[7-1 Final Project Submission](https://learn.snhu.edu/d2l/le/content/1609914/viewContent/32522121/View)

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I chose the trees, water, and mountains for the scene because I was making a complete landscape. This was needed to complete it, considering that this was the image I had chosen. From the programming side, I found the shapes to be relatively easy to make thanks to how loading them in the OpenGL works - it took me a while to navigate through while adjusting the positioning of the shapes. The plane itself was something I wanted to perfect and just made sure that the water that I created was on top of the plane too. I chose a sphere to mimic the sun but instead of just one, I made three to make it look like the picture that I picked out. For the scene it made it look all the more better with the lighting effects on the trees changing the tone of it and making it more colorful instead of balanced like how it was at the beginning. I also found it to be helpful that through all of these models, we were taking our time making our masterpieces when it came to the program. At first, I found it somewhat difficult although realized that everything was set up for me to just do easily. Like loading the shapes and making they’re drawn in the program which I found to have not taken much work. The hardest thing that I found doing was just making sure that the light was shining on the scene itself although I ended up figuring out how it was done thanks to the resources that were given through each of the modules.

A user can navigate through my 3D scene because I set up a camera capable of moving up through the keys Q and E, I also adjusted it and made it so that you can go forward and back with W and A. Not only this but I also added separate views when you click the keys O and P on the keyboard this way the camera angles itself over the top of the scene to look down at the trees. I set this up in a way where you could use the mouse wheel to adjust the speed of it as well, this made it easy for practically anyone to use and figure out. Even a person who isn’t tech-savvy was capable of doing such a thing. Not only this but it was also able to go way high and over the scene as well as underneath the platform itself - along with it being aligned to face the front of it for the person that was running the program. The camera itself wasn’t too difficult and how I set it up I feel was great for anyone who wants to navigate through the scene.

The custom functions I used in my program were separate classes specifically listed to do the tasks. For example, I laid out a class specifically for the camera using what was given to me, as well as for loading the shapes and the structures themselves in the program. I made it so the camera could function through the keys that I listed out - this is reusable for any scene that’s made using OpenGL too and not just mine. Simply because it’s separate from the rest of the program that is involved with the scene itself, this way anyone could make a scene of their own using it and it also makes it easier to follow along too with the comments that I listed out. The camera functionality is a cool feature too, compared to the others that I made because of the flexibility that it has and I feel as though it was one of the most fun things that I set up other than the lighting which I found to be neat as well. Another reusable one is how the load structure is formed and the drawing of shapes in the scene. It can work for any particular scene and it was a great setup to all that made things easier throughout the project to implement. Also adding in comments makes it easy for people to understand what it is that they’re looking at which I found reliable, considering that it’s a must when it comes to projects that are with a group. People tend to overlook this kind of stuff but if someone is just taking a look at the project and just sees a bunch of code, they aren’t going to know what’s going on.