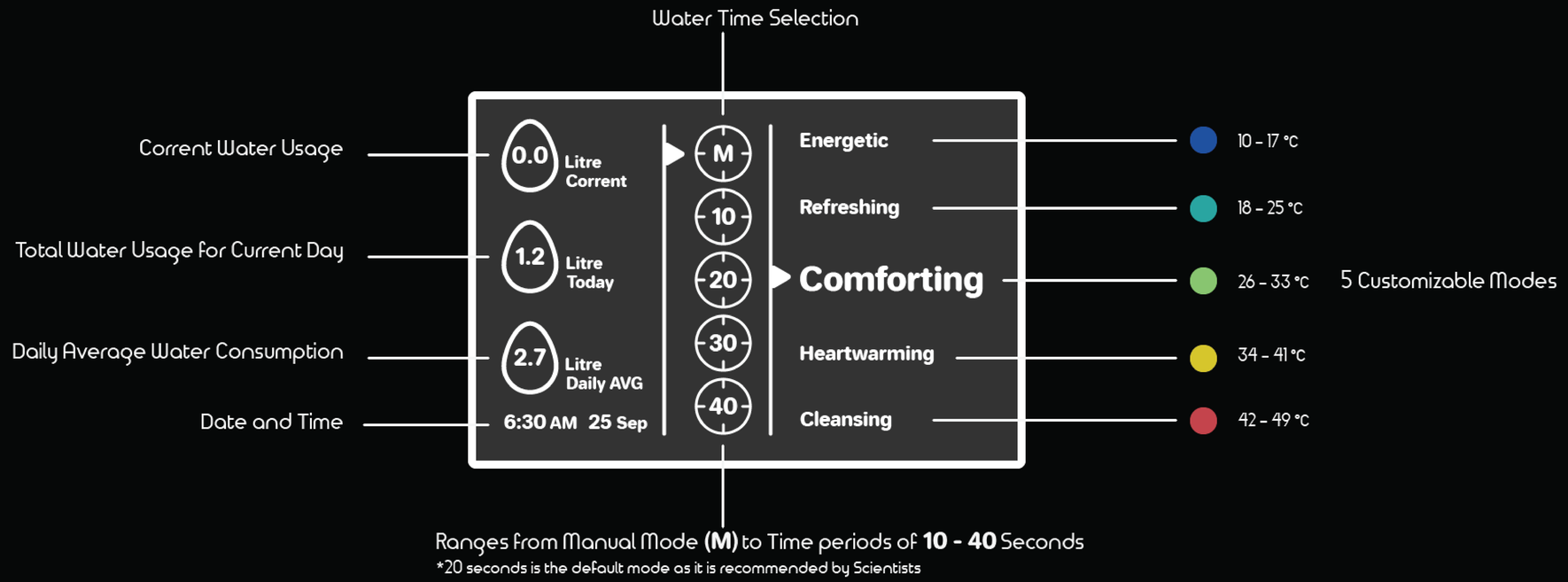




Abshar

To ensure seamless integration into any space, Abshar was designed with a universal, minimal form and a neutral base finish, allowing it to be fully customizable in color and surface material. Whether in a modern spa-like bathroom or a traditional home, Abshar adapts to its environment without losing its identity..

Abshar is equipped with a display screen that shows real-time water usage, encouraging awareness without guilt or interruption.
The aim is to cultivate conscious water use without sacrificing ease or beauty.



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The tap includes temperature-sensitive lighting, which changes color according to water temperature, offering an intuitive and aesthetic feedback system.
Users can control the water temperature through simple hand gestures, selecting between five distinct modes:

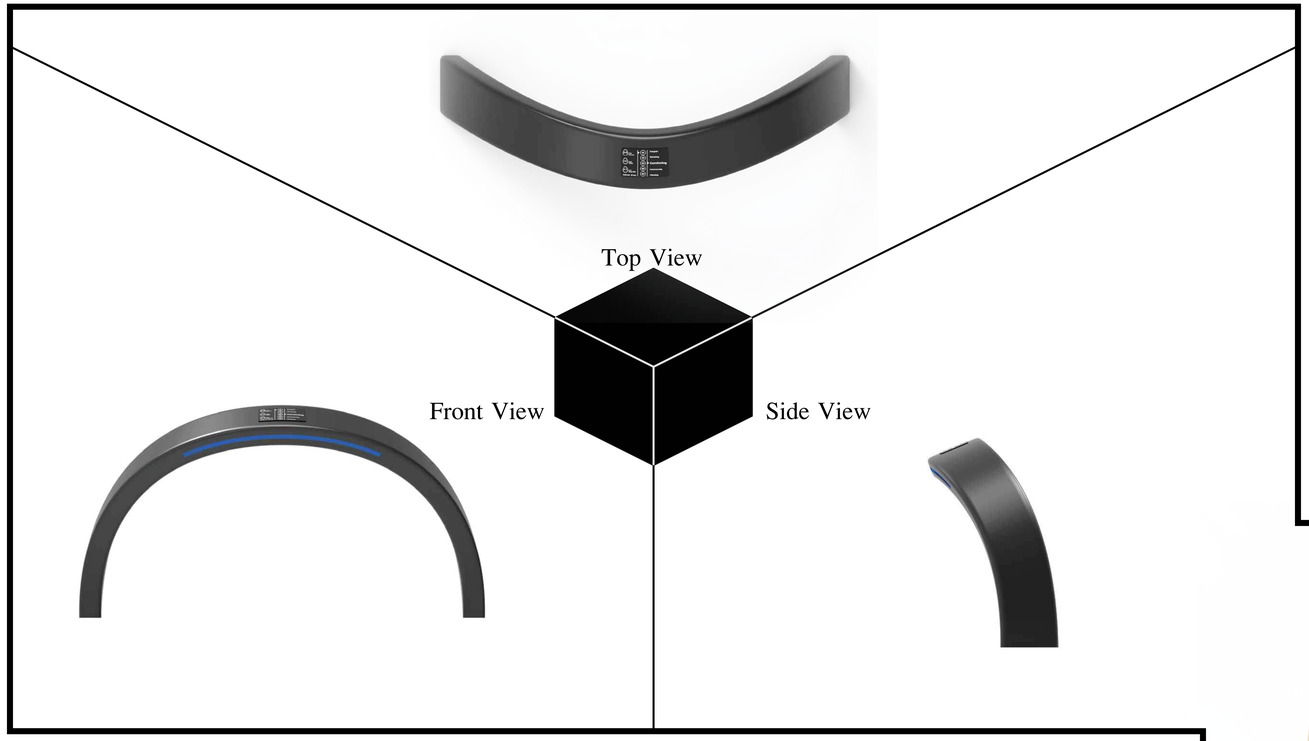
Energetic

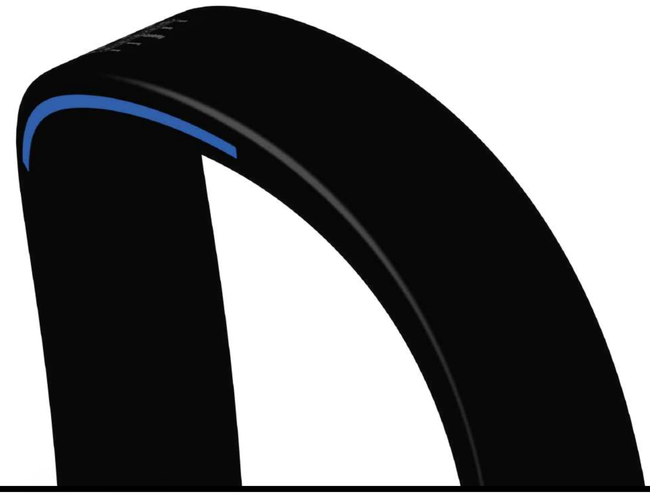
Refreshing

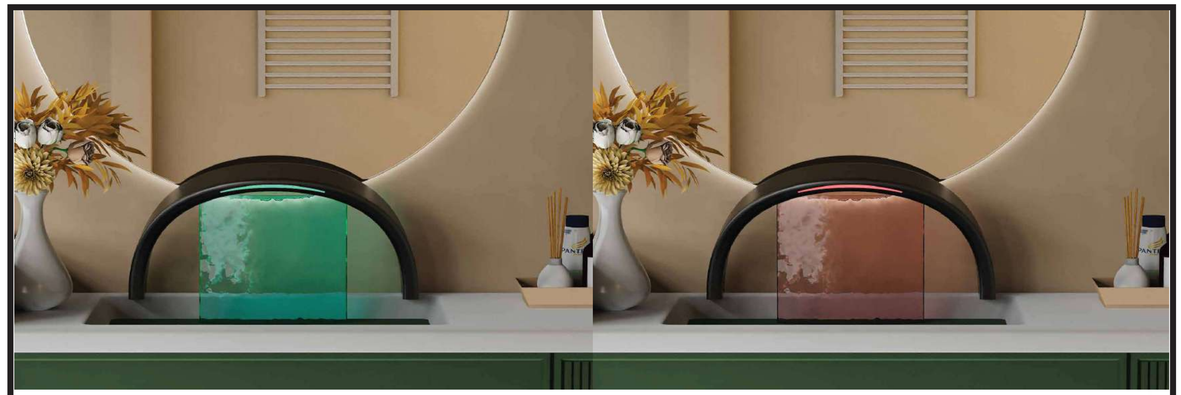
Comorting

Heartwarming

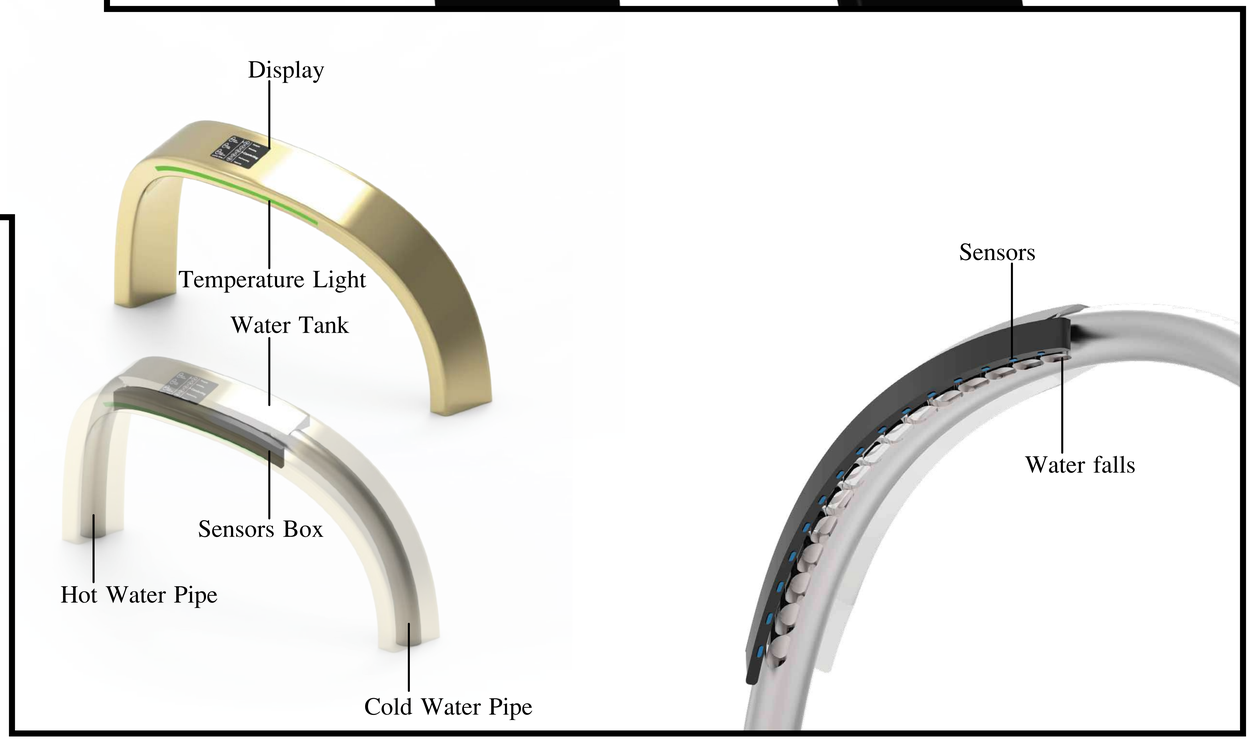
Cleansing







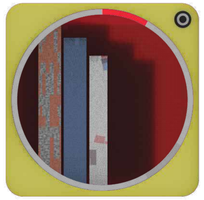
This design emerged from the belief that sustainable solutions should feel intuitive and empowering, not restrictive. Abshar respects the user's flow while gently inspiring change.

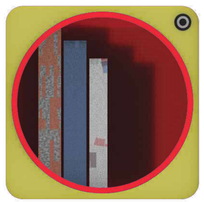


Jansū

We called it Jansū, after the soul-water that nourishes from within,
because reading should be just as natural, just as vital.
A single shelf becomes many. One book opens a world.
And with every page you turn, Jansū flows and grows, just like you do.

Reading Process





Customizable and Medullar

Jansū

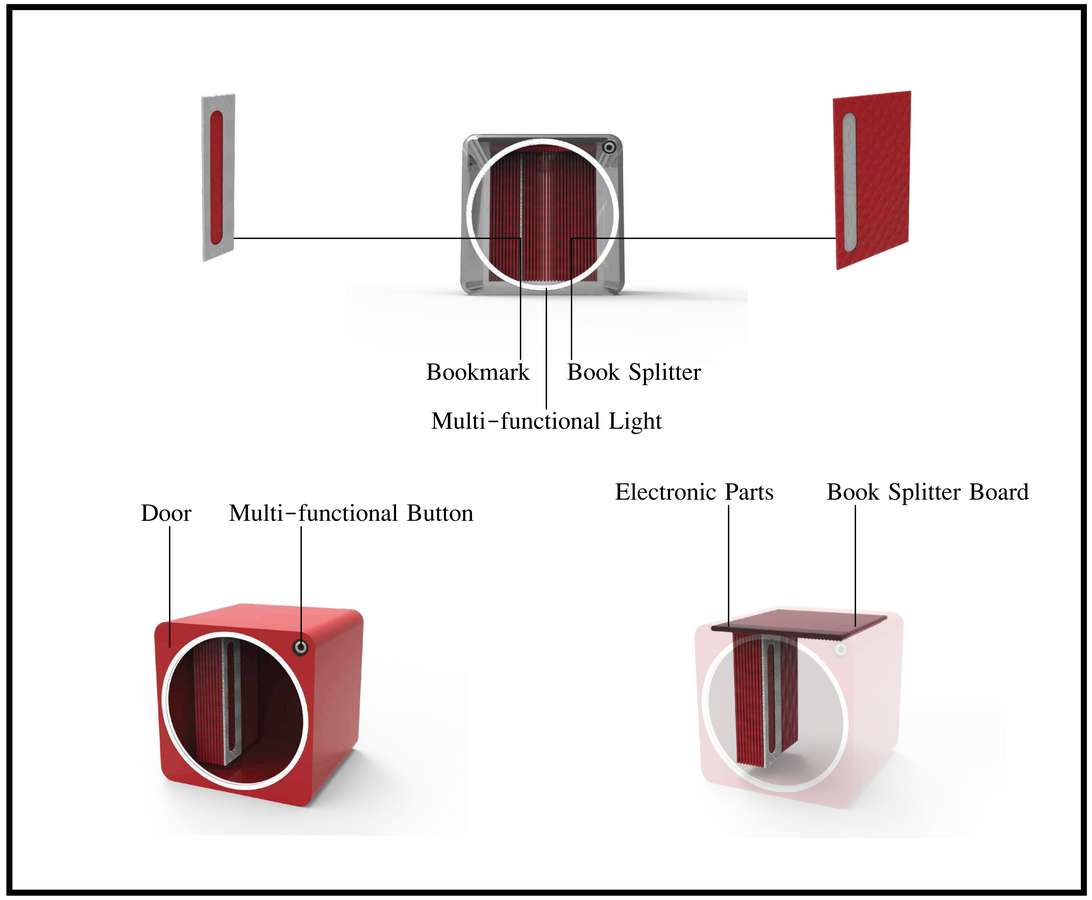
Designed for people who want to build or strengthen a reading habit, Jansū begins with a single module.

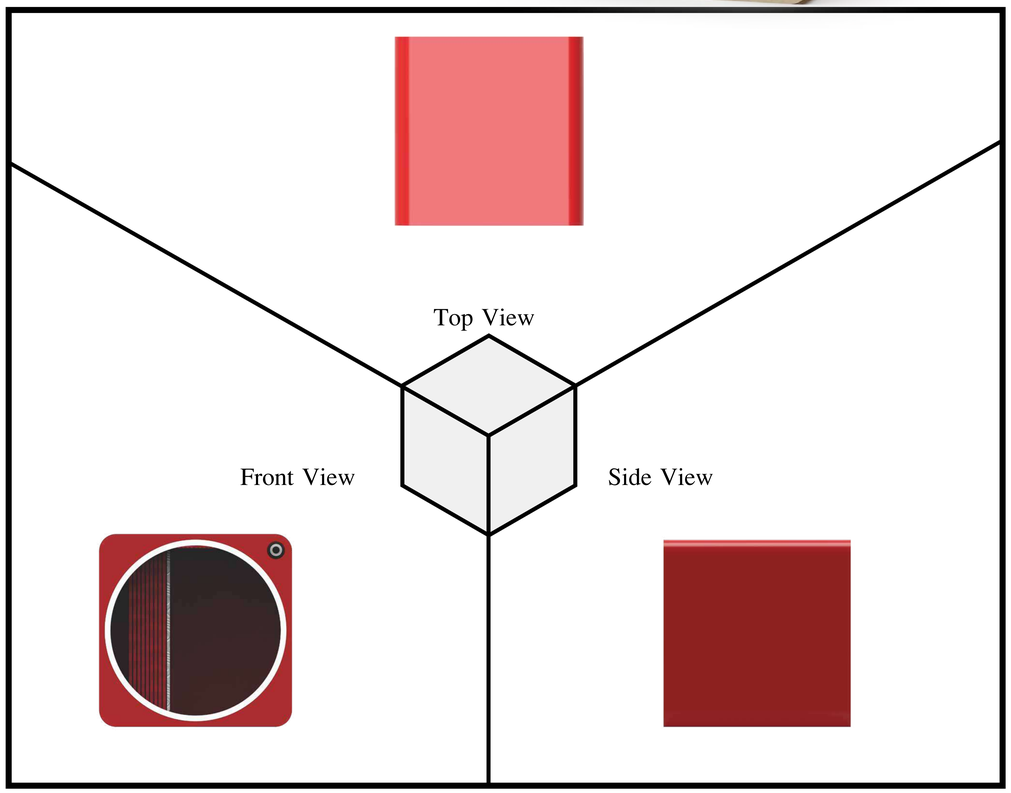
As you read more books, new shelves are added, transforming your growing collection into a visible, living achievement, like how water flows into our body.

Each shelf is modular and customizable: users can choose their own color palettes, and integrated ring lights can shift colors to organize books by genre, author, or emotion.

The ring light also functions as a gentle progress indicator, it lights up gradually while you read, showing your reading activity over time.

If you haven’t read for a while, it starts to softly blink to remind you to return to your reading routine.





Jansū

Inspired by the idea that books are quiet currents into other worlds,

Jansū is designed with a glowing, circular light motif, a portal of light that symbolizes each book as a gentle gateway.

Whether placed in a home or reading corner, Jansū becomes a calm ritual space, where the soul is nourished and imagination flows freely.

Product Anatomy

Every tool we designed shaped us in return from the wheel to the touchscreen.
If you're working on what comes next, I'd love to hear from you. Thank you.

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