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CS-330 Comp Graphic and Visualization

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Module 7 Project

Creating the 3D scene came with its challenges, however, I have gained a new skill and intend on continuing to better my craft. I ran into a lot of issues with textures and lighting, and even now the scene is not as good as it could be. I believe I have established the look for the scene and it is quite obvious that it is supposed to be a computer desk with a monitor, keyboard, and mouse.

The computer monitor was essential for creating a realistic desk setup, as it is a central piece of equipment in any workspace. The picture frames add a personal touch and make the scene feel more lived-in, representing poster-like frames one might have at their desk. The mouse complements the computer monitor and is a necessary peripheral for interacting with the computer. The speaker adds to the functionality of the workspace, indicating the possibility of multimedia usage. The laptop shows flexibility in the workspace. Finally, the desk serves as the foundation for the entire setup, providing a realistic context for all the other objects.

The user can use the A and D keys for left and right, S and W keys for forward and backward, and Q and E for up and down. These keys allow a user to move throughout the scene and experience the scene up close or at a distance. The mouse is used to control the camera’s orientation. Moving the mouse left or right rotates the camera horizontally and moving it up or down rotates the camera vertically.

I probably could have organized my function a little bit better than I did, but I tried to implement comments to note what each object being created was. I used the SetupSceneLights() function to add 2 lights to my scene. One of the lights was a standard white light that’s located towards the middle of the scene to highlight the monitor specifically. The second light has a yellow tint to it and is located over the entire scene with a higher intensity to highlight all of the objects in the scene. I used the LoadSceneTextures() function to upload all of my textures for my objects in the scene. I created most of my textures in Canva and I think it is incredible that this worked so seamlessly. I used the PrepareScene() function to load all of my object types to the scene so when I render the scene everything gets added to the scene. Finally, the RenderScene() function allowed me to add my objects, textures, and the positioning of the objects to the scene.

The development choices for the 3D scene were based on creating a realistic and functional workspace. The user can navigate the scene using keyboard and mouse controls, and the virtual camera is set up to respond to these inputs. Custom functions were developed to make the code modular and reusable, facilitating easier management and updates to the scene.