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CS-330 Final Project

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**Choice of Scene**

My scene of choice was to replicate an ammo box, a cone, and a cylinder in OpenGL. I had made quite a few attempts to port my cylinder over to my main project, but I was not able to implement it properly in the scene. I thought it would be a very easy port, but I think this course has been equally as challenging as the other class I am enrolled in which is CS-340. OpenGL is great and it’s fundamental to use, but in all honesty it’s a very dated system to use in modern graphics and 3D development. These days there are more streamlined approaches to creating 3D environments such as Vulkan and 3D design utilities such as Blender. I think the reason why this class was so challenging for me was how verbose most of the documentation on this subject is, and how dated a lot of the reference material can be. When designing my 3D Scene I primarily worked within my Linux Desktop environment which renders all the assets and libraries just fine, my main issue was porting my code over to a Windows platform.

Navigating the scene is simple and designed for ease of navigation. You can use the WASD keys to control the camera’s movement and you can move laterally by using space and shift. The mouse wheel is used to control the speed of how fast the user can move the camera. My shapes are primitive and I wish I could have work a little better developing my scene, because if I wasn’t caught up in Military Separation and moving my family I think I would have been able to create something closer to how the image is supposed to look. I had the idea at the start of the course that I could probably find the textures within the Half Life 2 files and somehow apply it to the scene, but I was having difficulty extracting these files.

When it comes to graphics development, I think I could really use some work, but my goal for my career is more towards back-end application development or game engine design. As much as I would love to focus on this subject I think my skills using OpenGL are very limited. However, I can say that I enrolled in this course not knowing a thing about OpenGL, but by the time I finished this class I was able to construct a basic 3D scene!

I am not very pleased with my result, but I think if I had had more time to practice on this type of work, I would know how to make better scenes. Some shapes are very hard to replicate within this environment, so once I began choosing my scene I did not know how hard it would be to copy it. I think the most difficult shape I tried creating was the cone. My first attempt was to make a cylinder with a smaller top face and a larger base, but my shape was not rendering properly so I put a pyramid in its place as a representation of the cone.