

# SYSTEM FEATURES AND REQUIREMENTS

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## **Camera Manipulation**

#### 1.1 Camera Movement

Forward Movement: The camera can move forward using the keyboard input 'W'.

**Backward Movement:** The camera can move backward using the keyboard input 'S'.

**Left Movement:** The camera can move to the left using the keyboard input 'A'.

**Right Movement:** The camera can move to the right using the keyboard input 'D'.

#### 1.2 Camera Rotation

**Simple Rotation:** The camera can rotate up and down along the X-axis and turn right and left along the Y-axis using mouse input.

**Rotation Around Point/Object:** The camera can rotate around a point or object by left shift button and right-clicking on the object and then rotating using the mouse X and Y axes.

#### 1.3 Camera Zoom

**Zoom In:** The camera can zoom in using the mouse wheel up key.

**Zoom Out:** The camera can zoom out using the mouse wheel down key.

**Zoom Increment:** Each zoom action adjusts the camera's distance by  $\pm 10$  units from its current distance. rotating using the mouse X and Y axes.

## **Object Manipulation**

### 2.1 Object Transformation

Object manipulation is facilitated through a gizmo system.

**Translation:** Objects can be translated using the keyboard input 'Q'.

**Rotation:** Objects can be rotated using the keyboard input 'E'.

**Scaling:** Objects can be scaled using the keyboard input 'R'.

**Translation and Rotation:** Objects can be translated and rotated simultaneously using the keyboard input 'T'.

**Coordinate System Switching:** The coordination system of objects can be switched between world and local space using the keyboard input 'Z'.