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Final Project

Working on this project was definitely challenging since it was something that I have never done or learned anything about. That being said, it was also very entertaining to work through the various issues that would arise to make the best image that I could make. Since I had never worked on something like this before I decided to choose an easier scene to work on. I decided to choose a bus stop since most people could imagine what it looks like in their mind while also giving me some artistic freedom to decide textures and lighting and such. I decided however to somewhat follow the color scheme of the photo I chose since it was easier to do that and make it look more pleasing than deciding on my own. Since I did not have to fully think up my own image, it made it easier to decide on what shapes to use to represent the image and what textures to use. In the image I chose, there was a bus object that I had to decide to create. I ended up using the easiest object for that shape and used a rectangle to represent the body of the bus. It was then easy to decide to use a cylinder for the wheels since that is what we use in real life. The harder part of the bus was putting up the windows and doors. I first used only the frosted glass texture to represent glass and created all the shapes, but it looked sort of plain. That is when I looked at the image, and it seemed like each glass panel had a black background surrounding it. That is when I decided to copy that same approach and it instantly made the windows and doors look better. Besides that, the easiest objects to create were the benches since they were just rectangles that made up the overall shape. Then all the other objects like the bus stop roof and the sign were just as easy to create. I decided to use the best textures to imitate what those objects would somewhat look like in real life.

The easiest part of the whole project was to implement the navigation of the project. Since it was all built up in the previous modules and we even had the Sample GL project to look at for reference. I added the up and down ability while adding the ability to increase or decrease the speed of movement based on the scroll wheel. The hardest part of the navigation was setting up the perspective and orthographic views. It was, however, incredibly helpful to make sure my objects were on the plane correctly since it turns out in my original submission, I had part of my benches go below the floor plane.

Since the solution was missing the functions for creating lighting and texture paths, I needed to add those functions to make sure that these requirements could be completed properly. In Milestones Four and Five, we took care of these requirements, which showed me how to properly add those functions and make sure that they could be managed correctly and stay organized despite adding additional lighting and textures. Another area that I had to keep organized was the growing list of objects represented in the image. I decided to add comments to section off every big object and what shapes were needed to build up the object as a whole.

Overall, this project was very fun to complete, and I feel like it gave me a deeper appreciation of those that create computer generated imagery. I always thought that with engines and frameworks it was easy to do this but it turns out that there is a lot of background software and logic that needs to be done to make it look and function that easily. I am proud of myself for having done this image and even though it does not look the best, I still kept showing my wife throughout the building process.