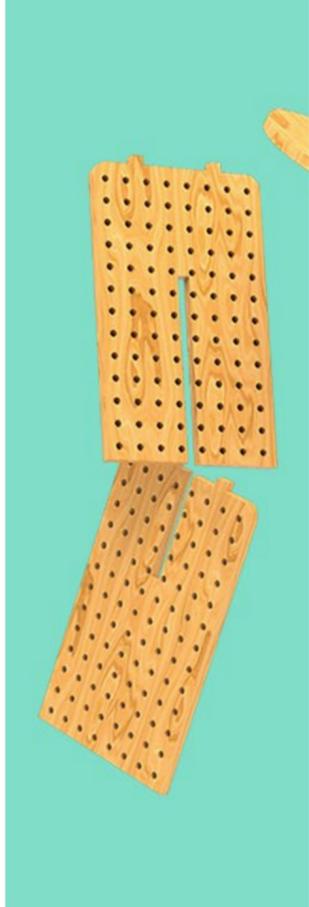




# INDUSTRIAL DESIGN PORTFOLIO

JUNE 20<sup>20</sup>



more.



**Stool.**

**Project motive : Understand and apply the theory of effort justification.**

Personal project / Learning experience

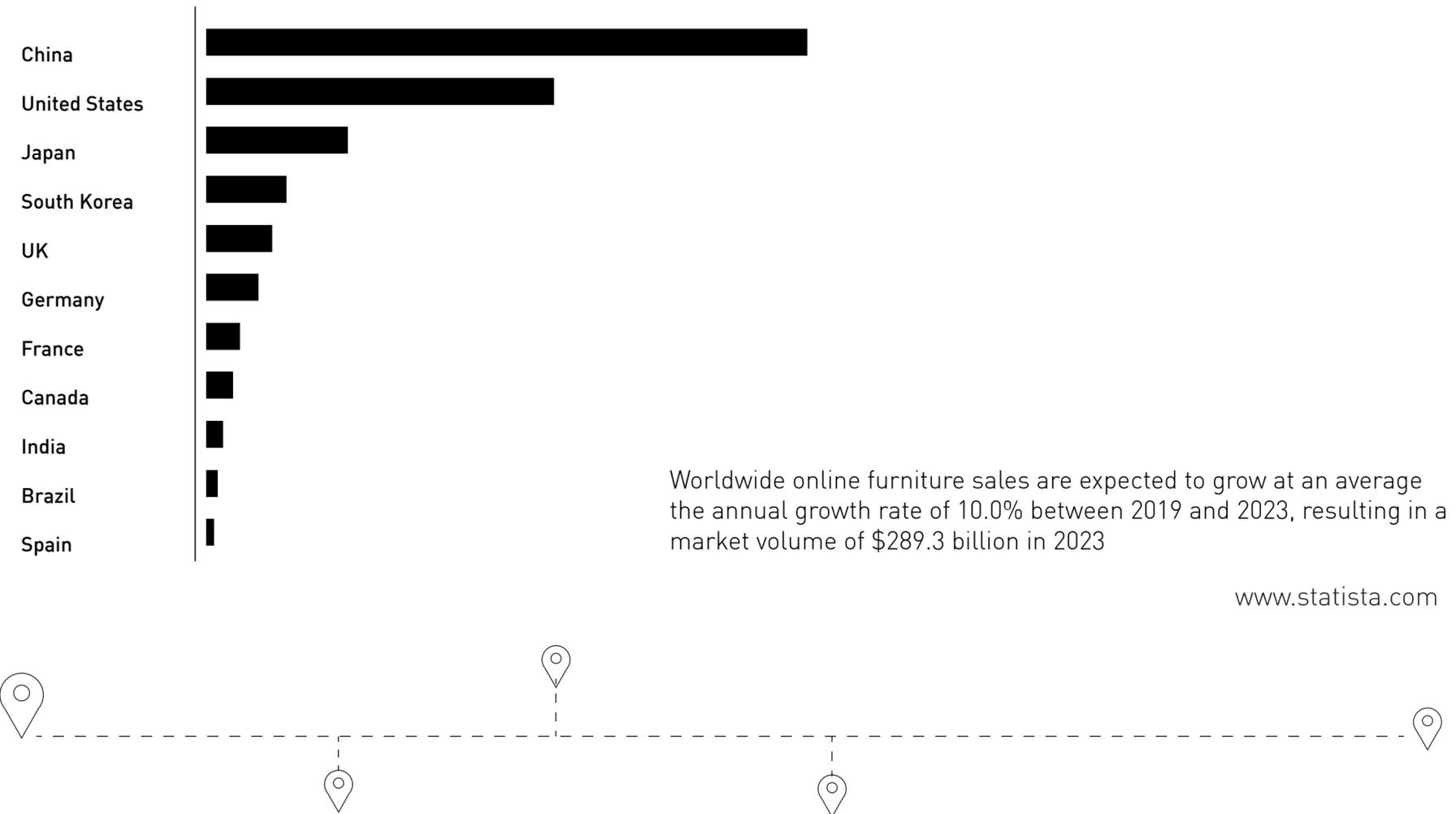
The stool is a home and workspaces furniture designed with the theory of "effort justification" aka "IKEA effect".

The project was my effort in understanding and implementing the IKEA effect. The idea was explored during the early stages of my learning period. It is evident that with the boom in cheap and accessible internet people will tend to prefer purchasing products online, I was able to find that this is true in the furniture industry as well. So I decided to explore and learn.



# Online Furniture Sales Are Booming

Estimated e-commerce sales of furniture, homewares and home decor in 2019



What type of product will help existing business enter online channels ?



Products that can be mass-produced with minimal machining process. This enables business to meet the high demand.



Products that can be stored in the least amount of space  
- Enabling convenient shipping and fulfilment

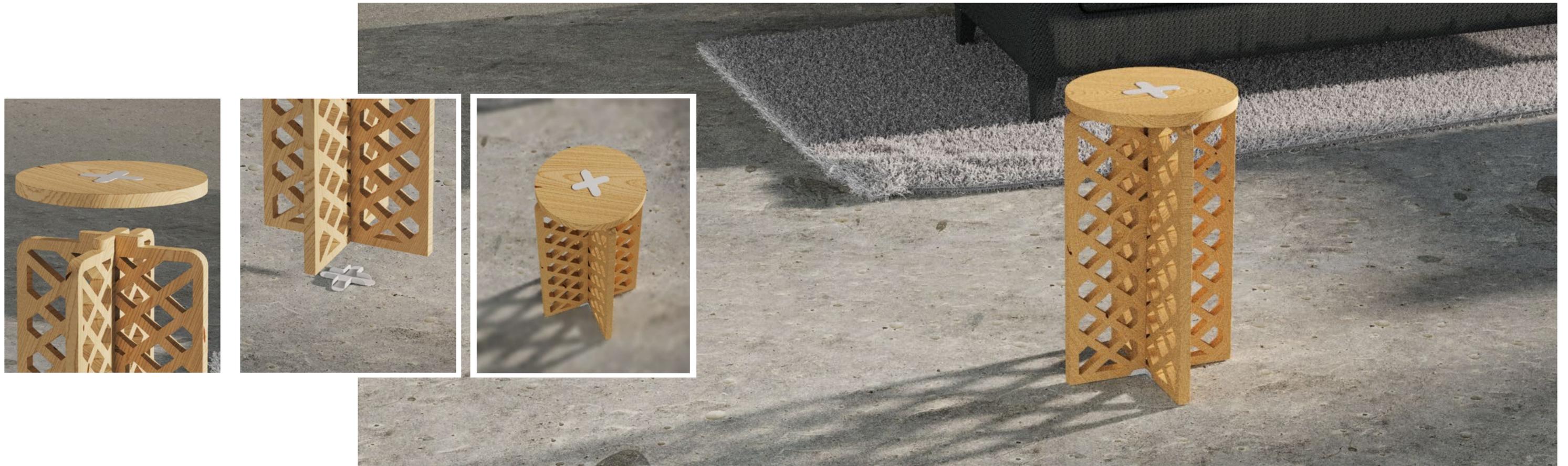
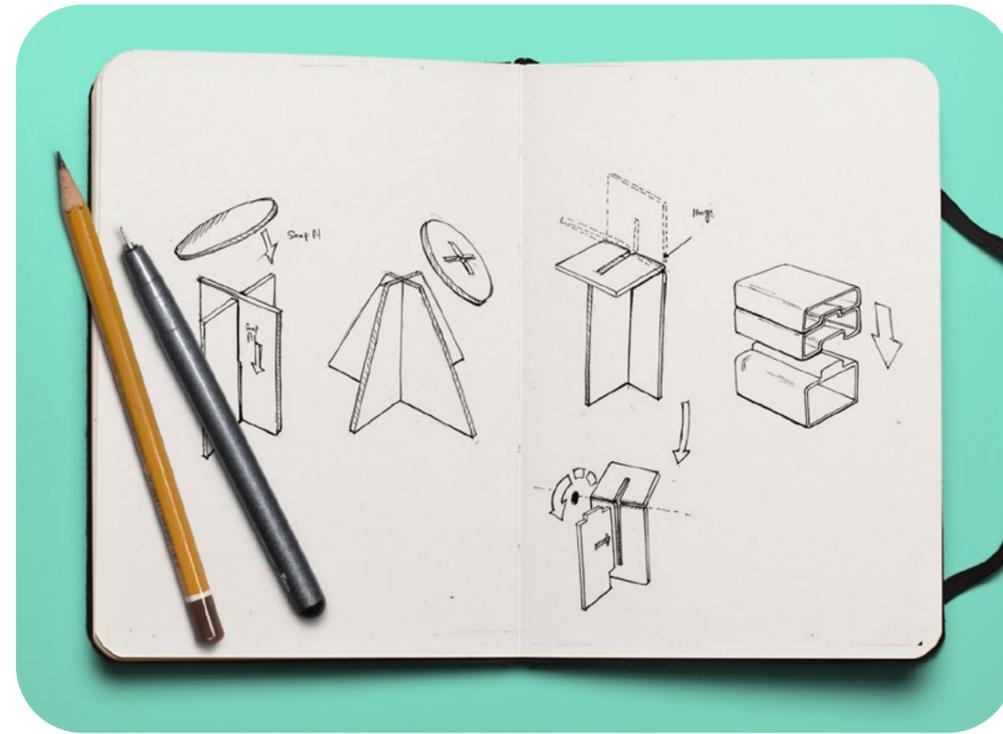
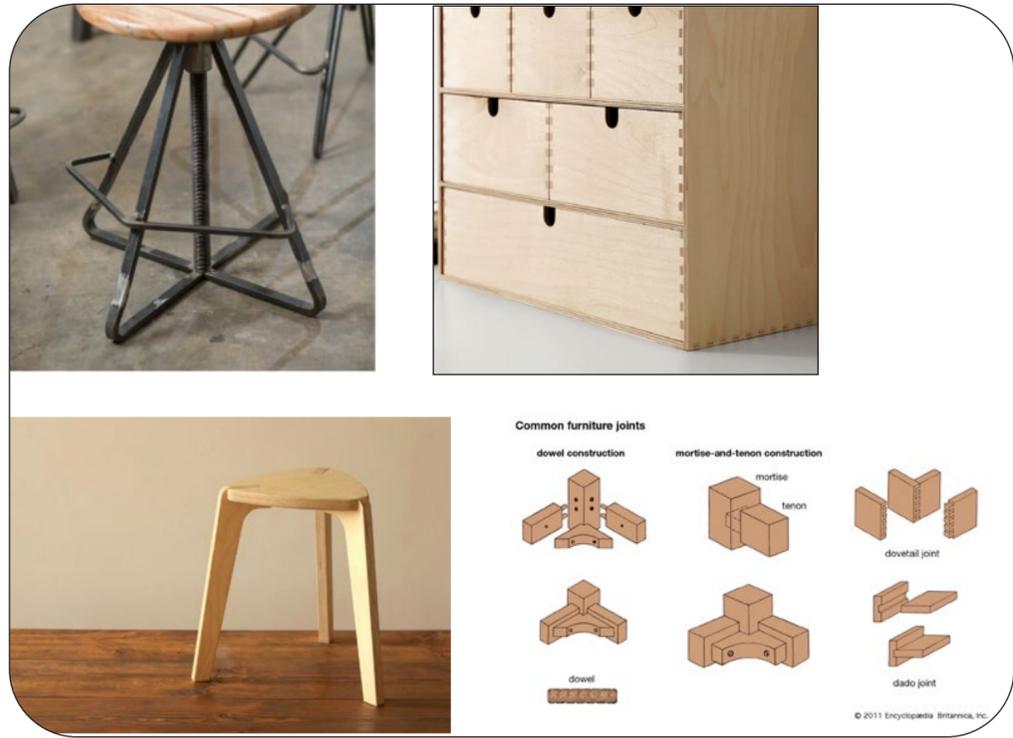


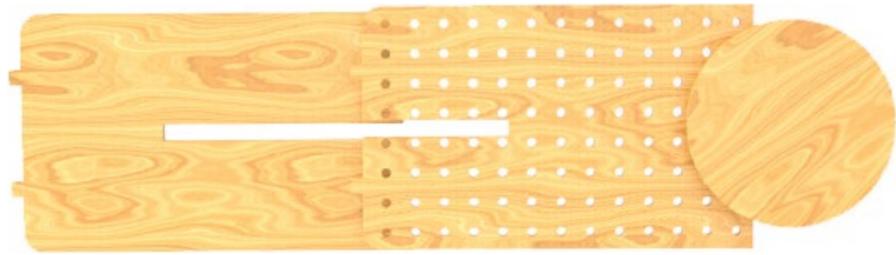
Products that can be easily assembled by the customer with minimal tools - Enabling user convenience

During the research, it was found that perceived value for things increases with the increase in effort put towards it. When he/she puts an effort towards making something it is likely that they will value it more compared to rest. This is evident in popular “egg theory” and “IKEA effect”. However, one must note that if the effort needed is high the task might not be completed. It is important to find the optimal effort through user testing.

The theory is applicable to design and designer, effort justification can blind a designer in seeing the flaws in his/her design. Systematic peer review, user testing and the understanding that design as a process is important for a designer.

more about this on website : [fransonsilverrock.com/](http://fransonsilverrock.com/)





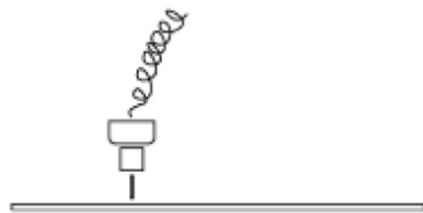
- Minimal parts make it easy to manufacture and assemble.
  - The parts are cut out using CNC cutter, making it faster to produce.
  - The larger area can be used for decorative elements without compromising the structural rigidity.
  - High quality engineered wood makes it affordable and gives a premium appearance.
- (Suggested material: Burge Ply)



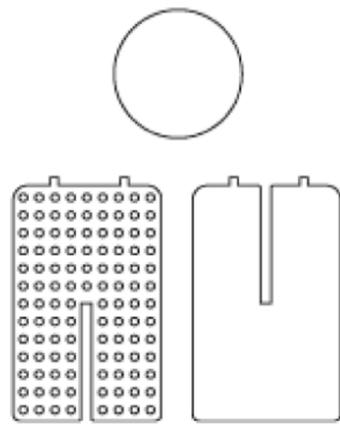
- The beaten-down form reduces the storage footprint.



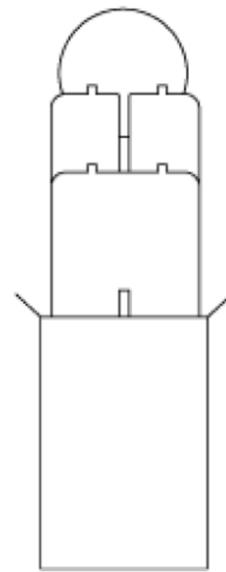
- The product is sold 90 % finished
- The customer assembles the parts by simple wood joint mechanisms



Easy to manufacture



Easy to customize



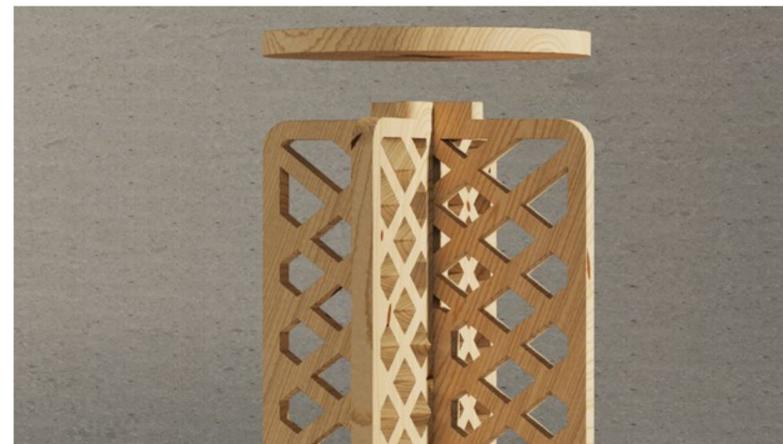
Easy packaging

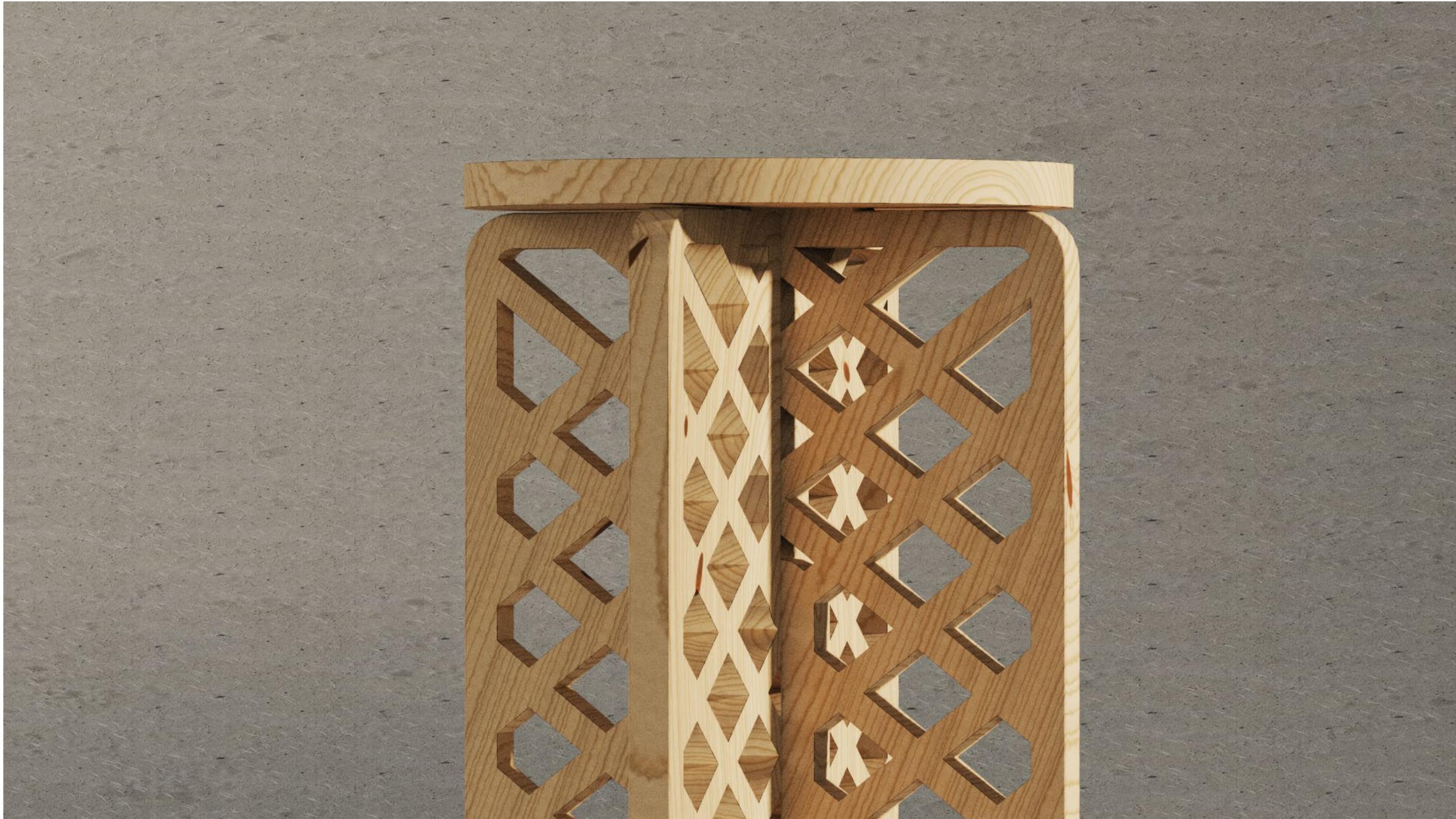


Easy shipping



Easy assembly







**Alarm clock.**  
cognitive ergonomics

## **Brief : Design an alarm clock for the elderly**

Interview project at Studio Gritt

This was a small design challenge given to me by Mr. Nithin (Design director/owner) during my interview at Studio Gritt. I was given 24 hours to develop a concept on the brief.

Prominent voice-controlled devices like Alexa, Google Home etc were ruled out to add to constrain



**FOR**



Alarm clock - Used primarily to wake-up from sleep, also used as a time reminder

Old age - Condition at which normal senses decline.

### **Common Cognitive disabilities in elderly**

Ref., <https://pdfs.semanticscholar.org/4c81/b6187082e590e26b29feabcc8a19a3ac7623.pdf>

Hearing loss - Hearing loss affects approximately one-third of adults 61 to 70 years of age and more than 80 percent of those older than 85 years. 25% loss in ability to perceive normally audible speech by age 60.

Motor decline - Lack of dexterity, Carpal Tunnel Syndrome, hand tremor.

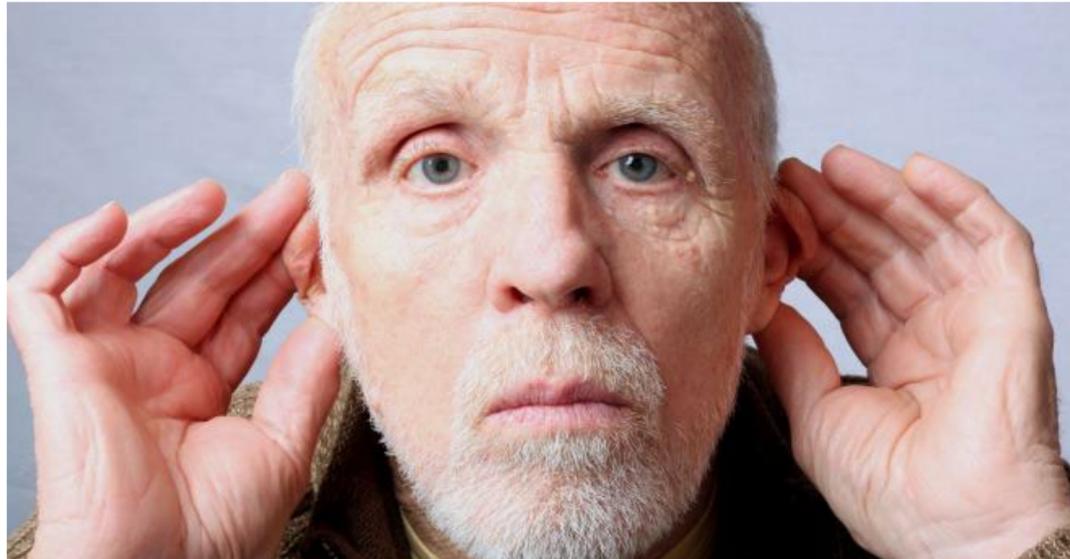
Vision - The older people have less sensitivity to colour contrast, cataracts and refractive errors (Sensitivity to glare).

A decline in mental performance - Memory loss, dementia, other intellectual degradation

### **Summary**

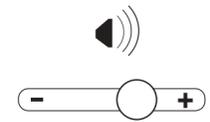
Elderly are not as good at seeing small details and hearing sounds; they don't have as much strength to twist or pull; and cognitive decline can make it harder to deal with complexities like too many buttons or icons.

## Problems to tackle



### Sound

- The capability of tone detection in different frequencies is decreased when people get older. High pitched sounds with peaks over 2500 Hz are mostly missed.
- 25% loss in ability to perceive normally audible speech by age 60



### Visual Ergonomics

Colour : The older people have less sensitivity to color contrast than the younger people. This decrement of capability applies to different ranges of color especially in the blue-green range. Older people prefer warm colors to cool colors



Text : Reduced vision along with decreased fluid intelligence makes it harder for the elderly to read small and complex text content.

Lorem ipsum dolor sit  
amet, conset

Interface (buttons/knobs/sliders): Elderly have decreased fluid intelligence, thus complex button combinations are difficult to be master/remember. However, the ability to learn doesn't go away. Easy to learn through association.



Size: Due to reduced motor function and various other motor disorders it is harder for elderly to interact with small items.

L M s

Viewing medium: Due to Sensitivity to glare vision is impaired by direct light, reflected light, glossy paper, reflective wall coverings, highly polished floors, lack of window shades. Ref. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4777049/>

TIME TIME

Usability: Due to diminished memory elderly have difficulty keeping track of multiple aspects of time like the day on the week, month and year. It is important to provide these details.

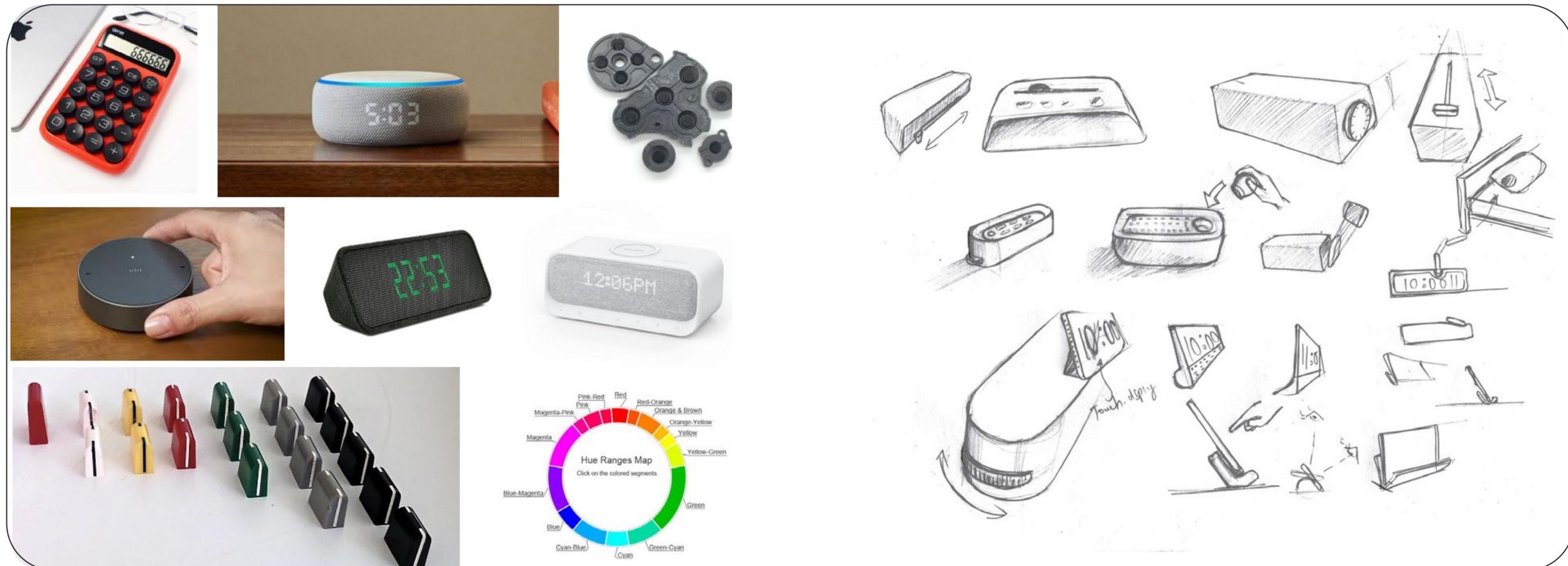
TIME DATE YEAR ALARM  
MONTH JANUARY



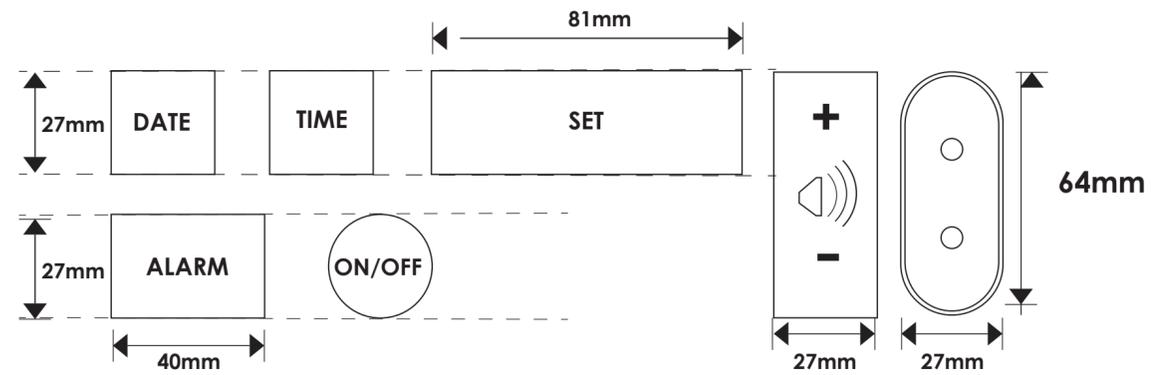
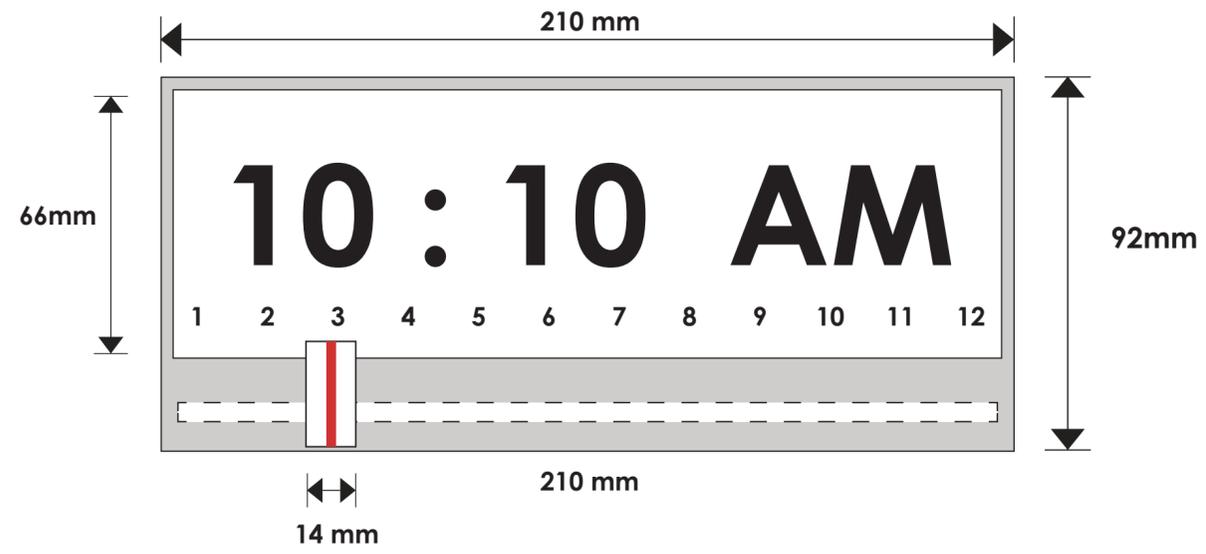
Elderly have difficulty using knobs due to decreased motor ability and conditions such as arthritis. The solution is to use a slider or a wheel system for the action component.



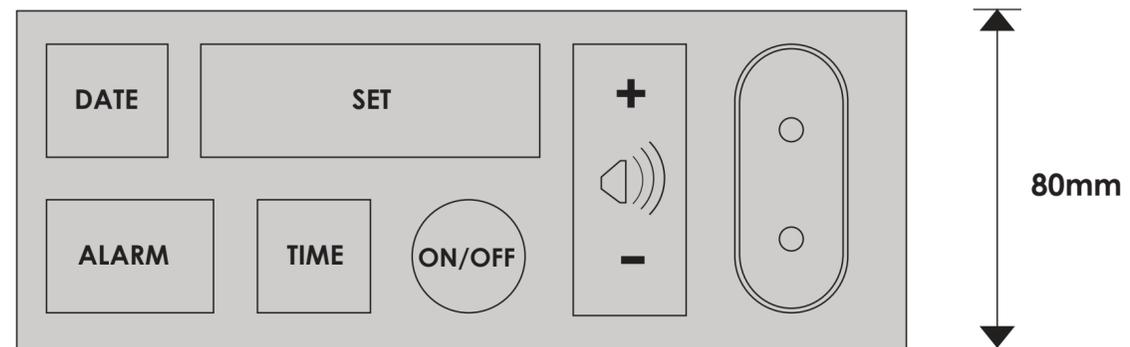
Re-brief: Design an alarm clock that is easy to operate, large interface, high contrast display, simple and familiar gestures.



# Basic Dimensions

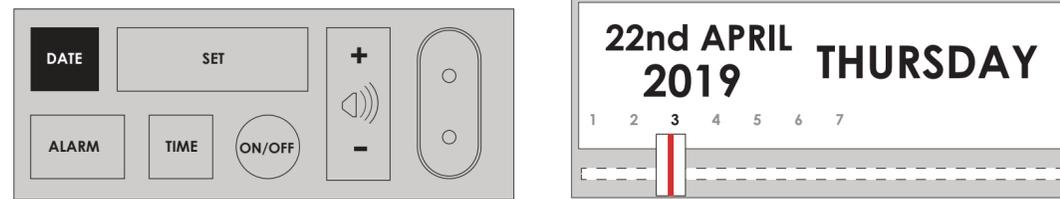


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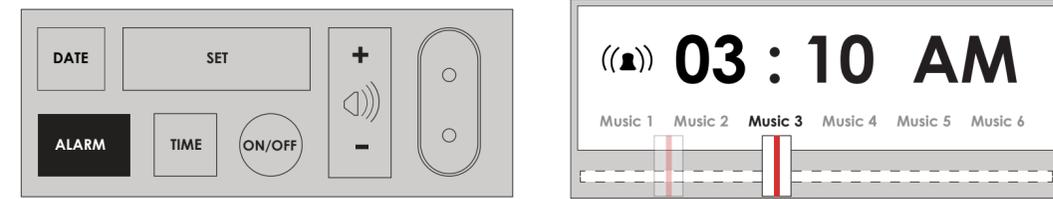


# Basic UI

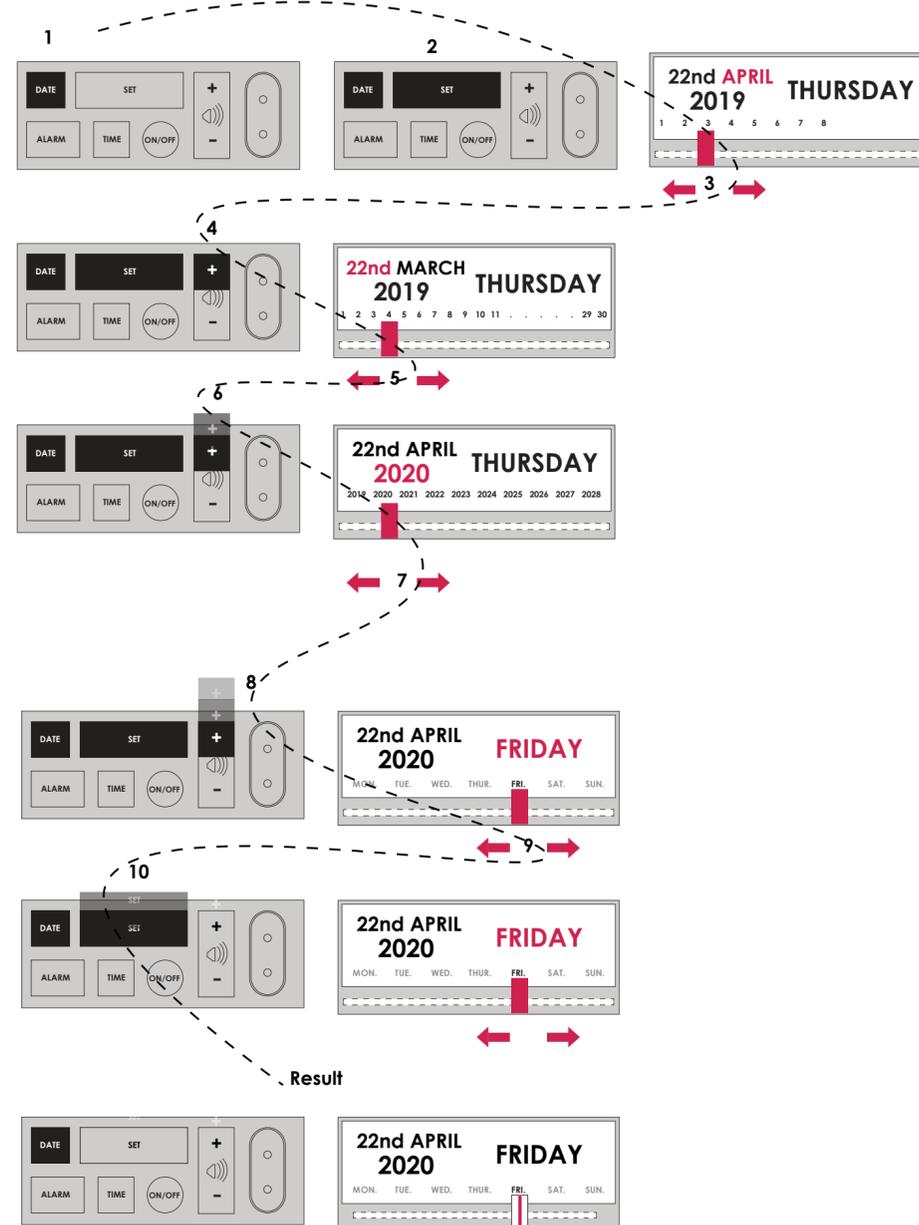
On-demand date check



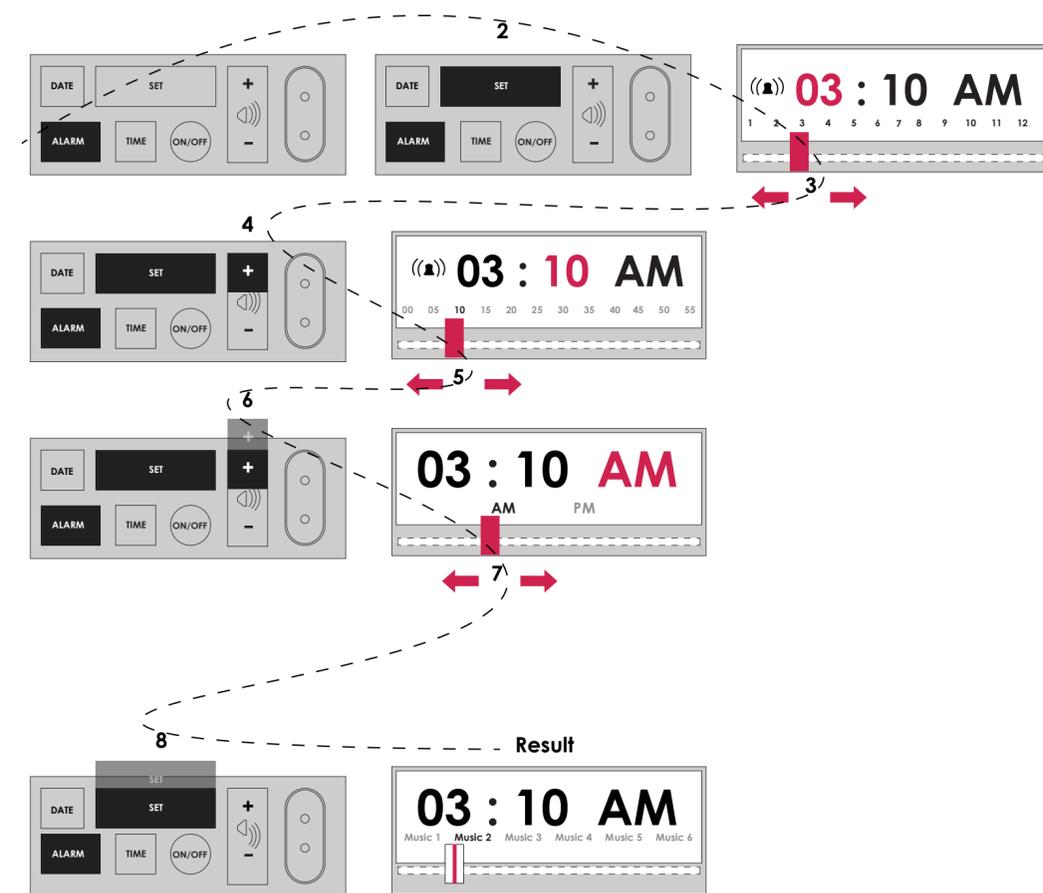
On-demand alarm check



Date change

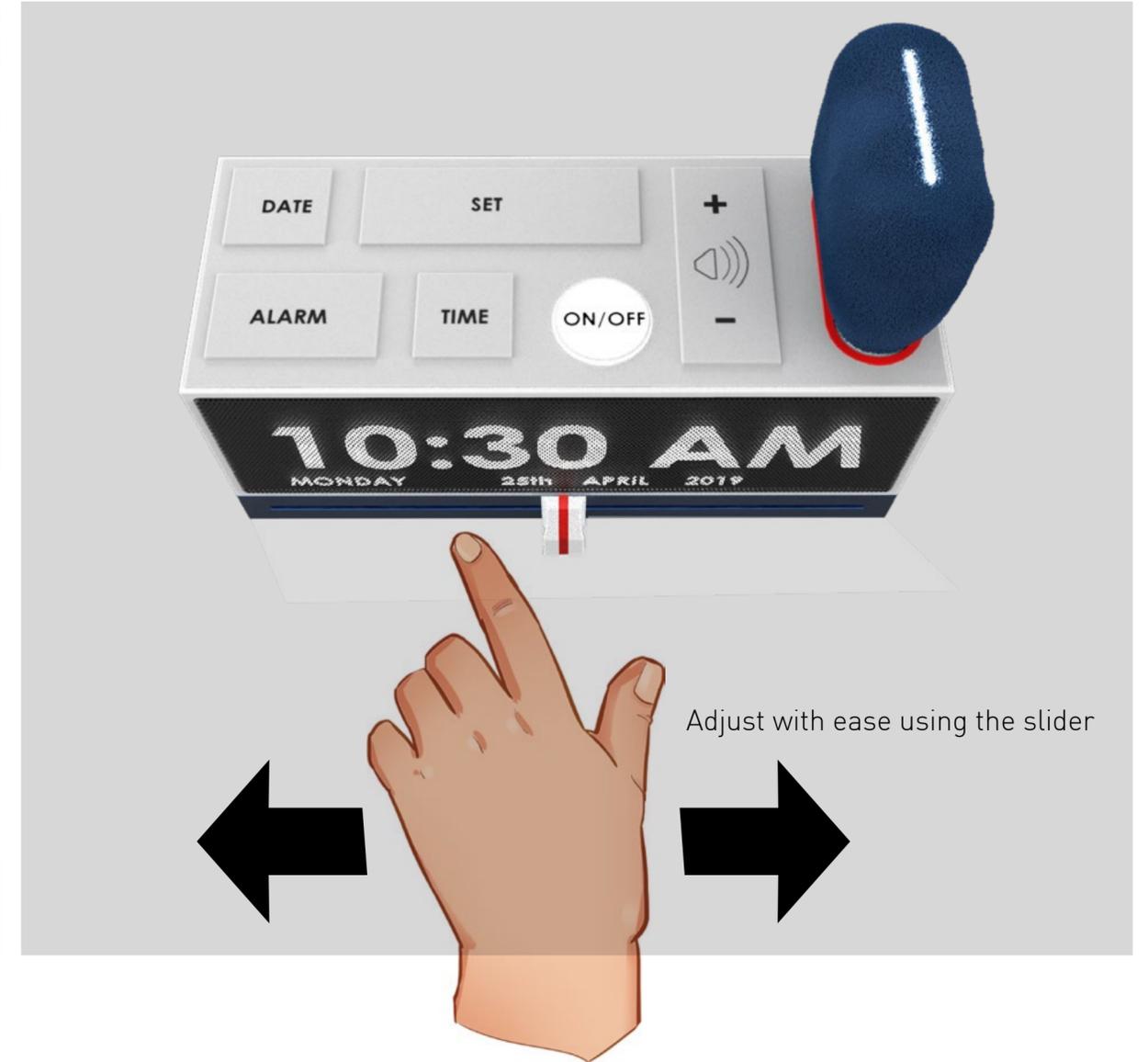


Alarm change

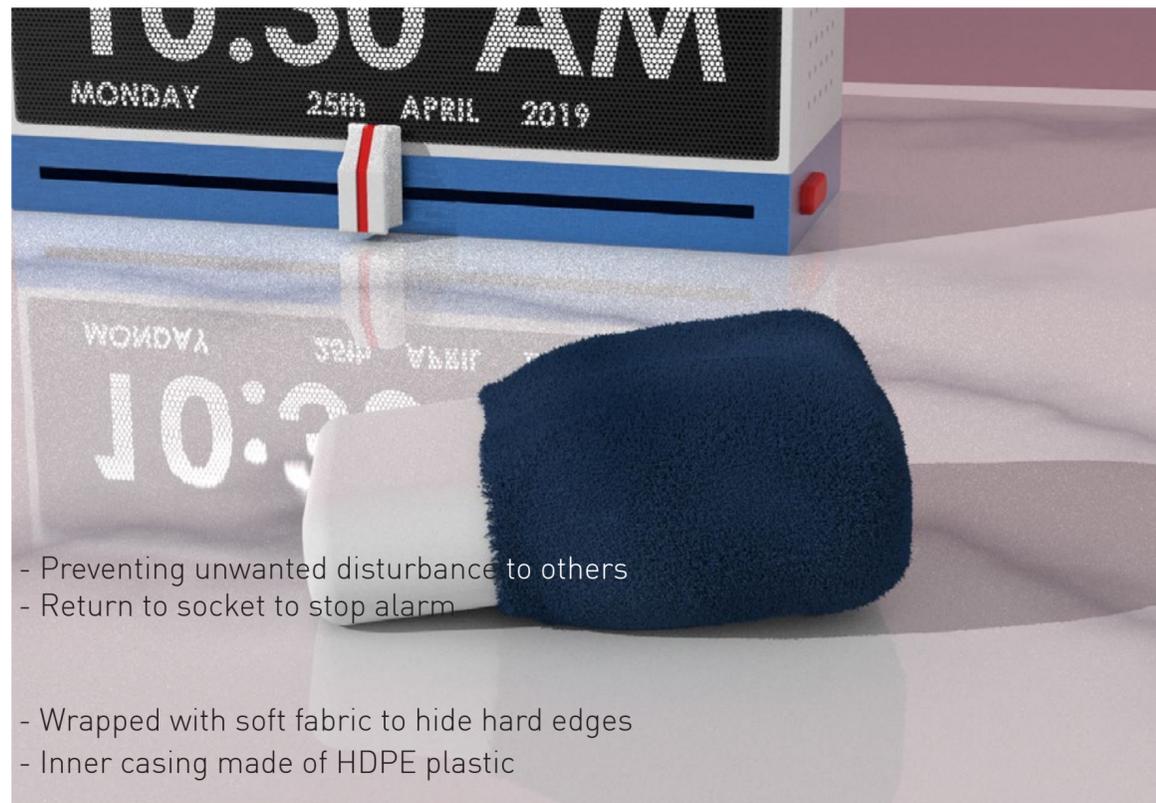


- With advancement IoT an autonomous time adjustment can help reduce the effort, even though this task is not done frequently.

Final design



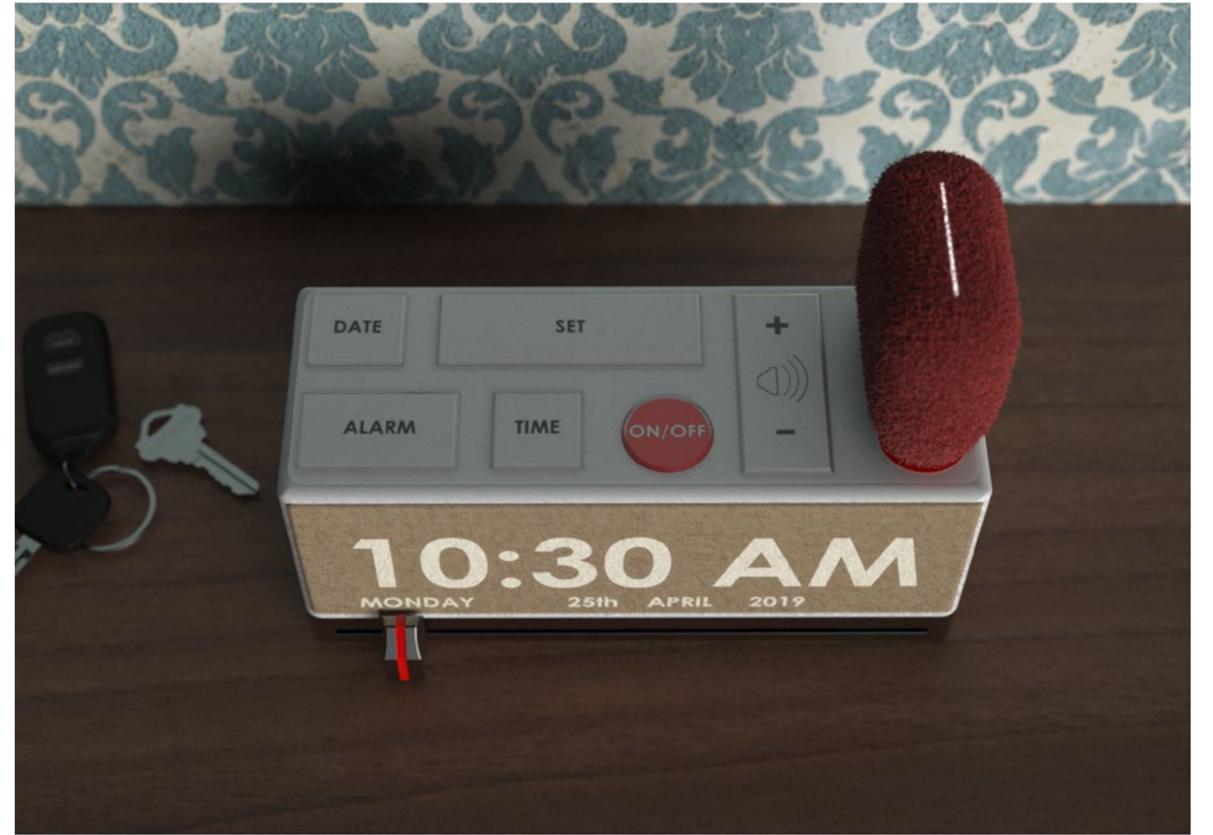
## Vibrator module



The vibrator module creates small vibration just to wake up the user. The user may put back the module to stop the alarm or use the buttons on the alarm to turn the alarm off.

The vibrator does not have an inbuilt clock, rather works as a receiver for the alarm. The connectivity is the same as that used in car keys (short-range radio transmitter). It gives a range of 20 meters.

It has a build-in battery, that is charged when plugged in the alarm.





Portable speaker

**Project motive : Product development as a part of brand expansion**

Personal project

In brand expansion, the reputation and credibility of an established brand are used to introduce new product lines or sub-brands and thereby expand the brand.

The brand : Muscle Blaze

Target Customer : Fitness enthusiast

## How can MuscleBlaze expand its business through new product development?

As a gym enthusiast, I hit the gym almost daily and have visited a couple of neighbouring gyms, all crowded gym has loud music playing in loop.

### Why music during workout sections?

Studies show that music increases stamina and helps synchronize body movement. Music also plays a great role in motivation and motivation is one key factor in result-oriented fitness training.

Idea 1



#### Pros:

- Better sound quality
- Easy to carry

#### Cons:

- Affects balance and hearing
- Restricts intense movements
- Risk of ear infections
- Drown out of surround sound
- Hinders trainer interaction

Idea 2



#### Pros:

- Average sound quality
- Promote social interaction
- Promote coach interaction

#### Cons:

- Need separate carry pouch
- Low sound

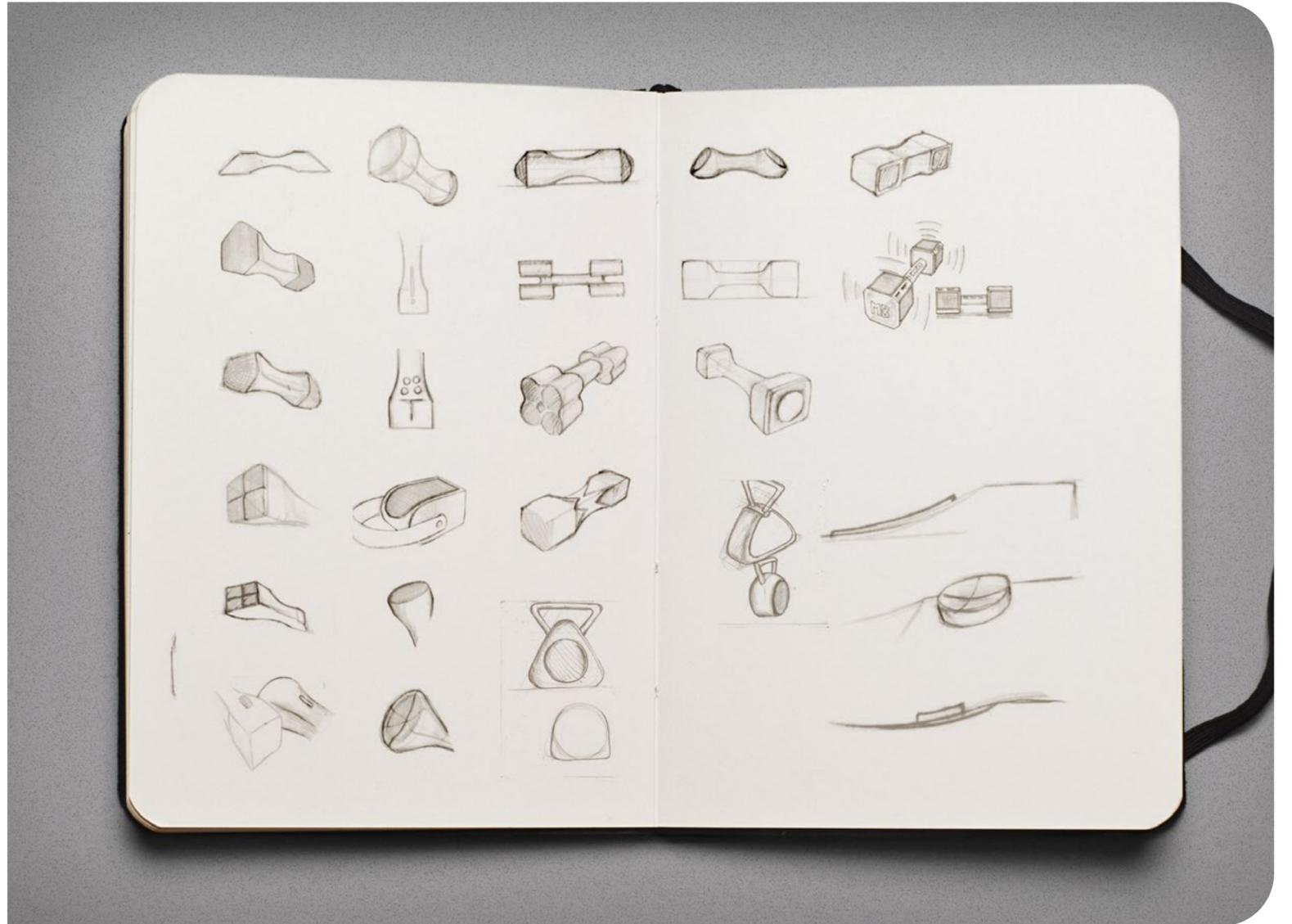
## About the brand

Muscle blaze is India's leading sports Nutrition brand

The company focus on providing quality products at an honest price for the India market.

MuscleBlaze® has quickly risen as consumer's favourite brand with industry-first concept introductions like authenticity, protein test certificates, scoop on top, clinically researched products, etc. The face of the brand is all about fitness, dedication and the urge to win.





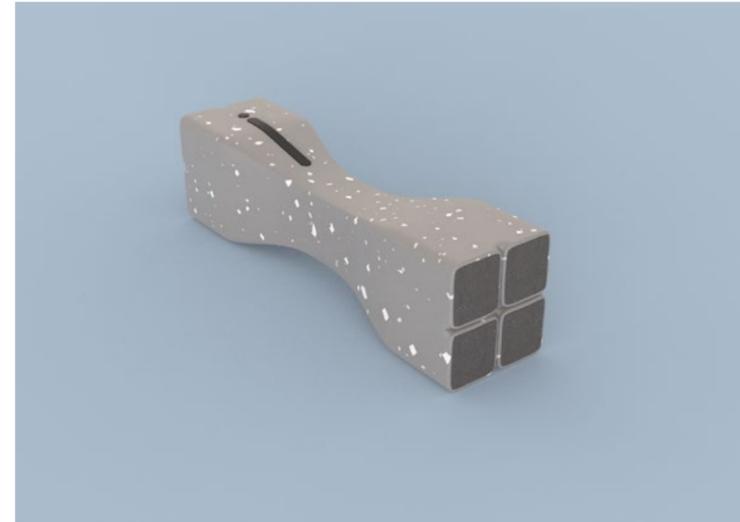
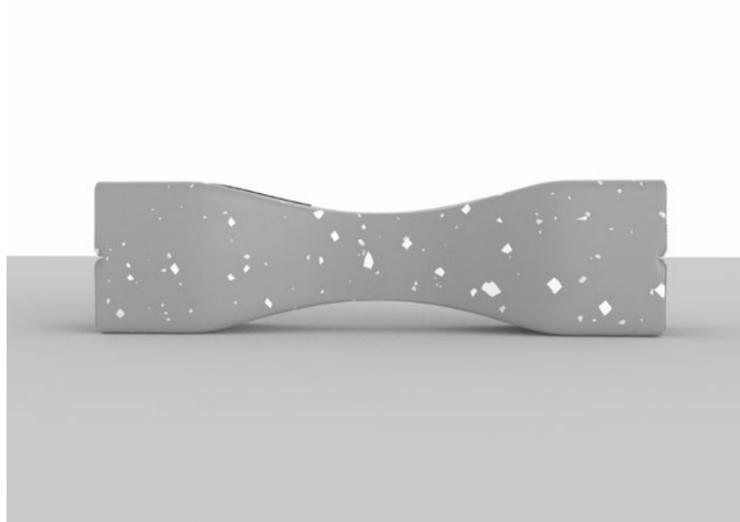
# Design

Bumbbell

V 1



V 2



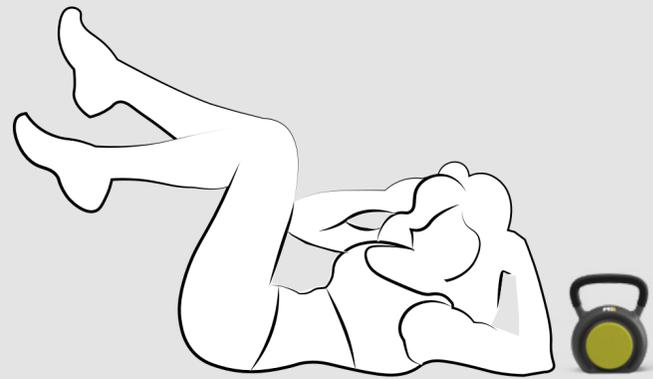
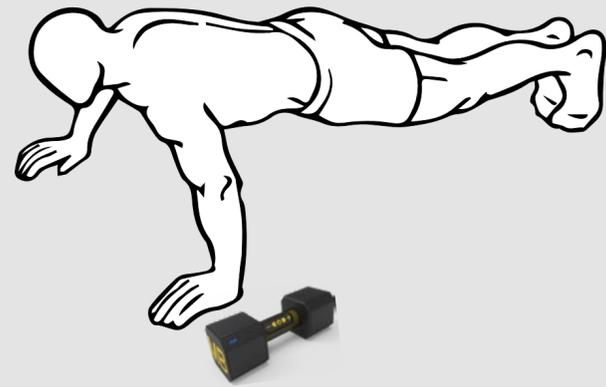
V 3



# Design

Kettlebell







**Indoor grower.**

## **Project motive : Product design based of off trending technology**

Personal project

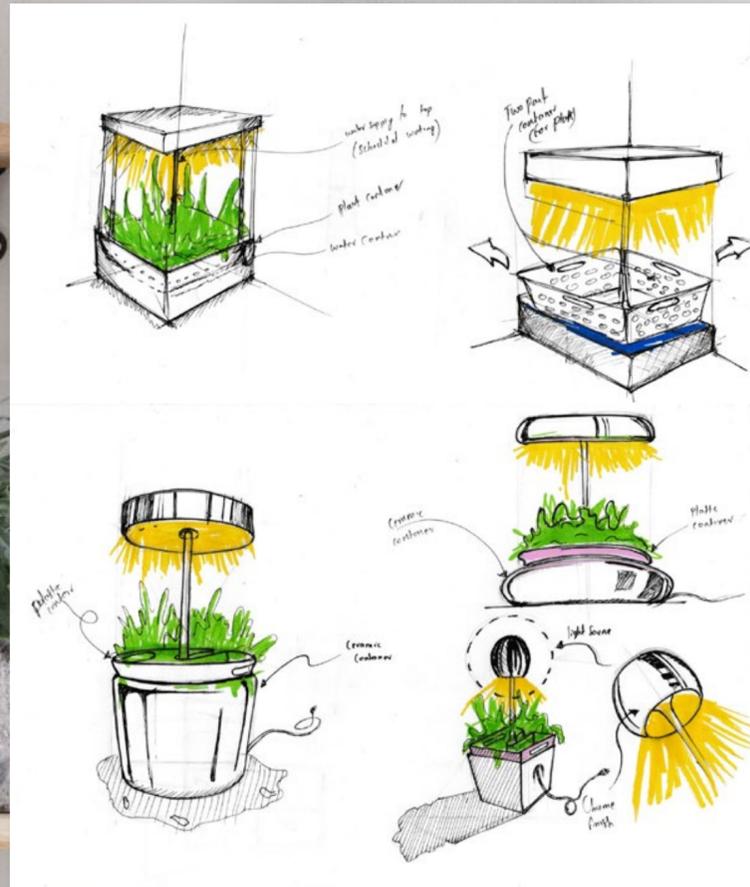
As a plant lover and a home grower, I see potential for future farm technology at the consumer level. This is the first concept of indoor growing setup that I developed in short period. I am also working on an improved version with far greater possibilities. I will be posting more on it on my portfolio site soon.

The indoor farming technology market is projected to reach \$40.25 billion by 2022.

How can we introduce commercial technology at the consumer level where every household produces?



The solution is to improve ordinary planters to produce yields faster.

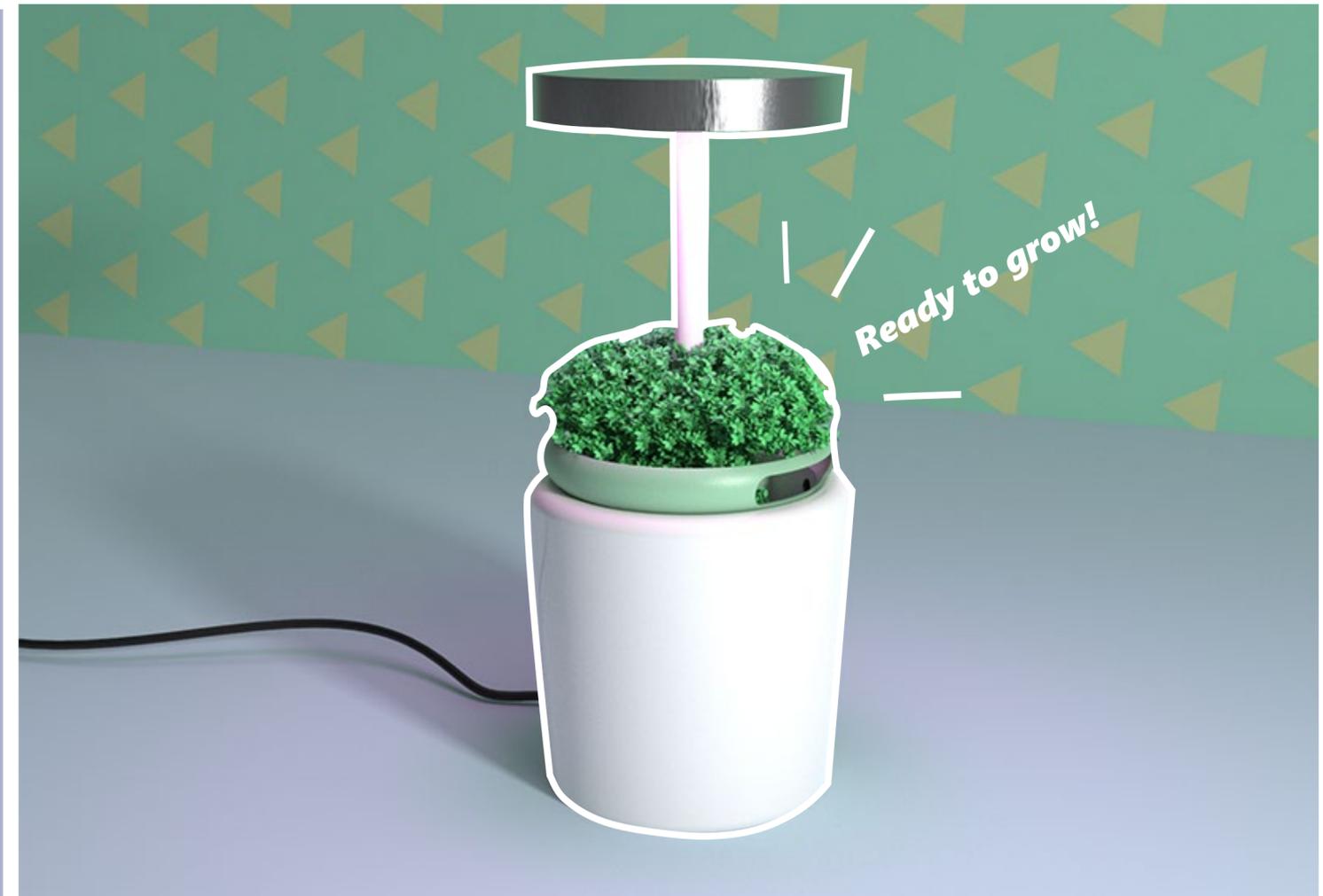


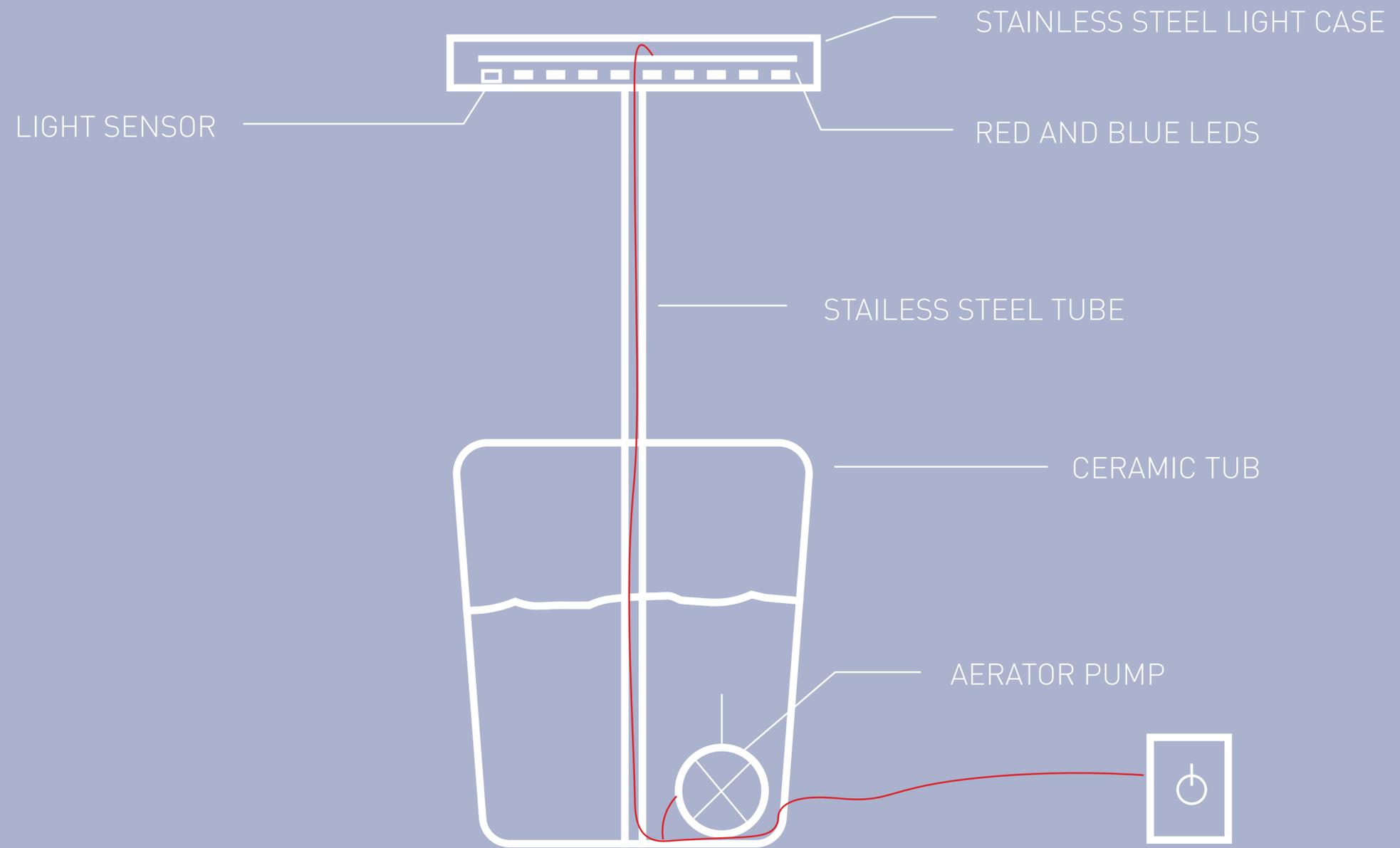
## Method of cultivation

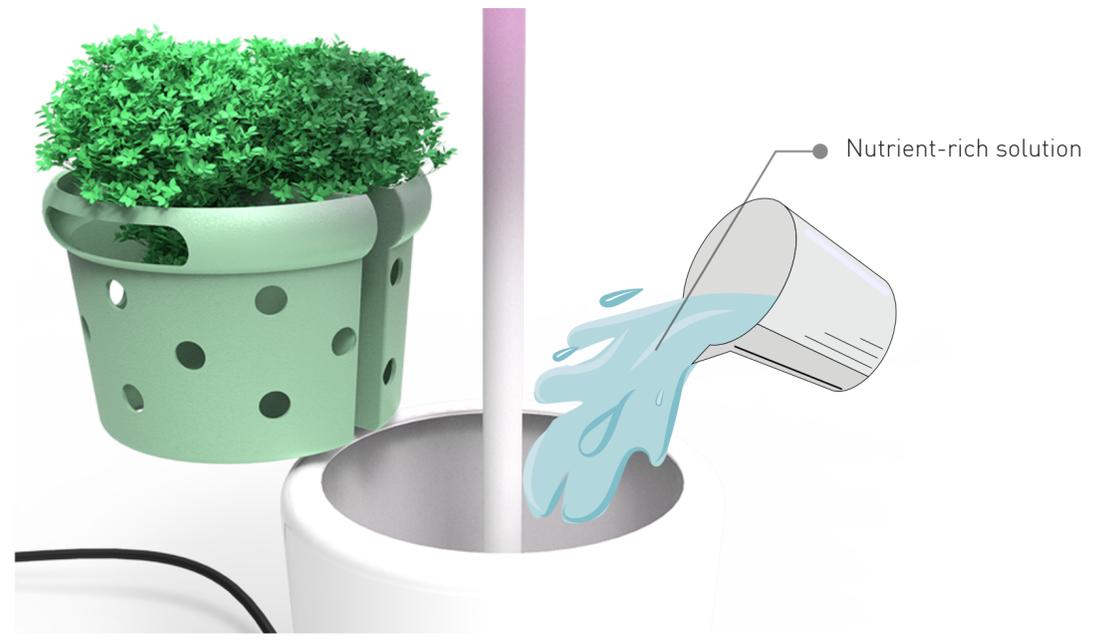
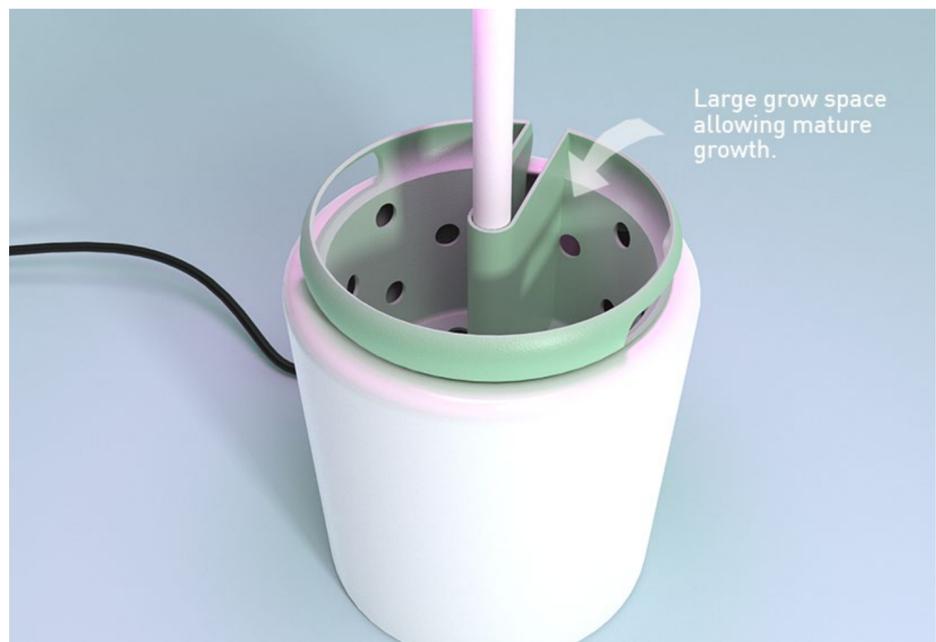
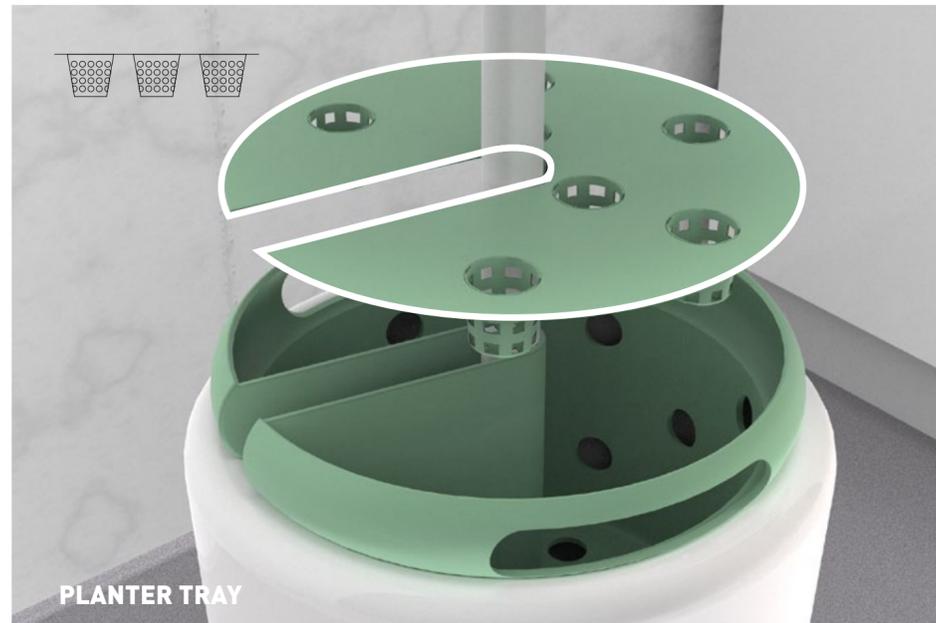
Hydroponic deep water culture

In deep water culture system, plant roots are continuously submerged. Plants are typically placed on a board or tray that allows roots to hang beneath. The roots are held in netted pots (typically also containing a growing medium) and hang directly into the nutrient solution. These systems are simple, but they do need an airstone in the reservoir to ensure plants don't 'drown' without proper oxygenation.

**A hydroponic plant can grow up to 30-50% faster than a soil plant.**

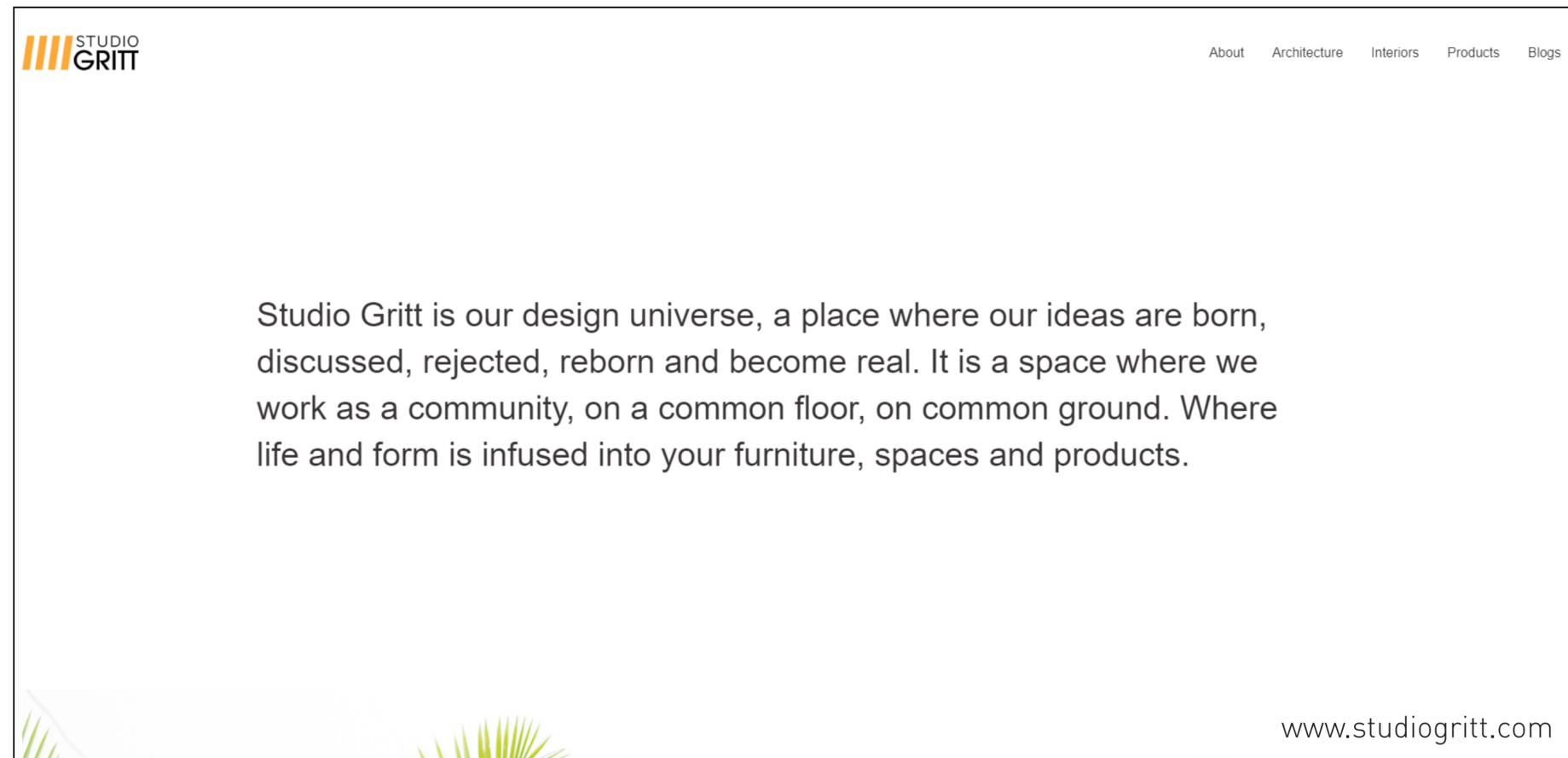








## Projects done at StudioGritt, Bangalore



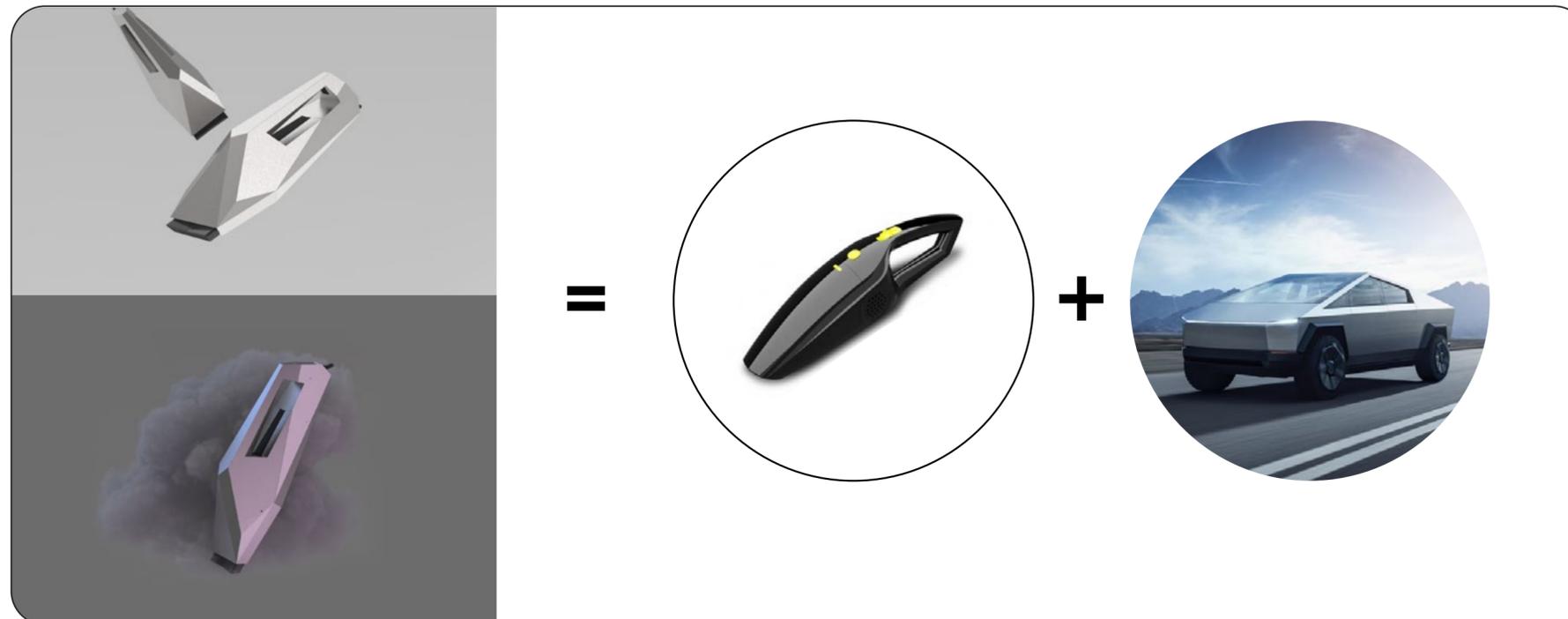
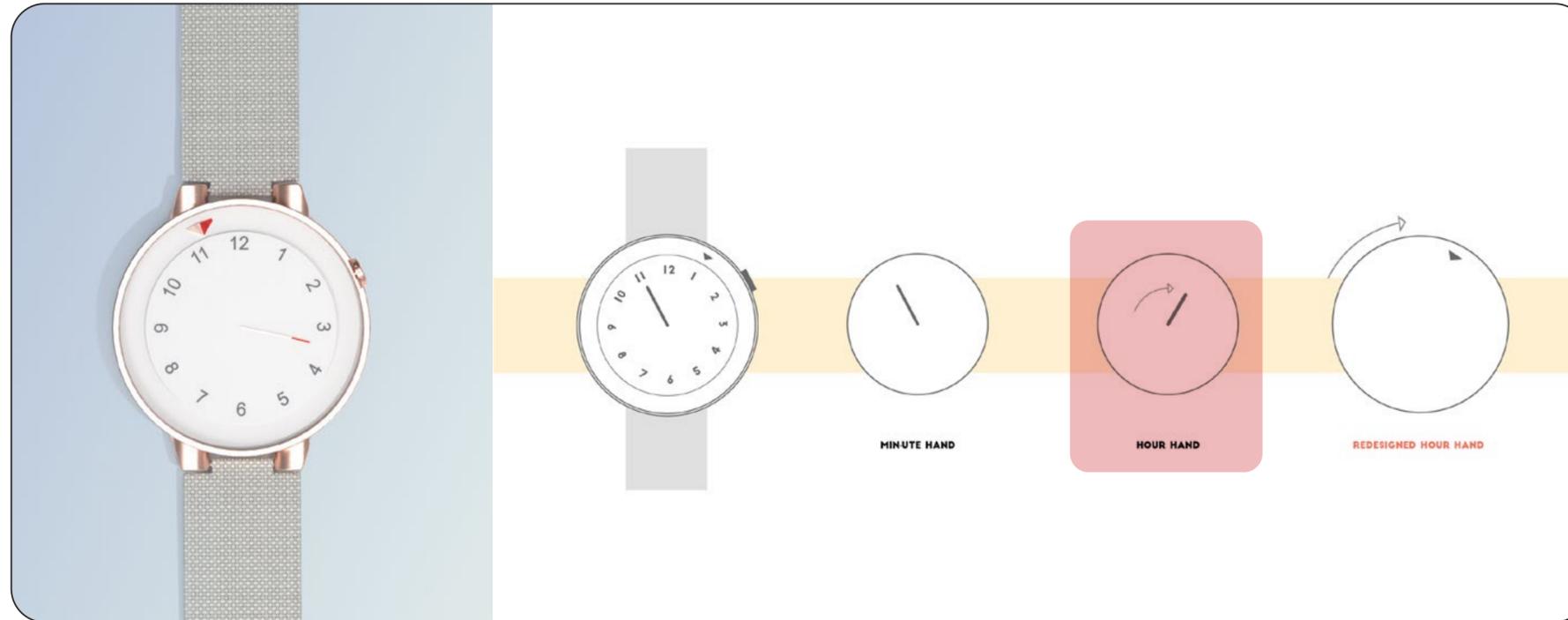
### PROJECT 1

A merger of architecture and industrial design. I was in-charge of design engineering, structural analysis, work supervision, DFM and more. Work Inprogress.

### PROJECT 2

A modular kitchen furniture for mass production. I played a part in the design of a component under supervision. Engineering design in progress.

## Few more design and renders

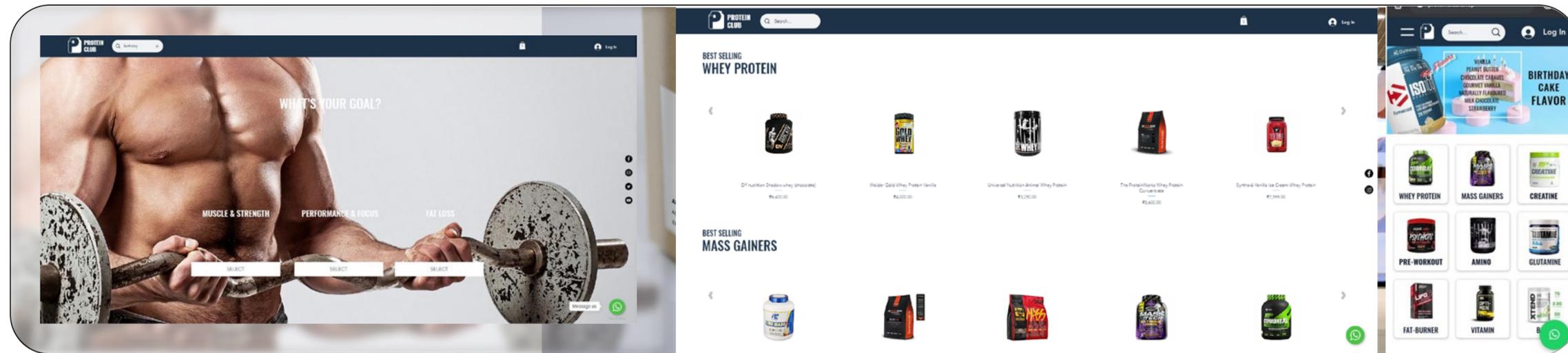


## Branding/ identity



More digital design on instagram page [@franson\\_illustration](#)

## Responsive website design and execution



The site is live at [proteinclub.shop](#) and [proteinclub.in](#)

# THANK YOU

more design over at [fransonsilverrock.com](https://fransonsilverrock.com)

I see very high potential for design and innovation in various sectors in India in the coming years, I am looking forward to joining a team of innovators who are passionate about design and our planet!

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+91 9746493149

# STAY SAFE