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Module Seven

CS330 Comp Graphic and Visualization

Shayna’s ReflectionA shelf with books on it

Description automatically generated

A computer screen shot of a person

Description automatically generatedA screenshot of a video game

Description automatically generated

A screenshot of a computer

Description automatically generatedA screenshot of a computer

Description automatically generatedA screenshot of a video game

Description automatically generatedA screenshot of a computer

Description automatically generatedA colorful blocks and a ball

Description automatically generated with medium confidence

Graphics and Visualization has now turned out to be one of my favorite classes so far in the computer science bachelor’s degree program. My favorite class was probably the one where we made a small game at the beginning of the program, but this is definitely up there with that experience. Getting to actually create and design my own scene has been really fun. I love being creative and I think that is what keeps me going in this program! I honestly did not realize how much of a difference texture and lighting would make – it made a world of difference! I had no idea my scene could change so much.

I honestly chose my scene deliberately. I looked around my house and thought about what might work well for this project. I chose books on a shelf because of the simple objects that I could replicate from an everyday kind of scene. This kind of scene is also very customizable. I added in a couple of objects I have lying around, and it made the scene more interesting. I later found out that the objects I chose worked even better once adding the textures and lighting. I had no idea that this would happen when I first selected them. Each object looked much different after applying different textures and lighting to them. Experimenting with these elements was very important because it made a huge difference for the final scene. The programming mattered a lot in creating the look I wanted. I specifically wanted a natural looking scene with natural light and an additional lamp light. I didn’t want to put the lamp in the scene, I just wanted the effects from the lamp to appear there and highlight all of the objects from the side. I think it really outlined each object and made the colors and texture pop.

The virtual camera and input devices were key in overall user experience. It honestly made a huge difference. The user was able to eventually use their keyboard and mouse to move the scene around. The user can use the WASD keys to move up, down, left, and right throughout the scene. They can also use the q and e keys to change back and forth from 2D to 3D displays. In the end, the user was able to see the scene I created from all kinds of different angles. Creating my lighting and texture was actually easier because of the camera capabilities. I was able to move around my scene easily and see what the lighting looked like on different areas of my scene. This was very helpful to me and the user, both.

I think there are lots of elements to my project that are reusable. The textures I chose were very easily accessible to anyone. They all had a creative common license where they can all be used for personal creative purposes. Anyone could take my scene and add to it or change elements of it to make it something entirely different. It is a creative endeavor and can be built upon. This project used some functions that can also be replicated. I used the following functions that are replicable and customizable to other creatives: SetupSceneLights(), DefineObjectMaterials(), and LoadSceneTextures(). SetupSceneLights() are usable to others in that they can be used again to create an entirely different lighting setup. You can adjust parameters and colors to make the lighting come from completely different areas and at different strengths. You can also replicate the other two functions in the same way. You can change the materials used by changing the shininess, for example. The Textures can also be changed by searching for textures and loading a completely different one. These functions allow for much reusability and creativity in this scene, but also in other scenes.

There were difficulties, of course. Multiple times during this project, I would be stuck for days on one small area of my code. I slowly figured out each milestone throughout the project and was able to complete it. A lot of my errors involved had a lot to do with completely missing lines of code that I didn’t realize I needed. I also had typos and syntax errors throughout the process. I have also found that only changing one small item at a time and testing frequently is key in all of my projects in this program. These are all areas I will continue to work on going forward in this career.