product
design

PORTFOLIO.

2025

Kashish Bansal

NAMASTE!

ABOUT ME

Enthusiastic, aspiring graduate committed to continuous learning and constructively using my industrial creative skills for problem-solving. With my quick learning skills and will to strive for excellence, I can be a proven asset to the society.

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Education

Present	Savannah College of Art and Design - Savannah (SCAD)
2020- 2024	Bachelors In Product Designing ,MIT WPU, PUNE
2018-2020	Rao Junior College of Science, PUNE
2018	The Bishop's Co-ed School Kln, PUNE

Skills

Sketching
Prototyping
Creative thinking
Collaboration
Team Leadership

Softwares

Blender
Rhinoceros 3D
Fusion 360
Keyshot
Figma
Adobe Photoshop
Adobe Illustrator
Sketchbook

Achievements

- Design Registration - Sellotape end Finder (358290-001)
- Design Registration - Organizer (369480-001)

Contents

PHULBANI
Individual Project
3 Months

reCharkha
Internship work
5 months

LAMP
Individual Project
2.5 week

CO-SCRUB
Individual Project
2 Months

DRESS UP CABINET
Individual Project
1 week

ART-HAUS
Group Project
3 week

ADDITIONAL WORKS

Phulबानी

Improving the quality of life for older people by introducing interactive game that take into account their over-all well-being, resulting in a lively and stimulating social environment.

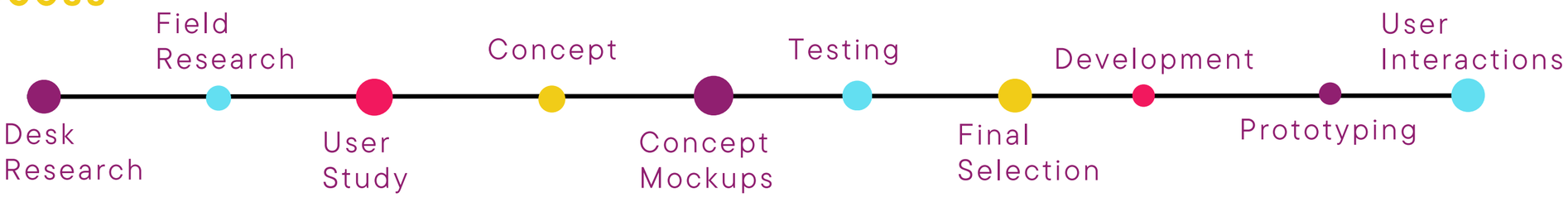
Problem Statement

The **elderly population** faces significant challenges in **mental** and **emotional well-being**, exacerbated by a lack of engaging activities. Existing games in the market fail to cater to their unique needs and preferences, leading to **boredom and diminished cognitive stimulation.**

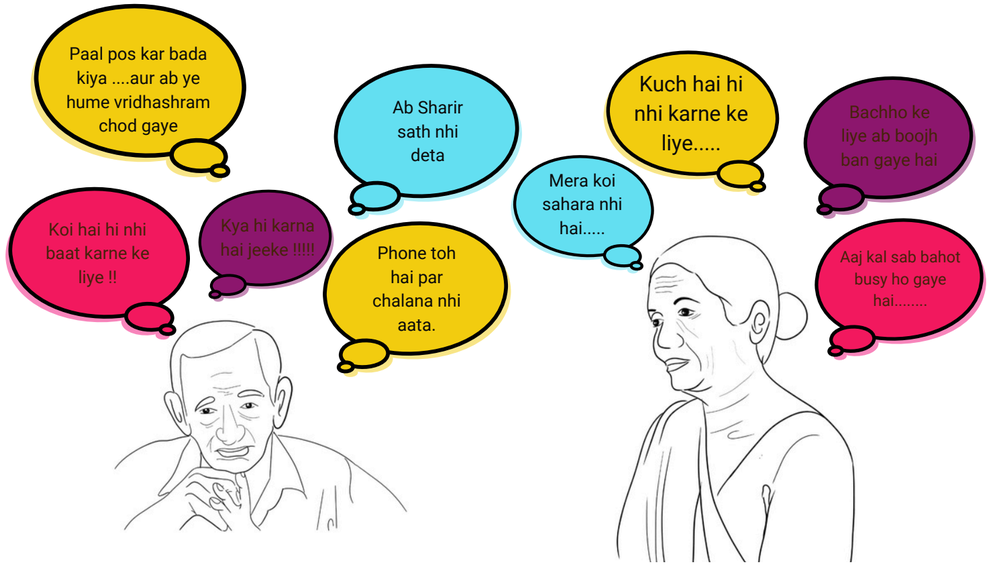
Background

The elderly require engaging activities to improve their mental and emotional well-being. Current market games don't meet their specific needs, leading to boredom and decreased cognitive stimulation. **Creative games** adapted to individual tastes and capabilities are needed to provide a meaningful and exciting approach to **improve their mental and emotional health.** Recognizing and meeting this need is crucial for improving the elderly's quality of life and contributing to their overall health and happiness.

The Process



User Study



Name: L.S.Rana
Gender: Male
Age: 66 years
Segment: Nuclear

L.S.RANA, a man found in a park near Kalyani Nagar, expressed a **desire for fun and enjoyment**, but **struggled to socialize**. He frequented the park, practicing yoga and walking, revealing his **quest for recreation and connection**.

Name: Madhvi Kale
Gender: Female
Age: 70 years
Segment: Old age home

Mrs. Madhavi shares her experience of **financial constraints** in an old age home, highlighting the **lack of staff and lack of organized activities**, leading to passive residents.

Study Board

Must Haves

- Minimum Staff Assistance.
- Fun Experience
- Physical Movements to strengthen muscles
- Familiar Design Concepts
- Modes for elderly interaction

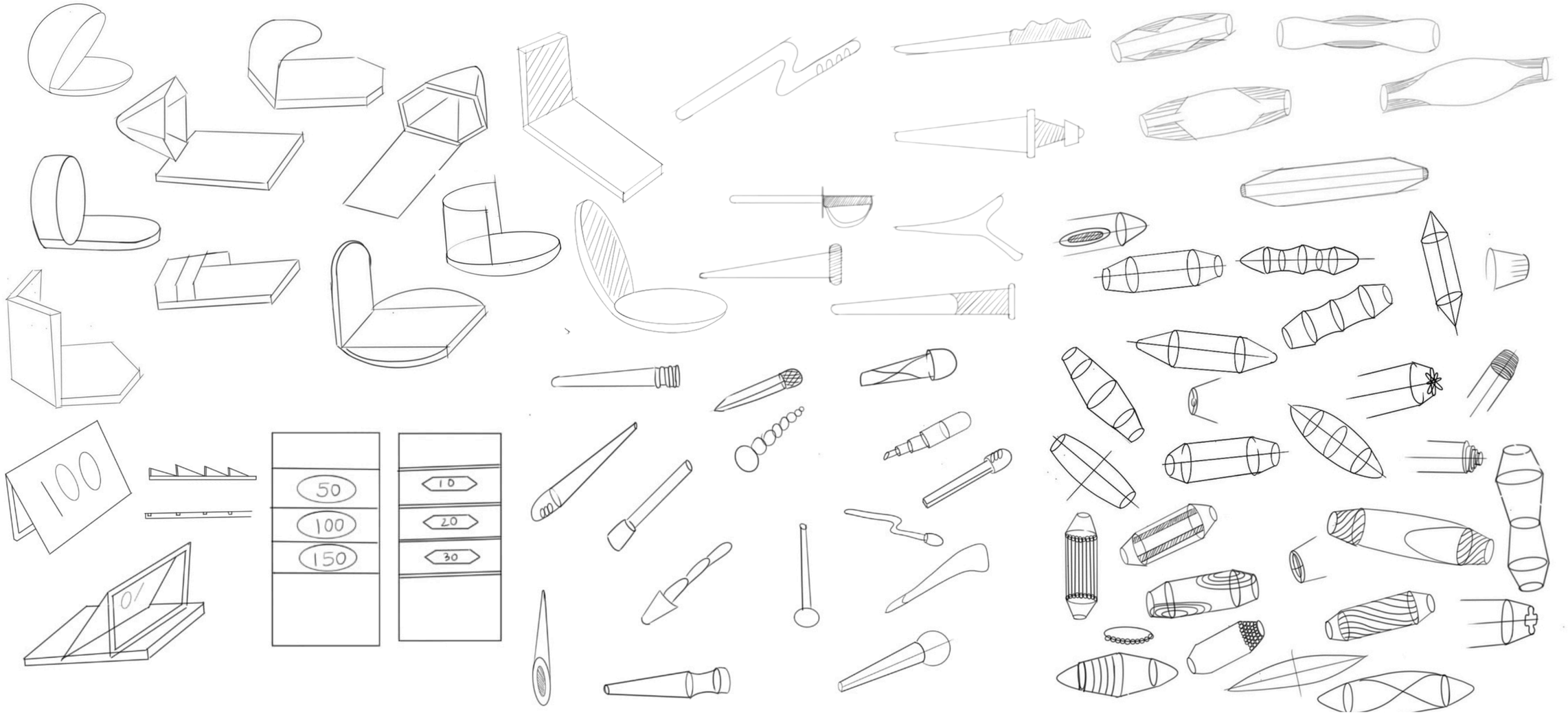
Good to Have

- Sensory Stimulation through the use of lights and sounds.

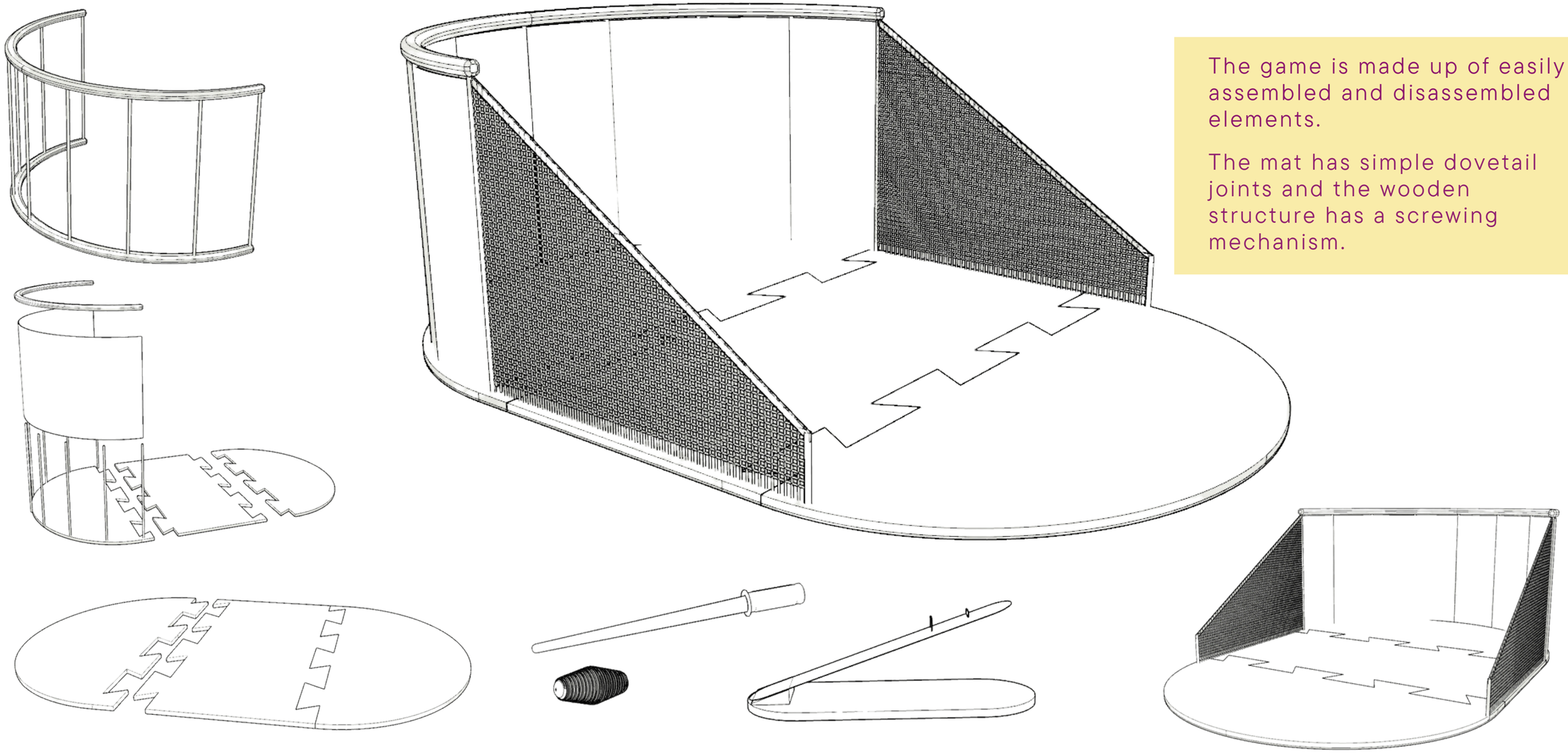
Inspiration Board

Ideation

Target Audience: Elderly citizens residing in old age homes and elderly daycares.
Age Group: 60 years to 80 years.



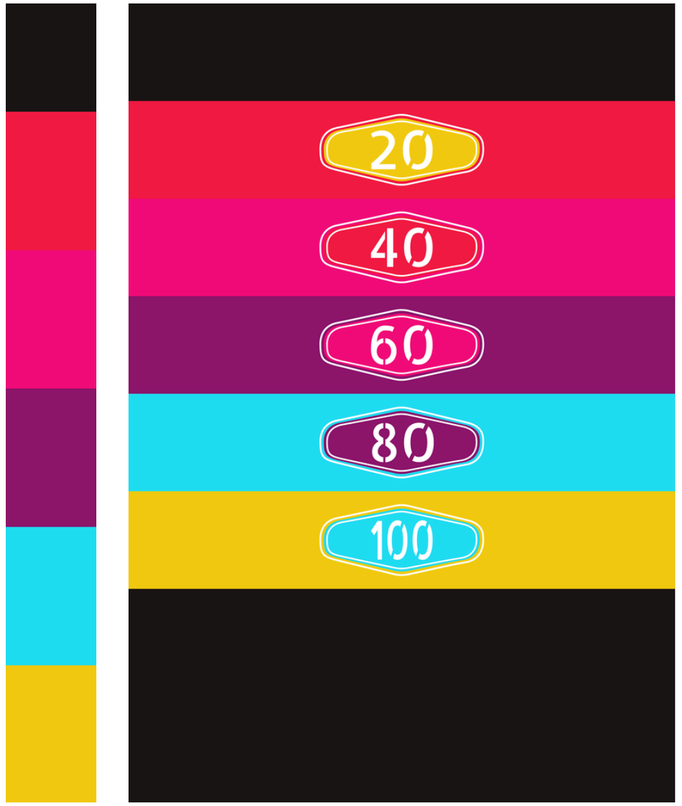
Final Details



The game is made up of easily assembled and disassembled elements.

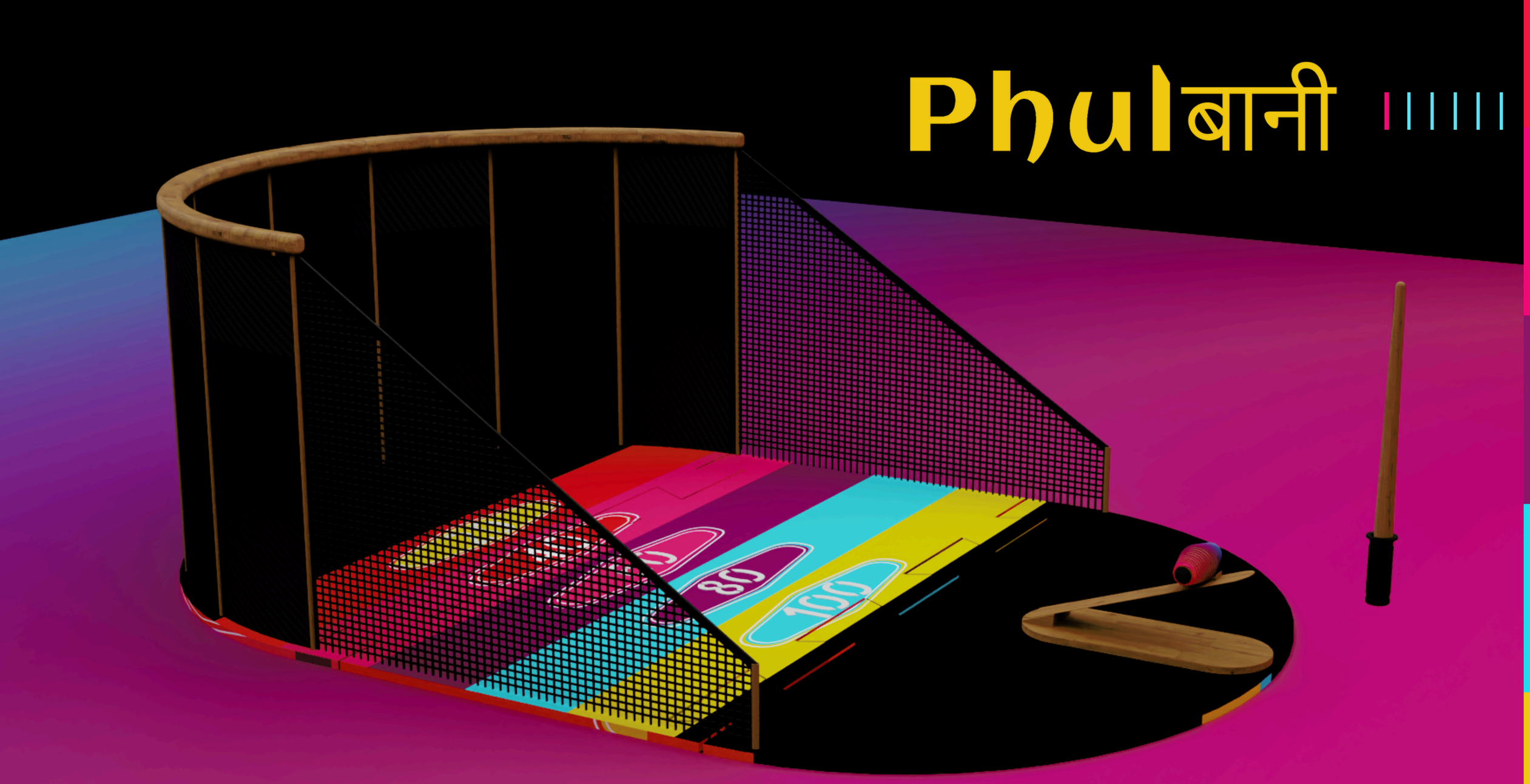
The mat has simple dovetail joints and the wooden structure has a screwing mechanism.

Final Concept

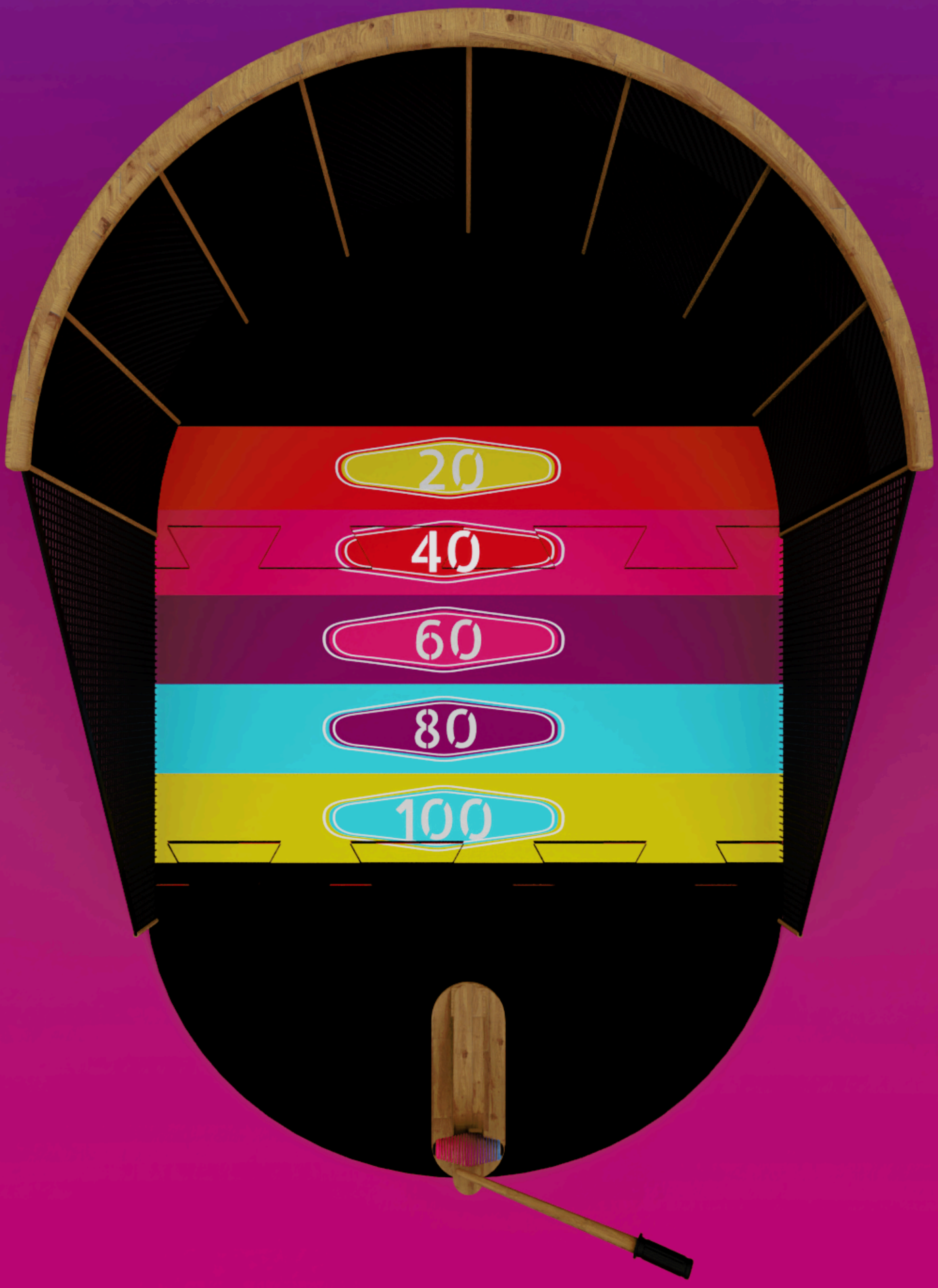


The game, inspired by the traditional outdoor game of **gilli danda**, has been adapted for indoor play. It features an easily **assembled and disassembled setup**, including a **wooden gilli with a rubber coil for rebound**, **a rubber grip danda** for better handling, a **catapult mechanism** for launching the gilli, a **hit board** with a wooden skeleton and **rubber mat** for rebound, and **fixable safety nets**. The game also includes a **scoreboard** with **light and sound sensors**, enhancing engagement for elderly players and providing a safe, enjoyable, and stimulating gaming experience.

Phulबानी

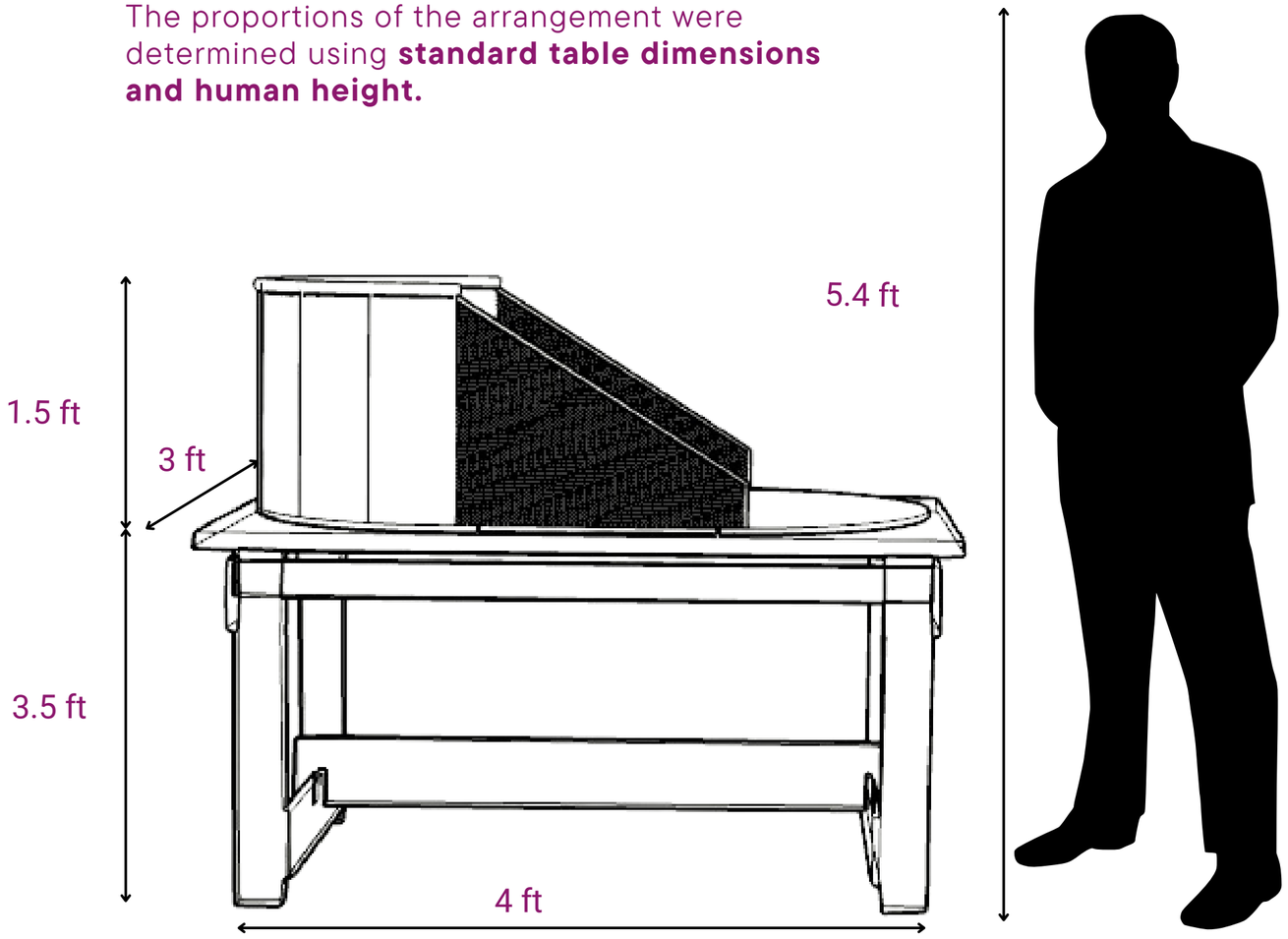


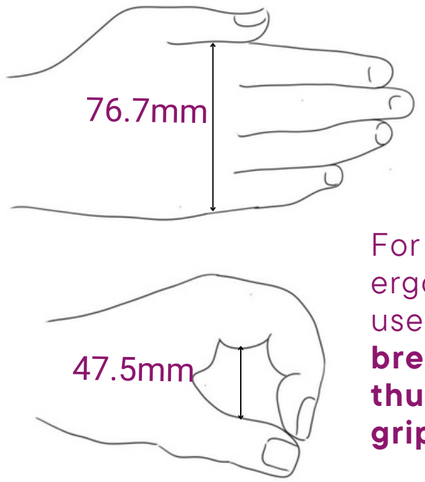
SOFTWARES: Adobe Illustrtor, Adobe Photoshop, Sketchbook, Rhinoceros 3D, Blender


20
40
60
80
100

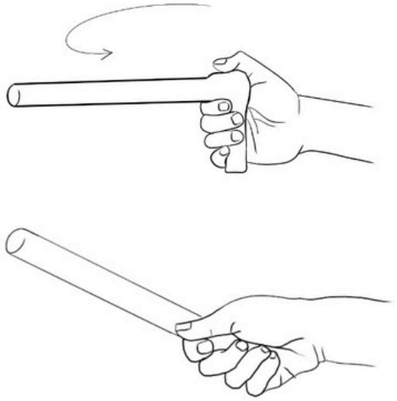
Ergonomics

The proportions of the arrangement were determined using **standard table dimensions and human height.**





For creating an ergonomic danda for users, consider the **hand breadth without the thumb and the inner grip**.



The danda's development involved studying **two grip types: two-axis and one-axis (90°).** Observations showed **one-axis grip was more effective for physical movement**, aligning with the project's goal of maximizing engagement and ensuring user-friendly design.

Prototype

The prototype, made from various materials, was designed for comprehensive testing and evaluation. It was built in a 1:1 scale for future refinements.

Phulबानी

With re-Charkha The Ecosocial Tribe

This project focuses on creating a **sustainable toy collection** that embodies eco-friendly innovation, community empowerment, and environmental stewardship. By incorporating **reCharkha upcycled fabric and collaborating with local artisans**, the toys are designed to be environmentally responsible while supporting fair trade and marginalized communities. With a focus on **creativity, learning, and positive values**, this initiative expands the companies product line while staying true to their mission of promoting ethical consumerism.

In this project, **my contributions** included **conducting research, conceptualizing and ideating new games**, and exploring innovative ways to incorporate reCharkha's upcycled materials into the **manufacturing** process. I also **designed game card graphics, instruction manuals, packaging, and branding**, along with **prototyping the games**. Additionally, I **promoted** the collection through **kids' summer camps** and handled **photography** for **online platforms** to enhance **visibility and engagement.**

https://www.recharkha.org/pages/recharkha-plays

SOFTWARES: Adobe Illustrator, Adobe Photoshop, Sketchbook

re-Charkha The Ecosocial Tribe

This project aimed to develop innovative solutions based on **circular design principles**, promoting awareness and encouraging the adoption of sustainable practices to support a circular economy. My contributions included **designing and prototyping a hat, belt, and tote bag, applying the chosen theme to the product designs, and brainstorming and prototyping a spectacle case**. Each effort focused on creativity and sustainability in both design and execution.

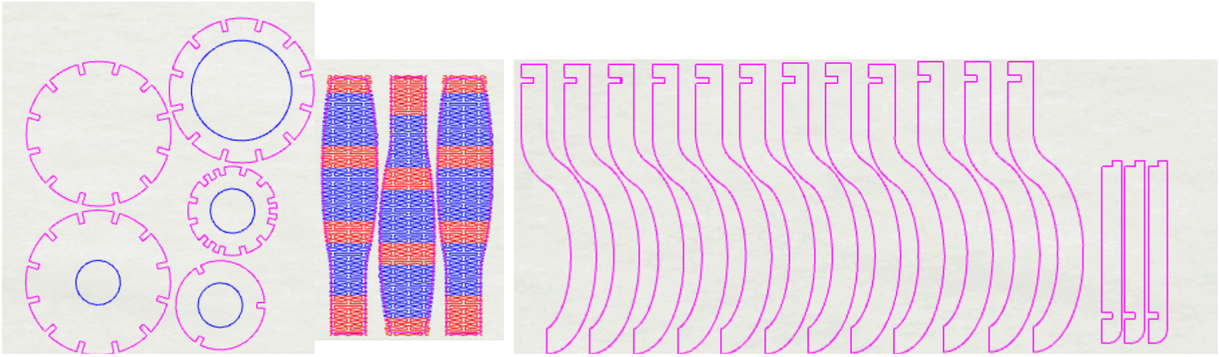
LAMP

This lamp combines organic elegance with modern design, featuring a curved wooden base and a smooth metallic top. Intricate laser-cut patterns create a warm, ambient glow, while its sculptural form adds a touch of artistry. Inspired by nature, it’s both a functional light and a stylish statement piece.

Brainstorming

The inspiration for this design was from **natural forms** such as seed pods or flower buds, symbolizing **growth and transformation**. The organic curves and layered textures evoked elements of nature, while the precision of laser cutting and the industrial feel of the detailed pattern suggest a **fusion of the natural and the technological**. This duality makes the lamp both **functional and artistic**, offering a timeless yet innovative lighting solution.

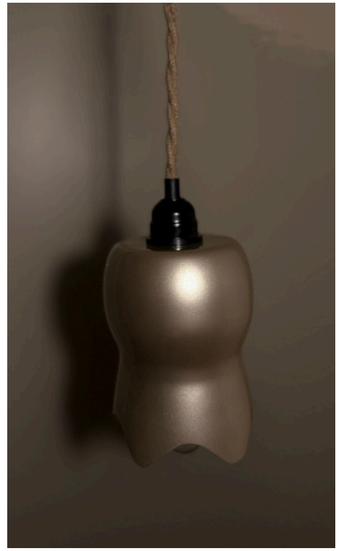
3D Visualisation-Base



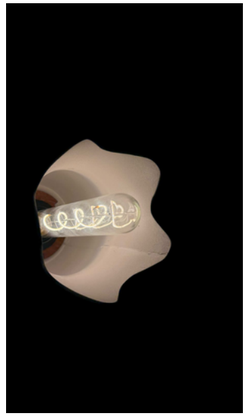
SOFTWARES: Adobe Photoshop, Sketchbook, Rhinoceros 3D,

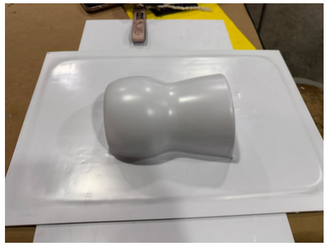
Prototype

The **lamp** exhibits a **harmonious blend of modern and organic aesthetics**, characterized by its flowing, sculptural form and the interplay of materials. The wooden base, crafted with the **kerfing technique**, creates a dynamic curvature that gives the lamp a sense of movement and warmth. The laser-cut patterns add a layer of intricacy, allowing light to filter through in a soft, ambient manner. The top section, resembling a metallic bulb or pod, adds a contemporary contrast with its smooth, matte finish.



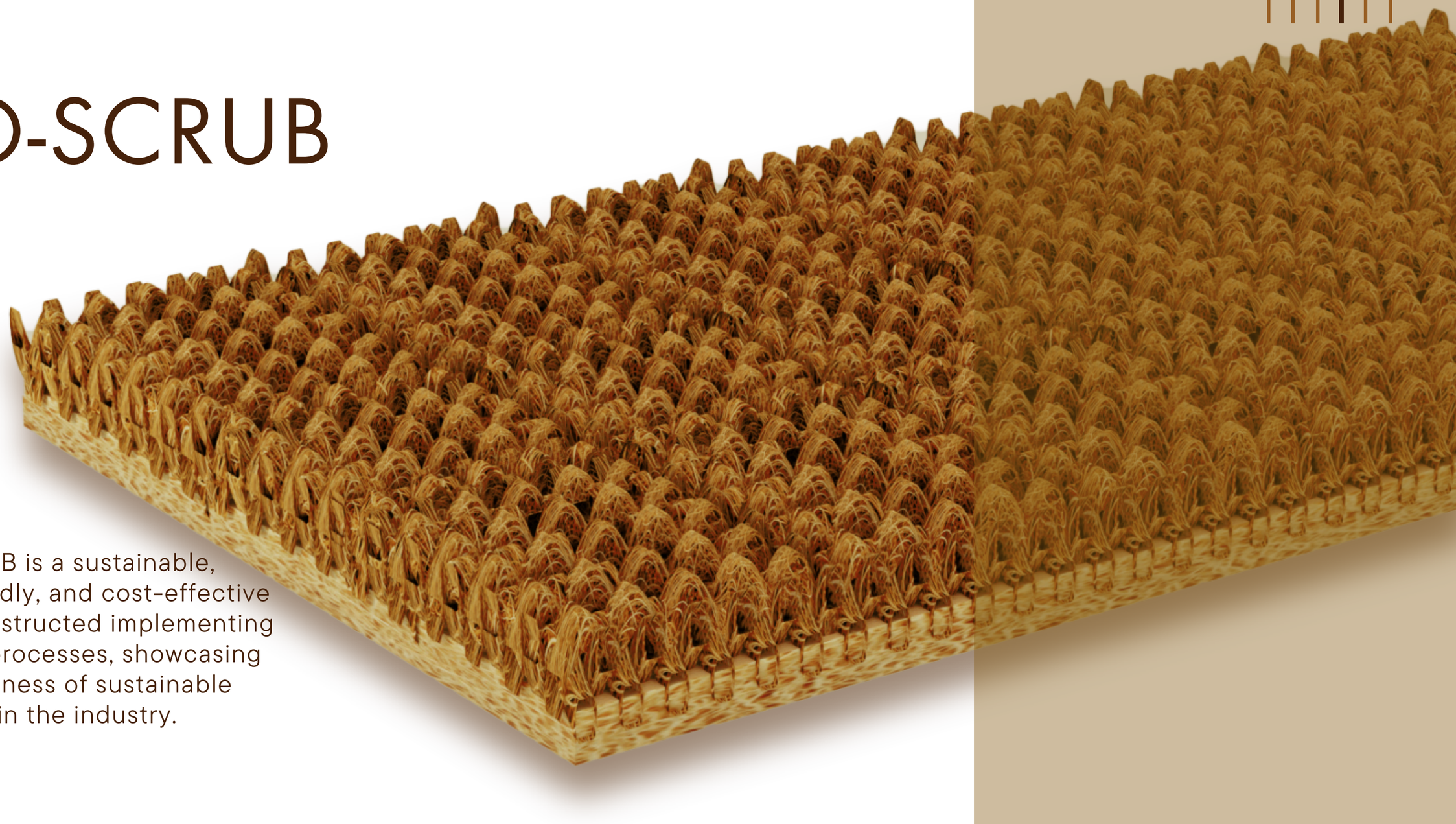
In Process...



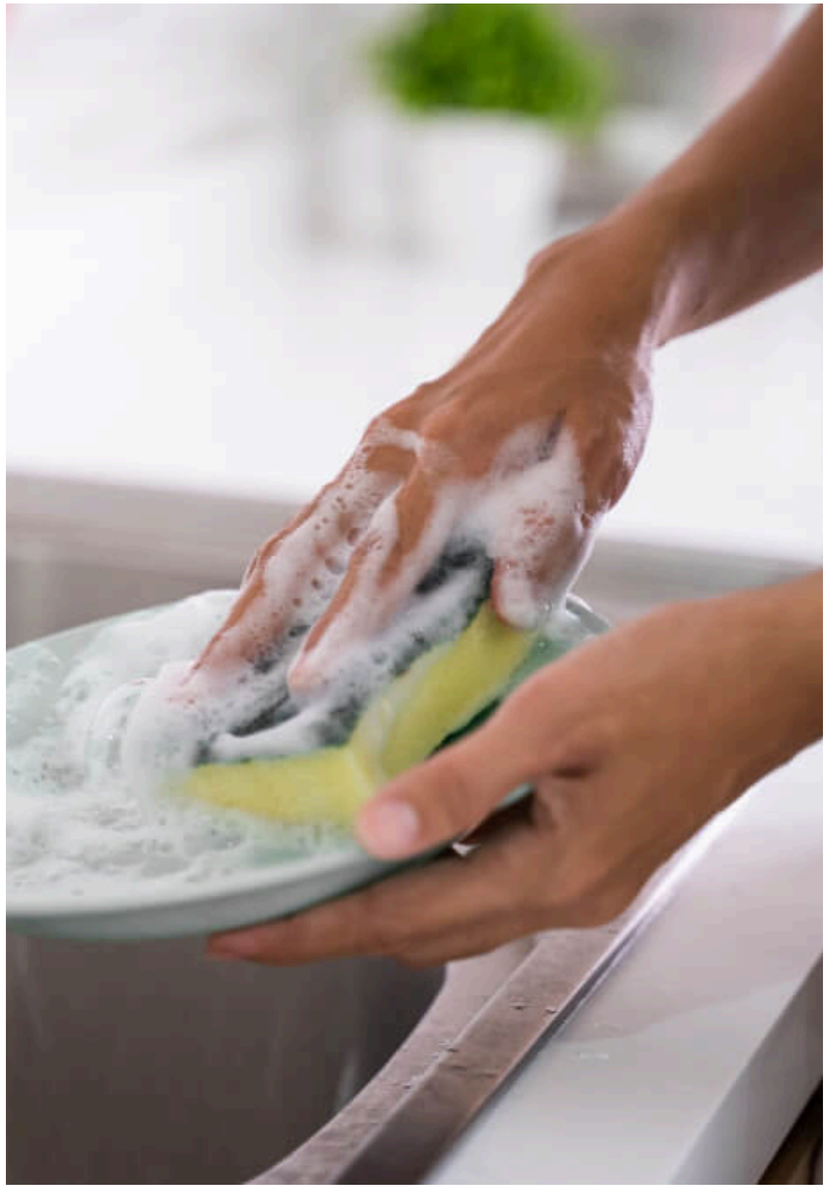


LAMP

CO-SCRUB



CO-SCRUB is a sustainable, user-friendly, and cost-effective scrub constructed implementing weaving processes, showcasing the usefulness of sustainable materials in the industry.



Problem Statement

The current market options of **utensil scour pads** made of **polyester fibers and synthetic adhesives** constitute a substantial **environmental risk**. The usage of these materials adds to pollution and ecological degradation, which aligns with growing concerns about sustainability.

Background

Handwashing is the most prevalent way of **cleaning utensils** around the world, with a sponge or scrubber and dish soap used to remove food waste and grease. **Non-biodegradable** utensil scrubbers contribute greatly to the development of plastic trash, contaminating waterways, wildlife, land pollution, health risks, and contributing to climate change. A thorough market analysis explains **why consumers prefer non-biodegradable scrubbers and why sustainable scrubbers are unfamiliar.**

Research

Market Research

Net Scrubber
Rs 50/-

Scour pad with a sponge
Rs 40/-

Nylon Scrubbers
Rs 40/-

Scour pad
Rs 15/-

Steel Coil
Rs 25/- to Rs 40/-

Coconut coir
Rs 70/

Cellulose Scrubbers
Rs 60/-

Hemp Scrubbers

Agave Fiber Scrubbers

Bamboo Scrubbers
Rs 400/-

Loofah Scrubbers
Rs 130/-

Material Research

Non-biodegradable scrubbers are made from **non-woven fiber, nylon, stainless steel, abrasives, sponge, polyester fiber, resin, and synthetic adhesives.**

Materials of eco-friendly alternatives

Coconut husk, wood pulp, cotton fiber, loofahs - plant-based fiber, walnut shells, bamboo, hemp, and agave are among the materials used to make biodegradable scrubbers.

Problems Faced By Users

- The scour pad **reduces in density** (too soon)
- It becomes **hard and hurts** when used.
- The **threads wear off** easily.

In sustainable alternatives

- The coconut **fibers come off** easily
- They are **hard on hands** and **leave fiber residues** on utensils.
- The fibers used are **rigid and poke** in fingernails.
- **Costly** compared to synthetic scrubbers (Rs 3191 /- for ten scrubbers)

Ideation

User complaints highlight the need for sustainable alternatives in modern utensil scrubbers. Current methods, such as **stitching** coconut husks or **gluing** them to cellulose, are **short-lived** and **difficult to work** with due to the use of adhesives and chemicals.

To address this issue, eco-friendly scrubbers could be produced by **weaving fibers together,** resulting in stronger binding and greater durability. This approach would **replace** the **use of adhesives and threads** in traditional scrubber production.

Material Exploration

Fibers discovered :

- Abaca
- Hemp
- Corn stalk
- Sisal
- Banana fiber, etc.

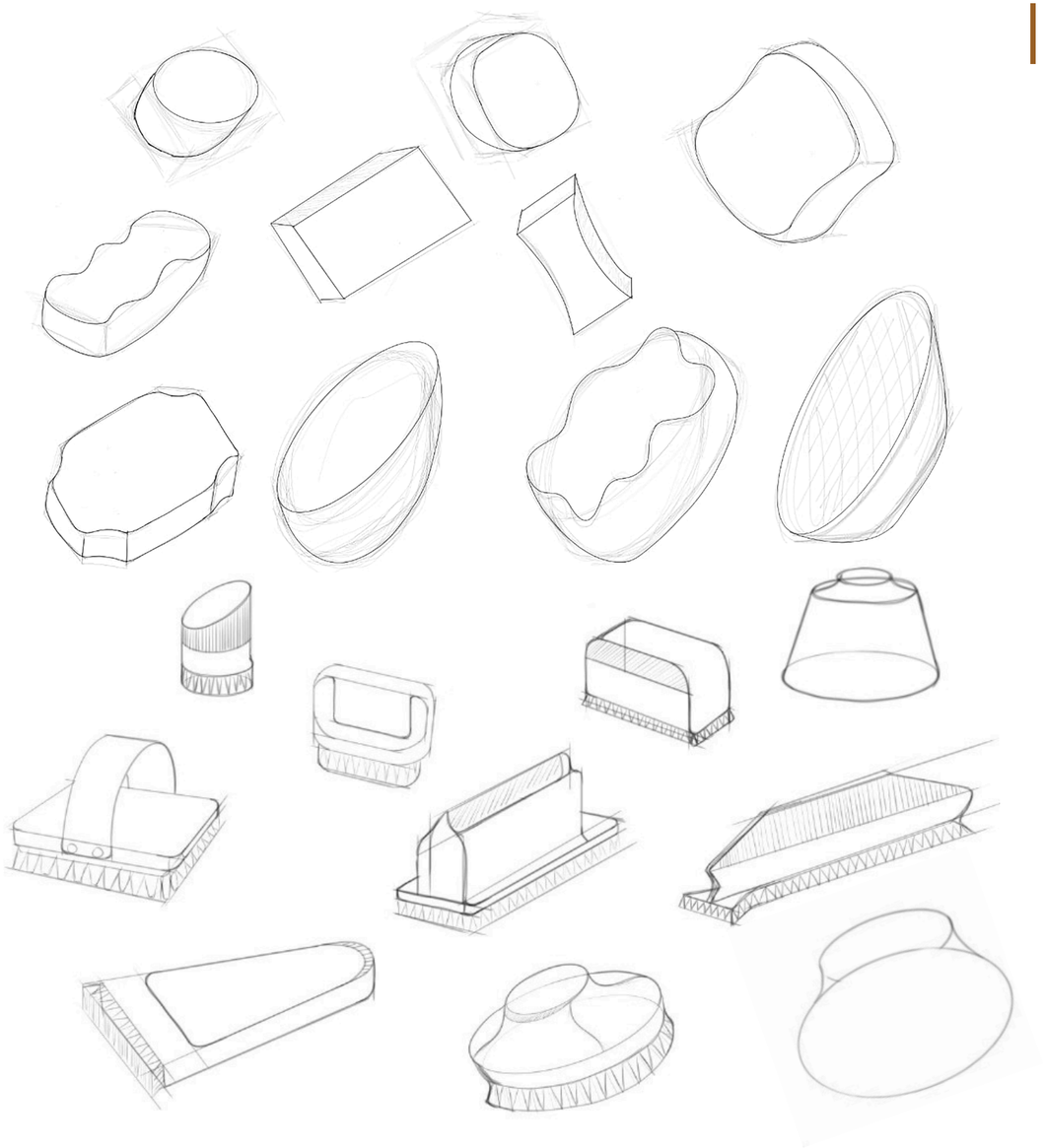
Sisal

- Sisal fiber is **highly durable, low maintenance, and water-resistant**, making it ideal for cordage due to its **strength, stretchability, and resistance to saltwater deterioration**.

Form Exploration

On basis of:

- Ease of handling
- Aesthetics
- Ease of Mass Production



Final Concept

SOFTWARES: Adobe Photoshop, Sketchbook, Rhinoceros 3D, Blender

Prototype

Materials Used:

- Coconut Husk
- Sisal Fiber
- Natural loofah
- D.I.Y Cardboard Handloom

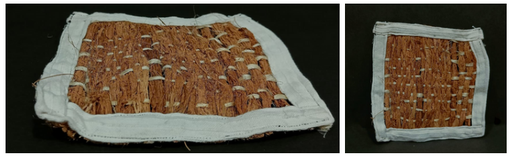
Techniques used:

- Weaving
- Stitching

Prototyping 1

The first attempt to weave coconut husk with sisal.

Prototyping 2



The second prototype focused on **exploring** another **way to weave** the husk . i.e. with **multiple strands** and giving a **cloth border** to lock the edges.

Prototyping 3

The previous attempt produced a **fragile result**, with the strands **breaking and falling**. Moving on, I experimented with weaving with sisal using a coir rope.

Prototyping 4

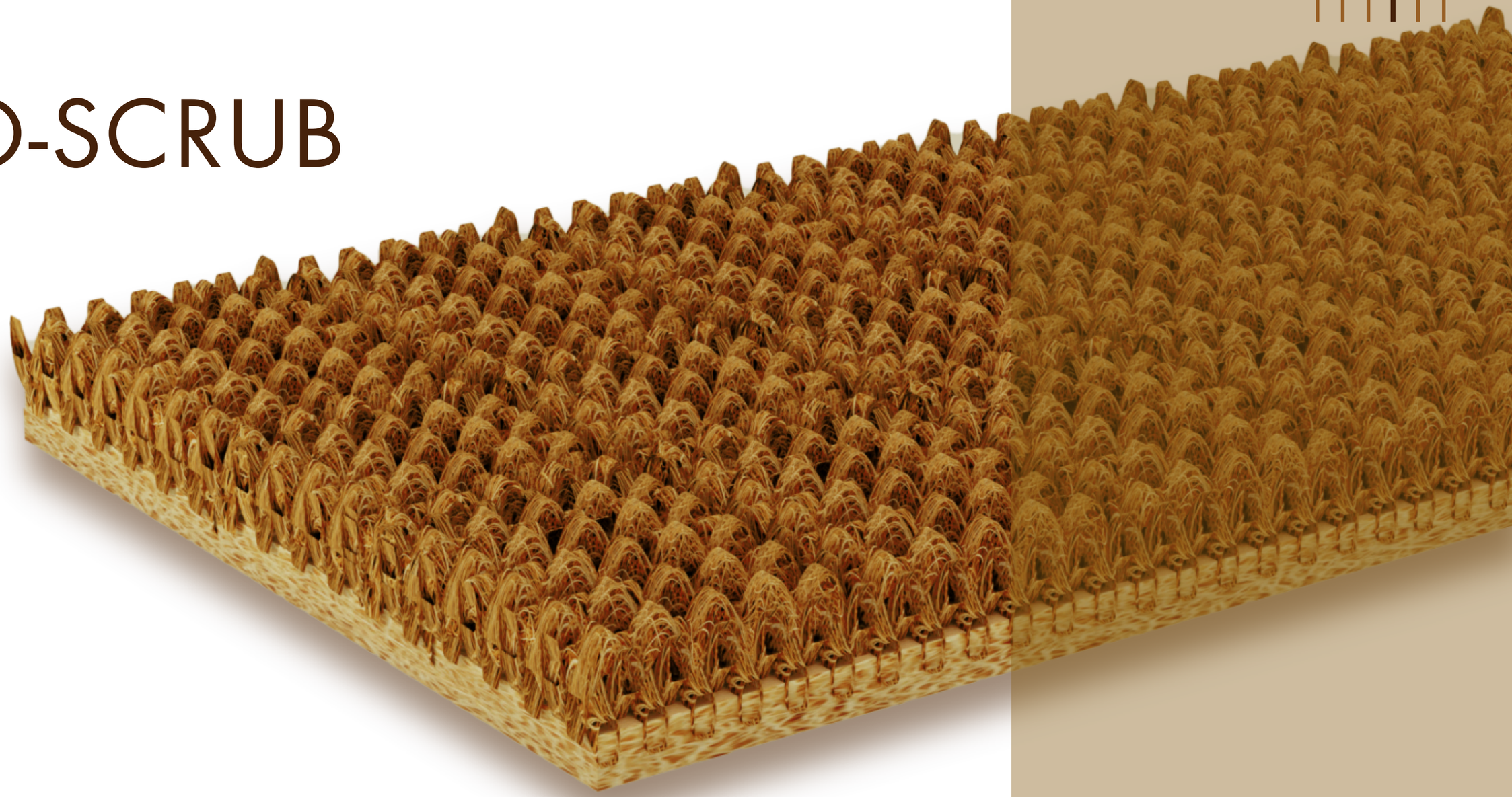
The next step was to weave and analyze coir rope with coir rope.

Final Prototype

Proceeding; the final concept was to **omit sisal** and make a scour pad using **only coir rope**. The sponge area was replaced by a **natural loofah.** The loofah was cut open in a sheet and then compressed to flatten it. The coir pad and loofah were joined using **yarn.**

In Use

CO-SCRUB



WOODEN JOINERY

EXPLORATION

The goal for this study was to gain a thorough grasp of wooden joints. I created a piece of furniture to further investigate the craftsmanship. The final idea was planned to be created entirely of the chosen joinery.

About Joinery

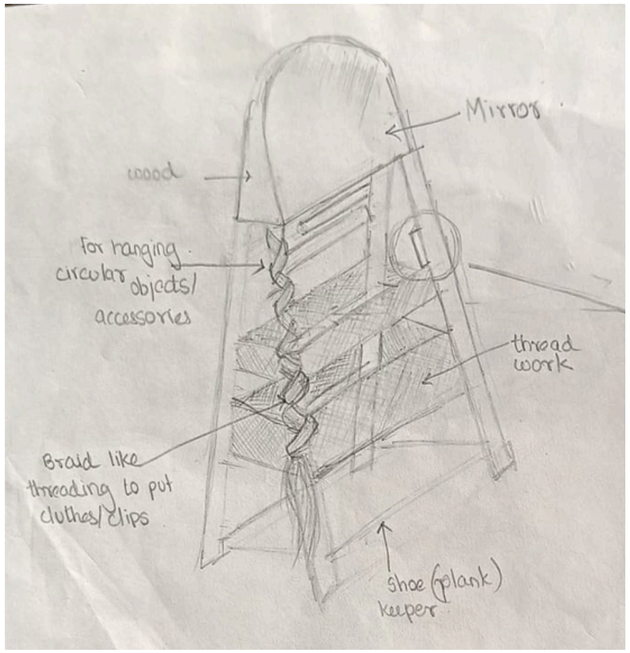
A **biscuit joint** is a method of joinery that involves inserting a **compressed wood chip** (the biscuit) in **slots** cut into two corresponding pieces of wood.

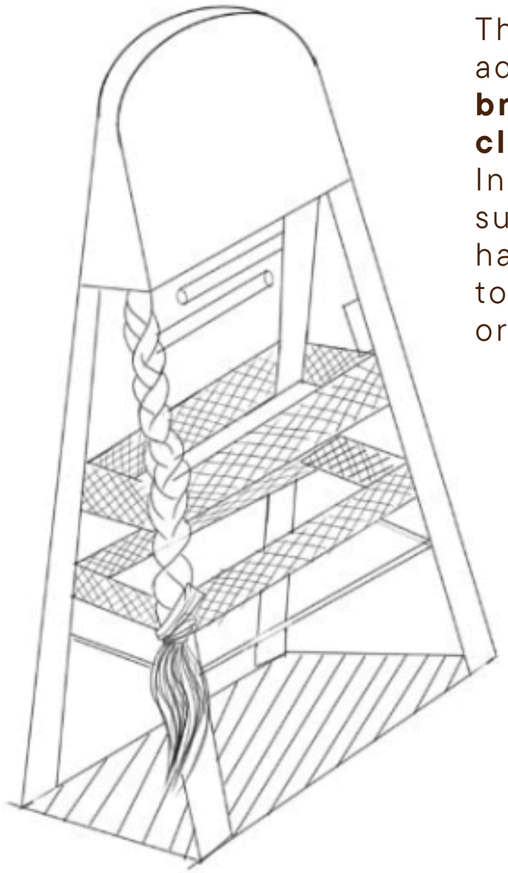
They are used in joining sheets goods such as plywood, particle board and medium density fiberboard; for making **boxes, drawers, cabinet carcasses, face frames, miters, edge banding**, and as a lightweight substitute for mortise and tenon joinery.

Furniture Concept

The furniture component designed was a **walk-in closet dressing cabinet.**

- Inspired from a **Ladder**

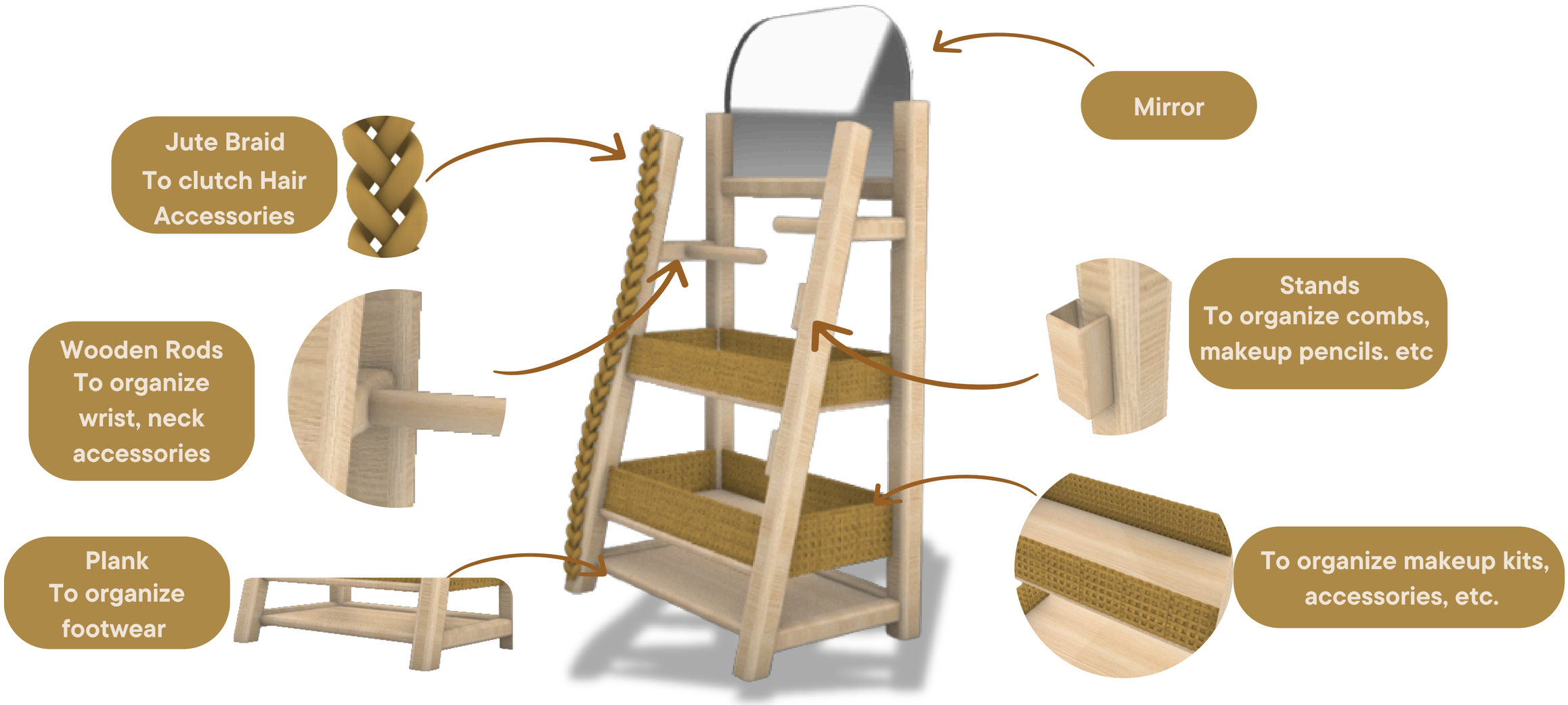




The idea for adding a **fiber braid for hair clips** came from Indian life hacks such as clipping hair accessories to a belt for organization.

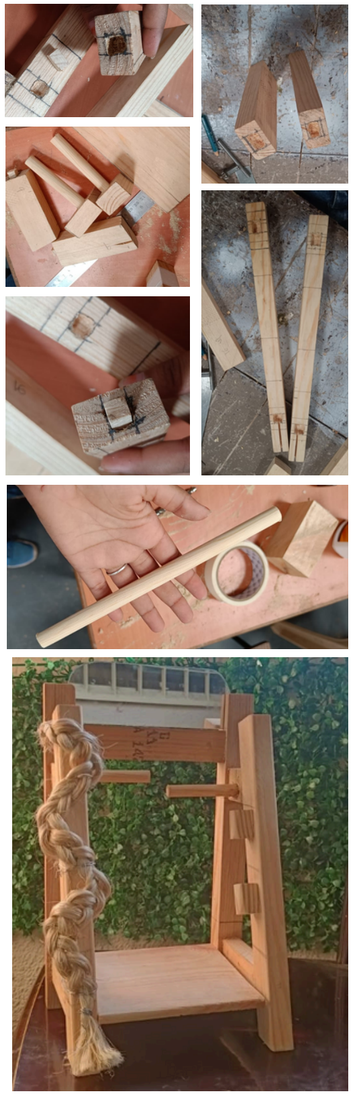
The **mirror** included in the design functions as a vanity mirror for users to dress in.

Concept Details

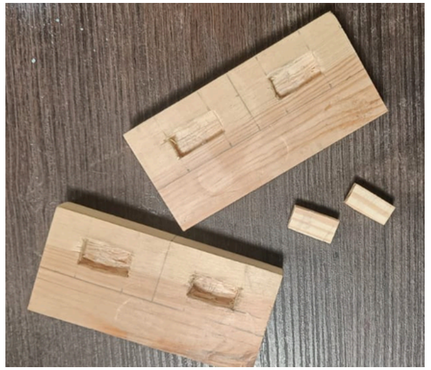


SOFTWARES: Adobe Photoshop, Sketchbook, Rhinoceros 3D, Blender

Prototype



The prototype was built in a **1:5 scale** with **softwood** for the structure and **coconut coir** for the baskets. The braid was created with **sisal fiber.**



DRESS UP
CABINET

ART-Haus

An **innovative game** that allows children to **paint and stamp** while **learning about Bauhaus**. It blends fun and learning via bright compositions, allowing kids to explore artistic expression and Bauhaus design concepts in an engaging and interactive way.

User Survey

Name- Divya Jadhav
Age-10 year
Gender- Girl

She **enjoys outdoor and digital games** like Ludo, puzzles, and car racing. She also enjoys indoor games like Hide n Seek and cricket. She enjoys playing with her parents and **enjoys visual and motor games** at a toy shop.

Divya's parents have noticed that she frequently **plays alone** at home because her younger siblings cause disruptions by pulling toys. They've noticed that she **gives up easily** and **doesn't put in much effort** when faced with a challenge.

Name- Ojas Khanwalkar
Age-11 year
Gender- Boy

He **enjoys music, coding games, and trading Pokemon cards**. He watches YouTubers play games and spends 30 minutes on **digital games**. In hand games, he plays Legos, brick, block, board, and pattern games. He **enjoys board games and strategic games** with parents.

According to his parents, Ojas is constantly **thinking about methods to order things.**

Name- Pranav G
Age-9 year
Gender- boy

He **enjoys skateboarding, drama, and experimentation.** He avoids digital games and spends 30 minutes playing in **hand games like chess and creative 3D games**. He enjoys board games with his mom and handson with his dad. He expresses anger by hitting his dad and throwing objects.

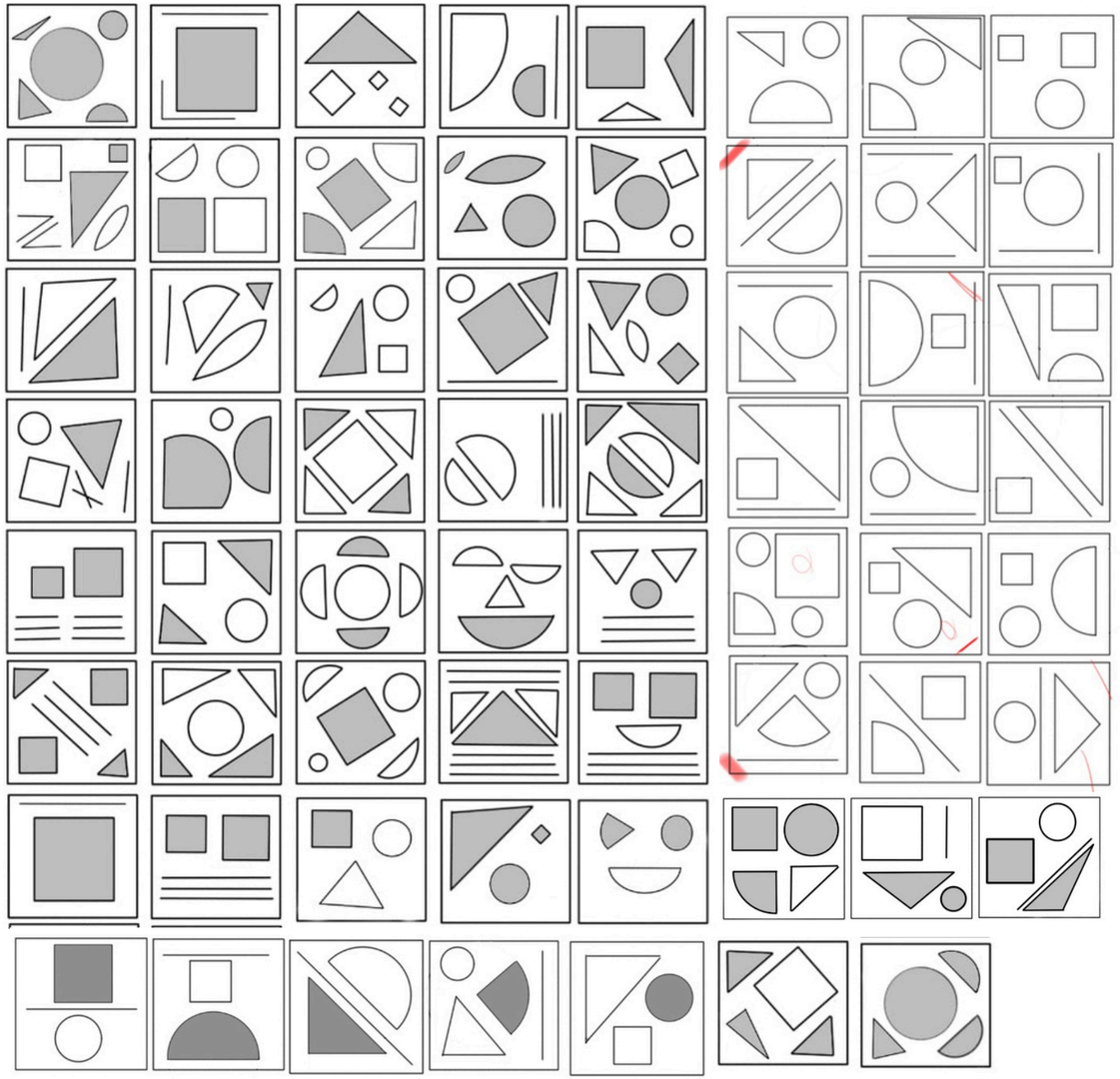
His parents have noticed that Pranav G, their child, is quite interested in **sports vehicles and automobile insignia.**

Concept

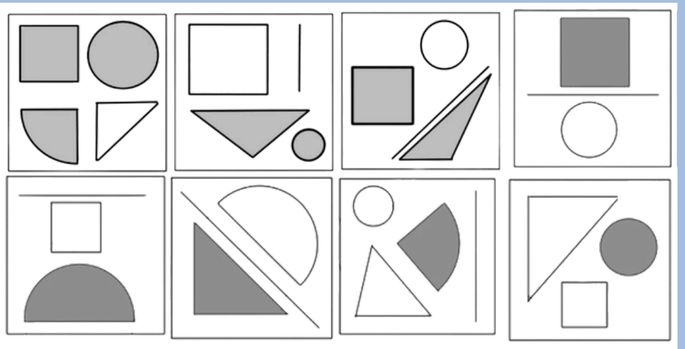
The **game development** process was aimed at **creating a creative and intellectually stimulating game** with multiple elements for children's engagement, focusing on a minimalistic approach for enjoyment, and considering **material exploration** in the design and components to **create an educational yet entertaining experience.**

The **final proposal** intended to **educate** young children about **Bauhaus** and his design approach. The game includes of stamp tiles engraved with various sized shapes. The children are to paint the shapes and stamp them on paper. As a result, they create various **compositions inspired by the Bauhaus design style.**

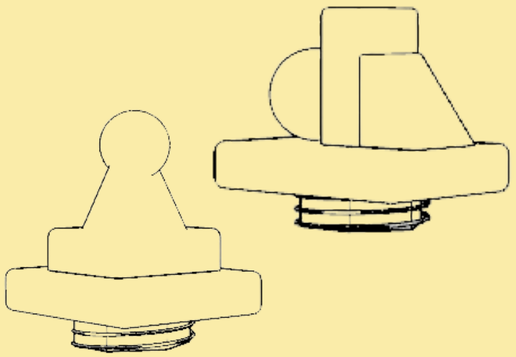
Ideation



In the stamp tile brainstorming, emphasis was on providing **maximum shape variety with minimal components**. To streamline, basic shapes were combined on a tile, reducing parts. The tile includes diverse shapes and sizes, offering solid forms and outlines, optimizing creative potential for children.



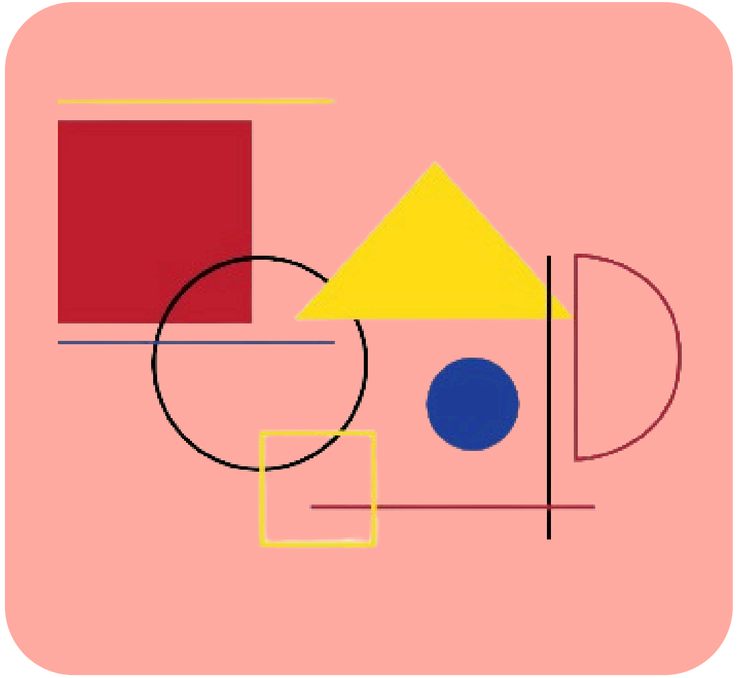
The chosen final tiles were crafted to provide a wide array of variations while maintaining simplicity for children.

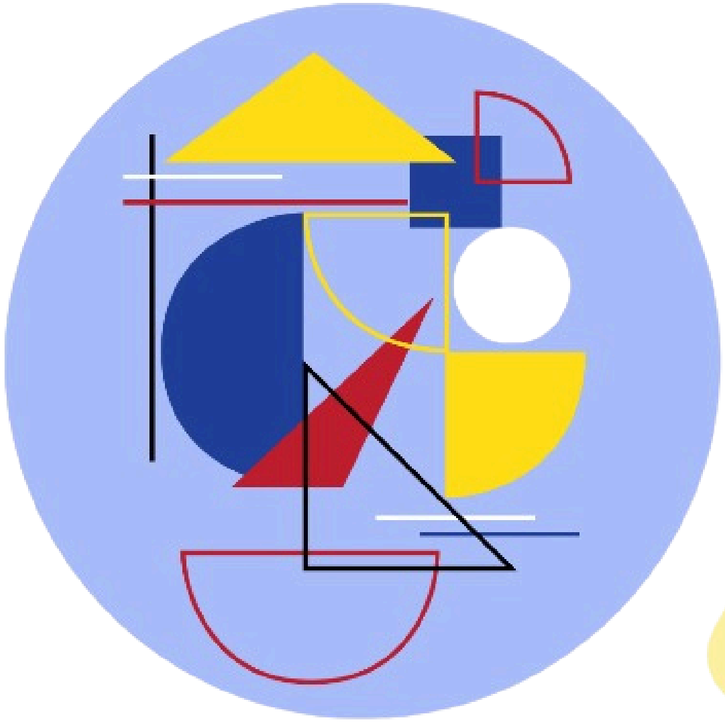


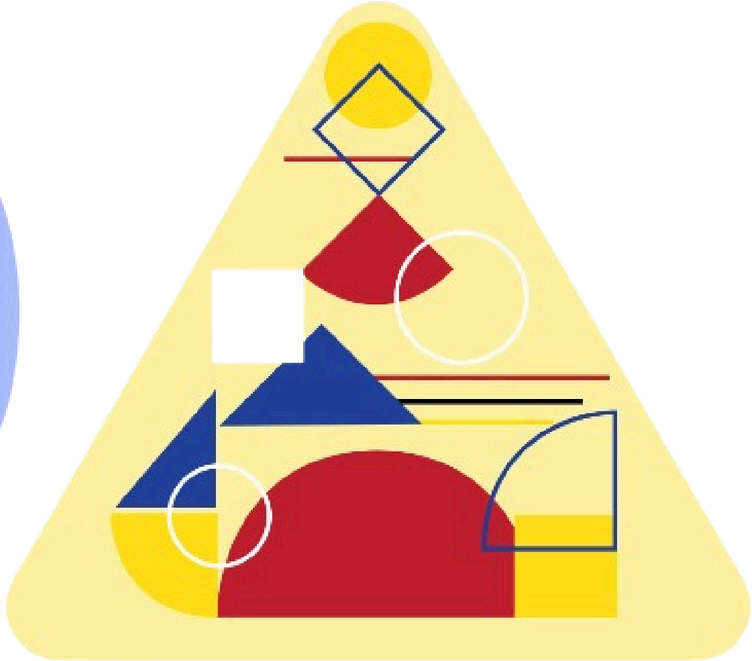
The holders were crafted with basic Bauhaus shapes - sphere, triangle, and cuboid. Designed for easy grip and visual appeal, they cater to both functionality and aesthetics for kids.

Sample Compositions

Sample compositions were strategically designed using the shapes incorporated into the final tiles, serving as **reference points** for children. This approach aimed to aid their **understanding and inspire creativity** by providing tangible examples to draw inspiration from. The intention was to spark imaginative thinking and encourage children to explore their own ideas within the framework of the provided shapes and compositions.





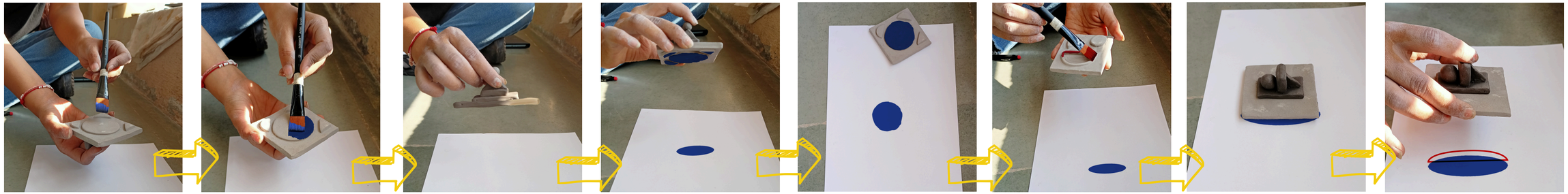


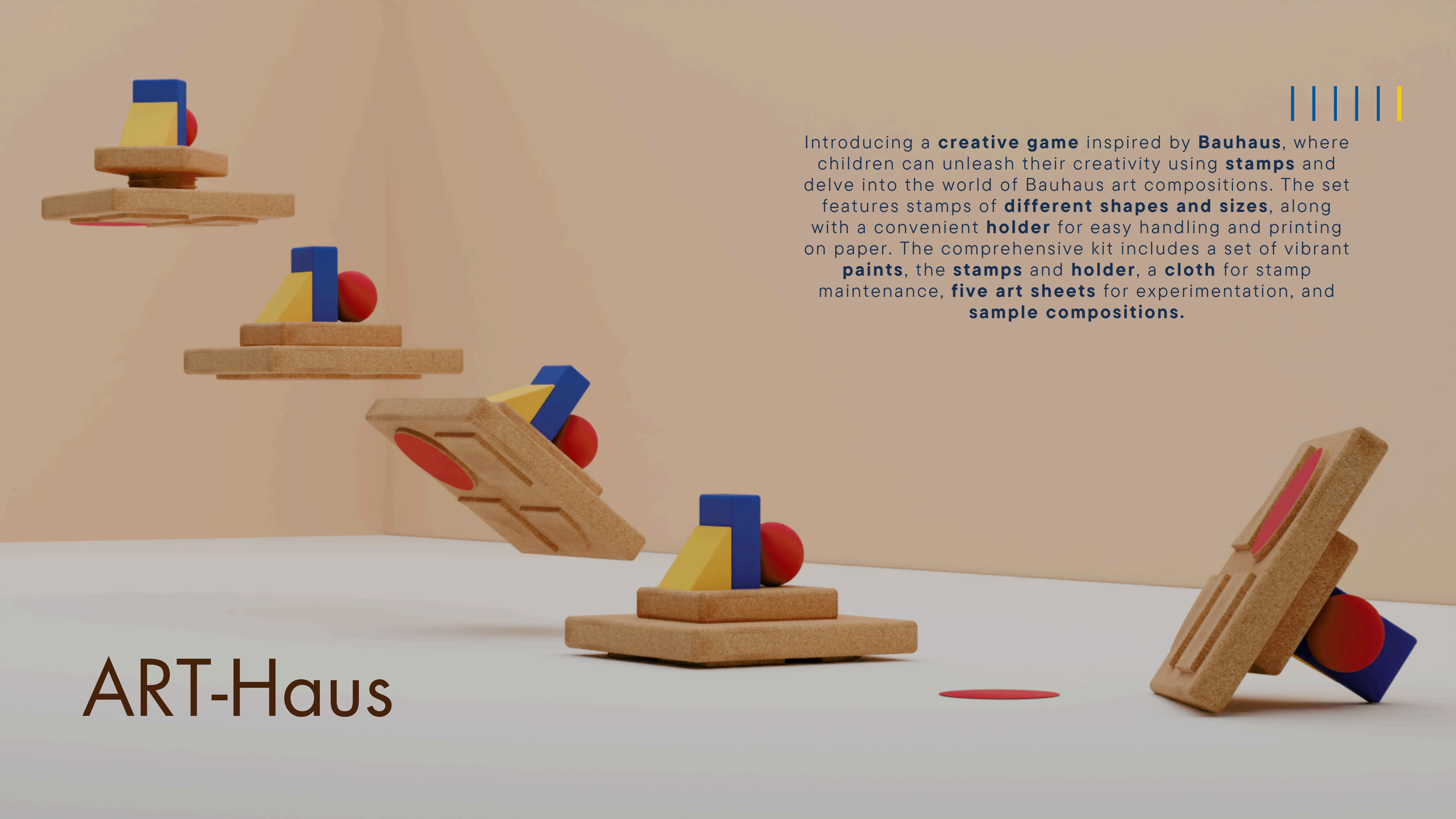
Prototype

Making Process

The prototype was crafted in a **1:1 scale**, employing the slabbing method to create tiles. Cut-outs of various shapes were meticulously crafted and then affixed to the tiles through a process involving scraping and sticking, facilitated by the use of clay slurry. This technique allowed for the precise assembly of components in the development of the prototype.

In Use





Introducing a **creative game** inspired by **Bauhaus**, where children can unleash their creativity using **stamps** and delve into the world of Bauhaus art compositions. The set features stamps of **different shapes and sizes**, along with a convenient **holder** for easy handling and printing on paper. The comprehensive kit includes a set of vibrant **paints**, the **stamps** and **holder**, a **cloth** for stamp maintenance, **five art sheets** for experimentation, and **sample compositions.**

ART-Haus

ART-Haus

SOFTWARES: Adobe Photoshop, Sketchbook, Rhinoceros 3D, Blender

ADDITIONAL WORKS

Paint & Plant

A **gardening store** that aims to **inspire creativity** and engage customers with **trendy, colorful plant containers**, offering a one-stop destination for all their gardening needs.

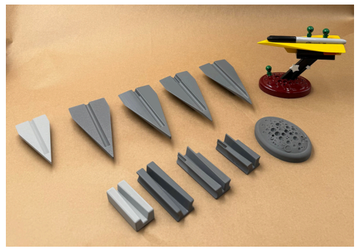
Moodboard

Inspiration Board

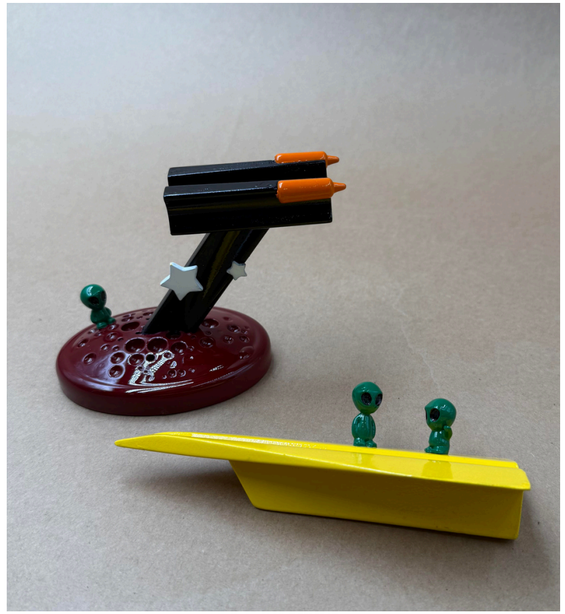
SOFTWARES: Rhinoceros 3D, Keyshot

Interactive Pen stand

This 3D-printed pen stand combines **fun and function**, sparking kids' creativity through a playful plane design. Inspired by the question, **“Can a 3D-printed plane fly like a paper plane?”** it holds pens while appearing in mid-flight. A **space-themed** base with tiny alien figures adds to the whimsy, making it both a desk accessory and a conversation starter.



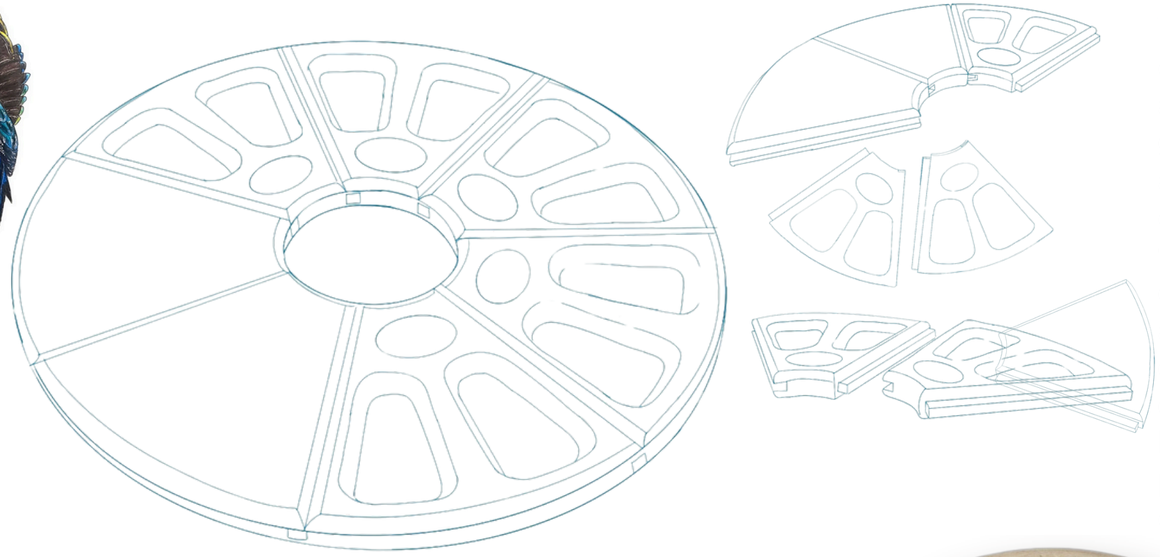
Multiple prototypes of the pen stand were 3D-printed to **refine its design, balancing functionality, aesthetics, and character**. Adjustments were made to ensure the plane securely held pens while maintaining the illusion of flight. Elements like the **space-themed base and tiny alien figures** were fine-tuned to add **charm and spark curiosity**. Each iteration brought improvements, resulting in a final design that is both practical and engaging for kids.



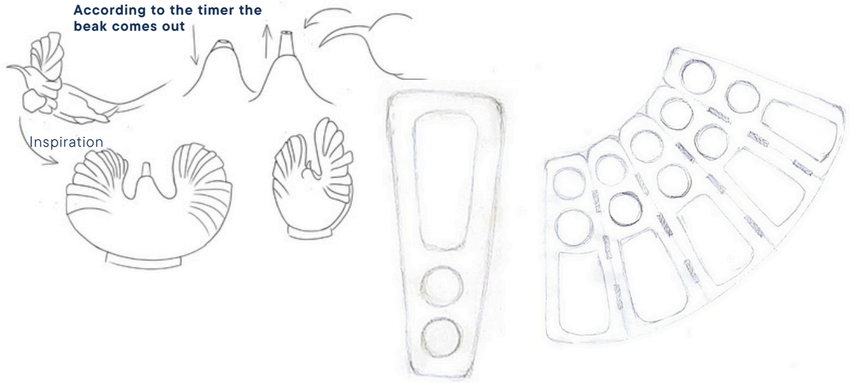
SOFTWARES: Rhinoceros 3D,

Black SickleBill Bird

A biomimicry project that aims to use the unique characteristics of the black sicklebill bird to create innovative, sustainable products, promoting efficiency and environmental consciousness.



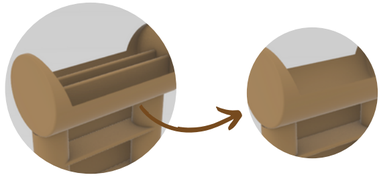
The **palette**, designed using a **tongue and groove** approach, offers a **multi-functional, easy-to-use**, and **disassembled design** for a hassle-free painting experience.



SOFTWARES: Sketchbook, Rhinoceros 3D, Blender

Multipurpose Organiser

Removable Slots Giving more flexibility in storage



Slots to Store Bottles, Umbrellas, Plants, Etc

Shelves to give more storage space.

Our team **repurposed** recycled **paper rolls** into **functional furniture**, blending sustainability with hands-on craftsmanship. I led the **conceptual design, created 3D models, and crafted prototypes** while **mentoring junior members** through problem-solving and material experimentation. This project enhanced our skills in sustainable design and teamwork.

SOFTWARES: Rhinoceros 3D, Keyshot

product
design

THANK YOU.

2025
Kashish Bansal