

Industrial Designer

ronan.o@protonmail.com

2021—25
Level 8 in Industrial Design
ATU

Industrial Design graduate with a level 8 degree. Projects focusing on Universal and Human Centered design with the goal to implement as much inclusion as possible for all potential users. UN Sustainable Development Goals are also taken into consideration with every project.

Portfolio

Skills



Table of Contents

1. Stool Project

2. Planter

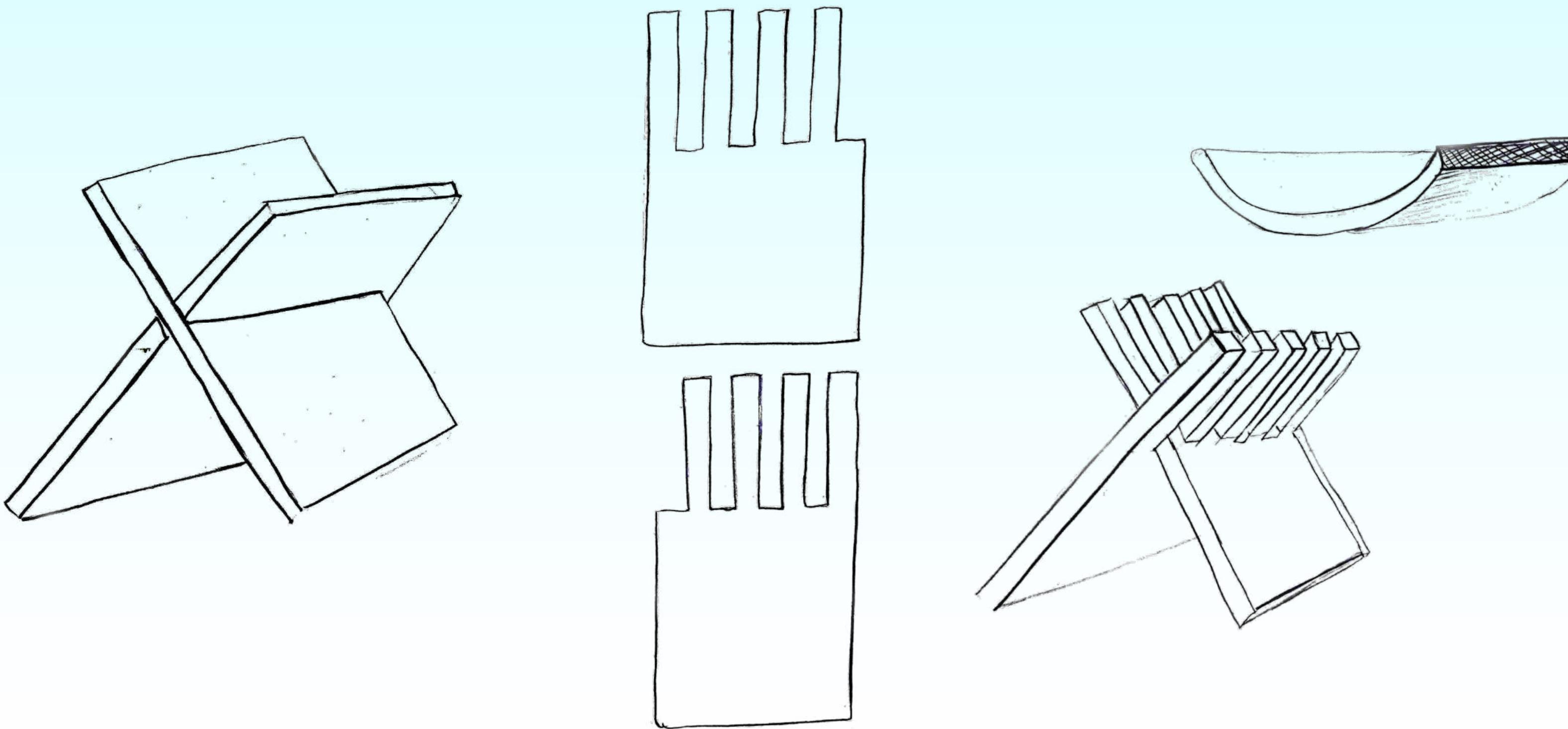
3. ATU-USB

4. Zimmer Frame

5. ExploreIt

6. Boccia Ramp

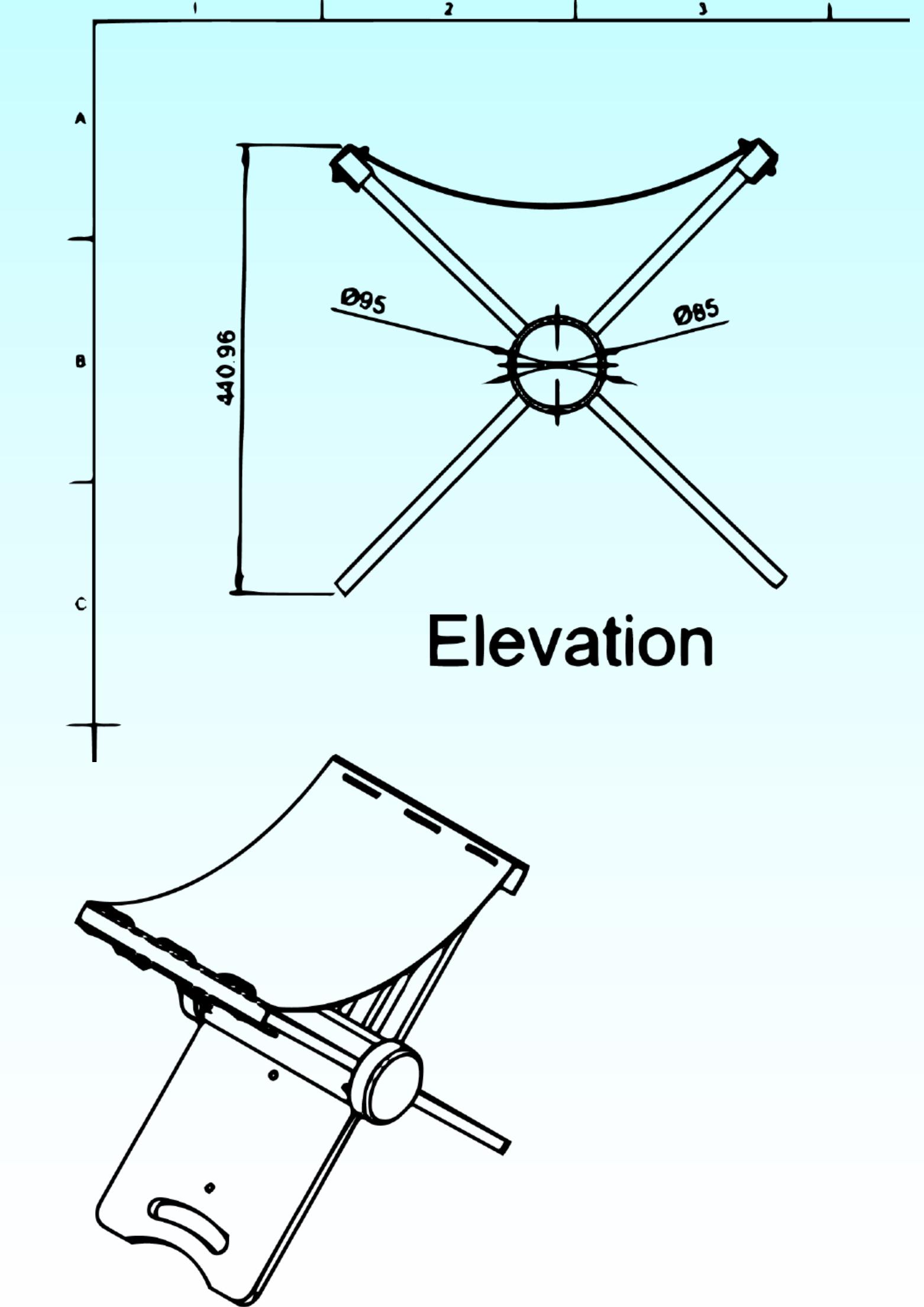
Stool Project



YEAR
2022

CATEGORIES
Furniture Design
User Experience
Innovation

BRIEF
Design and manufacture a stool for a specific user need. Interview colleagues to discover what interests they have and what might benefit them?



Process
Research, sketch, prototype, visualize in CAD and 3D renders, manufacture the parts and instruct the assembly process.

For my initial research I looked into the machinery that was available to us in the college and decided to use plywood as my main material.

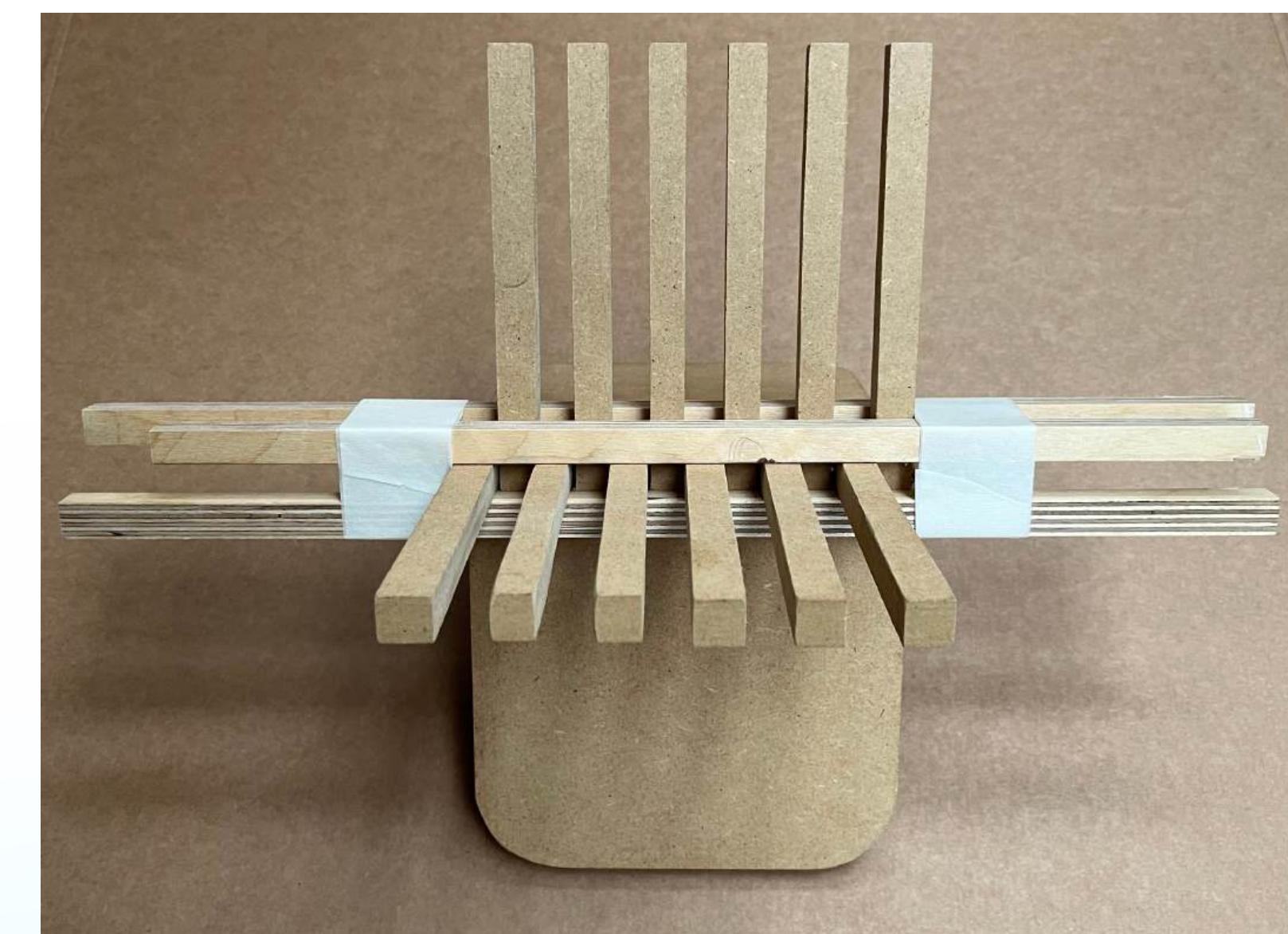
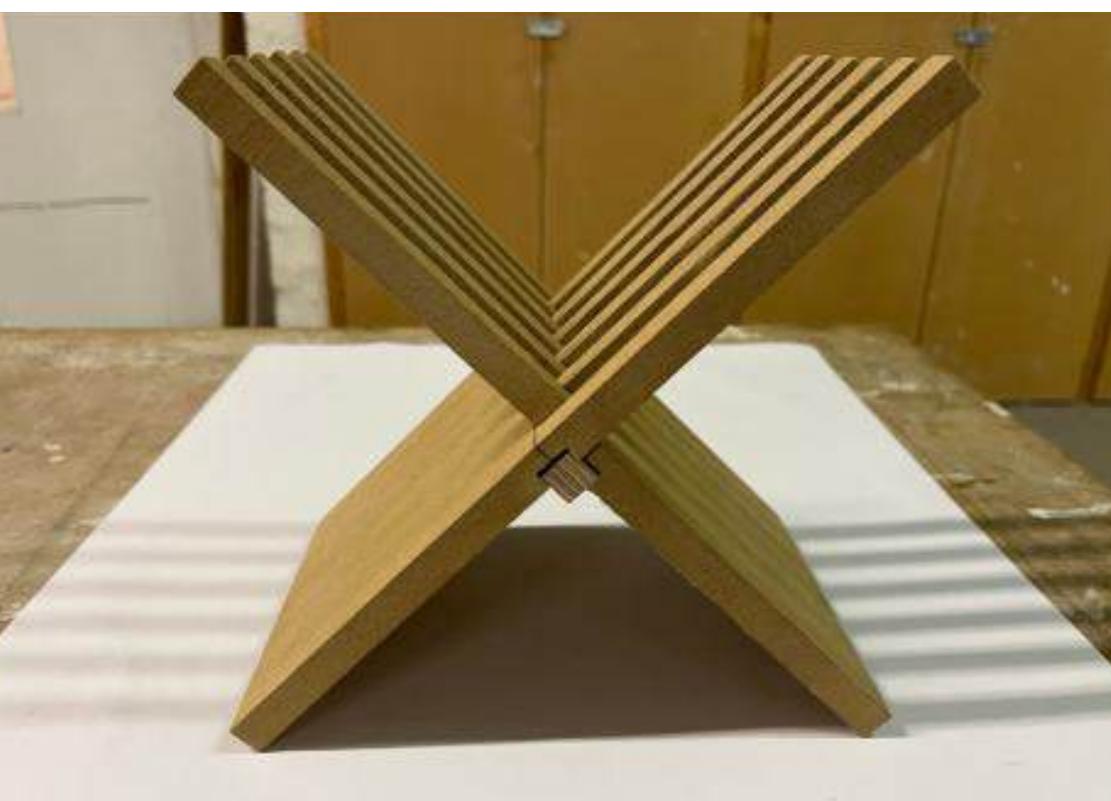
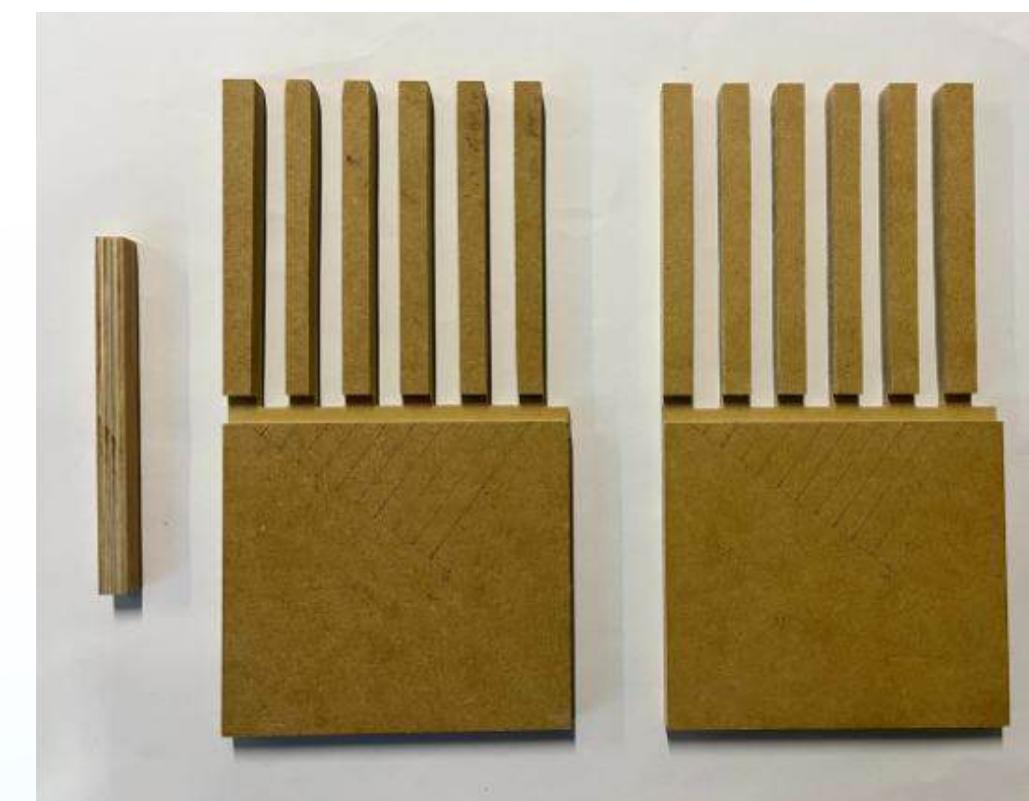
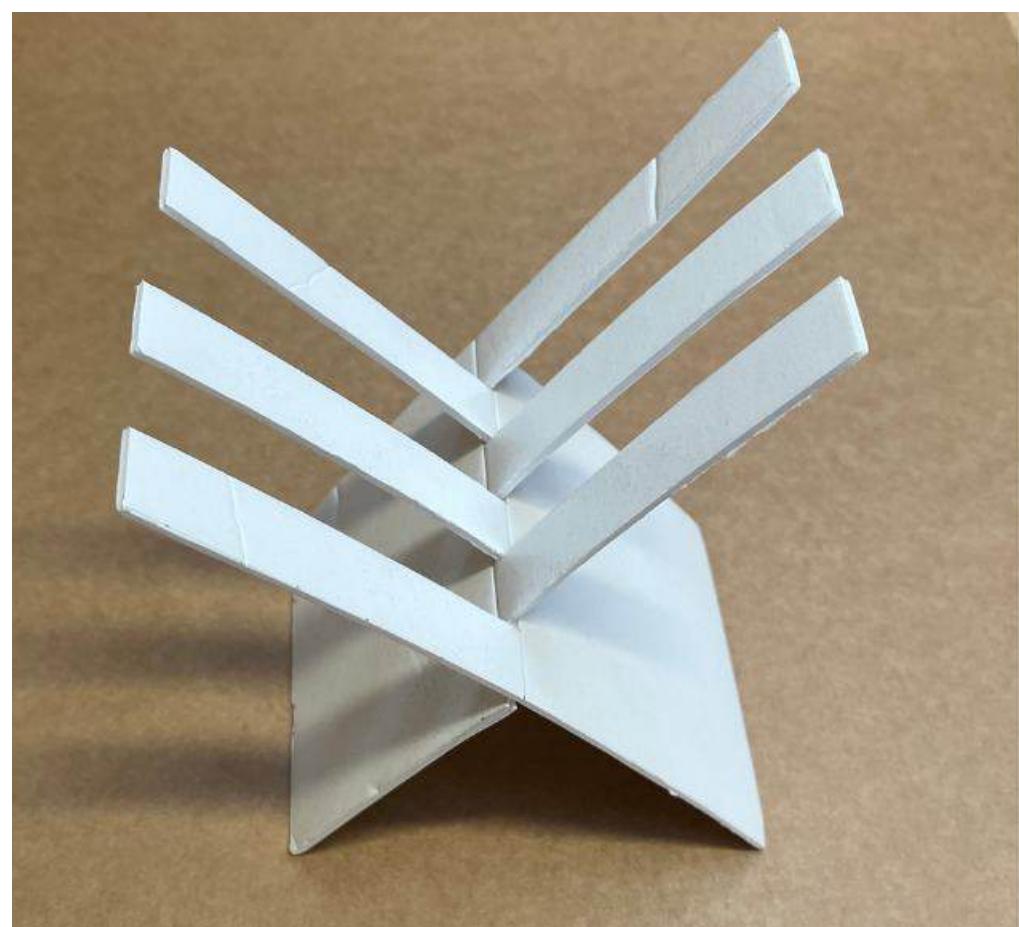
After conducting interviews with my colleagues I decided to design a chair that could be easily folded away and have multiple use cases e.g summer festivals, camping trips

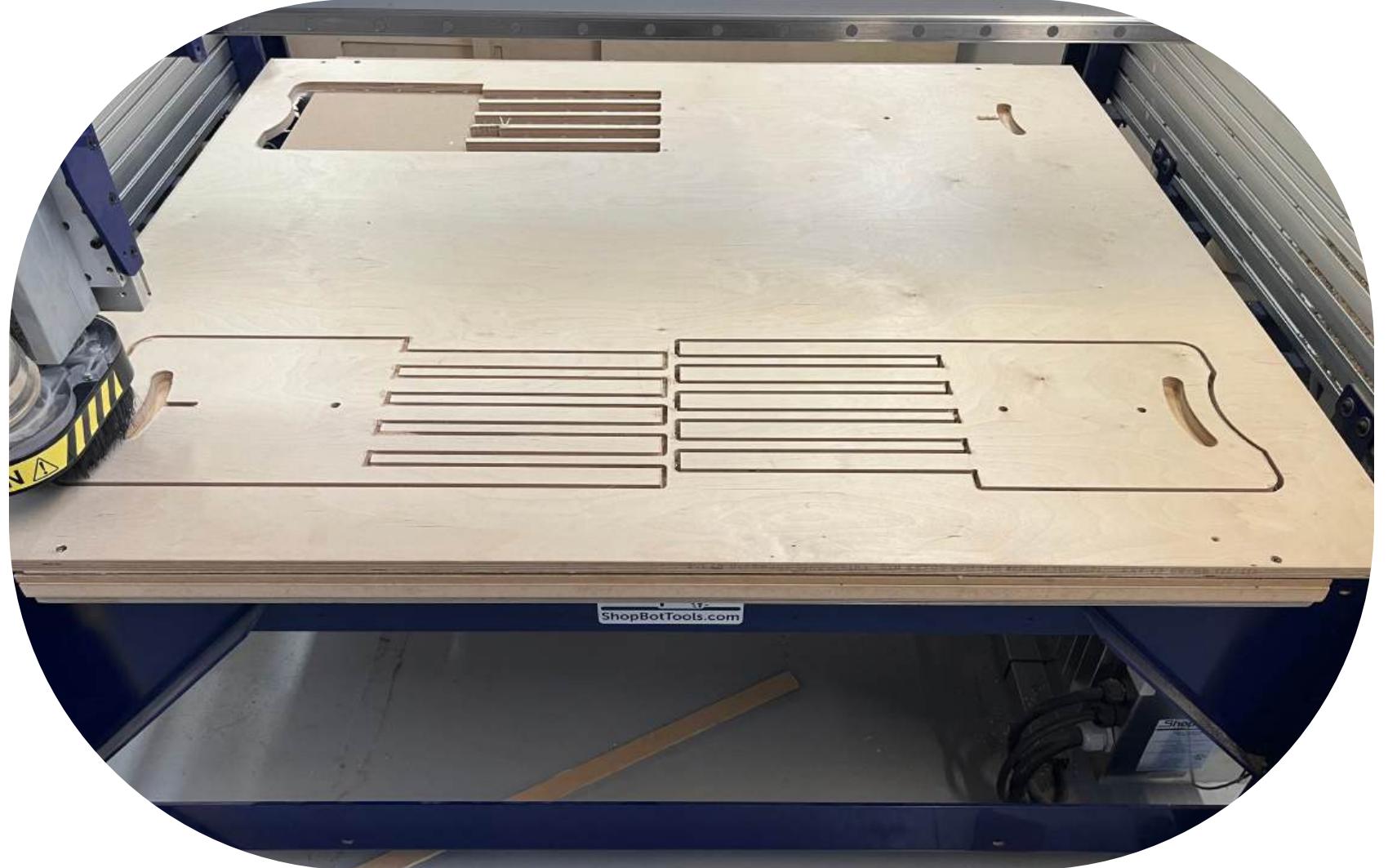
I developed a mood-board for as inspiration for the form of the chair I wanted to make.



Prototyping

A simple finger joint concept was used as my first prototype to see if downward pressure in the middle seating location would be enough to stabilize the stool.





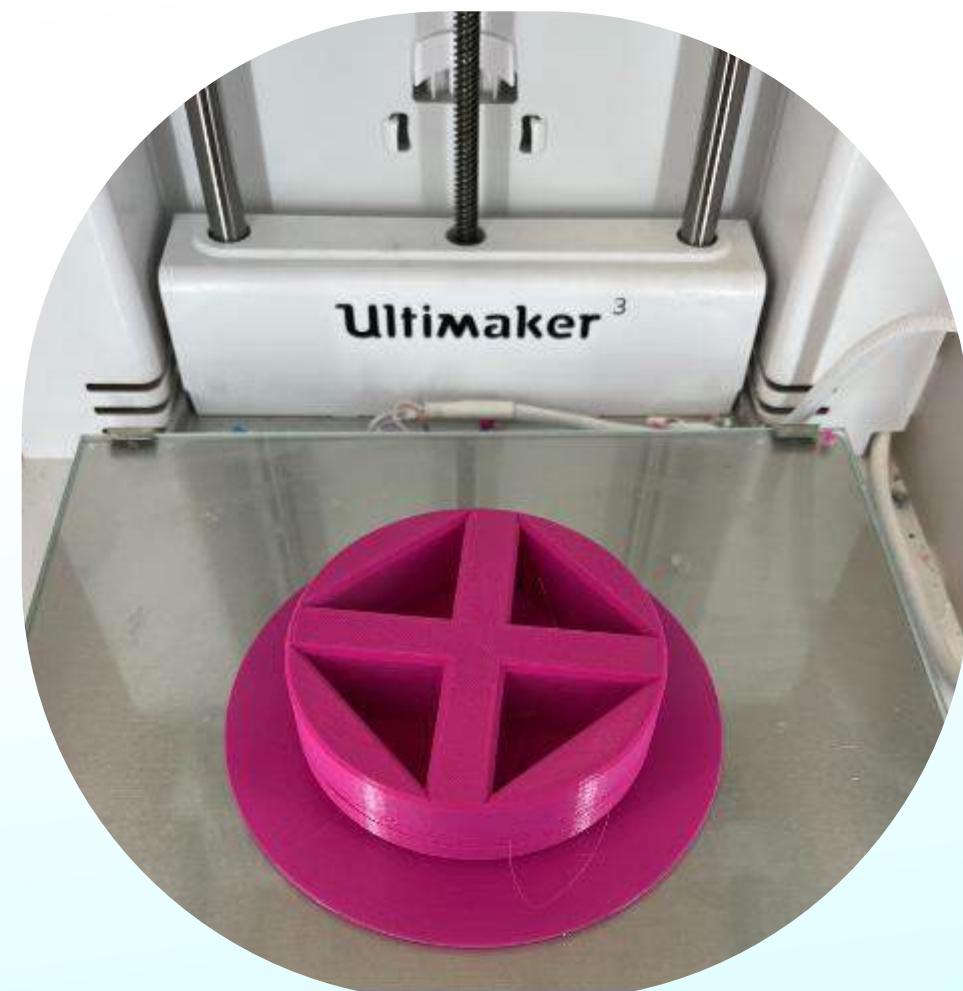
Main parts were cut using a CNC.



Stabilizing unit was designed to make sure the stool did not collapse when being used.



Other components were 3D printed using an Ultimaker

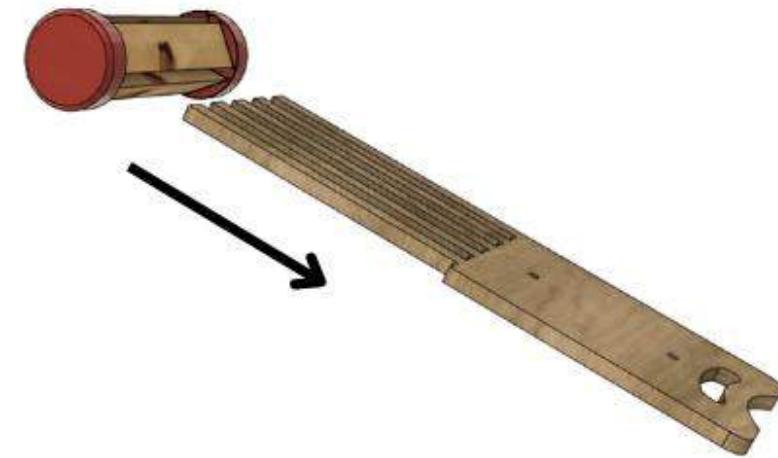




**Each component of the stool can be flat-packed
and stored away after each use.**

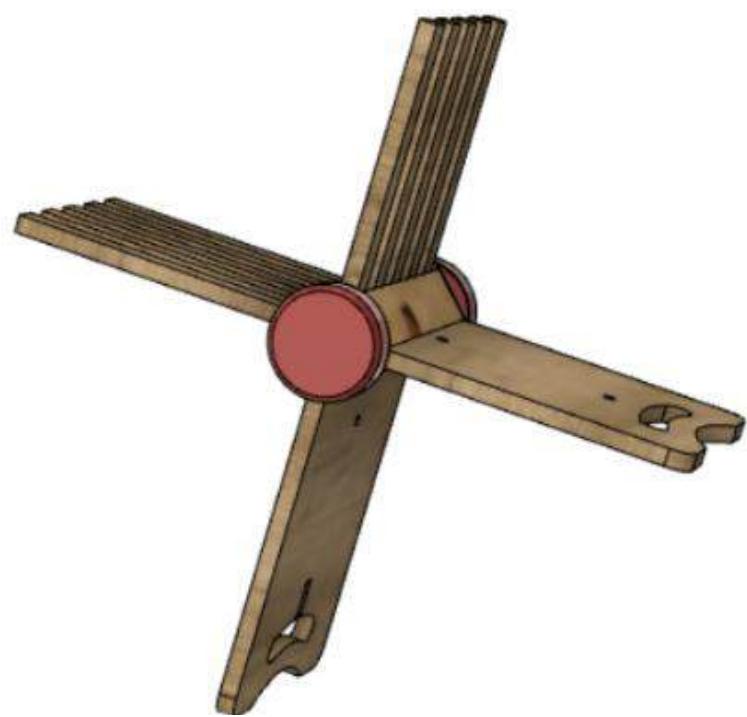
1

Slide stabaliser
onto body 1



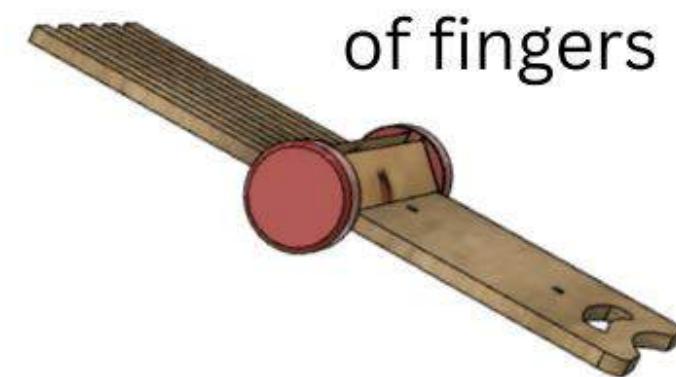
4

Push down until
against body 1



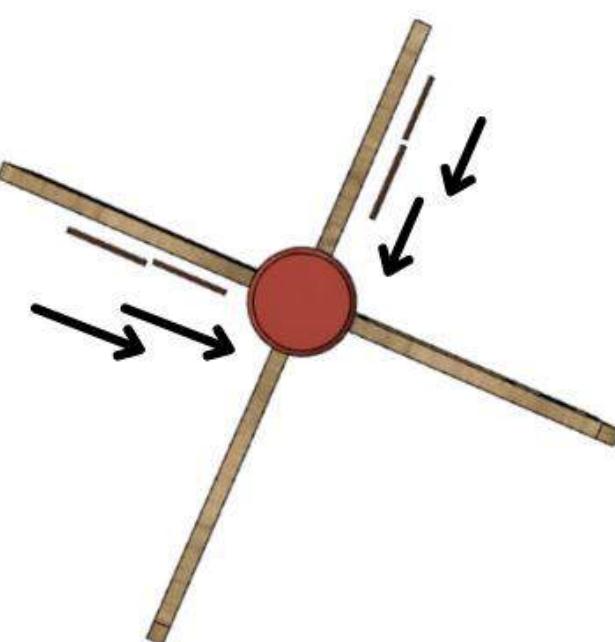
2

Push down until
lines up with base
of fingers



5

Insert dowels into available
slots at the base of
stabaliser



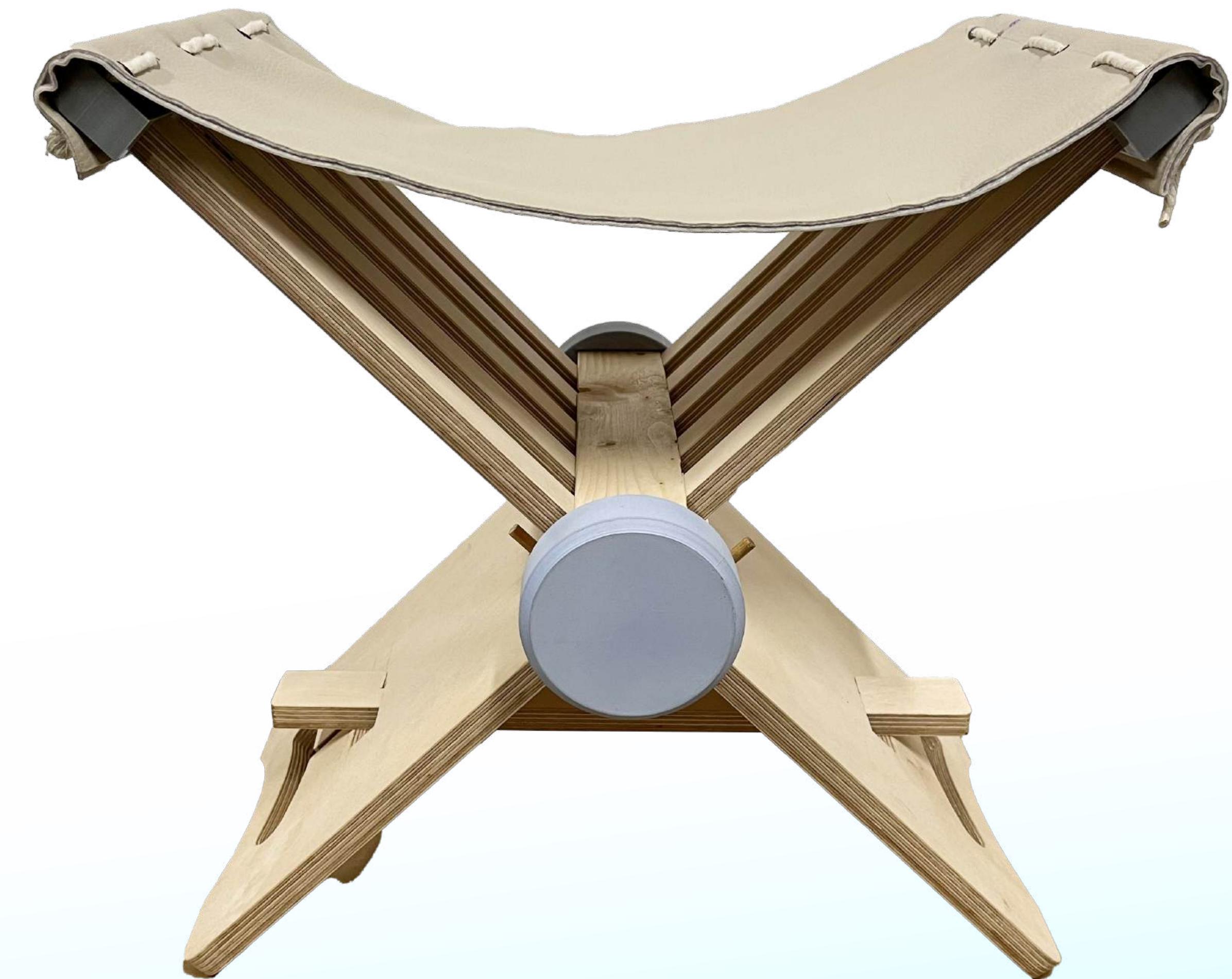
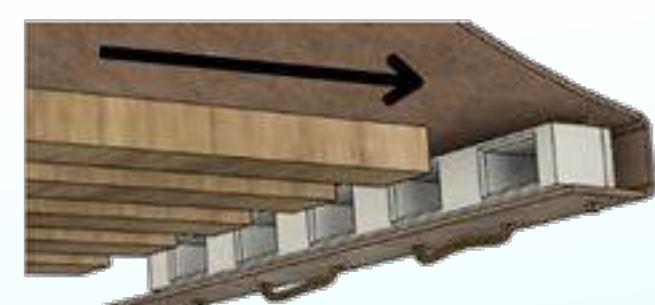
3

Slide in body 2

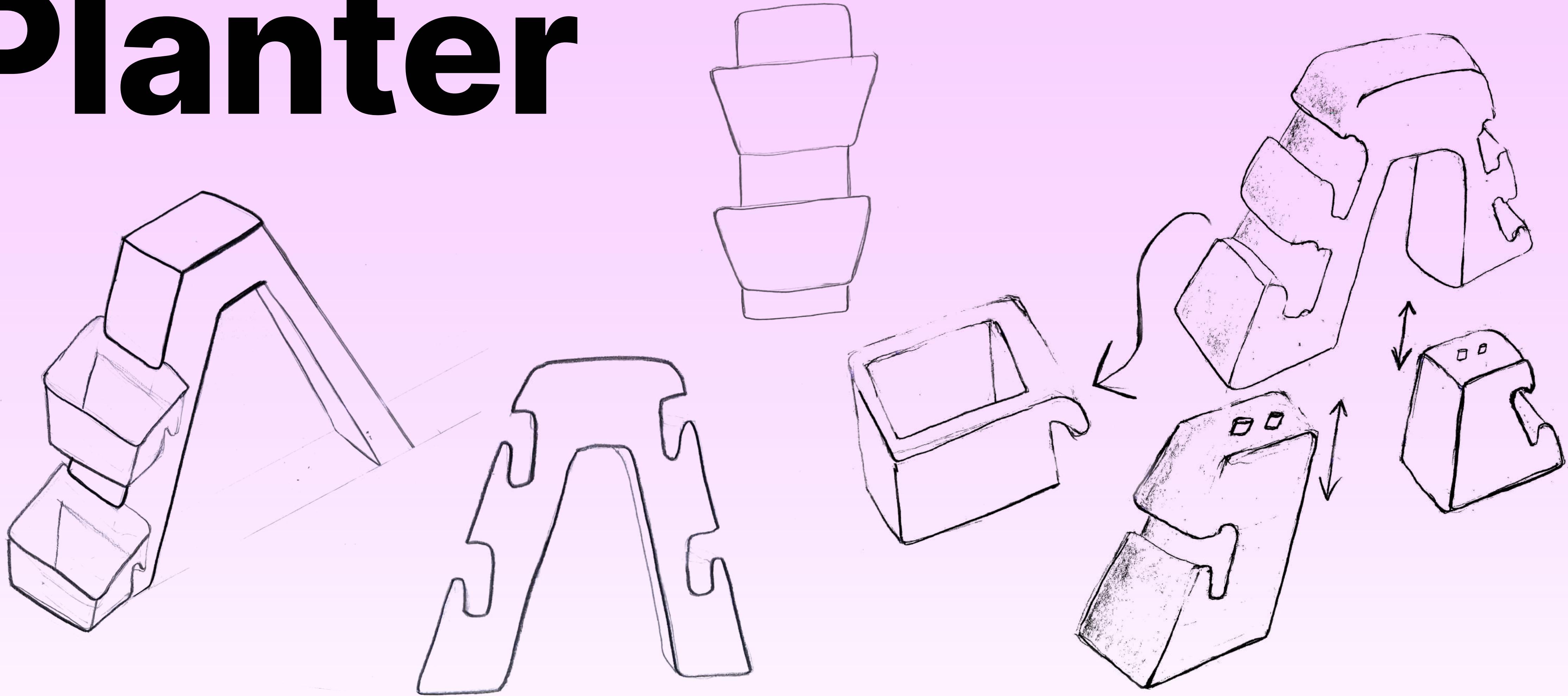


6

Attach Fabric Anchor to
the finger joints



Planter

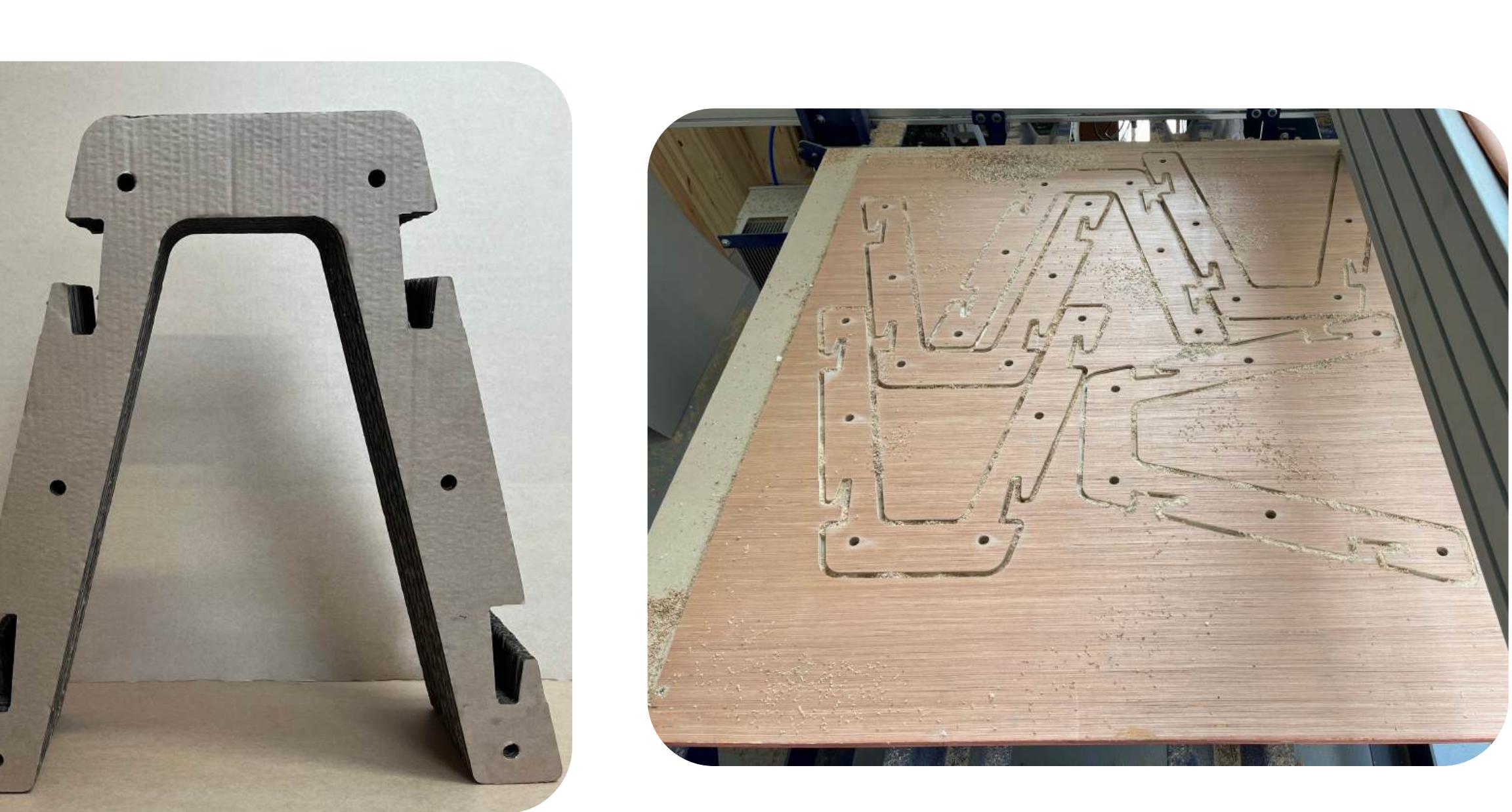
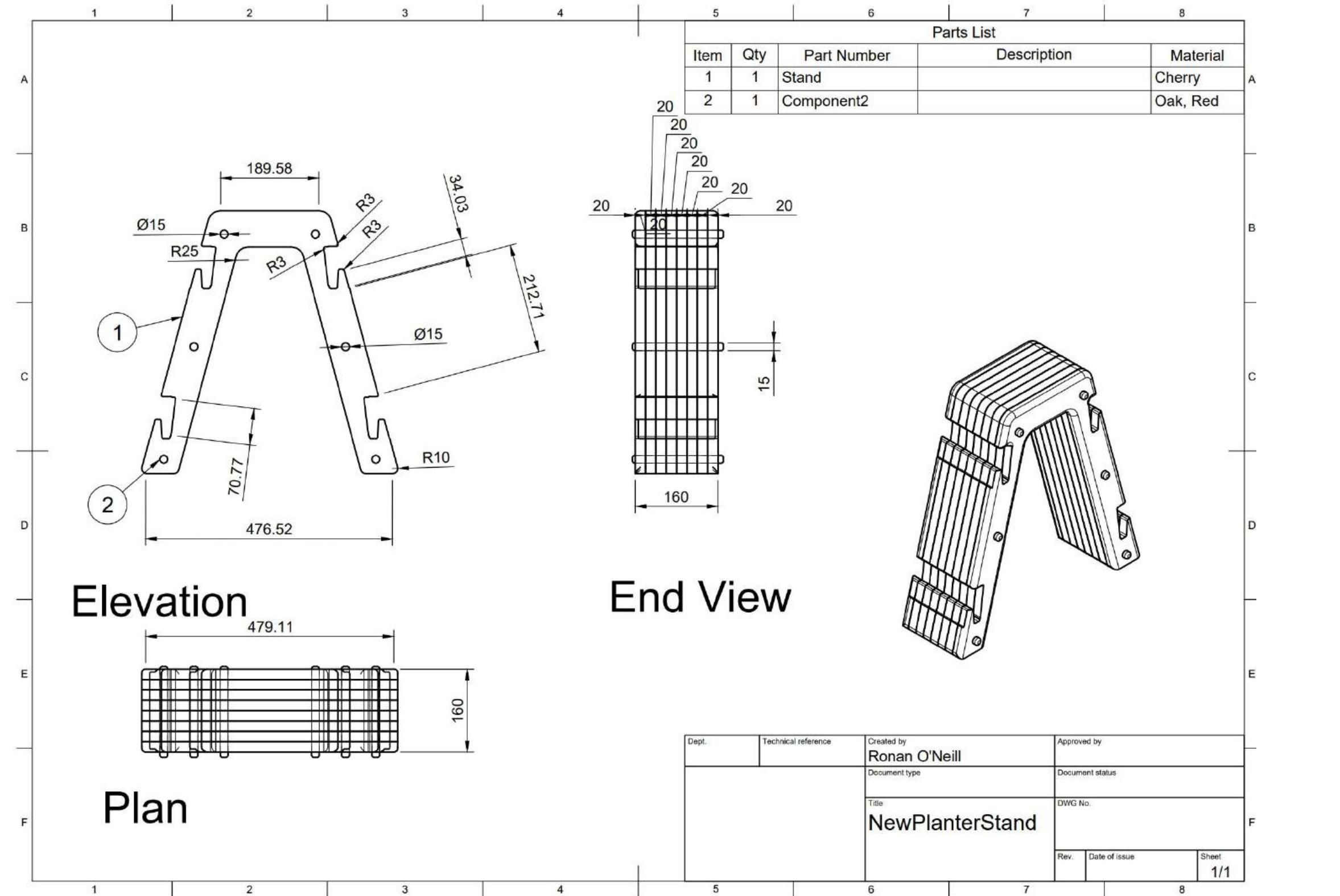


YEAR
2023

CATEGORIES
Ceramics
3D printing
CNC

BRIEF
Create a vessel using ceramics
and an accompanying product to
showcase design skills.

Process
Sketching and concept drawing, CAD
development and rendering.



I first laser cut the pieces for the planter base using cardboard to check that I had the form correct.

I then used the CNC to cut the pieces from plywood. These were then combined using wood glue.



The ceramic herb pots were created from a 3D printed shape used in the plaster mold. These were then slip cast and fired in a kiln.

The final part was to glaze the pots and attach them to the plywood base.





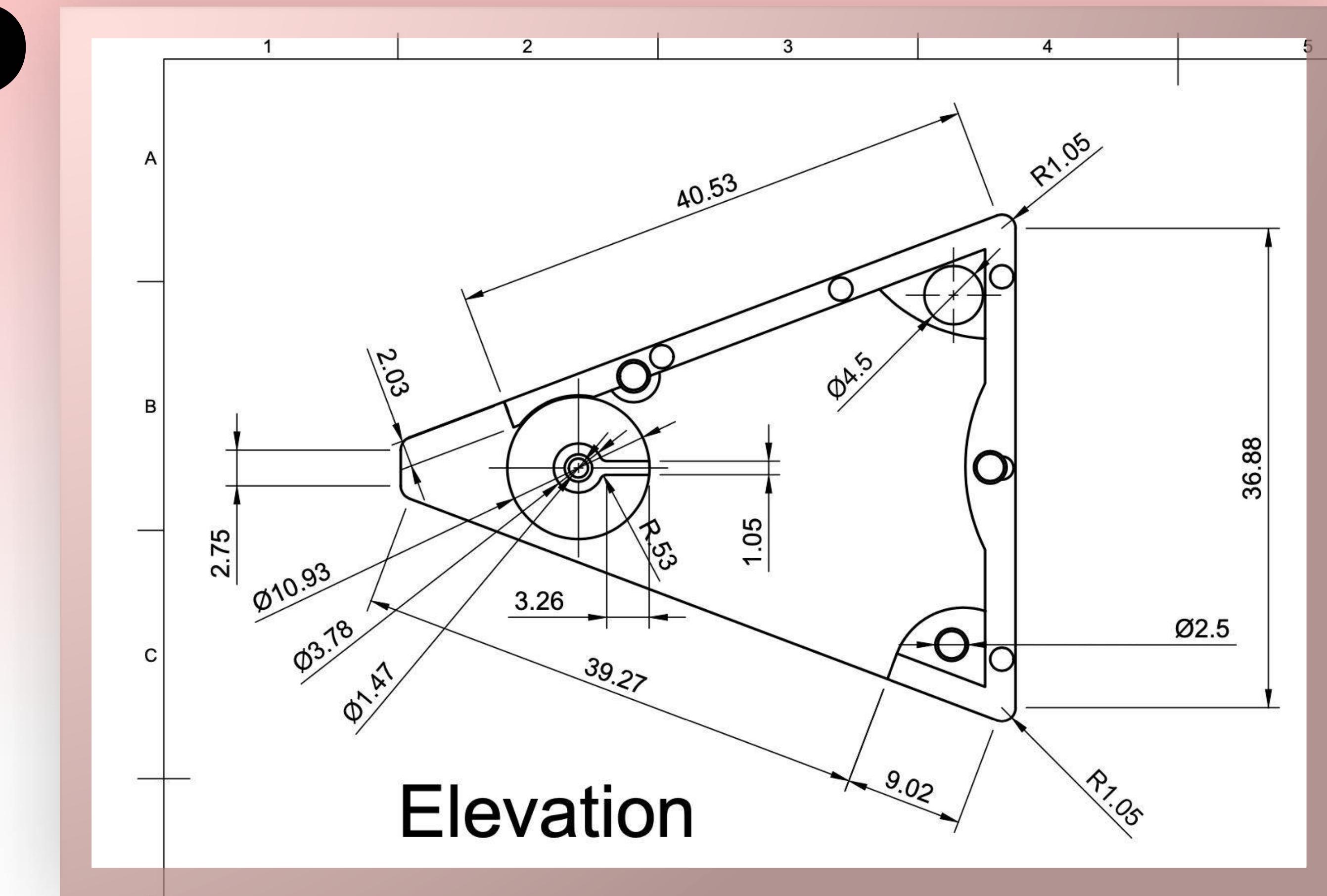
ATU-USB

YEAR
2023

CATEGORIES
Branding
Packaging
User Experience

BRIEF
Design a unique casing for a USB key using Brand Archetypes as inspiration.

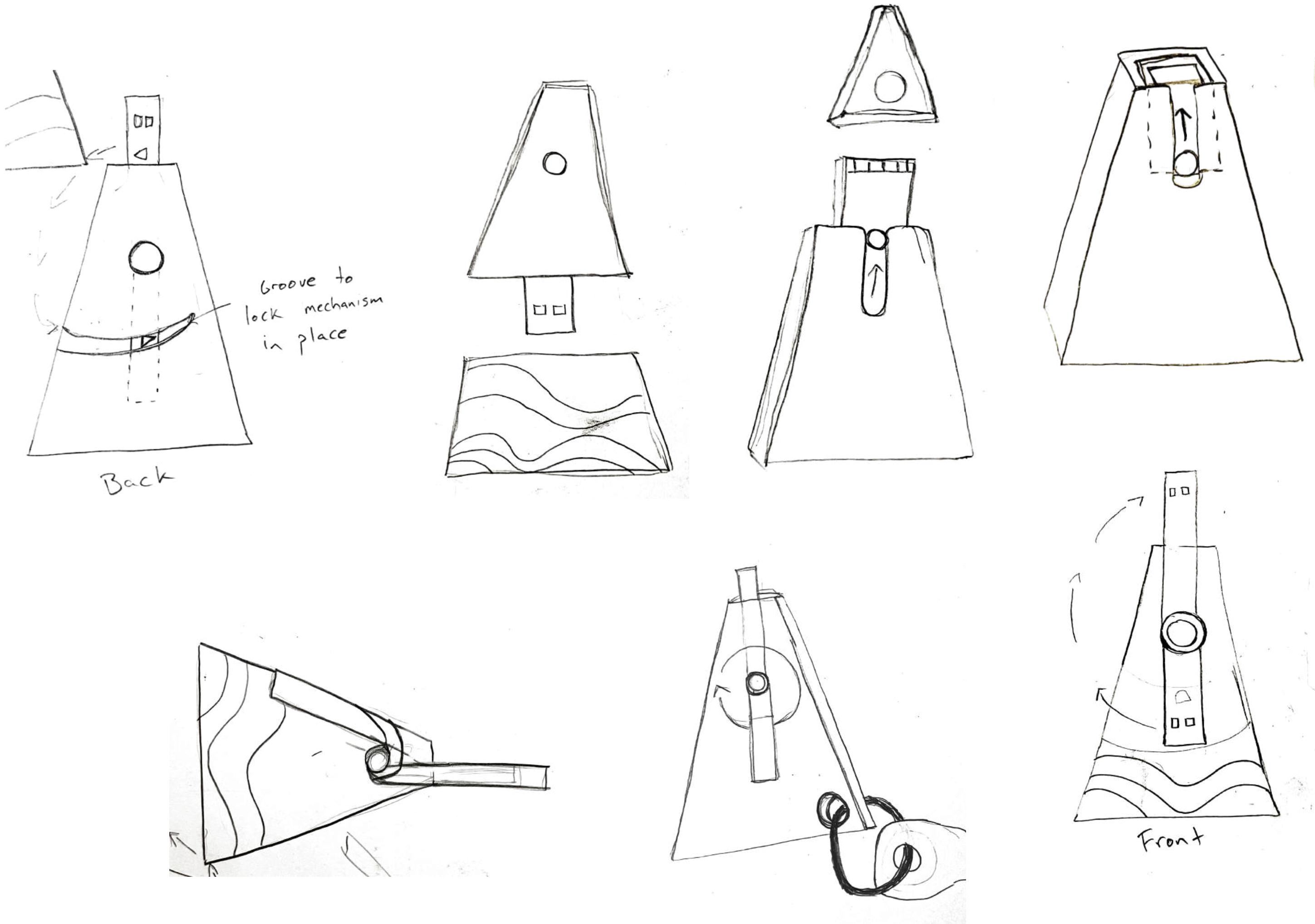
Process
Research, sketch, prototype,
visualize in CAD and 3D renders,
manufacture using resin 3D printer
and design packaging.



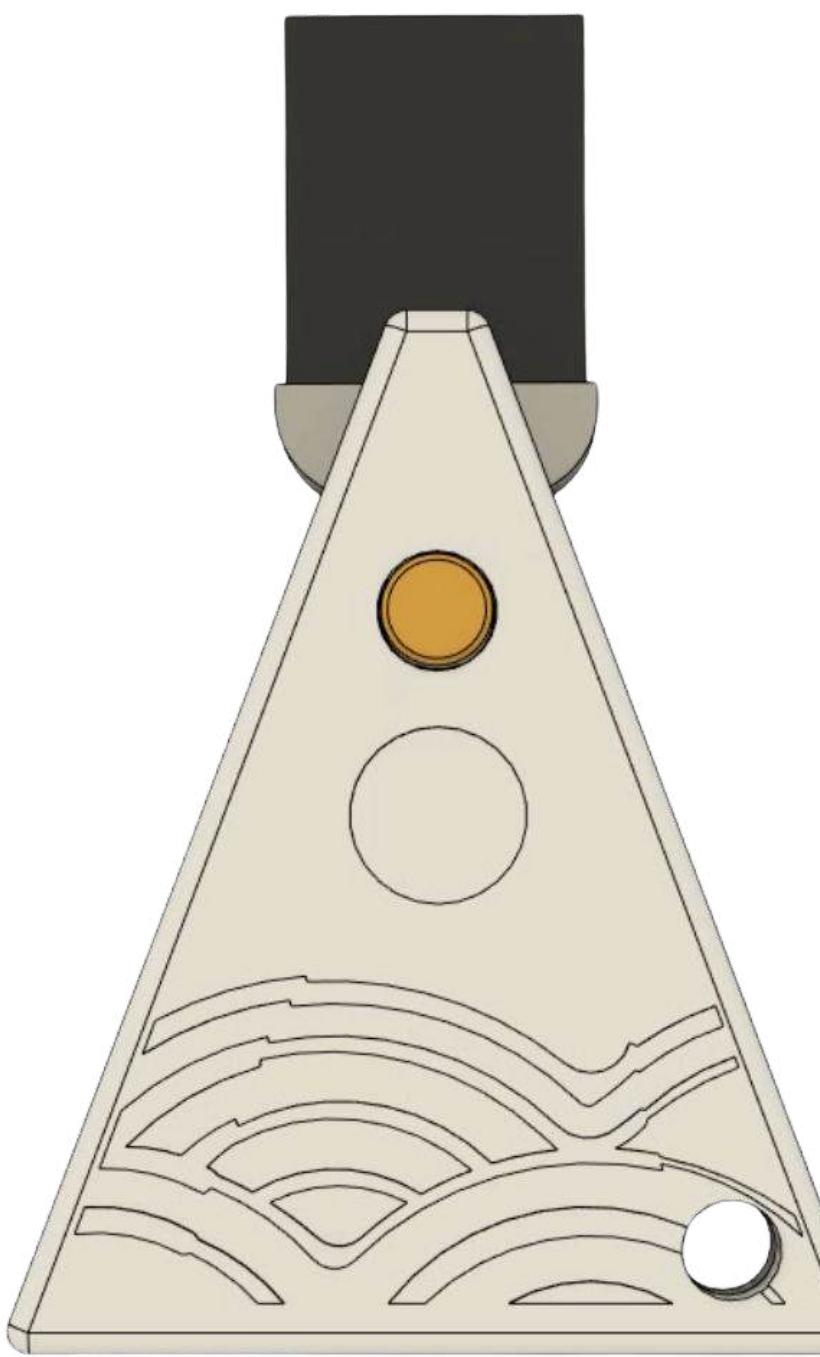


For this project I chose 'Creator' and 'Sage' as my brand archetypes. I wanted to design a USB key that incoming students could be given that would make them proud to be part of ATU.

I used the mechanism of a car key as a goal and to also allow the key to be attached to a bag or key chain.



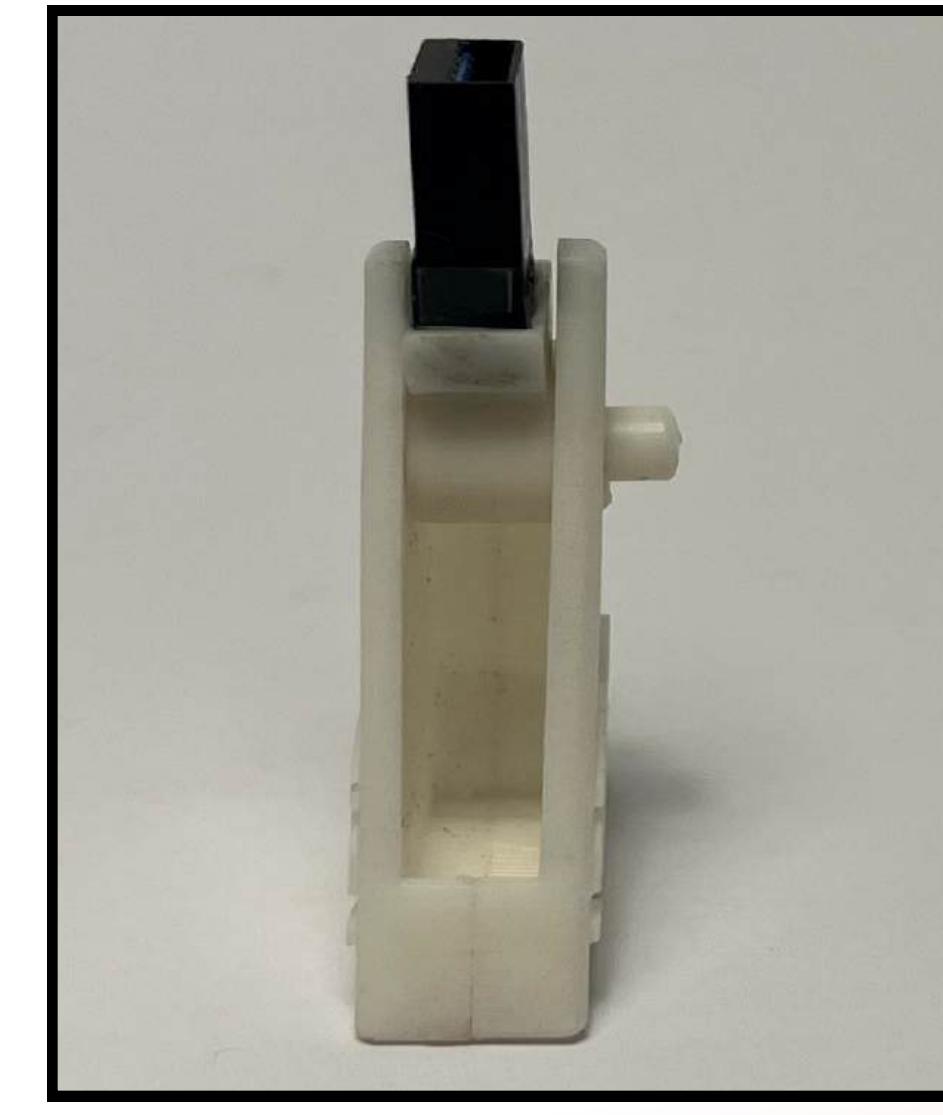
Exploded view of the main components.



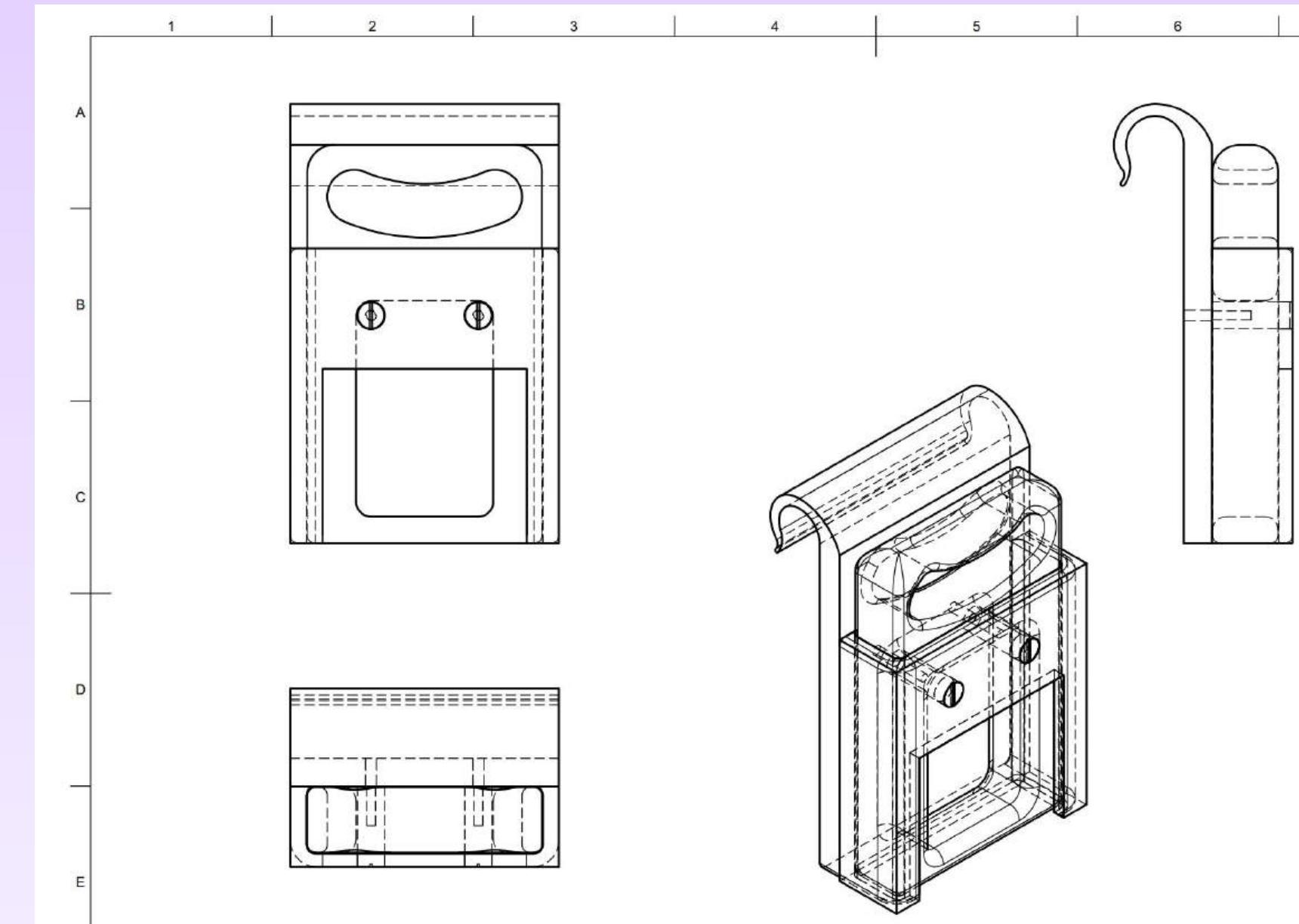
3D renders of final product and packaging using the waves of the Atlantic as a continued theme.



The final device assembled with the packaging.



Zimmer Frame



YEAR
2024

CATEGORIES
Health
Hospital Care
User Experience

BRIEF
Working with the Health Innovation Hub in UCHG we were tasked to improve on existing devices that breakdown or have user experience flaws.

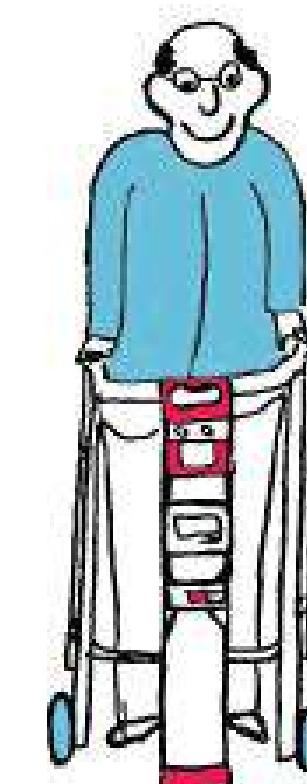
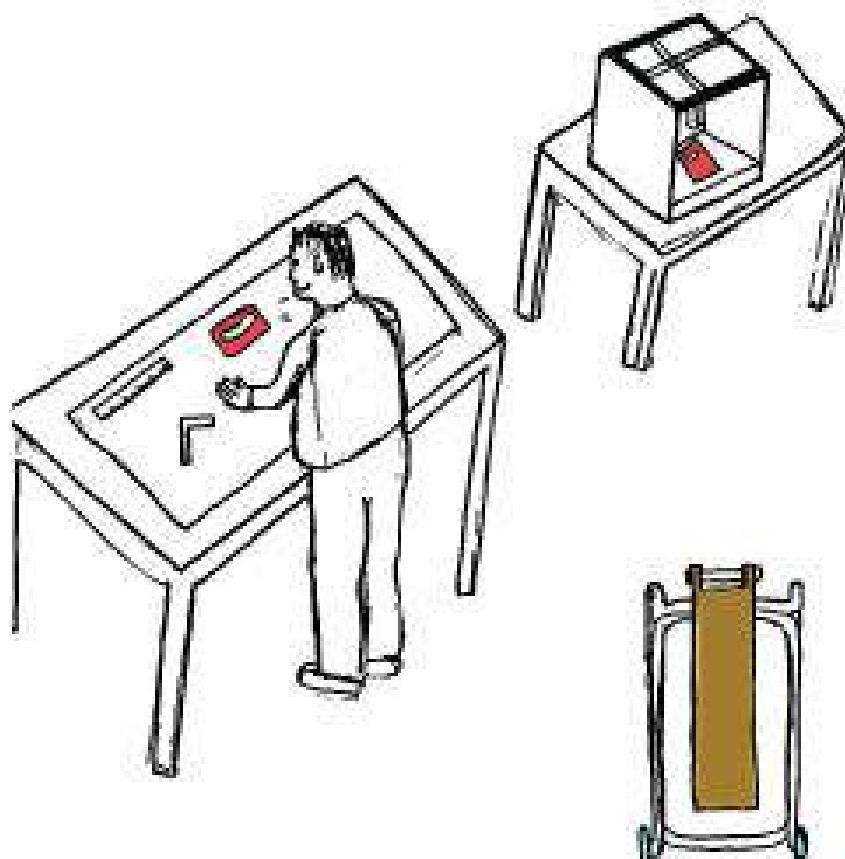
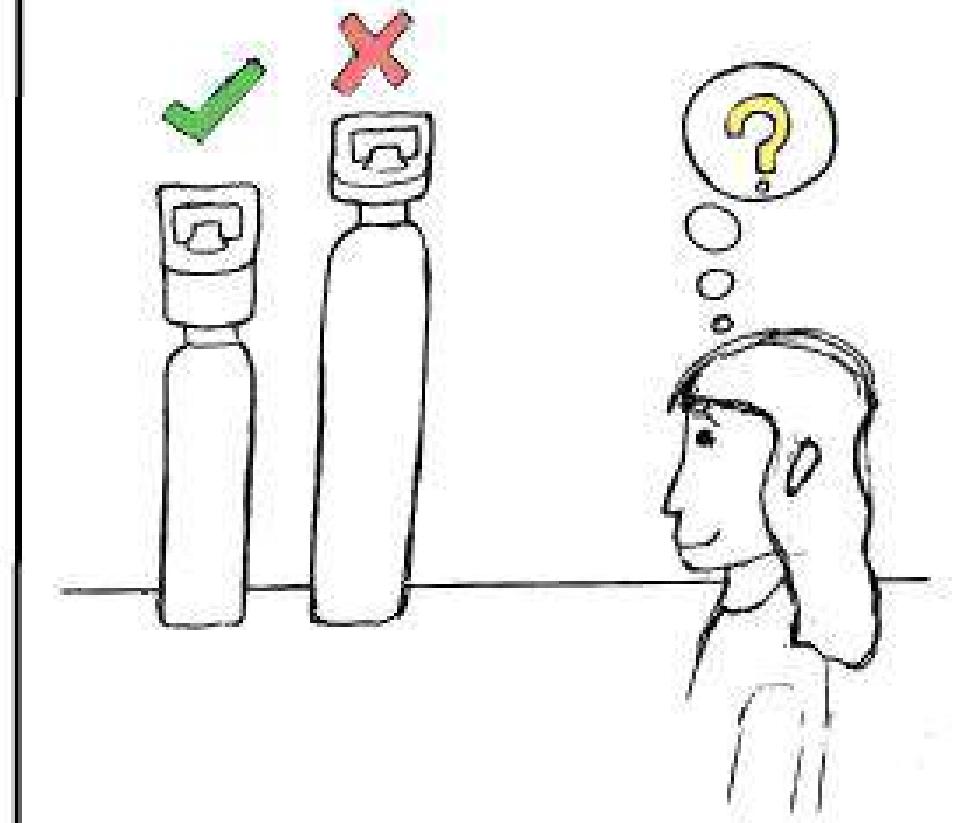
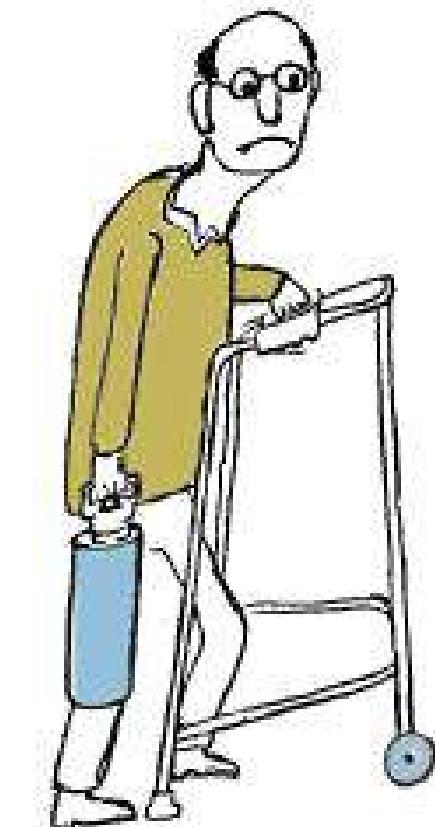
Process
Research, sketch, prototype, visualize in CAD and 3D renders, manufacture the parts and instruct the assembly process.



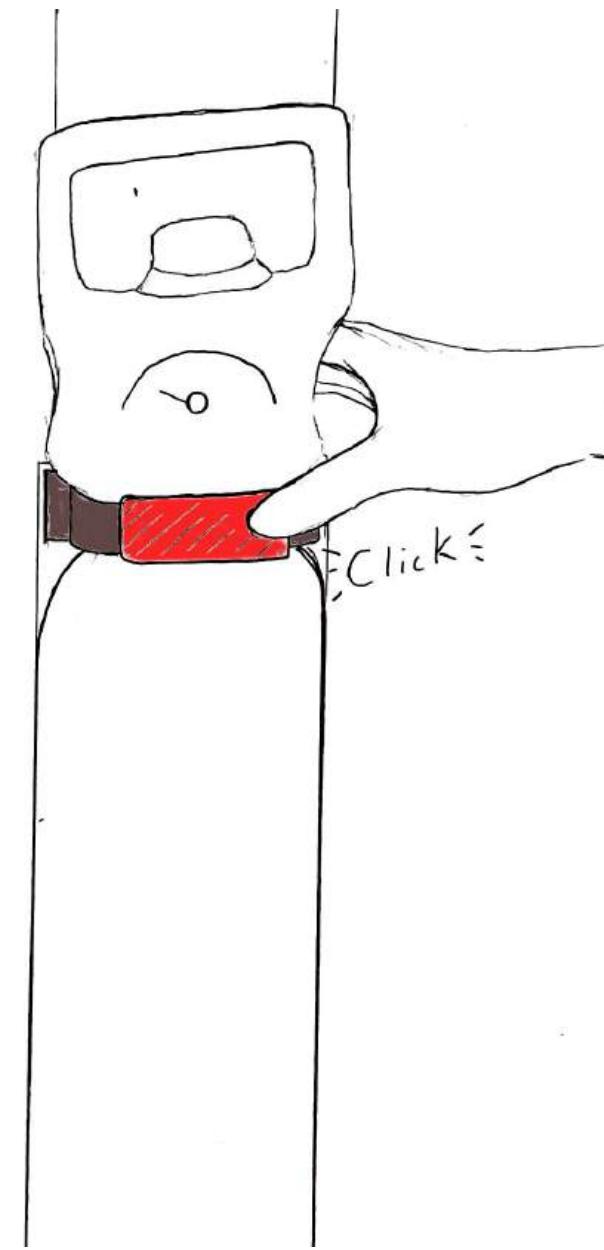
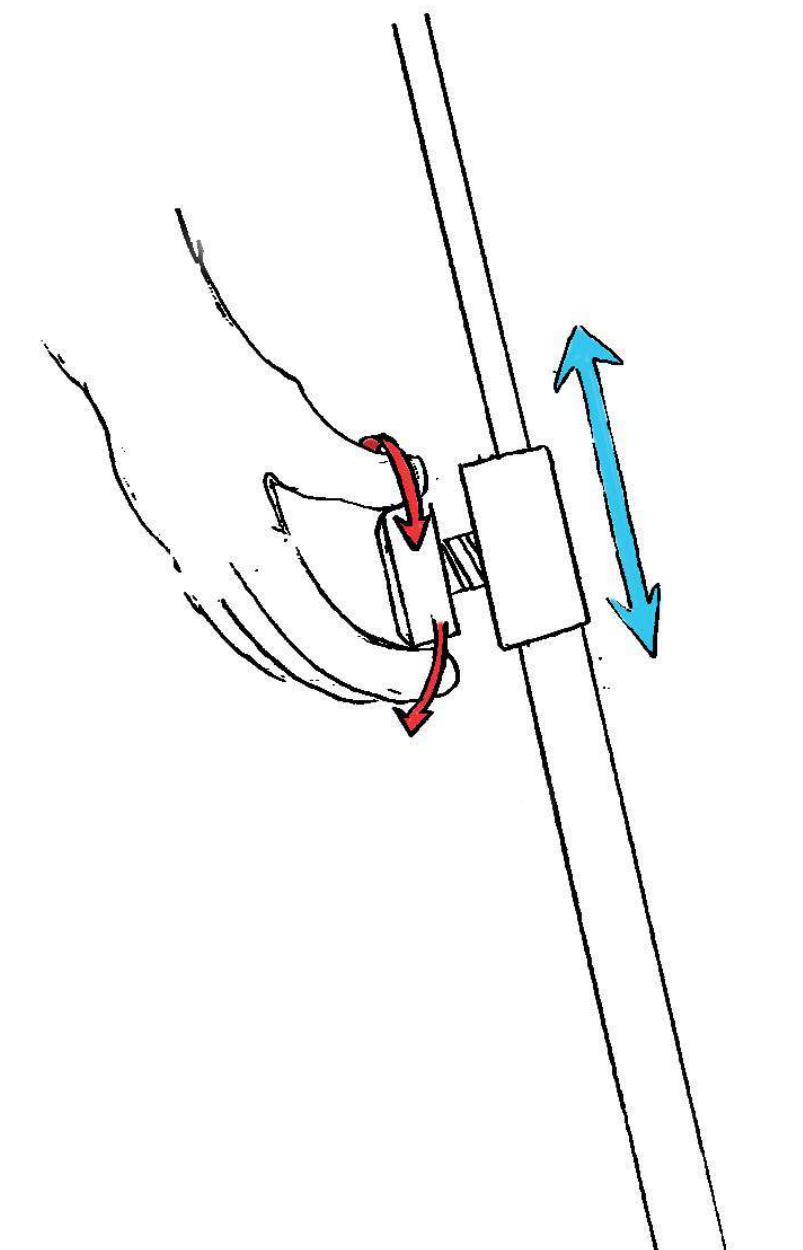


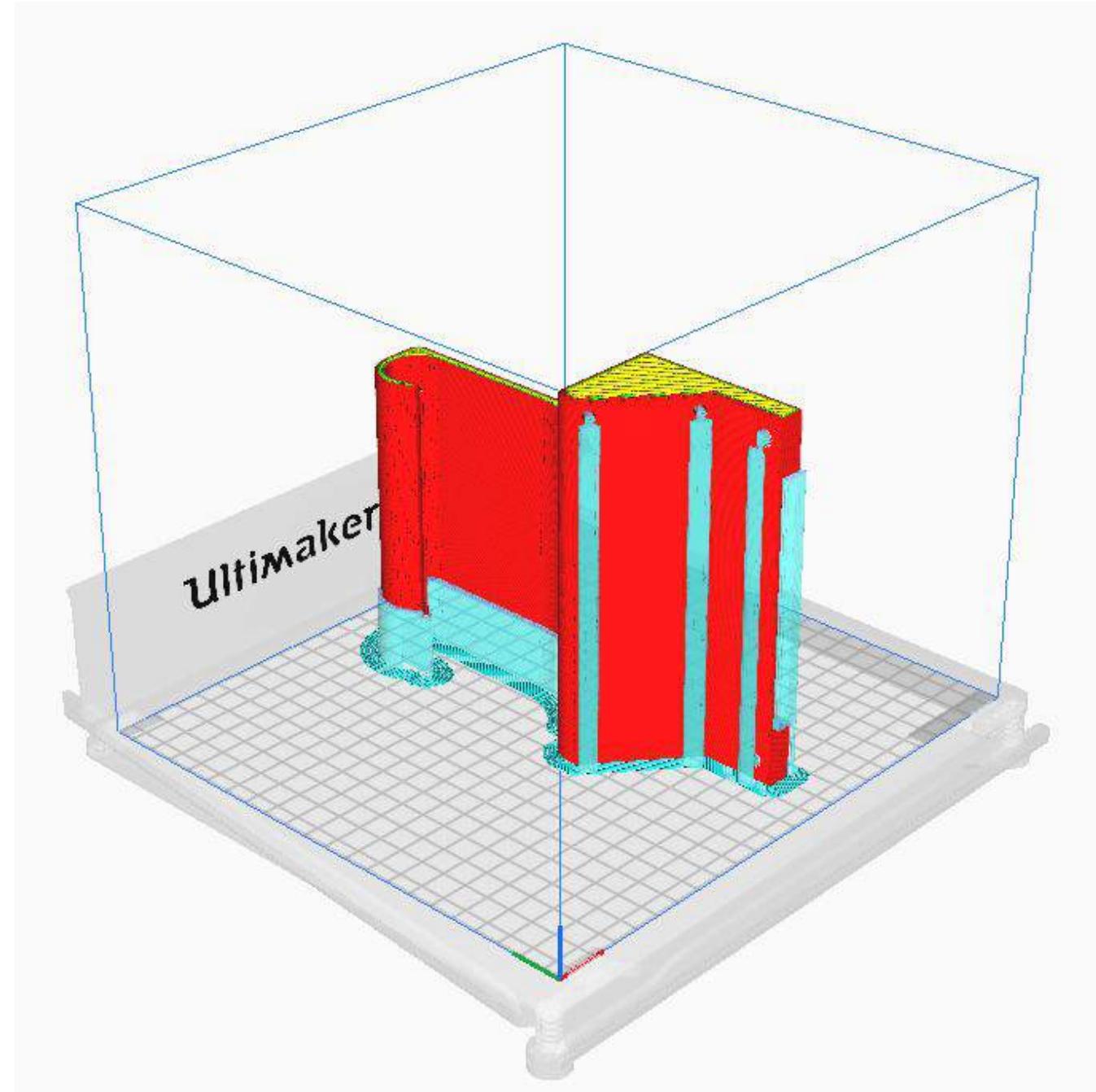
I worked on trying to attach an oxygen tank to a Zimmer frame so that the patient or nurse does not need to strain themselves. It is to allow both users to have hands free when using the walking aid and also have a device that can work with or without the frame.

Current designs are off balance or are not compatible with each other.



Cardboard prototypes were made to test assumptions.





Most parts were 3D printed which allowed the hospital staff to reprint any parts that may wear down over time.

Certain attributes needed to be met such as removing sharp edges and the ability to be easily cleaned with sanitizing wipes.

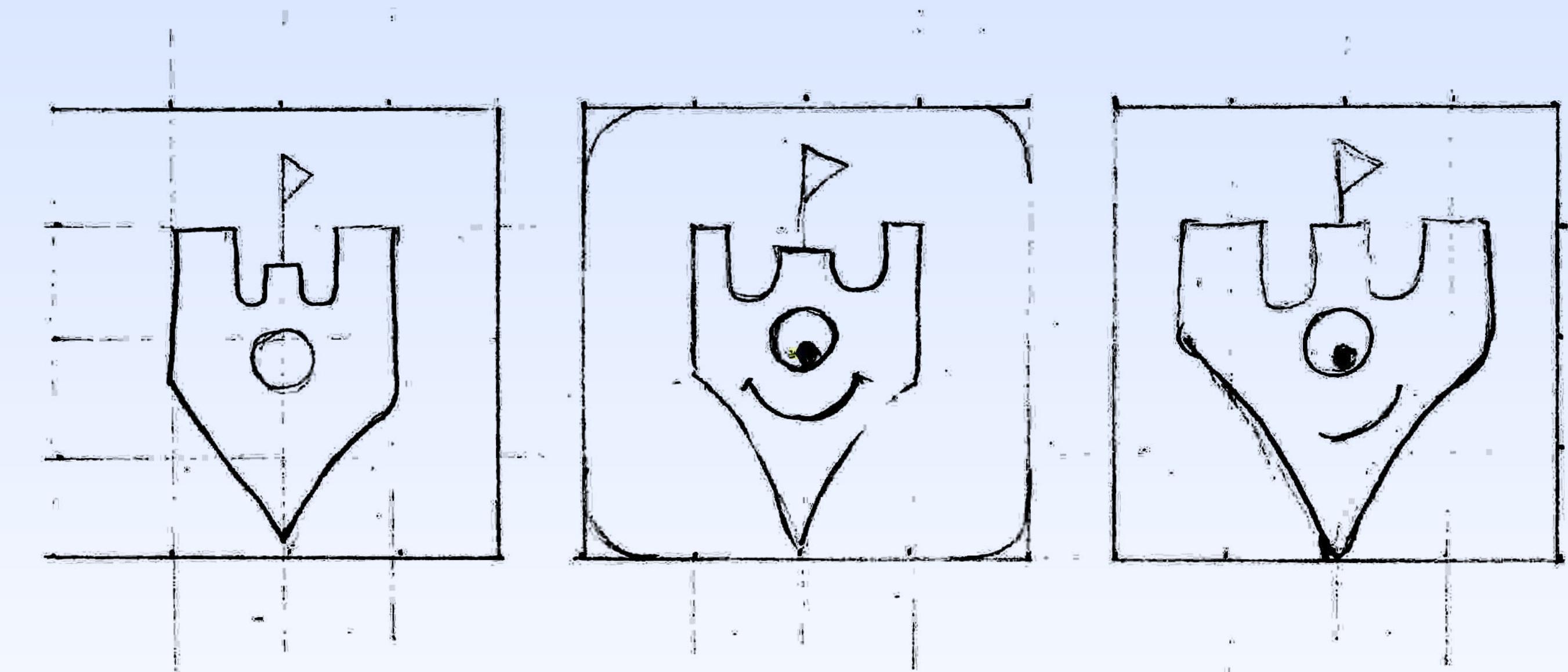
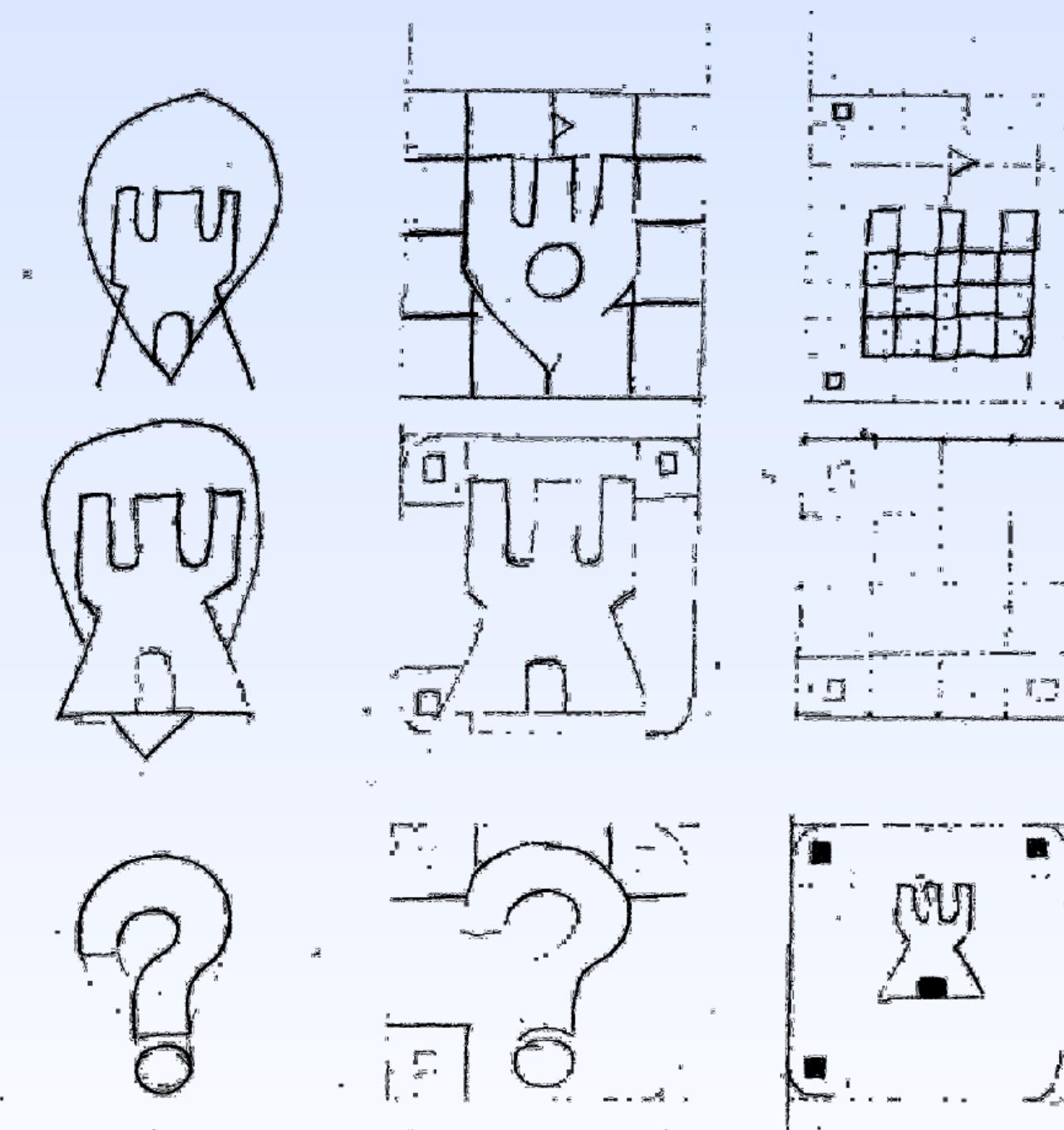




Other safety measures were put into the design like a collapsible handle that drops into a slot when not being used and also a quick release latch for the oxygen tank that can be operated using one hand in case the nurse needed to keep the patient standing upright.



ExploreIt



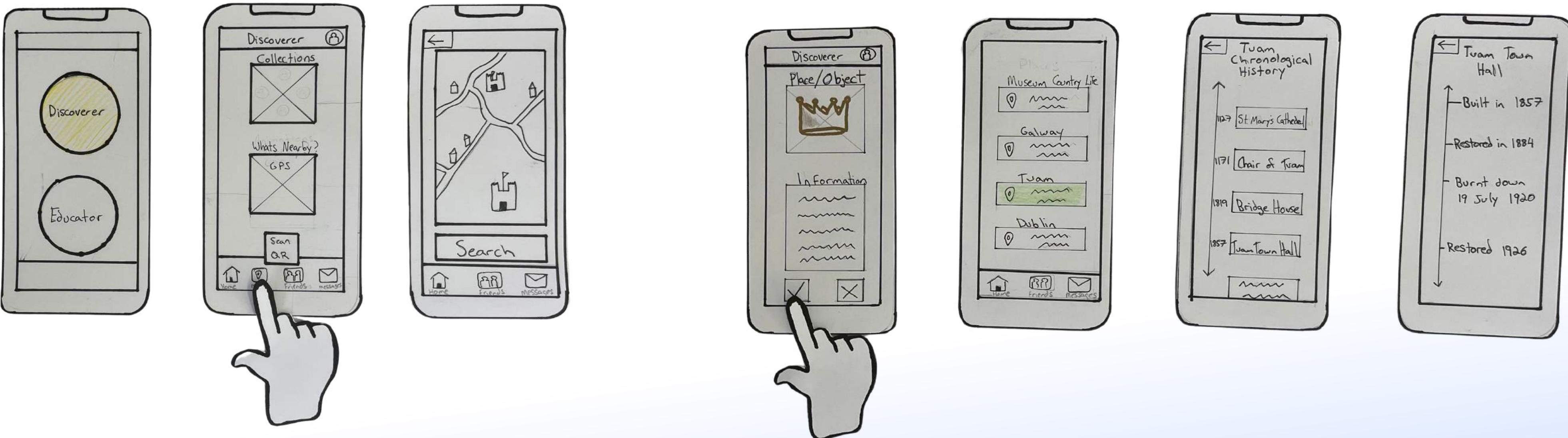
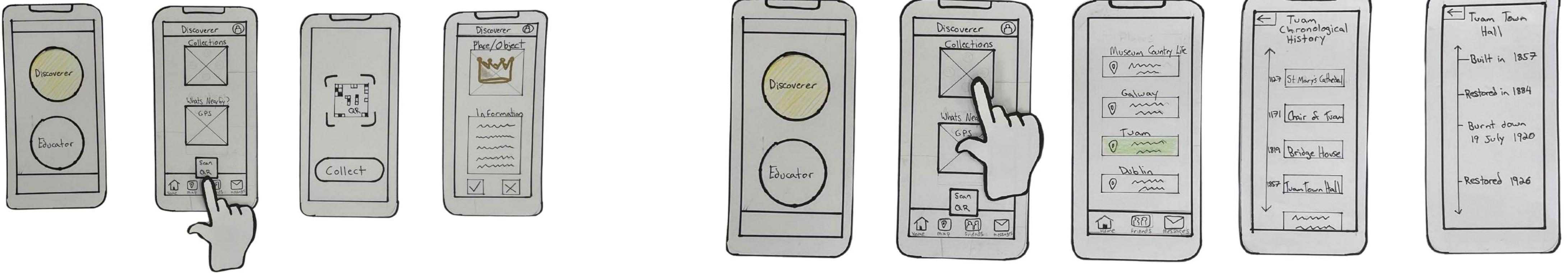
YEAR
2024

CATEGORIES
Digital UX
Education
Colour Theory

BRIEF
Design an app for primary educational purposes that is easy to use for the age group. Could also be potentially used by tourists visiting a new city/town.

Process
Paper prototyping, wire framing, logo design, colour selection, user testing.

Paper Prototyping of the user experience.





Martin

OCCUPATION

College Lecturer living in Germany

AGE

28 - 35

SUBJECTS

Irish History

ACTIVITIES

Visiting museums and historical sites while exploring new cities.

FRUSTRATIONS

Can sometimes struggle in finding things to do while wandering around a new city.

Would also like to share with friends what he has seen recently.

GOALS AND NEEDS

Volunteers for a history group in his home town and would like to get more of the community involved in their local history.

He would like a fun way to explore a new city as a tourist.

QUOTES

"I visited a museum today and noticed they were using QR codes on each item."

"It would be nice to document the things I have seen."

App Moodboard

The aesthetics of the app should be playful with the use of a warm colour palette. Simple cartoon animations can be used as a visual learning aid to enhance the UI experience.



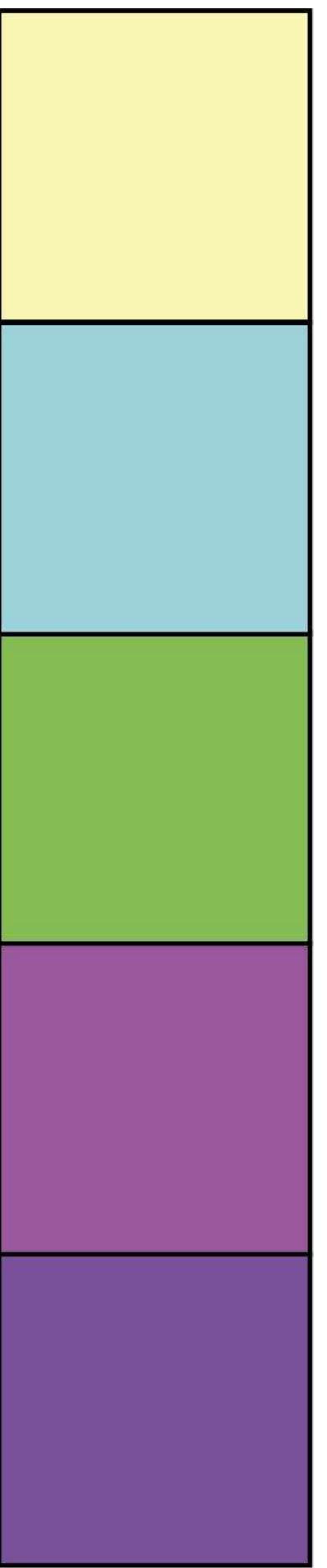
Street Moodboard

The QR code element to the application can be placed near relevant areas in the form of colourful tiles paired with the application colour theme. They could be in the form of characters to entice the users to scan them.



Pattern Library

Hex #f9f5b2



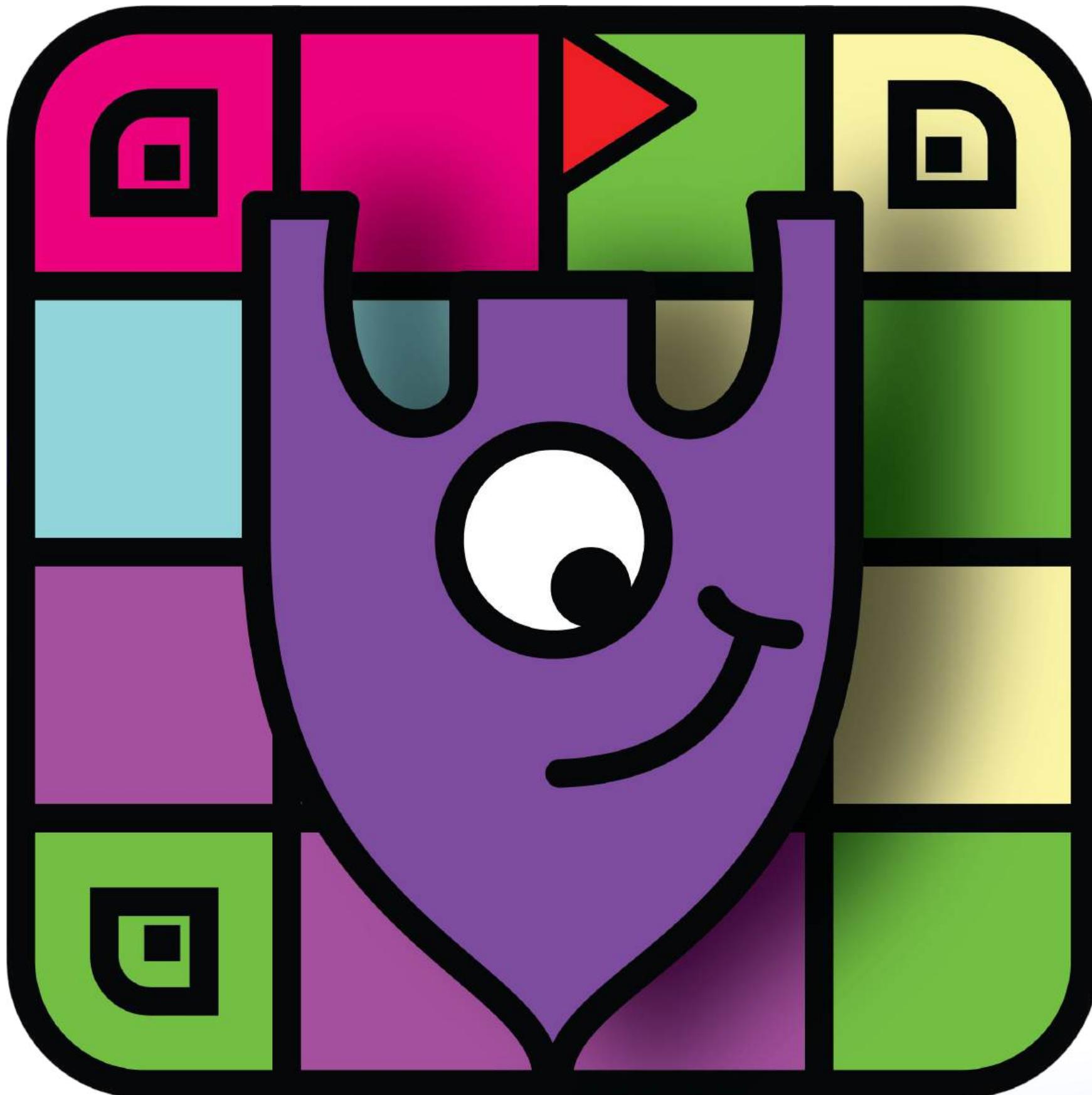
Hex#a8d0d8



Hex #90ba62

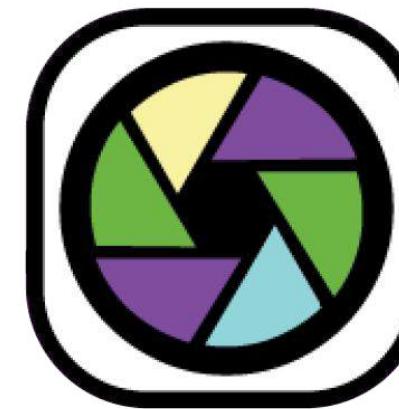
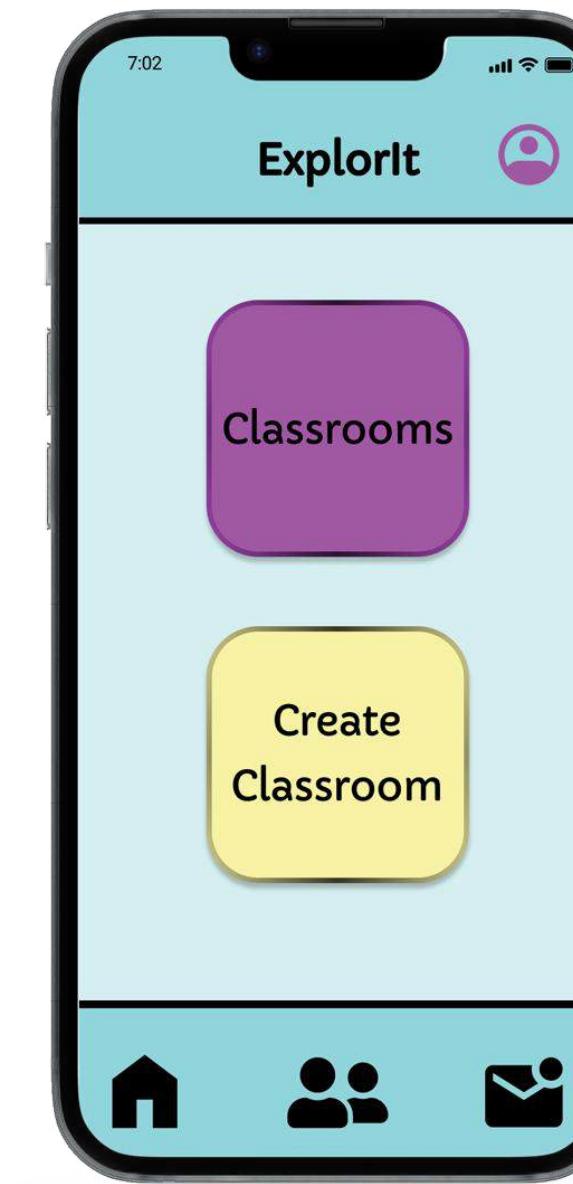
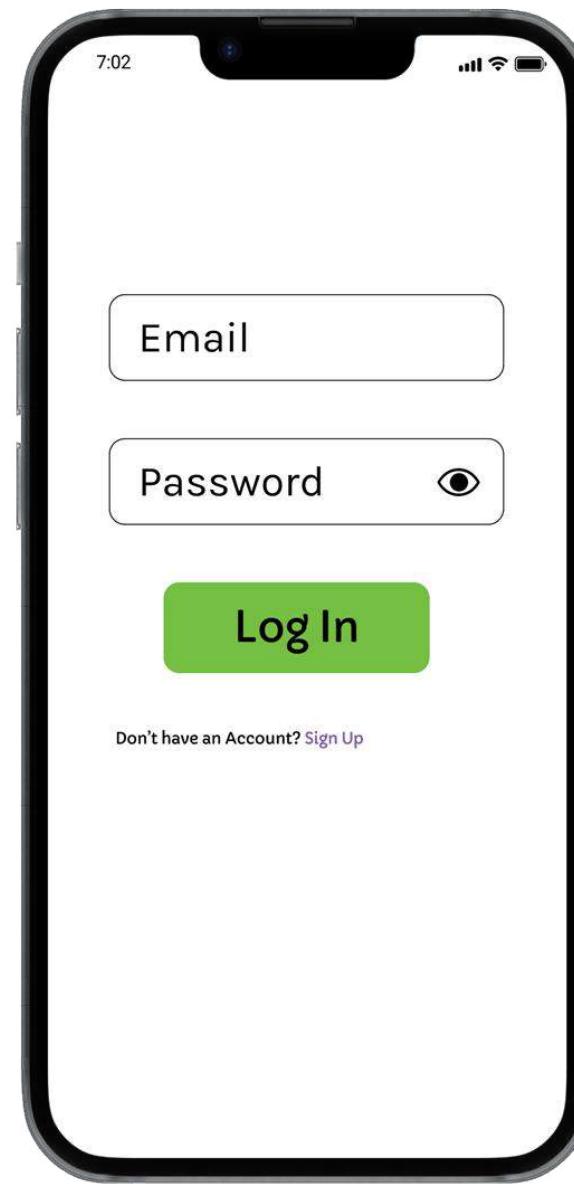
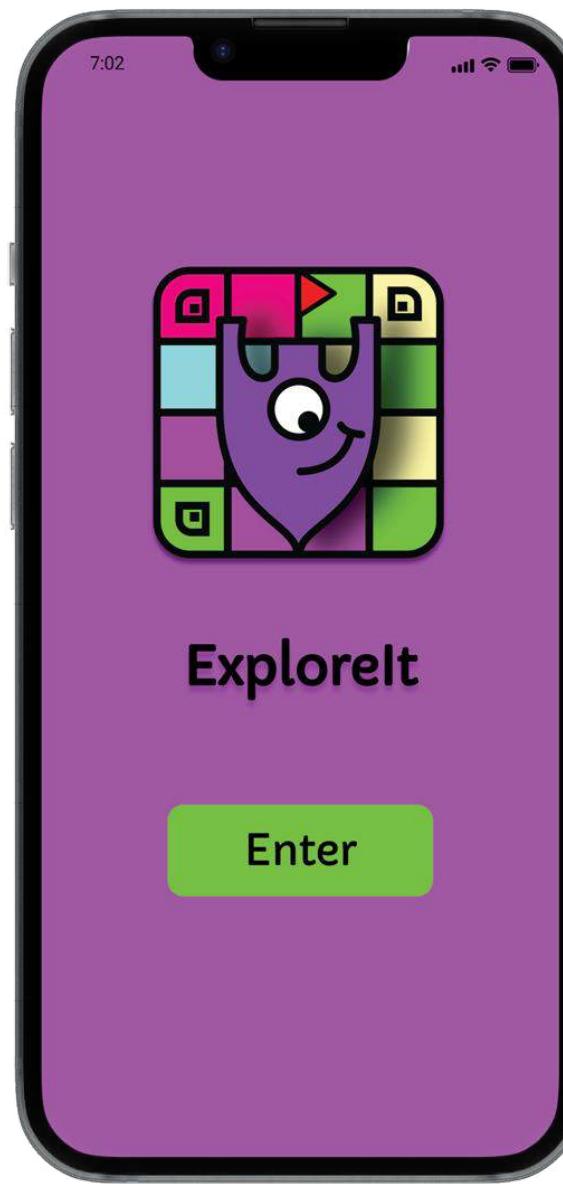
Hex #925c98

Hex #725496



Typography/Buttons/Logos

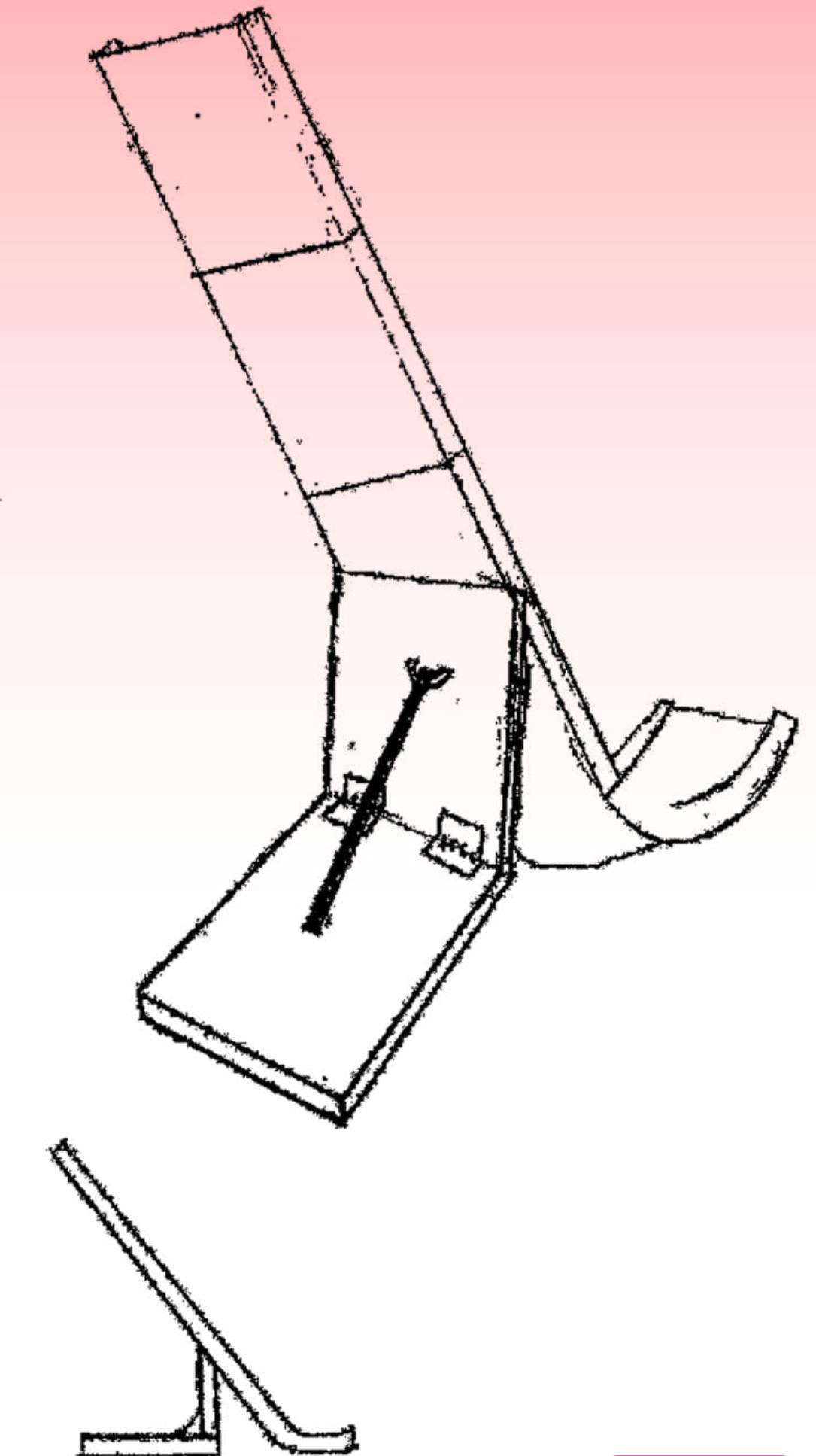
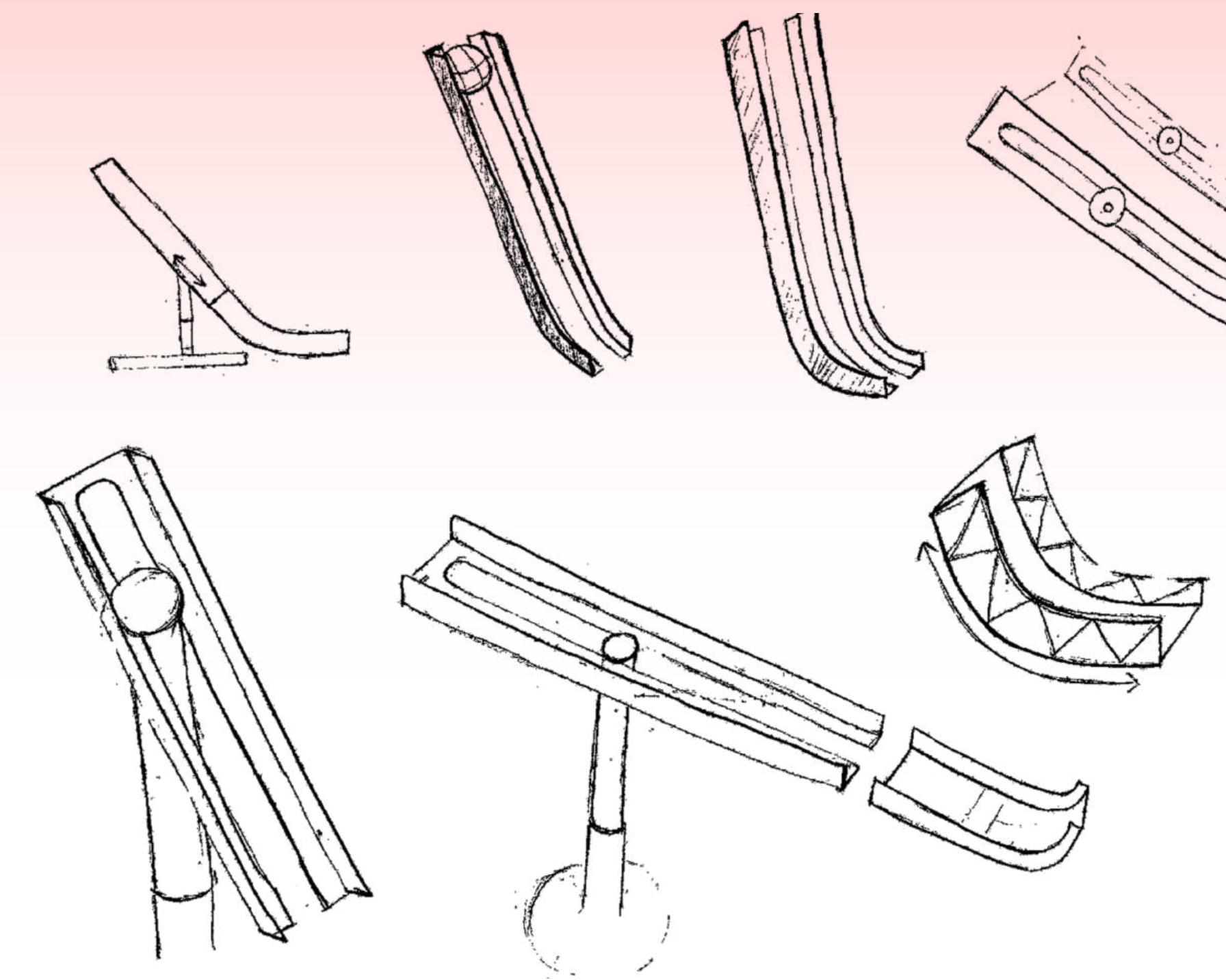
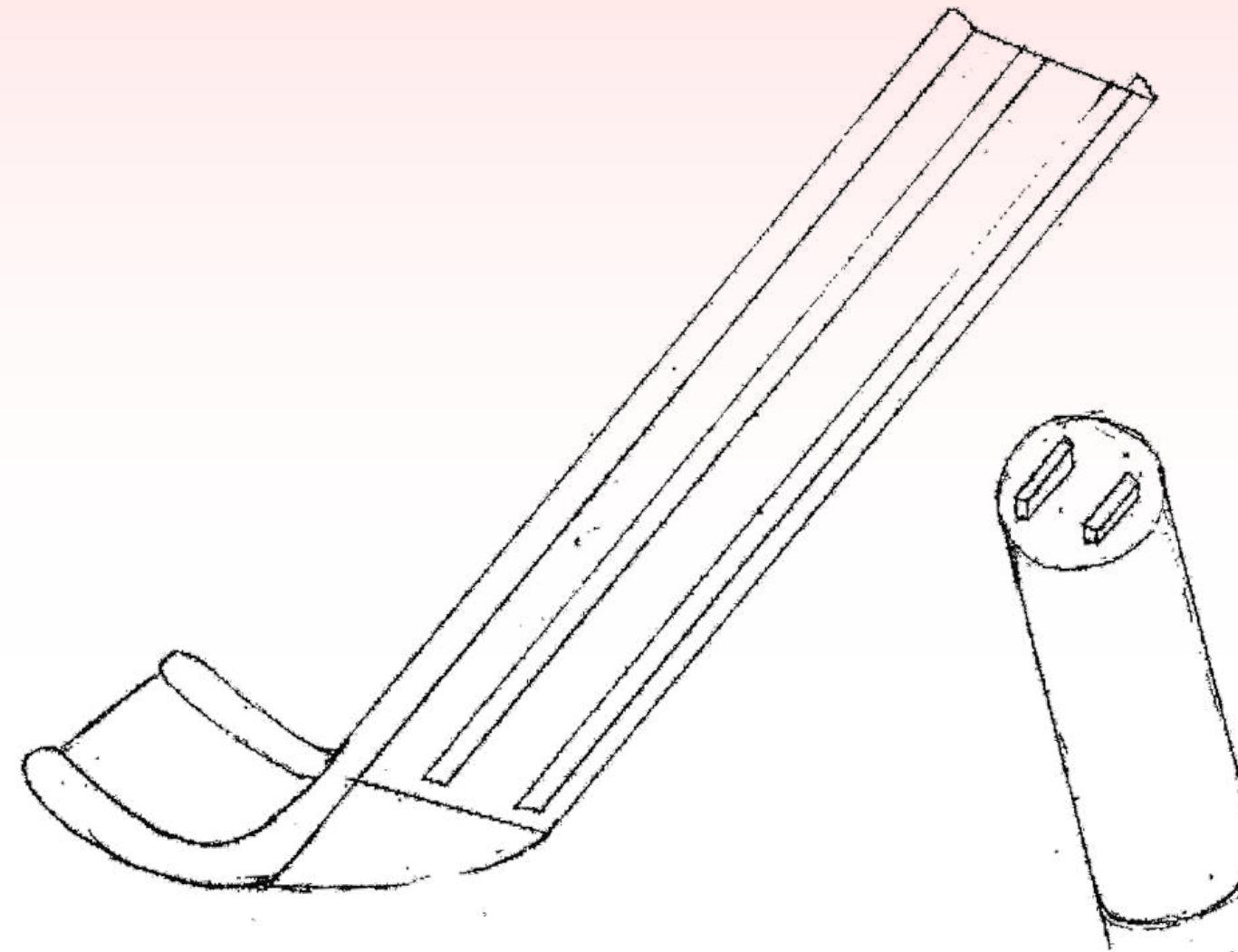
I chose Capriola as my main font for the typography for the app. I chose this because it looks playful and fitted in well with the theme of the app. The logo for the camera/scanner matches the aesthetic for the main logo and the buttons also use the same colour theme.



Collect

Create Class

Boccia Ramp



YEAR
2025

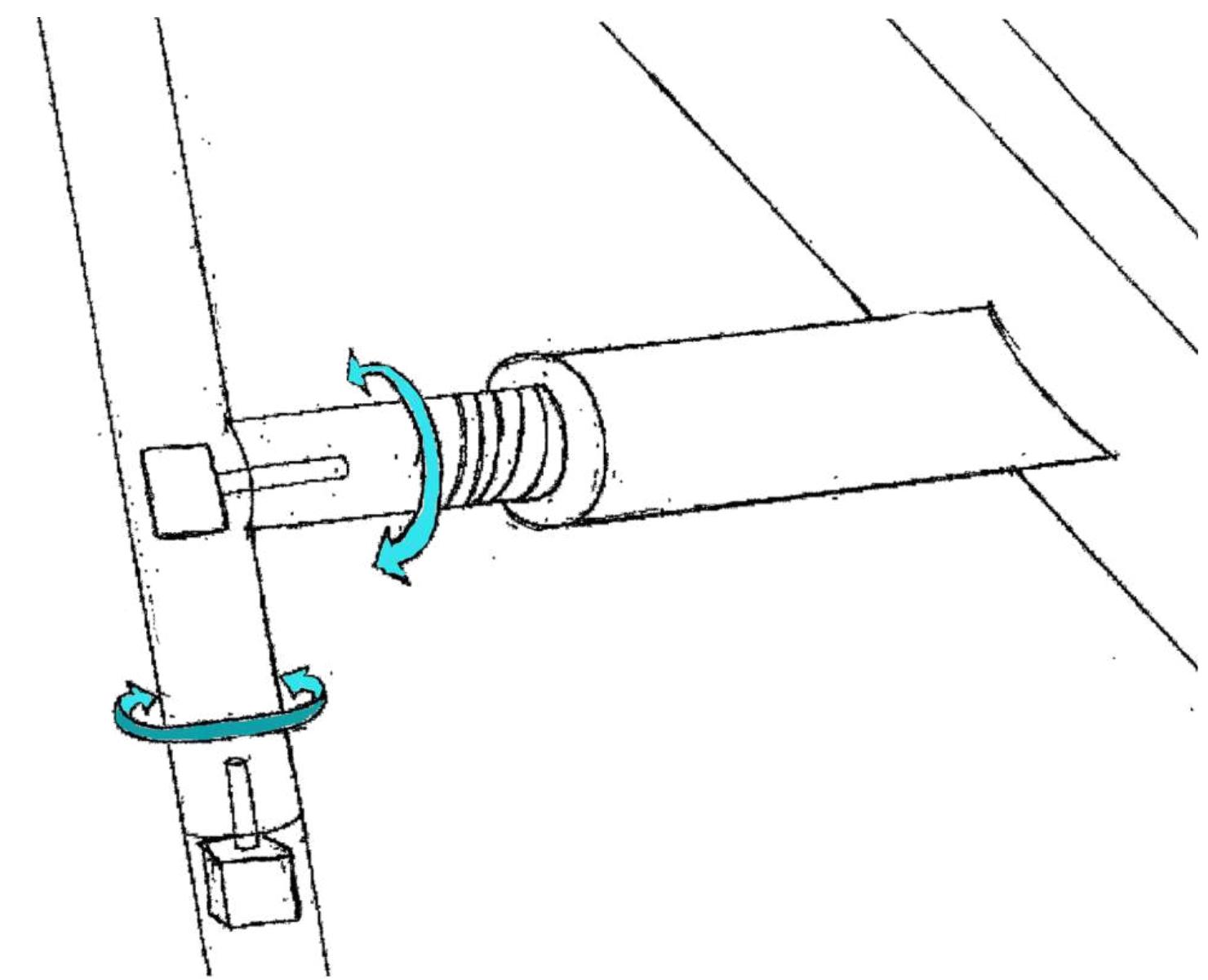
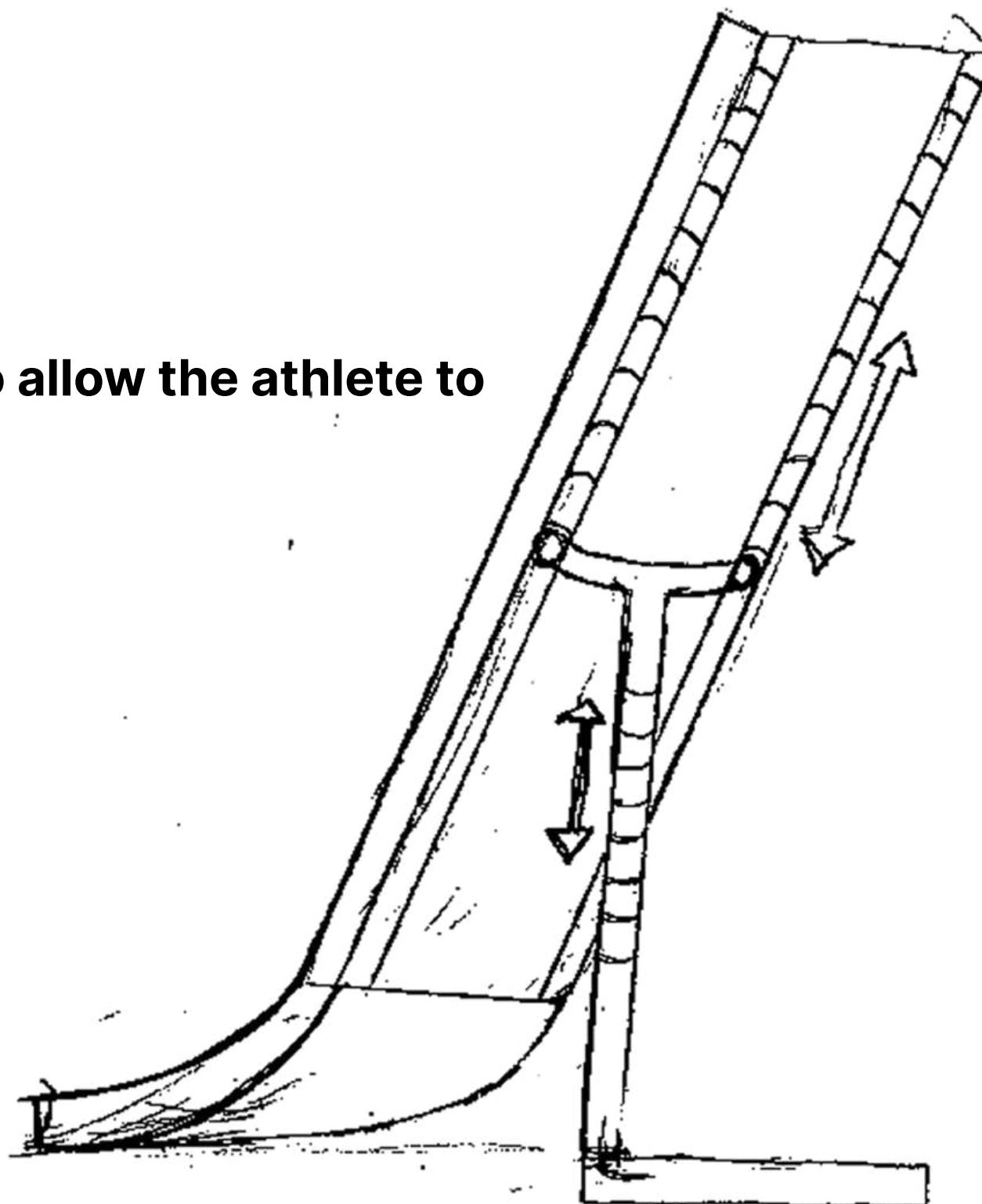
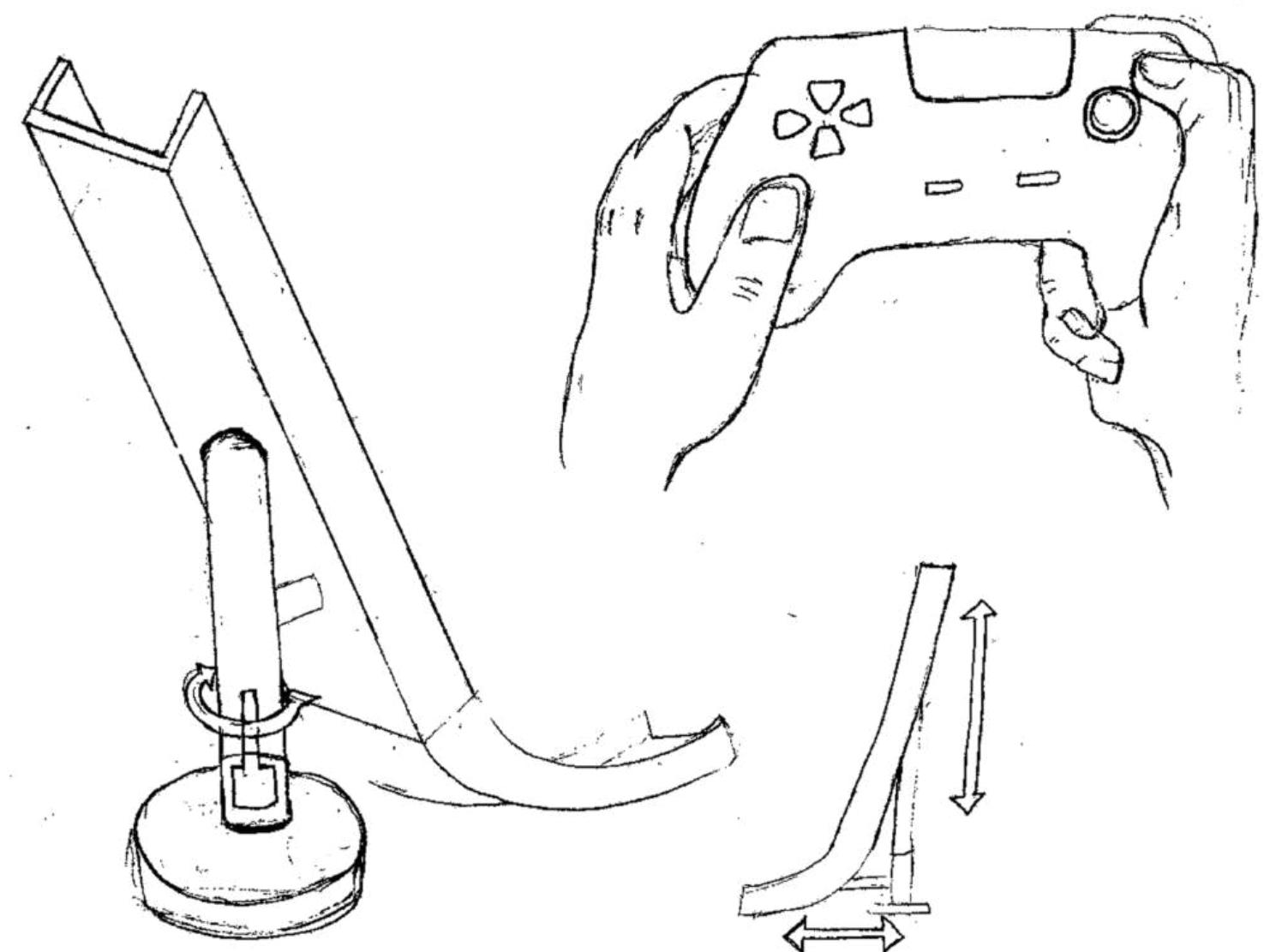
CATEGORIES
Equality for disabilities
Health and Well-being
Promote Independence

BRIEF
Design and manufacture a Boccia ramp that can be easily assembled and set up for a game. Can be controlled by tablet or smartphone using bluetooth.

Process
Research, sketch, prototype, visualize in CAD and 3D renders, manufacture the parts and instruct the assembly process.



Design a Boccia ramp that can be controlled remotely to allow the athlete to have more independence.





WHEELCHAIR USER

32

MOTIVATIONS

Wants to be involved in a community sport but doesn't want to spend too much on equipment that might not be used very often.

Would like to play in an inclusive sport with people who may or may not be physically disabled.

GOALS

- Wants to be involved in a team sport.
- Wants to get better at a new activity.
- Doesn't want their disability to prevent them learning a new skill.

TEAMWORK

AMBITIOUS

COMPETITIVE

PERSONALITY

Extrovert Introvert

Thinking Feeling

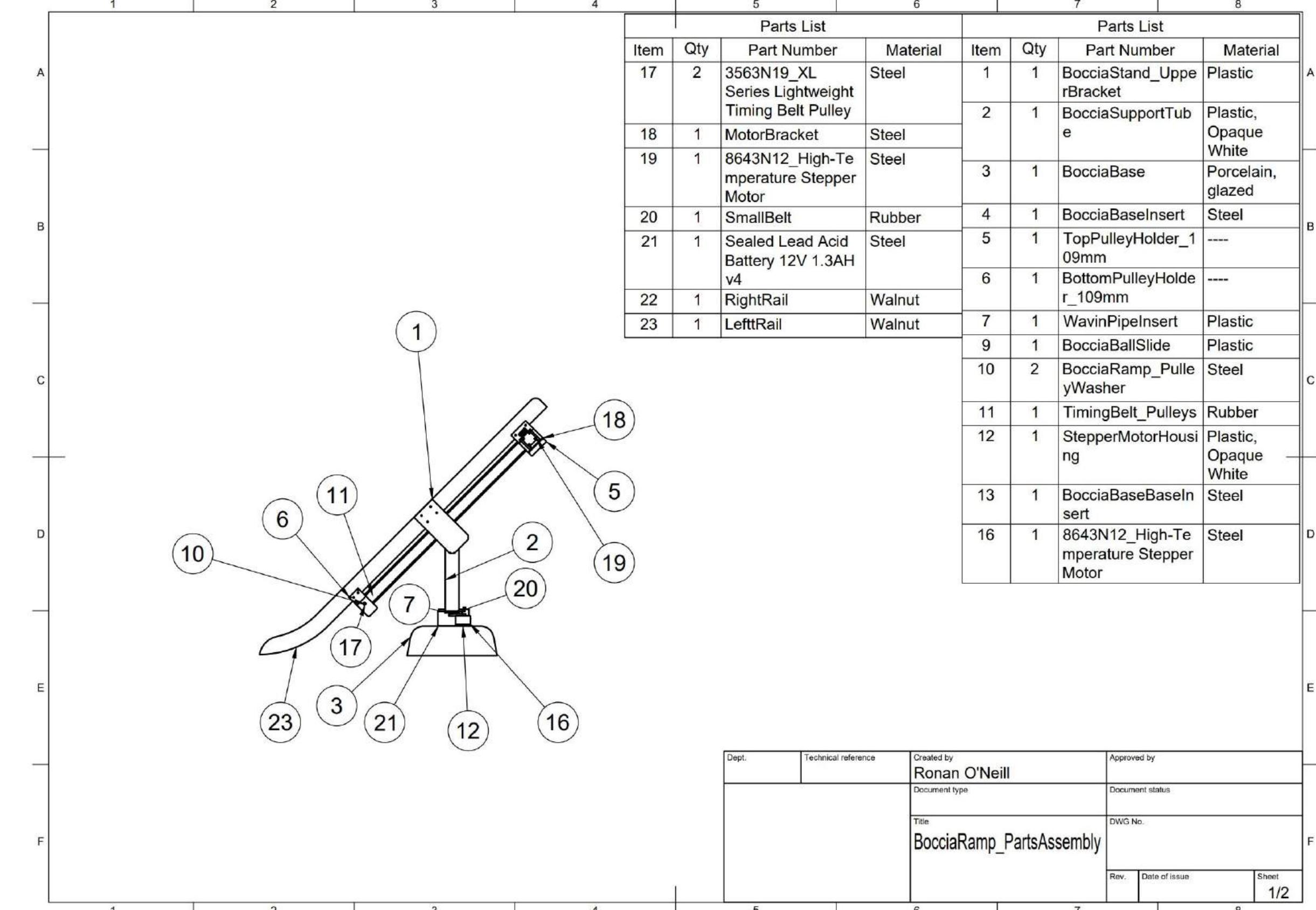
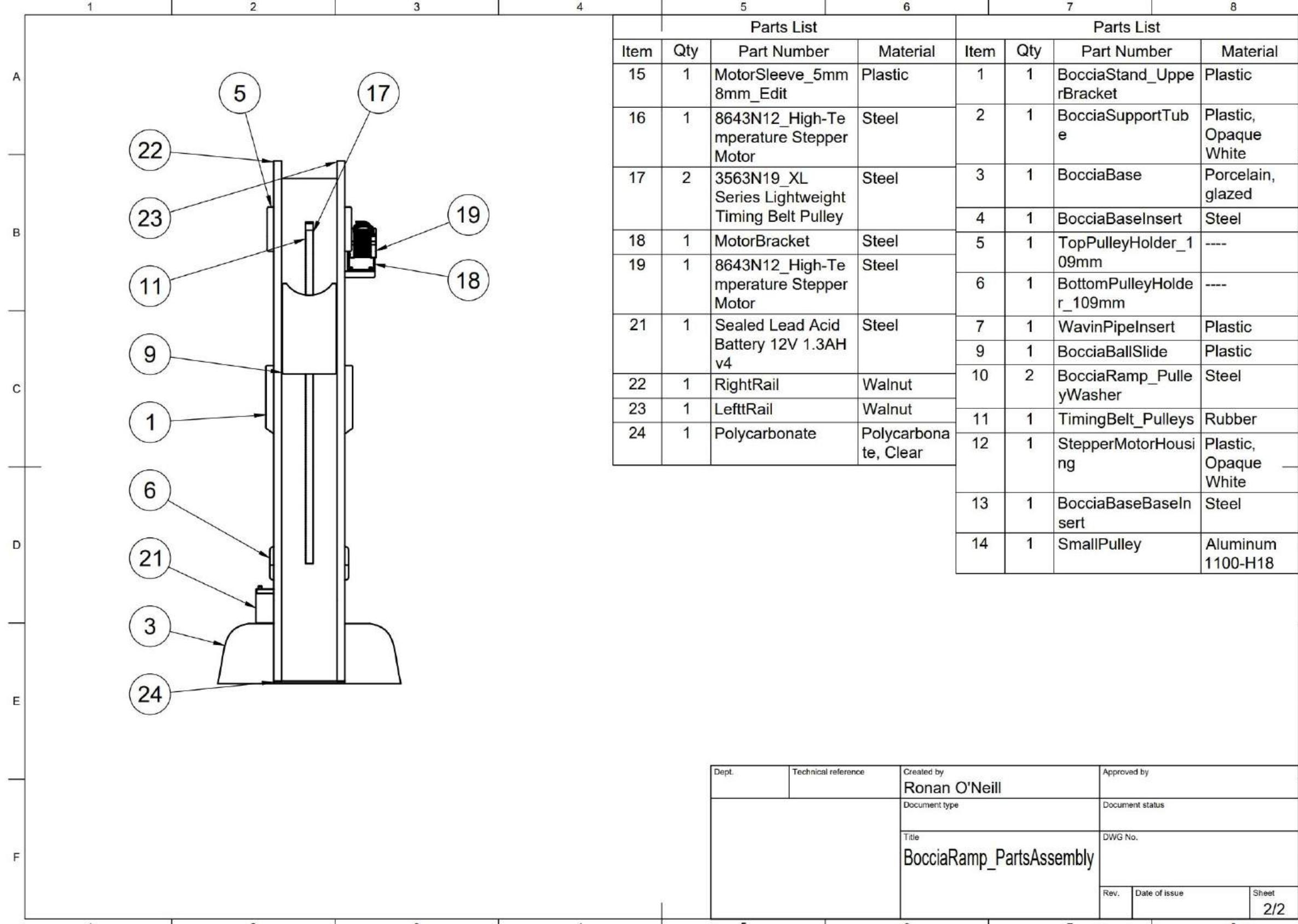
Sensing Intuition

INTERESTS

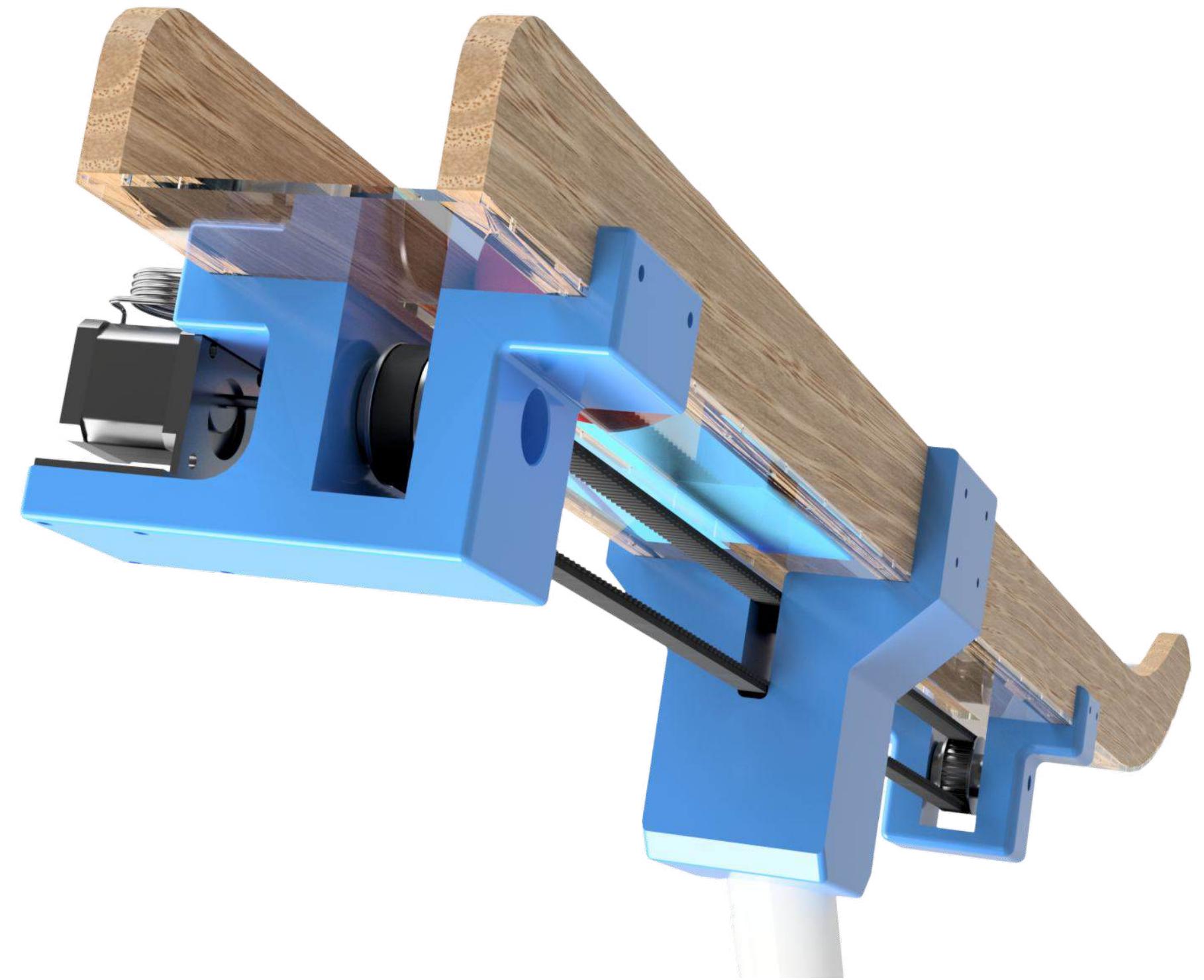
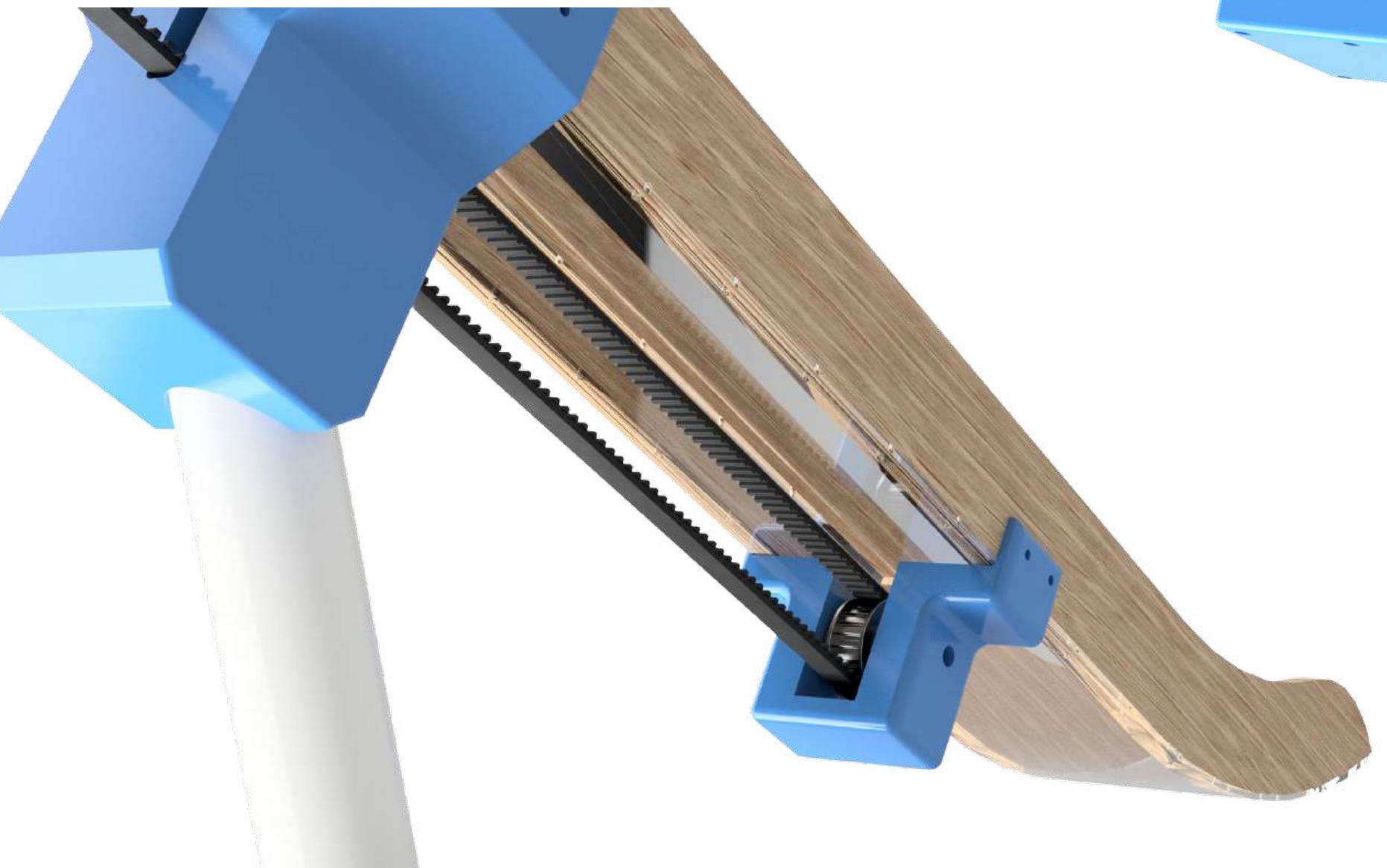
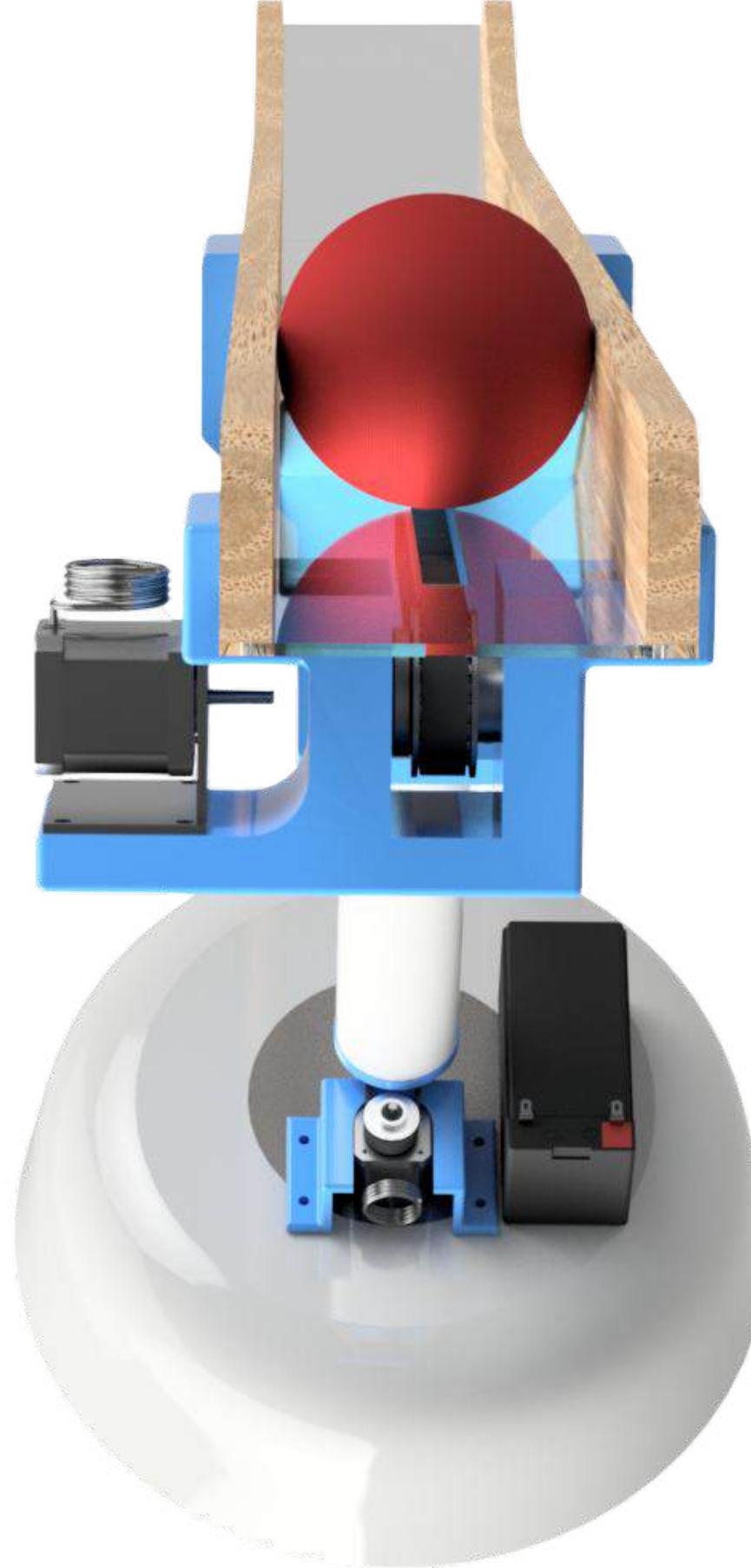
SPORT COMMUNITY

COMMUNITY TECHNOLOGY

TECHNOLOGY



Fusion 360 renders of all the components.



Final design showing how the athlete could be placed during a game.

