Final Project

For my final project, I chose to create a low-poly character, going through modeling, surfacing and texturing, rigging, and animation, with a few second long render to show at the end. I felt like I hadn't gotten a deep enough look into any stage of the pipeline to pick one to focus on, so I wanted to spend some time on each one and really see which parts I wanted to delve deeper into. I do feel like I learned a lot during this project, especially concerning rigging. This project also really drove home the lesson that it is worth taking the time to do everything exactly right, because problems become much harder to solve later on, especially if you’ve moved to the next stage of the process. That being said, here’s a kind of overview of how I approached each stage of this project.

Modeling

The modeling process was a fairly standard box modeling approach. I started essentially from the core and worked outwards to create a rough human body. I made great use of the target welding tool, doing my best to keep the mesh cohesive and avoiding n-gons and weird topology. After I got the body done, I modeled the armor to go straight on top of the skin, mostly by making planes in the shape of the armor piece, then extruding with the thickness attribute to give each piece depth. I then combined all of these pieces with the body mesh using a combination of boolean unions and regular combine operations. This gave me one whole mesh to bind to the skeleton I would create.

Surfacing/Texturing

There isn’t much to talk about here, I applied some very basic lamberts, phongs, and blinns, then played with the colors until I was happy.

Rigging

Rigging was most certainly the roughest part of this project. While I didn't need a complex rig, I had the least experience with rigging and it really came through. I had never painted skin weights before, but I did find a very helpful method from a tutorial, which I'll link below. Using this method gives us at least a very solid starting point, which you can then fine-tune with the brush part. This allowed me to paint the weights very quickly, especially after I had done it seven or eight times. While it did take a lot of time away from other parts of the project, I am at least better for it, and I’m now pretty comfortable painting skin weights.

Here's a link to the Youtube tutorial by Dan Arata
Animation

This was the part I think I most enjoyed, especially since an idle animation is something I’ve never worked on before. I had a clear goal of making it loopable, so the first thing I did was make the first and last frames the same. From there, I broke the animation down from largest to smallest movements, adding new keys where necessary to keep the animation looking smooth. I am very happy with the animation, though I think the bouncing could maybe improved with some back and forth of the hips. The neck crack part of the animation looks very clean and natural, even down to the arms and small body movements.

Link to idle animation - [click here]