Michael Millington

Eisen Montalvo-Ruiz

CS-330-J7085

10/14/2023

Project 7-1

1. Justify Development Choices for your 3d Scene

The objects I chose are quite important to me. First is my cat, then is my rubix cube, a funyun, and a phone. These are all crucial and some (besides the cat) were quite simple to model. This helped to create a diverse scene made up of random items that you would find around me. I also picked these items due to the difficulty that they present when it comes to modeling. The torus shape with the funyun shows curved surfaces, while the cube uses shadow mapping. The cat was difficult due to multiple shapes and the phone showed the complexity of rendering objects with more detail. Other design choices I made were: ambient, diffuse, specular lighting using Phong shading model..

1. Explain how a user can navigate your 3d scene

I added camera controls so that someone can interact with the 3d scene. These controls are with Keyboard W,A,S,D because I couldn’t get the mouse sensitivity right I don’t have exact control over where the camera is looking. W,A,S,D does the trick for the most part so I stuck with that. The scroll wheel is used to zoom in and out.

1. Explain the Custom Functions in your program

Custom functions make the code more organized and improve code readability. The custom functions I made are as follows:

compileShader(): This function compiles a shader with its source code and type, and it helps promote code reusability because it compiles both vertex and fragment shaders.

createProgram(): This function creates a shader program by linking compiled shaders.

loadModel(): This function loads a 3d model from an external file.

initVAO(): This function initializes Vertex Array Objects

createTexture(): It generates a texture object from an image file.

setMatrices(): This function updates the model view projection matrices and gives them to the shader program.