CS-330 module 7

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Justify development choices for your 3D scene. As you write, think about why you chose your selected objects. Also consider how you were able to program for the required functionality.

I chose to do an image based off of my kitchen at the time. The set was composed of some basic baking supplies, including oil, salt, cooked bread loaves, and my knife block off to the side. I ran into many challenges during the course of this project, though I’ll freely admit that much of it was due to my poor time management skills. I just couldn’t get back on top of the course after I fell behind, even after my illness was no longer an issue.

Some issues that I ran into include trouble manipulating the rotation matrix, preventing me from getting my knives into the block as I would have liked, as well as general issues in regards to getting the shader and lighting to function properly. Even after scrapping my previous progress and going back to an older build that was based on the boxes example provided early in the course, I couldn’t get the lighting to work with my textures and scene.

As far as textures and composition, I feel like I did a pretty solid job. I manipulated the knife block components with the rotation matrix pretty well, and after fixing the cylinder module was able to use it to create 3 sided cylinders to make the shape of the block more “realistic”. I found some of my textures on open source sites, and what I couldn’t find, I made myself in gimp, some textures wouldn’t load properly so it took many iterations. For some reason simply adding “salt” to the salt texture caused it to completely bug out.

Explain how a user can navigate your 3D scene. As you compose your thoughts, discuss how you set up to control the virtual camera for your 3D scene using different input devices.

This is the section that I feel I did well on. My camera navigation is pretty great. I have it set up so that scrolling “up” or “forward” on the mouse wheel increases the camera speed, while scrolling down does the opposite and slows down the camera, up until a limit. Likewise, Hitting E raises the camera vertically while hitting Q lowers it. I found a great example of how to swap for ortho or perspective and implemented that into my project. Hitting “O” takes you into ortho, while hitting “P” takes you into perspective.

Explain the custom functions in your program that you are using to make your code more modular and organized. Ask yourself, what does the function you developed do and how is it reusable?

I didn’t create any custom functions for my project. What I did do however, is troubleshoot through the primitive shape modules that I found to make sure that they properly integrated into the project. There was initially an issue where they were conflicting/redefining things from the static mesh 3d class and that was causing me major issues. After resolving these issues, and fixing/implementing a plane class, I was able to get my scene into it’s current state. While it’s not as module as my previous iteration, as I had a class for building the scene which prevented the main source file from being so cluttered, there is defeinitely room for reusability in regards to the primitive shape builders.