TACTO-CASO

A storage designed to be perceived by touch for visually impared.

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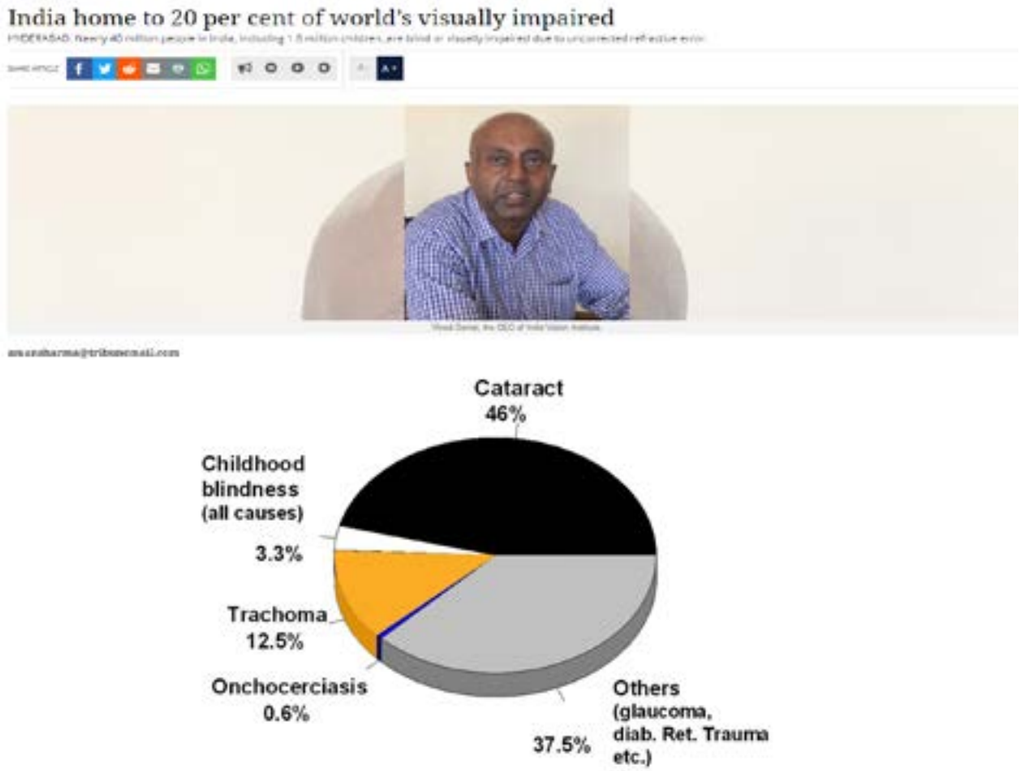
Brief

To create a storage for visually impared for storing his devices

Literature Review



Why visually impared...?

"The real problem of blindness is not the loss of eyesight. The real problem is the misunderstanding and lack of information, which exist. If a blind person has proper training and opportunity, blindness is only a physical nuisance."

The premise of this project was about **Design and Spatial Order**. As I looked around for inspiration, I was eager in making the design accessible to all which was inspired by my elder brother, who falls into the 20 percent of the visually impaired population of our country. The interactions with the Blind people Association also fueled the interest to develop the **Tacto-Caso.**

User study

Name : Rushank

Age : 27 yrs

Cause of Blindness : By birth suffering from Glaucoma.
Now 10 % vision left.

Occupation : Teacher

Hobbies : Watching Soccer, Reading Books

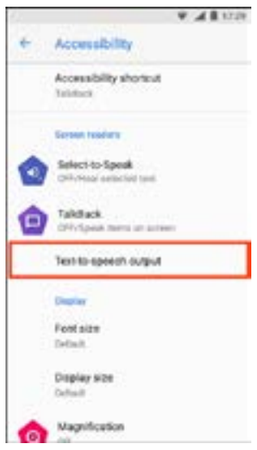
Education : B.A. M.A. English Litreature

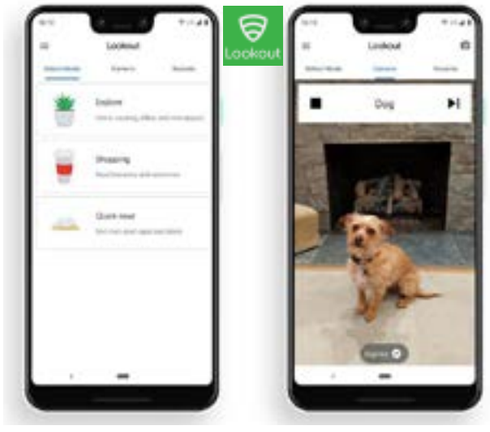
Laptop : HP Laptop

Windows softwares : NVDA (None Visual Desktop Access for windows),
Windows Magnifier and JAWS (Job Access With Speech).

Devices : Freedom scientific Pearl Camera (Optical Character Recognition device)
Freedom ScientificAngle Pro (Pocket audio Book Player)

Software for Android : Talk back , Magnifying gestures, Look out , Mani (For Indian currency recognition





Problems faced

Rushank uses mostly **Educational , Mobility and Daily Living devices.** He has lots of devices which are stored differently at different places , which makes very inconvienient for a visually impared.

Problem Areas	Difficulty Faces	Support /Help needed
Finding his devices since they are stored differently in different places.	No proper facility to keep the books.	Always need take some one help for finding his devices.
Has to keep many devices on table so lesser space for working	No proper access to the device	Need help to organise things
No proper place to keeps book which are also kept on table	problem in studying	Need help for finding the book

Personal Analysis

Study with Blindfold

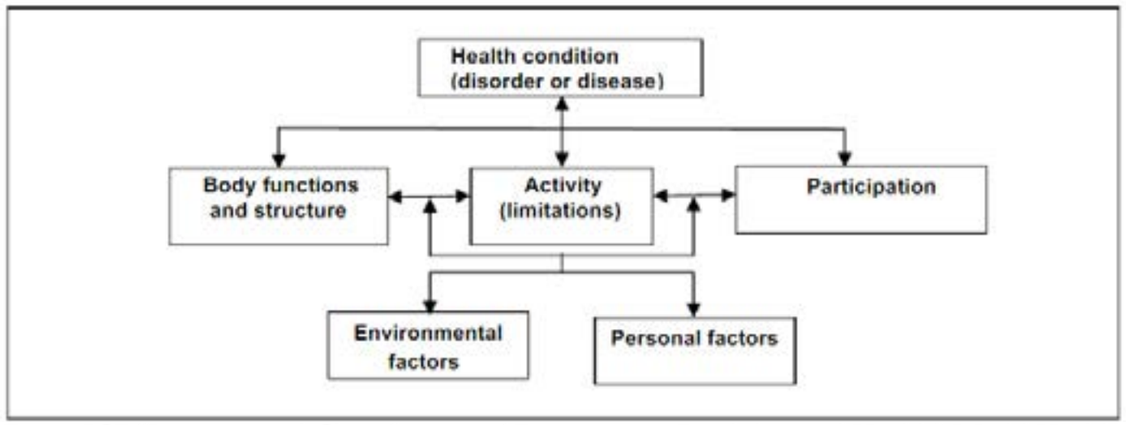
Analyse tactility and Braille

Communicating with them

Storage Relevance
The storage to be easier to access
Use of Tactile surfaces
Also naming sections in braille
Use of bright colour

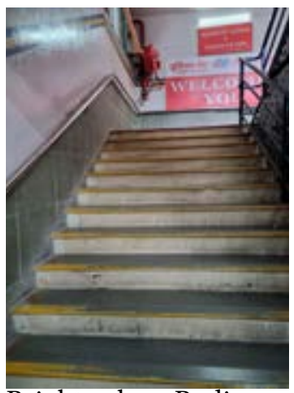
Casestudy - Blind People Association Ahmedabad

Blind People's Association is a professional organization which believes in providing equal opportunities to all categories of people with disabilities. Consistent with the philosophy, it works for providing education, employment opportunities, equal rights and quality life for them.



From: ICF "International Classification of Functioning, Disability and Health", World Health Organization"

https://www.researchgate.net/publication/279803487_Ergonomics_and_design_for_all



Bright colour Radium used for Low Vision

Tactile Route for all

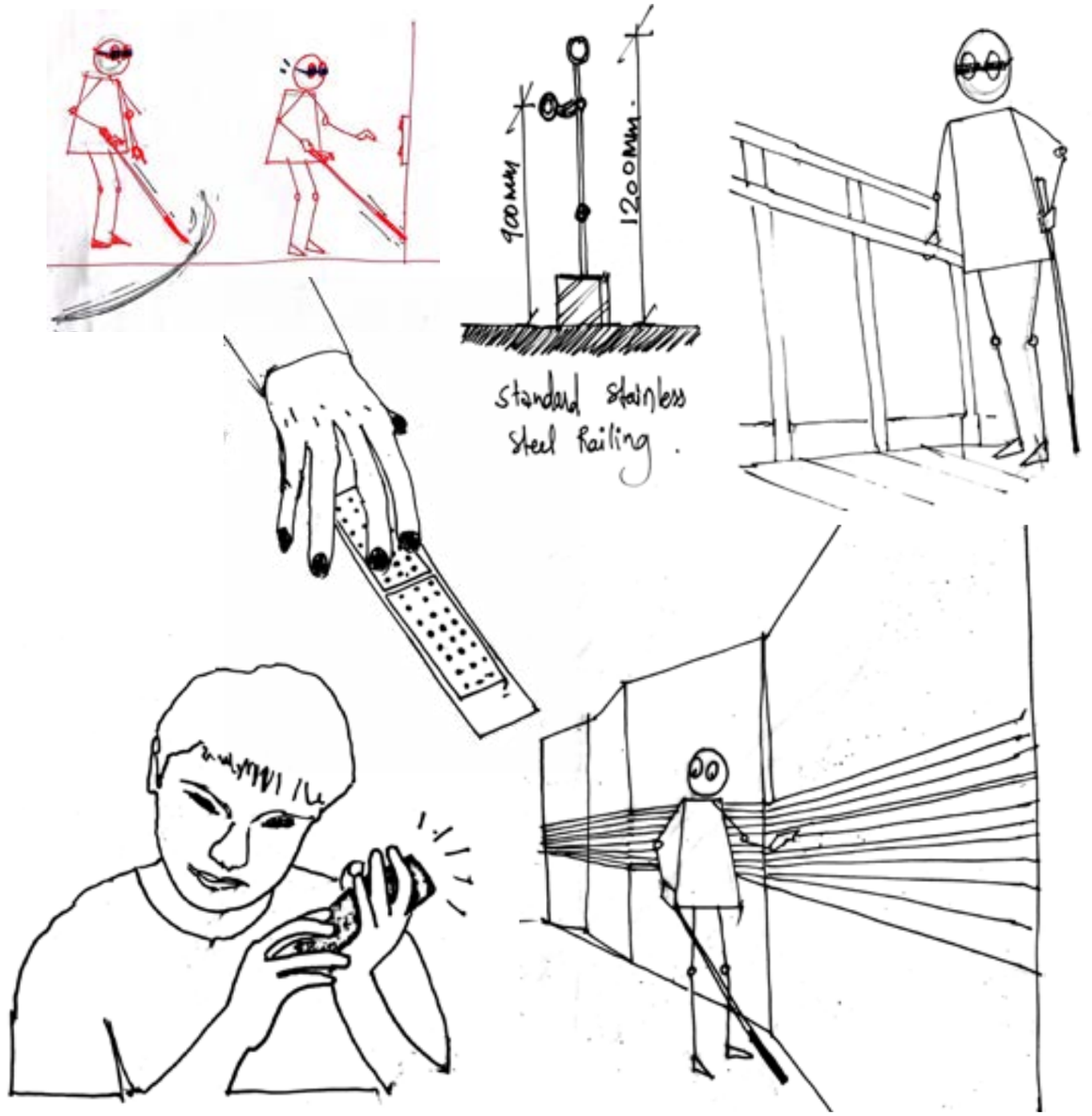
VISION IN THE DARK

An Italian architect Paola Manzo, who has extended her support to the Blind People's Association (BPA) in this project, described it as another world of blindness.

A space were it's Completely dark, were we can't roam around without **the help of the visually impaired people who act as guides to usm**

The temple with sculptures of gods and goddesses is designed to give lifetime experience to normal people to live life in **complete darkness** which i experienced for 2 Hours.

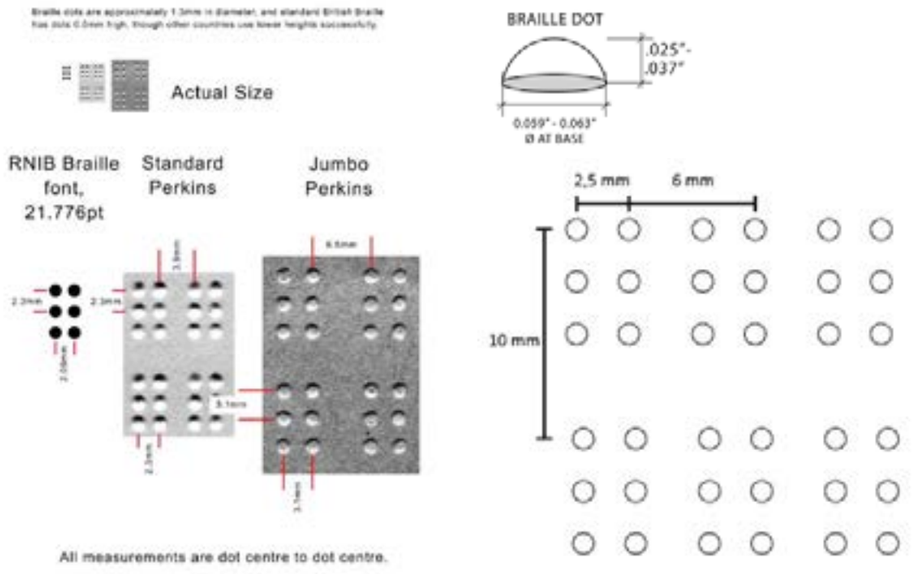
I was amazed that i could relate myself with the people without vision.



Tactility Study and Surface Developments

Blind individuals rely on their **sense of touch** for **pattern perception**, much as the rest of us depend on vision. If a blind person has extra training in the use of touch for tasks such as Braille or spatial orientation, then we might expect increased skill as a consequence.

The Braille system of embossed dots was developed because of difficulties with embossed print. Print must be much larger than Braille, before it can be comprehensible for touch. The Braille code is a **two by three set of coordinate** locations where dot patterns correspond to letters in the alphabet. Braille characters are just over 6 mm in length (vertical dimension), with the dots themselves about **1.44 mm in diameter**. The **spacing between adjacent centers of the dots is 2.34 mm**.



Standards size for braille

Different samples created for Haptic and Touch feel

Using the repetition of line to give a texture feeling

Using the same repetition of line but in rhythm form may give a user the path, flow or direction.

Material Study

Pine Wood

Sawn Easy
Process of drying is easy but need more time to be dry.
There are small risks of fences and slight deformations
Soft Wood
Light Weight
Gluing.
Finish.

Acrylic

Excellent clarity.
Lightweight.
Bright Colour
UV resistant.
Easy to heat-form.

Stainless Steel

Corrosion Resistance. One of the best and most well-known characteristics of stainless steel is that it is extremely corrosion resistant.
Fire and heat resistance.
Hygiene.
Impact resistance and strength.
Aesthetic appearance.
Sustainability.
Long term value.

Content Study

Angle Pro Pocket Reader

Height: 150 mm
Lenght: 75mm
Depth: 30 mm

Cane

Height: 300mm(folding)
Dia: 40mm

Slate and Books

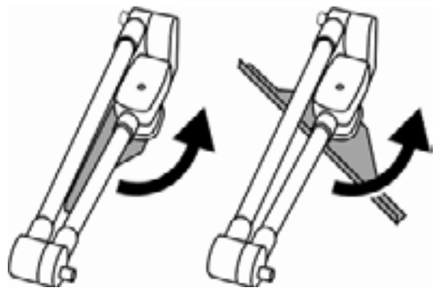
Height: 300mm
Lenght: 220mm
Depth: 60mm

Laptop

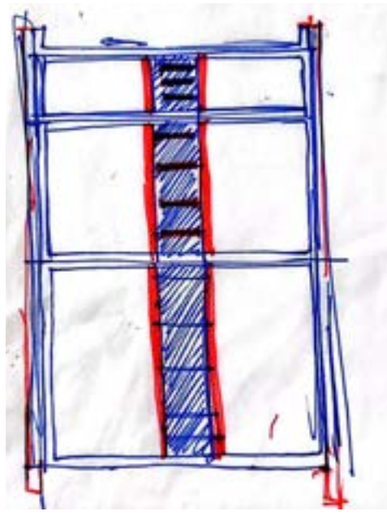
Height: 20mm
Lenght: 400mm
Depth: 230mm

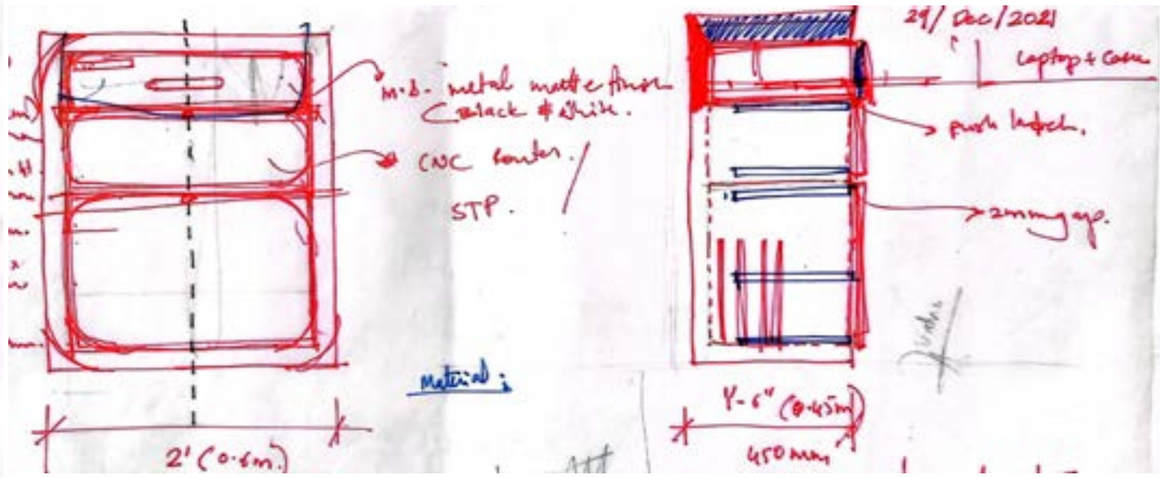
Freedom scientific Pearl Camera

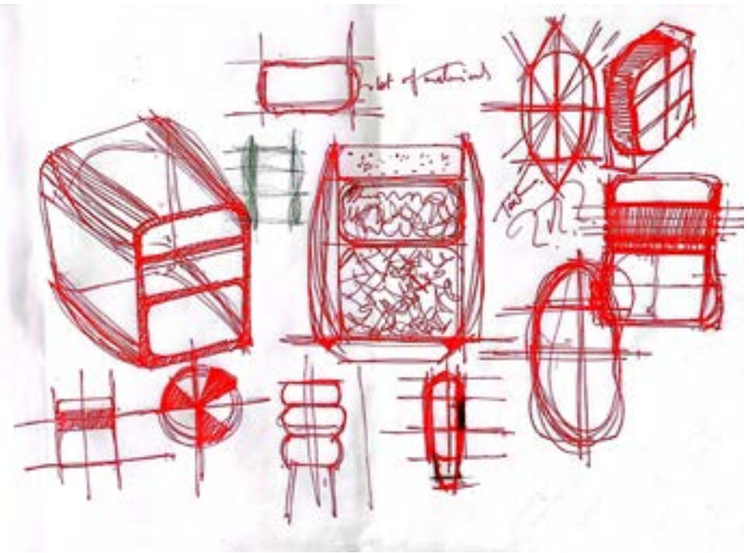
Height: 120
Lenght: 300 mm
Depth: 100

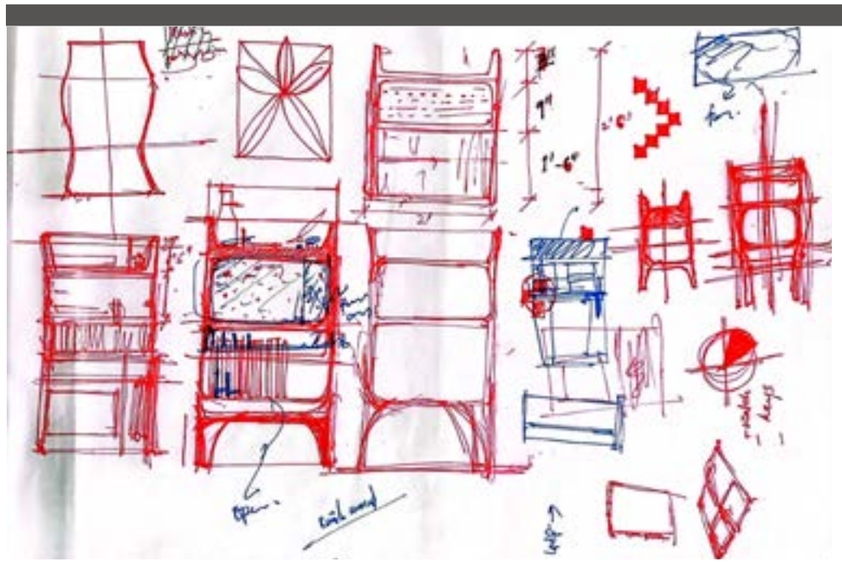


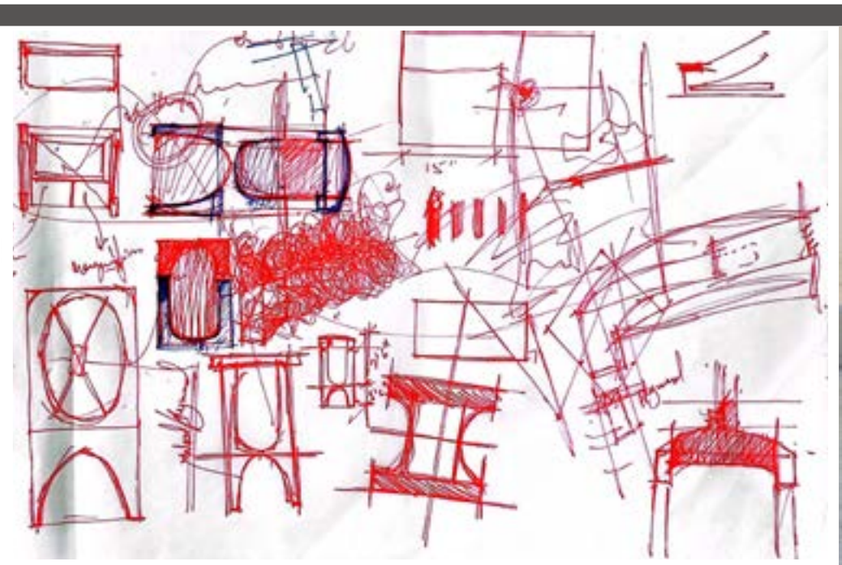
Ideations

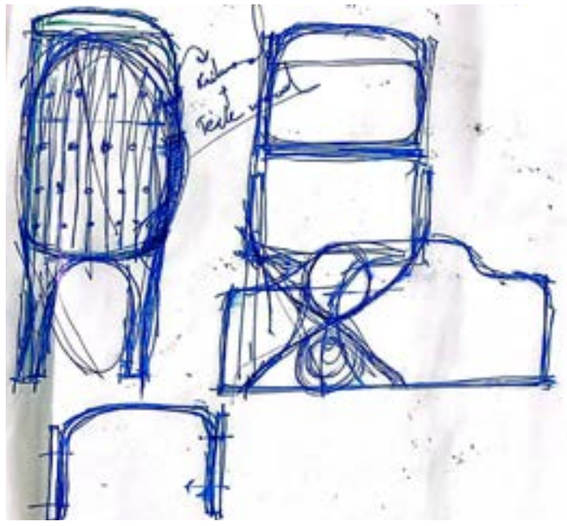


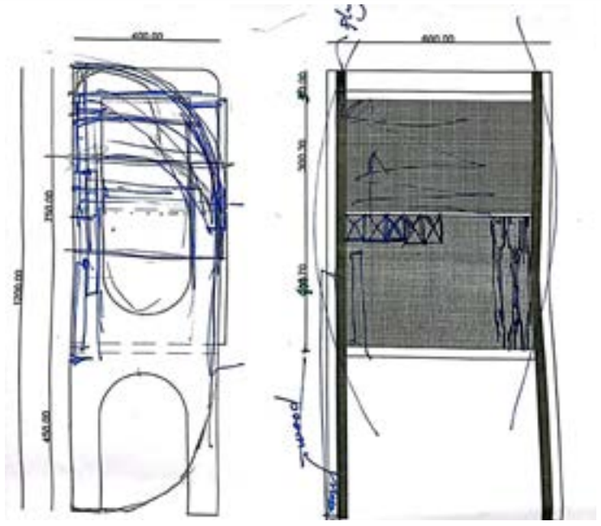

M.S. metal matte finish
Cblack & white.
CNC router.
STP.
material
2' (0.6m.)
29/ Dec/2021
Laptop + Cam
Push latch.
2mm gap.
1'-6" (0.45m)
450 mm

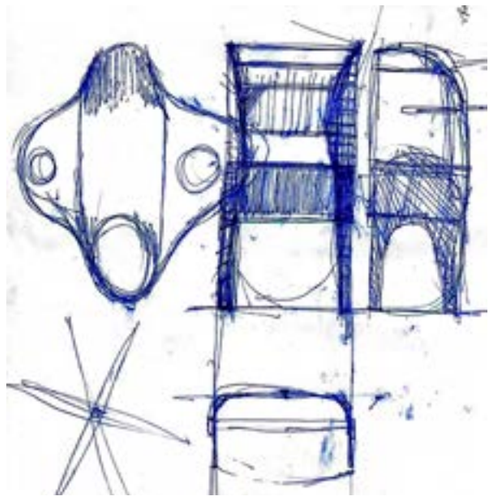


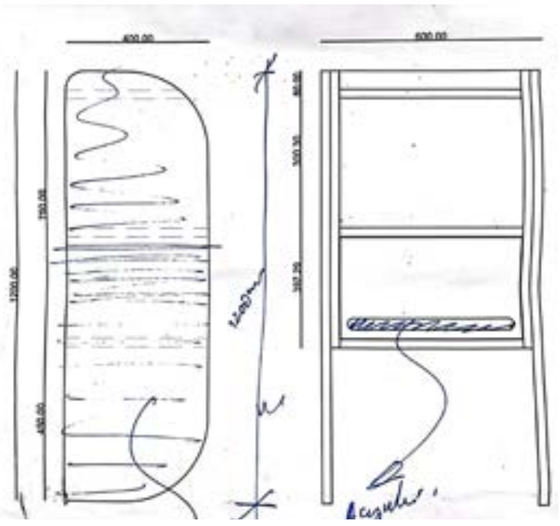




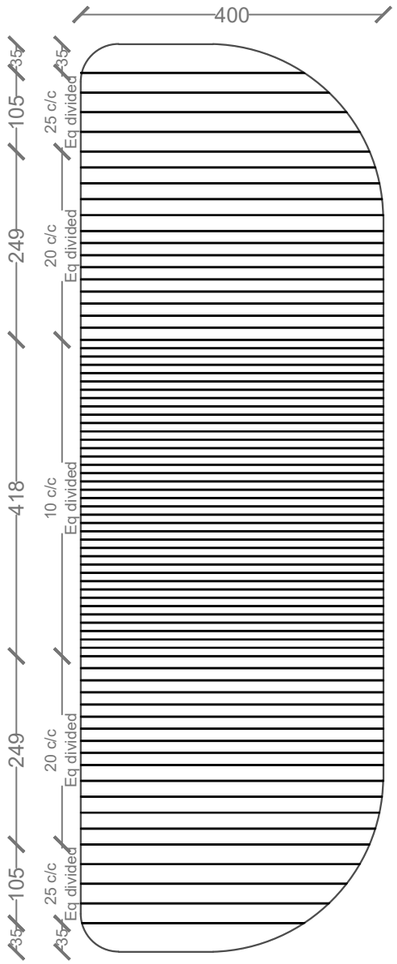




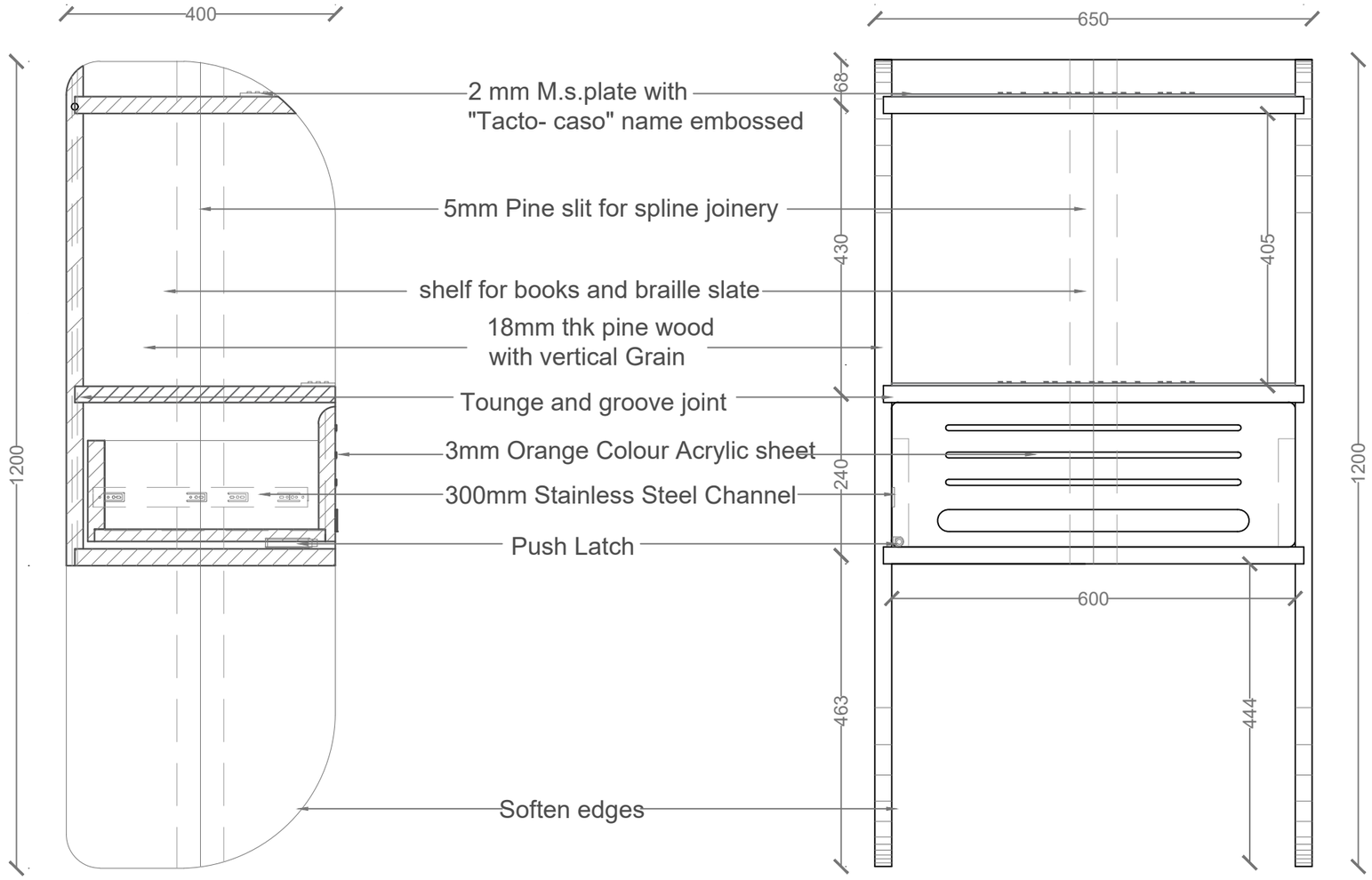




Technical Drawing



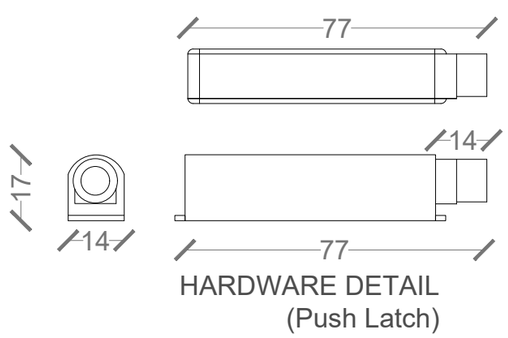
Details drawing for the groove



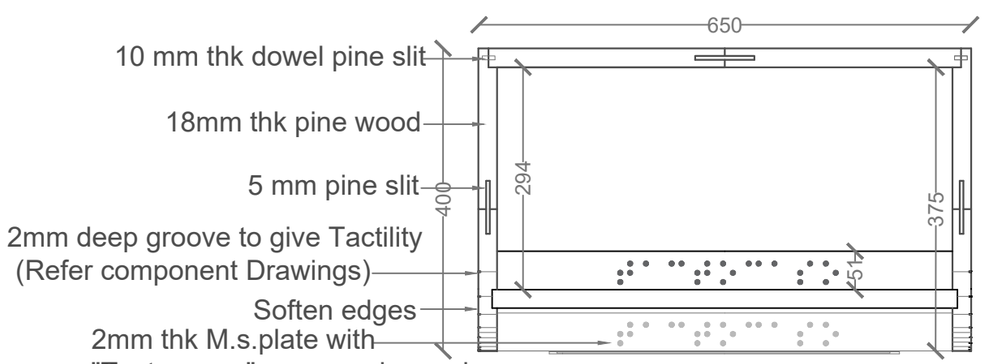
SECTION

ELEVATION

Hardware Assembly (Push Latch):

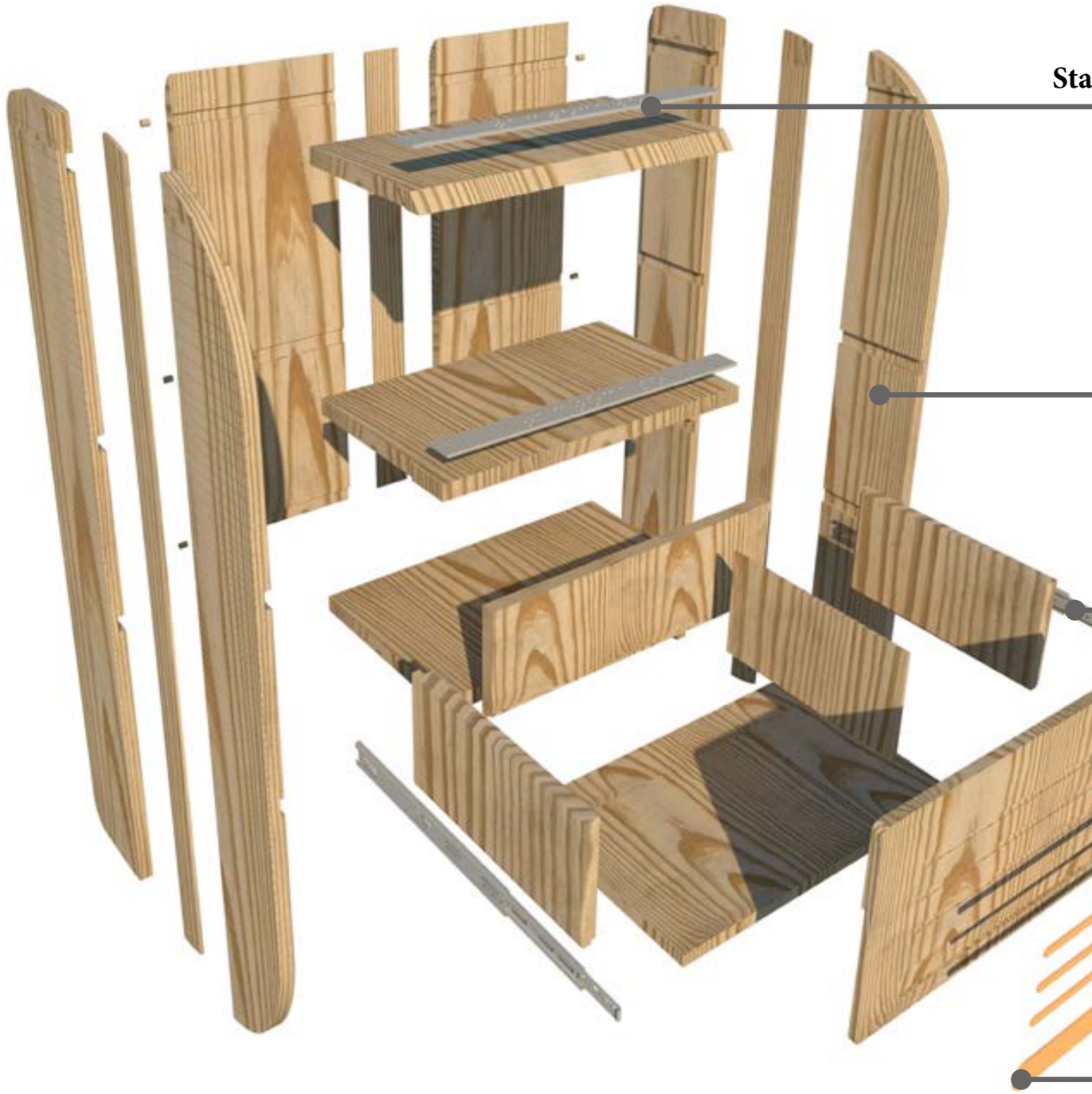


HARDWARE DETAIL
(Push Latch)



ELEVATION

Assembly of Components and Joineries



Stainless Steel Plate

Pine Wood

Stainless Steel Channel

Orange Acrylic

SPLINE JOINERY

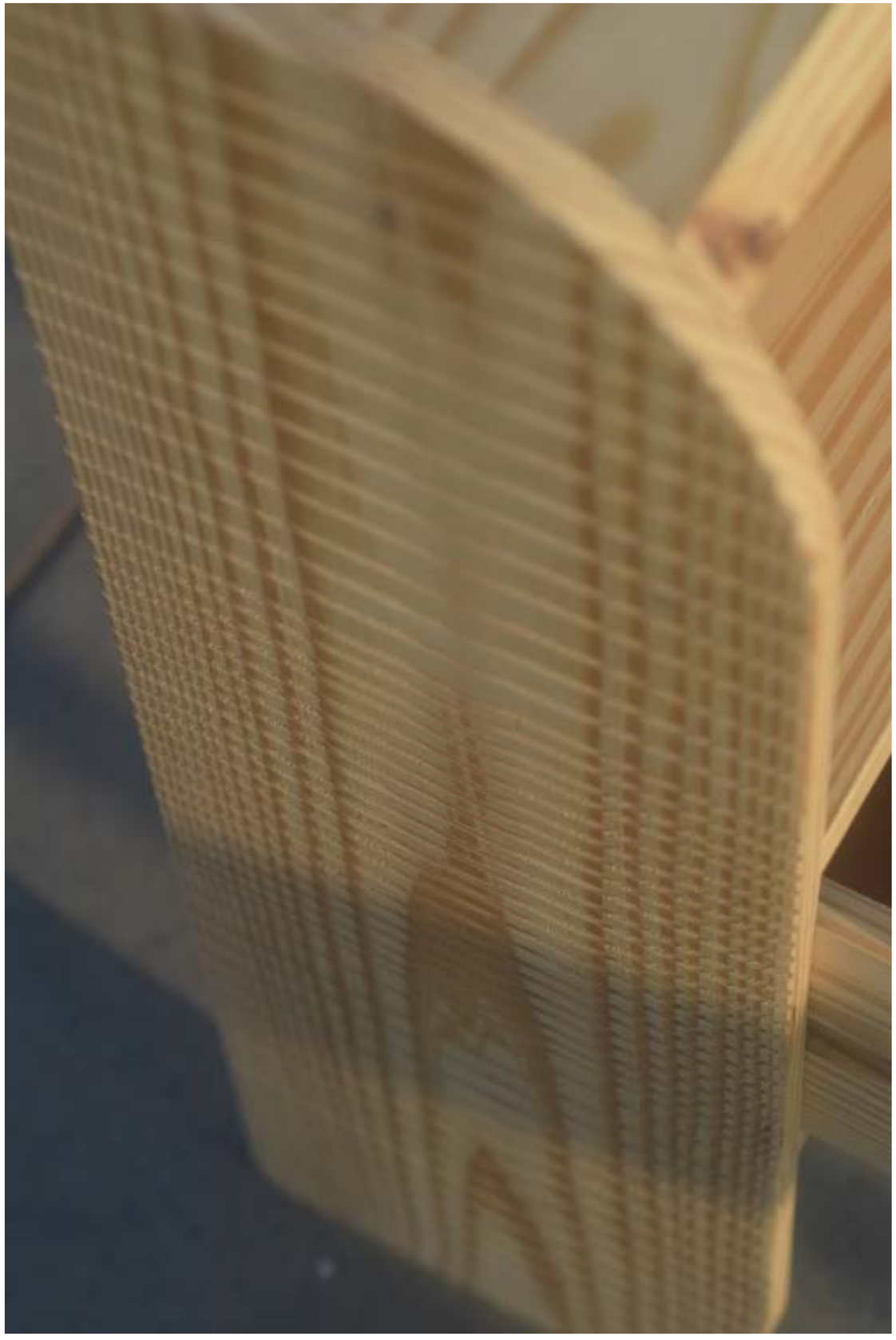
LAP JOINT

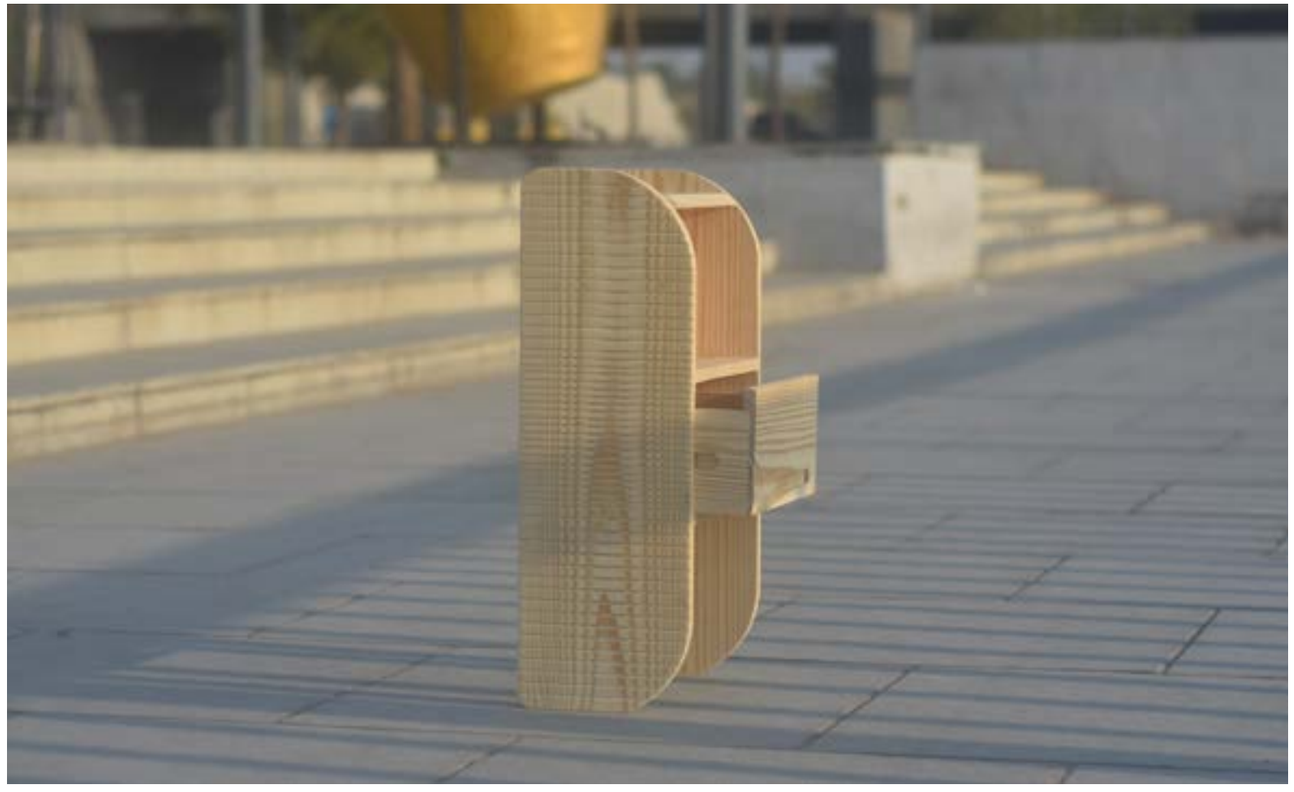
SPLINE JOINT

Ignorance and fear were, but Matters of the Mind,
MIND IS ADAPTABLE

1: 2 prototype


અંધજન મંડળ (ANDHJAN MANDAL)
BLIND PEOPLE'S ASSOCIATION (INDIA)





THANK YOU