CS 330 7-1 Final Project

A lighthouse in the water

Description automatically generated

For this project, I knew I would have to eliminate certain aspects like the rocks along the shoreline or the hedges that originally separated the horizon line. While those might have been interesting, I liked the idea of the of the lighthouse in the sea. I did take some artistic liberties here. The sea and sky are made of two planes, one at 90 degrees. For the walkway, I chose a box that was then elongated. The base of the lighthouse is a cylinder. I made the body of the lighthouse with a tapered cylinder. The balcony and outlook were both made from cylinders. Finally, I used a cone to make the roof. I also eliminated the windows and door. Finally, I had to eliminate the railing on the walkway. This was solely due to the fact that there was not a workable railing I could find on the internet that wouldn’t ruin the picture. For the balcony, I made that graphic in paint, but adding that white to the walkway would have broken up the picture in an unfortunate way. Textures might have been the most difficult part of the entire project. This is due to the fact that we had to choose royalty free photos that were available for free. There are very few databases that I could find for the items in which I was trying to illustrate.

The user is able to navigate this scene via their keyboard with the WASD for backward, forward, left and right. They are then able to use the QE keys for up and down. The O and P keys can be used to change between orthographic and perspective views. They are also able to use their mouse to get different vantage points. The curser changes the camera orientation which gives a more robust view of the rendering. Finally, the scroll on their mouse changes the speed the camera travels.

Throughout this project, I tried to maintain a great deal of organization. Even from building the lighthouse. I coded the pieces in order. The ocean was first, then the sky, base, walkway, body, balcony, lookout, and finally the roof. This makes each easy to find. I maintained the modularity of the original program that we were working from, only adding sections that needed to be added for functionality. Naming concepts remained conventional and easy to understand. Notes were added for other developers that might try to access this program. Throughout, I applied testing to ensure that the program was functioning as expected. I also eliminated any warnings or errors to ensure the program would correctly deploy.