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CS330

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7-1 Final Project

The scene I chose for my final project was a desk setup with a computer, keyboard, mug, and light stand. This seemed like a very basic choice and easy enough project to do for beginners. I used a variety of objects such as boxes and a cylinder for the main portions of the scene. MaineCode, SceneManger, and ViewManager were the main classes used as the backbone of the scene along ShaderManager and ShapeMeshes to provide the shapes and details for the scene itself.

SceneManger is one of the more work intensive classes that was dealt with as it provided most of the artistry and detail. Some methods utilized here for example are RenderScene, SetupLightSource, and LoadSceneTexture. For SetupLightSource I implemented the following code.   
A screenshot of a computer program

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For navigation the camera can function using the WASD keys along with the Q and E keys to zoom in and out of the scene. Along with the basic stationary keys used for directional purposes there are also several other keys used such as K, U, T, and R. The K and U keys allow the user to see a more perspective and orthographic view. The T and R keys function as a way for the user to see the scene in different orientations. In the ProcessKeyboardEvents classes I was able to use such functions as adjusting the mouse sensitivity, camera speed adjustments, and up and down camera movements.A screenshot of a computer program

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I was able to implement several custom functions to make this project more unique, especially with how interactive the scene itself is. Some of those features include such things as sparkling lights, a continuous loop for the steam from the coffee mug, reset views using the r, t, and k keys, and camera speed ups using the + and – keys. Classes such as SetTransformation were used for scaling and rotating 3D objects while the SetShaderTexture class tells the texture to bind an object.   
A screenshot of a computer program

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