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CS330 Module 7

Final Milestone

Design Reflection

During my development of my scene there were many considerations I made to make the scene accurate to the sample picture. These decisions revolved shape, texture, lighting sources, lighting direction, and lighting color. While not all of the techniques were fully realized, they were pursued while learning and developing my scene. Lot of trial and error were also used to get the scene to look as intended. As my understanding of OpenGL grew, I was able to spend less time guessing and more time implementing the techniques outlined in the readings.

The first objective was to get objects to appear in the correct shape on the appropriately sized plane. I loaded the prebuilt plane and adjusted its x, y, and z axis to give me enough space to place my objects onto it. I then added my first complex object, a Nintendo Switch. This was comprised of three boxes. I first adjusted the scale of each box by setting all of the heights (x), lengths(y), and thickness (z) to dimensions the matched the object in real life. I then moved all three boxes into position by adjusting their axis in the same relative amount ensuring no gaps between them. I performed similar tactics to create the Alexa and Speed Square tool. However, I had challenges scaling the chosen pyramid mesh to look like a speed square. In hindsight I would have tried a different shape such as a box.

After, building the shapes I then moved needed to add texture to each object that resembled their real life counter parts. I used the Google image search tool to find square textures that would reduce the ability to identify any seams or repetitive patterns. I then named and designated the textures to each of their objects. I ran into a issue where the bit dept of the texture was limiting its ability to be rendered. I had to find a few alternative textures to overcome this problem.

The last piece and arguably the most important piece of the scene, in terms of realism, was lighting. Lighting in the example picture came from four down lights running at 3500k warmth. There were two in front of the scene and two to each side of the scene. I decided to try to produce the ambient light from a few of these lights but struggled to achieve anything close to it. I then bent reality a bit and tried to create more of a spot light by adjusting the focal strength and position. Even with this pivot I still found it challenging to have the light stay static on the object despite the movement of the camera. Ultimately, I did achieve lighting that also reacted a bit differently for each texture.