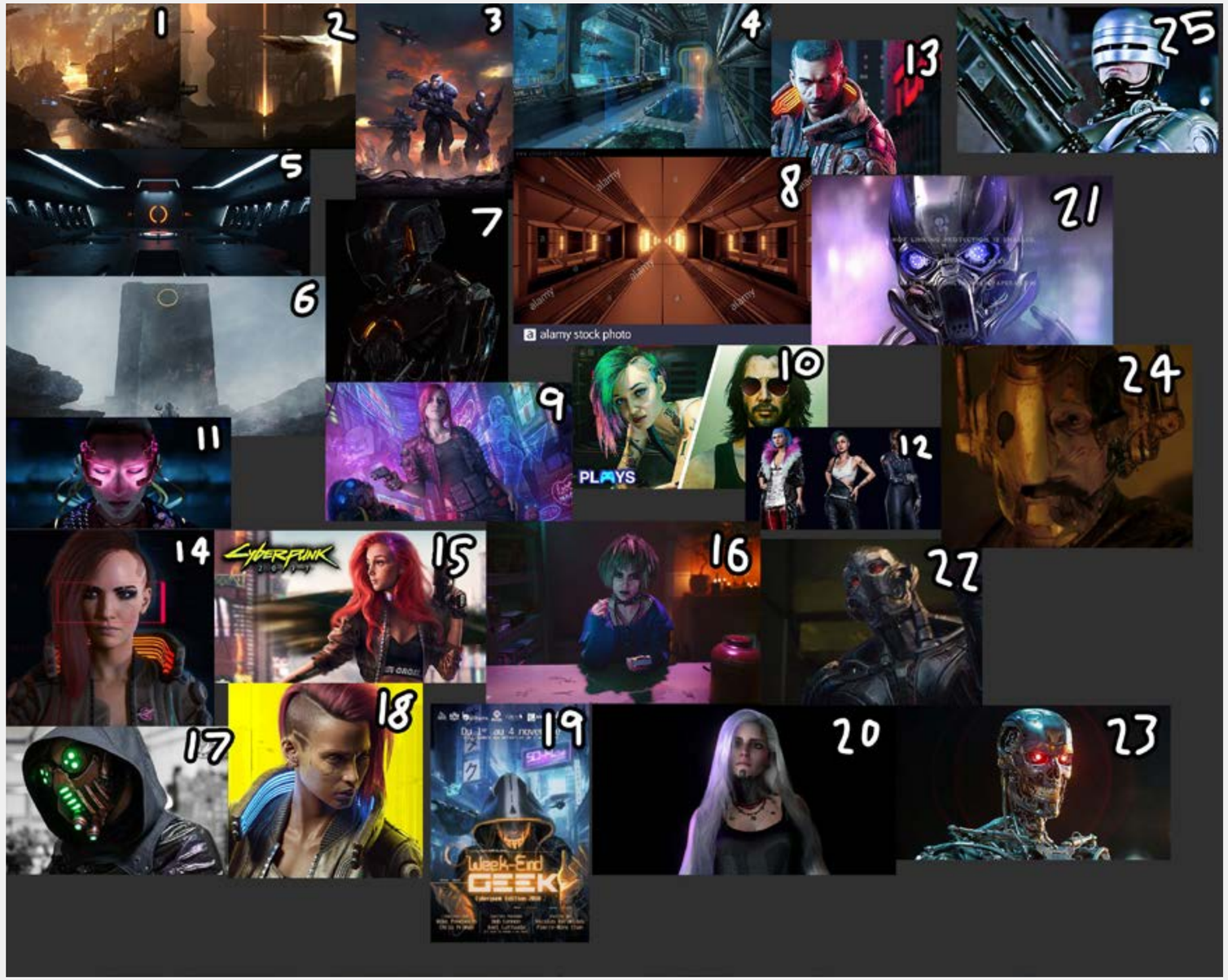


Assignment 2: Concepts and Testing

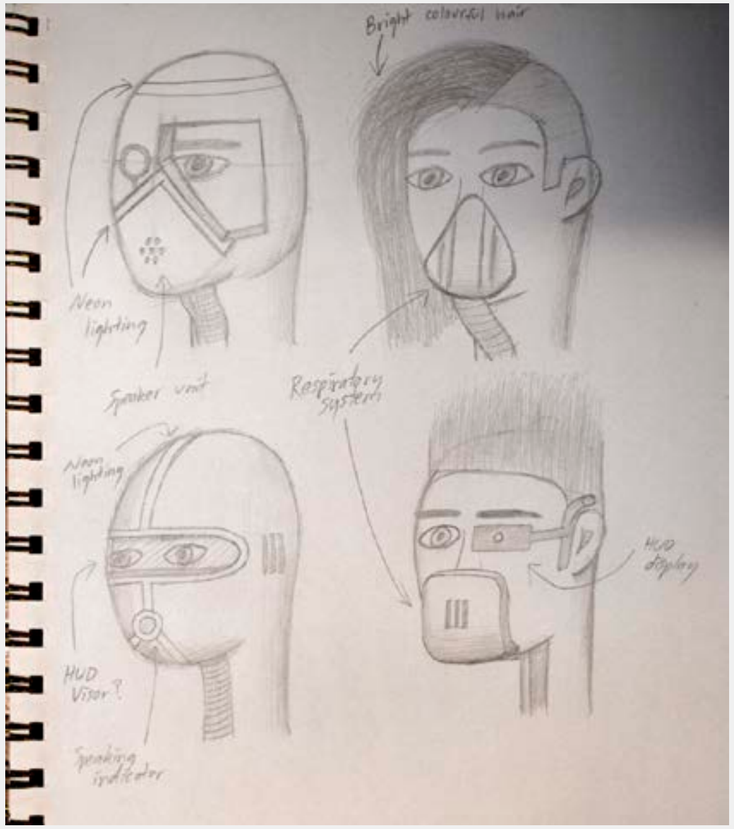
Moodboard and Backstory

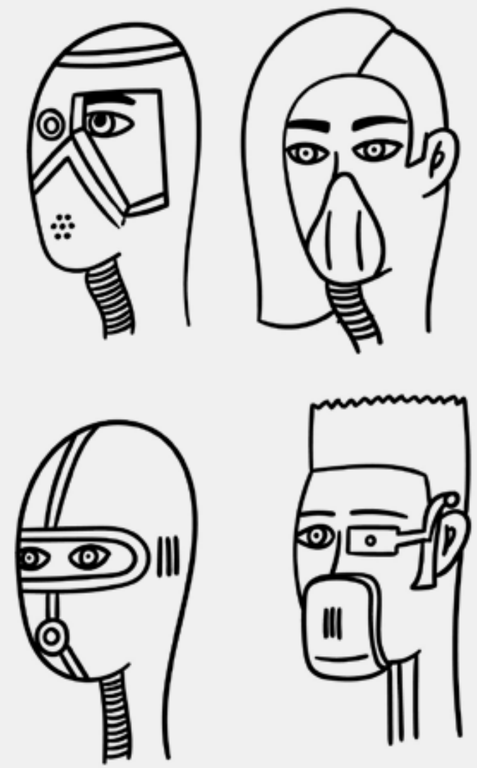
The artificial being that I intend to create will be called the Cyberthugs. These cyborg humans originate from New York in the year 2509, where the Earth has become toxic for fully organic humans, so they now require artificial components in order to survive the dangerous environment. The aesthetic I'm going for is a cross between the standard metal face thing that most cyborgs display, and the flamboyant coloured hair that's seen frequently in Cyberpunk 2077. I was thinking of using bright neon colours for both hair and lighting against a dark metal casing.

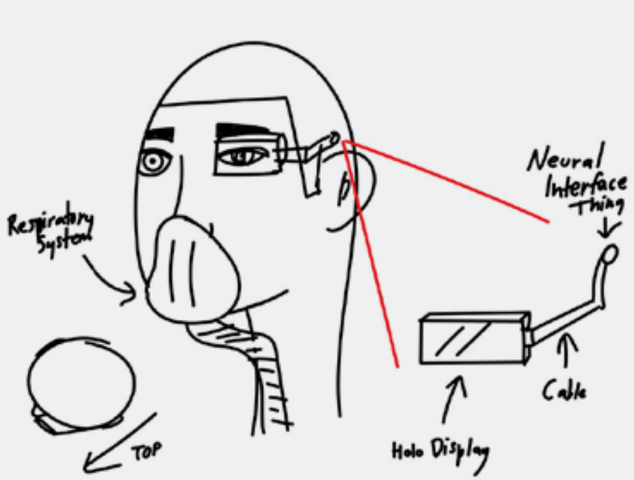
These specimens feature an artificial respiratory system, which can be seen as a second windpipe down their necks. This is because the air isn't safe to breathe otherwise. The need for food hasn't changed since the present day however, so the Cyberthugs clone existing food and use that.

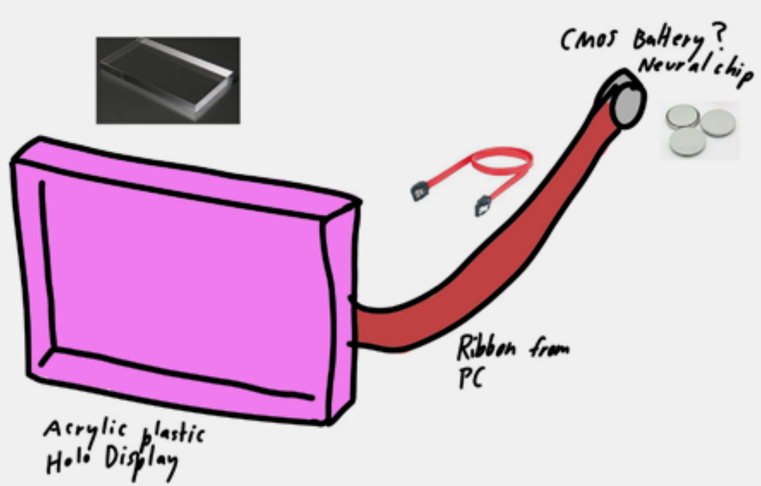
The environment they live in is a desolate wasteland, with not much on the surface. Most of their civilization is underground, in futuristic tunnels and buildings. These buildings form complex networks under the ruins of the United States, divided into appropriately sized "cities". There are tunnels for transportation that allow citizens to travel at unbelievably fast speeds, via the use of spherical vehicles.

The Cyberthugs will feature a panel with ports for mental data extraction and "processing enhancement". This allows them to temporarily boost their brain power when plugged in to a powerful energy source.









Assignment 2: Concepts and Testing

Concept Drawings

Some early concept drawings (top-left) and digital redraws (top-right). They feature lots of neon lights and displays/ artificial eyes.

Below that are descriptions of the main features for the chosen design, namely the respiratory system and the Holo-Neural Display, along with planned materials for the latter.

Assignment 2: Concepts and Testing
Photoshop Concepts

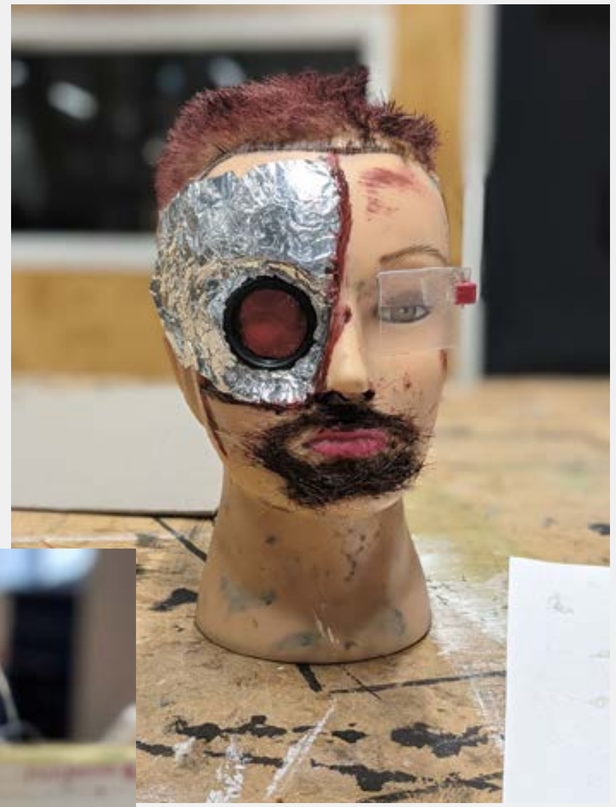
Developed concepts. The left one is more of a traditional cyborg, while the one on the right is more organic with artificial accessories.

Assignment 2: Concepts and Testing

Mannequin Development (April 7)

April 7 was the first day I started work on the Cyberthugs.

I took a female head model that was lying around that already had it's right eye area removed. I didn't do much else apart from sticking on some paintbrush bristles with PVA glue to give the appearance of facial hair.



Assignment 2: Concepts and Testing
Mannequin Development (April 8)

The next day I continued work on the Cyberthug's design, mostly making stuff up as I went, seeing what worked, while loosely keeping the two chosen concepts in mind.

I found what was probably a binocular lens while digging through a box of junk, and cut out a piece of a New World supermarket bag to see what the colour would look like. When pressed against the glass the texture reminded me of some type of bug that has a dotted texture in its eyes. I thought that could work for a robotic eye, and it added extra detail which was cool.

Next I filled in the empty space around the eye with some sort of clay/putty that was lying around, and covered it with tin foil to represent a metal skull thing.

At this point I experimented with a mockup design for the Holo-Neural Display (HoNeDi) which at this point was just a piece of a plastic container, a SATA cable I think, and a CMOS battery.

Finally, I painted the beard and hair dark red for a grungier, more masculine look, and tied a NW bag handle around their head for a hachimaki - which is a Japanese headband. This fits in with the thug aesthetic.

Assignment 2: Concepts and Testing

Mannequin Development (April 9)

April 9th was the last day I would work on the Cyberthug for nearly a month. Most of the design elements were near completion at this point in terms of appearance (the materials used and construction were still prototypes though).

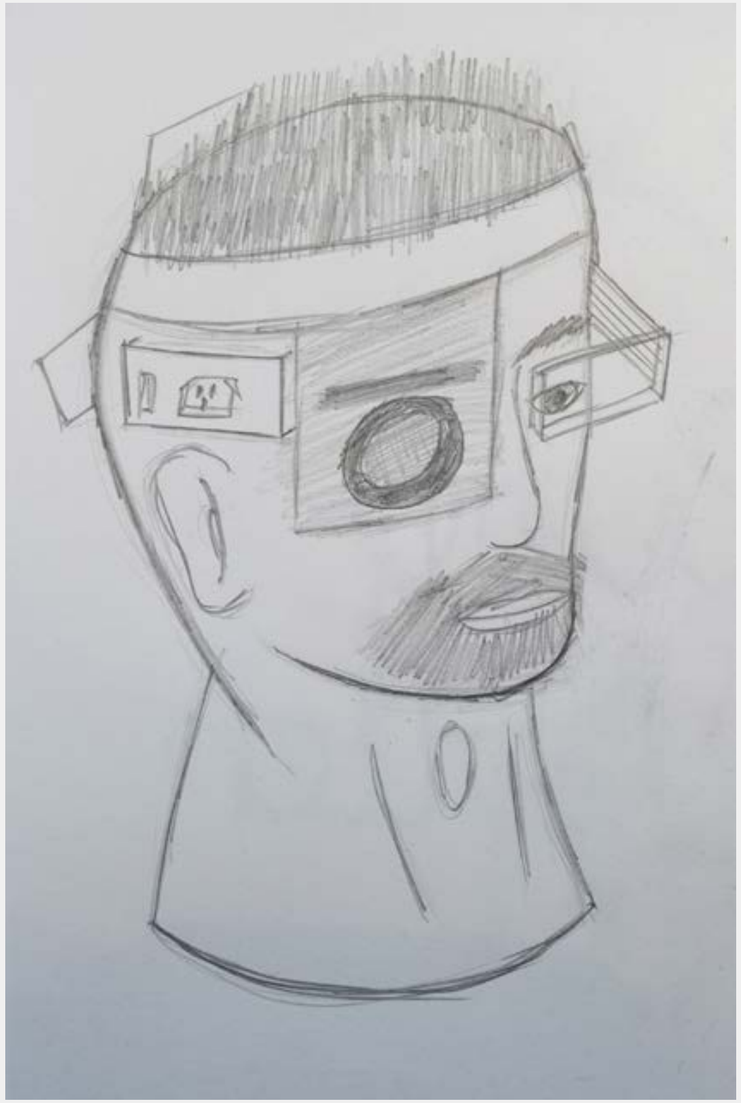
I added eyebrows (both metal and organic) to bring out his facial features more, and added a faction symbol to his face.

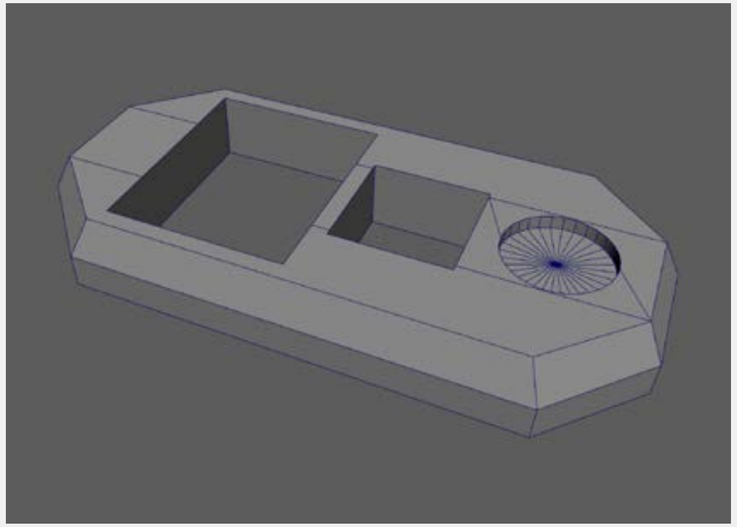
Around the back you can see a panel cut out that shows the individual identifier which is unique to every being. This is made out of putty, red wire and plastic, but will probably be replaced with engraved MDF and cast acrylic for the final build.

Around the side I made use of someone's experiment with soldering through the skin and added an exposed nerve made from some painted mesh stuff.

Finally I made a quick respirator out of putty, wire and tin foil which sits over their mouth and nose, and replaced the cable for the HoNeDi.

NOTE (2021-05-05):
To avoid overcomplicating the Cyberthug's design, the respirator will be made separate from the lifeform, instead being part of a suit for exploration on the surface.





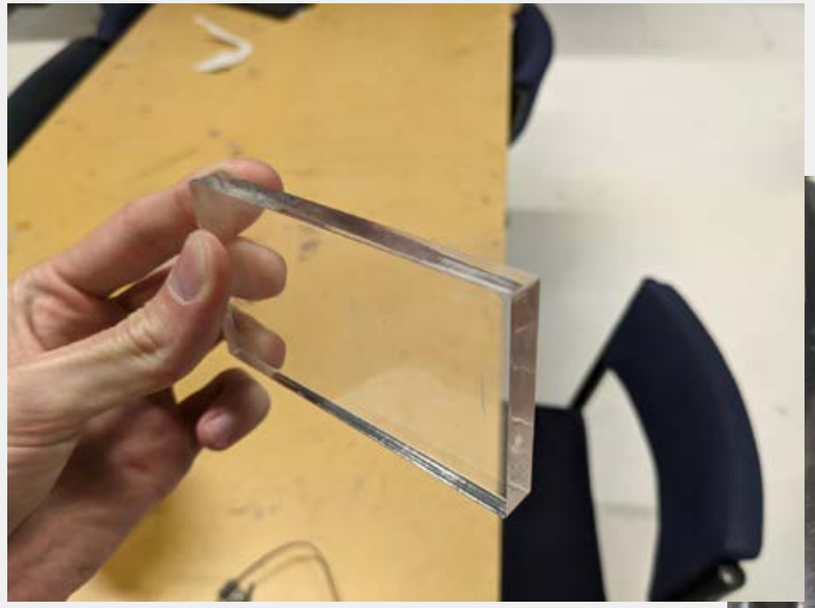
Assignment 2: Concepts and Testing
3D Printed Object

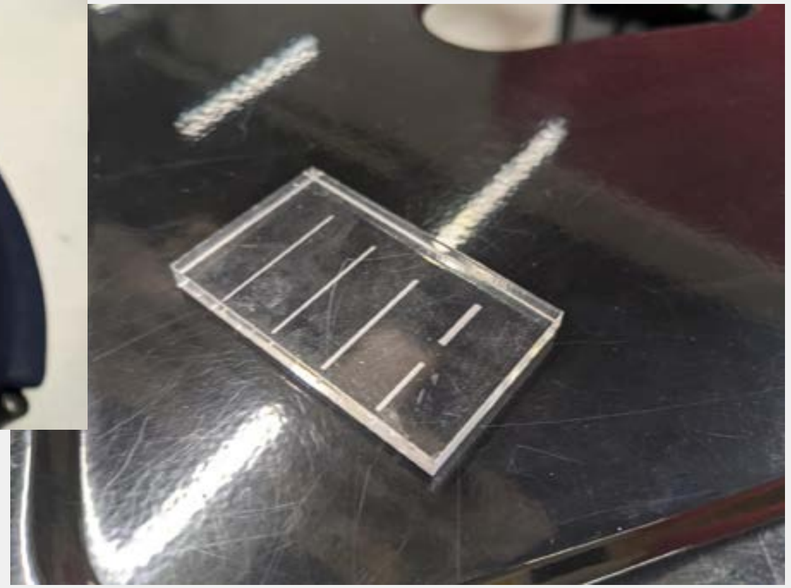
On the day of hand-in I focused on designing the 3D printed object, which takes the form of a panel on the side of the Cyberthug's head. I drew a quick sketch of what this panel would look like, then got to work on the development.

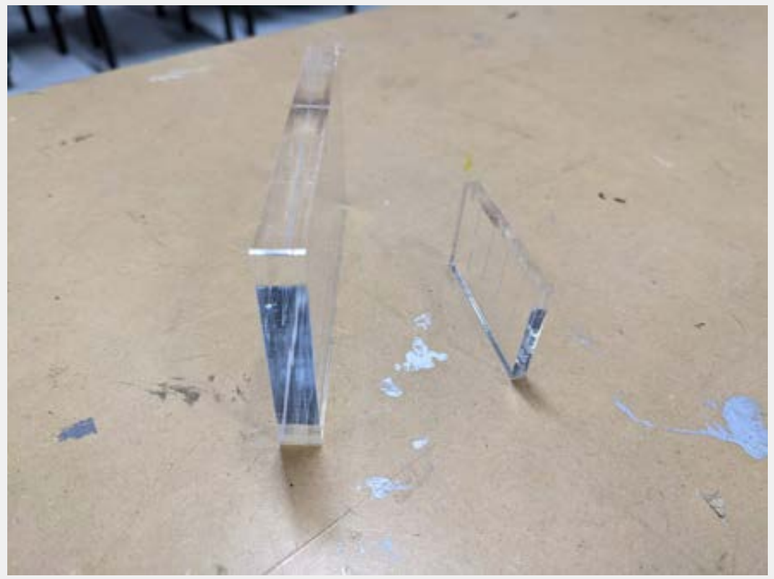
I removed the PC power port from some cage thing by squeezing the pins, but I had trouble separating the USB ports from the motherboard. I tried holding the motherboard in a vice and hammering the ports with a set of pliers, but this didn't work either and only resulted in a dented port.

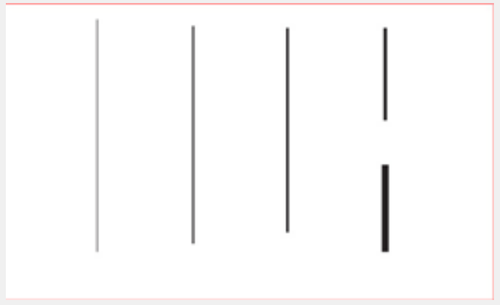
I remembered that an ethernet cable was capable of much faster data transfers than USB in a real life situation, so I found a network card, held it in a vice, then used a hairdryer to soften the wires connecting the ethernet port to the card. Then I simply removed the port using pliers.

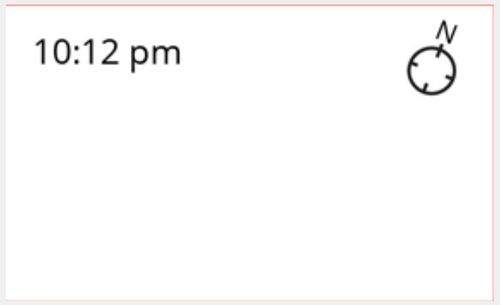
At this point I measured the width and height of the ports and brought the measurements into Autodesk Maya as simple cubes (the depth didn't matter as it could stick into the skull and I would be glueing the ports in anyway). I created a simple octagonal shape and used the Mesh>Boolean>Difference tool to cut out space for the ports. Then I did the same process for a cylinder next to it, giving the appearance of a rudimentary fingerprint sensor. This meant that mental data extraction would need to be approved by the Cyberthug.











Assignment 2: Concepts and Testing

3D Printed Object

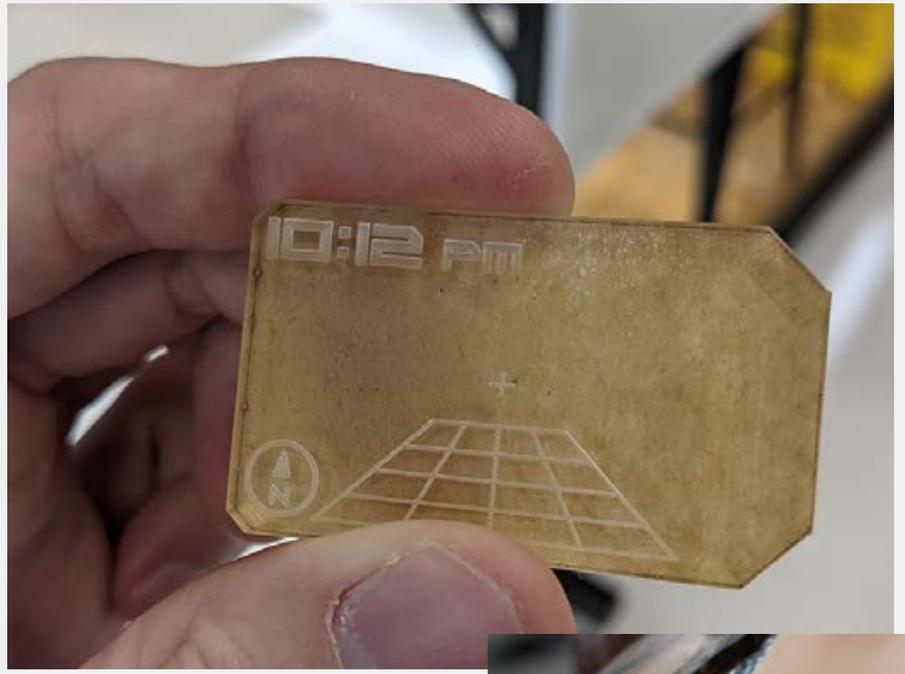
Around early April I stumbled upon some clear block of plastic at Warehouse Stationery while looking for materials. It was $5 so I figured I'd buy it and experiment with it for this assignment.

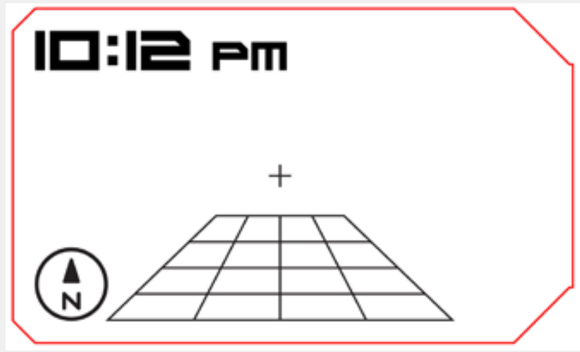
It turns out that there was a better option available at school called cast acrylic, which was a lot thinner and possibly more scratch-resistant.

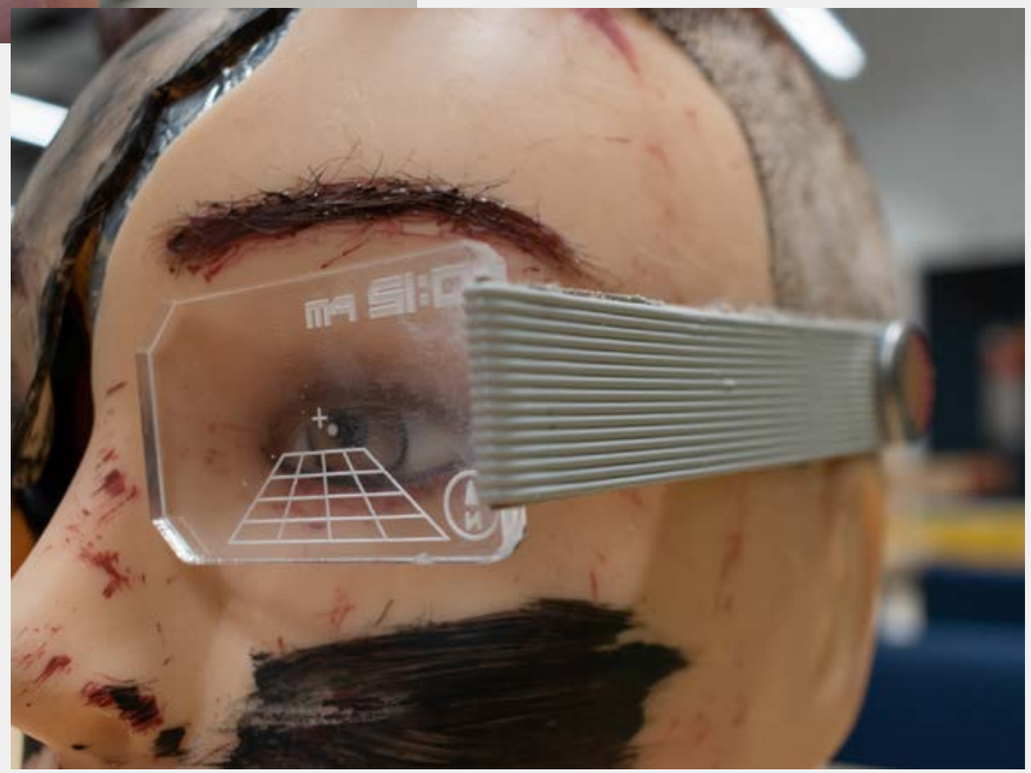
I created 2 Illustrator files. The first was made to test various stroke widths for engraving to get an idea of what would work best for the HUD.

I found out later that when working in physical units in Illustrator everything is the same size as it would be physically. I typically use Illustrator for vector art and use pixel dimensions so I wasn't aware of this before.

The second Illustrator file was created on the day of hand-in, and features a clock and compass. The final version will most likely be more detailed. I didn't manage to test this file but I'm sure it would've come out well the first time.







Assignment 3: Final Build

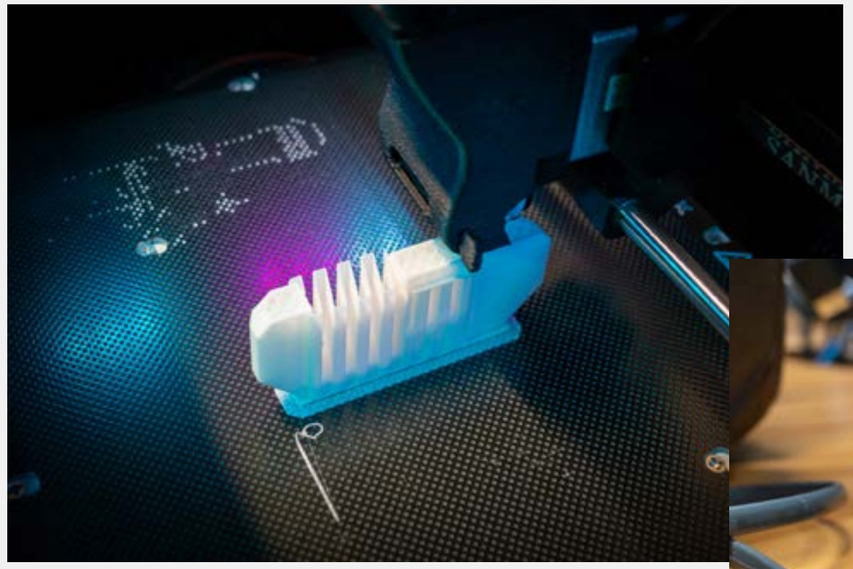
Holo-Neural Display

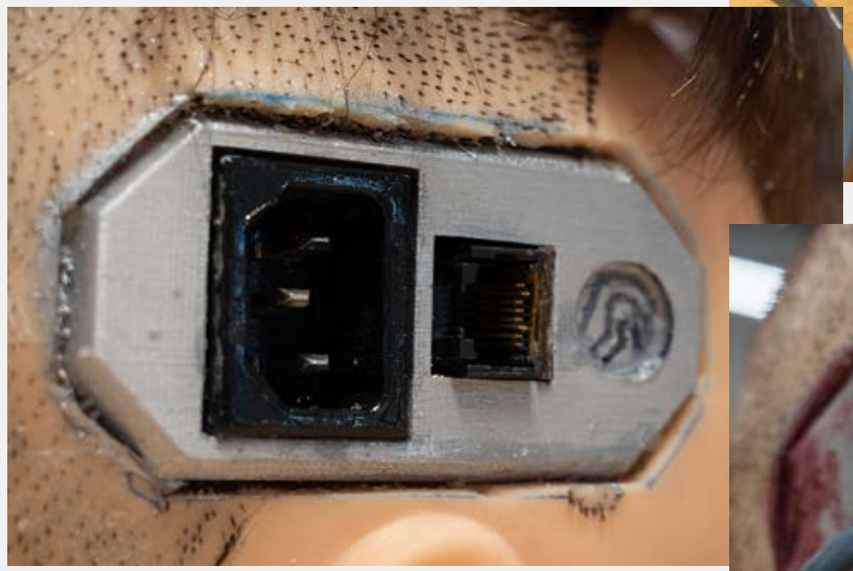
For the Holo-Neural Display (HoNeDi for short), I made a bunch of elements in Illustrator using the test acrylic from assignment 2 as reference for the line widths.

This version of the display features a clock, compass, crosshair, and ground plane. The edge of the display features diagonal lines for extra style.

The clock uses a font I found online called “Sci-Fi Adventure”. Here’s a link to it.
https://www.urbanfonts.com/fonts/Scifi_Adventure.font

I had to convert the text to paths so I could move some of the characters closer together because the font was monospace by default.





Assignment 3: Final Build
Psych Panel

The 3D printed object from the last assignment will be used in the final build. Although there were some gaps in the port slots, I figured I could fill them in with some cardboard or something instead of reprinting it due to time constraints.

I noticed some other students use some kind of metallic grey paint for their models, so I'll investigate that and most likely use it here.

I'll find some way to add a fingerprint symbol to the round thing, either by drawing it on directly or using some paper.

Assignment 3: Final Build

ID Panel

For the concept head in assignment 2, this was made using putty and red wire. Obviously this wasn't anywhere near good enough for the final assignment, so I changed it later.

In the final model, the ID panel was built using MDF with text etched using the lasercutter. These were random Greek letters because I didn't want to make up a new language just for one thing.

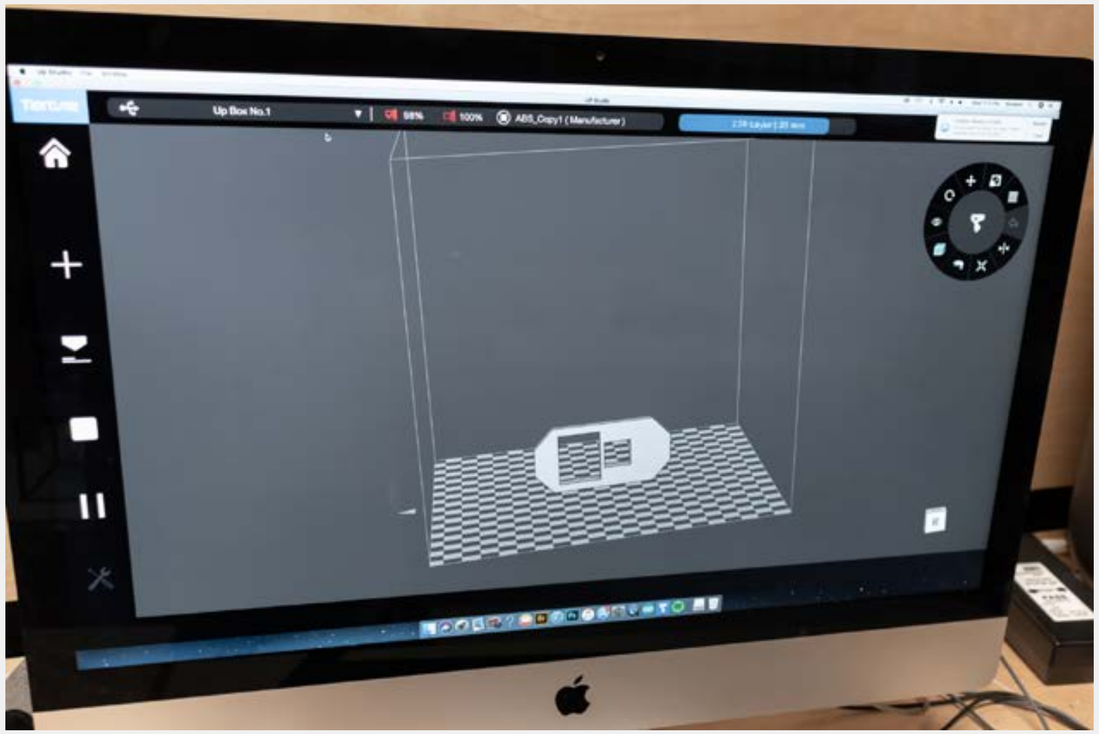
I painted the board using silver paint, being careful to not get any on the text. Then I just used a marker to paint the text black. I superglued the board to the skin.

Assignment 3: Final Build
Fake Face

Originally I thought of just having the Cyberthug's right half of its face metal like the concept from assignment 2. But then I thought of building the story further.

How about I add the model's original piece of face on top of the metal, but dead and lifeless because it was ripped off and thrown away. You can see there are some rips in the face because that's what happens with organic stuff. Nothing lasts forever. Those were made using an exactor knife to cut random shapes and painting the walls of the cut black. The whole thing is painted a darker colour to show it's not receiving blood flow. I was going for a desaturated colour but I wasn't sure how to make that.

The face being re-attached is mainly so the Cyberthug can go in disguise so as to not draw attention. Its robotic lens/eye is still visible behind its eye socket.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