Report On Project
Computer Graphics I
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Issues Faced:

While working on project, I have faced several problems related to the different aspects of 3D modelling and rendering. These issues can cause the model to appear unappealing or inaccurate, requiring adjustments to be made to the model or texture.

Another problem I faced was related to lighting and shading, which are crucial in creating a realistic and visually appealing 3D scene. If the lighting is not set up correctly, the rendering may appear flat or uninteresting. Additionally, errors in shading can cause the model to appear distorted or incorrect, requiring adjustments to the lighting or shading settings.

I also encountered issues related to rendering time, which is the amount of time it takes to render the 3D scene. Depending on the complexity of the model, rendering can take a long time, causing delays in the project's progress. I can optimize the rendering time by simplifying the model, reducing the resolution or level of detail, or upgrading the hardware resources.

Furthermore, I faced difficulties while implementing controls for color and position selection. Wireframe rendering was another challenges faced. Wireframe rendering is a method of rendering 3D models that display only the edges and vertices of the model, making it easier to visualize the model's geometry. However, this method can be resource-intensive if the model contains a large number of vertices, which can slow down the application's performance.

Finally, interactive operations like translation, scaling, and rotation can cause visual artifacts or distortions if not implemented properly. These issues can occur due to incorrect code or insufficient testing, resulting in a distorted or clipped model. To avoid these issues, it's essential to carefully test and debug the code, ensuring that the model's integrity is maintained during interactive operations.

Things I learnt:

This project allowed me to learn about 3D rendering and the many approaches involved, as well as the problems and solutions that come with it. I was able to construct the essential features and interactions for a comprehensive 3D rendering application by leveraging existing sample code and libraries.

This project taught me how to create color selection controls for ambient, specular, diffuse, and other variables. I also learnt how to create position selection controls such as light, eye, at, up, and others. I understood the need of offering a rapid and smooth user experience while considering the

influence on application performance for complicated models with a significant number of vertices during interactive operations such as translation, scaling, and rotation.

Bugs:
Despite the fact that I experienced various challenges when implementing code and functionality, I was able to overcome them by debugging and finding solutions.