

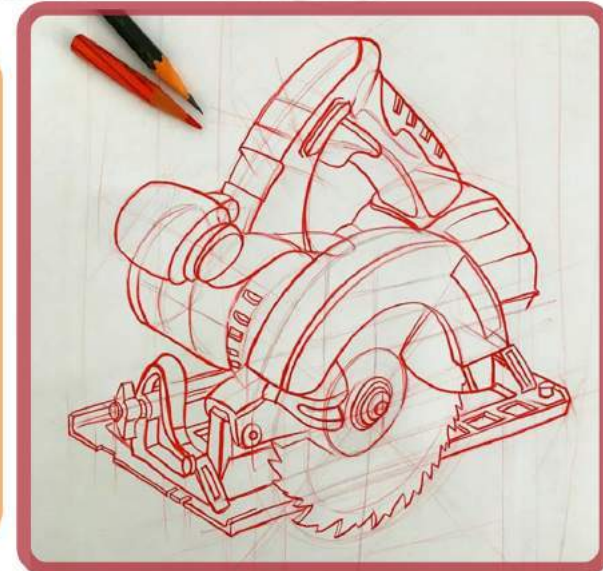
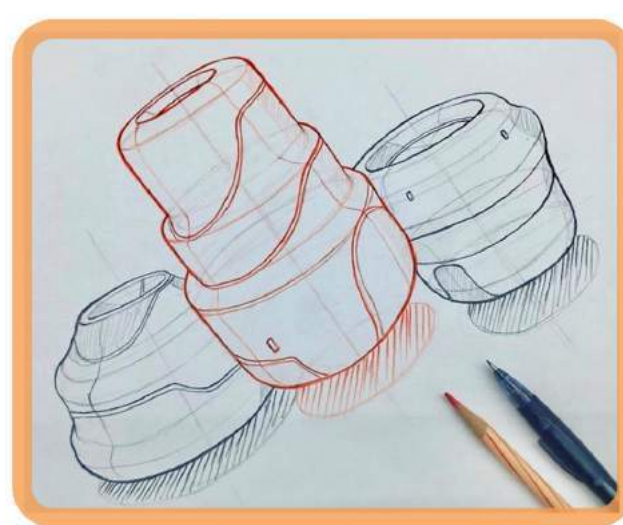
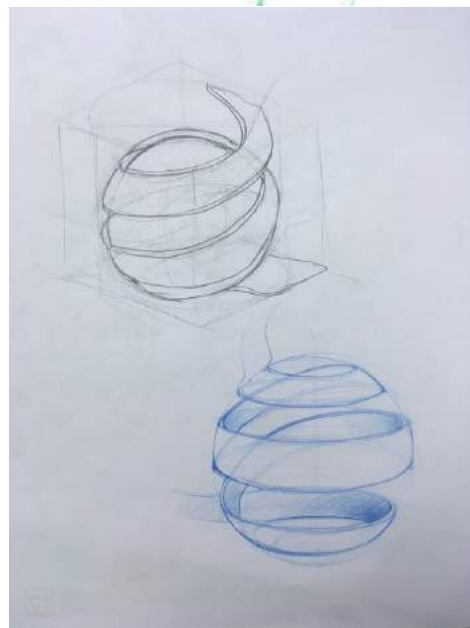
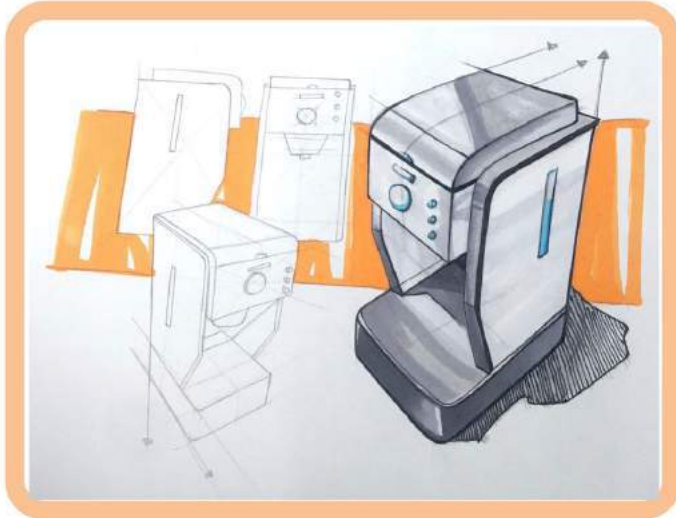
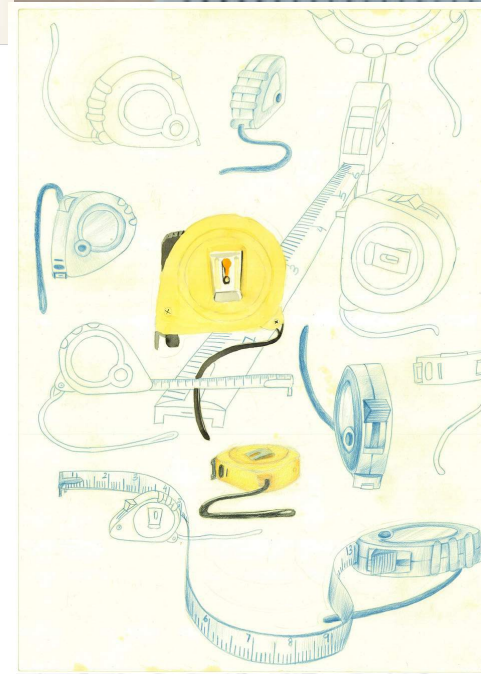
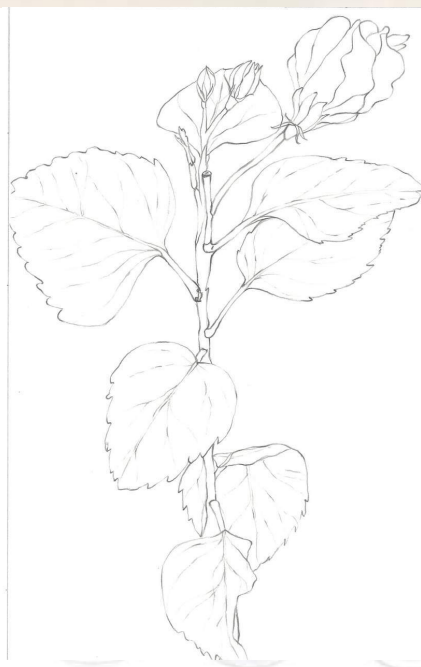
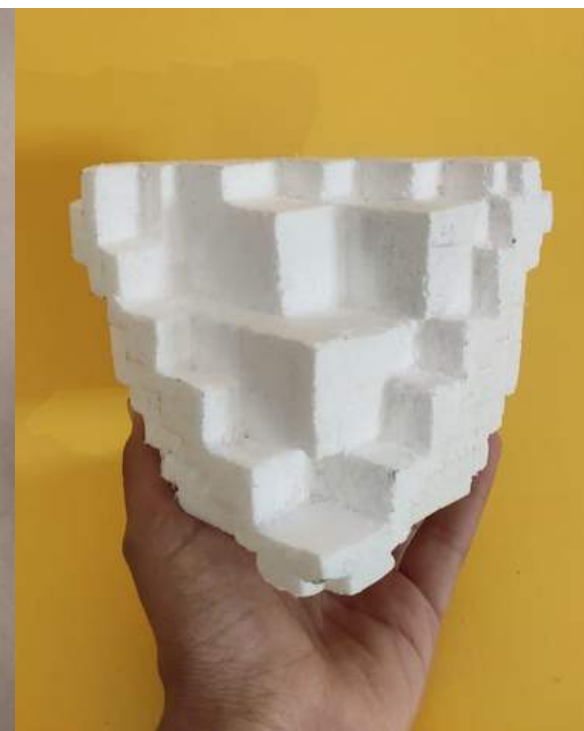
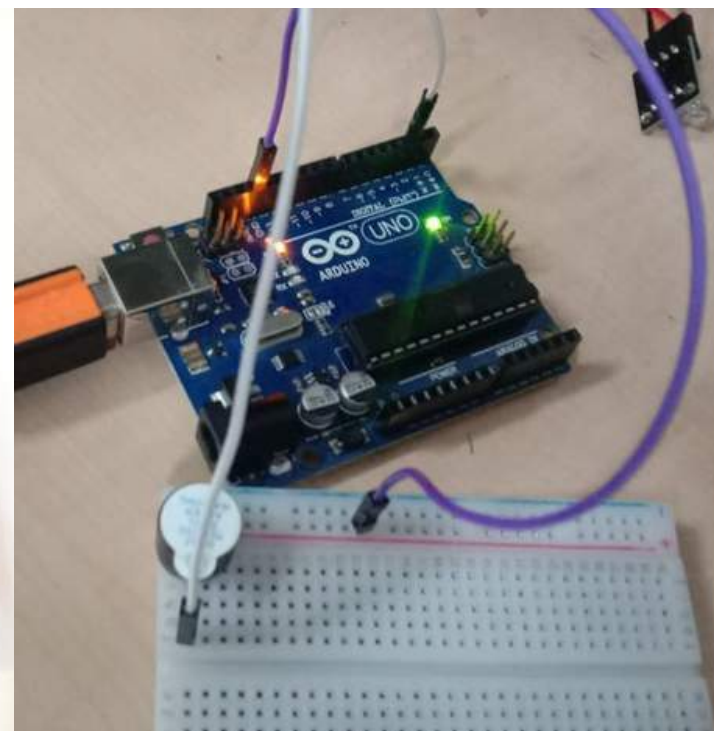
TANVI PANKAJ KUMAR  
B.DES

# 「PORTFOLIO」

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INDUSTRIAL DESIGN









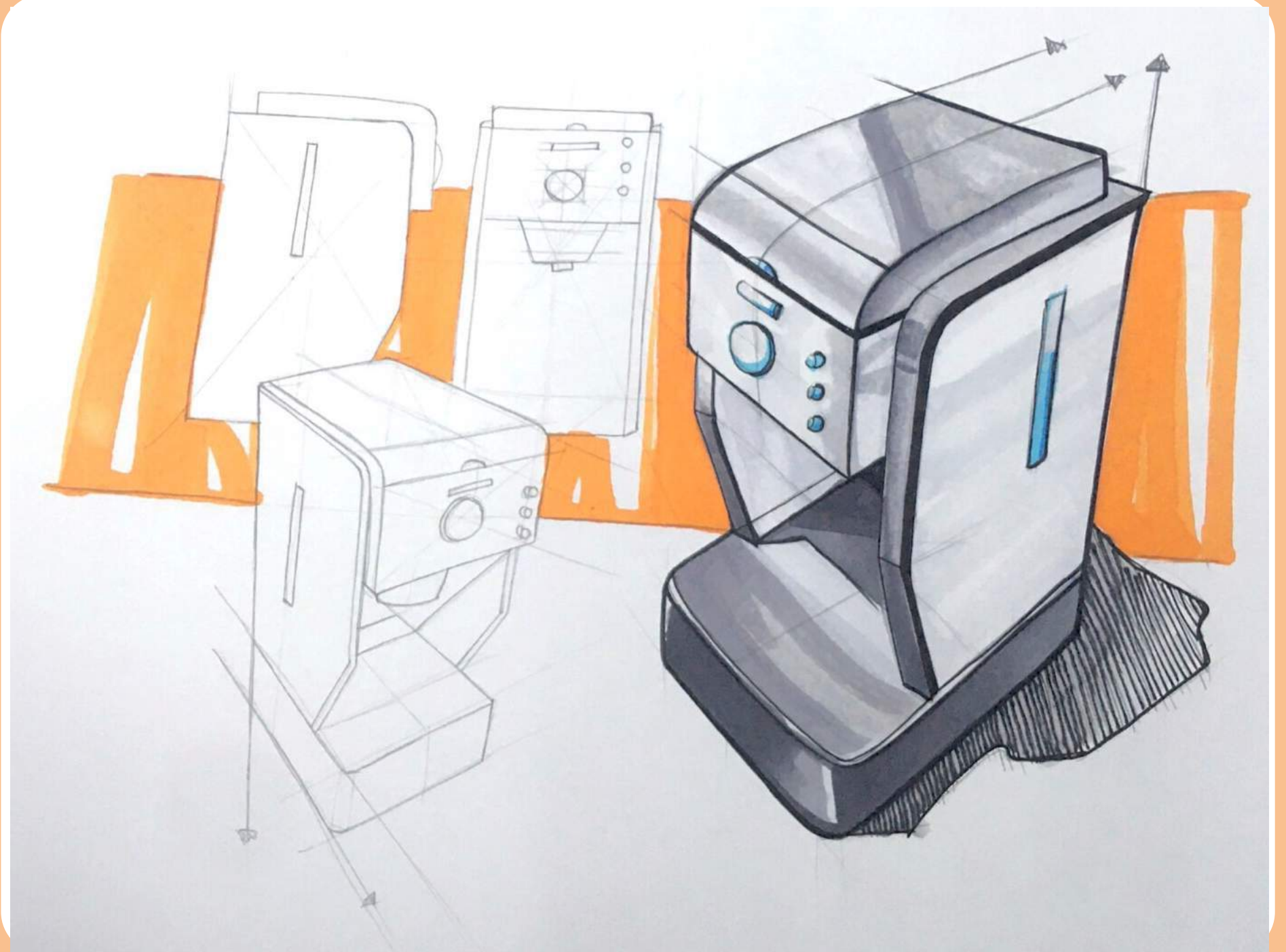
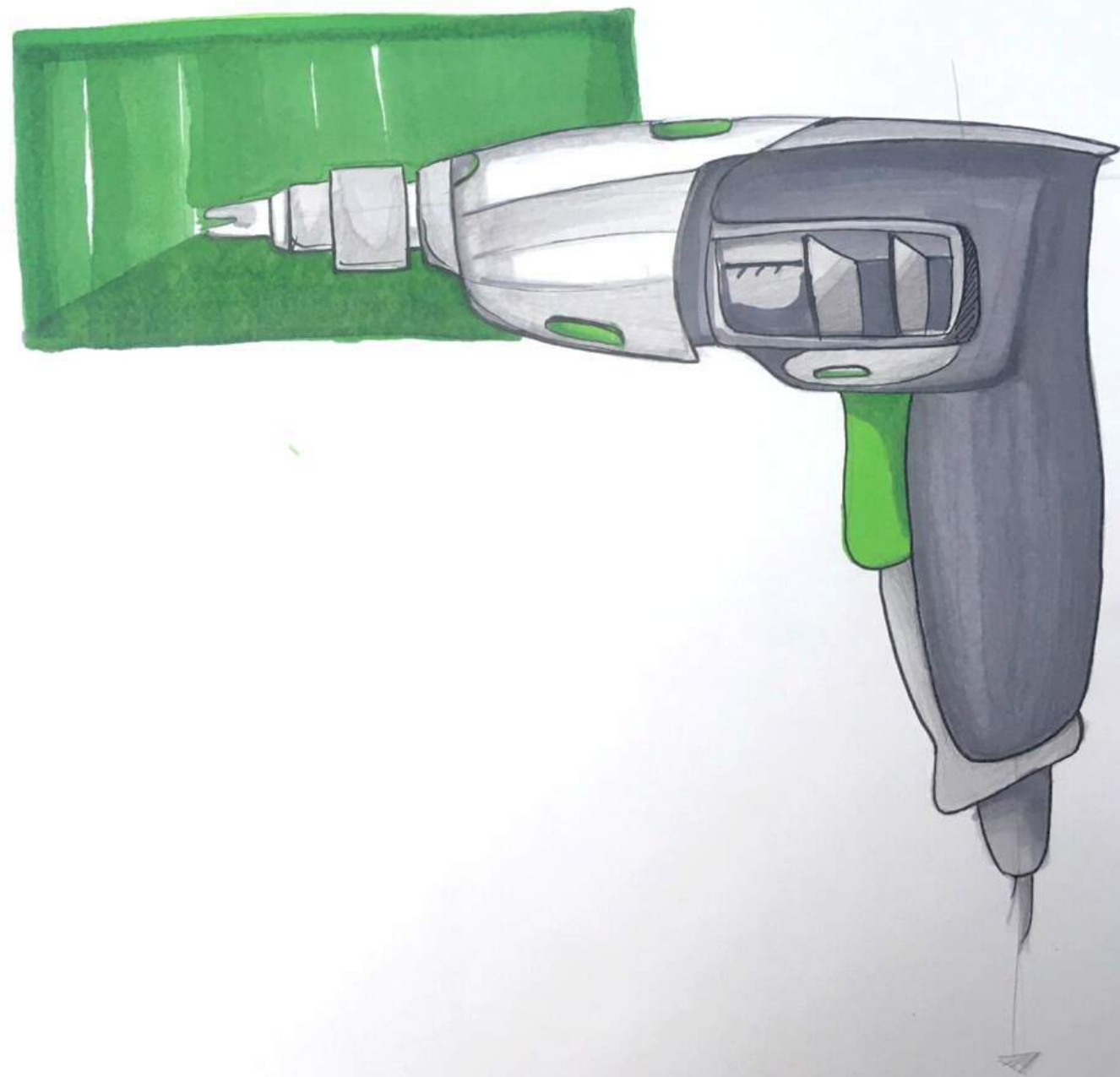
Nature Drawing

Object Sketching

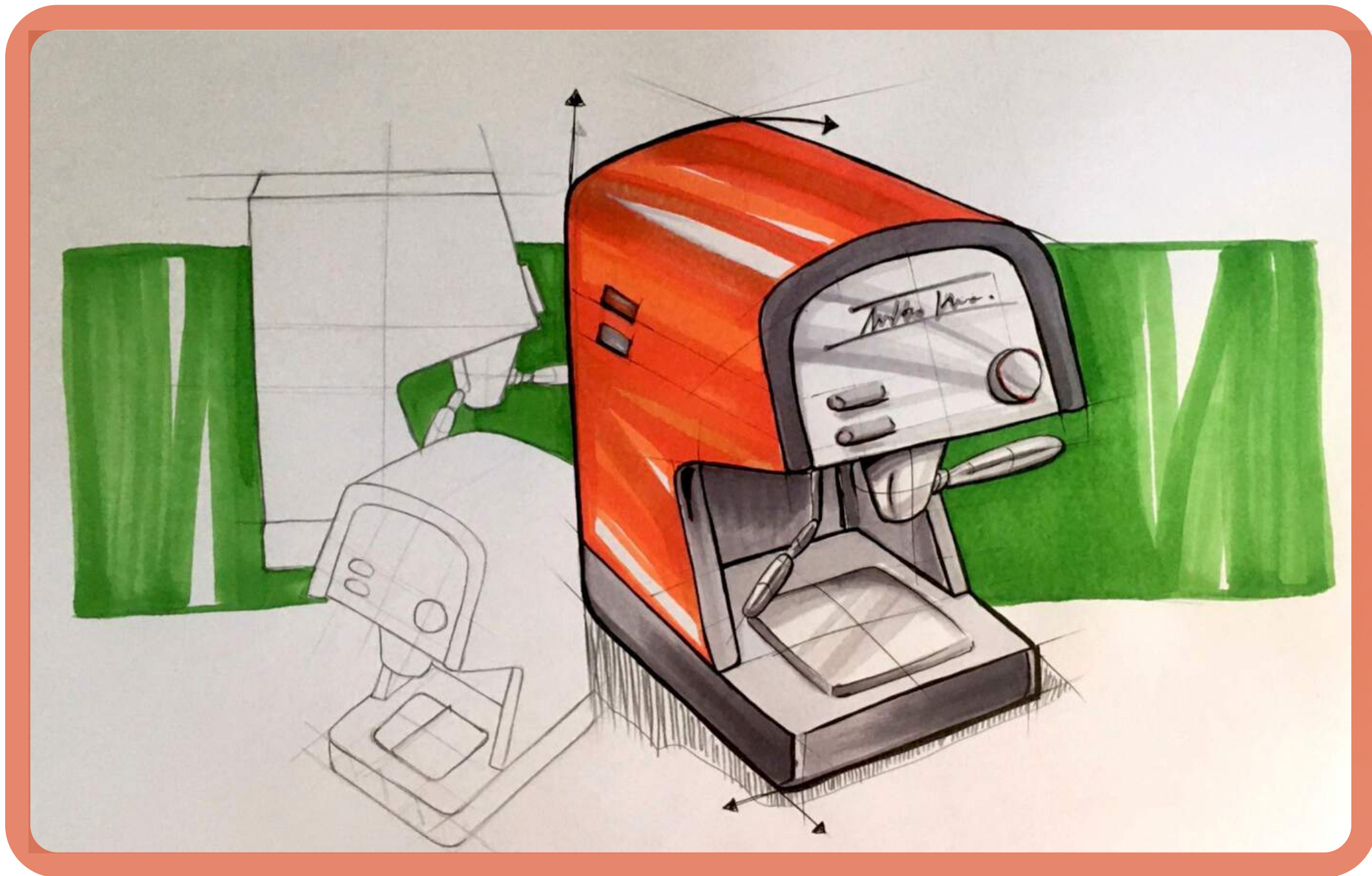
Drawing techniques

Industrial Sketches

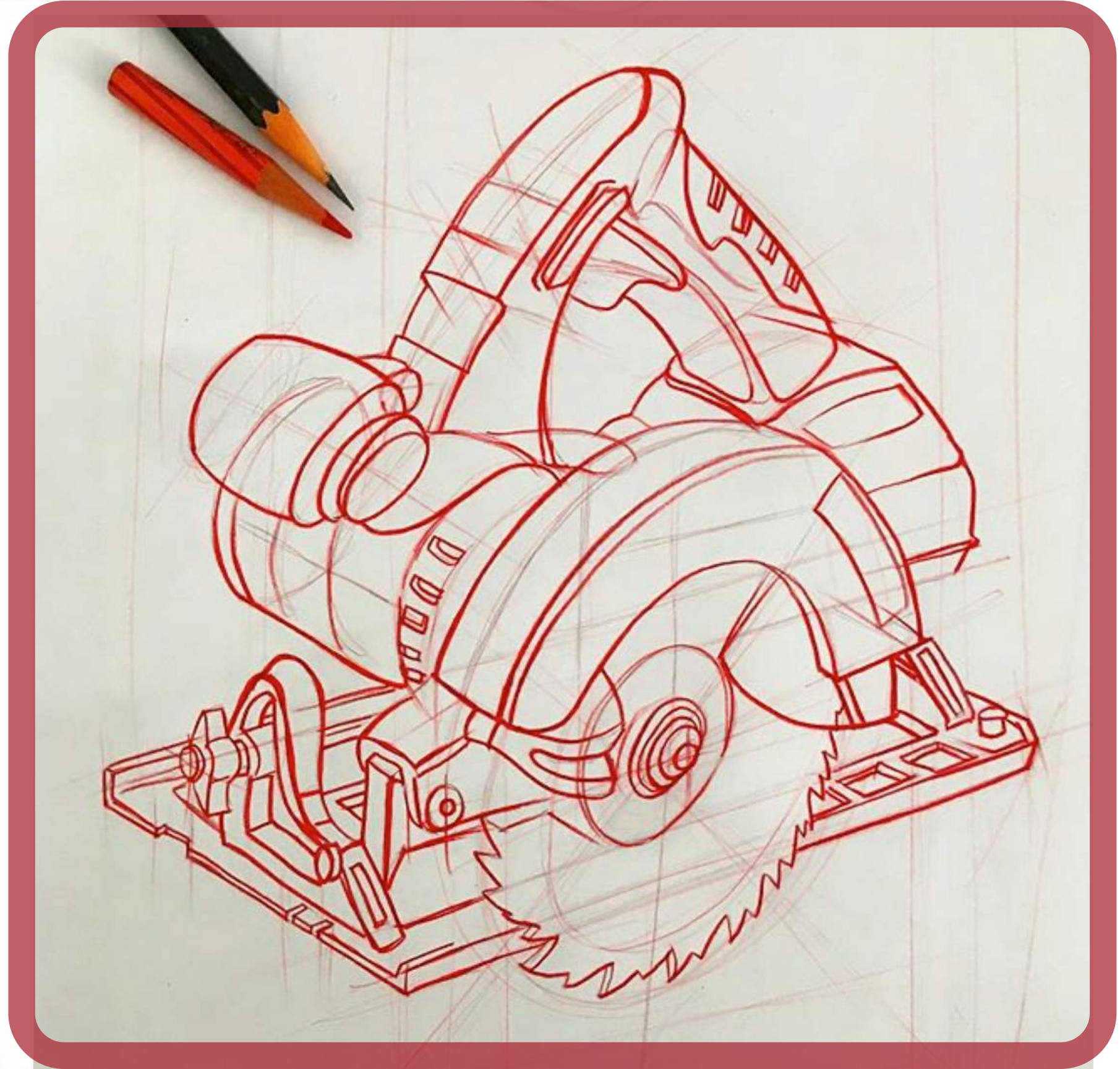
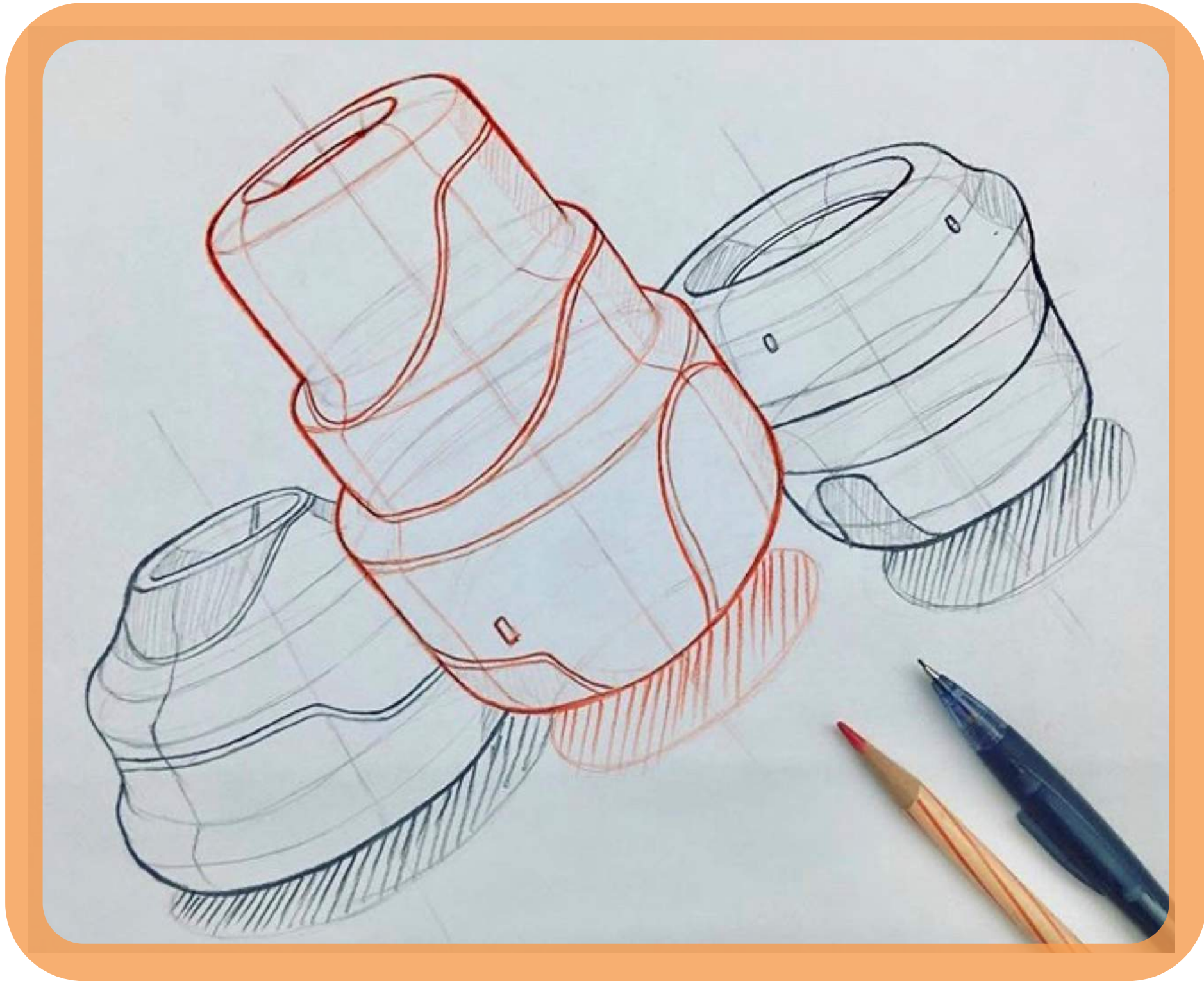




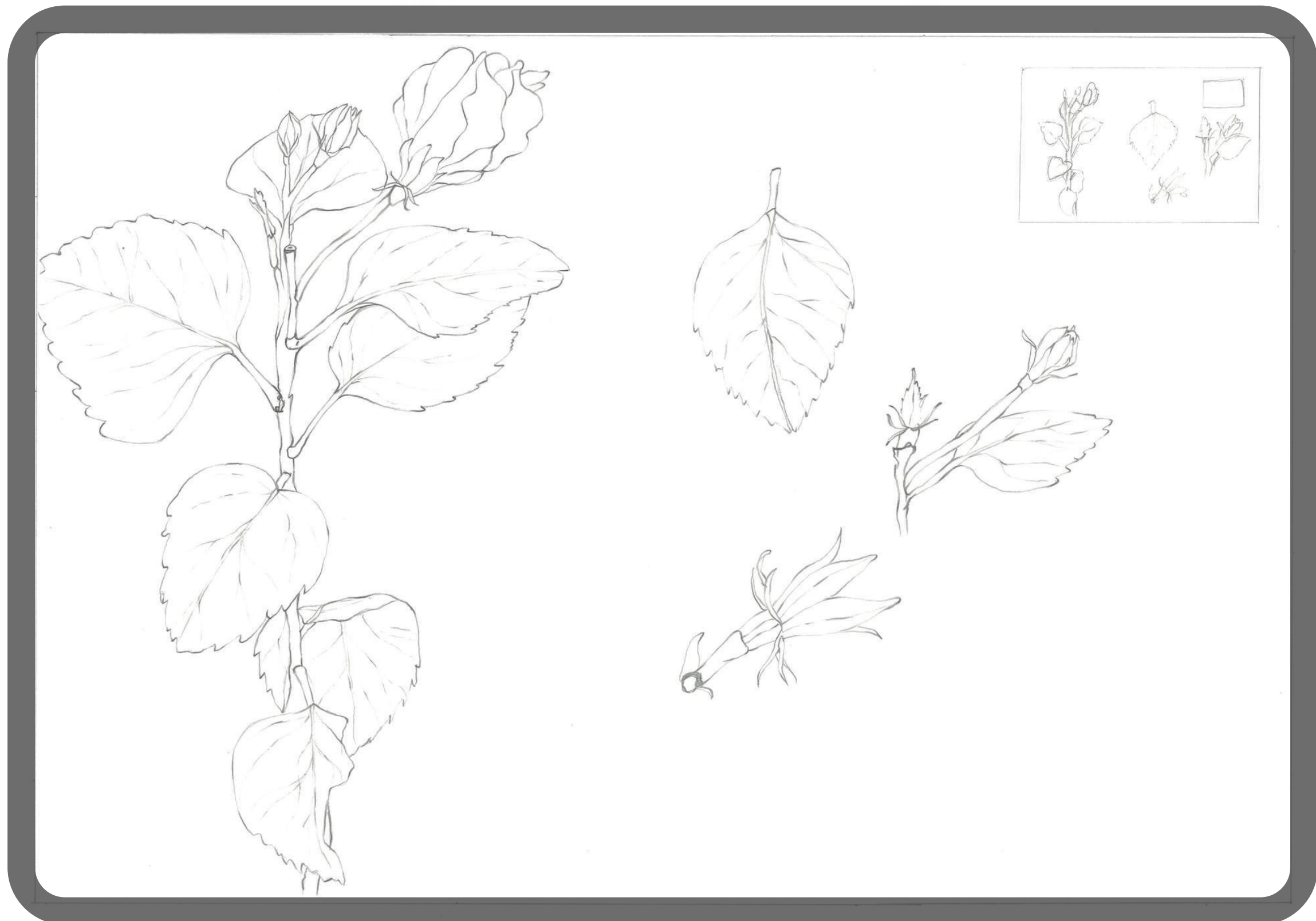




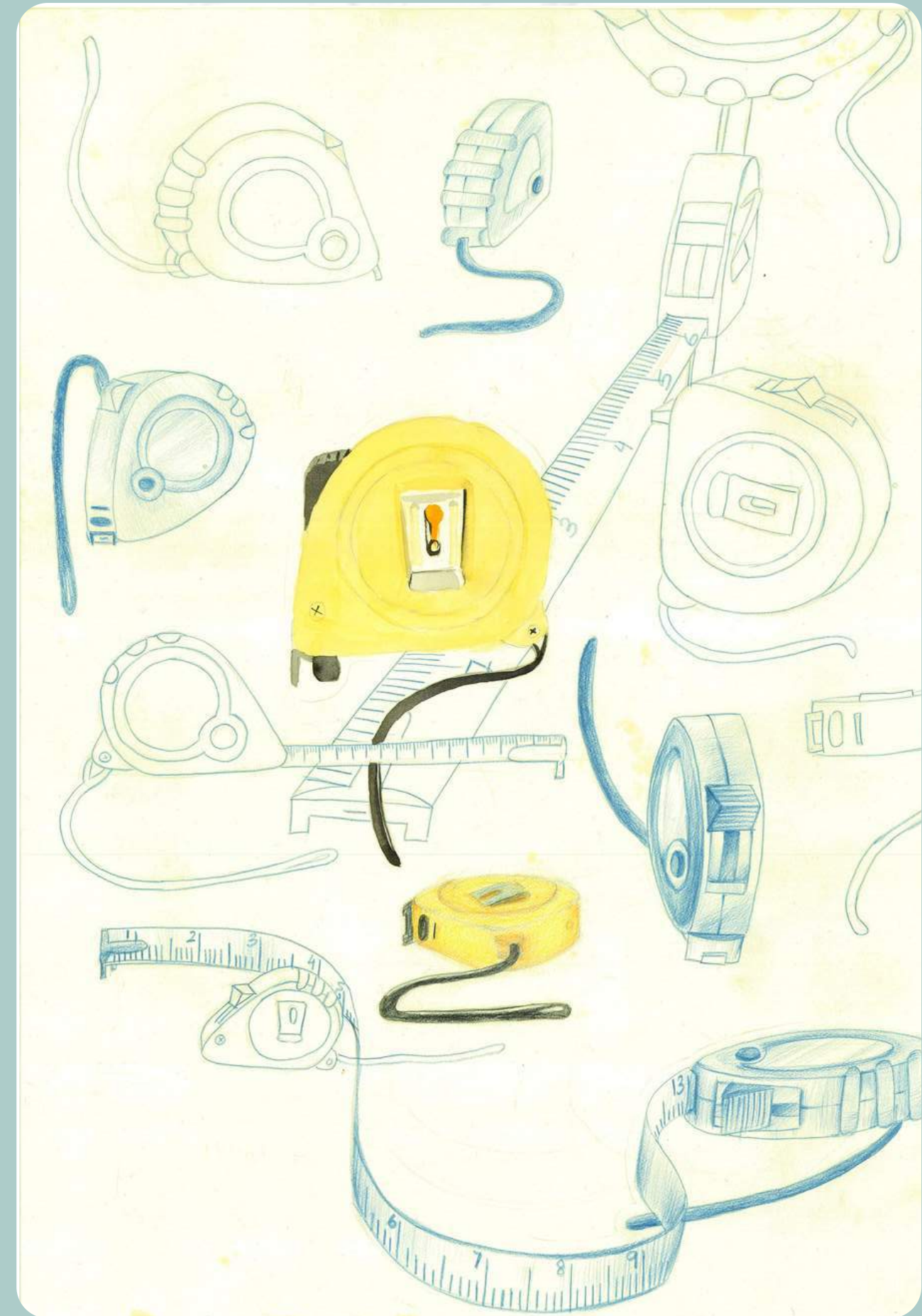
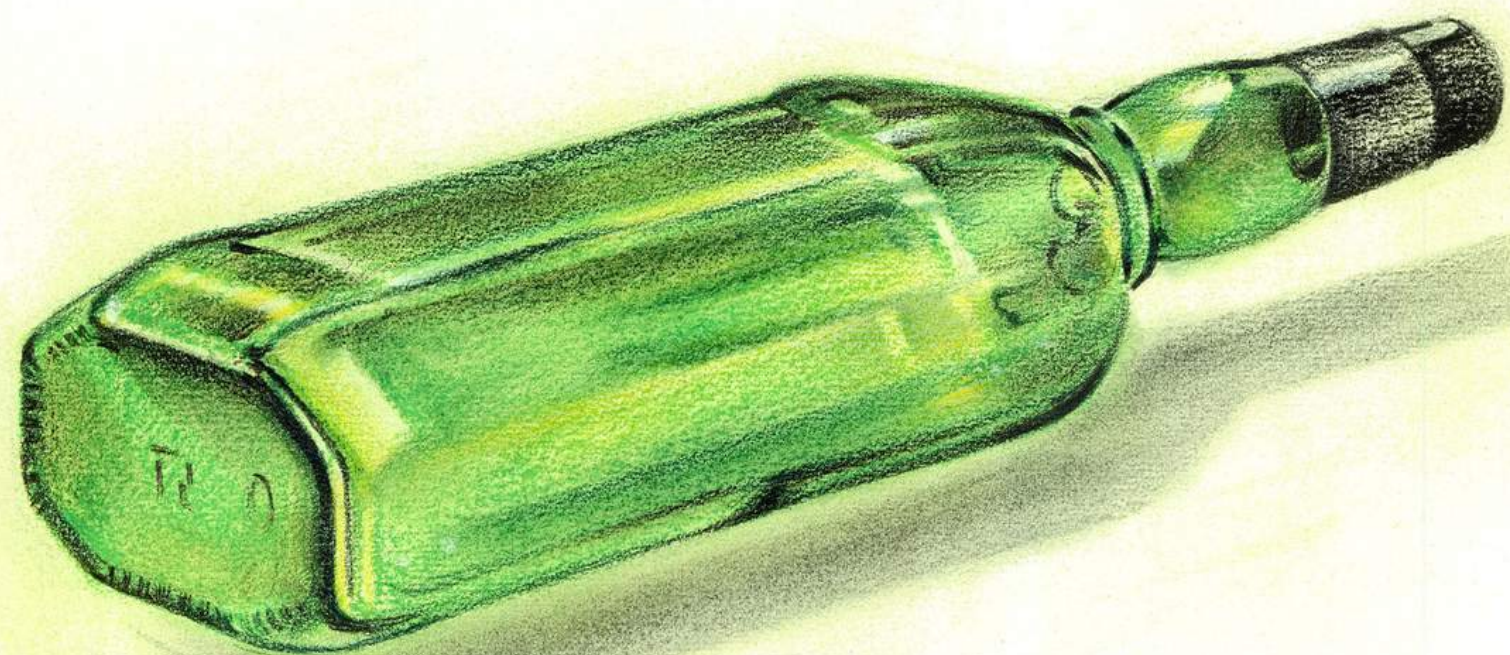














# Donut Packaging Design

Chose a food item among bakery products to design a packaging for since I have a sweet tooth and addiction to the aroma in a bakery.







DUPE DONUTS

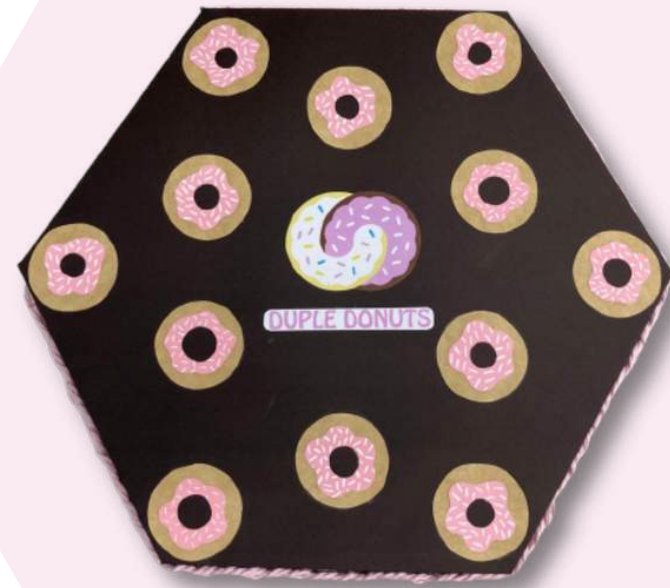


Attractive & Playful  
Design.  
Happy Vibes.

Least possible  
material wastage  
which is seen in  
current packagings,

Baked goods are  
bought during  
occasions.

Design a unique, attractive and  
eco-friendly packaging  
specifically for donuts that can  
be used for multiple units  
purchased (1,2,4,6..) while  
keeping them separate and  
prevent icing or glazing to mix  
up.







*this*





# Primary Packaging

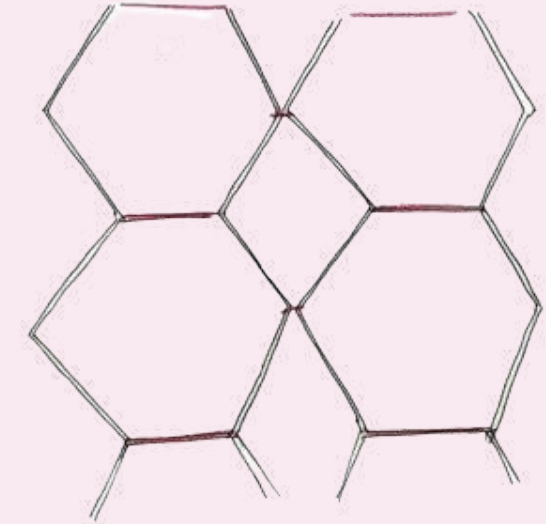
- Direct contact with donut
- Hexagonal tessellated corrugated honeycomb grid.
- Circular shape fits well into this hexagonal shape.
- Prevents disruption of donuts' arrangement
- Prevalent production and easy to manufacture. No new technology required.



1

Totally  
machine based  
manufacturing.

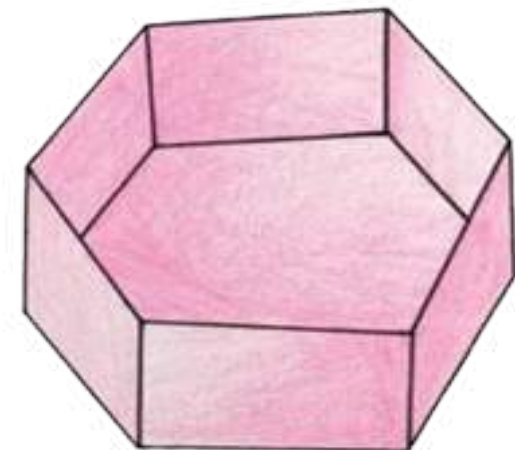
2



As fig. 1 shows, Strips of paper are glued together at certain points and some aren't.

As fig. 2 shows, After gluing they are pulled and expanded, in a motion similar to an accordion, forming a sheet of expanded hexagons as a result.

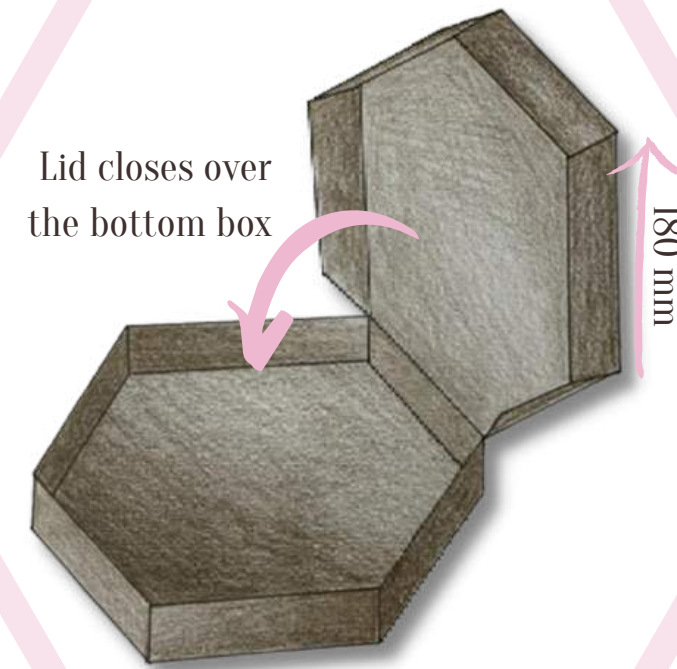
60 mm





## Secondary Packaging

- Comes in contact with the primary packaging.
- Hexagonal box with each edge 18 cm.



Replace regular square/rectangular bakery boxes.



One piece folded box of cardboard paper laminated on the one side with clear wrap to avoid blotting or seeping through of cream or oil as it is a fried bakery dish.



# Branding



DUPLE DONUTS



DUPLE DONUTS



DUPLE DONUTS



DUPLE DONUTS



DUPLE DONUTS



DUPLE DONUTS



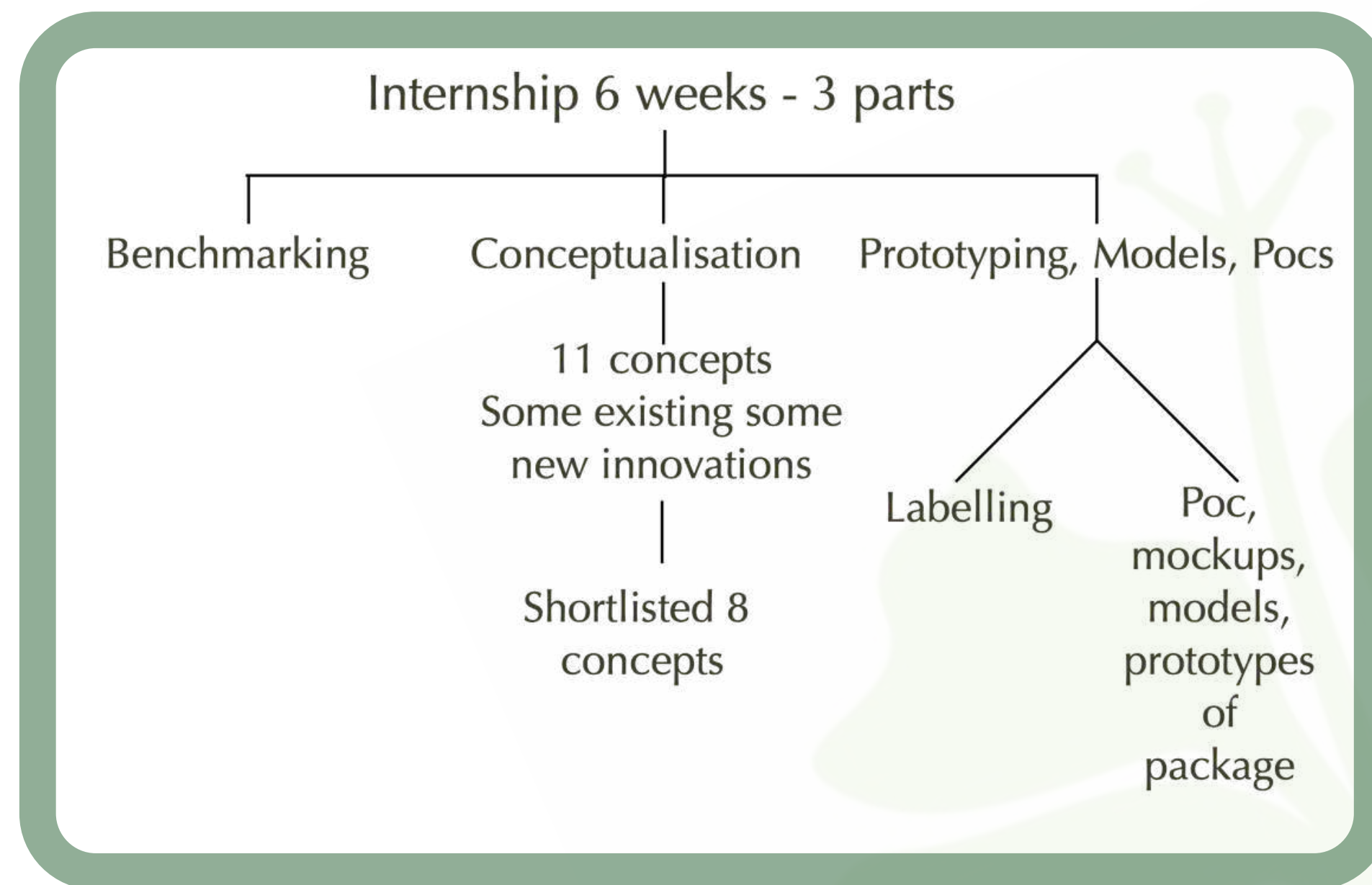




The project undertaken during the training period was "Innovative package design for Alife : Hand wash and Hand Sanitiser.

Department: Packaging and Logistics.  
Transition - FMCG.

Marked by entry Of Alife's Soap launch.  
Took place Soon after transition of fortune from just edible oils to food brand.  
Recent addition of Alife hand wash and hand sanitiser.

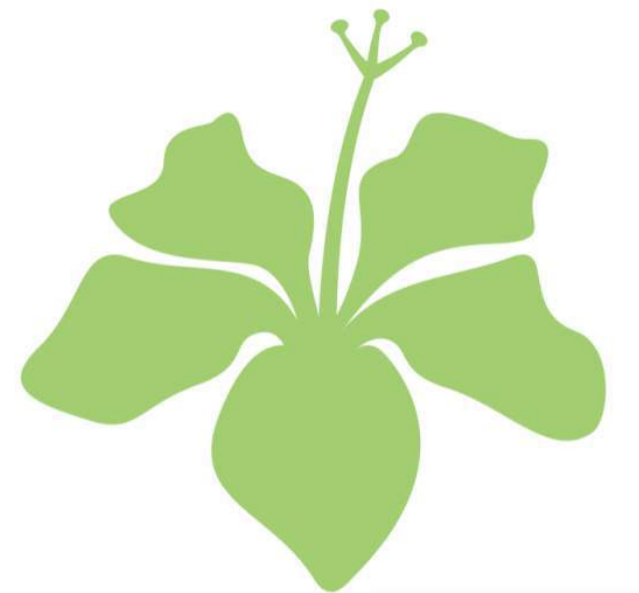




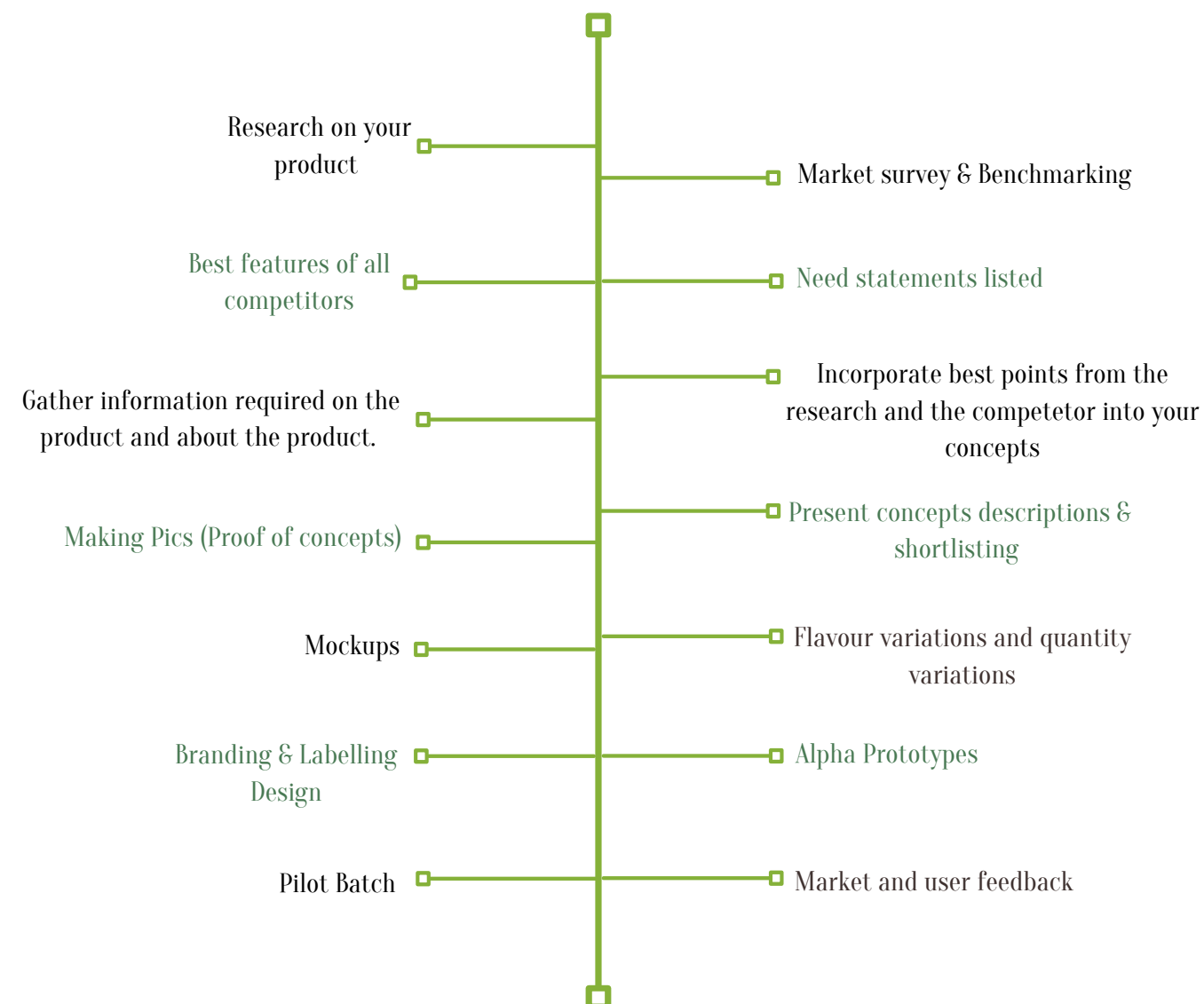
Due to covid, there was sudden surge in demand of sanitisers and disinfectant sprays, hand soaps. Since it was a growing business opportunity with promising sales and profits, every company wanted to have products in this domain in the market. Companies already having their products were expanding and emphasising their brands and other who did not, launched theirs.

Even packaging sectors faced shortage of material and workers, they were loaded with work and demand upto the neck.

Competition was high, and one had to follow WHO rules of quantity and pricing of their product. So to be noticeable and different each had to come up with something totally out of the box to make it.



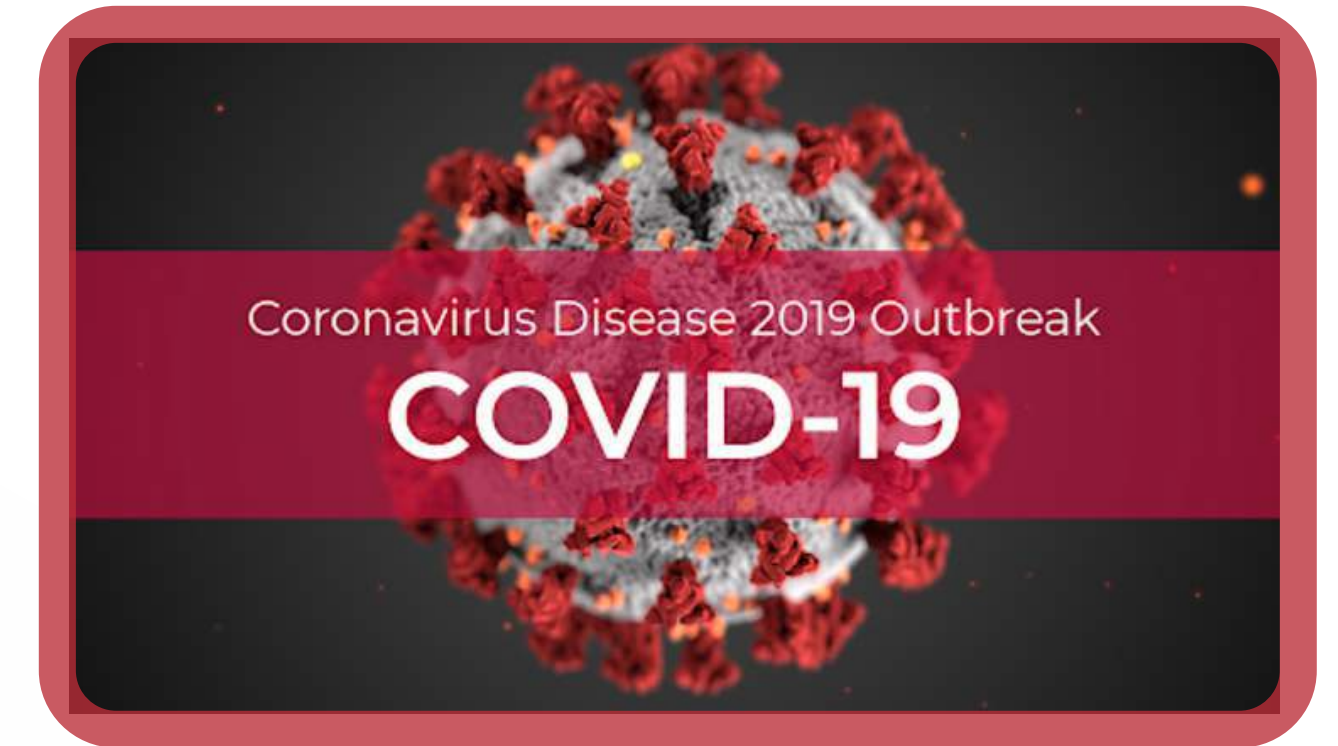
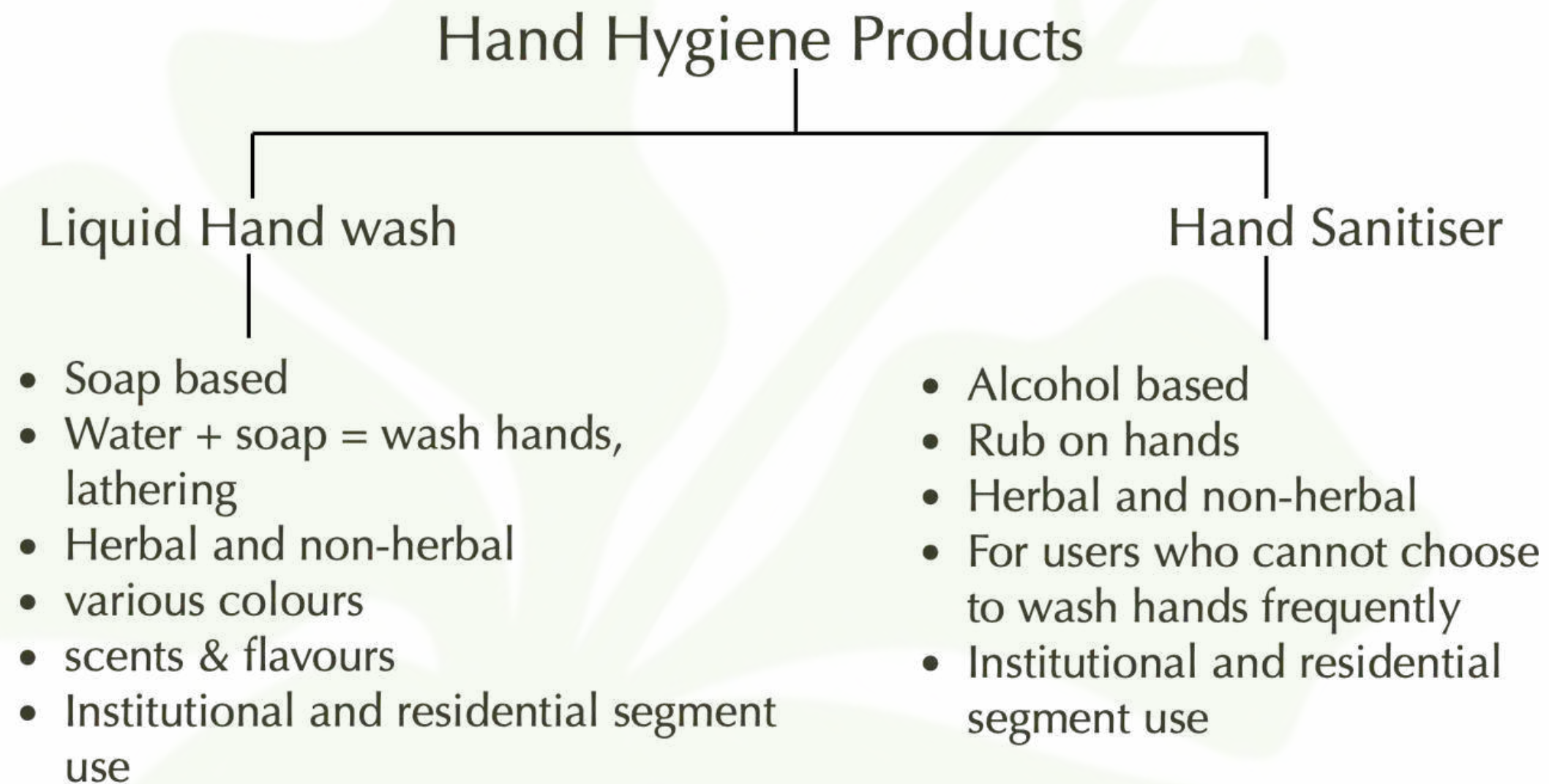
The green flower gives a fresh and natural feel to the brand and the product itself. Gives a sense of user friendly and inviting vibe.



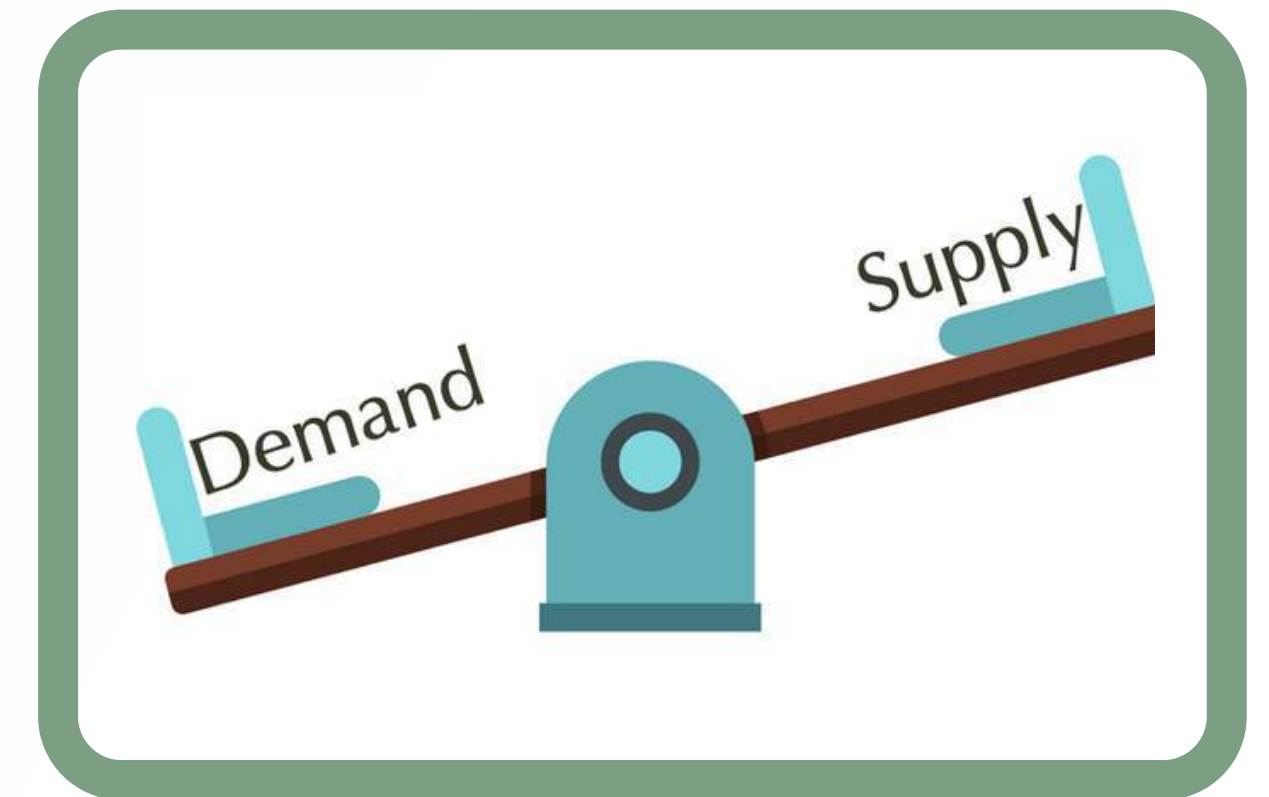
Symbol saying " Pro Hygiene ". The red - White color and the cross represents a medically approved symbol which gives the consumer assurance. The shield like shape represents " protection ".



# Hand Hygiene Products



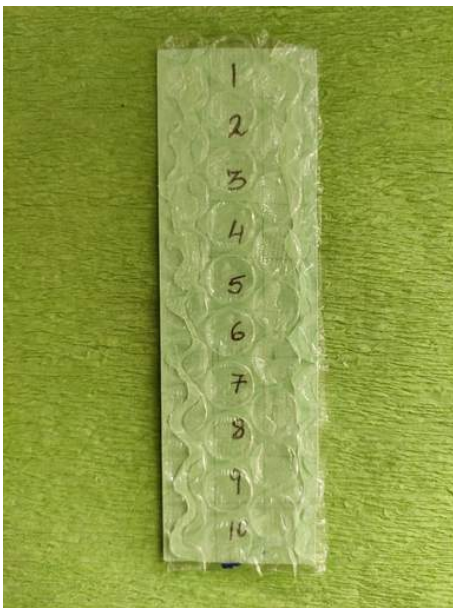
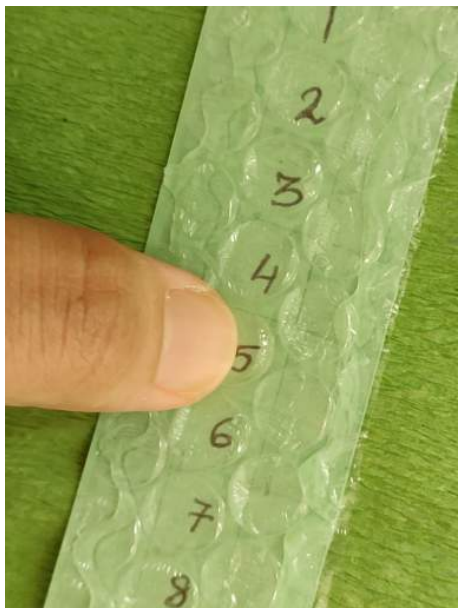
Special Pandemic Situation



Sanitising Products



# Products designed



I made sure all products had the same kind of branding and belong to the same family. They must look like the variants of the same product and brand. So I used the same symbols, color scheme, flower shape and placement of the logo and germ kill symbol to be the most highlighted.

I made packaging for paper soap roll and sanitizer both.  
More carry-friendly and elegant  
laesthetic.



# The VEDAS


It was a start-up Brand and needed designing of the graphics & packaging of the product.

This and already established project, it is currently being sold in stores and even on amazon.



THE  
VEDAS

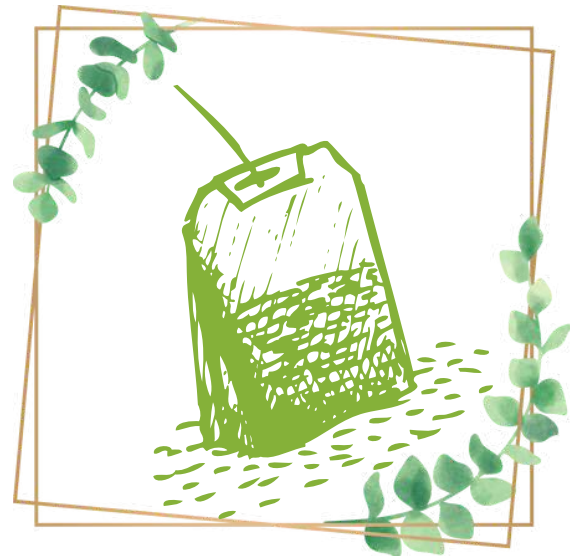
HEALTH AND TASTE



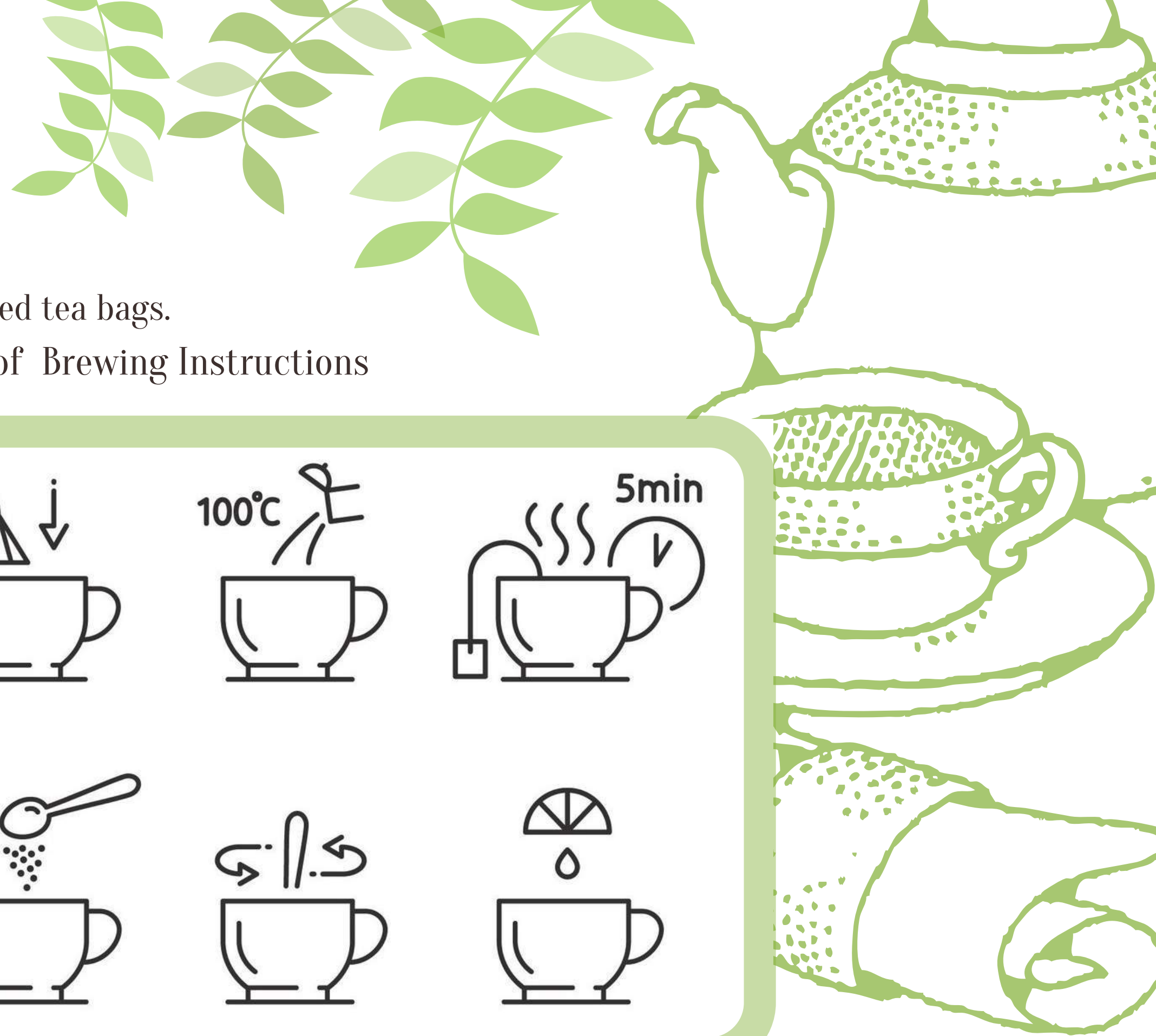
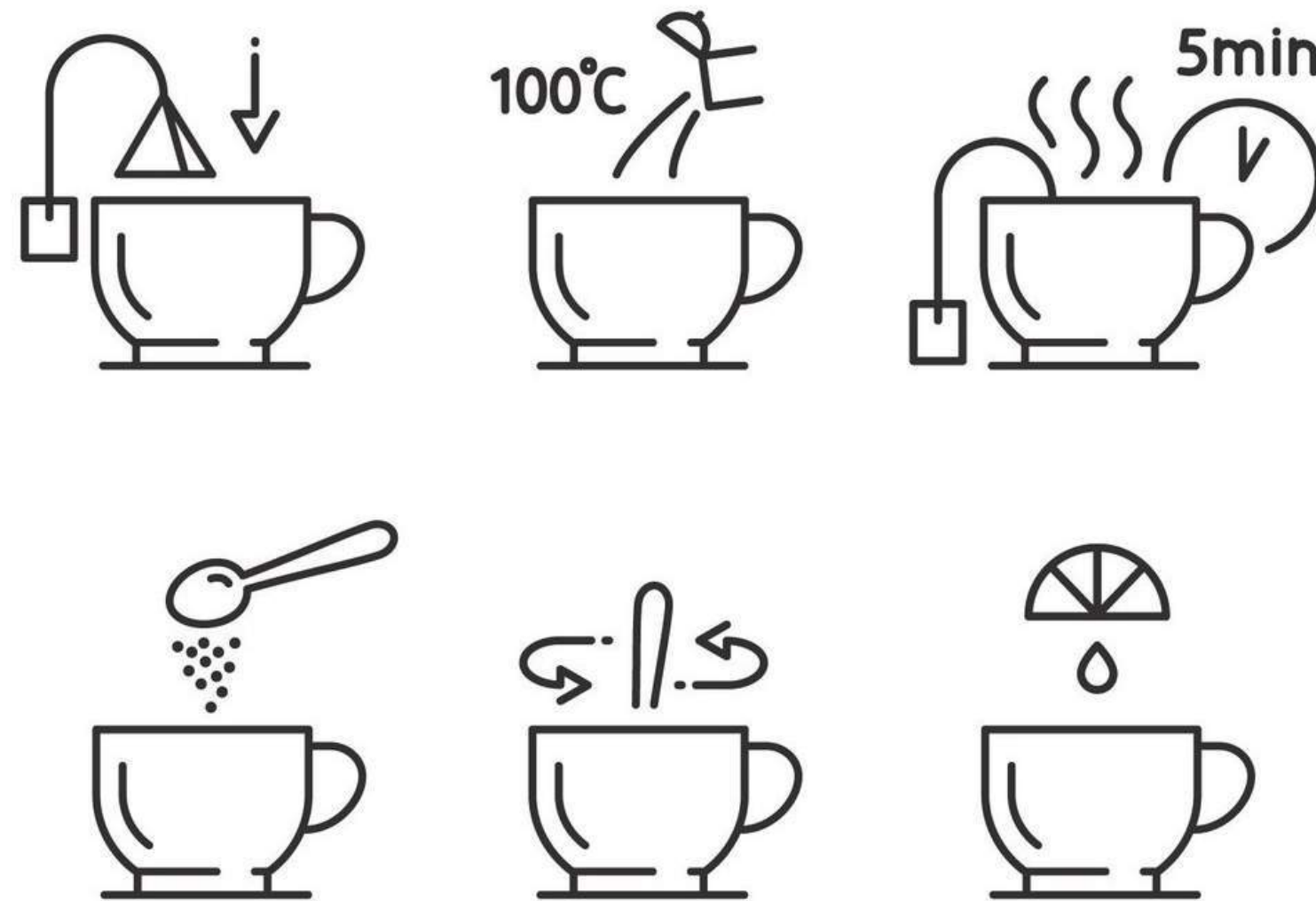
The project was undertaken as a freelance job, requiring to design a packaging for Green tea. It was a new startup company which needed budget friendly and fit enough to ship boxing.

Company represents freshness, lush nature and healthy lifestyle.  
Vibe of being free and amongst the mountains.





Prism shaped tea bags.  
Designing of Brewing Instructions



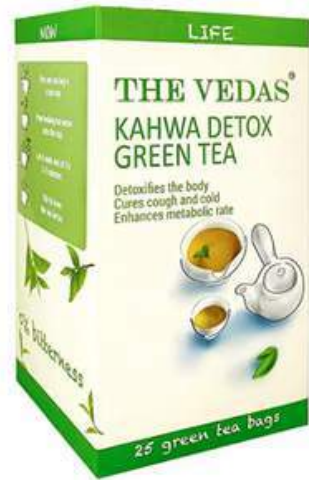




THE VEDAS - Guava Green Tea for Diabetes | Controls Blood Sugar Lev...  
★★★★☆ ~ 7  
₹275 (₹10.19/count)  
Save extra with Cashback  
Get it by Monday, October 25

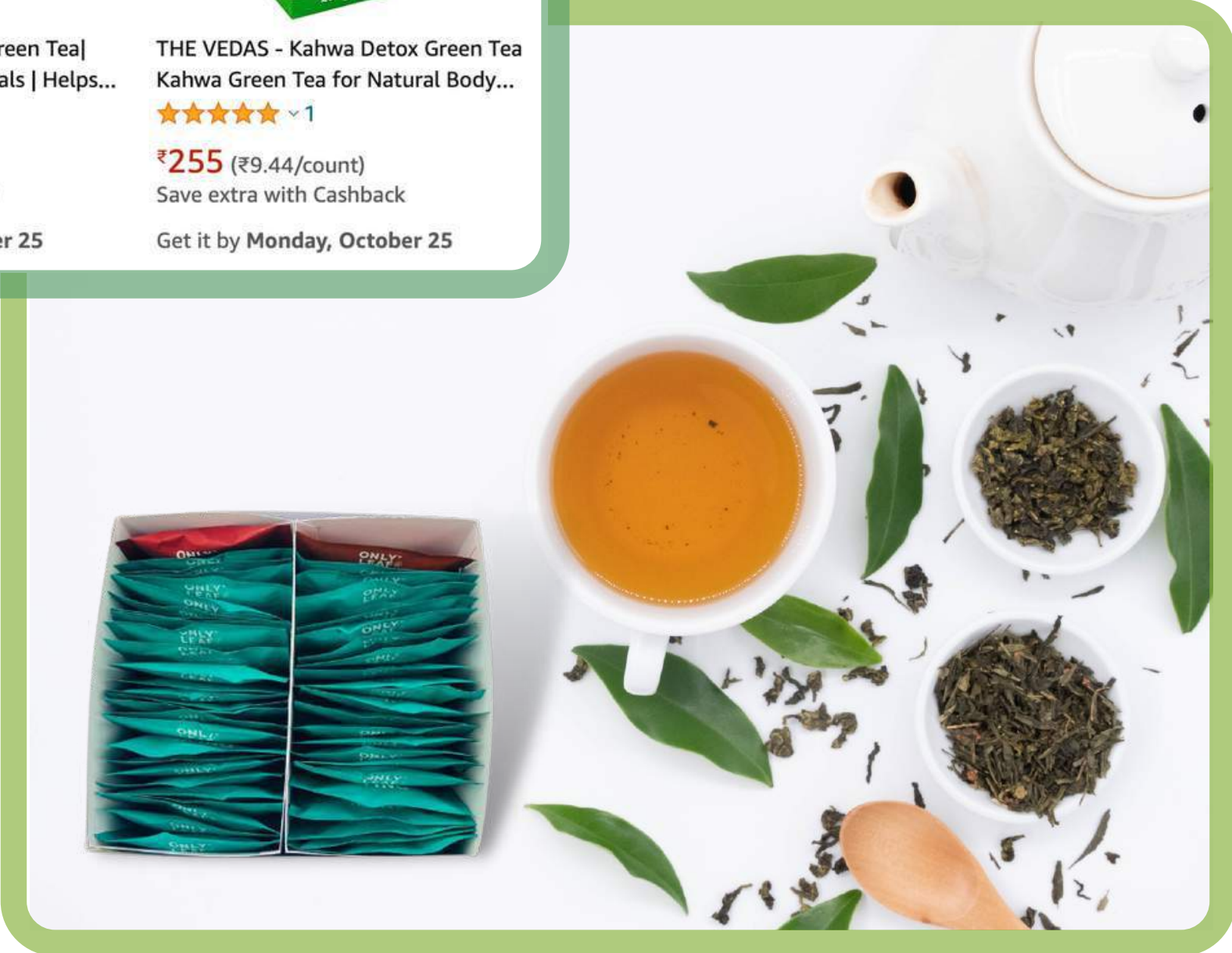


THE VEDAS - Alkalizing Green Tea | Rich in Vitamin C & Minerals | Helps...  
★★★★☆ ~ 3  
₹360 (₹6.92/count)  
Save extra with Cashback  
Get it by Monday, October 25



THE VEDAS - Kahwa Detox Green Tea | Kahwa Green Tea for Natural Body...  
★★★★☆ ~ 1  
₹255 (₹9.44/count)  
Save extra with Cashback  
Get it by Monday, October 25

This and already established project, it is currently being sold in stores and even on amazon.

















# Krishi : Pick Easy



This is a Technically Complex Device Built for the Agricultural Sector Specifically. It needed a lot of complex mechanisms and electric connections & circuits. A lot of engineering-oriented tasks were involved and hands-on skills too such as welding and soldering.





# Design Brief

Designing a device/system that reduced the time and manual effort of repeated motion (walking & carrying harvest back and forth to collection point).

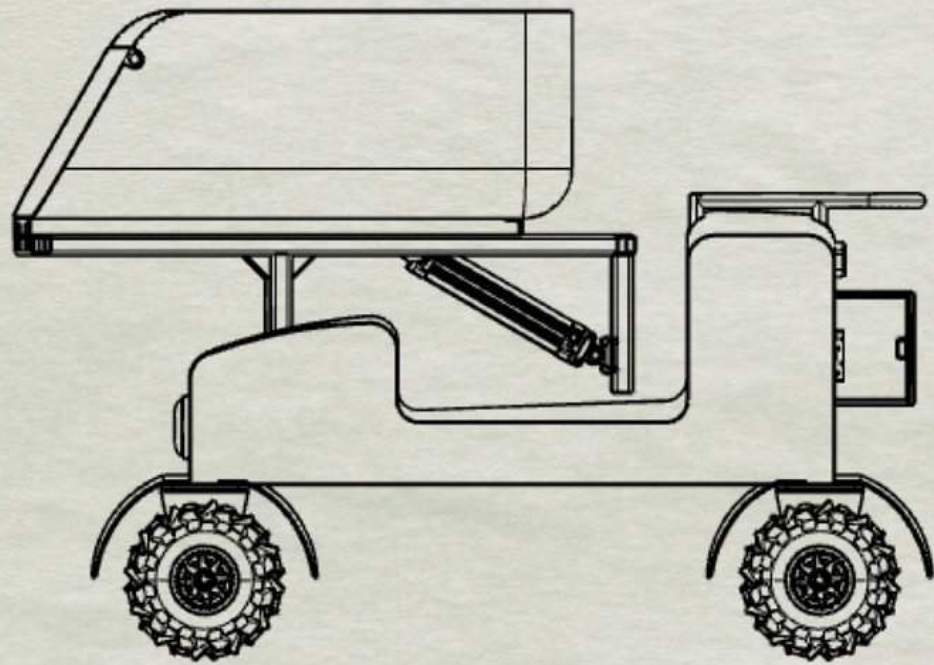
“Automated loading unloading system which reduces the labour.”

In large scale farming, there is a major problem while hand picking or collecting the vegetables. Farmers have to fill the bucket and drop their bucket to empty it every time.

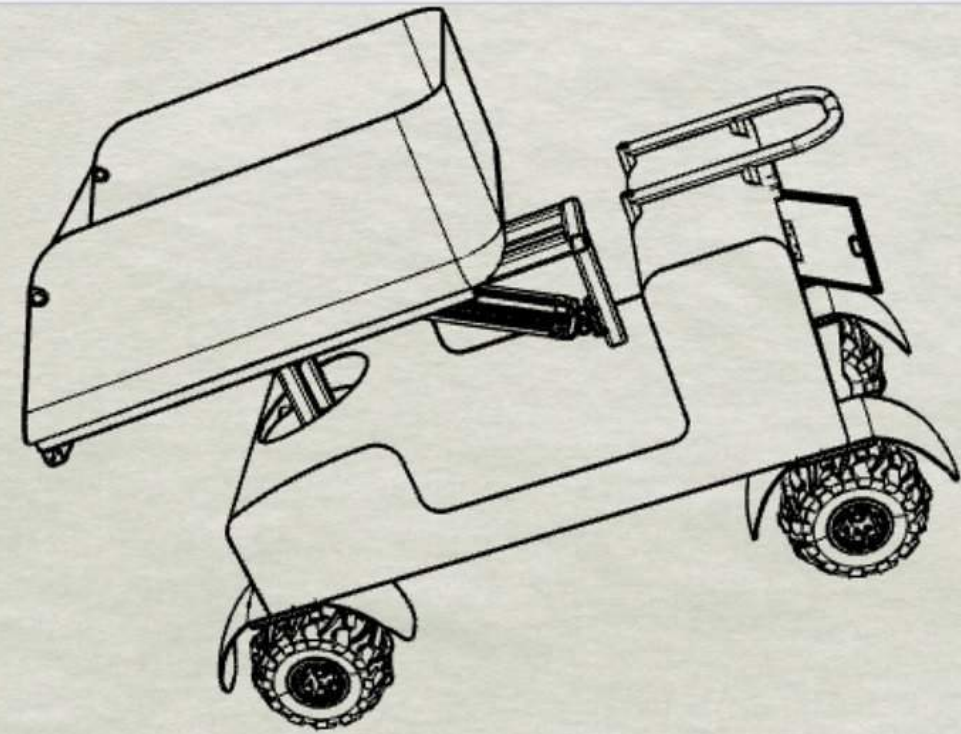
A	E	I	O	U
Digging	Hot	Interaction of human with the harvest	Axe	One who picks out
Collecting	Humid	Interaction of human with the harvest in terms of collecting it in the basket	Baskets	One who collects
Filling bucket/ sack	Dry	Interaction of human who collects it and the other human who makes it reach to the end point	Roomal on there head/ Gamcha	One who Relays it to the nearby collection dumping point or the tractor trailer
Walking to collecting point	Rainy		Fawda	Digger
Dumping into tractor	Wet		Tub	
<b>In short, Hand picking , Going back and fro, carrying it on head and cover certain amount of distance .</b>	Winter		Tractor	
			Sack	
			Bucket	
			Wheel Barrow	
			Water Container/ Bottle	



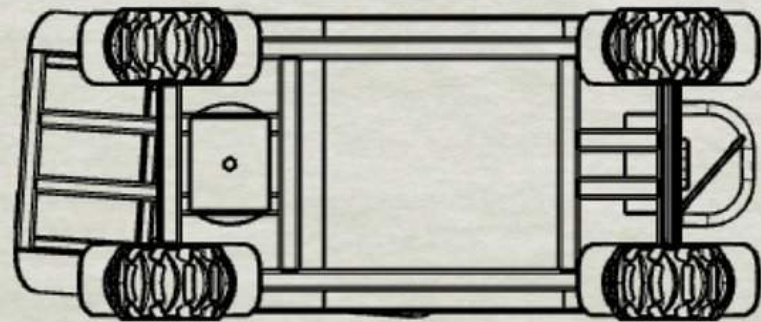
Top ▾



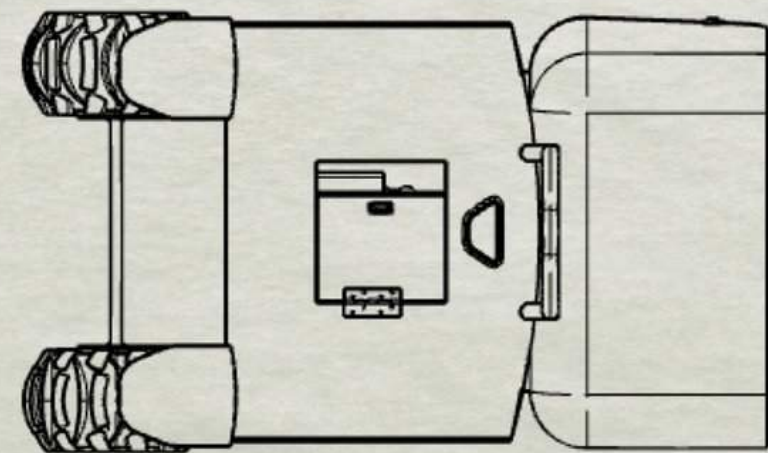
Perspective ▾



Front ▾



Right ▾







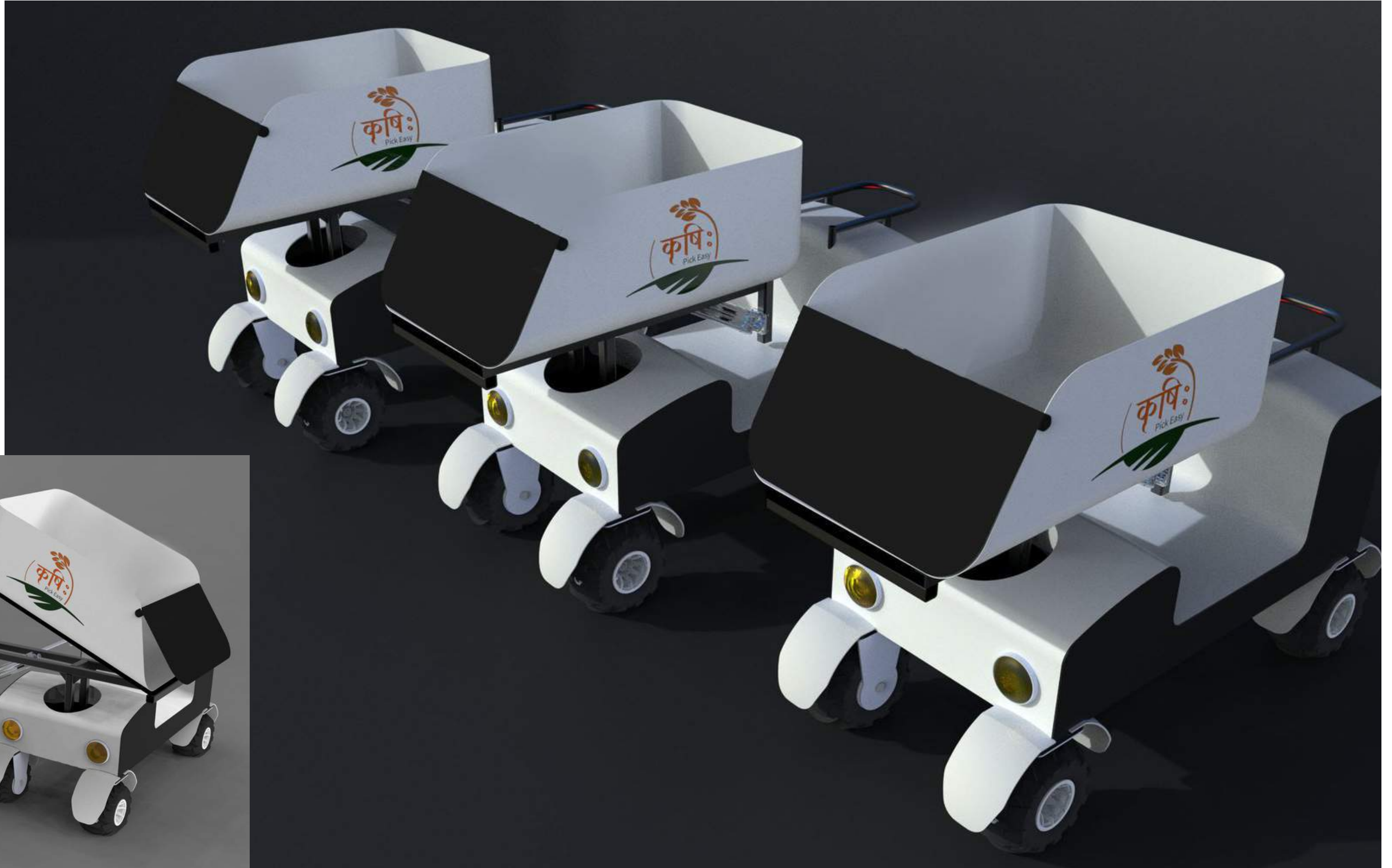
3D CAD model to represent the possible out come of the concept and research.

Softwares used : Rhino, Solidworks, Keyshot





Prospective form and shape of  
the machine upon production.





# Logo Exploration

The colour palette is based on all earthly colours : deep shades of green and sombre browns.



कृषि:  
means farmers/peasants



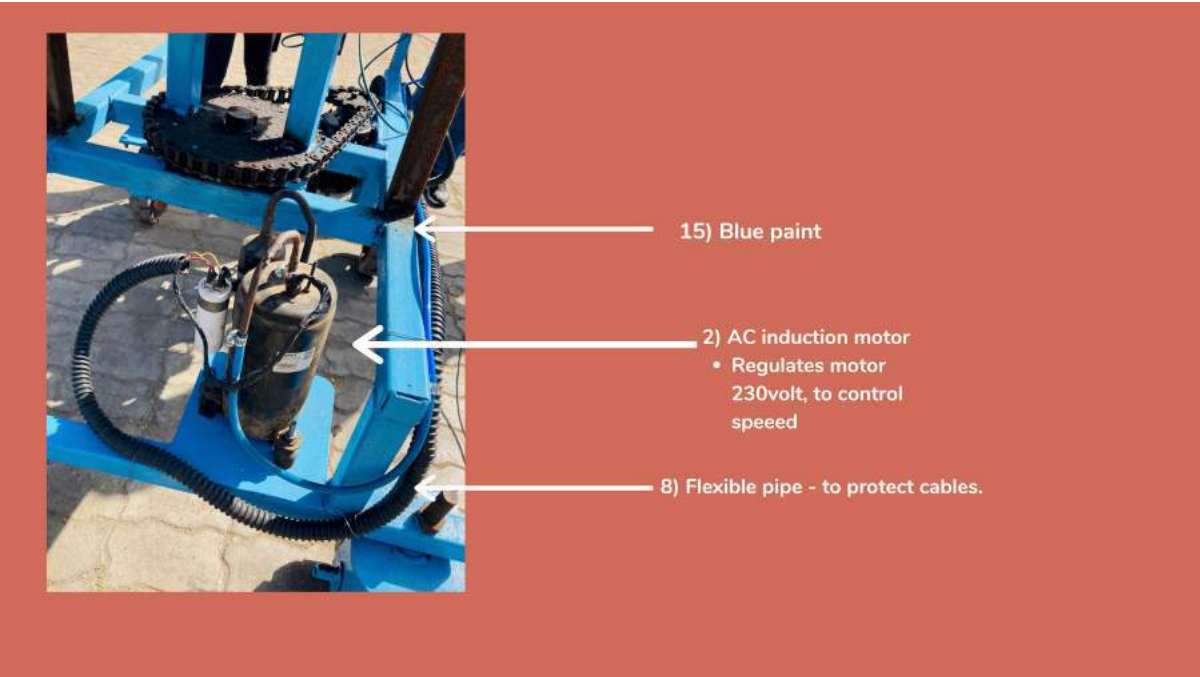
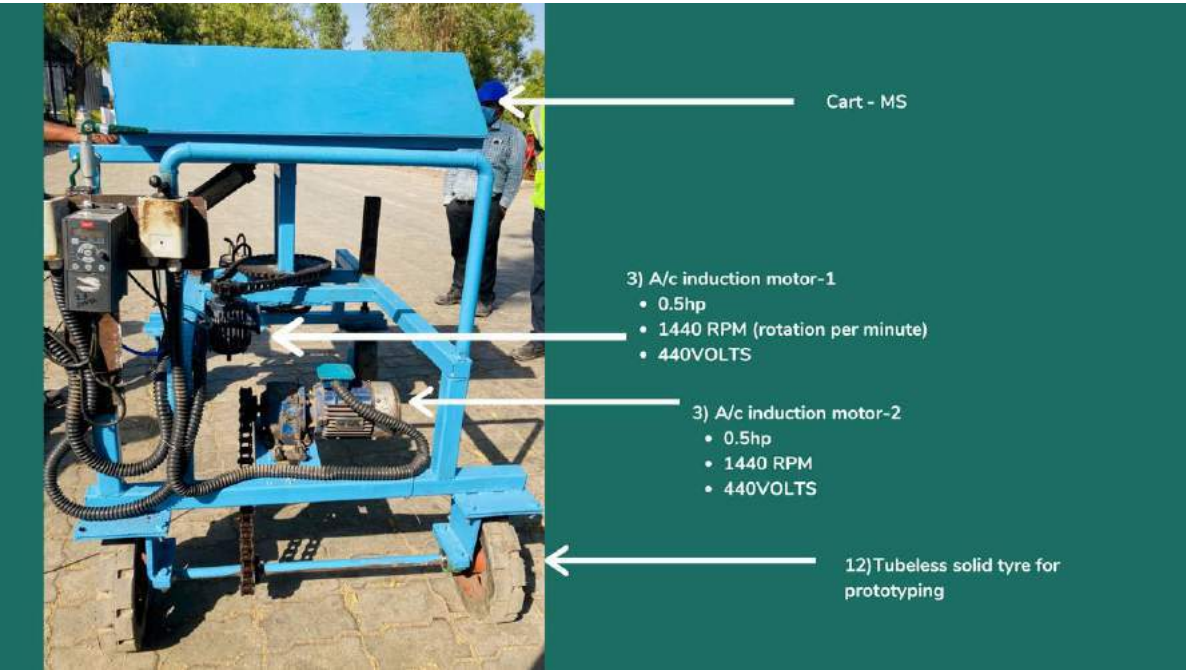


# Proof of Concept

Decided to build a working prototype of the concept of the pick easy cart. We gathered components required from scraps majorly to be more efficient with the resources and time.

I understood that Design Thinking has a bias towards action: that means if you have any uncertainties about what you are trying to achieve, your best bet is to just make something.

Test the prototype in the field. Observe where the design has failed and make amends multiple times.





# BUILDING POC



Fabrication - Frame making



Assembly of wheel and Axle



Making of tray - Ms  
Finding and fixing of  
components



Stage 1 :-  
Attaching hydraulic cylinder  
and testing it . We could run  
the cart manually.



Stage 2 -  
• Attaching the motors and the compressor.  
• Changing the wheels , because the prior once  
were not able to take the load . Poor grip and  
less durable  
• Added Tubeless tyres



# Specific Features



Weight testing , takes upto 100 kgs .

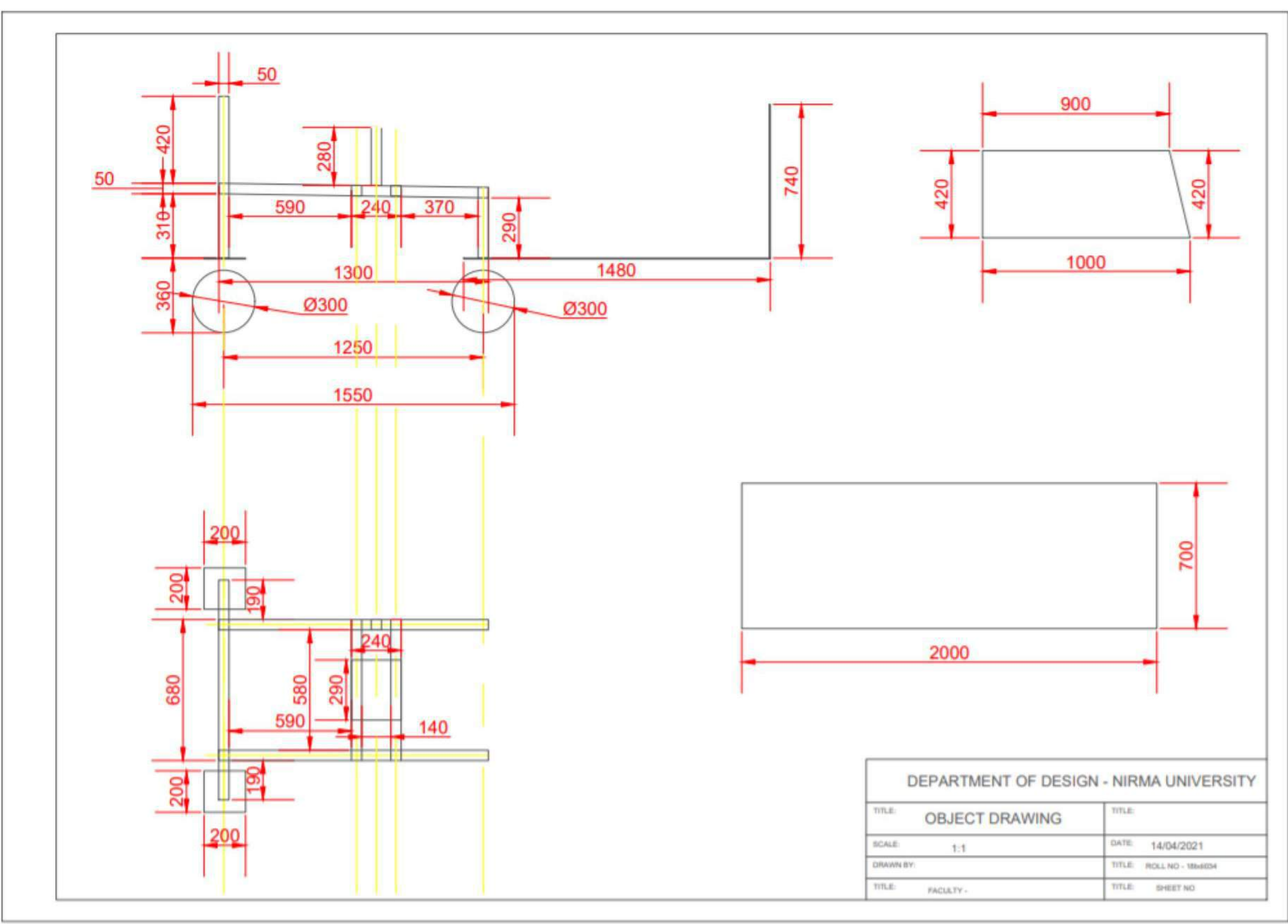


We thought of adding a flap and a manual handle to direct and put in certain circumstances



User testing (videos are attached with this file )





Decided to build a working prototype of the concept of the pick easy cart. We gathered components required from scraps majorly to be more efficient with the resources and time.





અમદાવાદ-સિટીભાસ્કર 14-07-2021

## ઓનલાઇન એજ્યુકેશન છતાં સ્ટુડન્ટ્સના ઇનોવેશન

અમદાવાદ : ઓનલાઇન એજ્યુકેશનના કારણે એકબાજુ વિદ્યાર્થીઓ ટેકનિકલ એજ્યુકેશનમાં તકલીફ પડવાની વાત કરી રહ્યા છે તો બીજી તરફ નિરમા યુનિવર્સિટીના થર્ડ યર ઇન્ડસ્ટ્રીયલ ડિઝાઇનિંગના સ્ટુડન્ટ્સ દ્વારા ટેકનિકલી કોમ્પ્લેક્સ ડિવાઇસિસ પ્રોજેક્ટના ભાગ રૂપે ઇનોવેટિવ ડિવાઇસ બનાવવામાં આવ્યા છે. સર્કિટ ડિઝાઇનિંગ, પ્રોગ્રામિંગ, એપ્લિકેશન ડેવલપમેન્ટ

જેવા ટેકનિકલ સબ્જેક્ટ વર્ચ્યુઅલી શીખ્યા હોવા છતાં સ્ટુડન્ટ્સે પ્રોફેસર પ્રિયમ પરીખ, મિથુન દરજી અને ડિરેક્ટર સંગીતા શ્રોફના માર્ગદર્શન હેઠળ બે મહિનાથી પણ ઓછા સમયમાં હોમ ઓટોમેશન, એગ્રીકલ્ચર, હેલ્થ કેર, મોબિલિટી અને ટોય ડિઝાઇન જેવા વિષયો પર વિવિધ પ્રકારના ઇનોવેટિવ ડિવાઇસ બનાવ્યા છે.

**હેલ્થ કેર, એગ્રીકલ્ચર, હોમ ઓટોમેશન, મોબિલિટી ટોય ડિઝાઇન પર ઇનોવેટિવ ડિવાઇસ બનાવ્યા**

**ડિવાઇસ : પોટાટો લોડિંગ/અનલોડિંગ મશીન**

સ્ટુડન્ટ : સૌમ્યા શાહ અને તન્વી કુમાર



તન્વી અને સૌમ્યાએ પોટાટો લોડિંગ/અનલોડિંગ મશીન પ્રોટોટાઇપ બનાવ્યું છે. જે ખેતરમાં કામ કરતા લોકો માટે ઉપયોગી સાબિત થશે. આ મશીનની મદદથી 100 કિલો બટાકા એક જગ્યાએથી બીજી

જગ્યાએ સરળતાથી લઈ જઈ શકાશે.

**ડિવાઇસ : સોલાર પેનલ ક્લિનર**

સ્ટુડન્ટ : દેવર્ષ પટેલ અને તેજસ પટેલ



સોલાર પેનલનો ઉપયોગ કરનારા લોકોને પેનલ પર ધૂળ જામી જાય ત્યારે સફાઈ કરવામાં મુશ્કેલી પડતી હોય છે. ત્યારે આ બેટરી ઓપરેટેડ વોટર પ્રૂફ સોલાર પેનલ ક્લિનર તેમને મદદ કરશે. ડિવાઇઝ ફોન

સાથે કનેક્ટ કરી ક્લિનિંગ બાદ નોટિફિકેશન પણ મળશે.

**ડિવાઇસ : ઇન્ટરેક્ટિવ IOT 4.0-હેલ્થ કેર ડિવાઇસ**

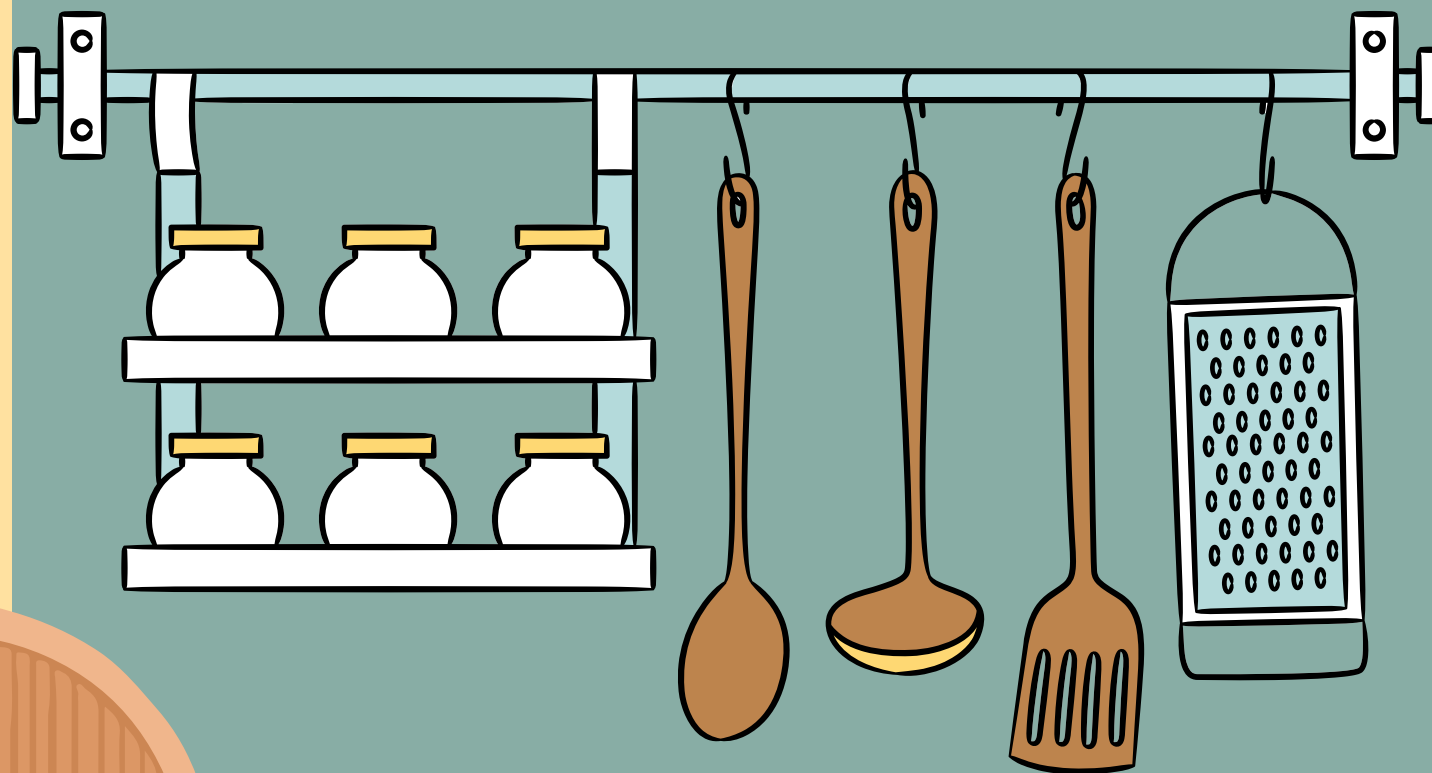
સ્ટુડન્ટ : વેદ શાહ, અનન્યા બોરાહ



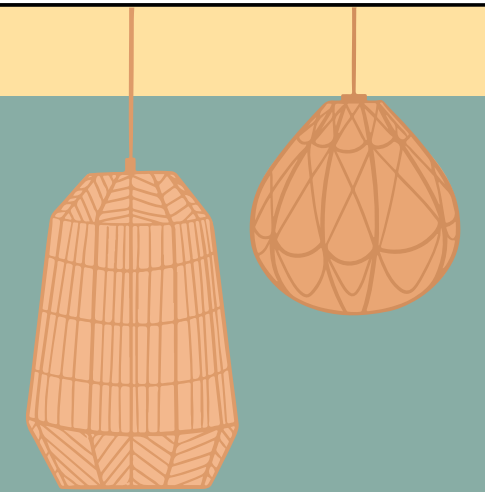
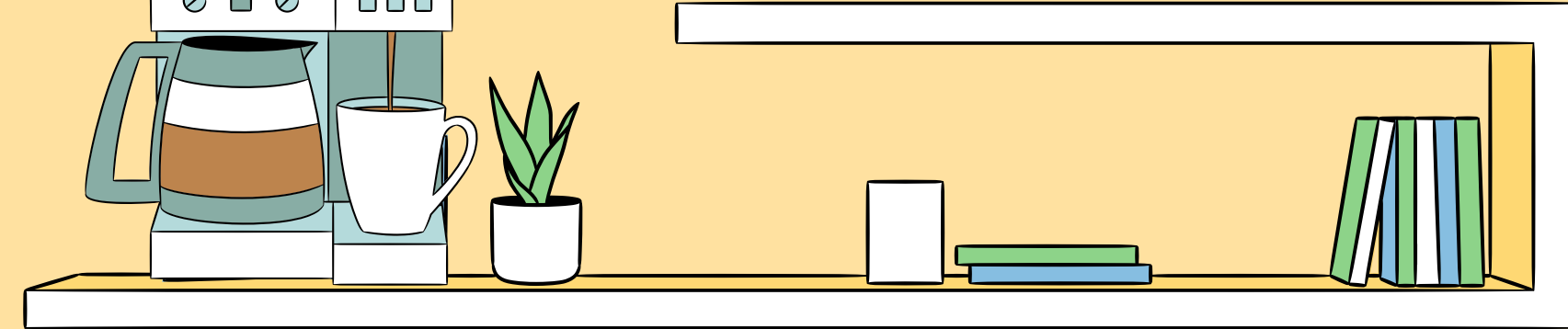
બાળકોને હોસ્પિટલમાં ચેકઅપથી ડર લાગે છે ત્યારે આ ઇન્ટરેક્ટિવ આઈ.ઓ.ટી 4.0-હેલ્થ કેર ડિવાઇસ તેમાં મદદરૂપ થશે. જેની મદદથી બાળકોનું ટેમ્પેચર, ઇસીજી, ઓક્સિજન લેવલ અને પલ્સ સરળતાથી માપી શકાશે. ડિવાઇસમાં એલેક્સા ઇનબિલ્ડ હોવાથી બાળકો એન્ગેજ પણ રહેશે.

My project and name were in the local newspaper!

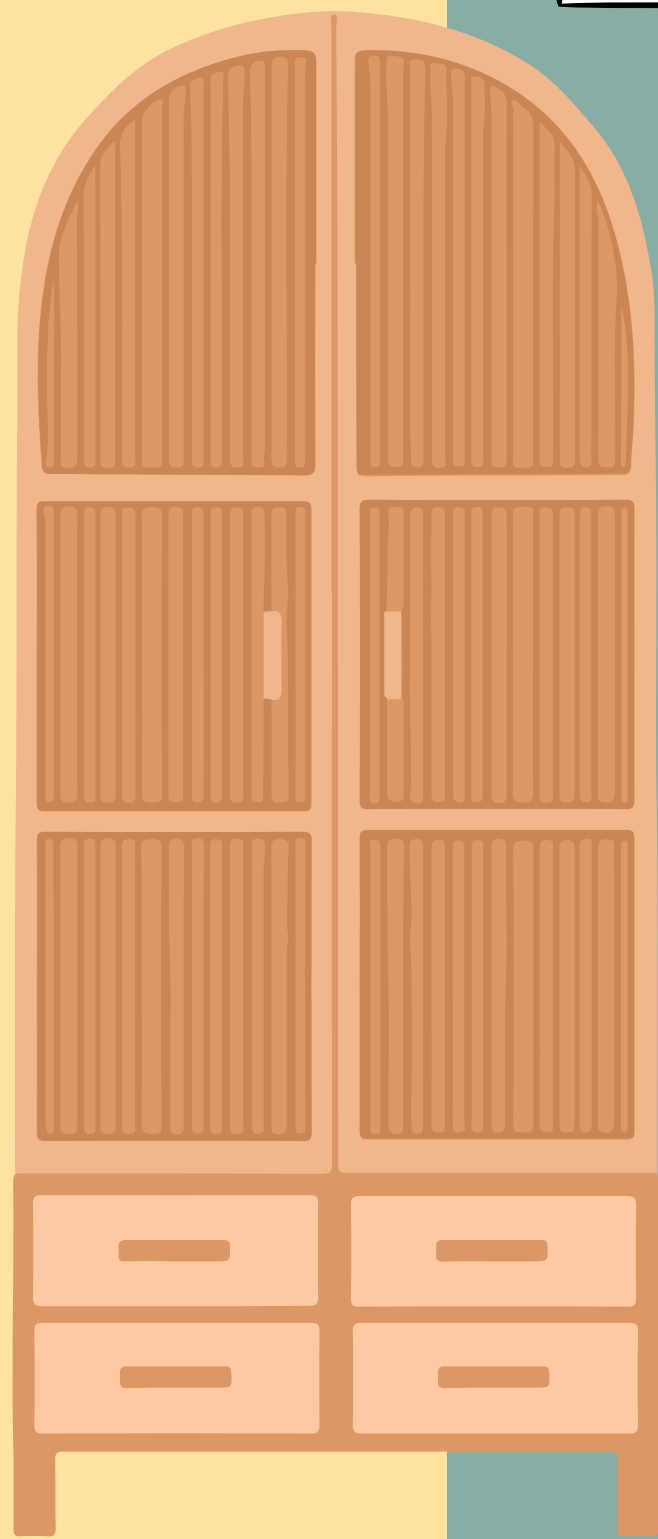




## Kitchen Storage Systems



# Simple Mechanism Product Design





# Methods deployed for research:

## Immersion Method

### Primary information Acquisition

- Video Calls
- Text messages
- Calls
- F2F interviews
- Focussed Group Discussions
- Observations
- Fly on the wall method
- Photos and Video / Media available

### Lastly, Secondary Research Acquisition

### Key Problems:

- Accessibility of the containers behind the first row of containers.
- Shelves are fixed. People's height vary, many times people can't reach or hit their head on it.
- Aesthetically unattractive.
- Merely functional.

A	E	I	O	U
Cooking	High shelves	Wear apron	Containers	Cook
Gathering ingredients, utensils	Small space	Decide dish to cook	Sacks	housewife/ mother
	No window or chimney	Gather vegetables	Footstool	Maid
	Accommodates 2-3 people max	Chopping	Other ingredients	Domestic help
	Congested if 3 ppl are there	Open fridge	Utensils	Family members
	Liner or L type	Take ingredients	Burner	Guests, if any
	Narrow	Can't reach it	Fridge	Visitors
		Gets footstool	Apron	
		Climbs and gets things	Spices	
		Calls someone taller to help		





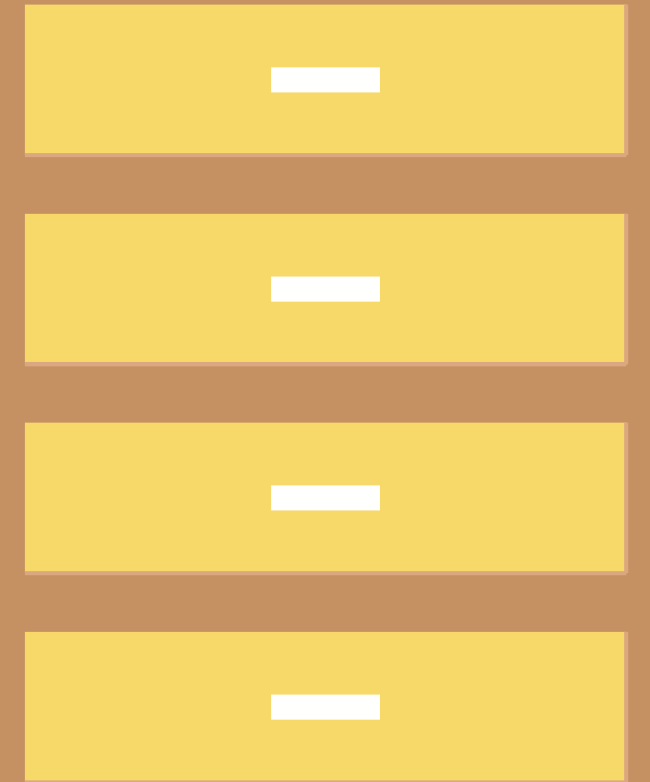
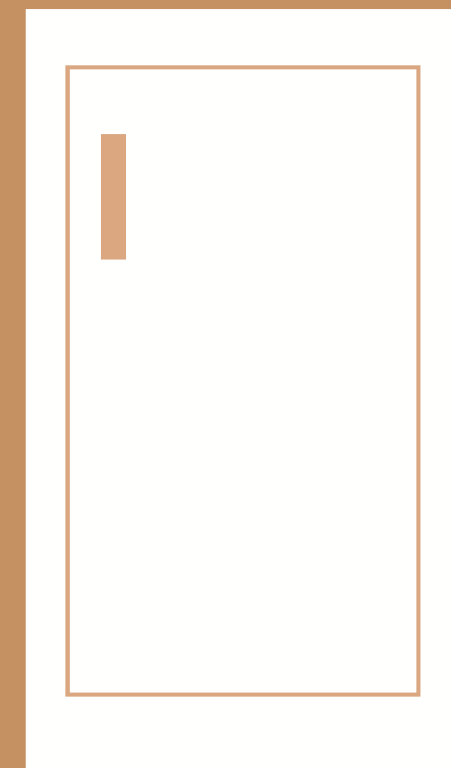
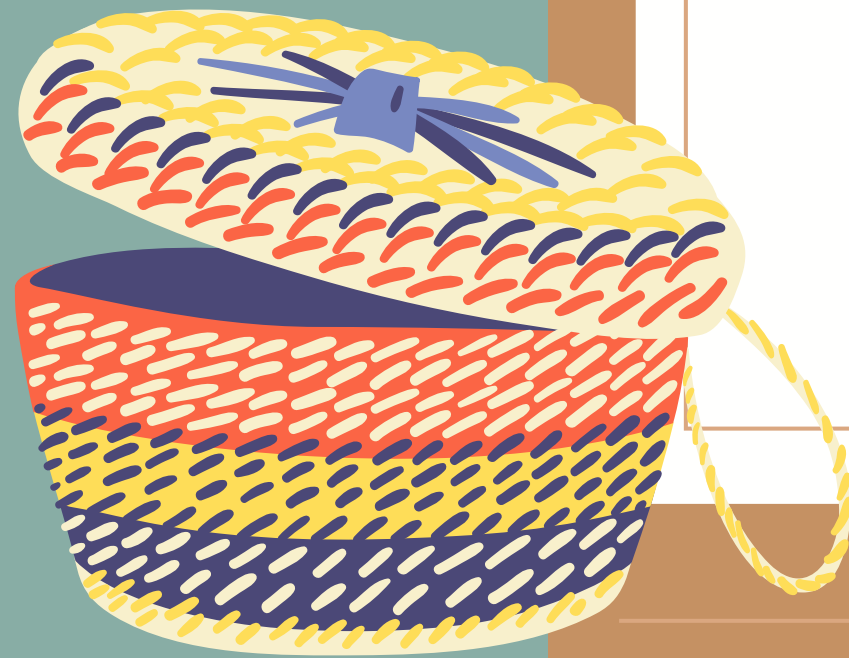
My friend asked how I reach things on the top shelf.

Some examples of household storages and kitchens in India. These were clicked during my primary research.

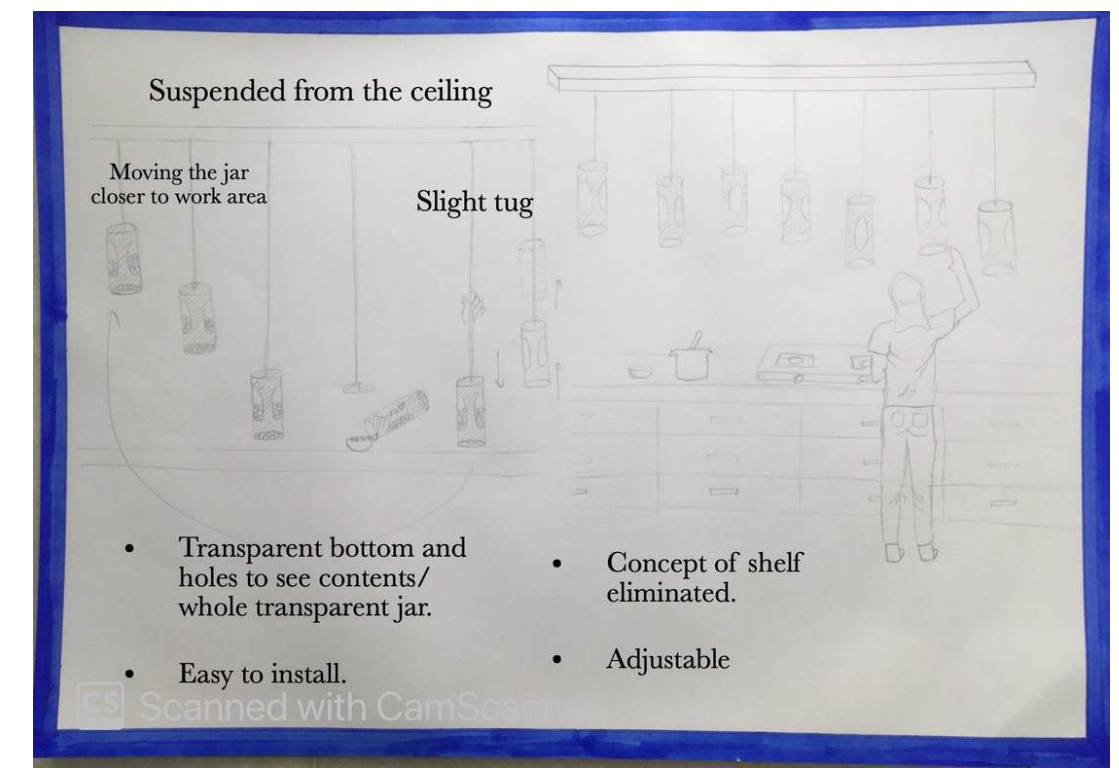
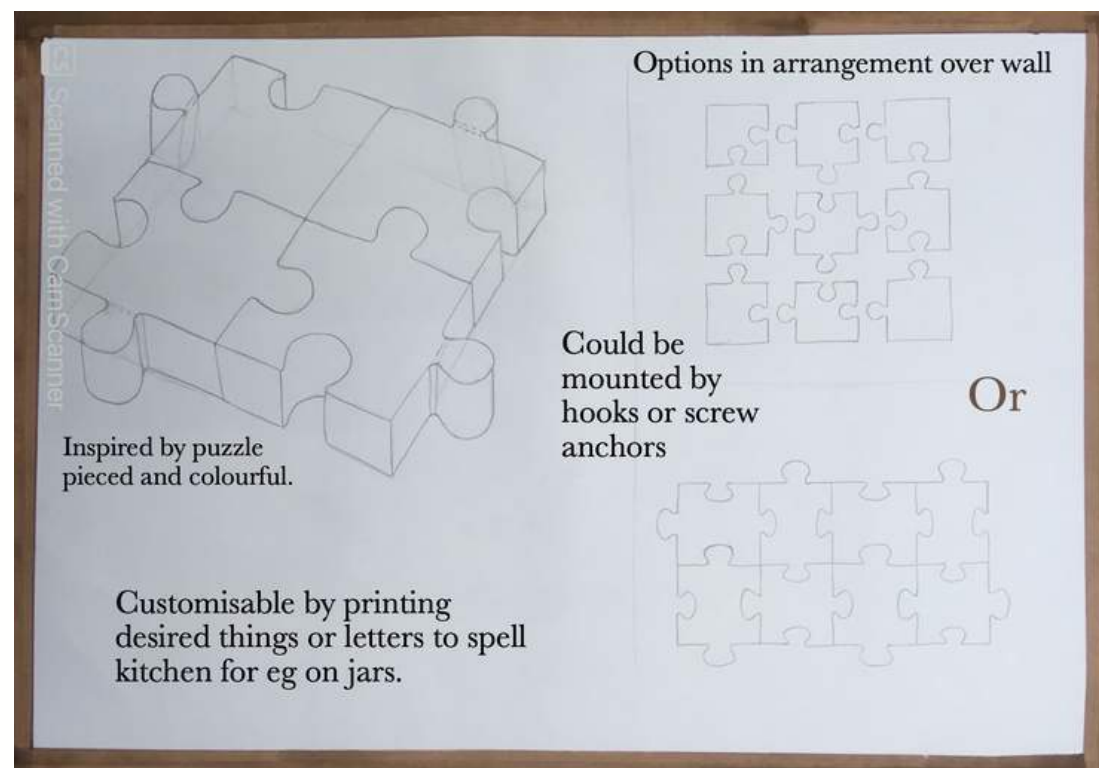
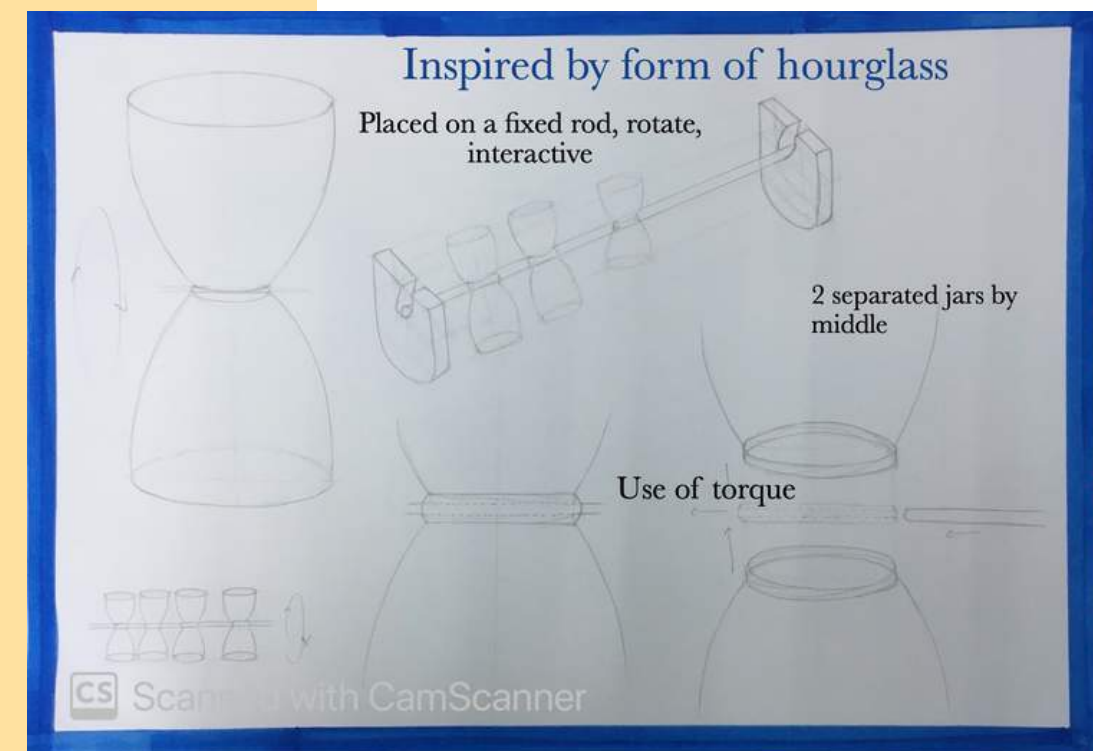
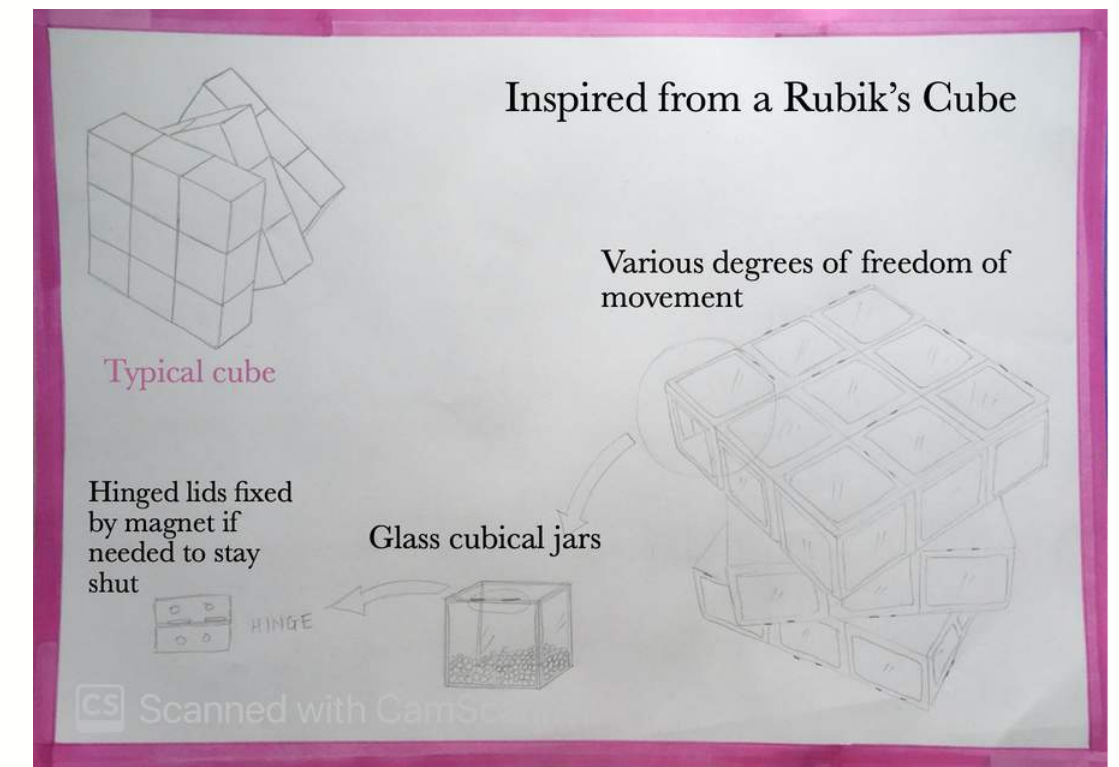
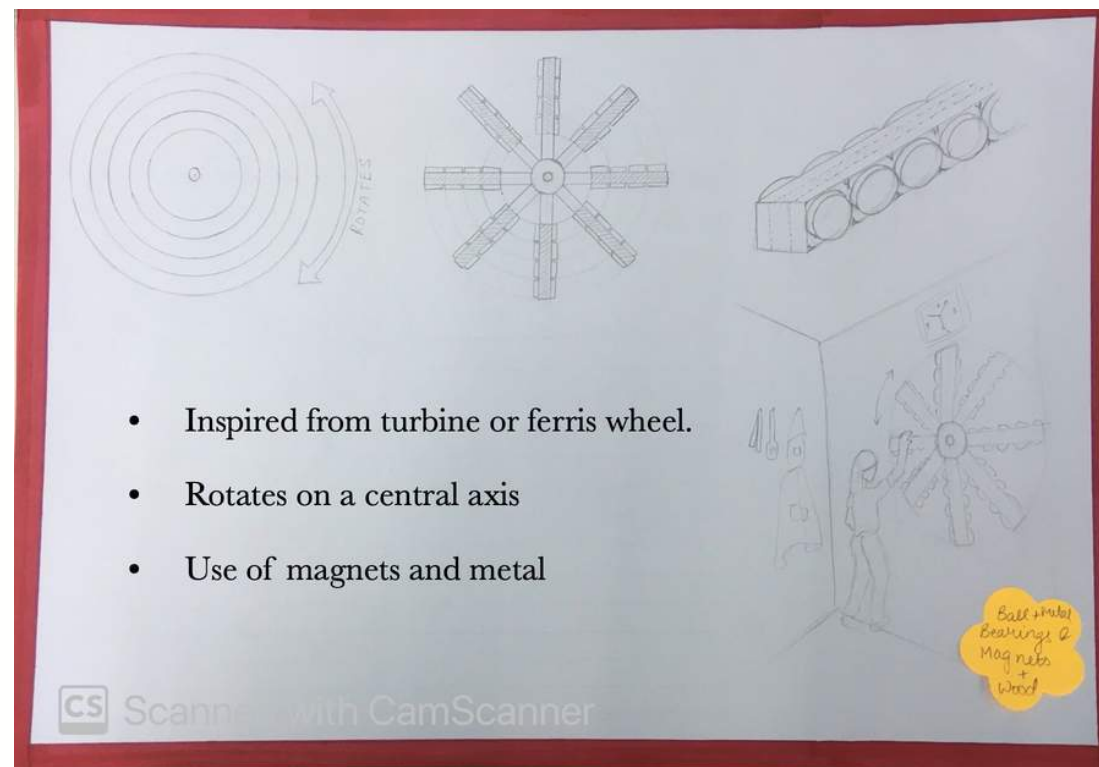
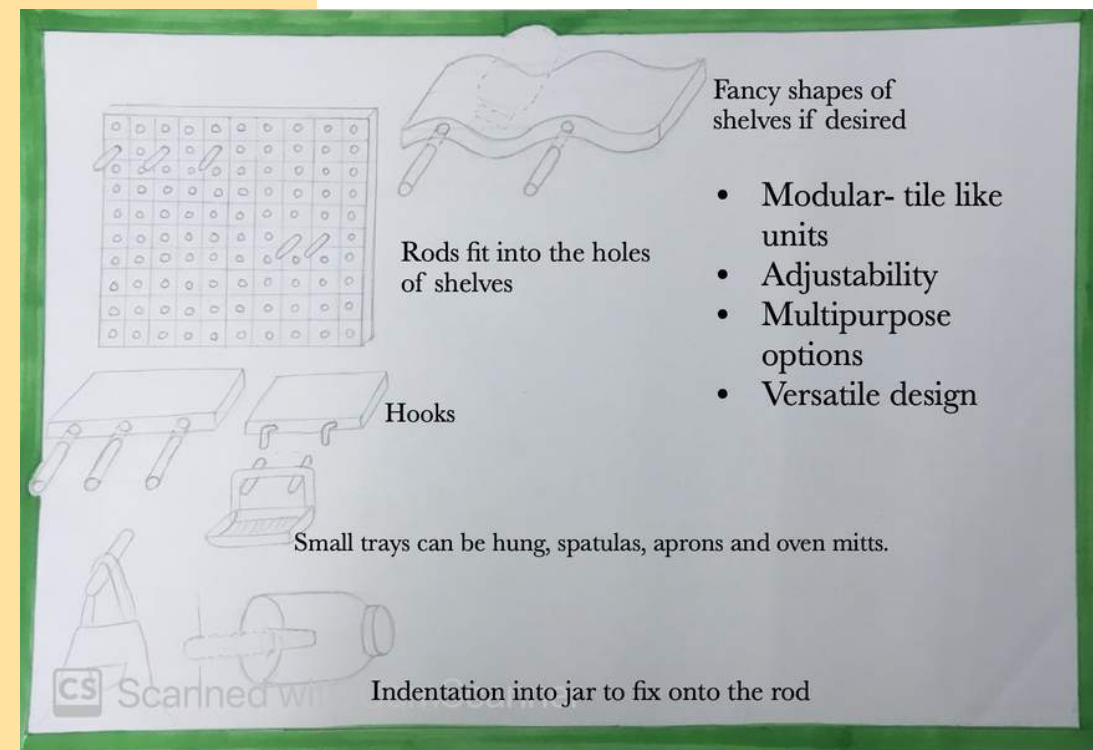


# Design Brief:

To design a convenient storage unit/ system which helps one access all contents placed in or on it. People who can not reach due to height can do so.











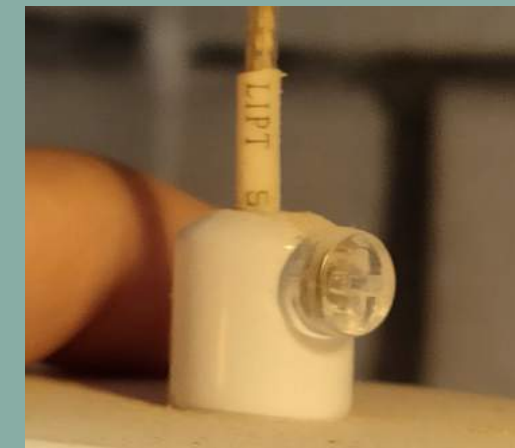
# About concept:

Components will be:

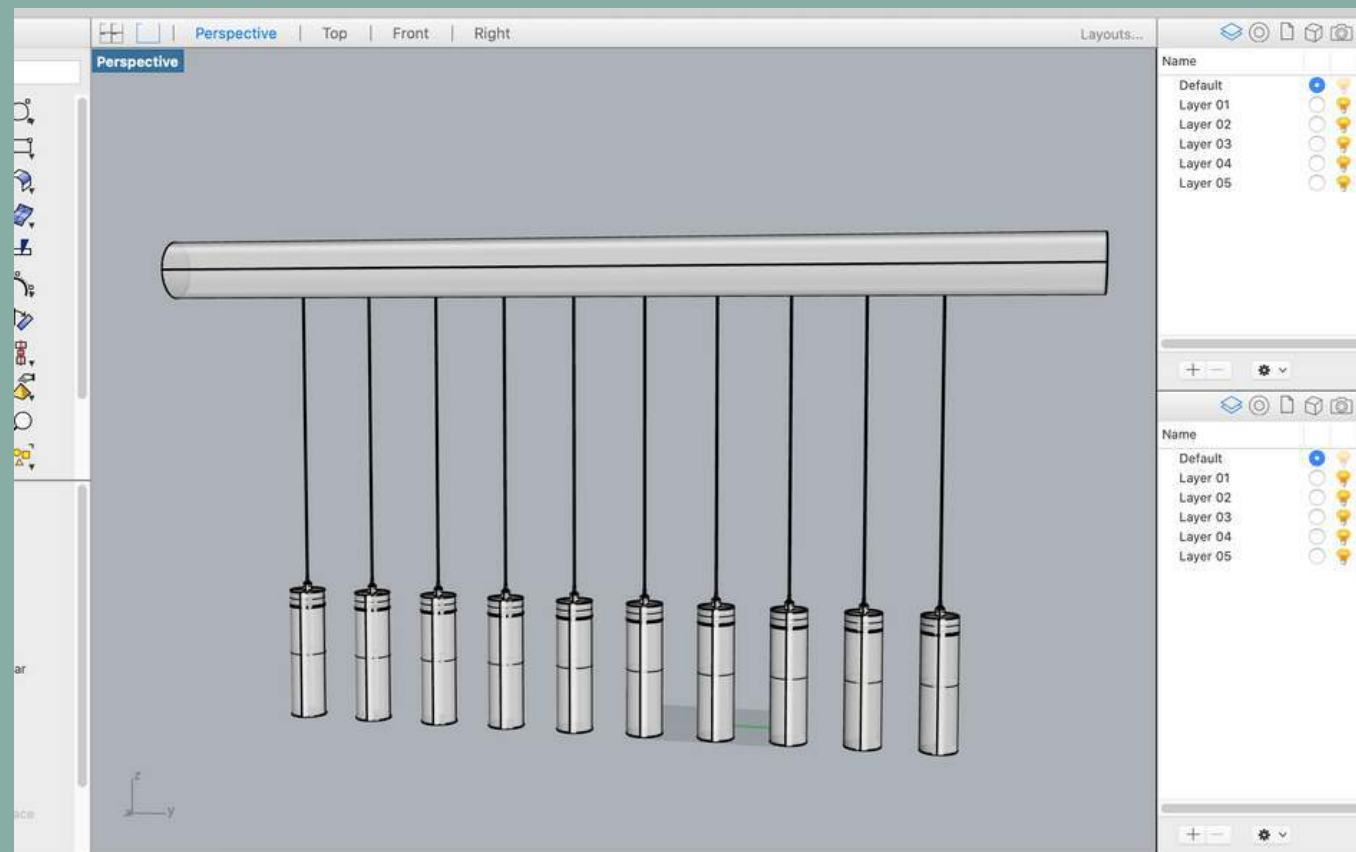
- Anchoring bar
- 10 Jars
- Hanging Wire
- x10 Retractable mechanisms for all jars
- Hooking of the anchor to the ceiling, so 3 hooks
- Transparent jars



Retractable mechanisms



Joint at the lid using the nylon wire suspensions



CAD on Rhinoceros software and render in Keyshot



Transparent Jars



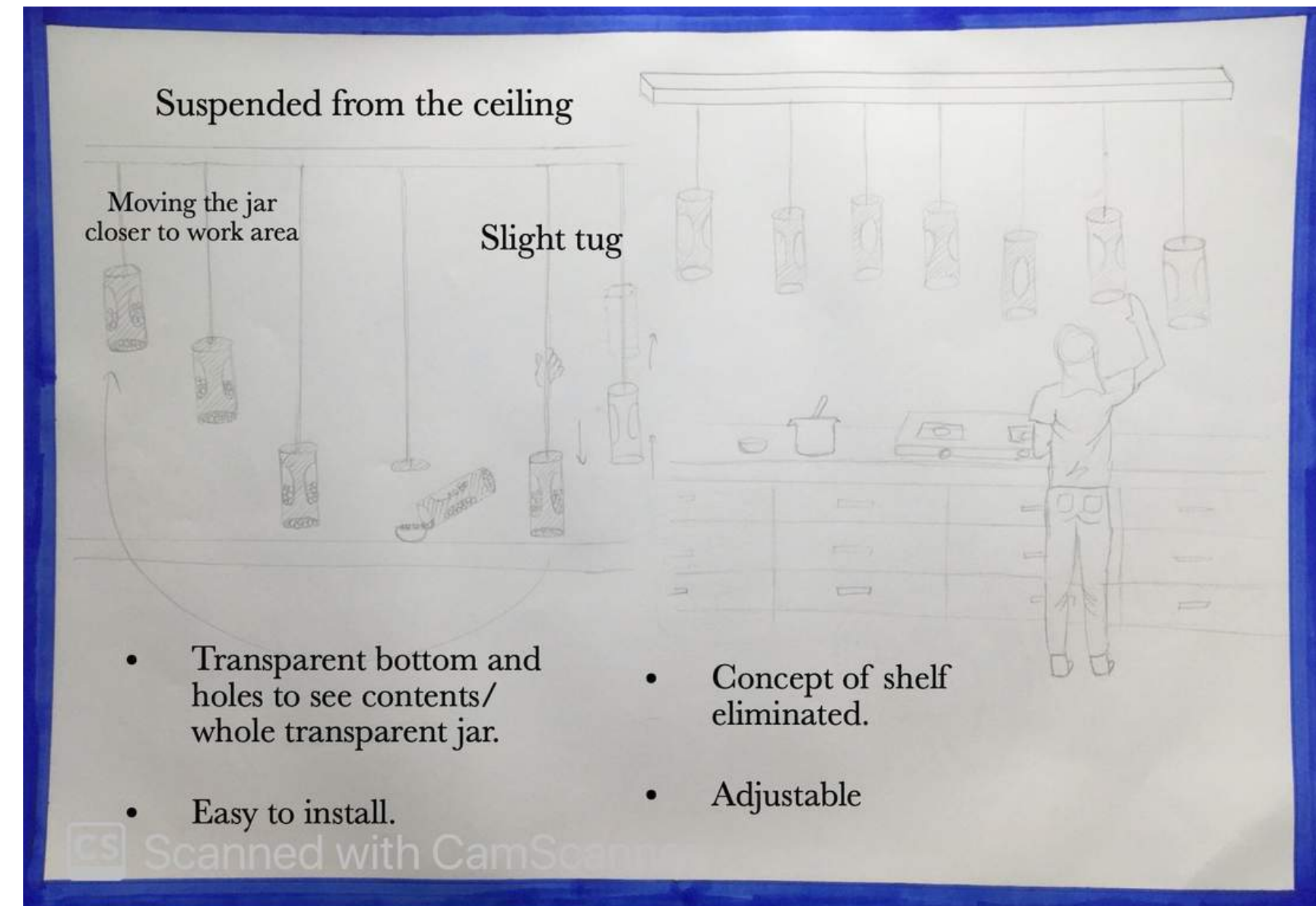


# Working & features:

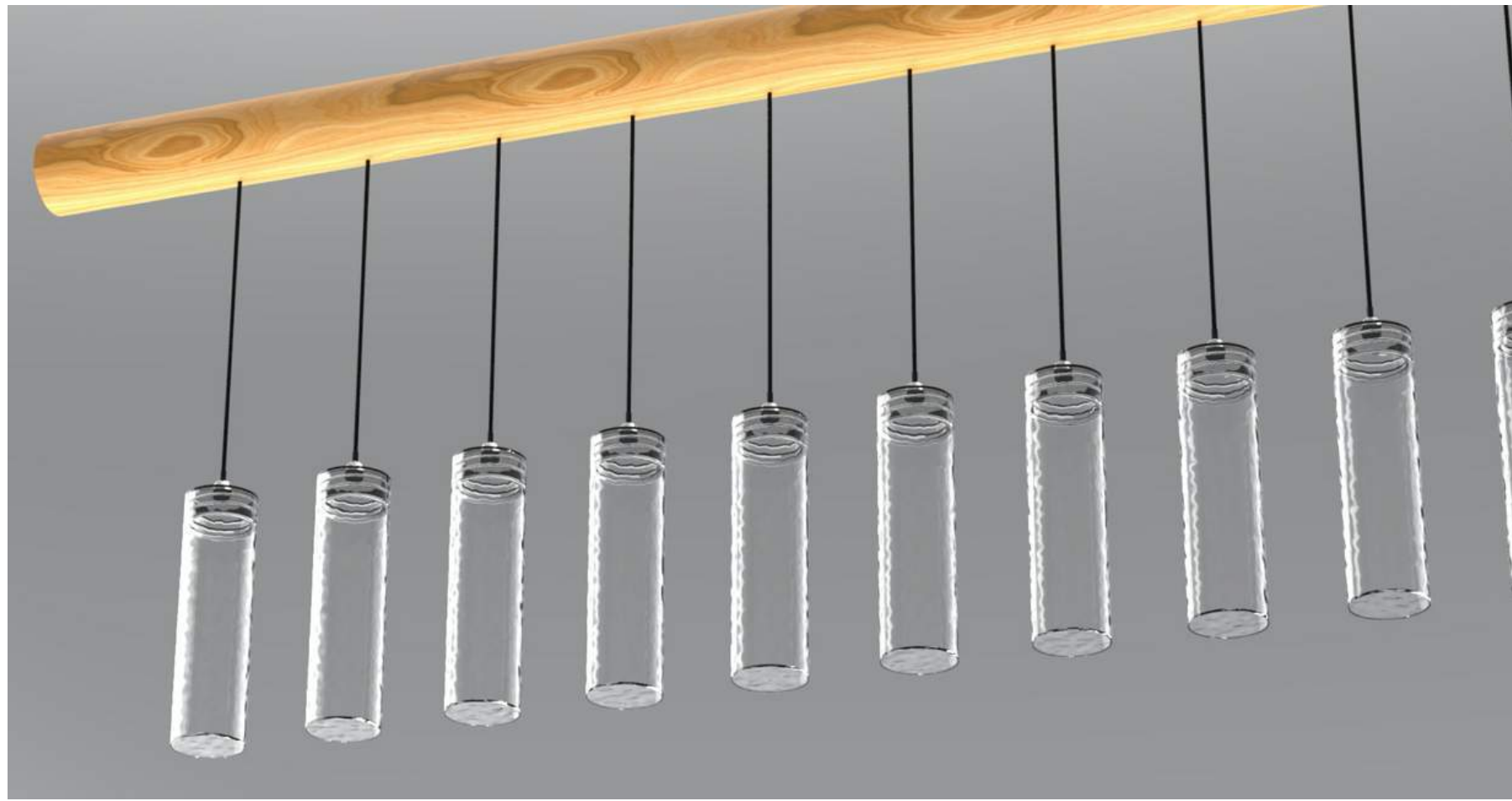
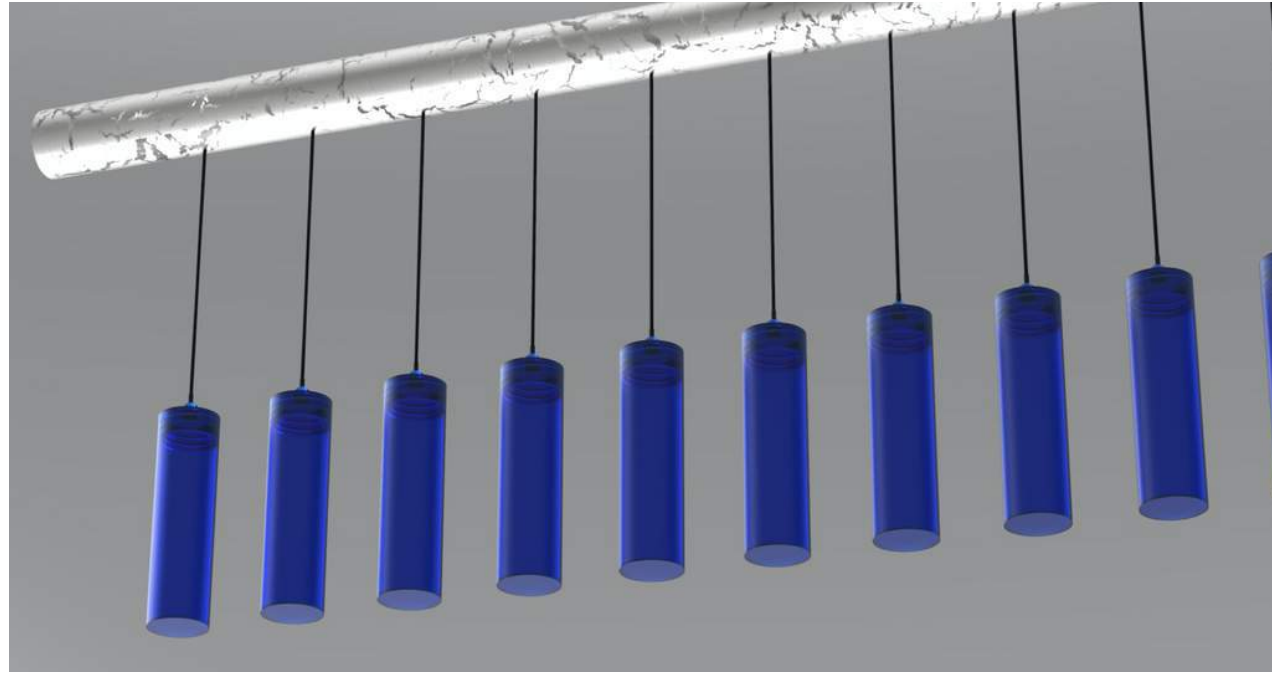
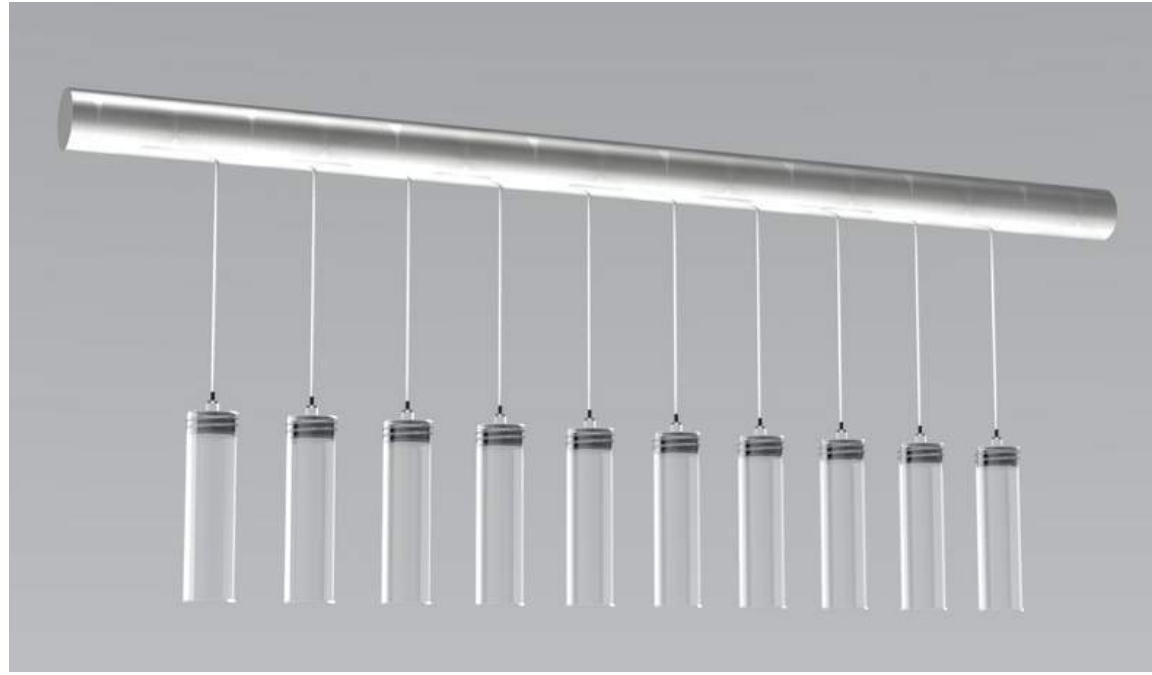
It is based on the retractable cables and wires that. I had seen around the house in products such as extension cords and charging cables. In this concept the user may pull down the container/ jar down to their level, use the contents and give it a tug after full length, so the container / jar goes back to its former default position.

Anchoring of the unit can be done as per the ceiling height and the personal preference of the user.

I just had a eureka moment of thought and tried applying the concept to storage ideas. My concept works well with open kitchens as shon in the renders or open bars and restaurants. It is adjustable, comfortable to use, aesthetically pleasing and a novel concept.





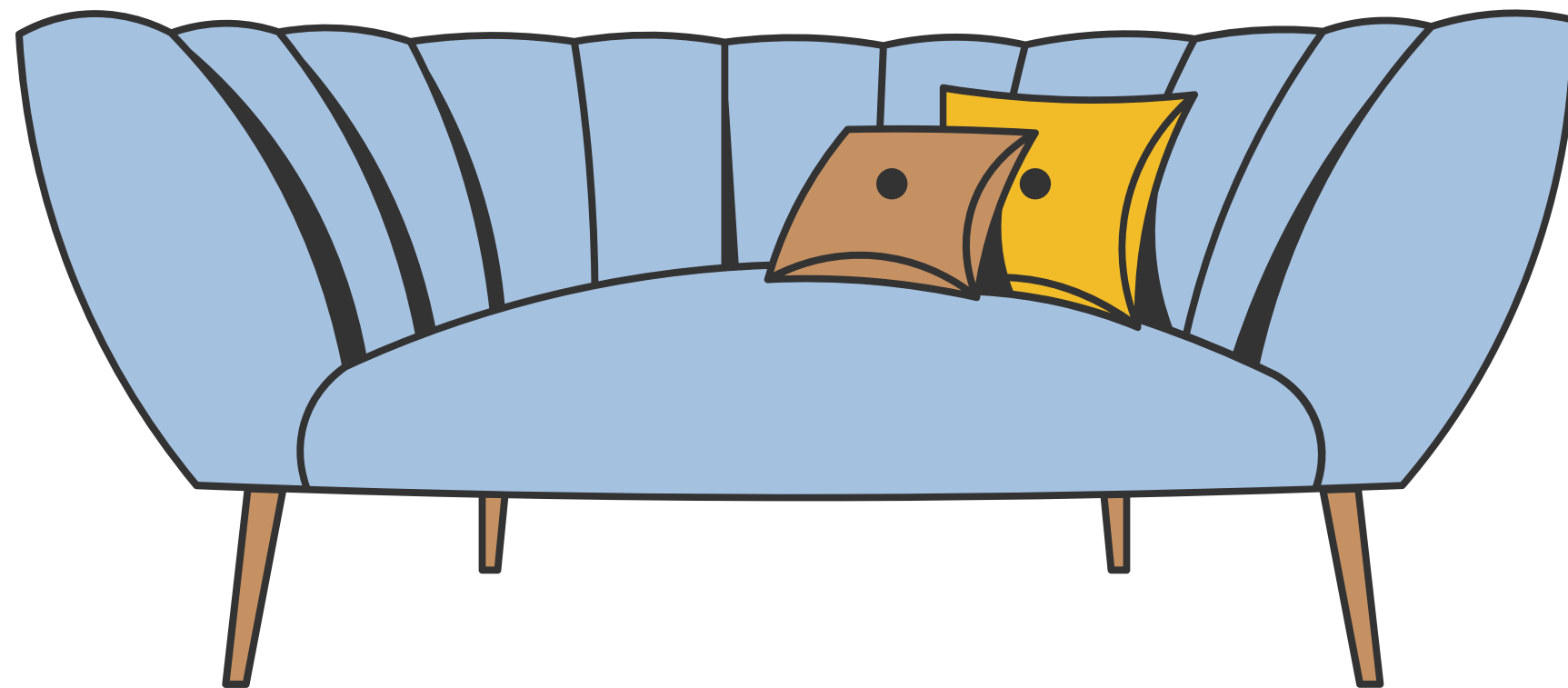
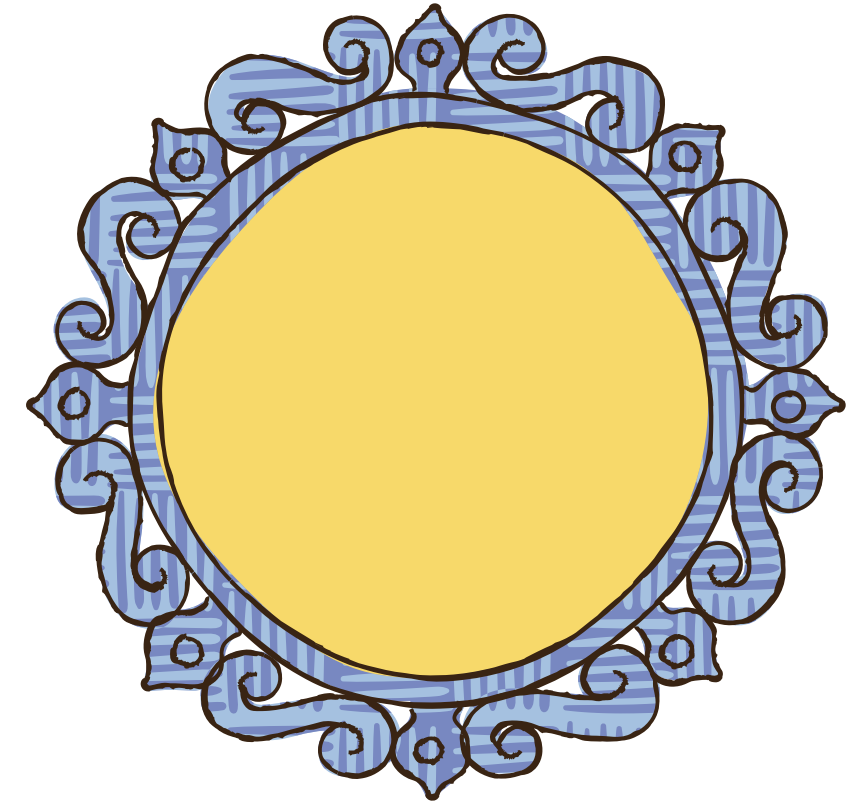








Decker Workspace



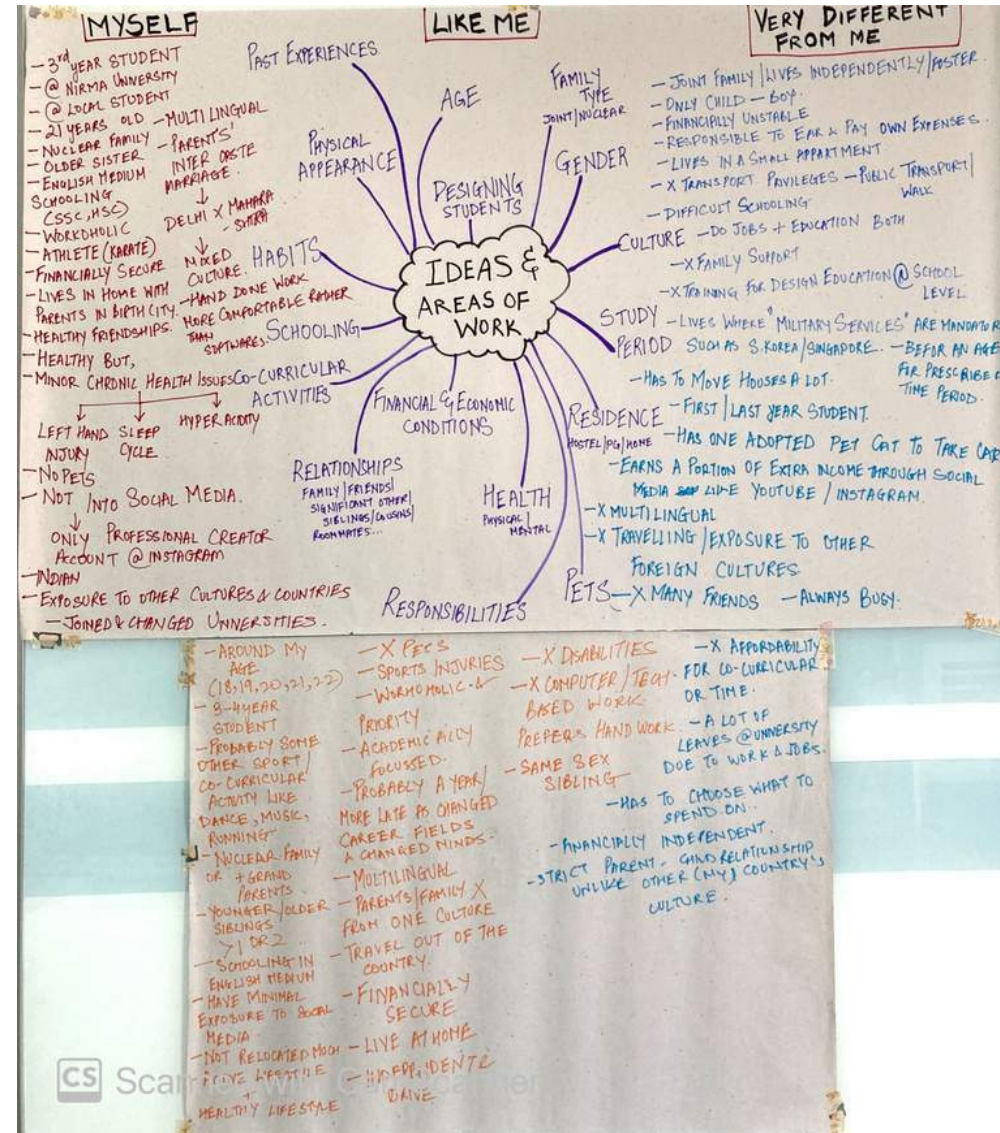
Furniture  
Design



# Decker Workspace

Workspace of a designer or design student was my chose domain of study for building a piece of my own. I am a design student myself and I certainly face various problems while working on projects which require respective work surfaces and ample space.

I find it inconvenient to move my ongoing work aside to do another task. For eg if I need to cut chart paper while I'm making paper models, I need to switch between sketching, using my laptop and cutting as they all have different ergonomics such as height of table and working positions. Even space required is changing throughout the process.



## Unpacking the terms and vocabulary

BEFORE

DURING

## AFTER

### Three stages of work taken into consideration

I started by making a mind map around my area of study and what all activities are performed around a designer's workspace and my daily lifestyle.

This process helps set a base for my understanding of needs and wants of my requirements of the furniture I'll build.



## DRAFTING A BRIEF

Creating a workspace for easier switching between tasks, accomodate factors that reduce or help manage anxiety and mess. It must also accommodate some organisational facilities for categorical storage of supplies.

	MATERIAL	FUNCTIONAL	AESTHETICS	DETAILING
CRITICAL	Material should be such that it is scratch resistant and easy to clean off the glue and paint marks.	Ample space to switch between tasks and working surface according to the nature of the task at hand, such as cutting and drawing. They both require different surfaces to work upon.		Should be able to accommodate upto A1 Sheets at least and smaller. Inclining surface for certain listed tasks such as sketching.
DESIRABLE	scented wood	Enough light for precision work.	Durable yet aesthetically good. Plants and nature.	Soft board mounted.
CHECK	spill resistant like water.	Enough Plug points in reach so I can charge laptop, mobile, and other tools comfortably. Scented candles or aromatherapy.	Soft shapes in furniture. soft colours.	Separations in storage for categorising supplies. For eg. Pencils, Cutters and stapler and compass, markers and pens, brushes and board pins etc. They can be stored category wise in a good arrangement, neatly.

## USER PROFILE

- Name : Tanvi Pankaj Kumar
- Age: 22
- Occupation : Third year student, Nirma University
- Local student in city
- Athlete : Karate
- OCPD and anxiety
- Workaholic, works only with planning or cannot start work at all
- Needs a softboard and a calendar
- Extremely possessive about her belongings and work.

Drawing

Sketching

Painting

Cutting

Clay Modelling

Writing

Using Laptop

Photography

Soldering

Reading

Research

Drafting

Attending  
group work  
calls

Storing  
supplies

Categorise  
supplies

Wood Work



## REQUIREMENTS

- Material should be such that it is scratch resistant and easy to clean off the glue residue and paint stains.
- Ample space to switch between tasks and working surface according to nature of the tasks at hand, such as cutting and drawing. They both require different surface to work upon.
- Inclining surface for certain listed tasks such as sketching.
- Should be able to accommodate upto A1 sheets at least and smaller.
- Enough light for precision work.
- Soft board mounted.
- Should have scratch resistant surface to cut materials when required.
- Enough plug points to reach so I can charge electronics, and use power tools.
- Separation in storage for categorising supplies. For eg, pencils, cutters and stapler and compass, markers and pens, brushes, board pins etc. They can be stored category wise in a good arrangement, neatly.

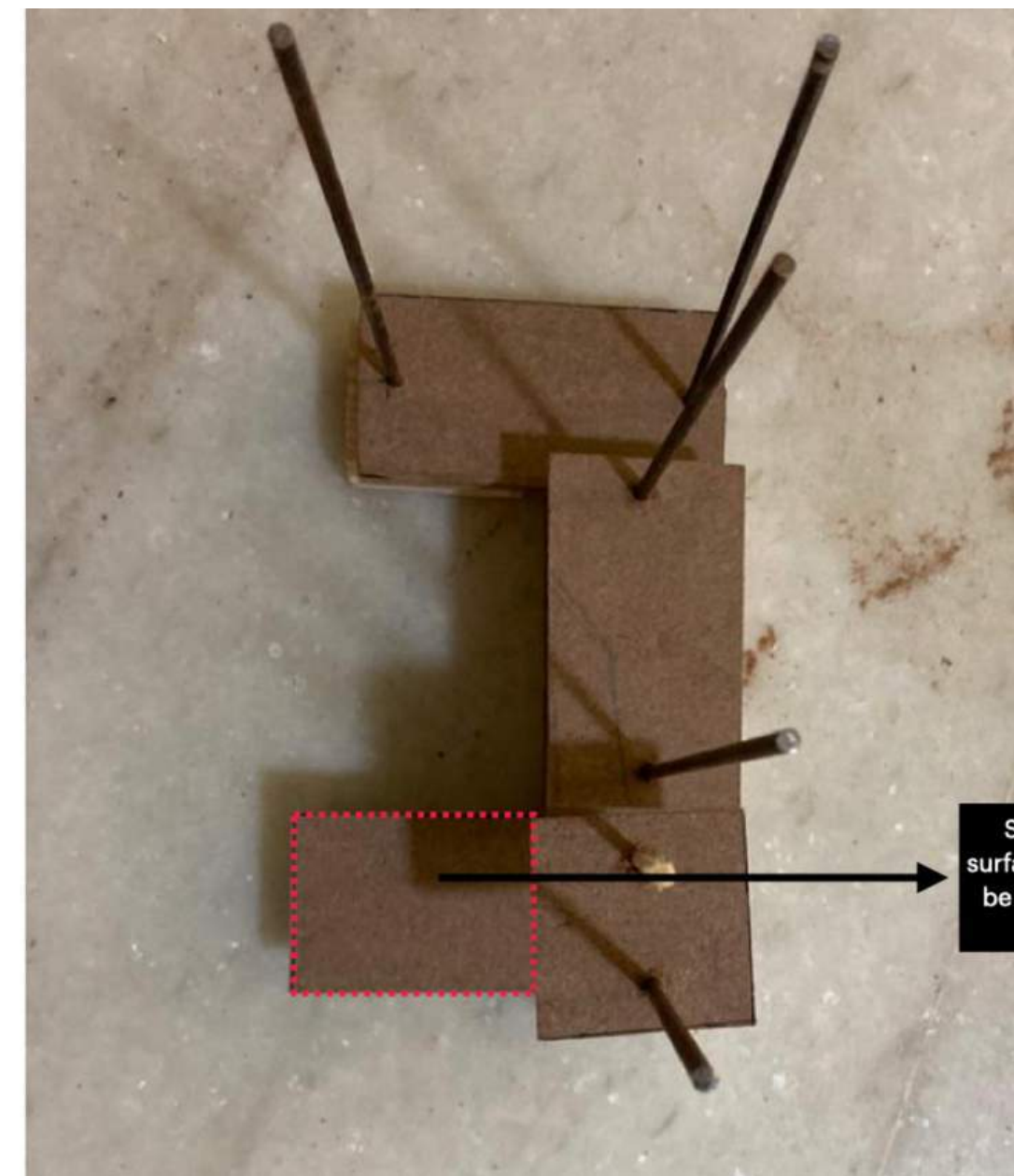
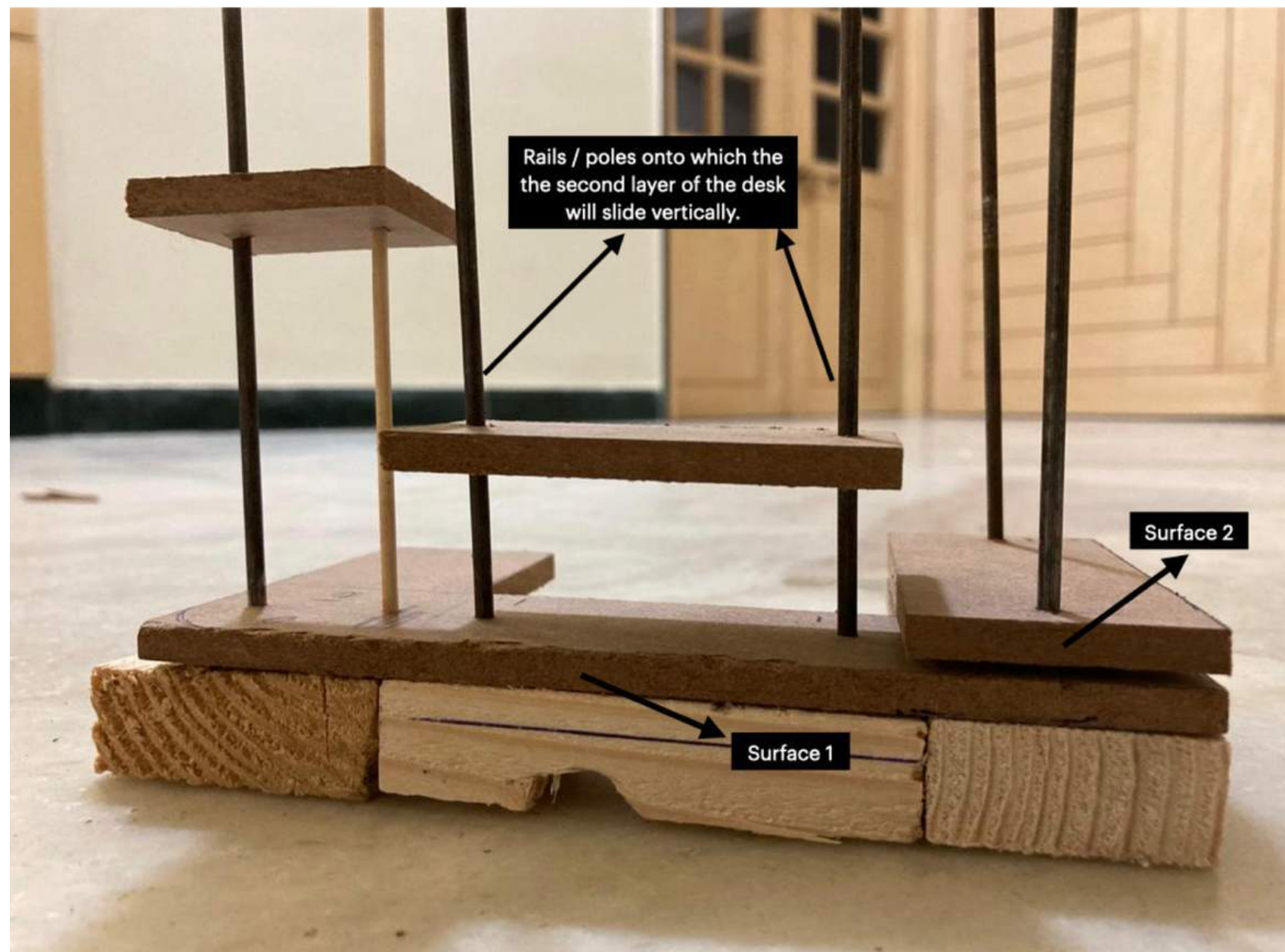
## ASSUMPTIONS

- Durable yet aesthetically good.
- Plants bring in sense of comfort and have been said to improve cognitive function in memorisation and concentration.
- Natural materials such as wood, stone, woven fibres and branches can connect us to nature, bringing us a sense of peace.
- Certain colors have different effects on mind, it can also be a matter of preference. While some might find bright colours uplifting, other might find it jarring.
- Aromatherapy. For eg. Lavender- fragrant compound present in it can lessen anxiety by stimulating the nose to pass signals to brain; promotes relaxation, believed to treat depression, insomnia and menstrual cramps as well.



# MOCK UP

Miniature replica model of my furniture piece.



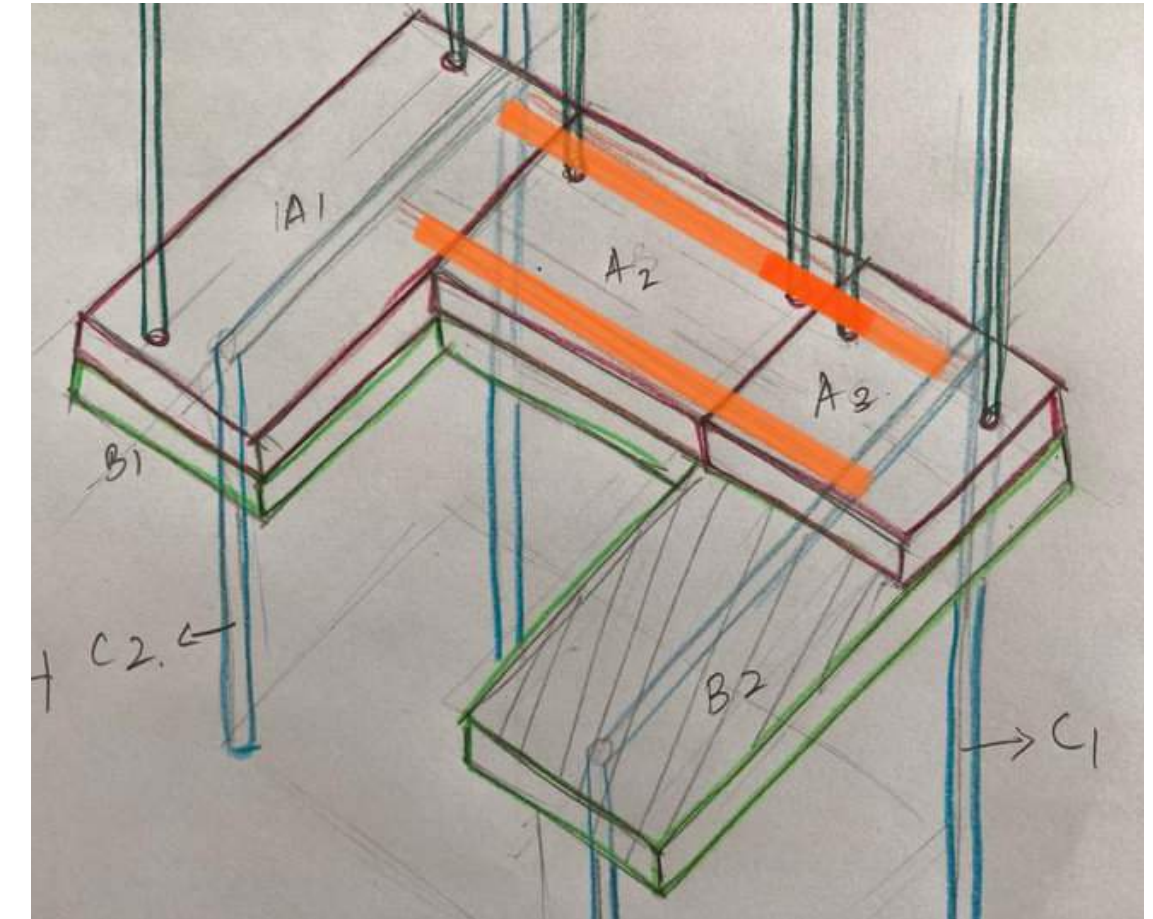
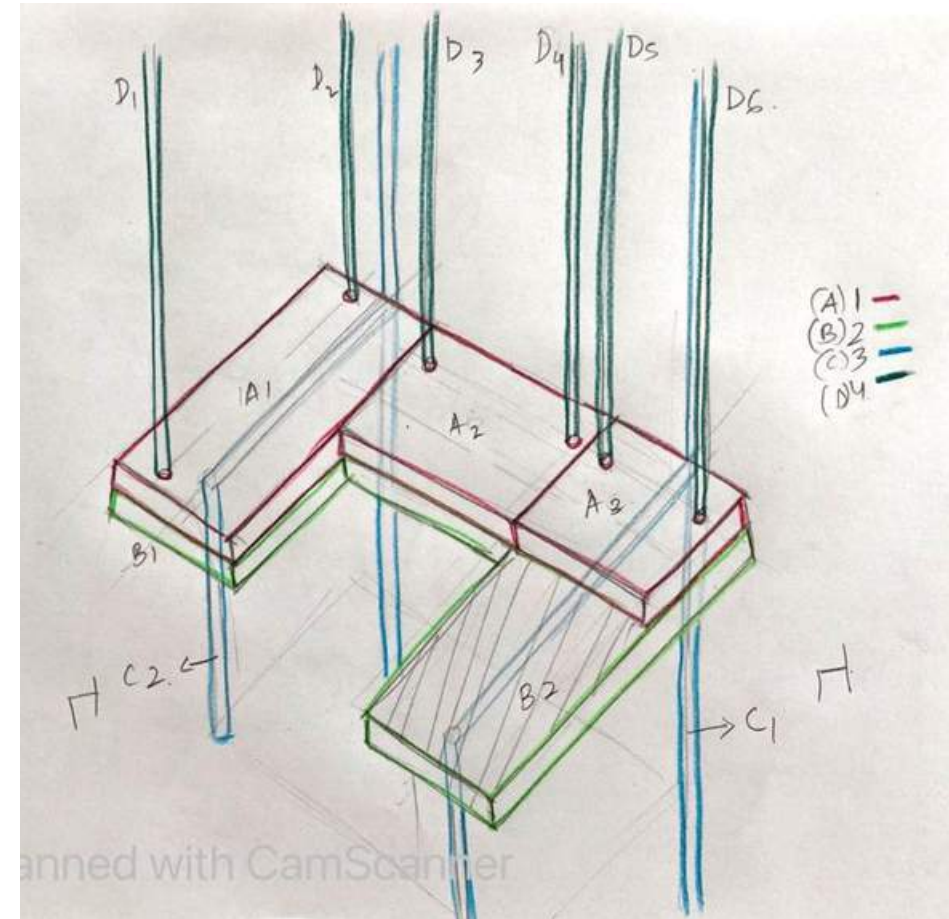


# WORKING & DESCRIPTION

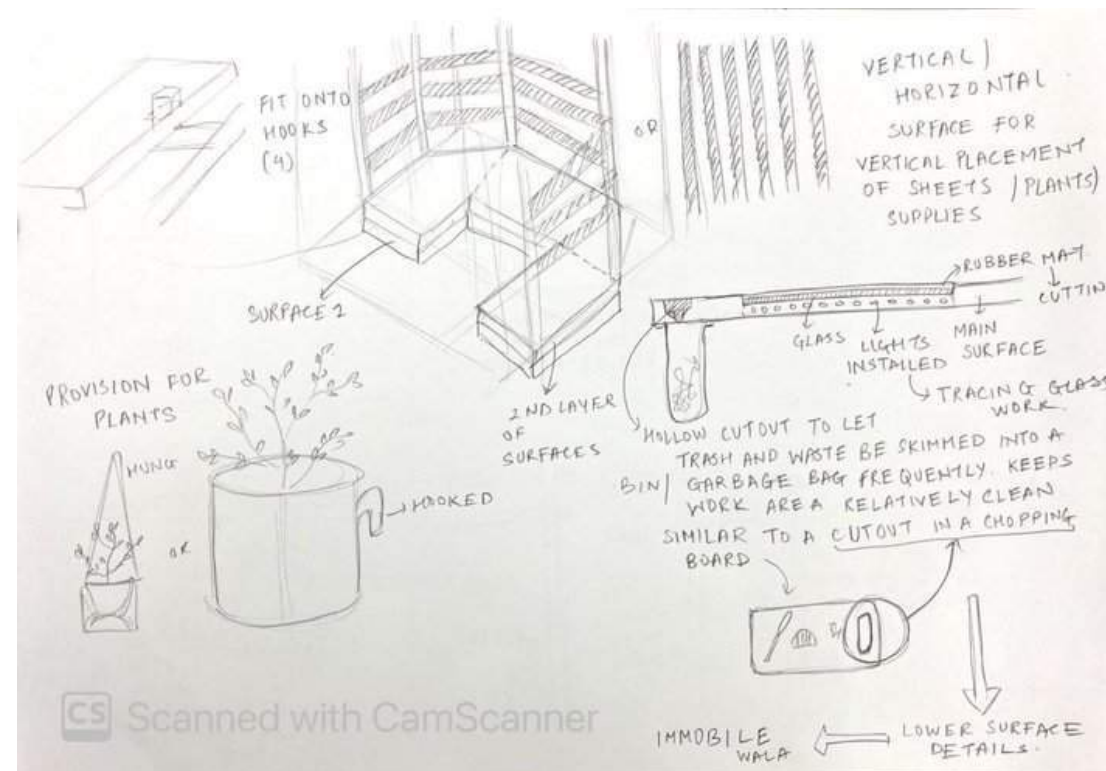
A1, A2, A3 are movable surfaces. They move vertically, up & down on the rods. They can be locked on a desired height onto them. The rods will not be placed exactly in the centre but the one third of the parts. As shown in the diagram.

B1 and B2 are lower surface, under A1, A2, A3. B is immobile. B2 is left bare and not covered with A3 because I plan to put other details into it. A GC and Waste disposal cavity.

C1 and C2 are the frames to make the workspace desk self standing instead of wall mounting it.



Two more rods horizontally added to support work surfaces. So it forms a rectangular frame. (ORANGE lines).



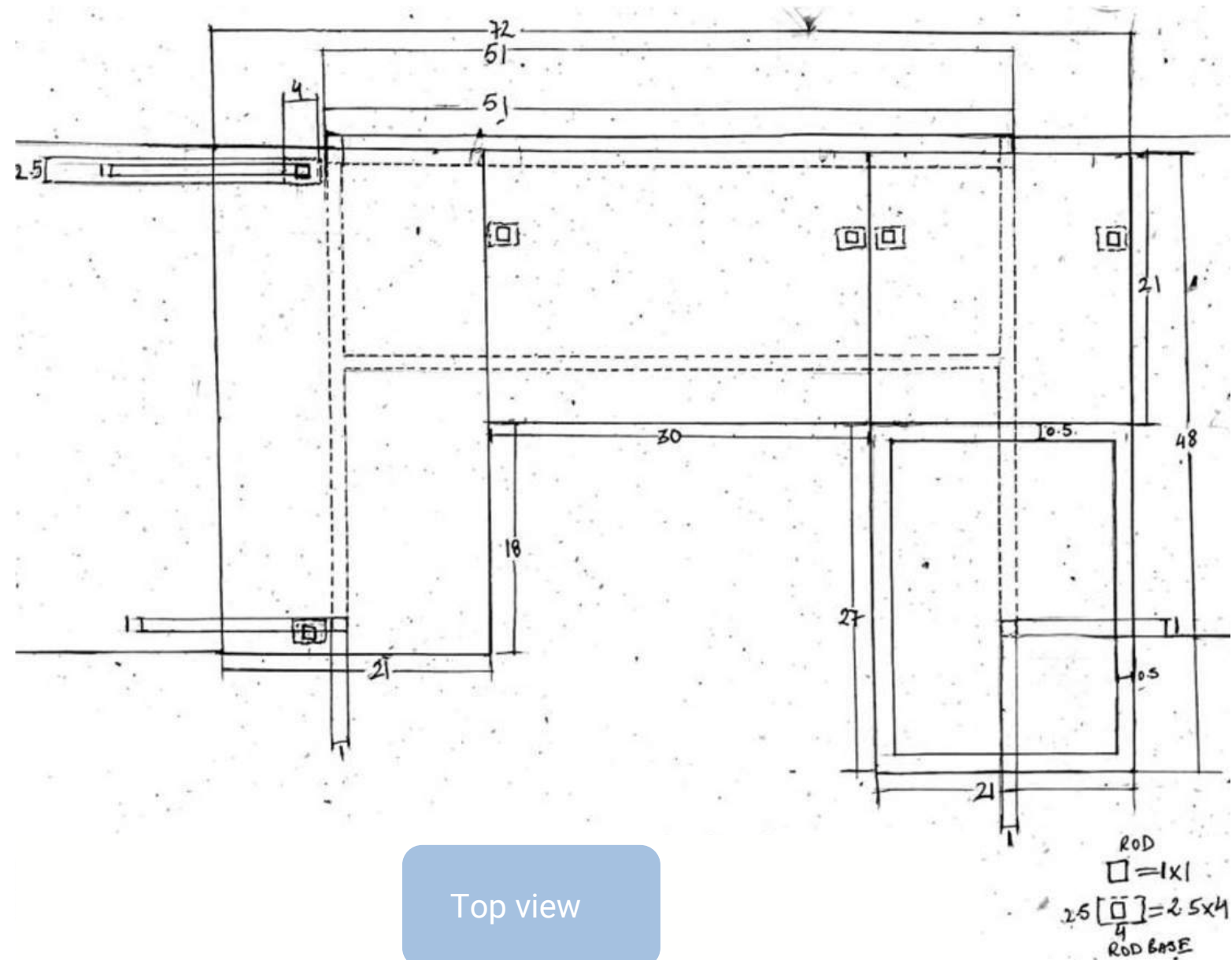
Have decided to make this part into. A separate unit. To put up miscellaneous things such a little plants and hooks to hand stuff and to put up sheets. Like a multipurpose board.

Might have provision in clips or magnets so it gives more flexibility.

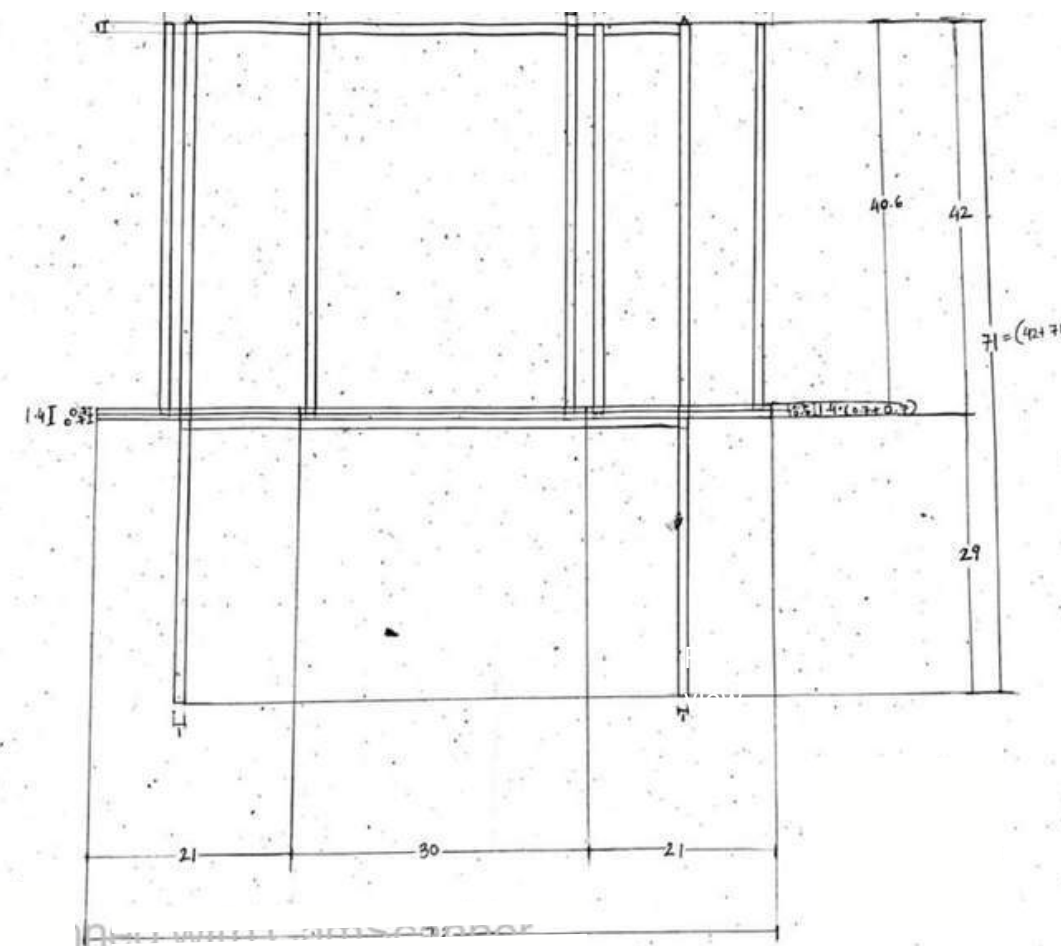
Not similar to a traditional soft board.



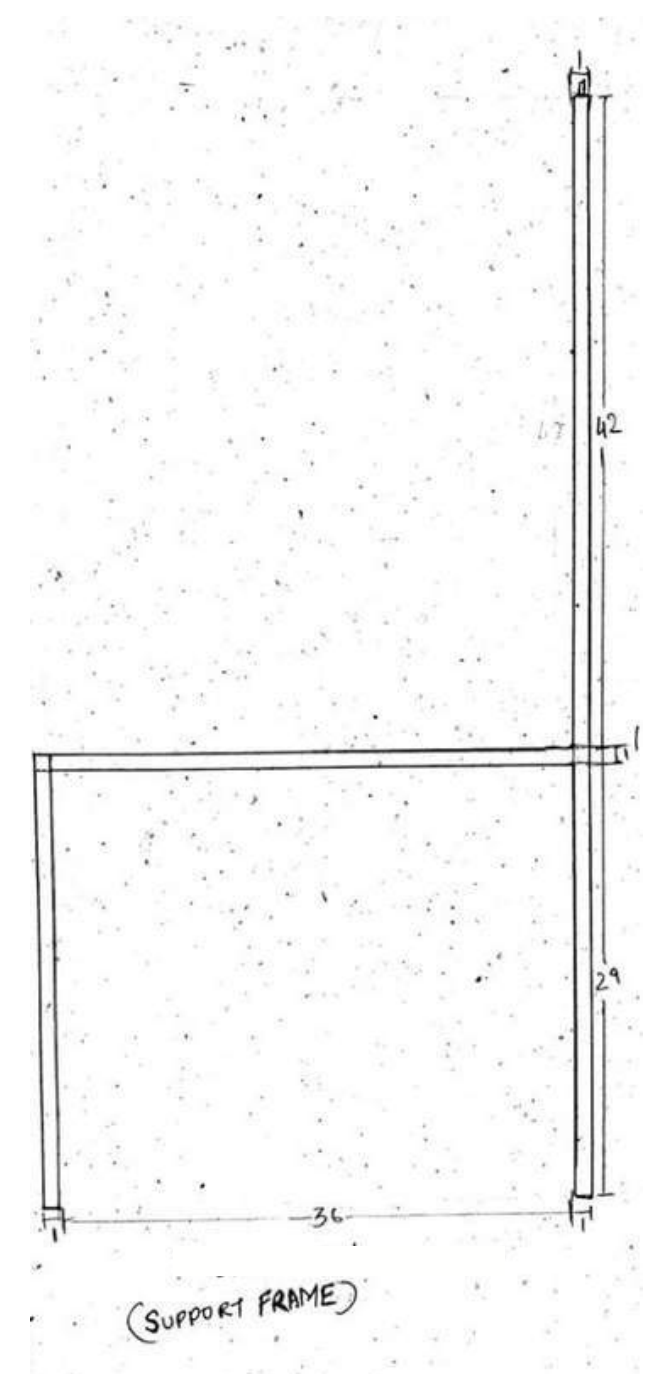
# TECHNICAL DRAWING



Top view



Front view



Side view



# BUILDING DECKER WORKSPACE





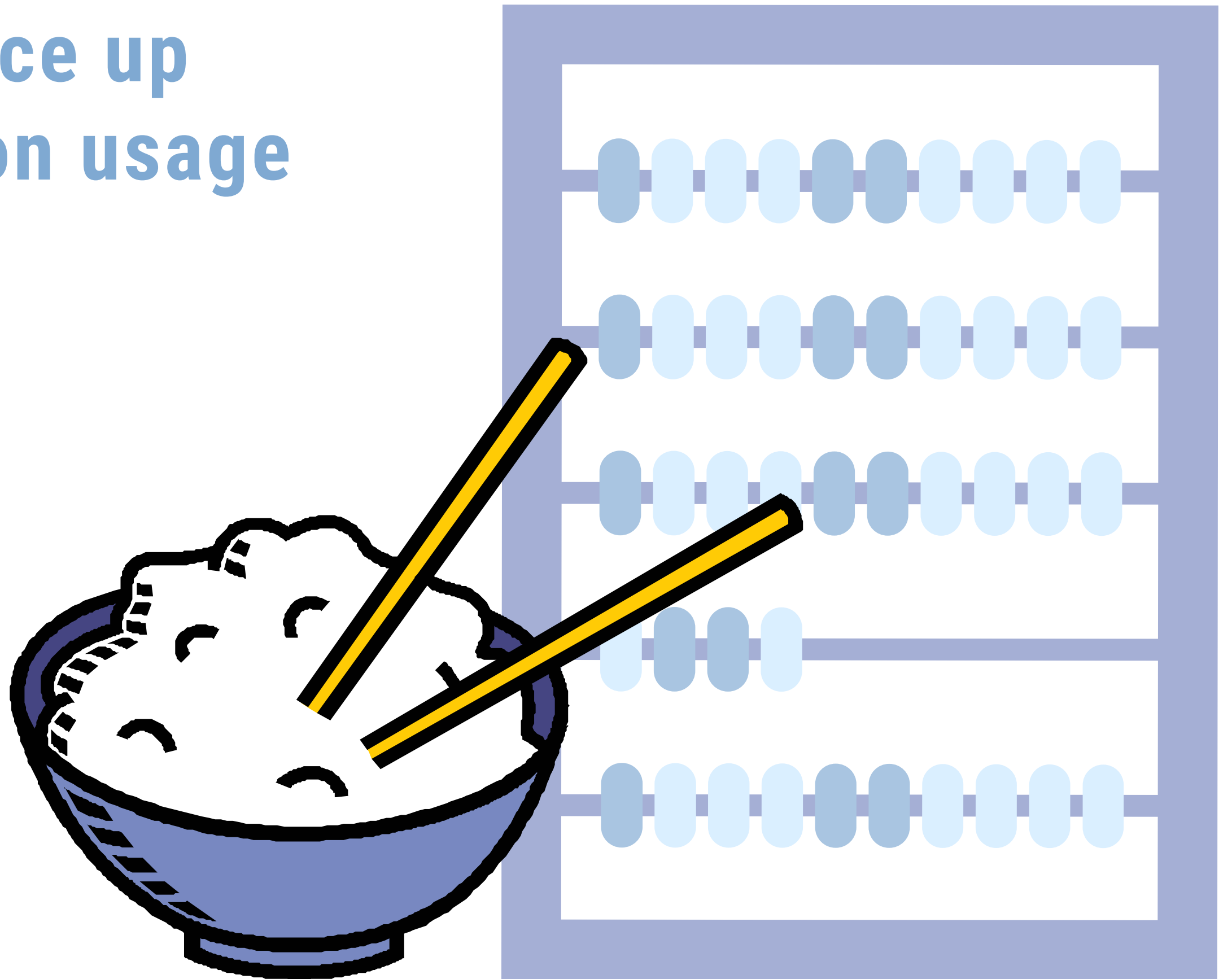
# DECKER WORKSPACE COMPLETED



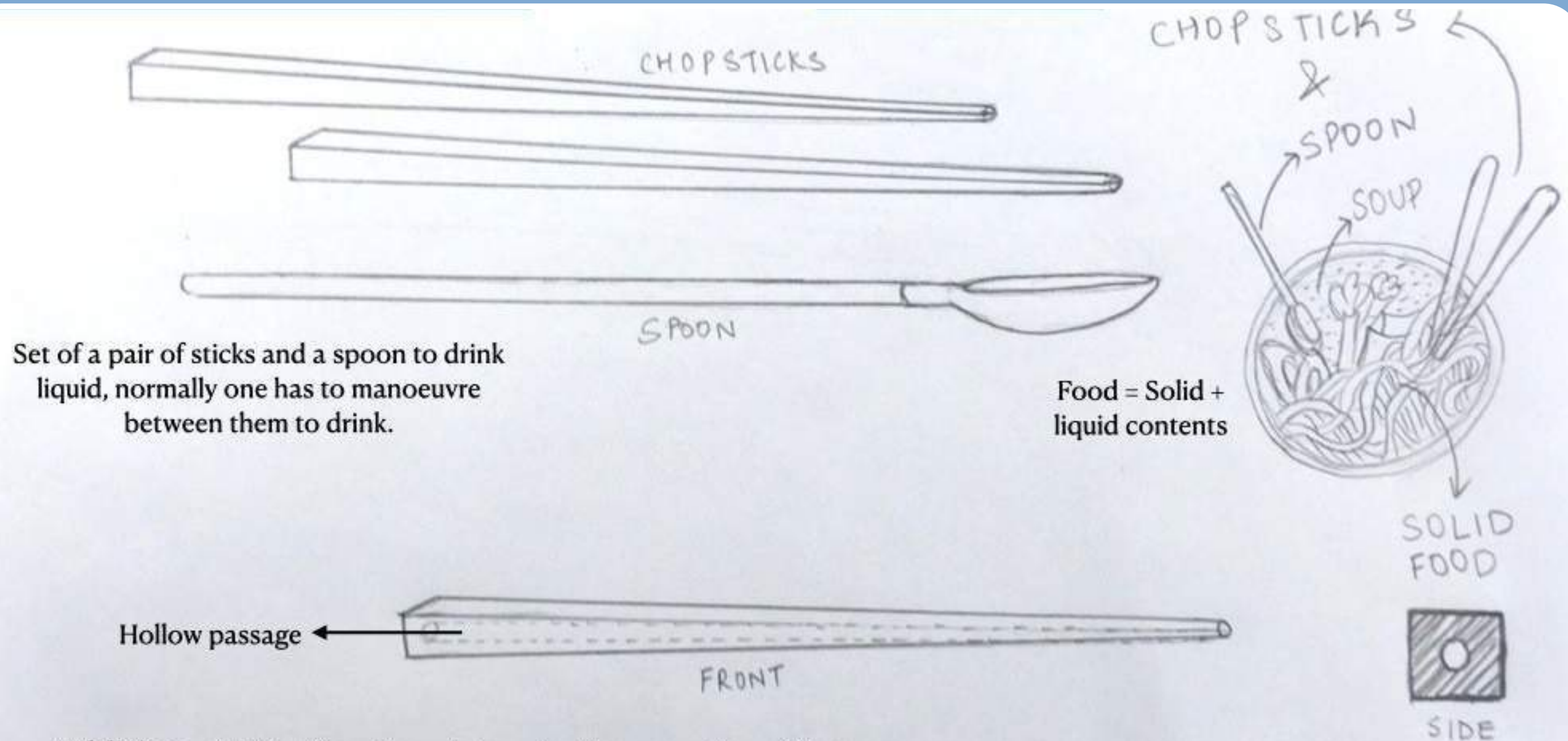


**Quick attempt to spice up  
Chopsticks and spoon usage  
in east Asia**

**Addition  
Subtraction to  
a Design**







**Addition** - Adding function of straw to the respective object

**Subtracting** - May reduce material, and make the chopstick hollow. Thus, elimination need of spoon upto a certain extent, reducing number of times one has to switch between Chopsticks and spoon.

Also helps make the chopsticks lighter, especially metal moulded ones. Easy to clean as well and save material used in the product.