PARTH RAVAL

Industrial
Design
Portfolio

Parth Raval

Industrial Designer

WORK

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https://www.behance.net/parthmdes16

CONTACT ME

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+91 88665 77225

EDUCATION HISTORY

M.Des - Industrial Design
Indian Institute of Technology Delhi
CGPA - 8.08 / 10

B.E. - Mechanical Engineering
Gujarat Technological University
CGPA - 7.79 / 10

WORK EXPERIENCE

Design Consultant & Educator
Anant National University, Ahmedabad, GJ, India
Sep 2019 - Current

Design Lead
Thought 2 Things, Pune, MH, India
March 2018 - Feb 2019

Design Intern
GVIC Team, PepsiCo, HR, India
Nov 2017 - Jan 2018

CERTIFICATES

Module of 4 Courses on 3D Printing
University of Illinois at Urbana-Champaign

Product Design: The Delft Design Approach
TU Delft Netherlands

AWARDS & RECOGNITION

Winner | 75th Azadi ka Amrit Mahotsav Hackathon 2023
Digital Design Category
The immersive experience of the heritage ambience of the archaeological monument Mohenjodaro.

Winner | MSME Idea Hackathon 3.0
Toy Design Category
FASAL - an interactive game aimed to enhance agricultural education among India's youth.

2 Times Finalist | Global Design Challenge
Product Design Category
Tabletop stationery item design challenge.

SOFTWARE

CAD & Render

Editing

Immersive Media

3D Printing

Profile Highlights

1 **MDes** from **Tier-I institute, IIT Delhi** | Leveraging **6+ years** of experience.

2 **12 IPR** filed projects.
8/12 projects got Government funding for product development.
One of the mentored projects got **MSME funding** of **15 Lacs**.

- **Managed 200 Persons**
- **15 Direct reportees**
- **Proficient in IPR filing**

3 Worked with **Gujarat Police** and **Cybercrime** for 3D mapping and immersive solution of **Ahmedabad Rathyatra 2023**, **Surat Ganesh Visarjan 2023** and **Vibrant Gujarat 2024**.

- **Executed financial & budgetary planning of 4 CR INR**
- **Proficient in training the Human Resources & Leading for development**
- **Expert in Emerging Technologies & Immersive Media**
- **Established 2 advanced technology labs**

4 Provided Product Design solutions to **ISRO scientists** in collaboration with Seagull GNSS Pvt. Ltd.

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1

Cruise

The Bicycle Project

Development Leadtime

440 hours

Scope of work

- Concept Ideation
- Consumer Research
- Brand Mapping
- Product Market Fit
- Disruptive Innovation
- TCP
- CMF study
- NPD
- User & Brand study
- AR VR experience

Design Brief

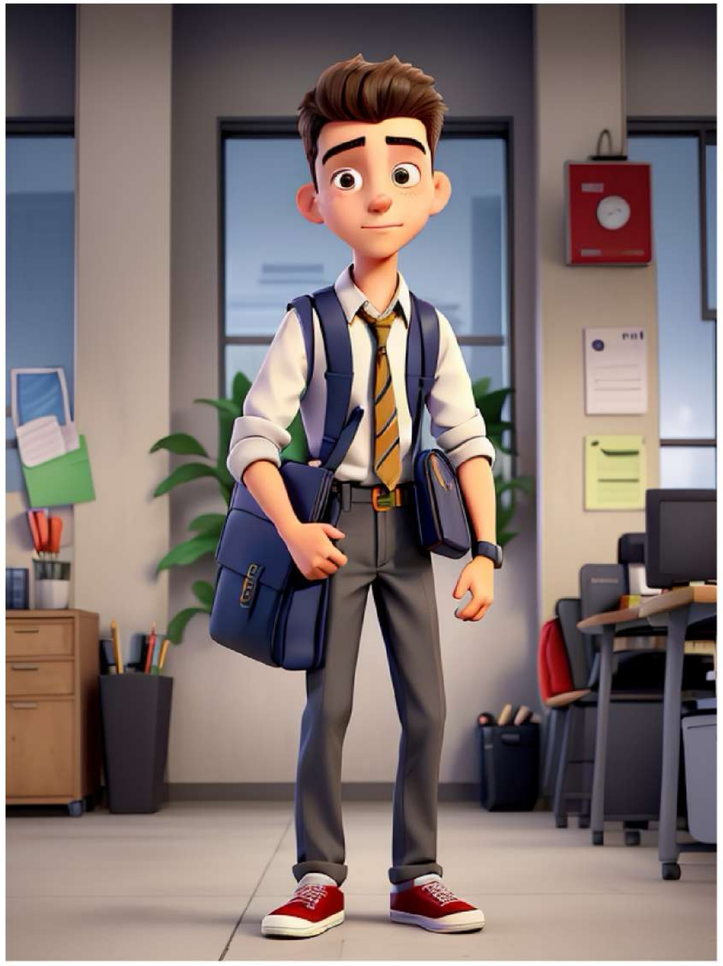
Product Requirement Document:

Design a cycle that integrates MTB, Roadster and Recumbent experience and caters to youth and individual young working professionals. This bicycle is mainly focused on delivering the best leisure cycling experience.

Objective / Acceptance Criteria

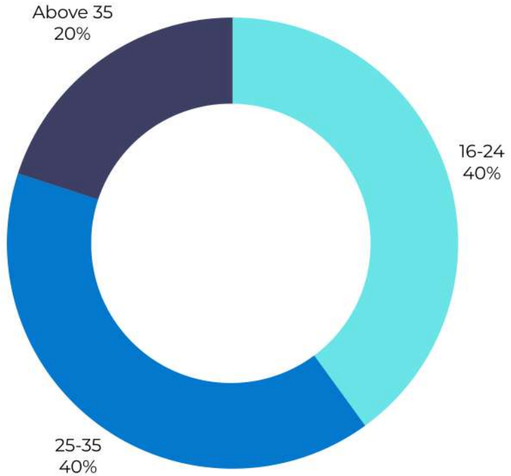
- Design a bicycle that integrates the roadster’s utility, MTB’s all-terrain capability and recumbent’s comfort.
- Bicycle should follow minimalism as language.
- Bicycle should provide a relaxed cycling experience.

Persona



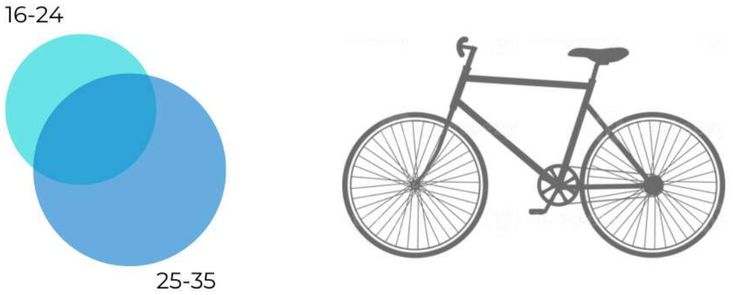
- Working individuals/students
- TIER-I,II City
- Commute regularly for short distances
- Prefers cycling as a leisure activity

Age Percentage



Selection Factors

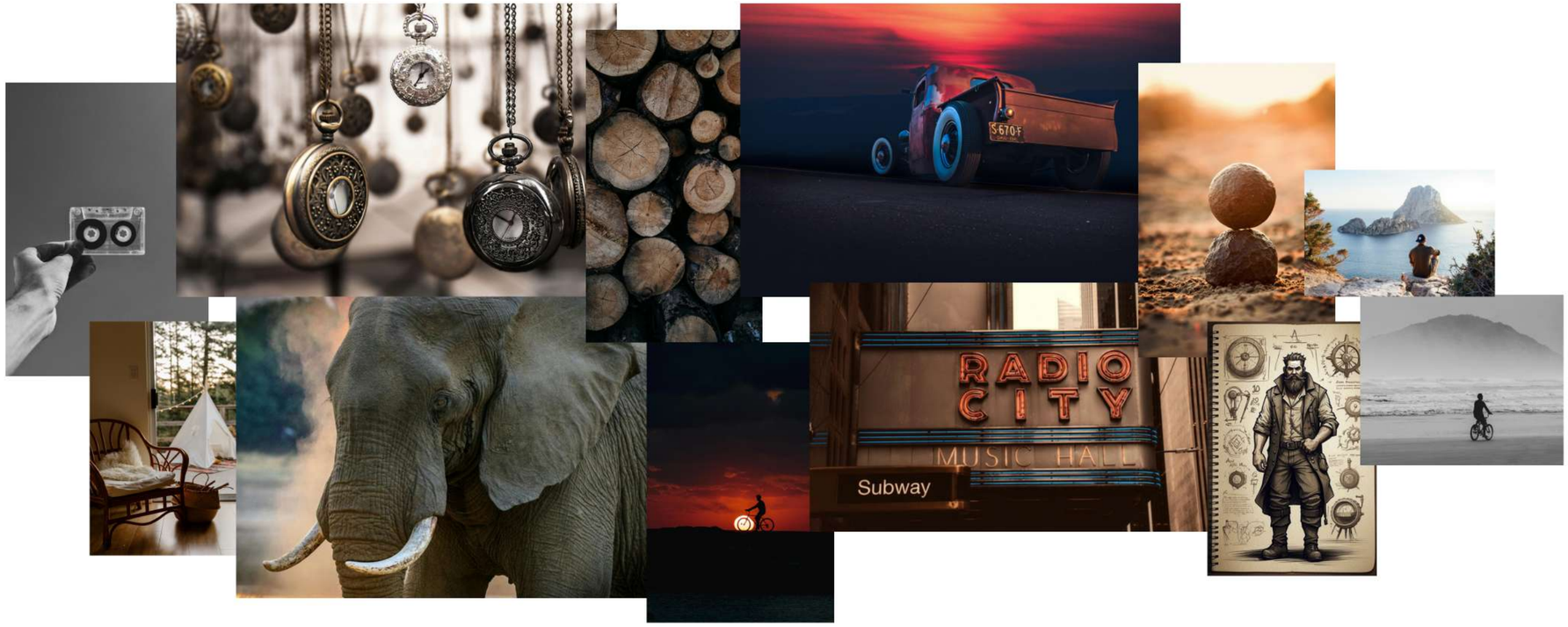
Targeted Audience



What we face

What we need

Moodboard



Timeless
yet Retro

Playful
yet Subtle

Balanced
yet Bold

Crafted

Classic

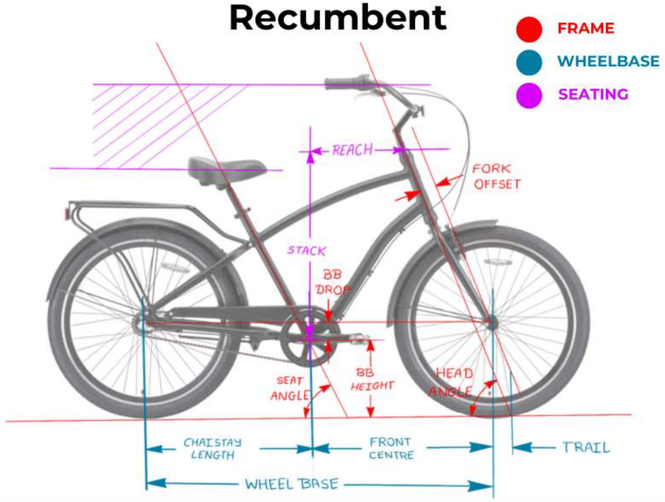
Relaxed

Inspiration Board

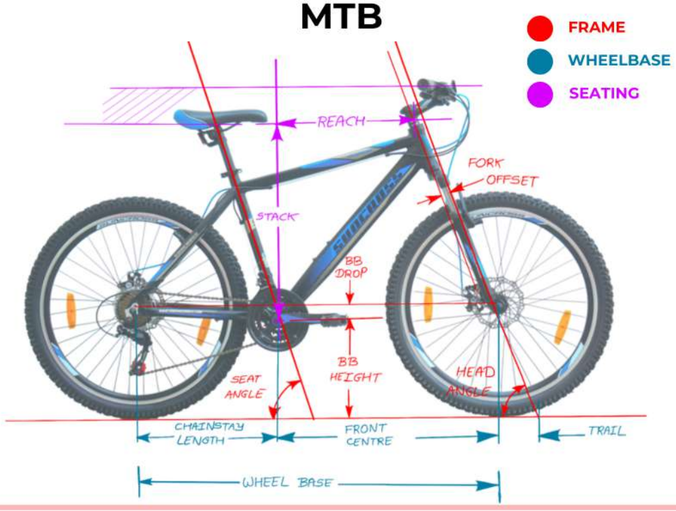
Technical Segmentation

Body Proportions

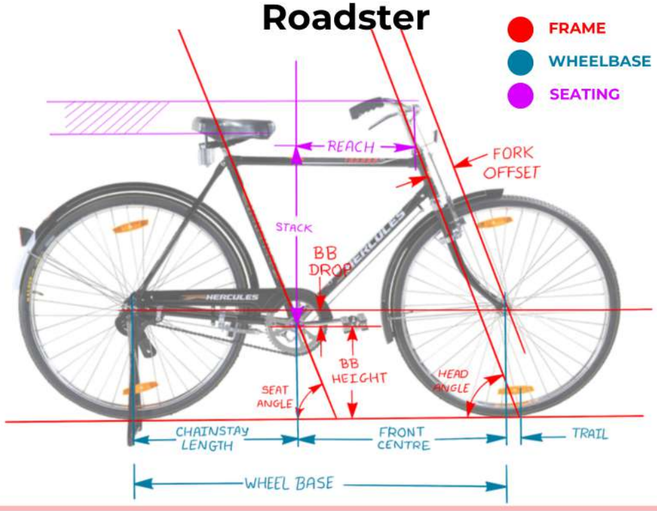
Recumbent



MTB



Roadster



Riding Triangle

Riding Position

- **Relaxed**
- **Comfortable**

Riding Position

- **Aggressive**
- **Active**

Riding Position

- **Straight Up**
- **Controlled**

Riding Position

Riding Angle

- **80' - 90'**

Stack-Reach ratio

- **High**

Riding Angle

- **45' - 75'**

Stack-Reach ratio

- **Low**

Riding Angle

- **75' - 85'**

Stack-Reach ratio

- **Moderate**

Brand Positioning

A perfect hybrid version of urban commuting & progressive line-up of bicycles

Progressive

montra

BSA

HERCULES

SUNCROSS

B'TWIN

FIREFOX

Purely driven by modern cycling features. Advanced bicycles line-up

Emotional

Rational

Emotionally deep-rooted with culture & pure conventional cycling experience

AVON CYCLES

Pashley SINCE 1926

sixthreezero

ATLAS

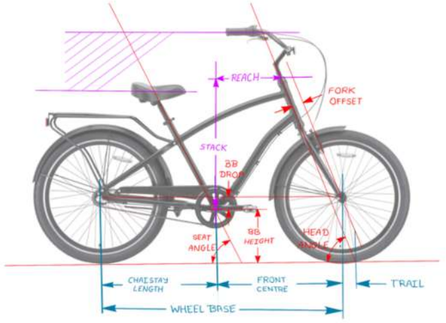
HERO CYCLES

CRADIAC

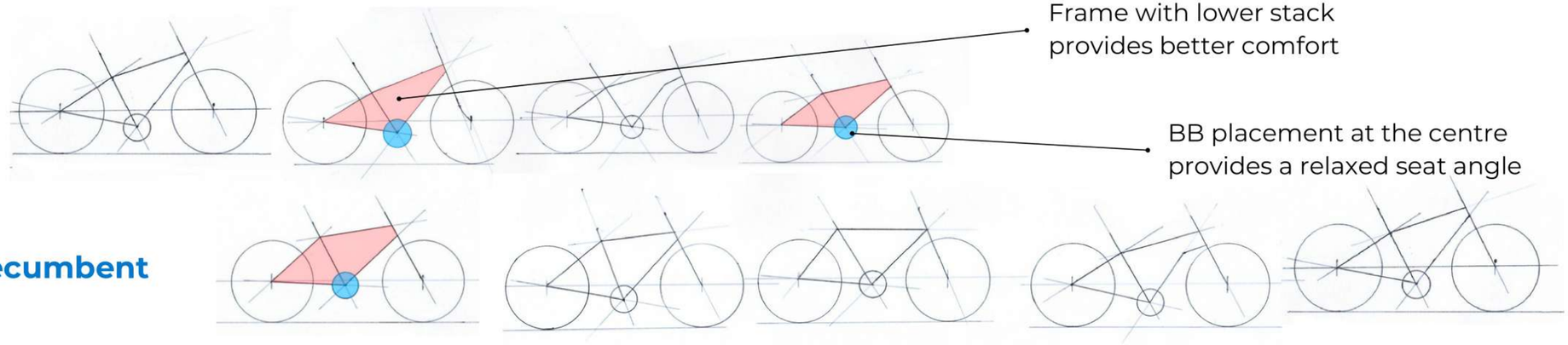
Majorly focused on user requirements with conventional touch & modern standards

Conventional

Proportion Study



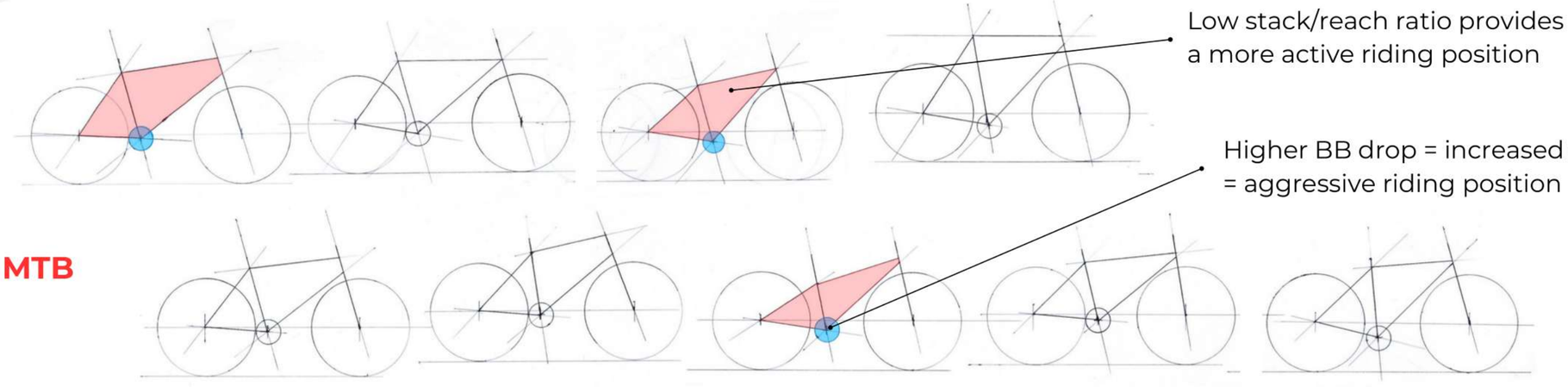
Recumbent



Frame with lower stack provides better comfort

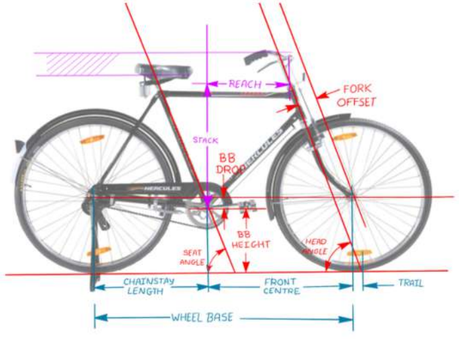
BB placement at the centre provides a relaxed seat angle

MTB

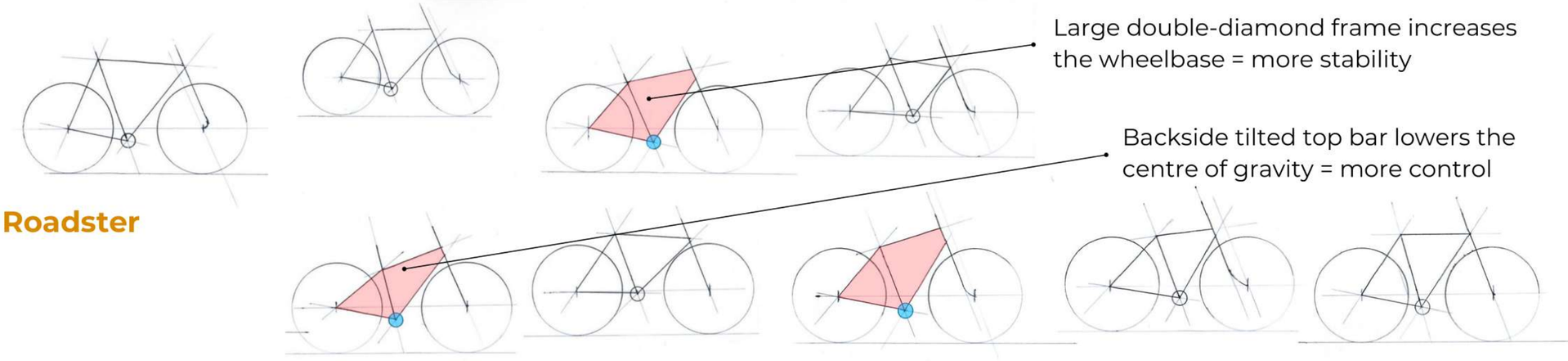


Low stack/reach ratio provides a more active riding position

Higher BB drop = increased stack = aggressive riding position



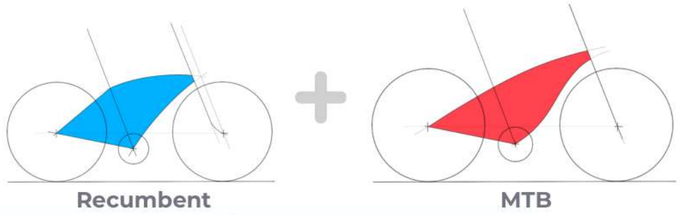
Roadster

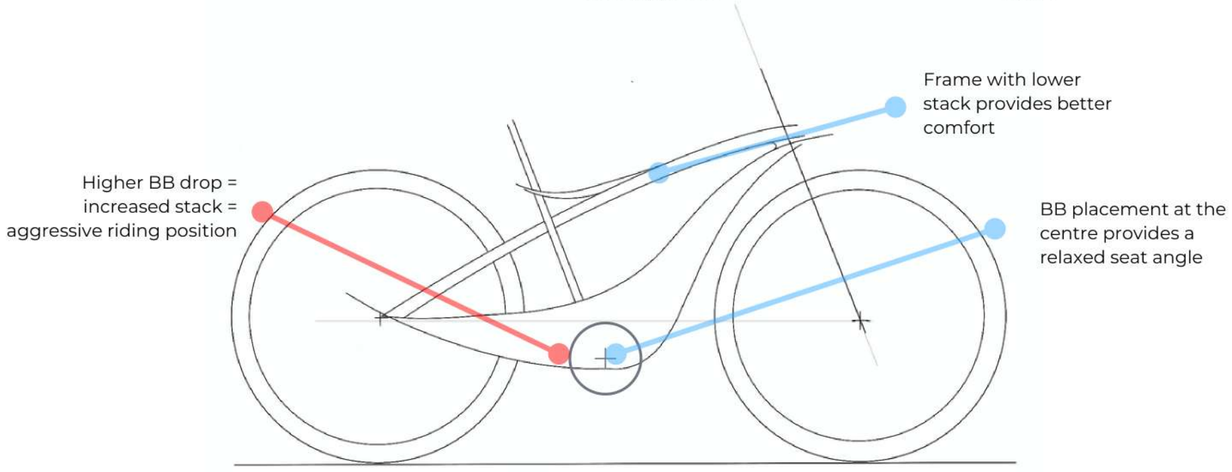


Large double-diamond frame increases the wheelbase = more stability

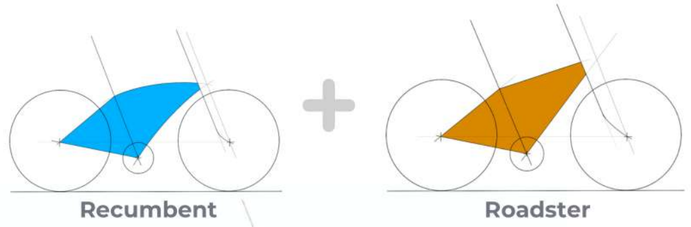
Backside tilted top bar lowers the centre of gravity = more control

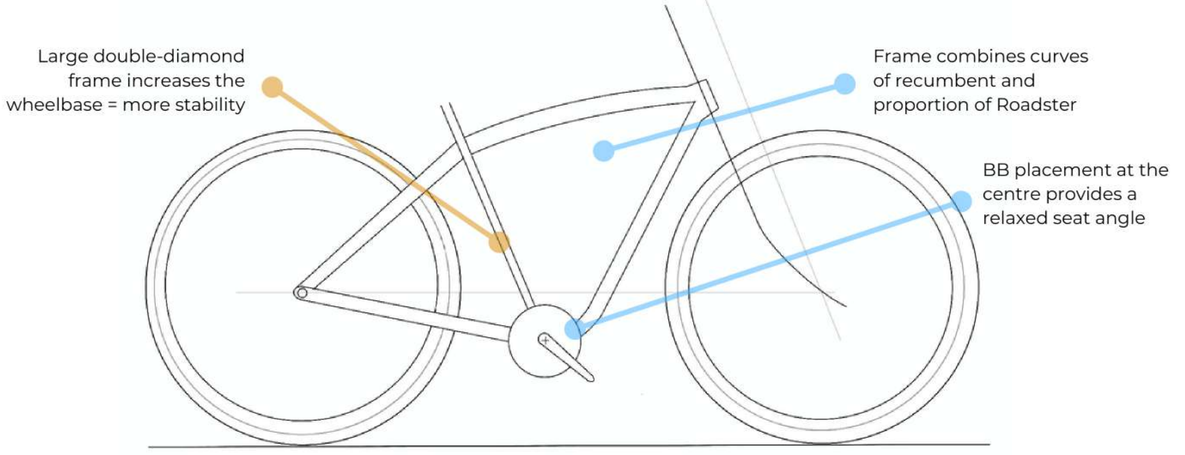
Iteration 1



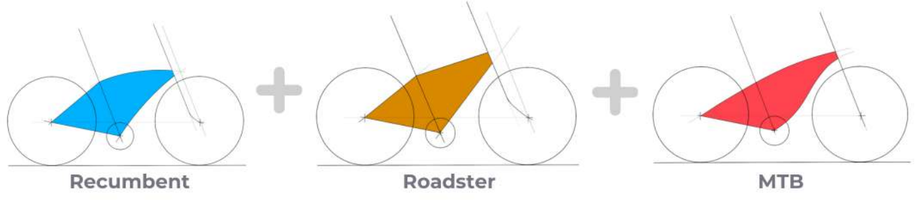


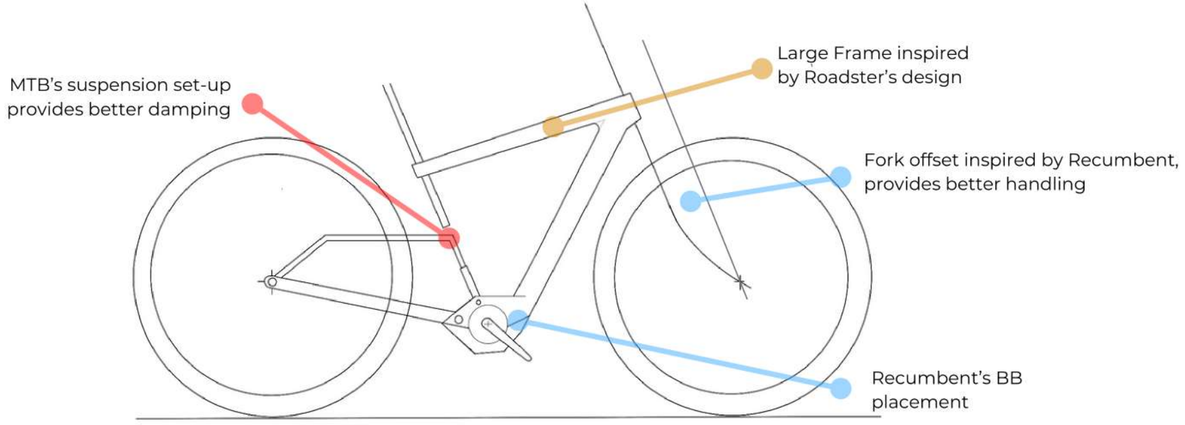
Iteration 2





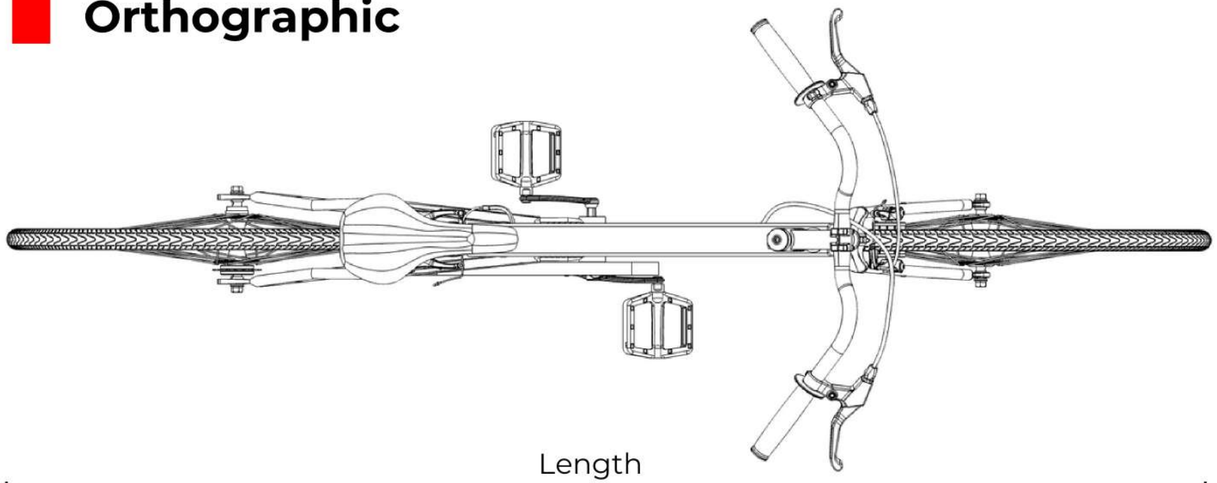
Final Iteration 3

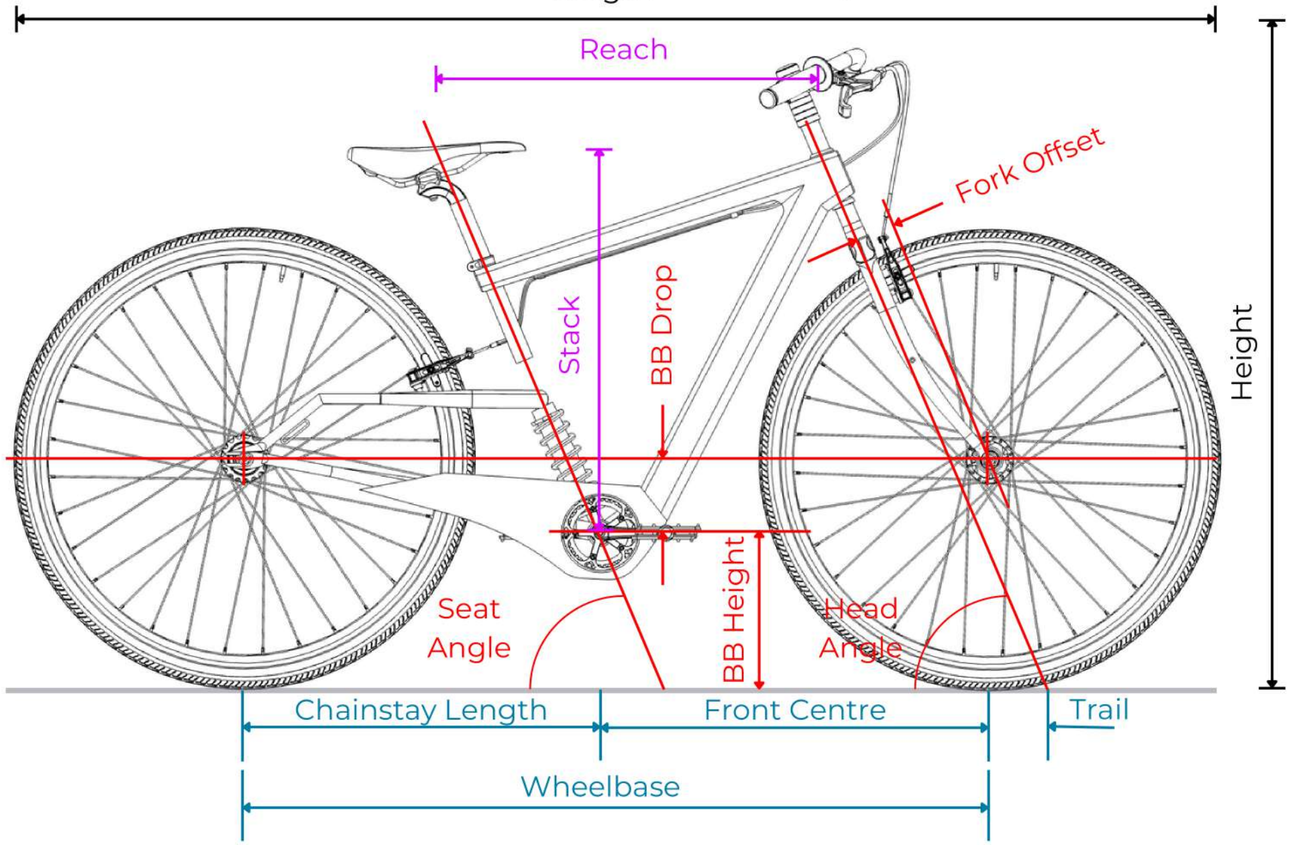


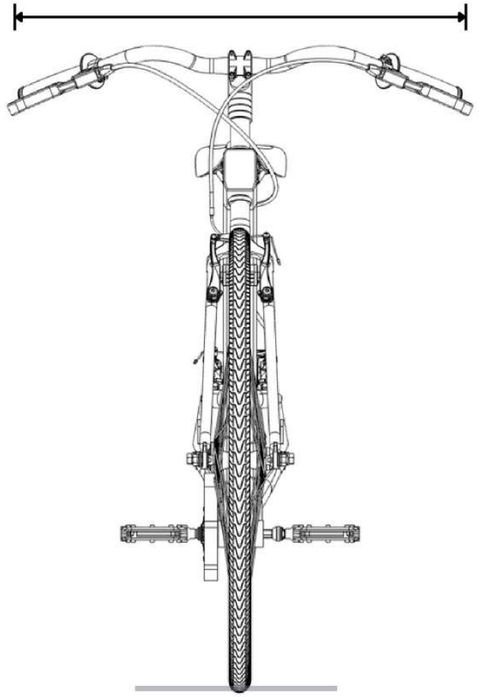


Iteration 3 is optimum as it incorporates properties of all 3 body types

Orthographic



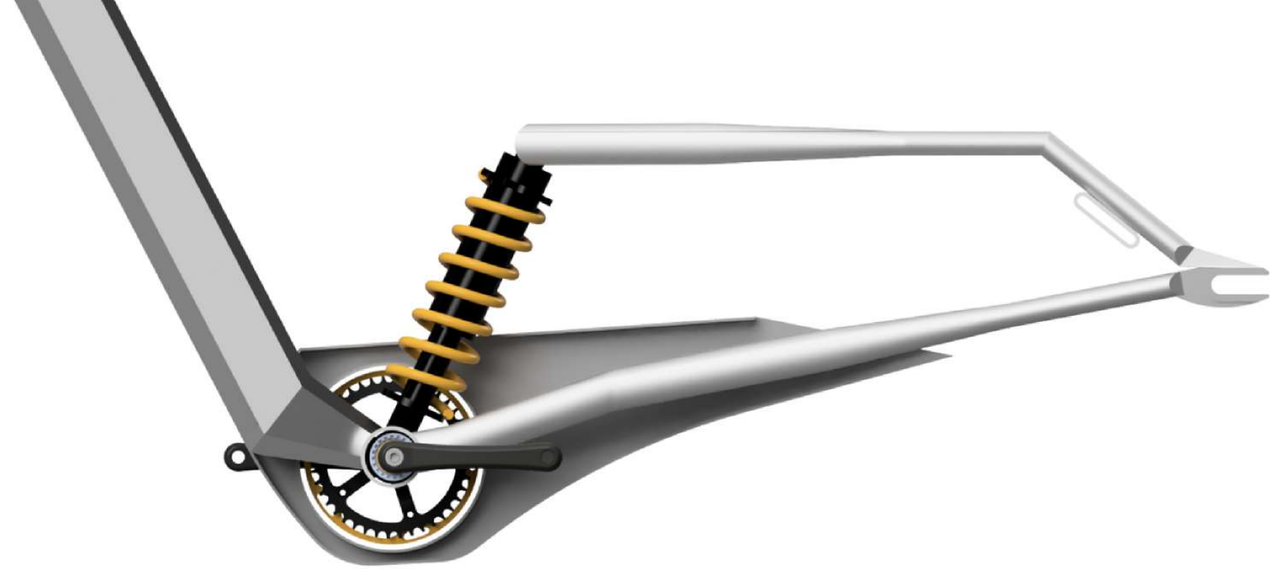




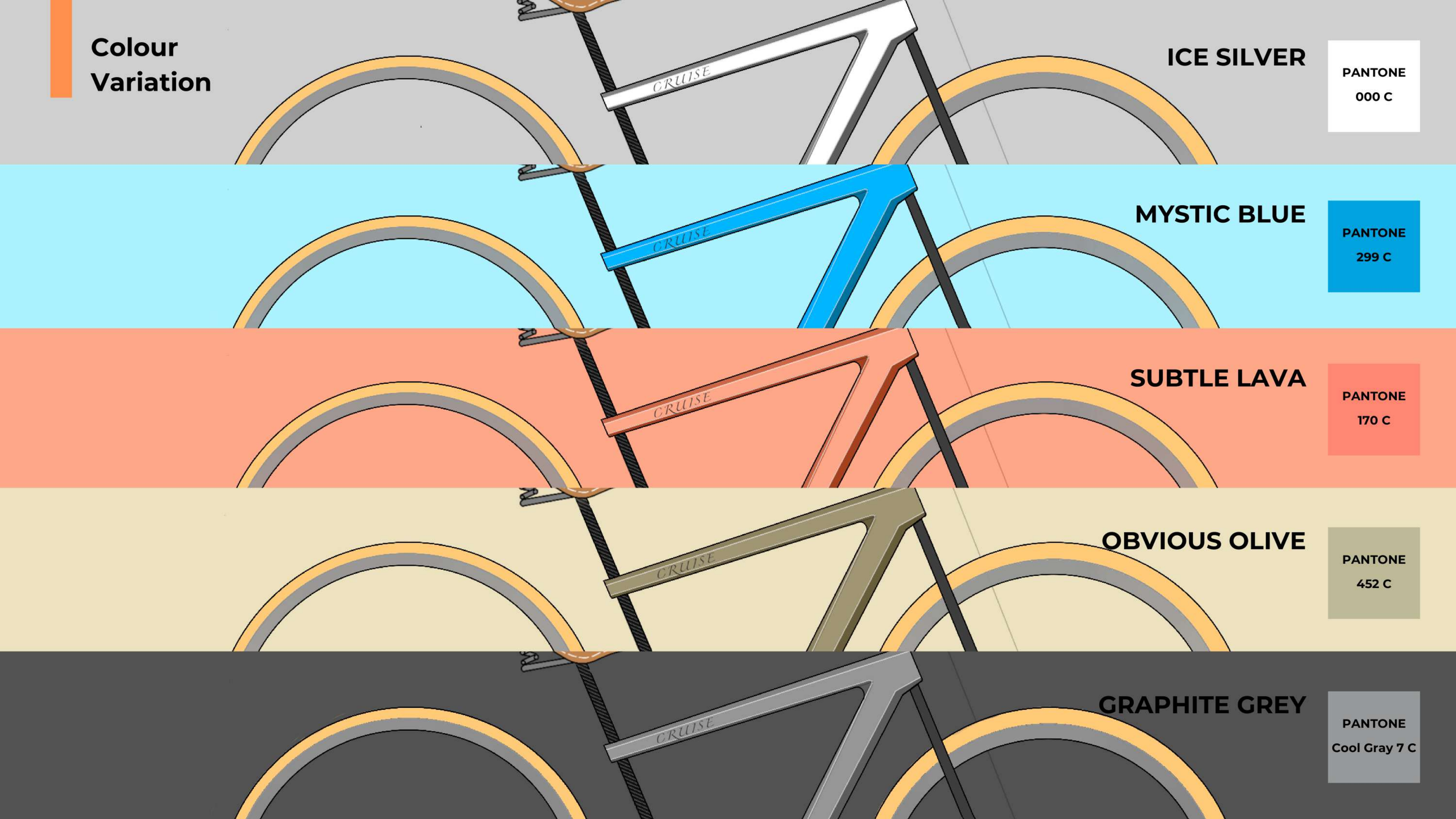
FRAME
WHEELBASE
SEATING

Sr No	Details	Dimension in mm
1	Length	1822
2	Width	700
3	Height	965
4	Reach	495
5	Stack	585
6	Seat Angle	66.8'
7	Head Angle	66.8'
8	BB Drop	110
9	BB Height	230
10	Fork Offset	68
11	Wheelbase	1120
12	Chainstay Length	540
13	Front Centre	590
14	Trail	75

Visualisation



Colour Variation



ICE SILVER

PANTONE 000 C

MYSTIC BLUE

PANTONE 299 C

SUBTLE LAVA

PANTONE 170 C

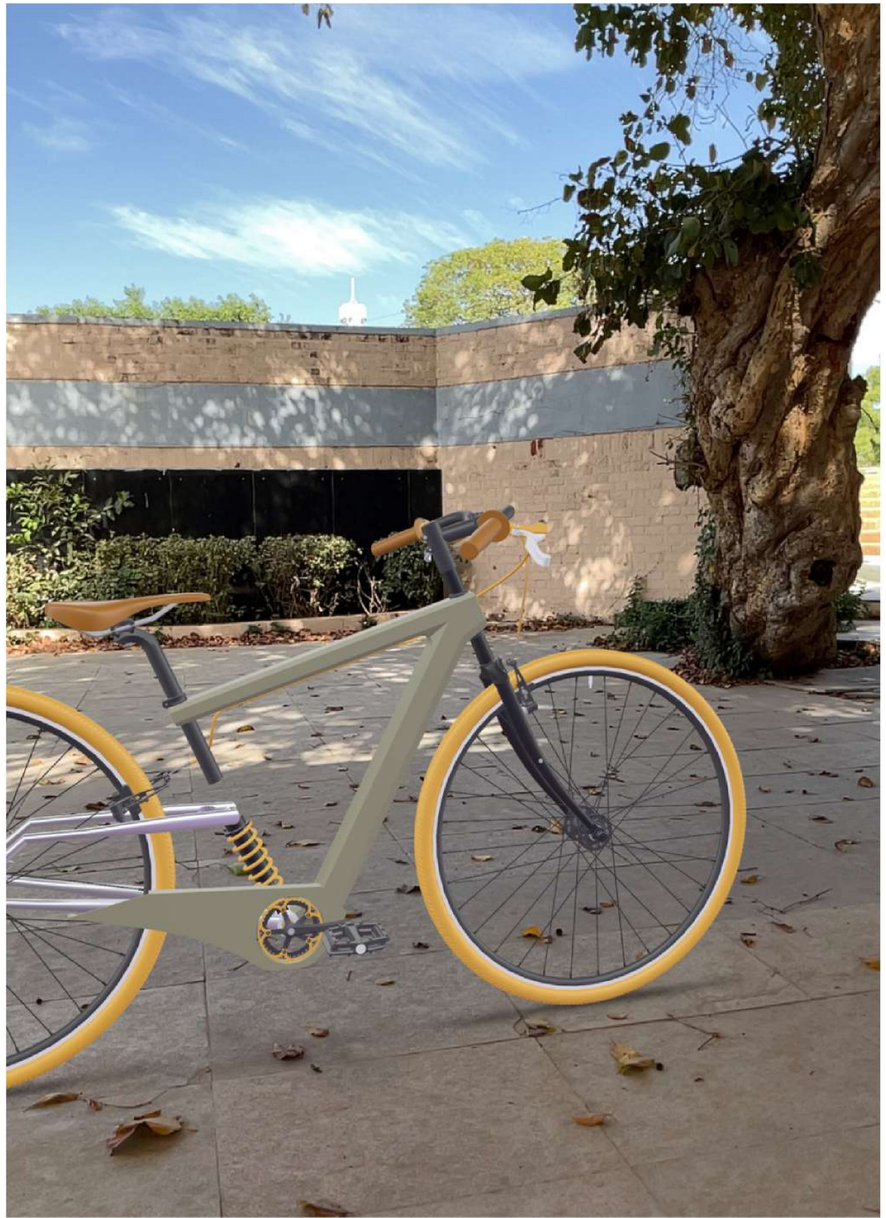
OBVIOUS OLIVE

PANTONE 452 C

GRAPHITE GREY

PANTONE Cool Gray 7 C

Augmented Reality

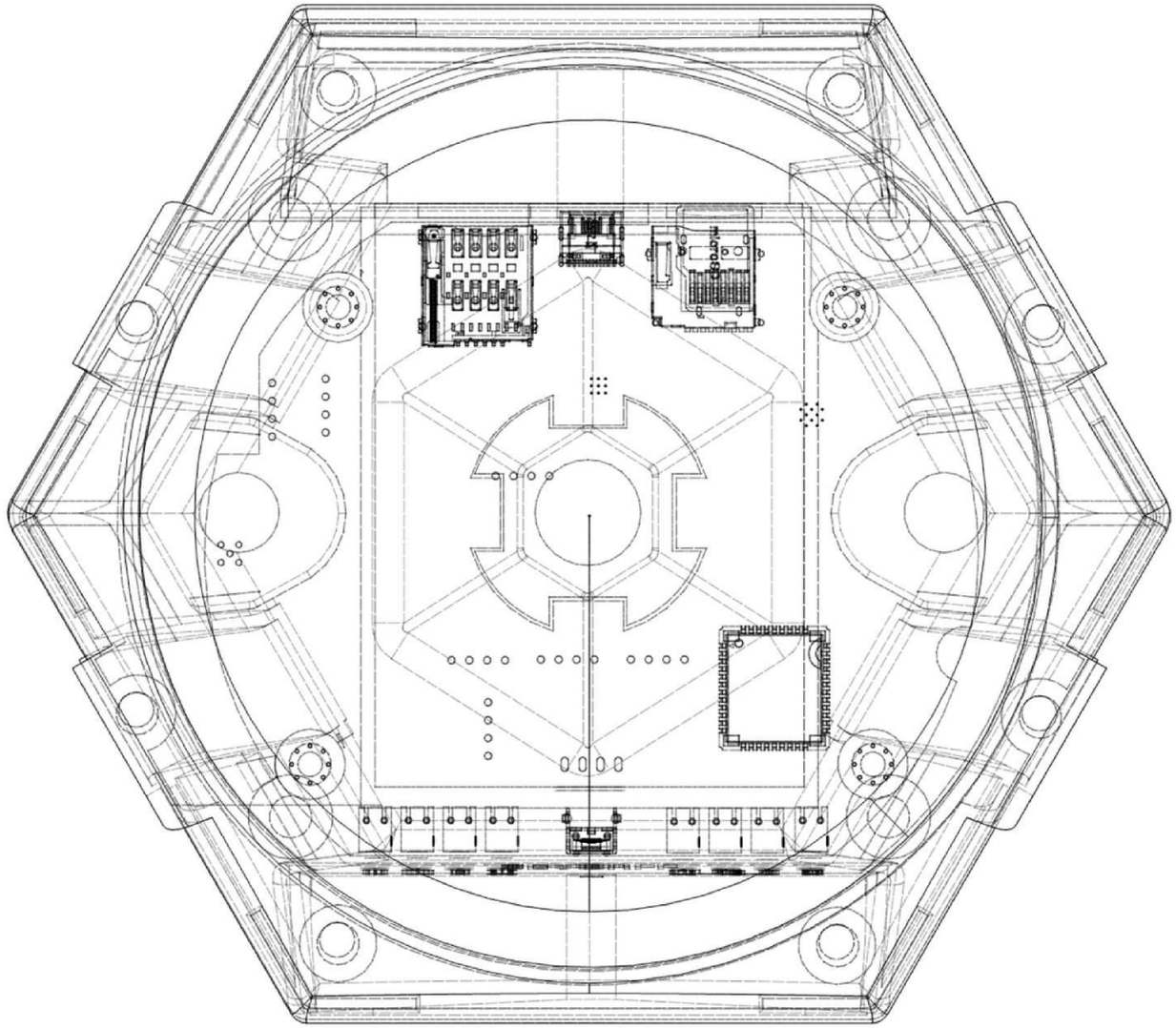


Keep Pedalling

2

Project ISRO: Designing the GNSS Device

GNSS - Global Navigation Satellite System



Development Leadtime

720 hours
Managed 3 reportees

Scope of work

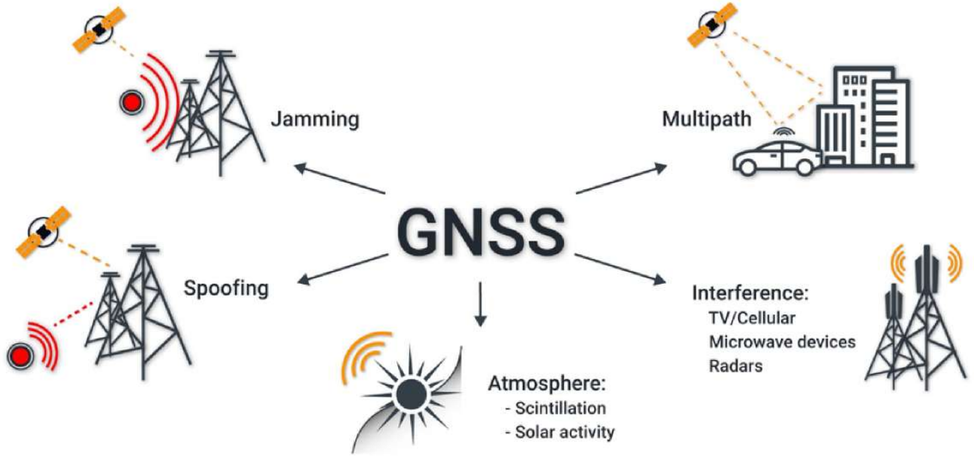
- Consumer Research
- DFM
- NPD
- Enclosure Design
- Engineering Conversion
- CAD
- Materials & Mfg Processes
- Beta testing

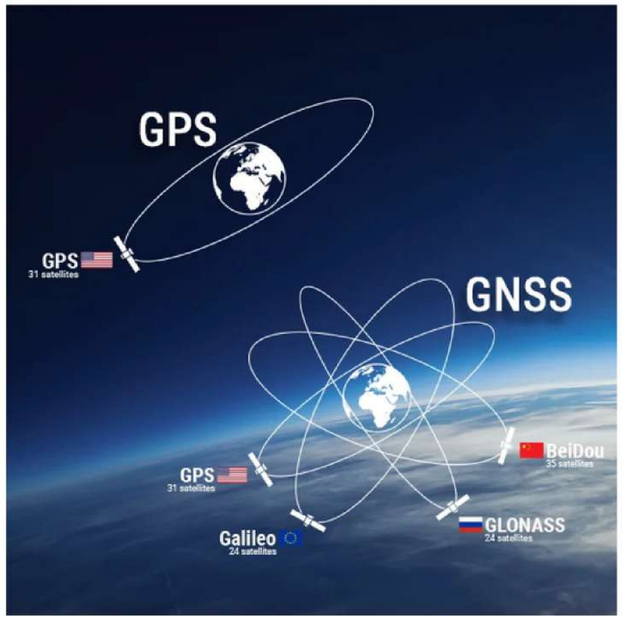
Team: Parth Raval (Project Lead) | Students: Poorva Gayake, Bobby Pashine, Kunal Singh

Fundamentals

A global navigation satellite system (**GNSS**) is a network of **satellites broadcasting timing** and **orbital information** used for **navigation** and **positioning** measurements.

GNSS are more than the satellites orbiting Earth. The **multiple satellites**, broadcast **signals to master control** stations and users of GNSS across the planet.





Brief

Design a GNSS receiver that caters to all the needs of ISRO surveyors on the field (Brief provided by ISRO).

Must

- IP65 rating design
- Modular
- Rugged

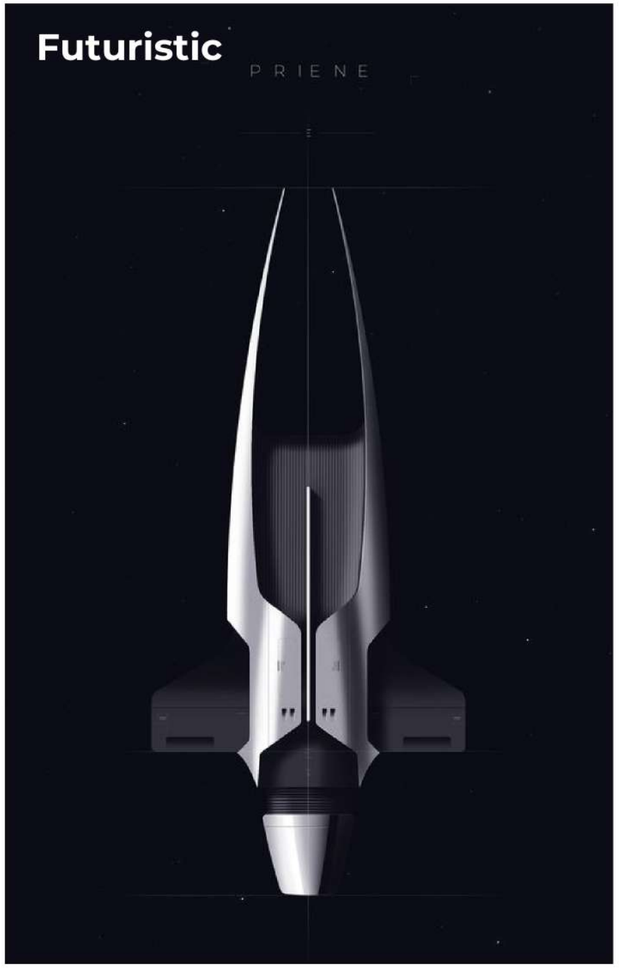
Need

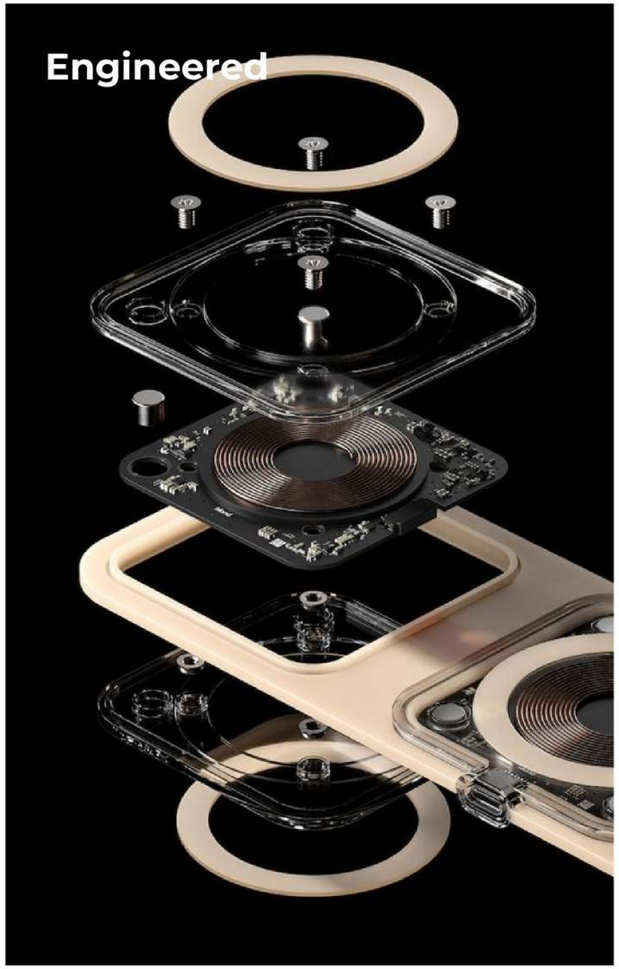
- Tripod mounting
- Shock-proof
- swappable battery

Wish

- Voice Control
- Weather-proof

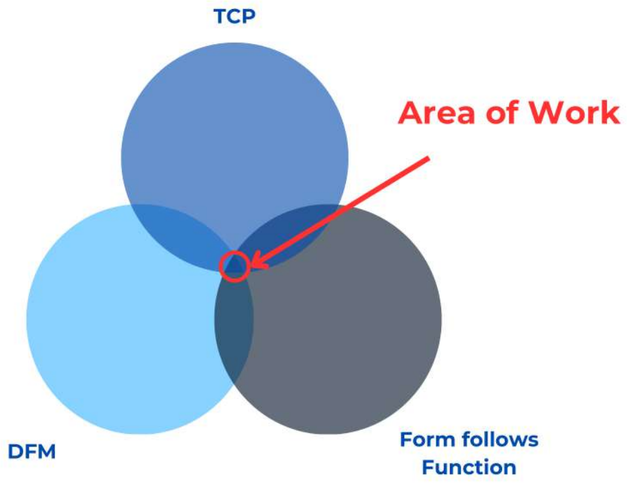
Acceptance Criteria



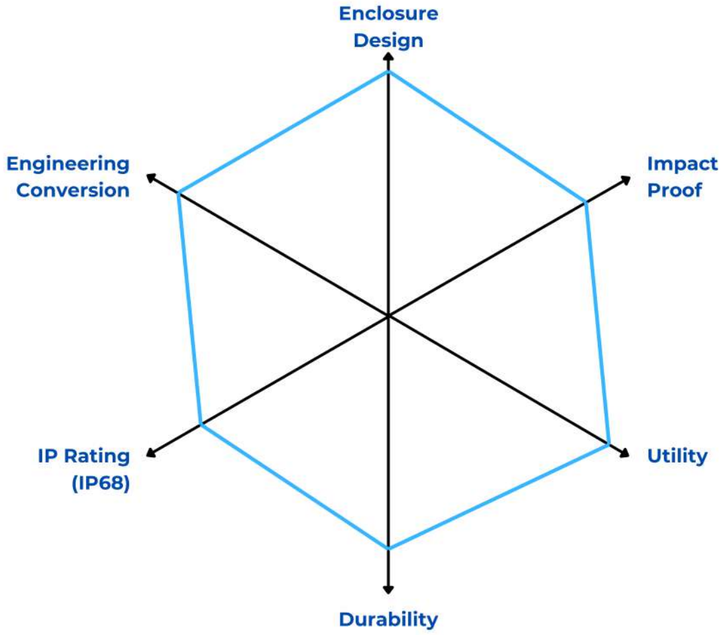


Design Direction

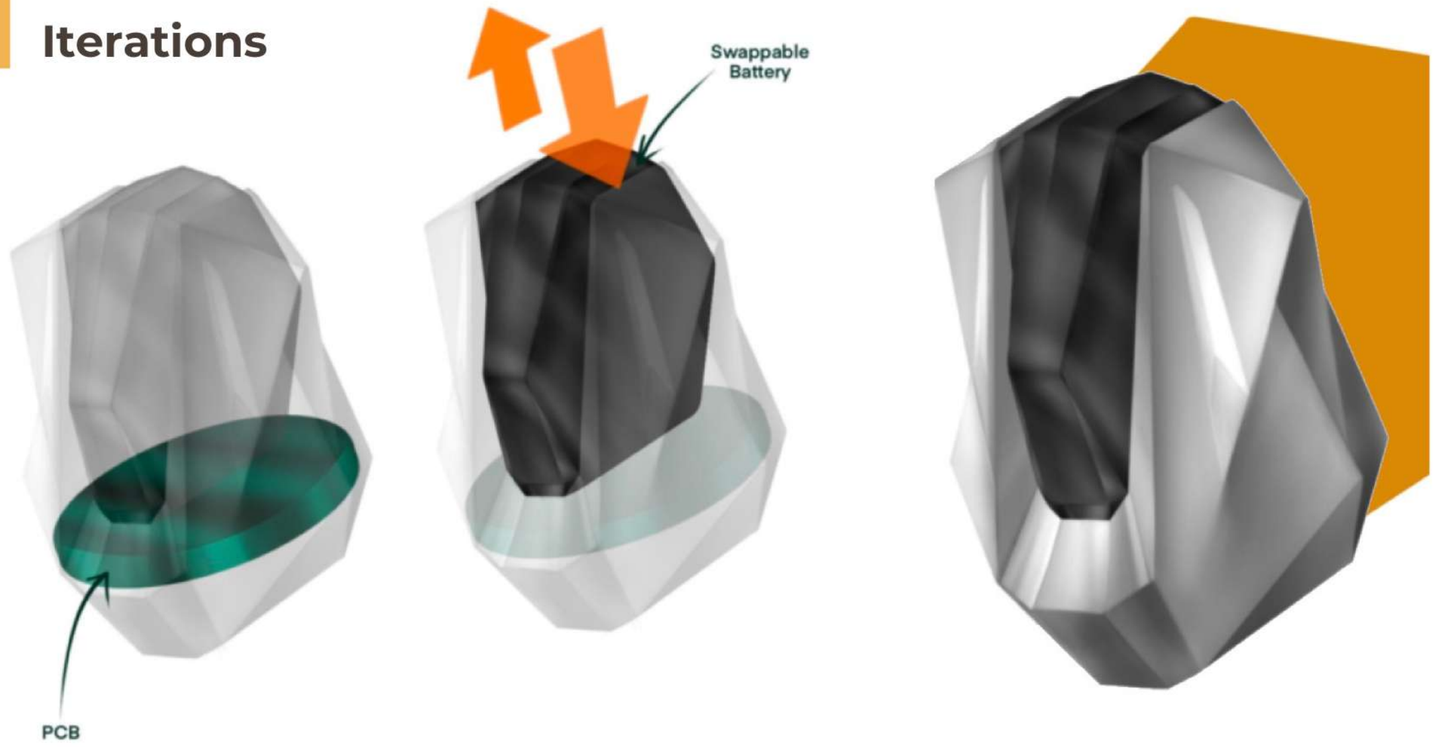
Stake Holding Parameters

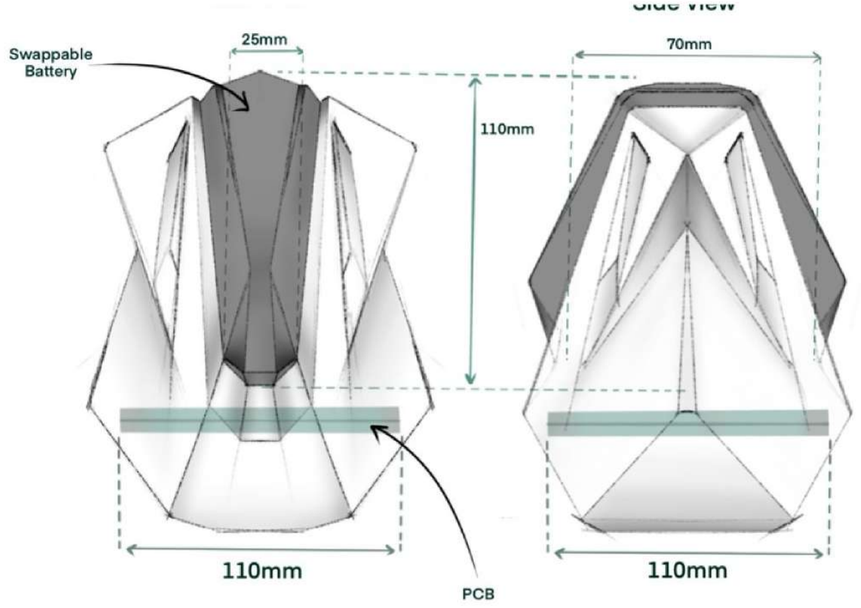


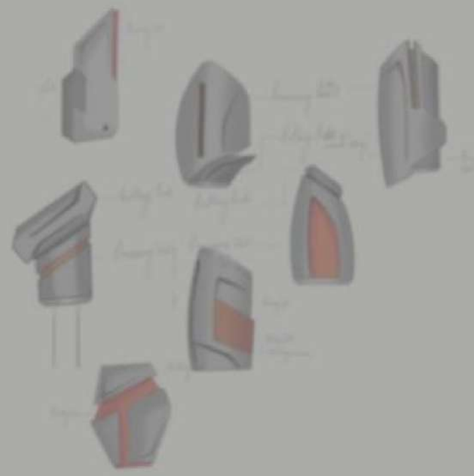
Design Attributes



Iterations





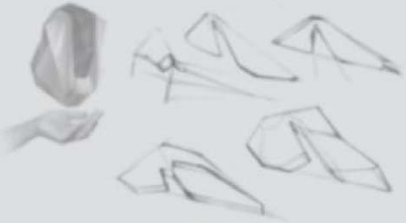


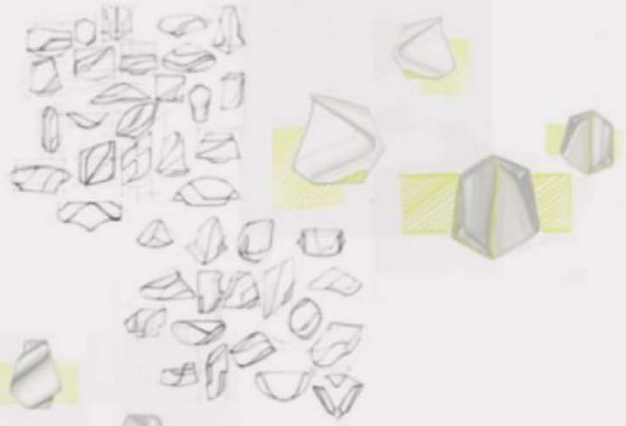
ROBUST

screen

DYNAMIC

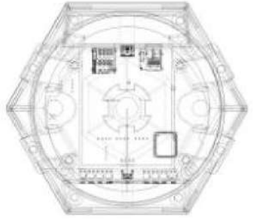
screen



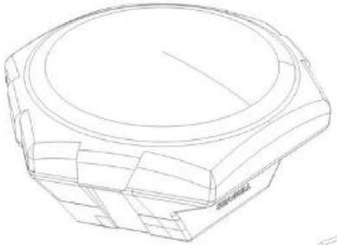


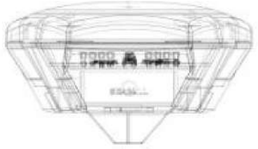
CAD | Engineering Conversion

Orthographic Views

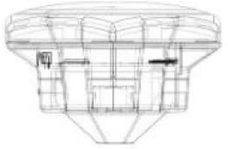


Top View

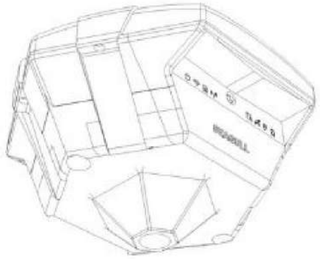




Front View

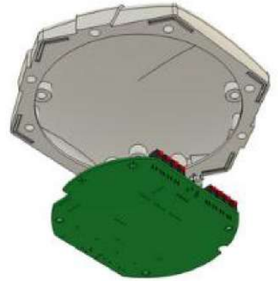


Side View

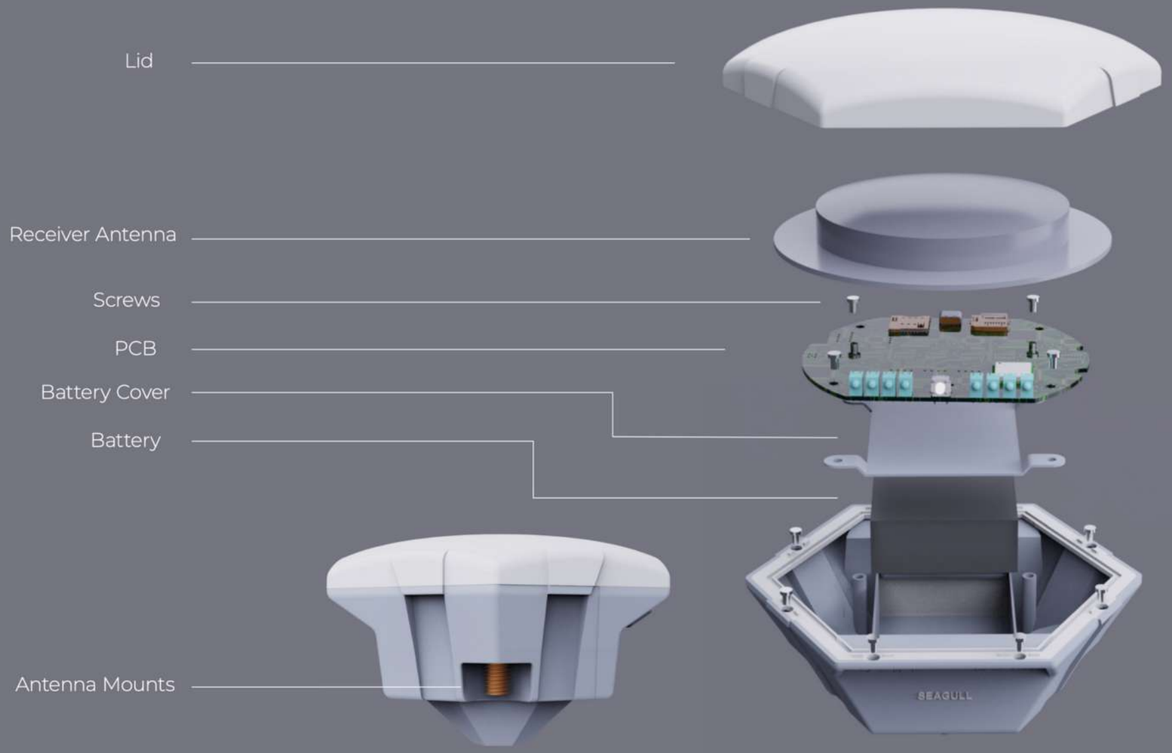


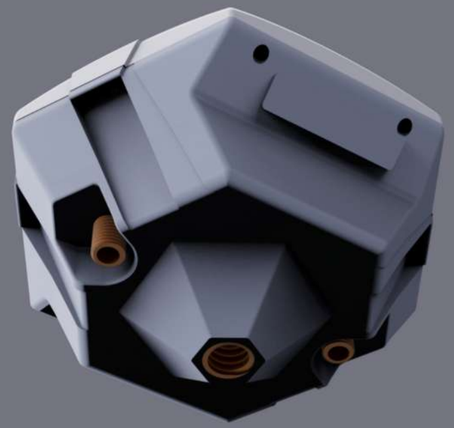
Perspective

Exploded View

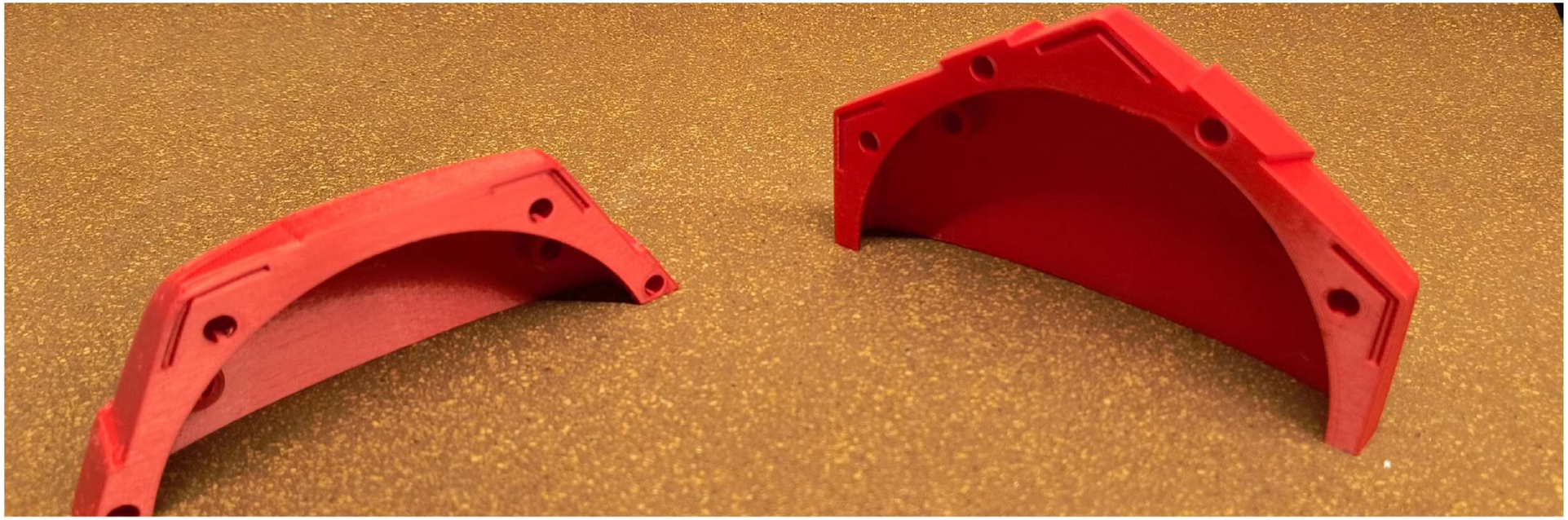


Final Product



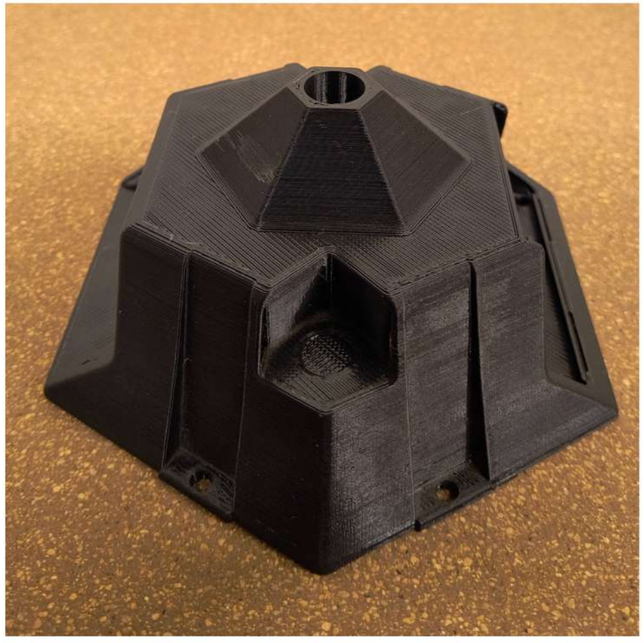


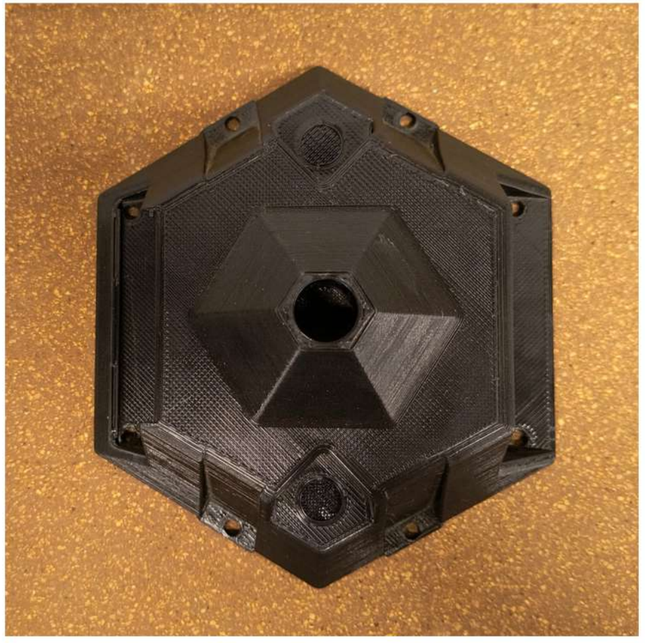
Engineered Product 3D Printed



Cap details

- Material - ABS
- Shell thickness - 2.5 mm
- Fuse Deposition 3D printing





Body details

- Material - ABS
- Shell thickness - 3 mm
- IP65 rating
- Fuse Deposition 3D printing

Keep Networking

3

Ochre - The Indian Kettle

Design Brief

Design an electric kettle, crafted with inspiration drawn from the rich tapestry of Indian culture.

Development Leadtime

250 hours

Scope of work

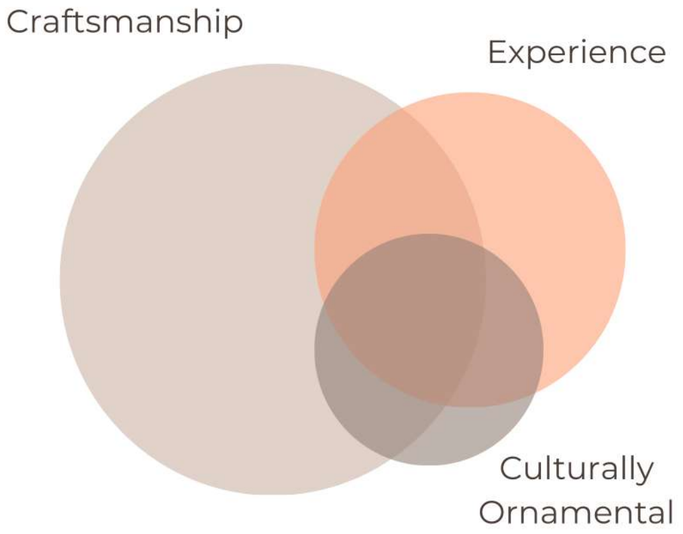
- Form & Semantics
- User-Centric Design
- Brand Mapping
- Benchmarking
- Material Study
- CMF study
- CAD and Digital Prototyping
- AR-VR experience

Persona

Attributes

- Tea lovers
- A user with a deep interest in Indian art and crafts
- A user who prefers UX of product and aesthetic of product over cost

Stake holding parameters



Selection Factors

Design Direction

Indian

Authentic

Values

Material and Texture board



Cultural

Royal

Crafted



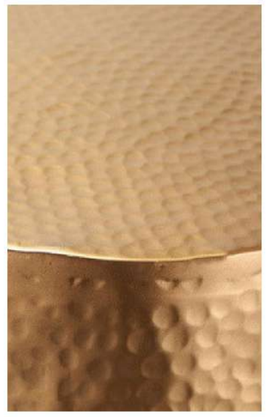
Ornamental



Classic

Earthy

CMF board







2024 Trends

Form

Details

Finish

Lattice

Boolean

Engineered

Culture

Tapri

10 Rs

Indian Celebrated Tea Trends

Brand study (Havells) and Research

Existing lineup

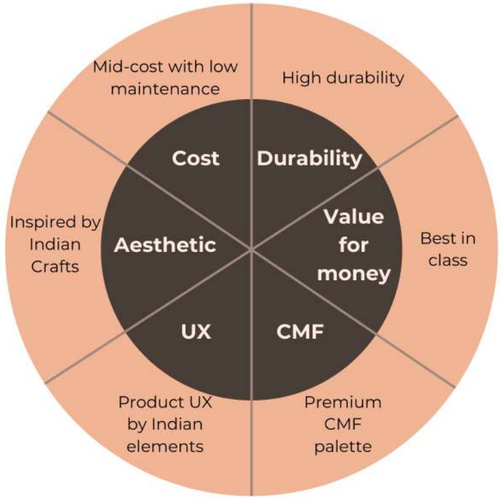
Classic

Minimal

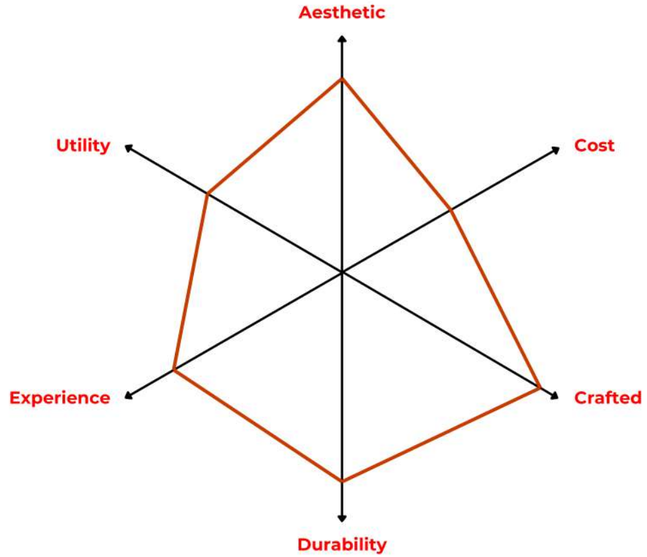
HAVELLS

Modern

Consumer Values



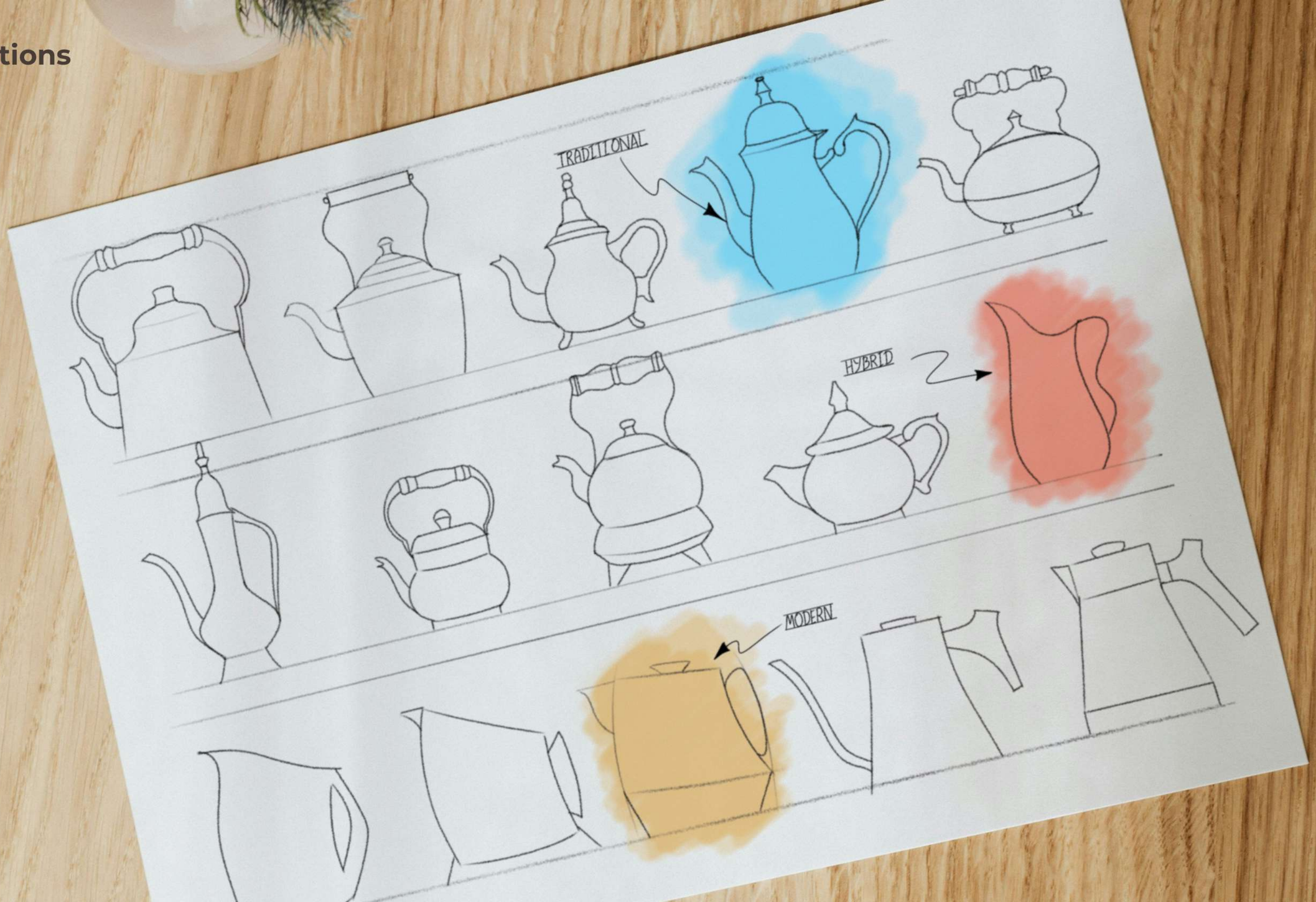
Spider chart



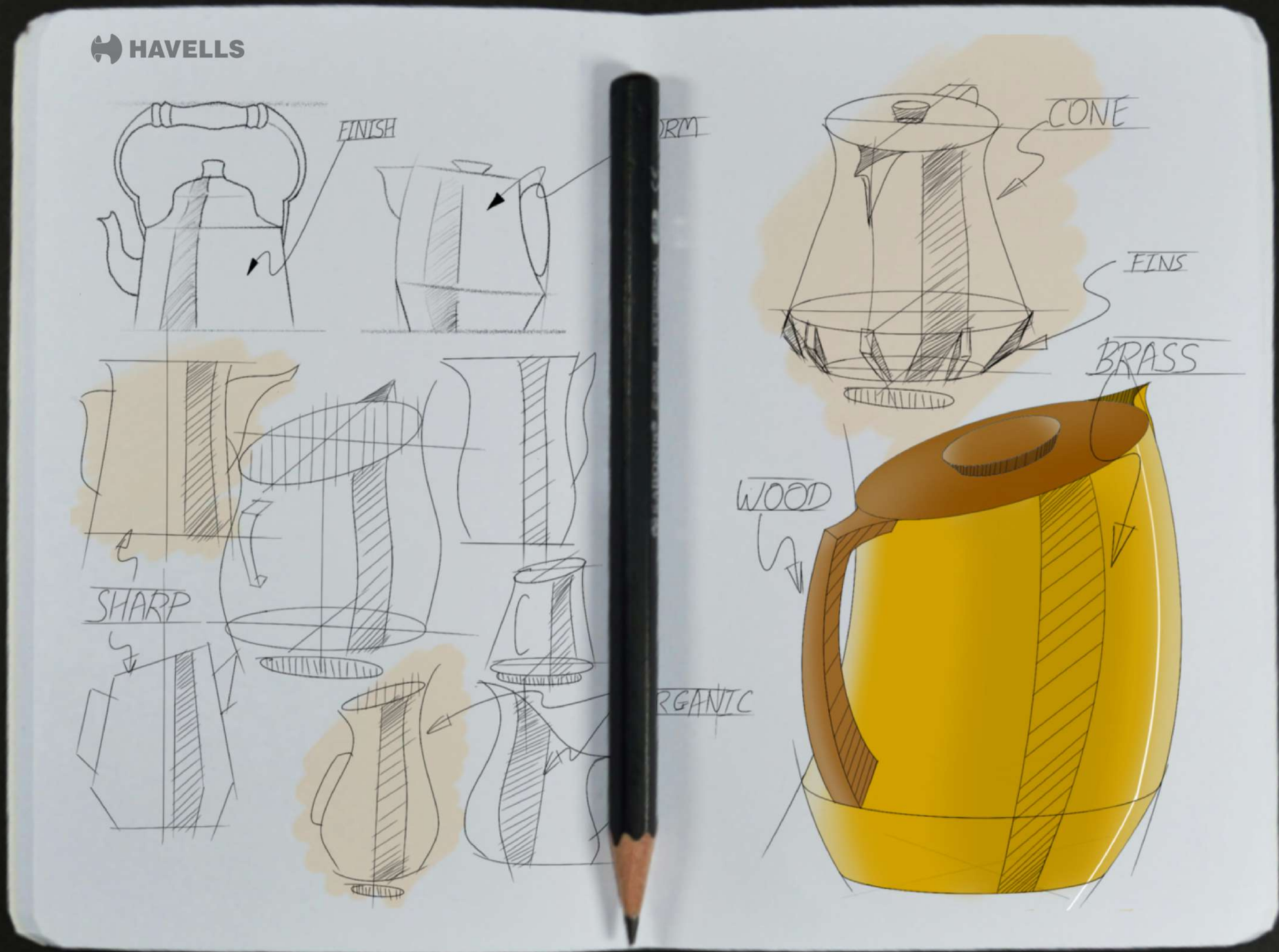
Benchmarking

Word cloud

2D Iterations



Ideation

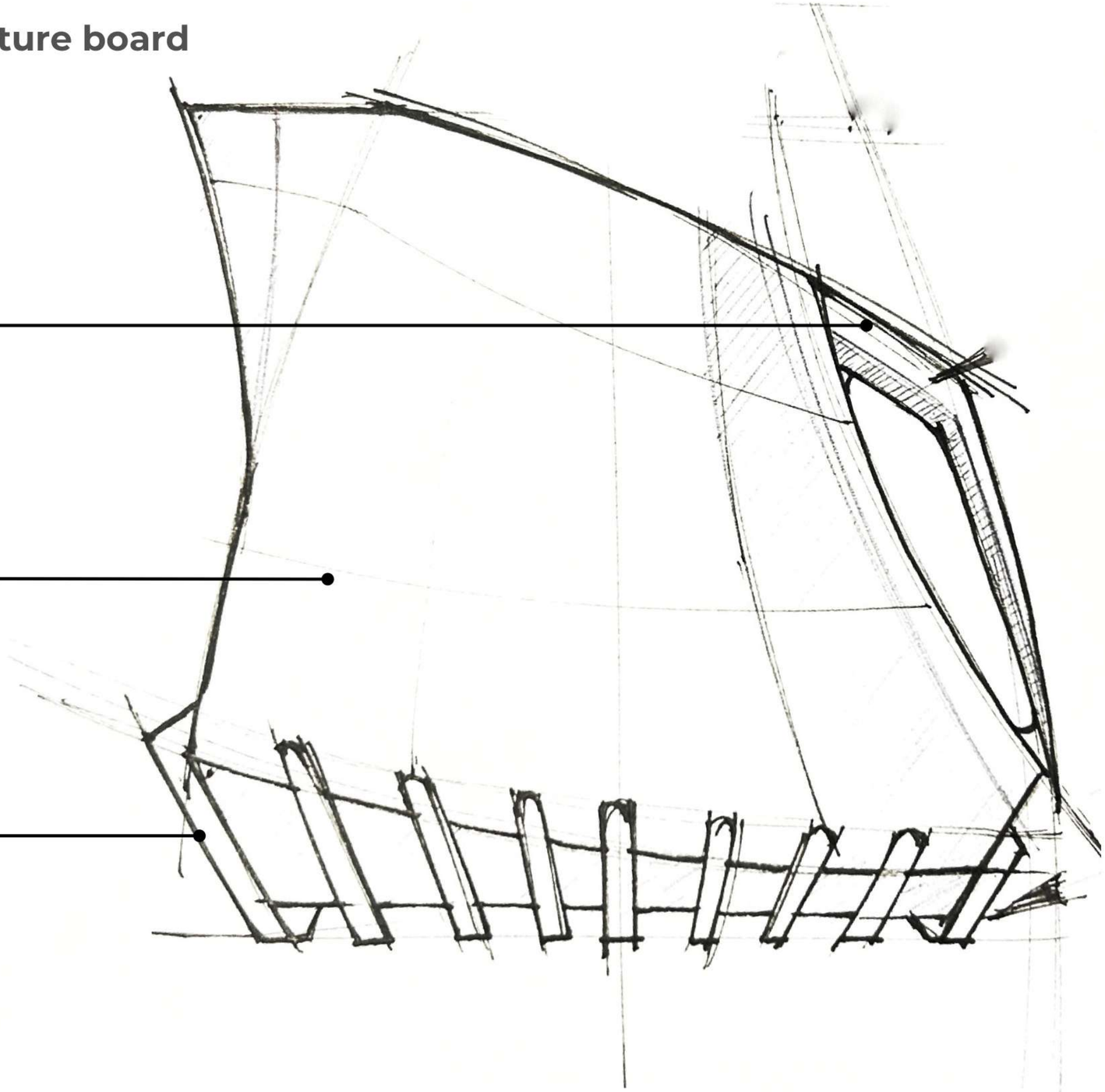


Material and Texture board

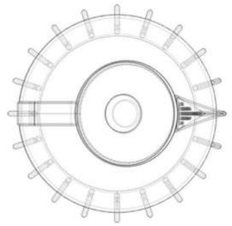
Brown Wood

Hammered Brass

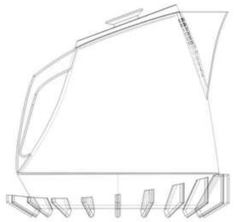
Clay



TOP VIEW

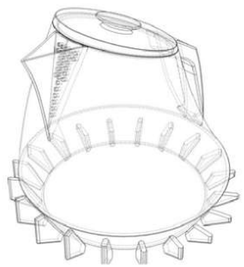


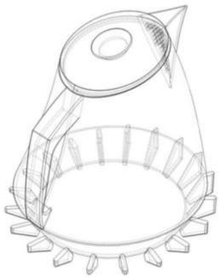
FRONT VIEW



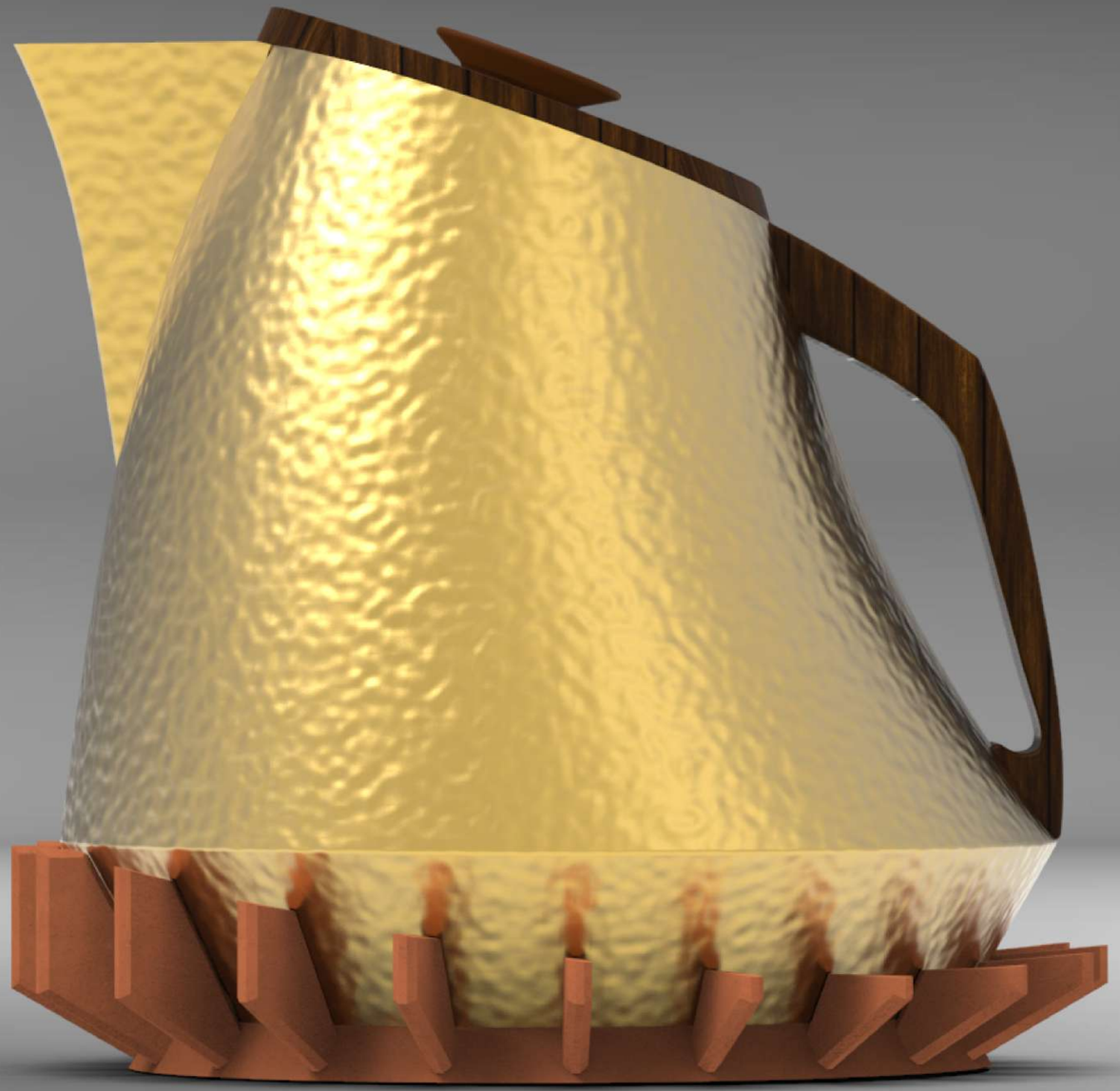
RHS VIEW

PERSPECTIVE





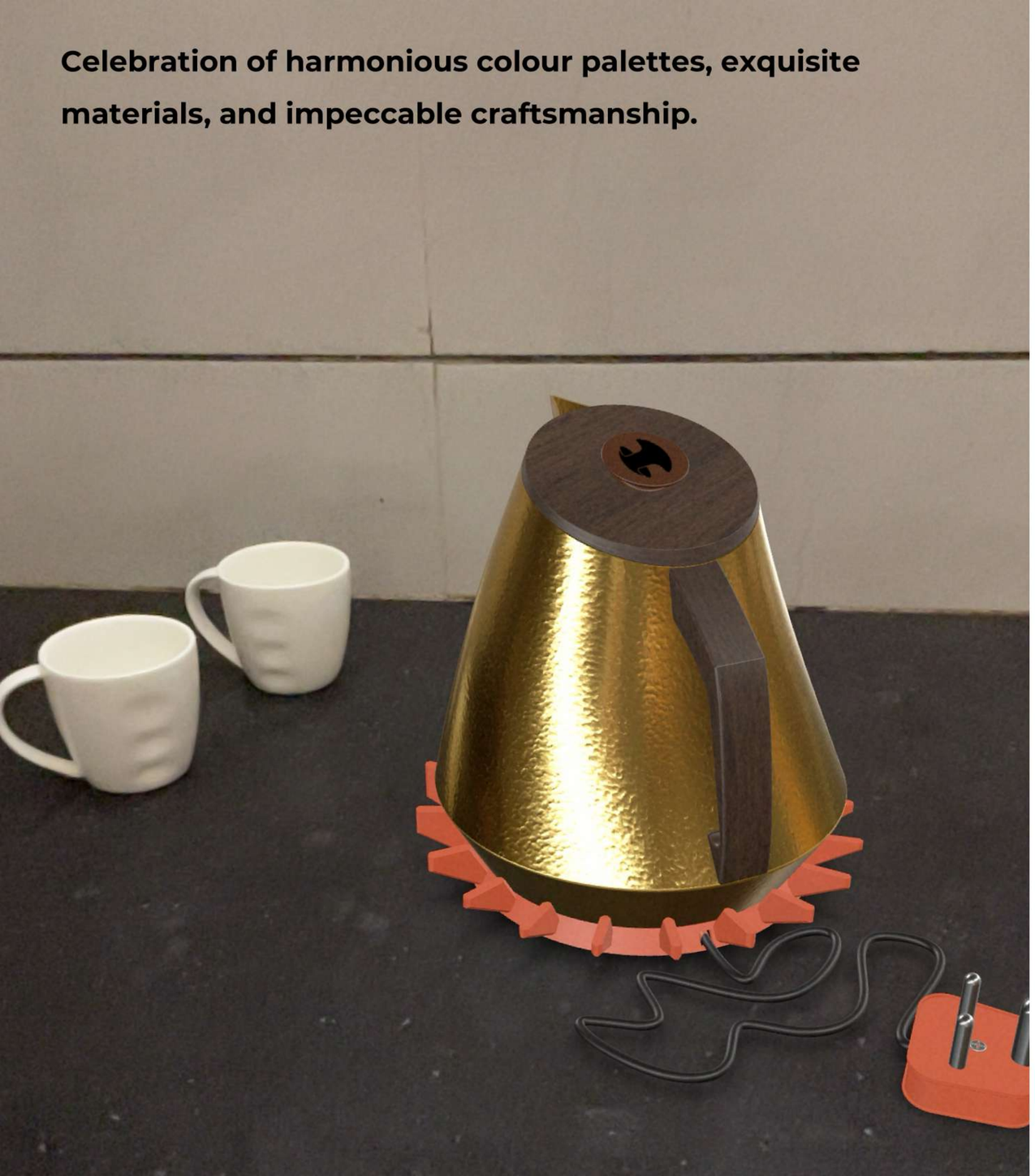
Visualisation

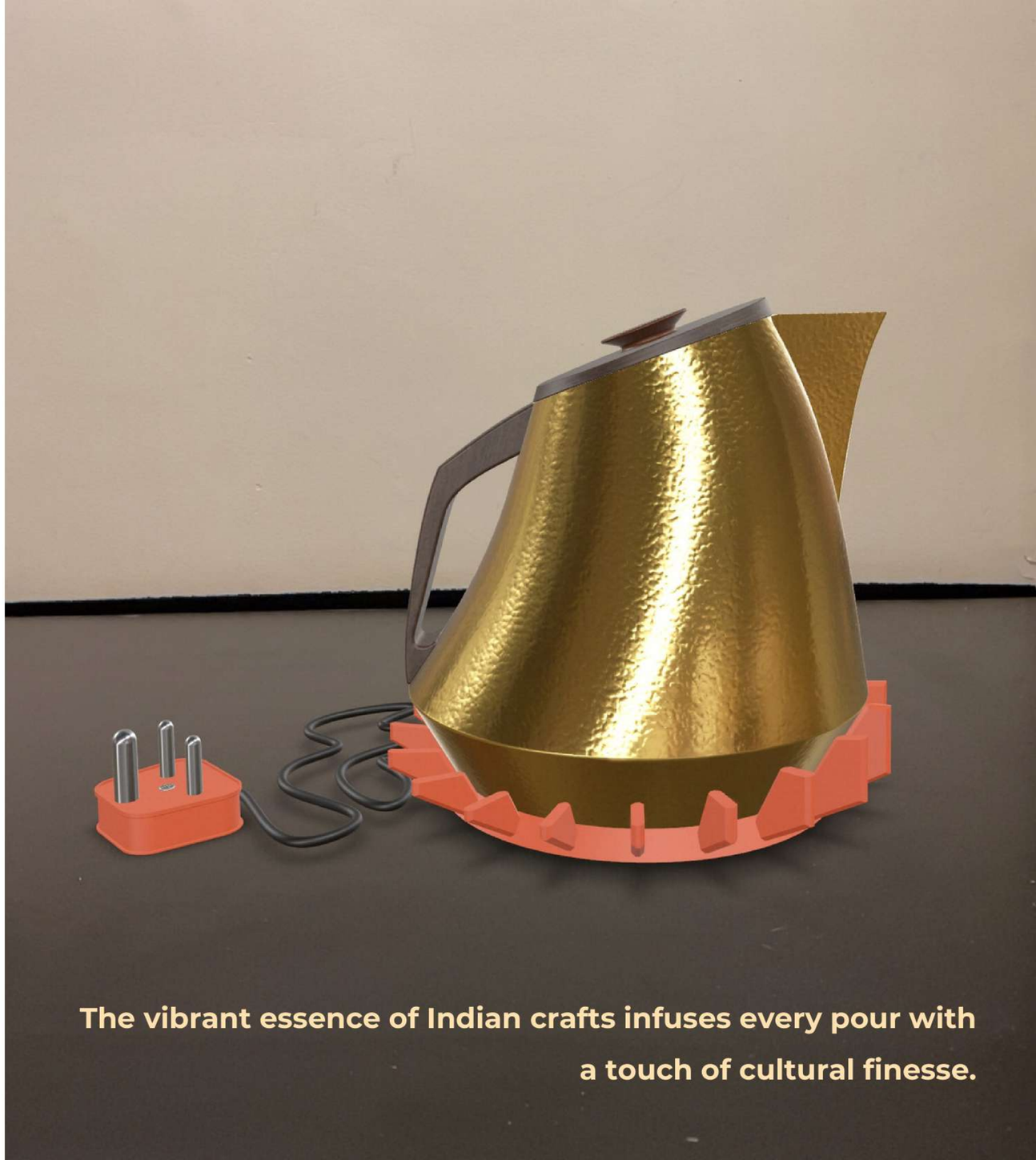


Exploded view

Augmented Reality

Celebration of harmonious colour palettes, exquisite materials, and impeccable craftsmanship.



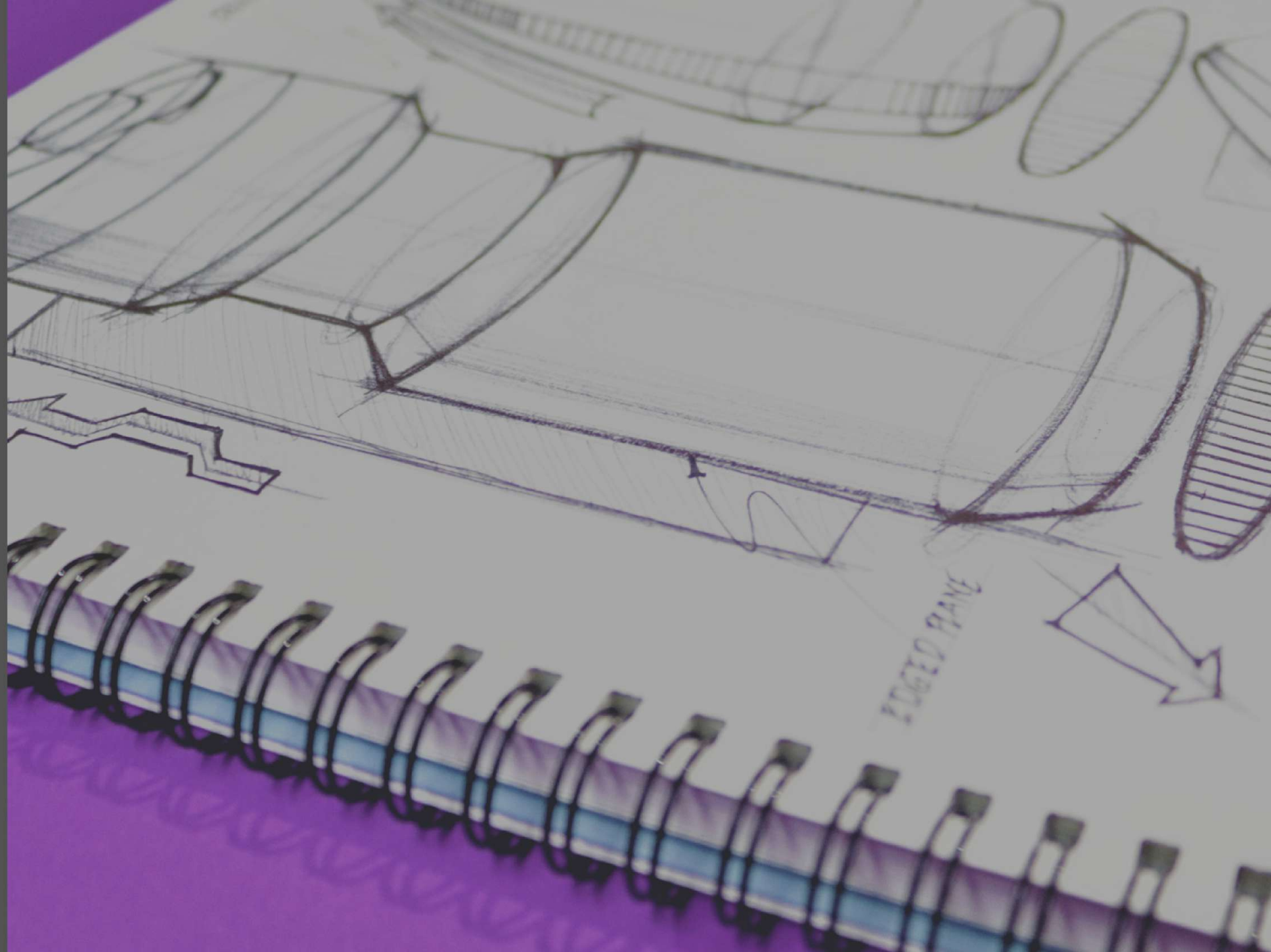


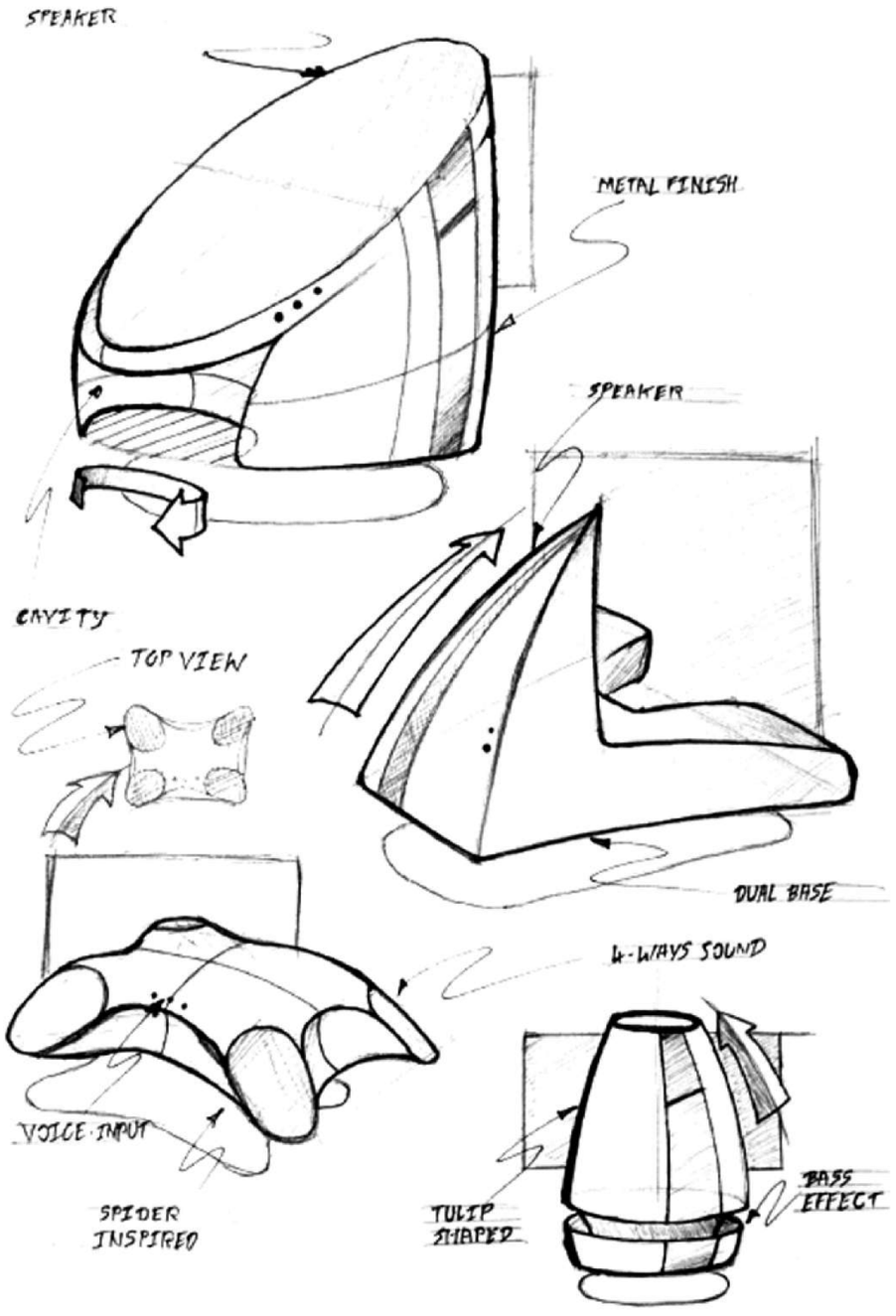
The vibrant essence of Indian crafts infuses every pour with a touch of cultural finesse.

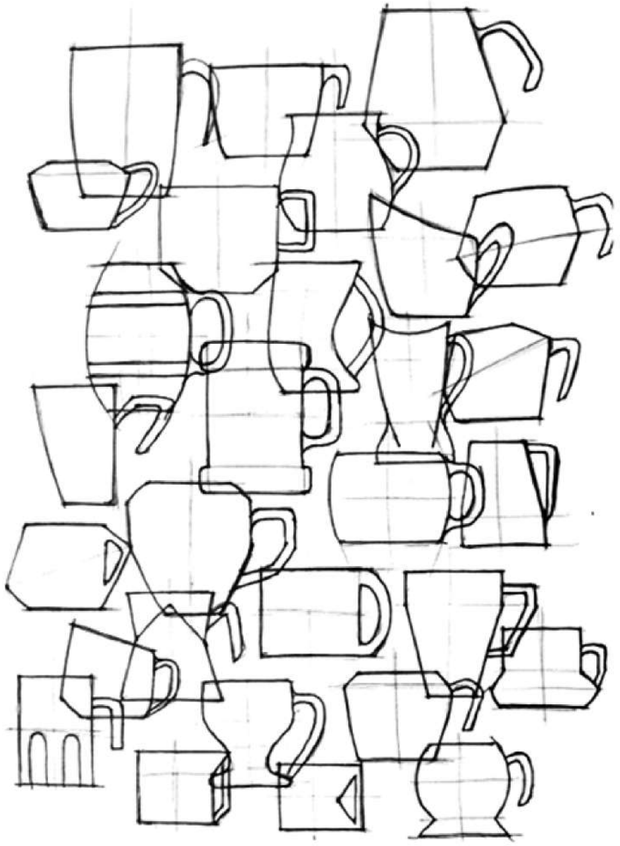
Keep Steaming

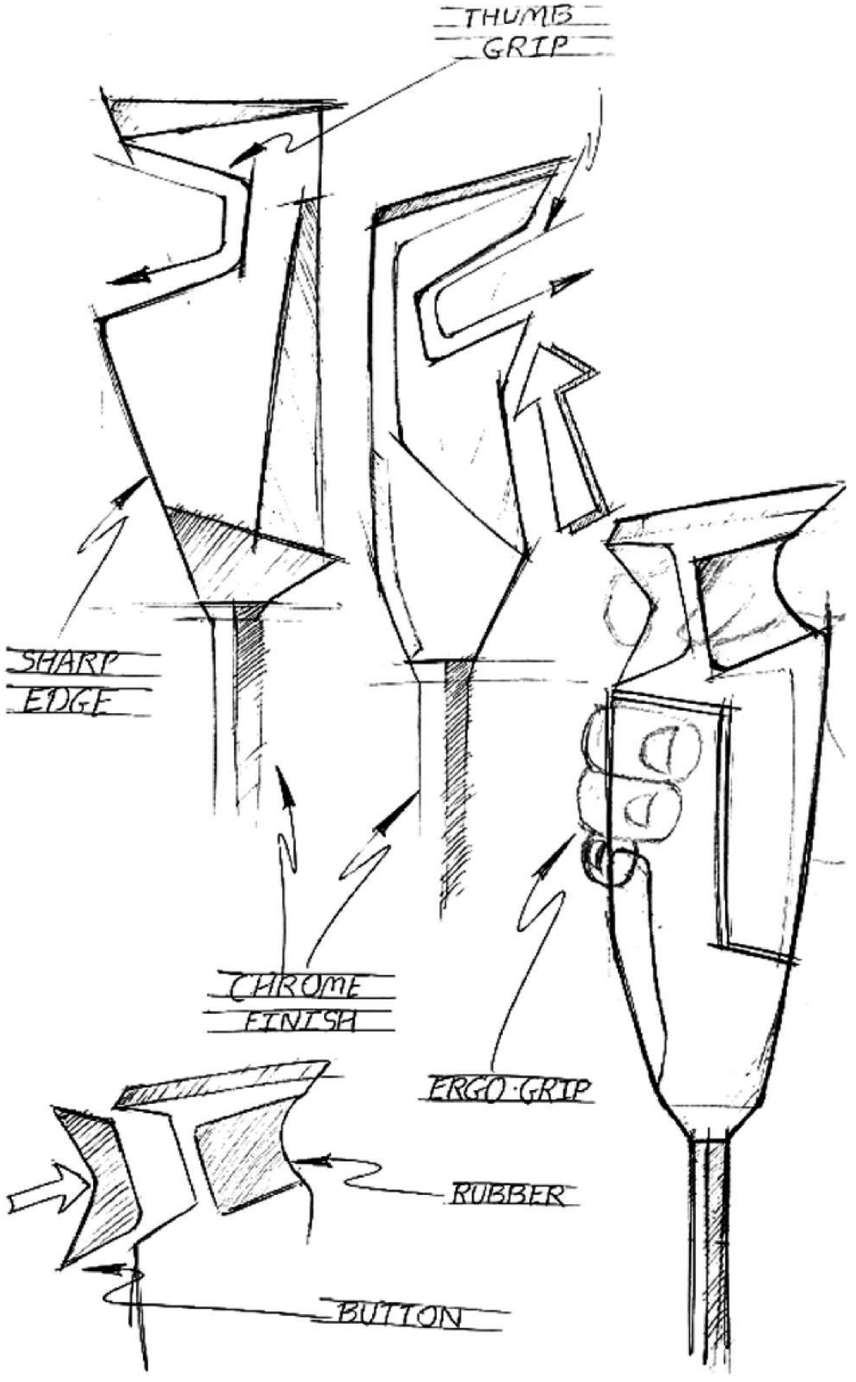
4

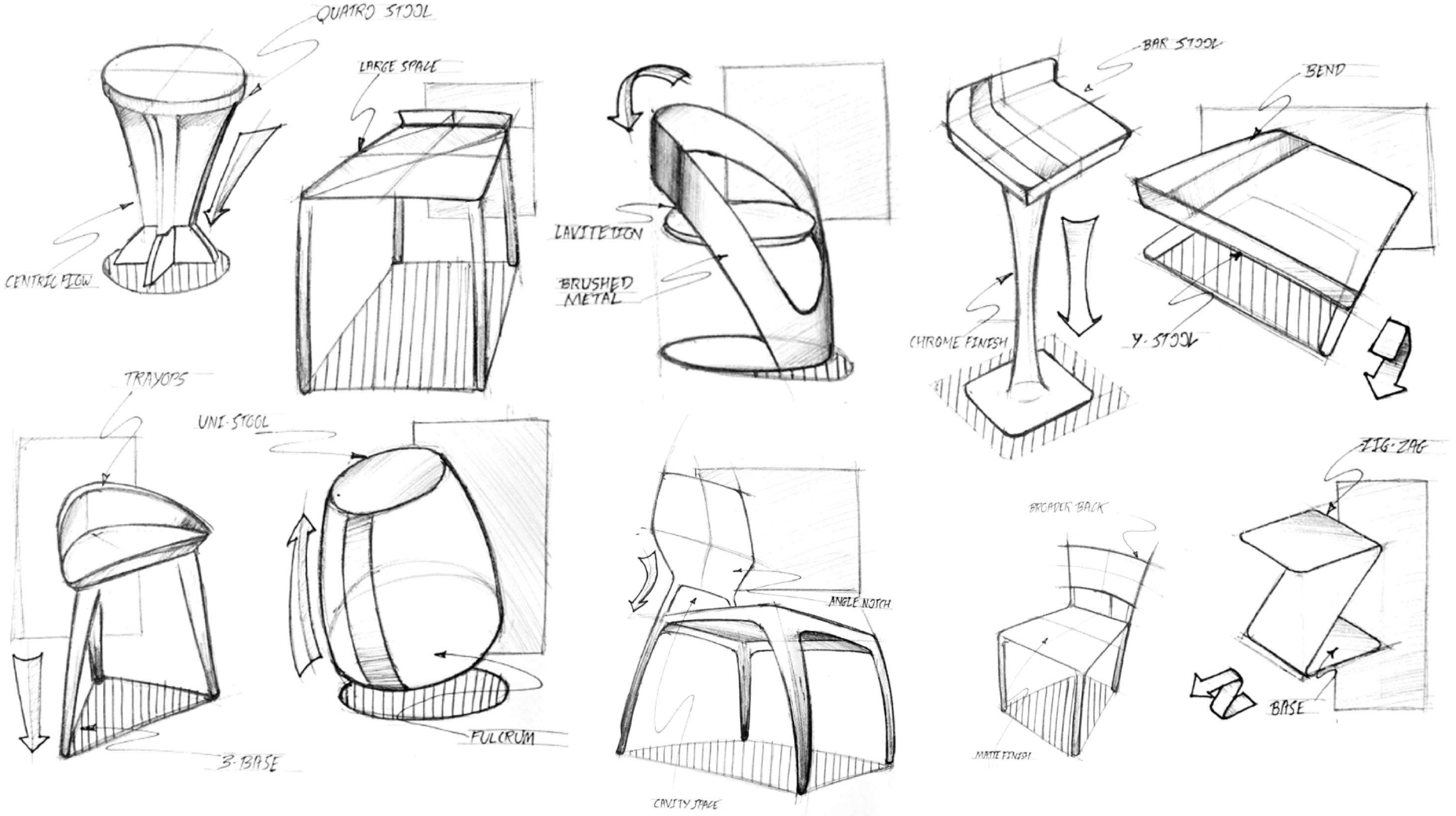
Skills

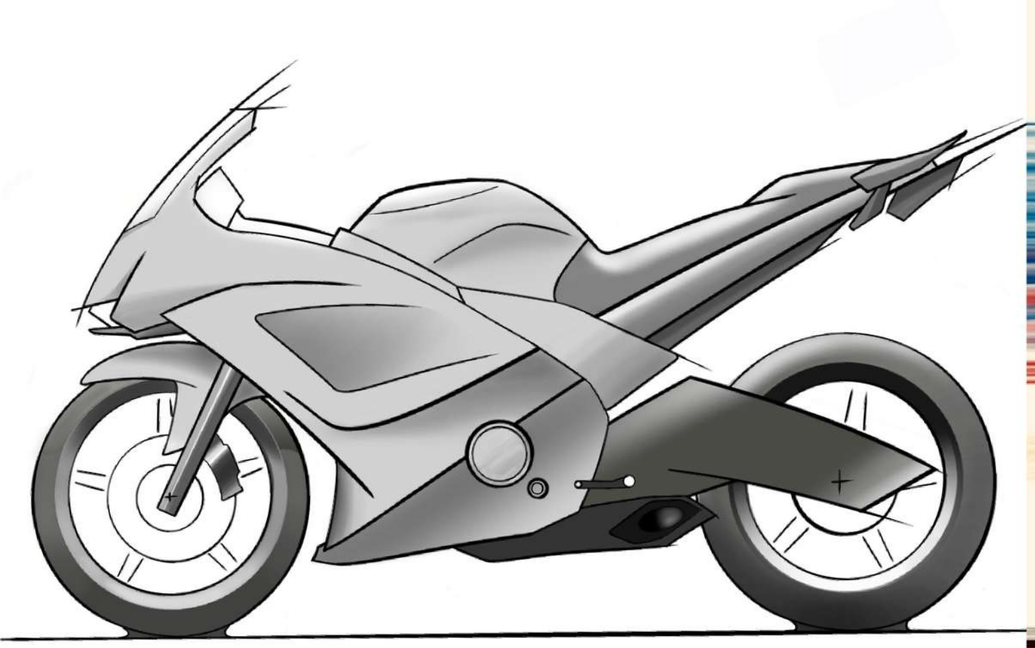


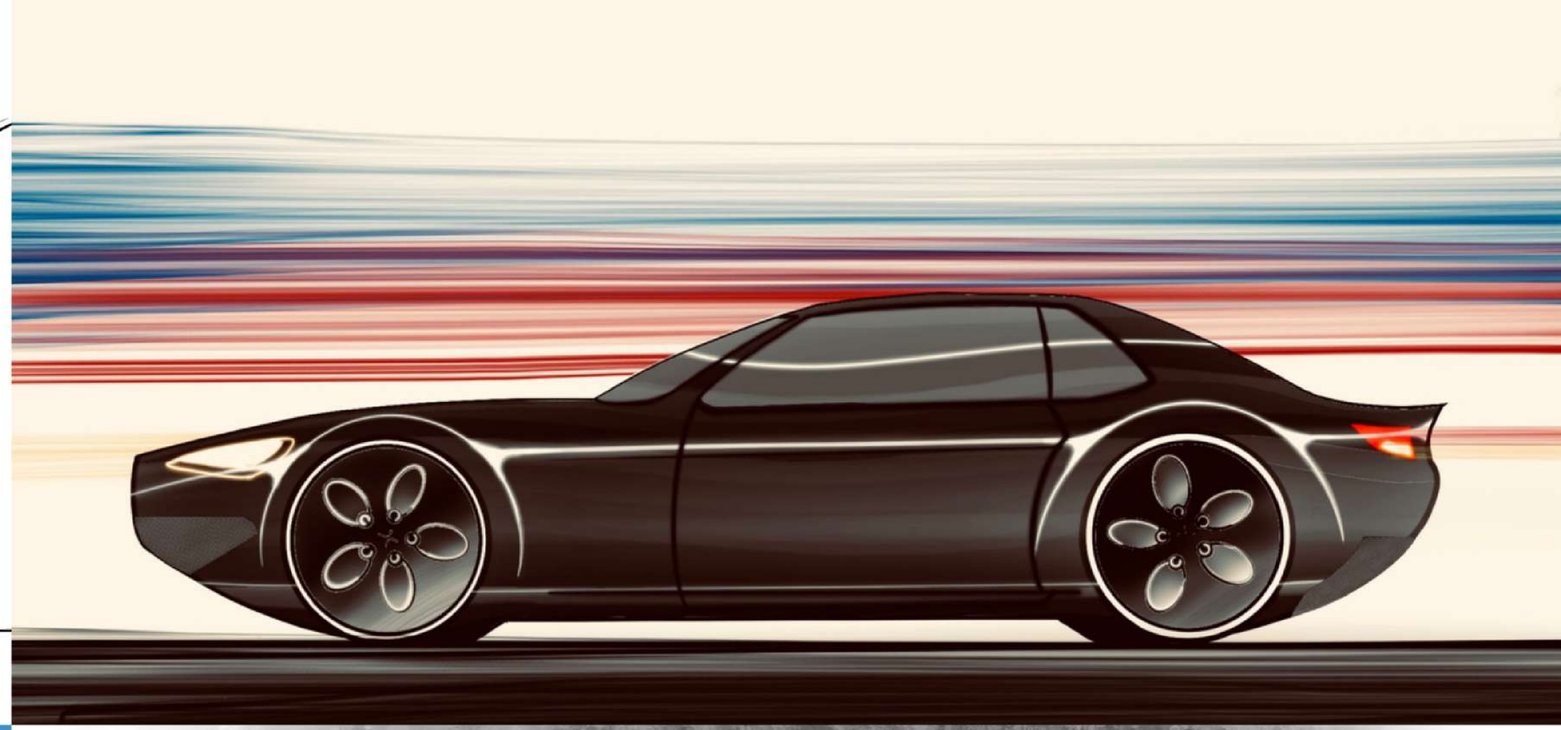

SPEAKER
METAL FINISH
SPEAKER
CAVITY
TOP VIEW
DUAL BASE
4-WAYS SOUND
VOICE INPUT
SPIDER INSPIRED
TULIP SHAPED
BASS EFFECT

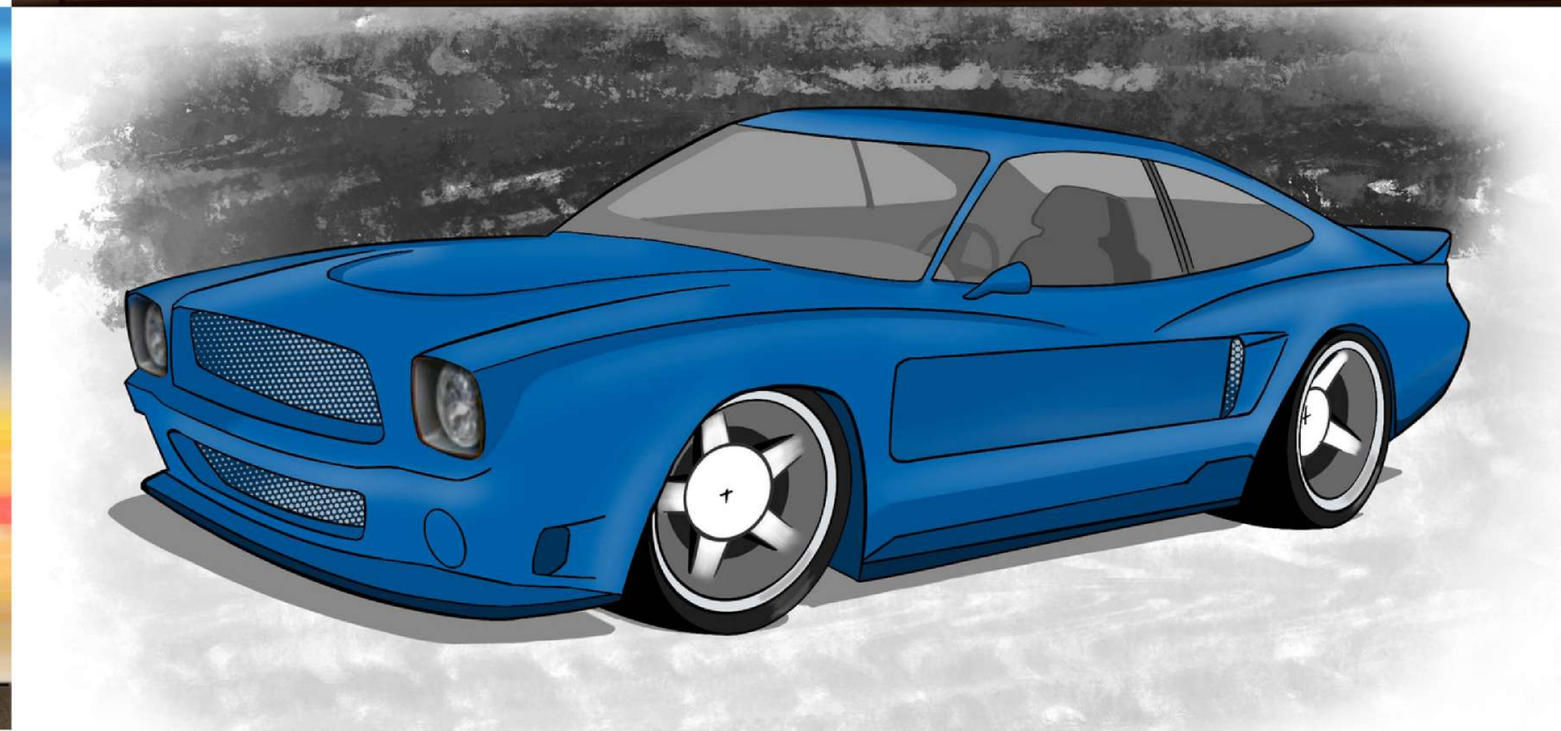


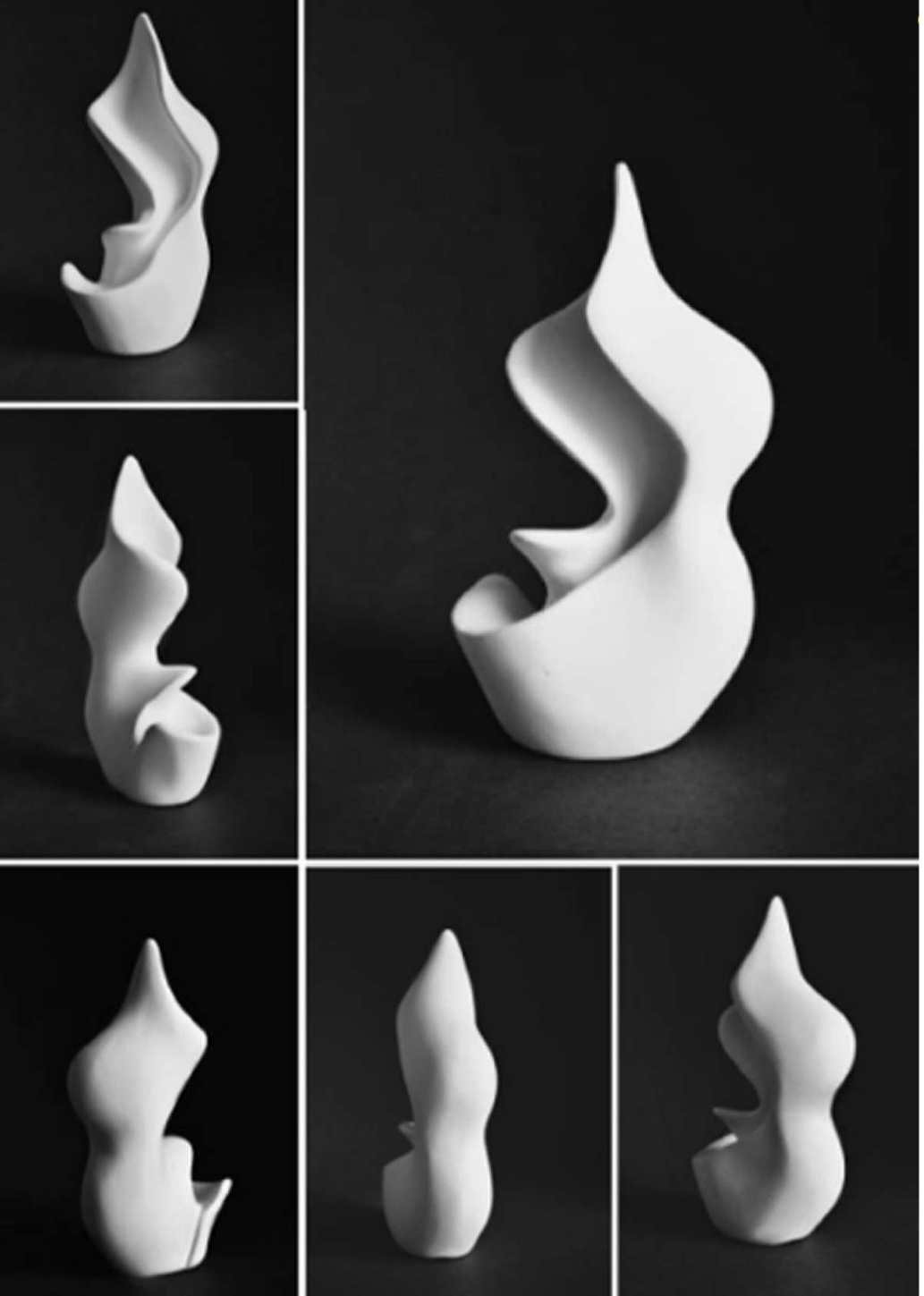

THUMB GRIP
SHARP EDGE
CHROME FINISH
ERGO-GRIP
RUBBER
BUTTON

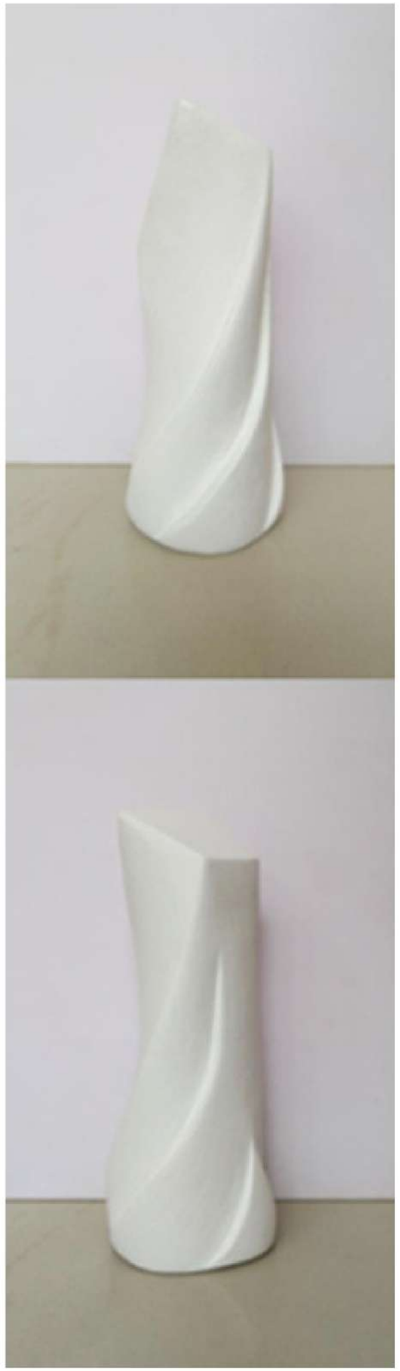

QUATRO STOOL
CENTRIC FLOW
LARGE SPACE
LAVISTE ION
BRUSHED METAL
BAR STOOL
BEND
CHROME FINISH
Y-STOOL
TRAYOPS
UNI-STOOL
FULCRUM
3-BASE
ANGLE NOTCH
CAVITY SPACE
BROADER BACK
MATTE FINISH
ZIG-ZAG
BASE











5

Initiative

Winning Entry in
Hackathon 2023

- "**Dekho Bharat**" **won the Student Start-up Innovation Policy Hackathon 2023**.

- Inspired by the heritage ambience of the archaeological monument **Mohenjodaro**. We created an immersive **digital twin** on the **Virtual reality** platform.

- Software used:
  Sketchup | **Unreal Engine**

Project By: Abhinaba Paul, Kavya Patel
Mentor: Parth Raval

NPD project for
Gujarat Police

1st of its kind 3D Photogrammetry project in the country.

- MoU with Gujarat Police
- 3 Faculties
- 11 Students
- 21 km of the Rathyatra route mapped
- 107 drone flights
- 2,35,000 photos captured for photogrammetry
- 360+ Hours of work

THANK YOU

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