BAR BENDET

PRODUCT DESIGN

PORTFOLIO 2025

SALUS:
FIDGET JEWELRY

DEC 2024

PROJECT:

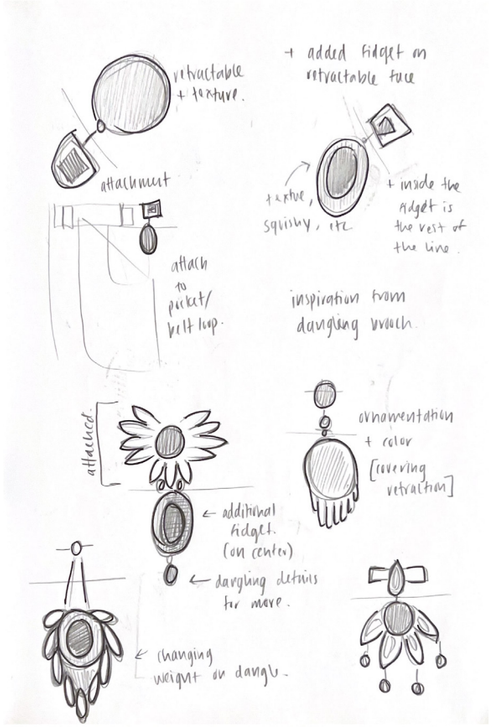
Design a wearable piece of jewelry that allows adults to manage their anxiety discreetly during meetings, classes, or other professional settings.

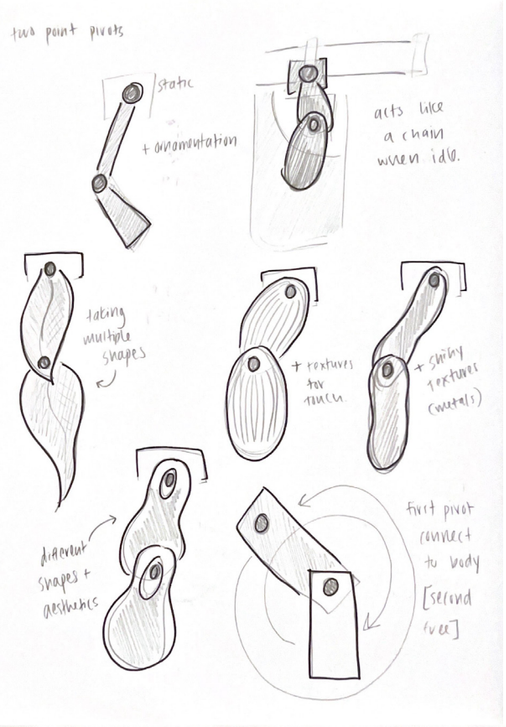
CONCEPTING:

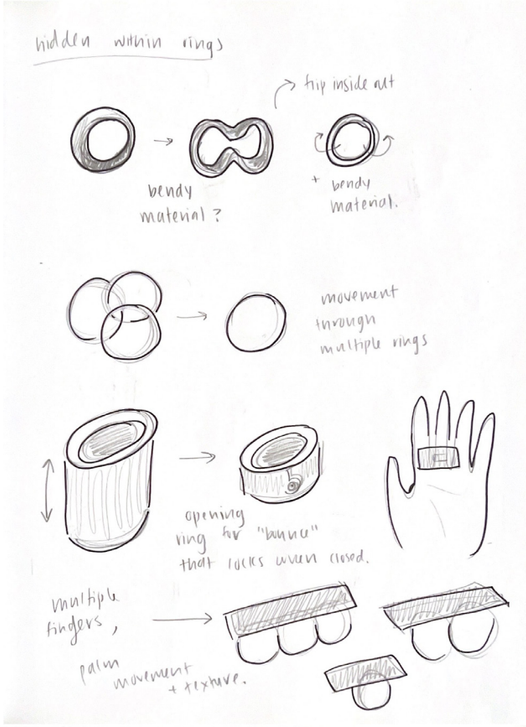
I started this project with trying to understand the fundamentals of my fidgeting habits, as this is a ritualistic thing that I do.

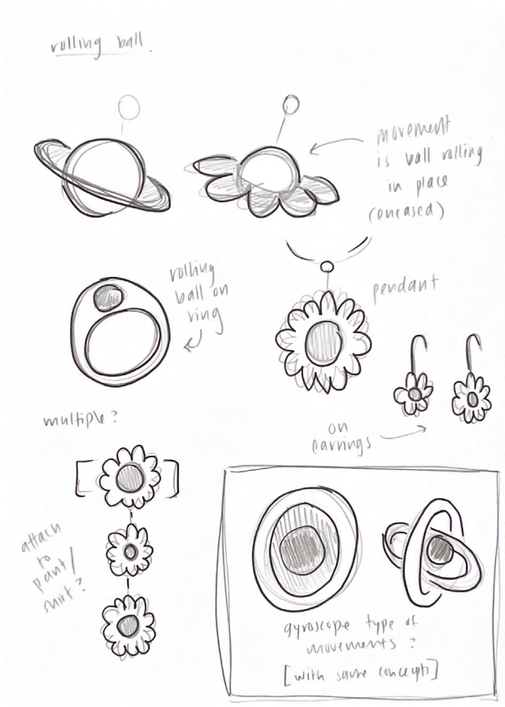
While taking notes on my habits, I created multiple ideas with some of my more satisfying fidget movements, all designed to be concentrated into a wearable item.

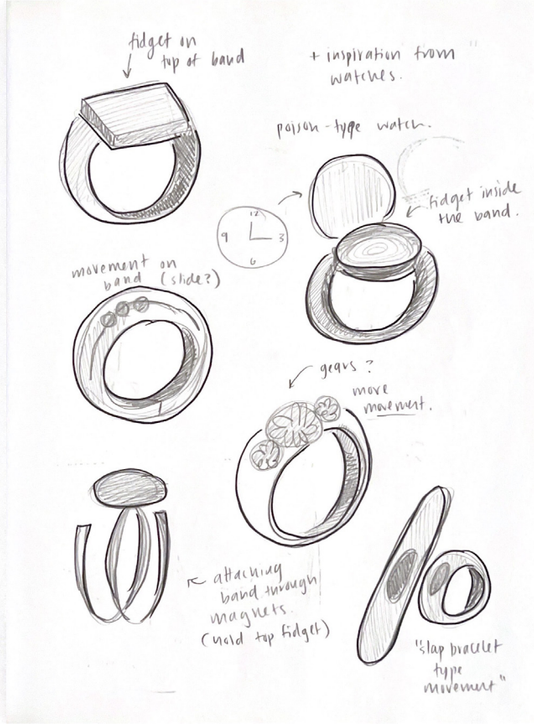
However, this item was not meant to look like fidget toys normally do, and instead hide inside of something that can be worn professionally.

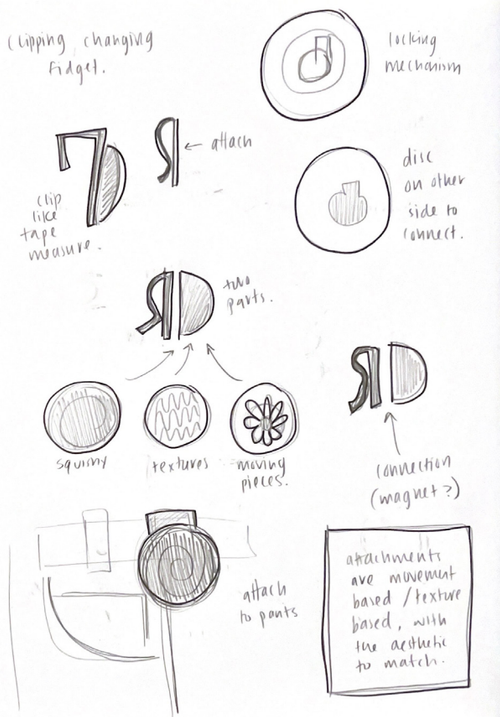












DESIGNS:

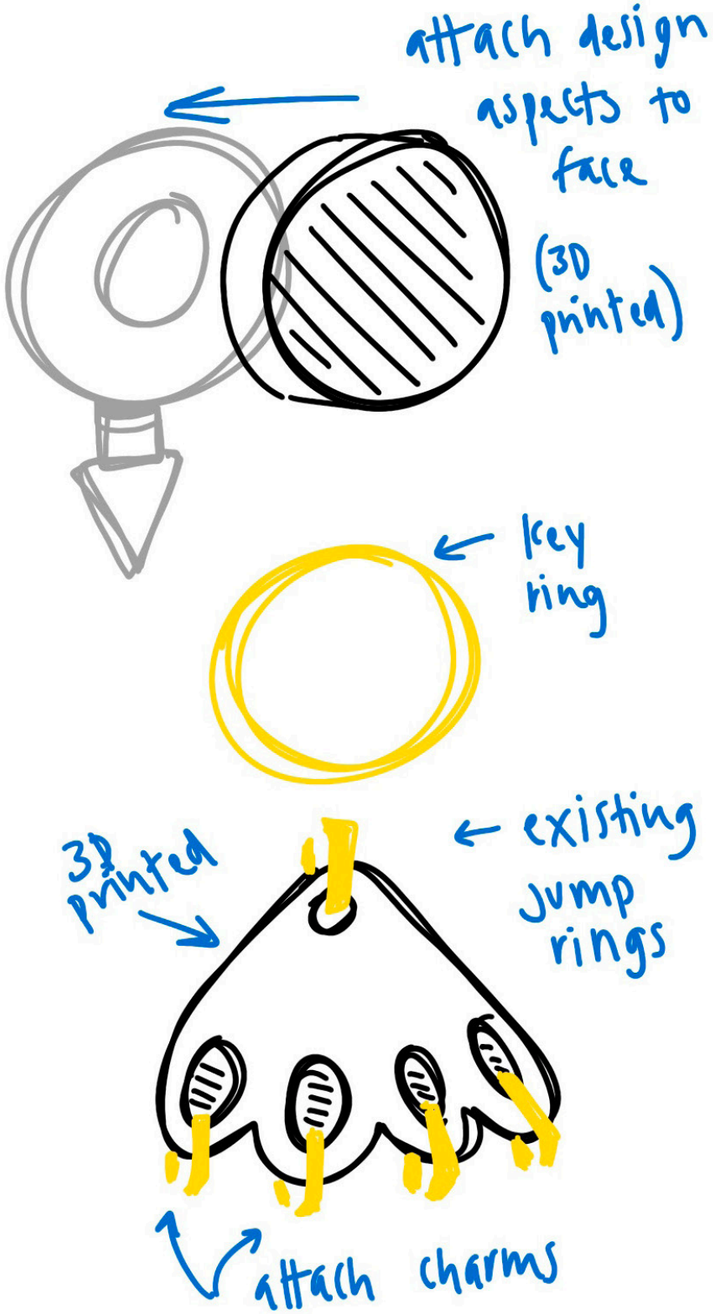
After doing more research and utilizing rapid prototyping, I decided to focus on a design that featured a retractable mechanism, to allow for a satisfying fidget, while also keeping the device on the person at all times.

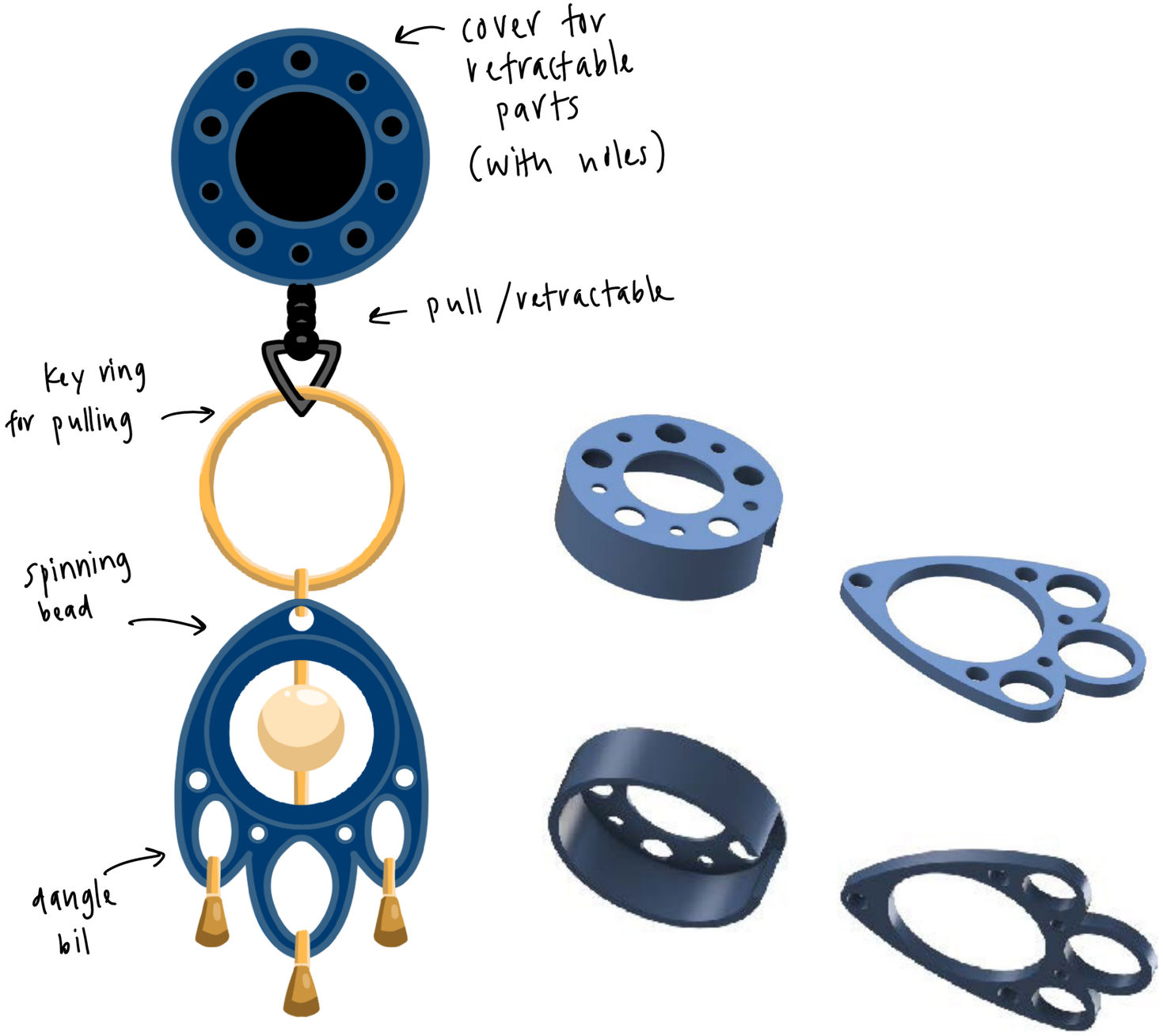
The retractability of the device would ensure that it is available whenever the user needs it, as well as not being misplaced throughout the day.

These concepts were inspired by ornamental brooches and other jewelry.

TESTING:

Testing the usability of the fidgets, as well as the retractable mechanism, was an important step in understanding where to adjust the designs. The size of the mechanism was definitely a limitation and challenge to design around, and in the future I would love to customize this mechanism to make it more compact and discrete.





PROTOTYPING:

Since this was a 6 week project, prototyping meant using 3D printing to represent what would ideally be made of jewelry metals.
The final design includes 3 fidget motions: pulling from the retractable system, spinning from the center bead, and tactile charms at the bottom.
Getting to use these prototypes when I need to fidget has been fun and extremely helpful.

LUKE'S TOY FACTORY
(BRAND EXTENSION)

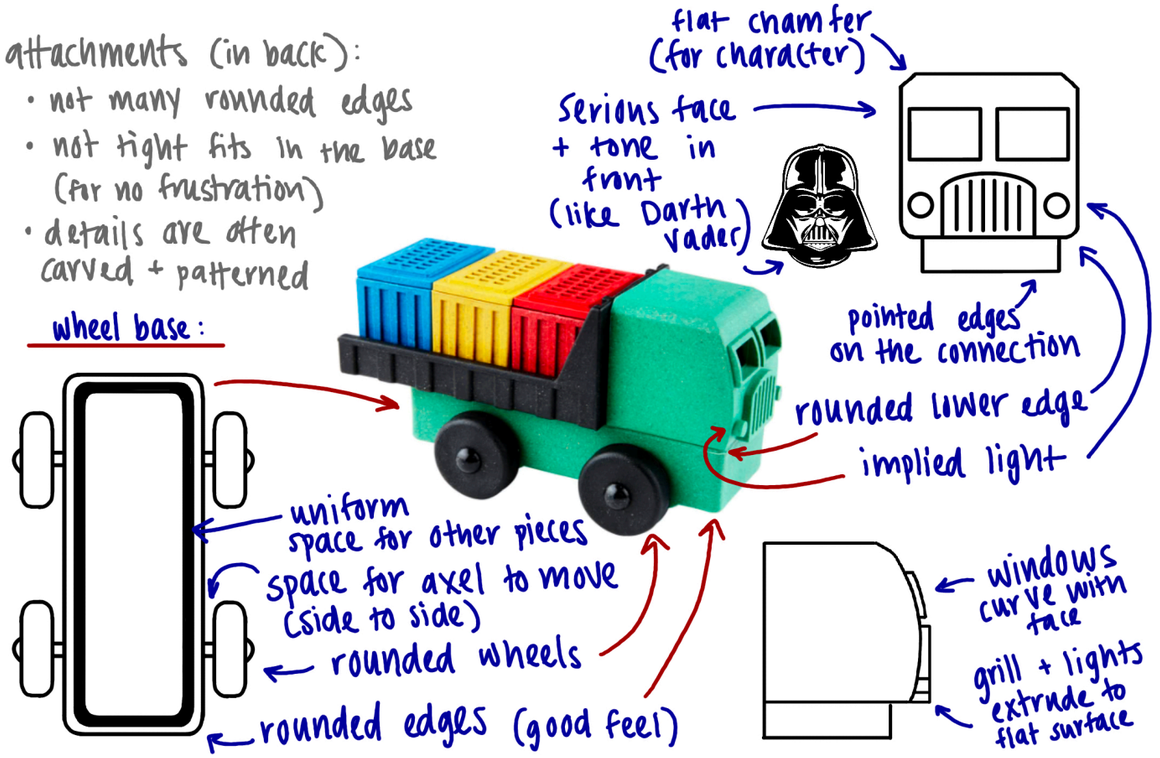
OCT 2024

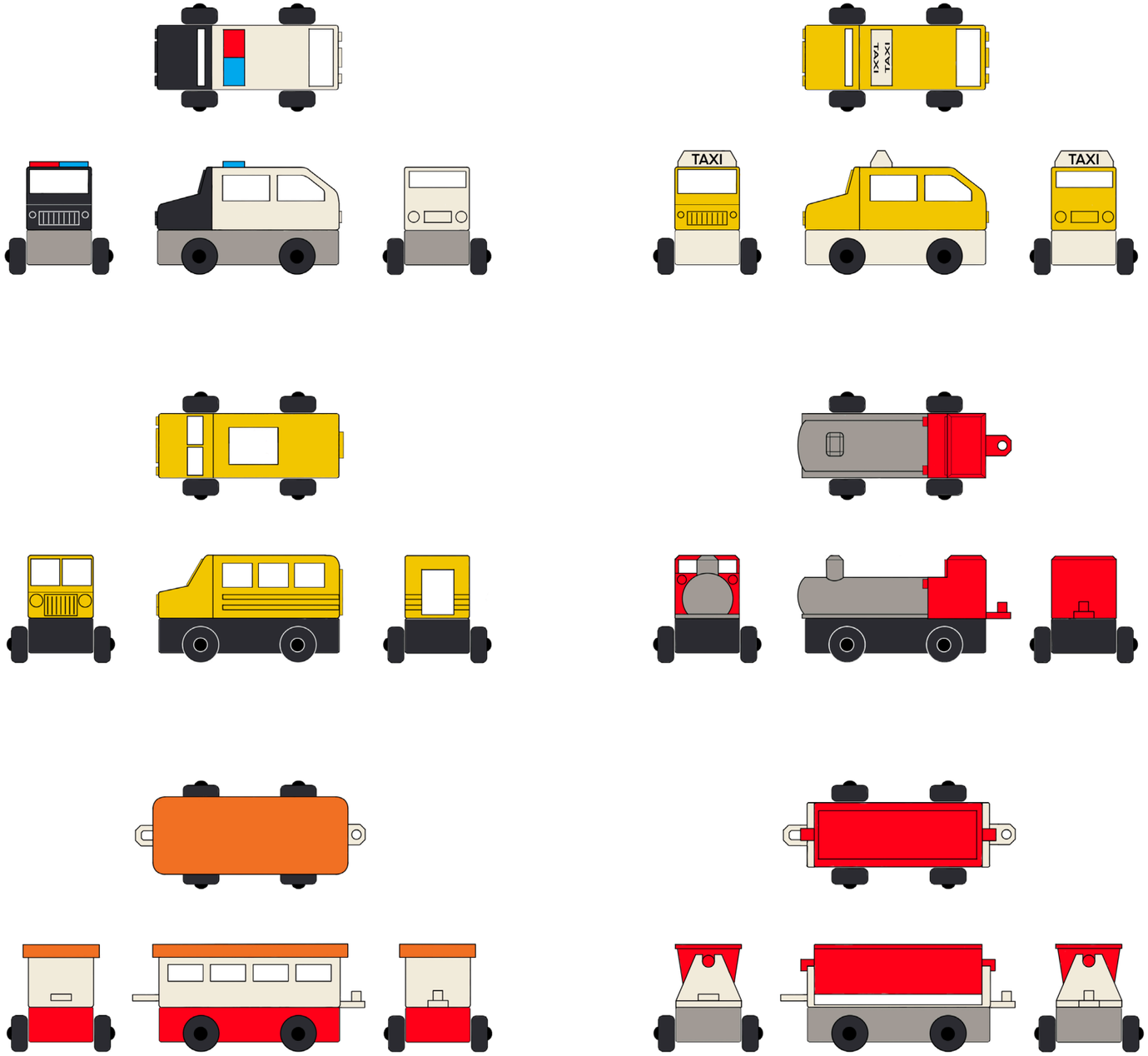
PROJECT:

Design an extension to the toy brand: Luke's Toy Factory.
Pushing for a wider variety of "occupational vehicles", appealing to both the children who will play with these, as well as their parents, who would be interested in their sustainability efforts.

FINDING A DIRECTION:

Understanding the brand as a whole contributed greatly to the direction that was taken for the final designs. The trucks that are made have a contruction aspect to them, as well as playing into the interchangeablity of the designs. It was important to note these connections between the designs to make sure that the vehicles I designed matched the system of play.



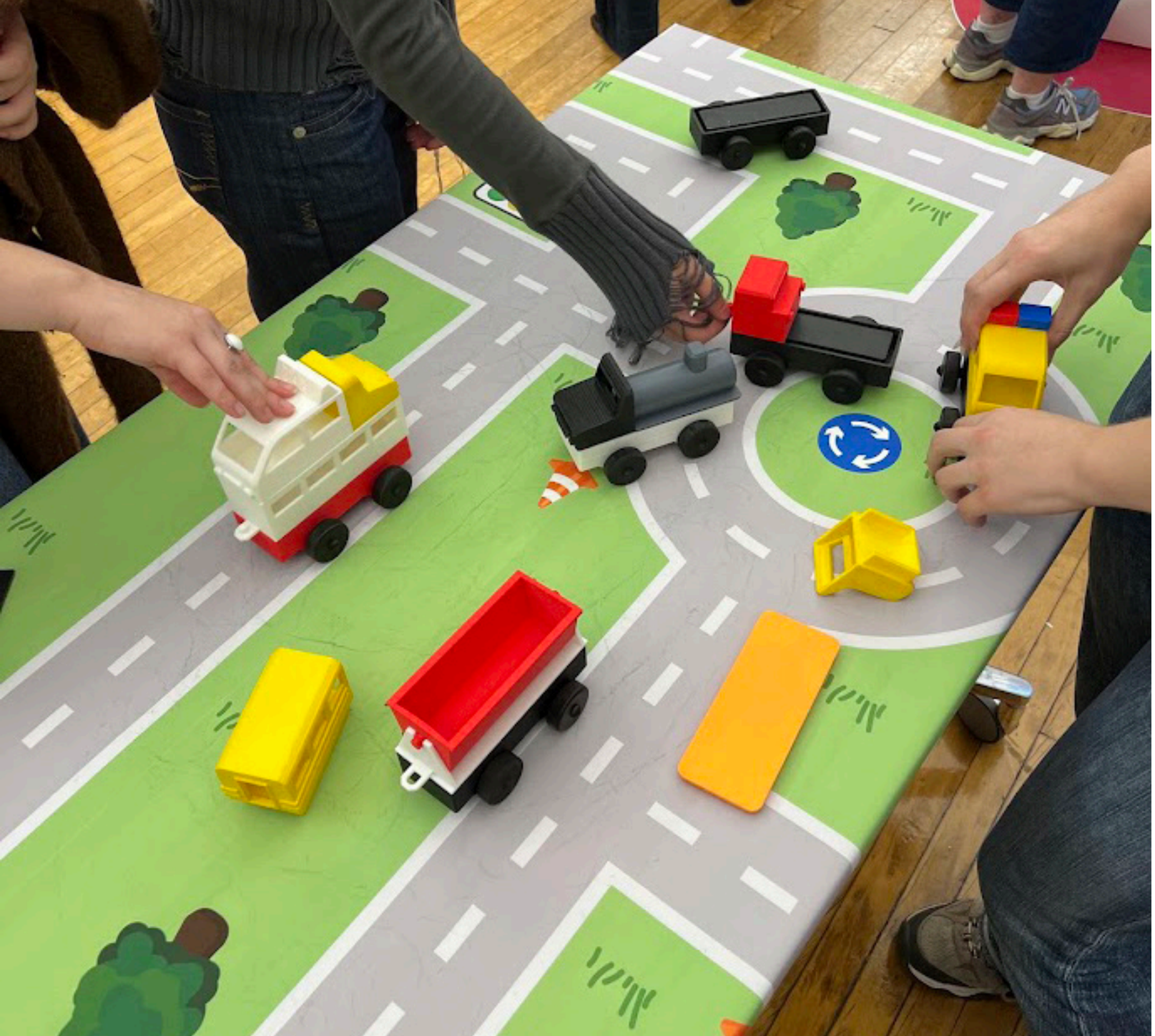


DESIGNS:

There are 6 new vehicles all together, three of which make up a train.
To add to the magic of Luke's trucks, I brought in the idea of connection between the vehicles, making a train the perfect candidate to display it.
Another addition to the system were the lights/taxi name above the vehicles, adding another level to the buildability.
The colors of the vehicles were also important for me to get right, since the brand only uses certain colors for their plastics.

PROTOTYPING:

Prototyping the 6 new vehicles was important to see how the pieces fit together, their playability, and the compatibility between them and the trucks.
These prototypes were modeled in Autodesk Fusion and 3D printed in full scale.



PRESENTATION:

To accompany the prototypes made, I designed a table cover to immitate kids' carpets made to look like roads, specifically to enhance the play pattern with vehicles. Having the prototypes available and inviting was extremely important for me to have, since toys are meant to be played with!

CLIENT RING

SEPT 2023

PROJECT:

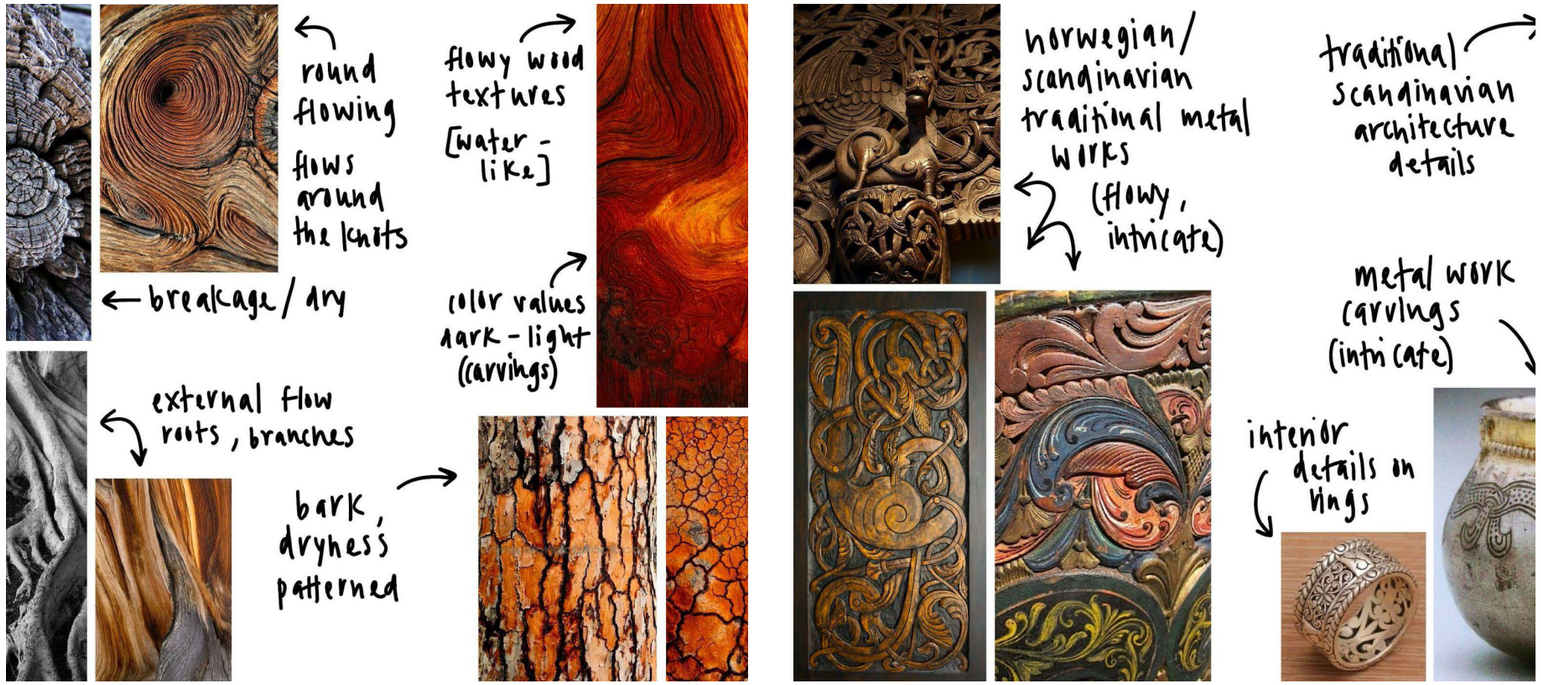
Design a custom wearable for a fellow classmate. The design needs to be inspired by the person's interests and preferances.
The final deliverable needs to utilize the benefits of 3D printing, presented in a one-of-a-kind packaging that reflects the client.

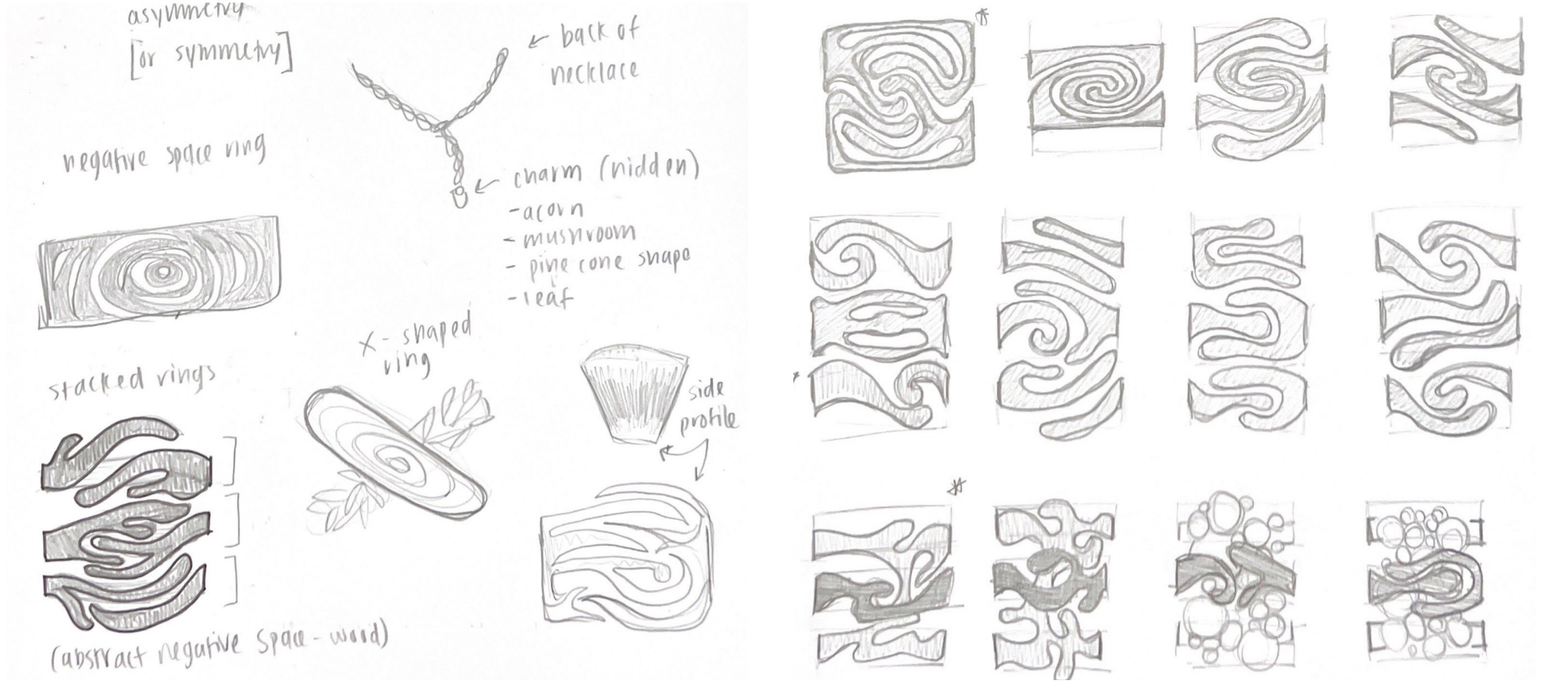
MY APPROACH:

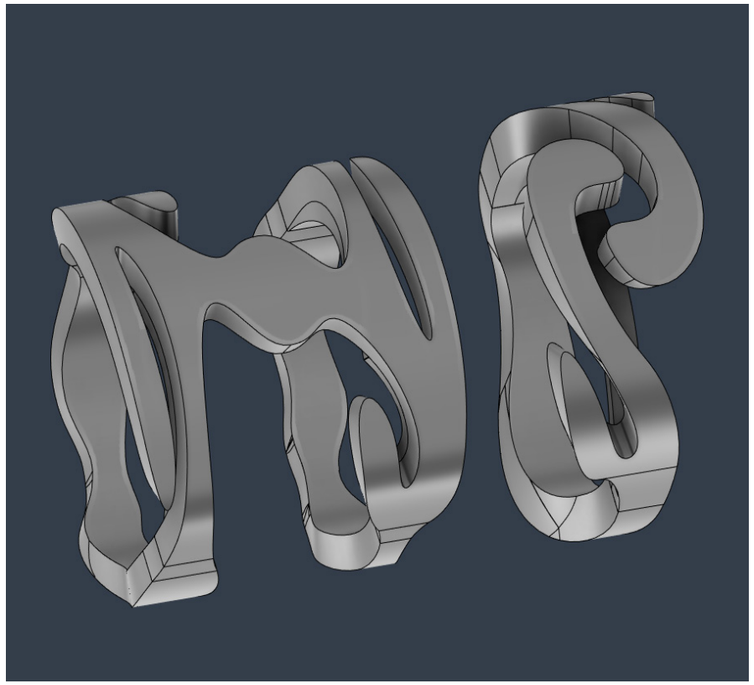
Since the project is a customized item for a client, I coducted a set of interviews to best know my client's desires and preferences. From those interviews, I iterated designs for various types of jewelry and aesthetics. A couple of abstract sketches were chosen by the client to continue with, which I translated best into a ring.

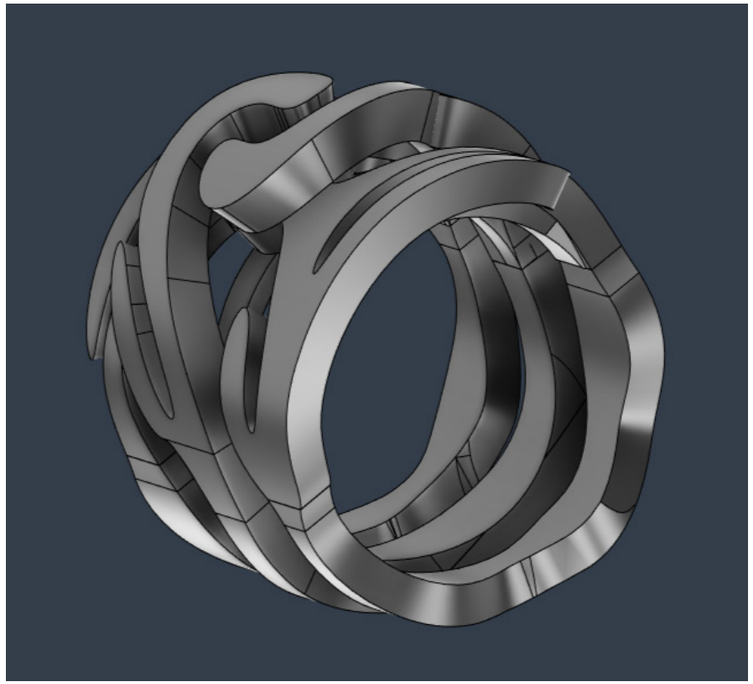
The final deliverable needed to be a 3D printed item, so I wanted to explore the benefits through a more complex CAD model.

The model is two rings that interloop, creating a faux stacking effect, as the client emphasized their love for the aesthetic of stacked rings.







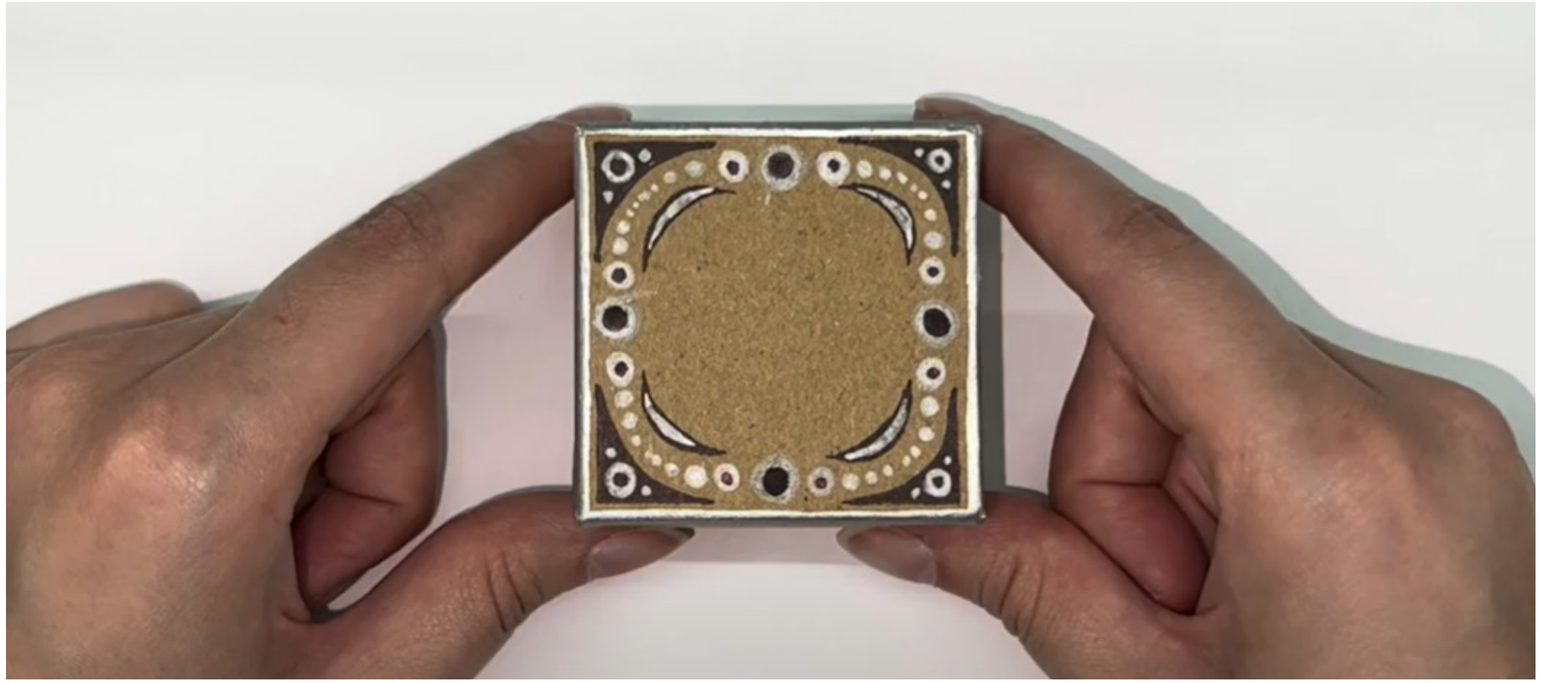


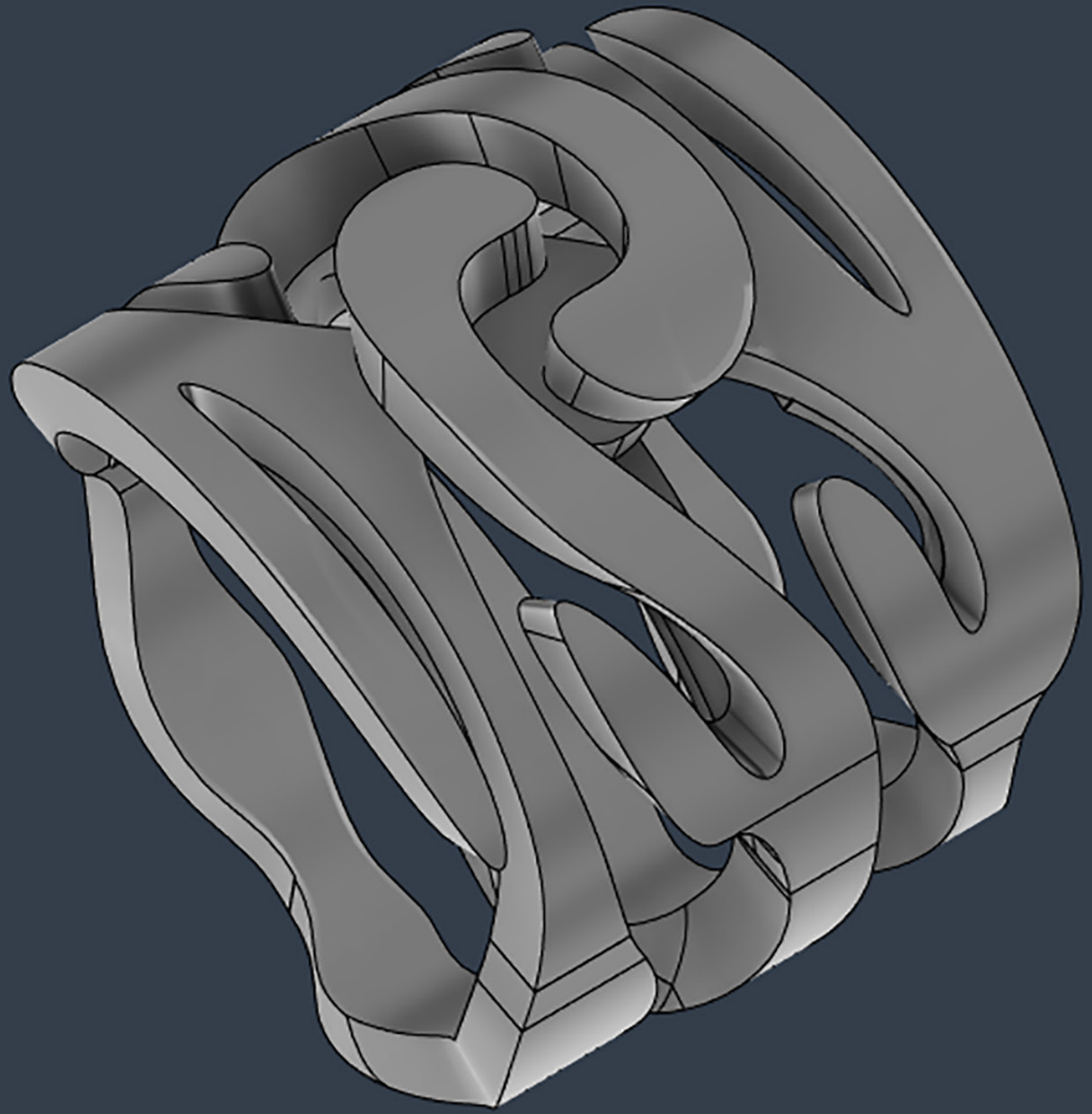
CAD MODELS:

After experimenting with different methods to model this (see top left image), I managed to create this complex two-parted model.
The top face has a flowy look of wood knots together with Norwegian nature metalwork. The bottom of the ring (three bands), mimics the crackling of tree bark. The middle band is detatched from the others to provide stacking effect.

PACKAGING:

The ring box interior was designed to mimic Norwegian metalwork details.
I also incorporated my initials in the design to add my touch. The box exterior details also reflect the other jewelry the client normally wears.





TOY TRAIN

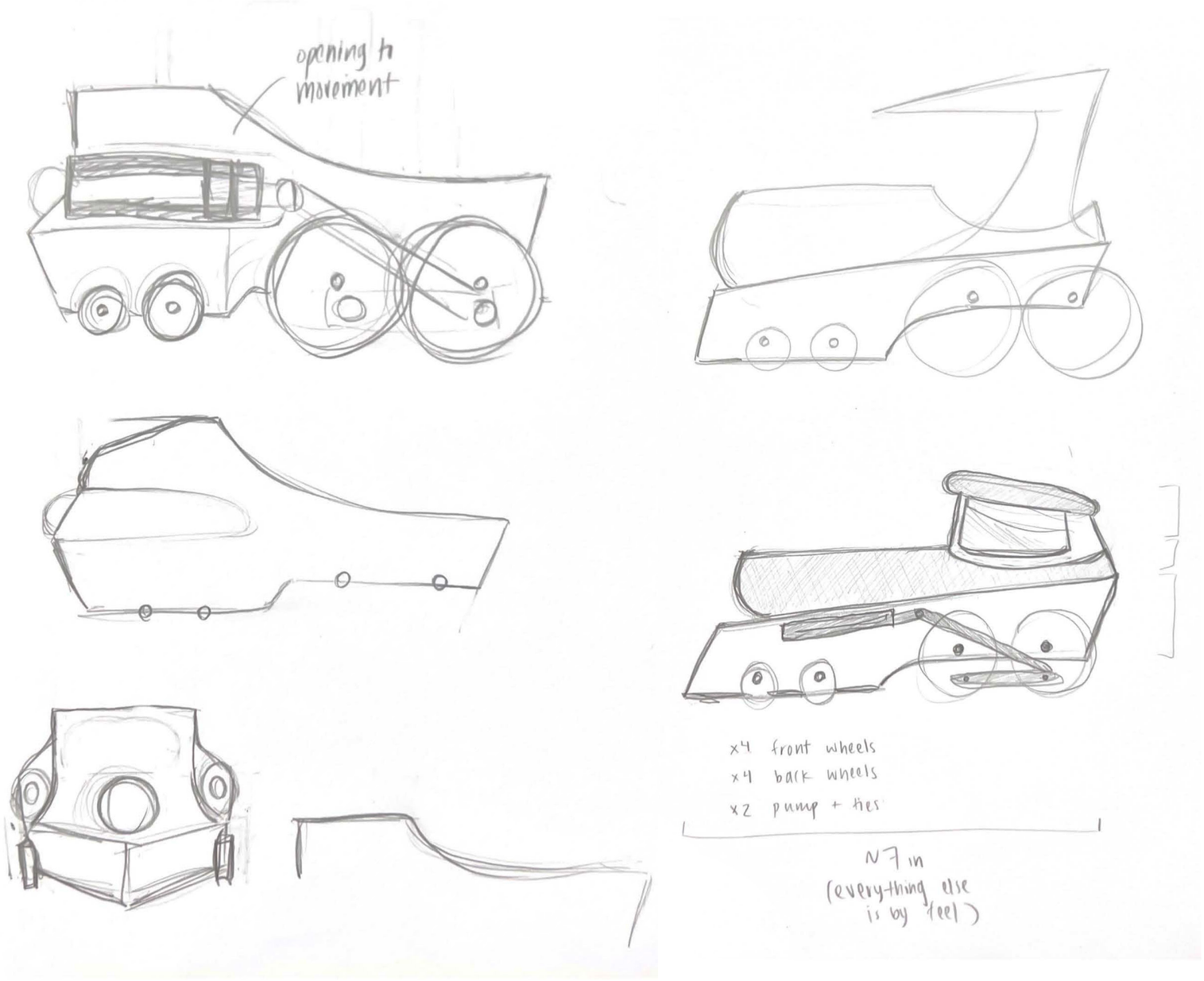
MAR 2023

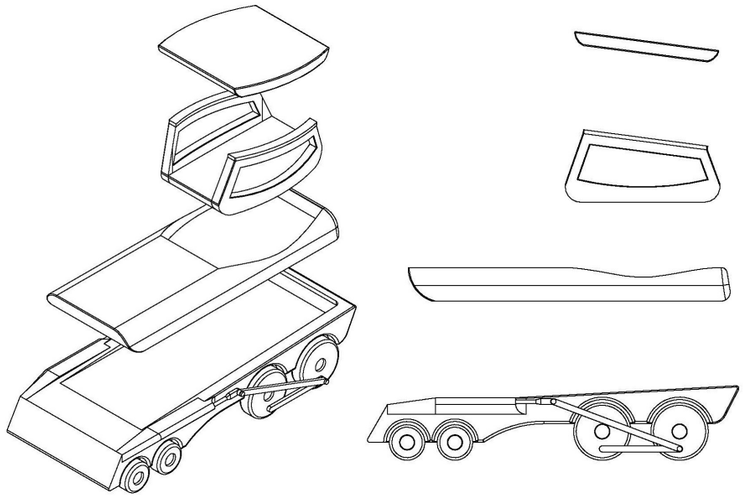
PROJECT:

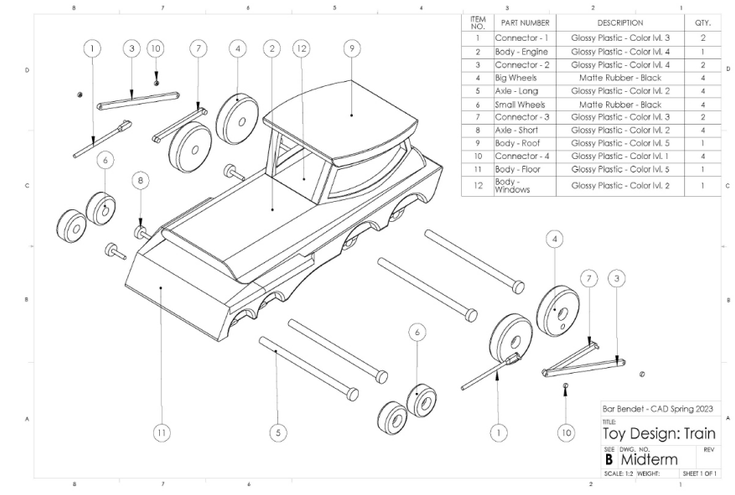
Design and print a toy that has multiple parts in an assembly in Solidworks. Final presentation of the product needs to include production drawings for all the individual parts, as well as an exploded view with bill of materials.

MY APPROACH:

I grew up playing with toy trains, building things, and taking them apart, so I drew inspiration from all of these elements to create a train that could be taken apart and reassembled.
I wanted to challenge myself further by adding a motion element to the design, with the wheels being fully functional.
I took inspiration from the design language of wooden train toys made for toddlers, as well as streamlining designs, to create a train design that looks sleek and fun to play with.
The parts can be assembled in different orientations to create unique configurations of the train.







ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	Connector - 1	Glossy Plastic - Color lvl. 3	2
2	Body - Engine	Glossy Plastic - Color lvl. 4	1
3	Connector - 2	Glossy Plastic - Color lvl. 4	2
4	Big Wheels	Matte Rubber - Black	4
5	Axle - Long	Glossy Plastic - Color lvl. 2	4
6	Small Wheels	Matte Rubber - Black	4
7	Connector - 3	Glossy Plastic - Color lvl. 3	2
8	Axle - Short	Glossy Plastic - Color lvl. 2	4
9	Body - Roof	Glossy Plastic - Color lvl. 5	1
10	Connector - 4	Glossy Plastic - Color lvl. 1	4
11	Body - Floor	Glossy Plastic - Color lvl. 5	1
12	Body - Windows	Glossy Plastic - Color lvl. 2	1

Bar Bendet - CAD Spring 2023

TITLE:
Toy Design: Train

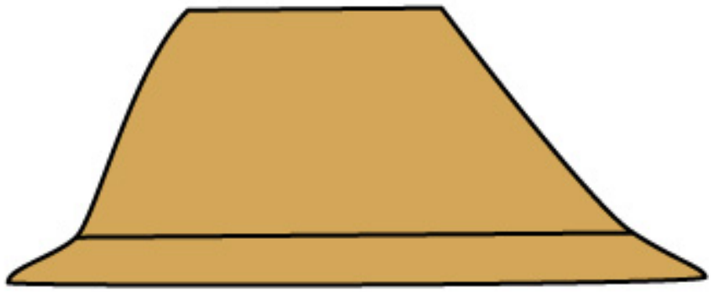
SIZE: B | DWG. NO.: Midterm | REV:

SCALE: 1:2 | WEIGHT: | SHEET 1 OF 1

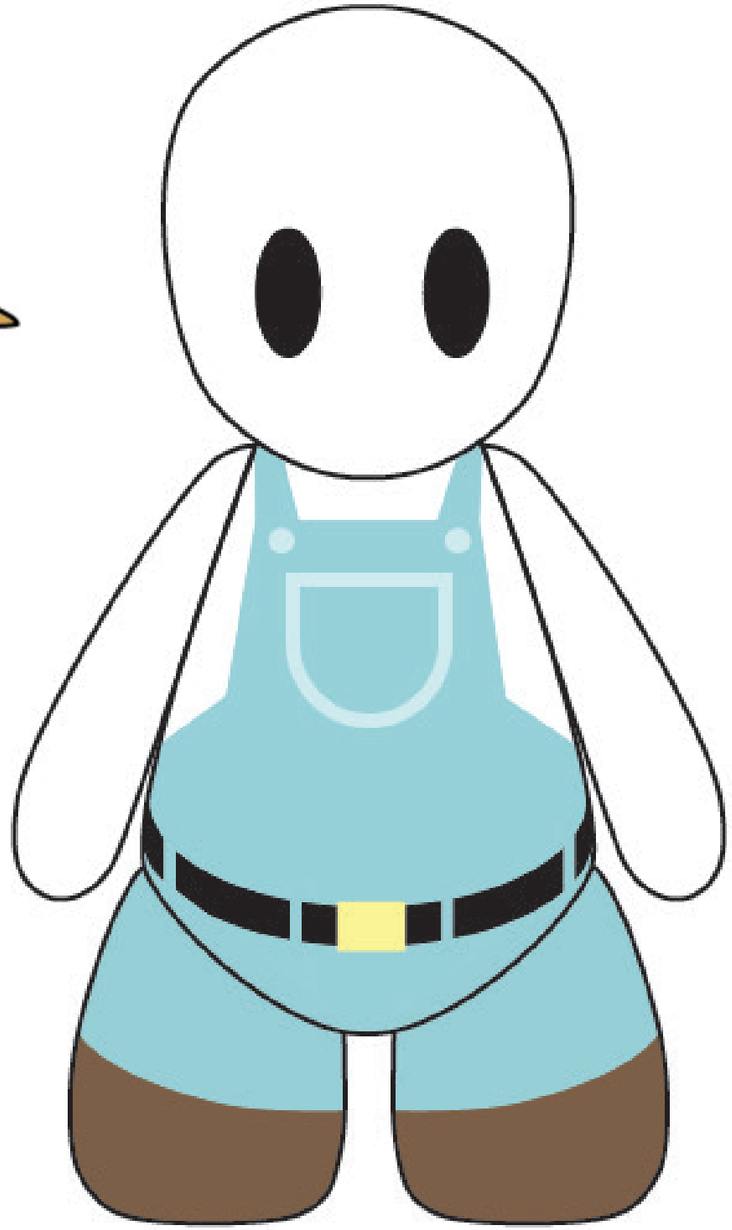
PRINTING:

Every measurement and tolerance in the CAD model was calculated to allow the design to work solely with friction fits.

The wheels had a separate tolerance calculation to allow them to be glued to the axle.



BUBBIES



BUBBIES

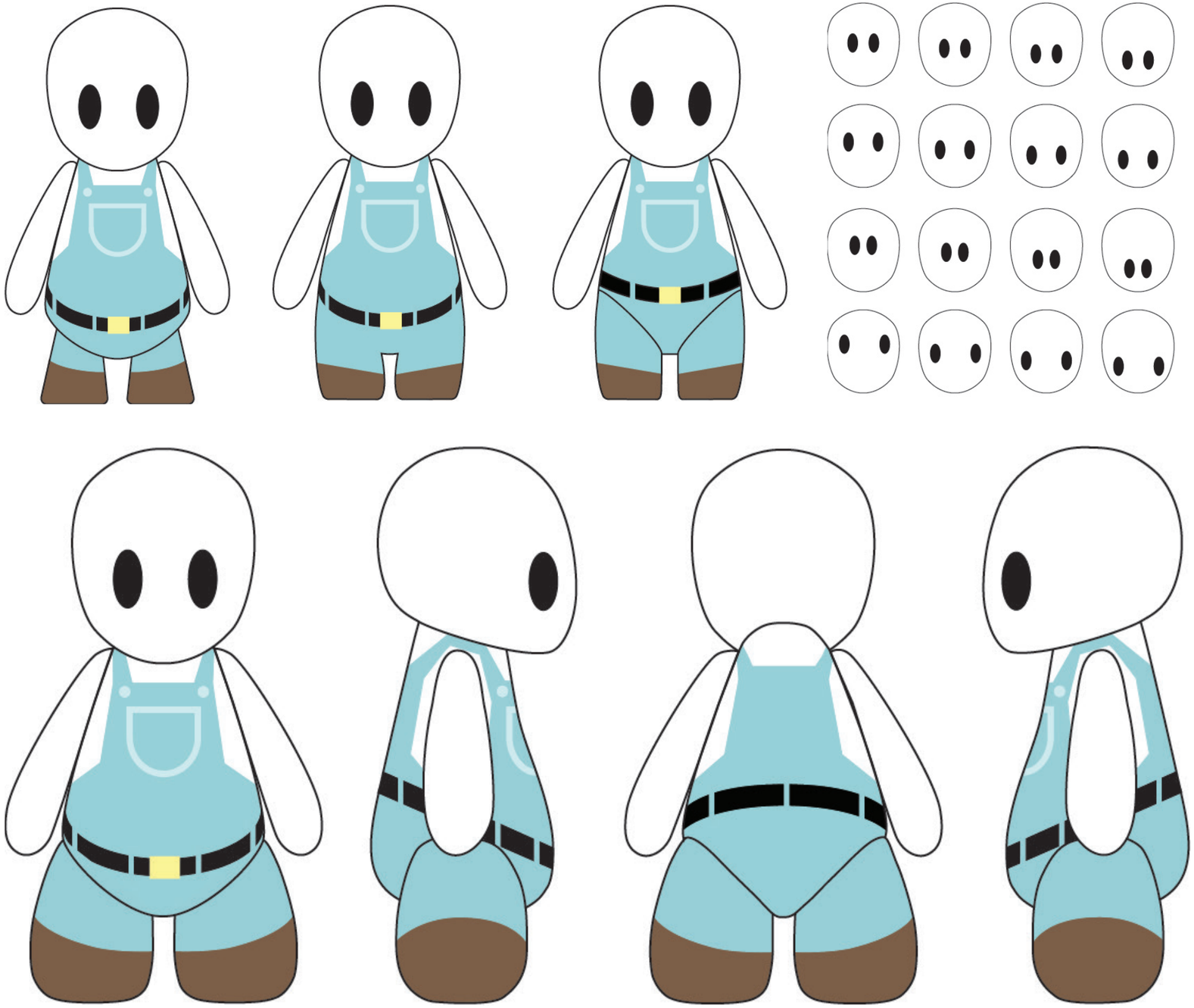
JULY 2024

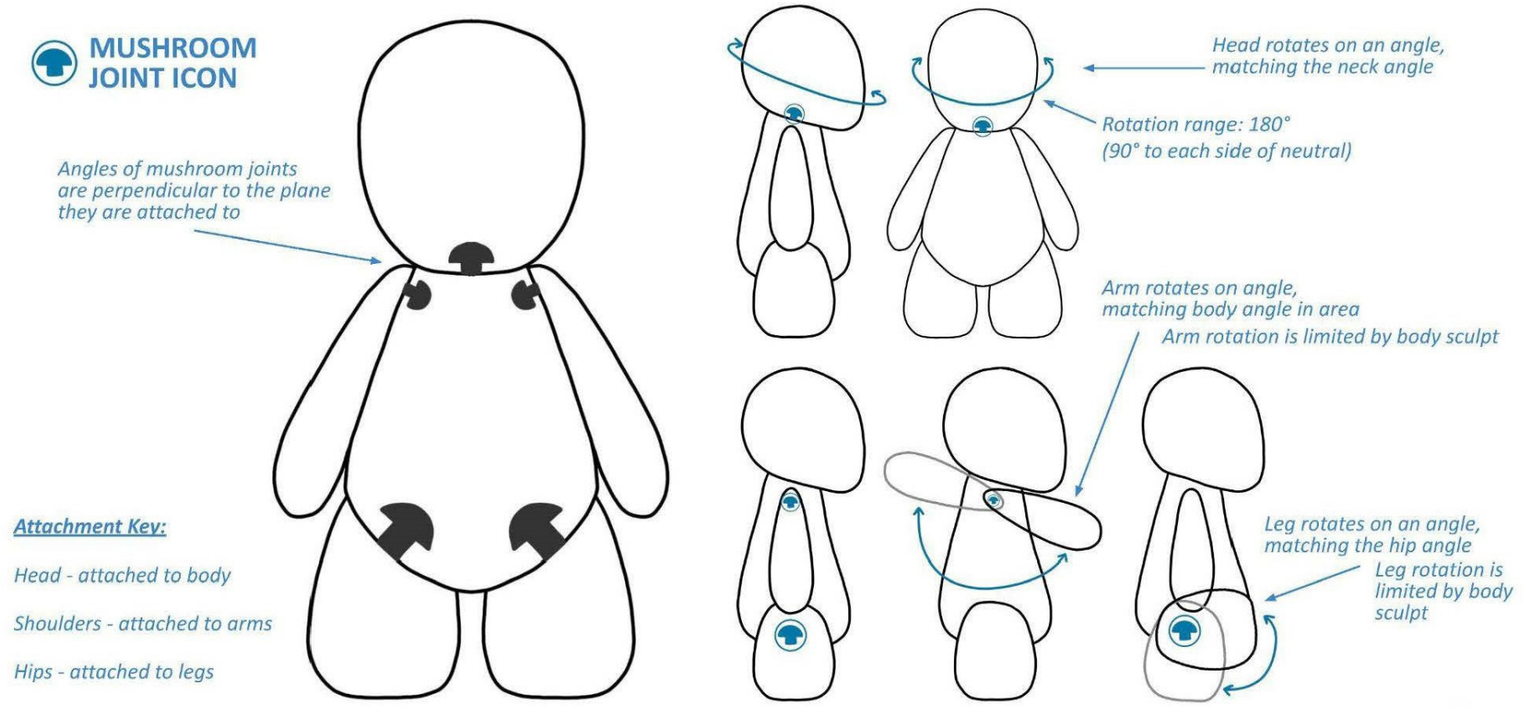
PROJECT:

Design a toy by going through a full real-life design process: from market opportunities to factory quotes on production.

DESIGNING A FIGURE:

After many iterations, the Bubbie figure was finalized with a round shape and white body. The eye placement was tested based on pupil size and position on the face, it was crucial to get the right facial expression to create a look that customers would enjoy. The arms, legs, and head were designed to work with articulation, allowing another form of play, alongside collecting. This first Bubbie was designed to be a farmer, with the idea that other Bubbies would expand on the line.





MECHANICS:

There are 5 joints that allow the figures to be articulated, two arms, two legs, and at the neck. These movements allow the figure to be playable and adjusted to different play patterns.

The relationship between the joints and the body is reflected in the 3D print.

PACKAGING:

Exploring the world of packaging design was a challenge on its own. Understanding how to place the important information on the faces, as well as what type of materials to use. The packaging includes one Bubbie, a companion cow, and a hat accessory to add to the play pattern of the whole product.
Using the packaging information to create a case pack dimension, and test out the way the product would be shipped to retailers.

Sustainable Packaging PDS

NO PVC ALLOWED FOR THIS PACKAGING
ALL PLASTIC PACKAGING COMPONENTS MUST BE 30% rPET / 70% PET

PCKG Style
- Blister card with heat seal and Insert Card

Add-Ons
- Seal Tape
- Inner Blister
- Outer Blister
- Cardboard Cutout

Sustainable Material Specs
- Cardboard: 250g (CIS)- Blister Card / HT
- Blister: 30% rPET / 70% PET
- Soy-bean Ink

Sustainable Packaging Finish
- UV
- Laminated Matte

Sustainable Packaging Specs
7”L x 2.25”W x 7”H

Case Pack Quantity:
SIX (6)

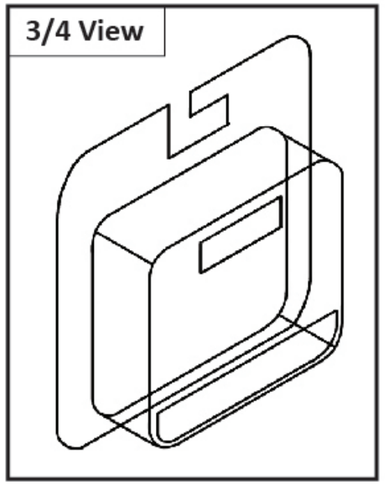
Master Carton Dimensions:
14.5”L x 7”W x 14.5”H

Date: 7/18/24
Item #: BBIP01

BBIP01 BUBBIES (1) PACK
Blister Card with Insert
Pckg Size: 7”L x 2.25”W x 7”H

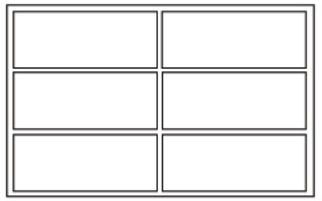
FRONT

BACK



TOP VIEW LAYOUT
Case Pack: SIX (6)

Master Carton Dims:
14.5”L x 7”W x 14.5”H



FUTURE OF PRODUCT:

There are ways to expand the Bubbies line, which includes different types of sets. Two packs, playsets, and mini figures.
Another way to expand is the type of characters sold, which could be seasonal items, more occupations, and expanding the list of animal companions available.
Adding licensed products to the line allows the Bubbies to take on a different type of customer.