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Module Seven

CS 330

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**Reflection**

The selected 3D scene for this project showcases a carton of milk placed on a flat surface, such as a table. The image includes additional objects, including a refrigerator in the background, however, the milk carton was ultimately selected as the primary subject due to its incorporation of the three key shapes required for the project. Specifically, the top of the carton showcases a pyramid shape, the body of the carton is represented as a cube, and the cap of the carton is depicted as a cylinder. The flat surface, in this case, the table, is also depicted as a plane in the scene. These objects were effectively rendered and positioned in relation to one another through the use of vectors and the implementation of the UCreateMesh function.

The 3D scene is equipped with a user-friendly navigation system, allowing the user to move horizontally (left or right) and vertically (up or down) by pressing the corresponding keys on the WASD and QE keys. Additionally, the camera can be panned by moving the mouse, and zoomed in or out with the relative buttons, providing a more dynamic and immersive experience. The speed of the camera movement can also be controlled, allowing for a more tailored experience, through the use of the Z and C buttons. This adjustable speed feature enhances the functionality and ease of use for the user.

In the development of this project, I opted to adhere to the tutorials and refrained from implementing custom functions, as I am relatively new to OpenGl. Although the final image may not be an exact replica of the intended outcome, it serves as a demonstration of the foundational principles of object creation using basic shapes, basic camera movement, texturizing of objects, and the application of lighting. To ensure code clarity and readability, I made a conscious effort to maintain a well-commented code structure and effectively utilize white space.

While the final image may not be flawless, I still believe that it presents a unique and visually appealing outcome. Despite some difficulties in fully replicating the lighting effects on objects, such as a cube, as demonstrated in the tutorials, the lighting in the image still creates an interesting and dynamic atmosphere, resembling a nightclub or an environment with multiple lights shining on the objects. Furthermore, the lighting movement further showcases the functionalities learned in the tutorials, by presenting a rotating cube around the objects. This project served as an introductory experience to OpenGl, and although the image may reflect my inexperience with the technology, it represents a significant step towards a better understanding of OpenGl. Moving forward, I can reference this project as a demonstration of my learned skills and a foundation for future endeavors in OpenGl.