7 – 1 Final Project: Design Decisions

CS – 330

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In the development of my 3D scene, I opted for a methodology centered around iterative refinement and user accessibility, leveraging both trial and error design processes and familiar input mechanisms for navigation. The justification behind these development choices lies in the pursuit of creating an immersive and user-friendly experience.

Embarking on the design journey, I embraced a trial-and-error approach, allowing for the exploration of various shapes and arrangements within the scene. By iteratively testing different compositions and configurations, I aimed to discover the most visually appealing and harmonious arrangement of objects. This method not only fosters creativity but also ensures that each element complements the overall aesthetic, leading to a cohesive and engaging environment.

Furthermore, I strategically commenced the design process by focusing on the most complex object to render. This deliberate choice enabled me to tackle the most challenging aspects of the scene first, establishing a foundation upon which simpler elements could be seamlessly integrated. Starting with the most intricate object sets the tone and scale of the scene, providing clarity and direction for subsequent design decisions. As a result, the overall development process becomes more structured and efficient, leading to a polished final product.

In terms of user interaction, I prioritized accessibility by implementing standard mouse and keyboard inputs for navigation within the 3D scene. Leveraging familiar input mechanisms ensures that users can intuitively explore the environment without the need for extensive learning curves. Mouse movements control the orientation of the camera, allowing users to survey their surroundings effortlessly. The mouse scroll wheel can also be used to adjust the speed of the camera movement. Meanwhile, keyboard inputs dictate the movement of the virtual camera within the scene, facilitating fluid traversal and exploration. The keyboard inputs consist of the standard “W”, “A”, “S”, “D”, to move forward, left, backward, and right respectively. By adhering to conventional input methods, I aimed to enhance user engagement and minimize barriers to entry, thereby maximizing the accessibility and usability of the 3D experience.

To facilitate smooth camera control and scene navigation, I developed custom functions within the program. These functions serve to modularize and organize the codebase, promoting reusability and maintainability.