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CS 330

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Reflection

I had chosen a 3D scene of Squidward’s house from the show, “SpongeBob.” I was able to recreate a sky and sand mesh for the background of the scene, such that the show takes place underwater. I then created the house in the middle of the scene along with a road along the bottom sand ground. The house in the middle of the scene is made from a few 3D objects: Cylinders, to represent the main frame of the house, with two attached to the side to represent the ears, and another atop to recreate the nose. Two Torus shapes were used as a ring around the spheres, and eyes. After the meshes were created, I was able to add to the Scene Manager, in which I added color and textures to the 3D objects. To add textures, there had to be a LoadSceneTexture Class defined, which adds textures that can be found online by mapping the file’s location. The scene that I created was not as if one is walking down the road, but rather as a top view from above the scene. I made it such that you can move around with the “WASD” keys, along with the “QE” keys being able to zoom in and out. The camera also tracks to the mouse, or keypad, and goes faster and slower depending on the scroll.

The way that the code was created is very easily adaptable. The code follows a nice and clear formatting structure. The commenting in the code explains a step by step of what the code below is used for, before each class is defined, along with what the code is implementing. There must be multiple functions to keep different functionality separated. This helps keep the code more understandable, and easier to debug by grouping. The SceneManager is made up of LoadSceneTextures, DefineObjectMaterials, SetupSceneLights, Prepare Scene, and RenderScene. Each of these is unique to a different aspect of the scene, they are self-explanatory by name and help keep the code more organized. Additionally, by keeping the code such a way, if I wanted to reuse this same code for another type of scene or project, I would be able to simply change the 3D objects, alter their locations, and add different textures. This makes the code reusable with the generic class functions. I do like the setup of the code, where all the altercations for adding to the scene are at the bottom of the SceneManager.cpp which is very beneficial and efficient.