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CS 330

Final Project Reflection

My 3D scene was based on an image of a mug full of coffee next to a plate with three donuts stacked on top. Initially I wanted to make my donuts three torus’ but I figured I would have to redo all of my vertices to recreate the wide look of a donut, the torus I was able to generate looked more like a ring from Sonic the hedgehog. I ended up making the mug with half a sphere for the mug body and a torus clipping into it as the handle. To achieve the "filled with coffee" look, I put a flattened cylinder on top of the half sphere and then a torus on top of that to cover the edges and look like the lip of a mug. The orange plane “tabletop” was easy enough and I was able to find a color picker online that helped me find the data values for the background color. I composed the plate of two cylinders, both flattened to achieve the look I was going for. In hindsight, a half sphere would have achieved a more rounded look but I’m content with how it turned out. Wrapping textures on the top of the objects was tricky and I couldn’t figure out how to only apply the texture to part of the object so I ended up combining objects to achieve the look.

The virtual camera is pretty accessible to use, anyone who has ever used a computer or played any kind of game should be able to navigate it. W, A, S, and D control forward, left, back, and right movements respectfully, Q and E are mapped to control up and down and the mouse is more of a free moving part where you point it in the direction you want to look. The prospective and ortho projection switch is a little tricky as a tap of the key, P, does not always result in a direct switch between the two. The program tracks which buttons on the mouse are clicked as well but they are not currently mapped to any kind of camera movement or translation.

There aren’t really any custom functions within my code and it definitely is not organized. I’ve never been one to use headers so my code is always in a large clump on the main project. I did make code for just half a sphere instead of a full sphere as I did not need a full sphere for any part of my project. The half sphere could have been reused for the top of the plate instead of a flattened cylinder and would have achieved a nicer curved look. I have a couple other functions that are just copies of other shapes specifically chosen so I could slightly modify them to achieve my desired result. For example my Sprinkle Mesh is just another cylinder that generates without the bottom so that it can rest on top of my cylinder donuts(which look more like pancakes and I know it) to give an icing effect.