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CS 330

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Final Project Reflection

**Justify development choices for your 3D scene:**

I chose the items that I did as they were objects that had a range of complexity to them. The speakers were very simple boxes, where other objects such as the headset and the monitor were both more complex objects that required several of the basic shapes each to create. This provided a wide variety of shapes as well as being inline with the complexity requirements of the project. The headset in particular even used multiple base shapes in its construction, with both the Torus and the Cylinder being used.

**Explain how a user can navigate your 3D scene:**

Navigating the 3D scene is fairly intuitive for anyone who has played video games on a PC before. The basic movement keys are WASD which move the camera forward, left, backward, and right respectively. There are also Q and E commands which move the camera up and down vertically. Additionally, moving the mouse will change the tilt of the camera and allow the user to look around, this can be especially useful for more precise camera controls when used in combination with WASD. Also on the mouse, the scroll wheel can be used to speed up or slow down how fast the camera will move. Finally, the P and O keys will change the perspective of the scene between a perspective view and an orthographic view.

**Explain the custom functions in your program that you are using to make your code more modular and organized:**

The biggest aspect of the code that makes it modular is that all of the 3D objects each have their own render method that runs inside of the ‘renderScene’ method. This means that if this were a more expansive project, like a video game, each of those 3D objects could be rendered using a single line wherever they need to be used with only small tweaking to the code, as opposed to rewriting the entire code block that would render the object. This makes the code much more readable as there are not huge blocks of code all over the place whenever an object needs to be rendered. This also has the added benefit of keeping the code better organised as all of the code for the 3D objects are in one area, in this case at the bottom of the program.