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Design Decisions

The scene I decided to design involved my kitchen with a view of the stove, cutting board, two eggs, a spatula, and a cast iron pan. I chose this scene because it captures a familiar story, cooking eggs. The stove was made from a plane, the burners were made from two tori, the dials were made from cylinders and prisms, the cast iron was made from a tapered cylinder and a cylinder for the handle, the spatula was made from two boxes, one elongated and the other stubby, and the eggs were made from spheres. These objects were suitable for a low poly environment while still making the objects identifiable. These objects were programmed into the scene, and I spent most of my time adjusting positioning and scale, so they were placed appropriately.

I have implemented a navigation system that allows users to move freely through the 3D space utilizing WASD, Q, and E. W moves the user forward, A moves left, S moves backwards, D moves right, Q moves up, E moves down. There is also the addition of the mouse scroll wheel that adjusts the movement speed, scrolling forward increases the speed while scrolling backwards decreases it.

My program is organized with separate functions doing their expected work, all of which are modular. One example of a reusable line of code are the object materials, I used the “wood” material for both the cutting board and the spatula. Shaders are also reused over several objects. My code is easy to read because I kept each object organized by their mesh and followed a consistent layout for each object throughout the project. Each object was also labeled by what they are and where they are located if needed.

This project allowed me to practice building a 3D scene from scratch while applying core concepts like camera control, lighting, texturing, and material management. I made intentional choices to keep the scene cohesive and functional while still telling a small story through visual design. Overall, the process helped me better understand how to balance code structure with artistic representation in a 3D environment.