Week 5 Design Goal

Jackson Greer

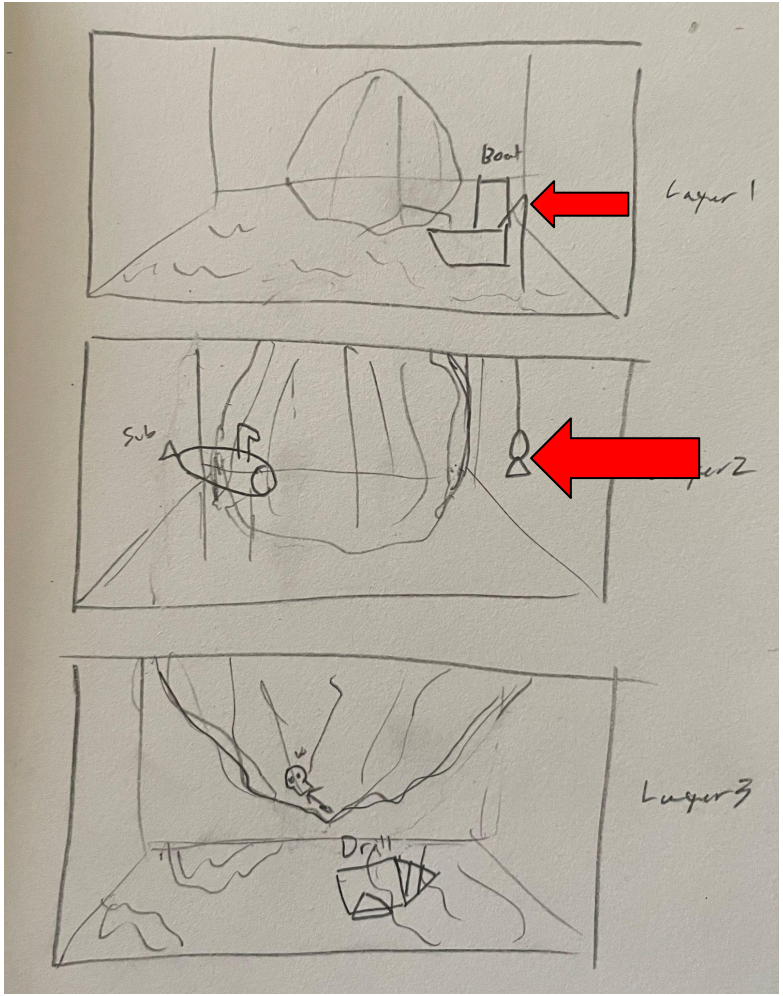
Picking the Items

Our group selected these 3 objects to design and print:

1. A fish for the fishermans rod
2. The fishermans Rod
3. .

I chose to make the fish because I thought it would be a fun challenge to make something organic using Fusion 360.

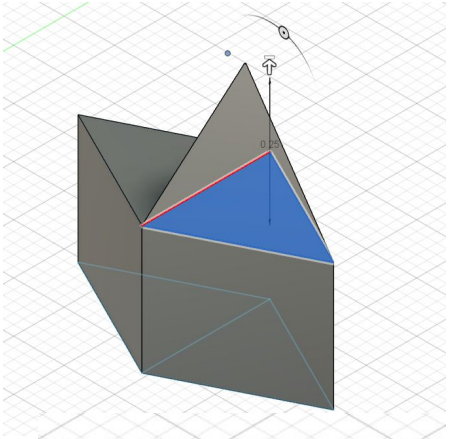
The fish will be hung from the fishing rod in the underwater section (middle floor)

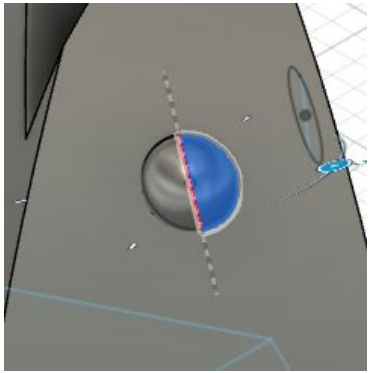


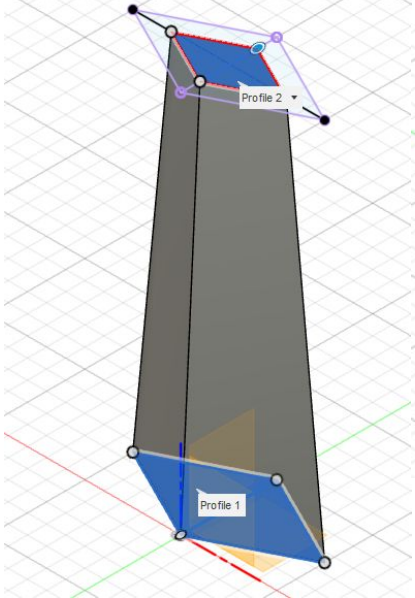
Making the Model

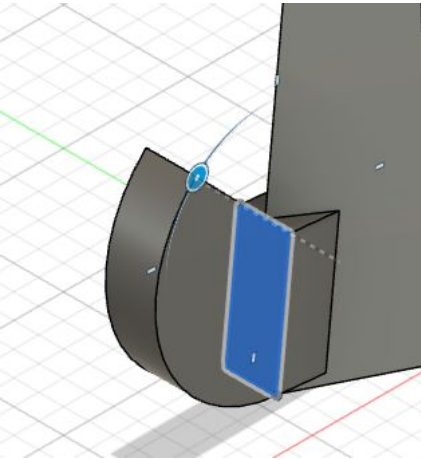
The head was made by sketching a diamond shape, then extruding two tapered points. The eyes were made by creating tangent planes on the curved sides of the head, using arcs to draw the eyes, and then using revolve to create the eyes.

The body was made in a similar way, the same diamond as the base was lofted to a smaller diamond at the tail. The tail fins were also made by lofting the triangles up to points. The fins were made with a mixture of offset and tangent planes, then were extruded, revolved, and chamfered to make that sharp edge on the front.





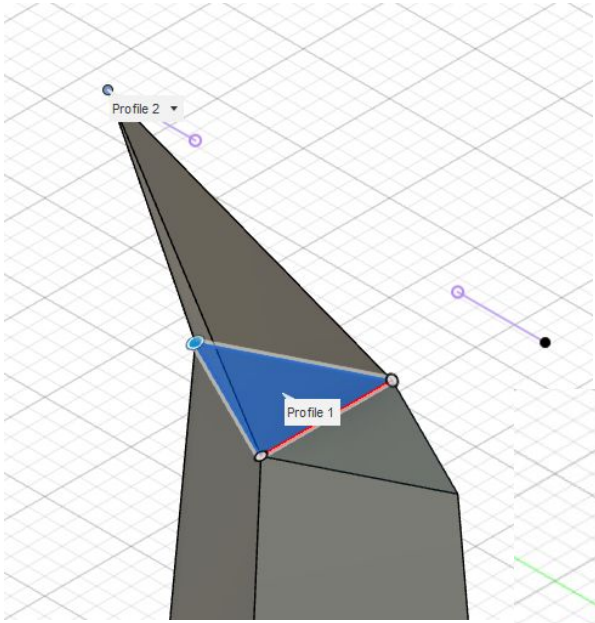


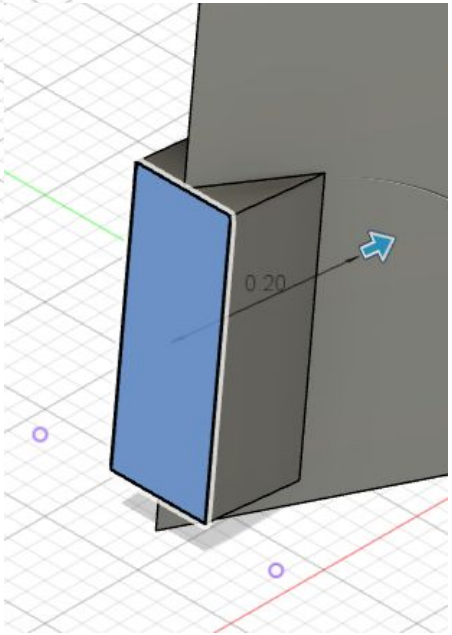


Making the Model

This project gave the opportunity to refresh my memory on some old techniques. I used:

- Loft
- Tangent Plane
- Offset Plane
- Revolve
- Extrude
- Fillet
- Chamfer
- Project Geometry



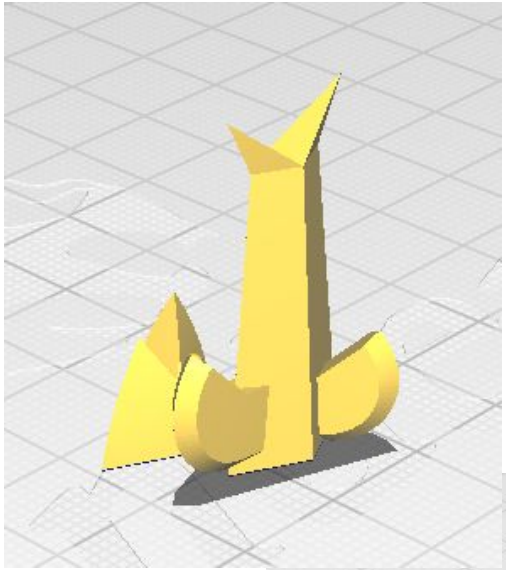


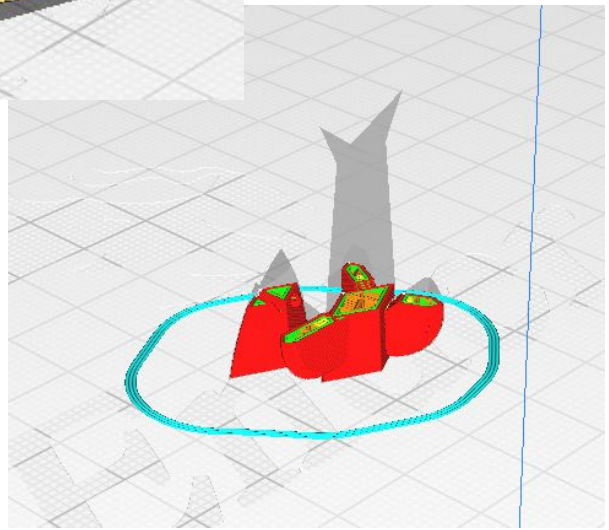
3D Printing

The project was intentionally made in two separate Fusion files because it would be easier to print without supports.

I exported both files as STL files and put them in the same CURA window. I made sure supports were off. I set the infill as 40%, which realistically is a little overkill but I wanted to make sure it was sturdy.

The print took 24 minutes which is about the time I expected it to take. I knew the time would be greater because it would have to jump back and forth between the head and the body prints.





Reflection

I enjoyed getting to use fusion for a more technical project and getting to use the ATLAS 3D printers for the first time.

I found it difficult to make organic shapes in Fusion. Making “imperfect” natural shapes is very difficult and time consuming.

I felt like learning and refreshing my memory on Fusion tools went well this week. This project provided me with a great opportunity to challenge myself and try something new.

If I had to do it again, I would modify the 3D printing parameters to use less filament (less infill). I would also print them separately to avoid the stringiness and after print cleanup. Lastly, I would find a more natural looking way to make the tail shape.