

Project B: Rocket and Windmill

CS 351

Hao Zhang

hzj943

User's Guide:

Arrow keys aim the camera without moving it: Left/right arrow keys rotate view left/right; up/down arrow keys tilt up/down. WASD keys move the camera without rotating it: W/S keys move forwards/backwards in direction-of-gaze; A/D keys 'strafes' camera left/right at current altitude.

Results:

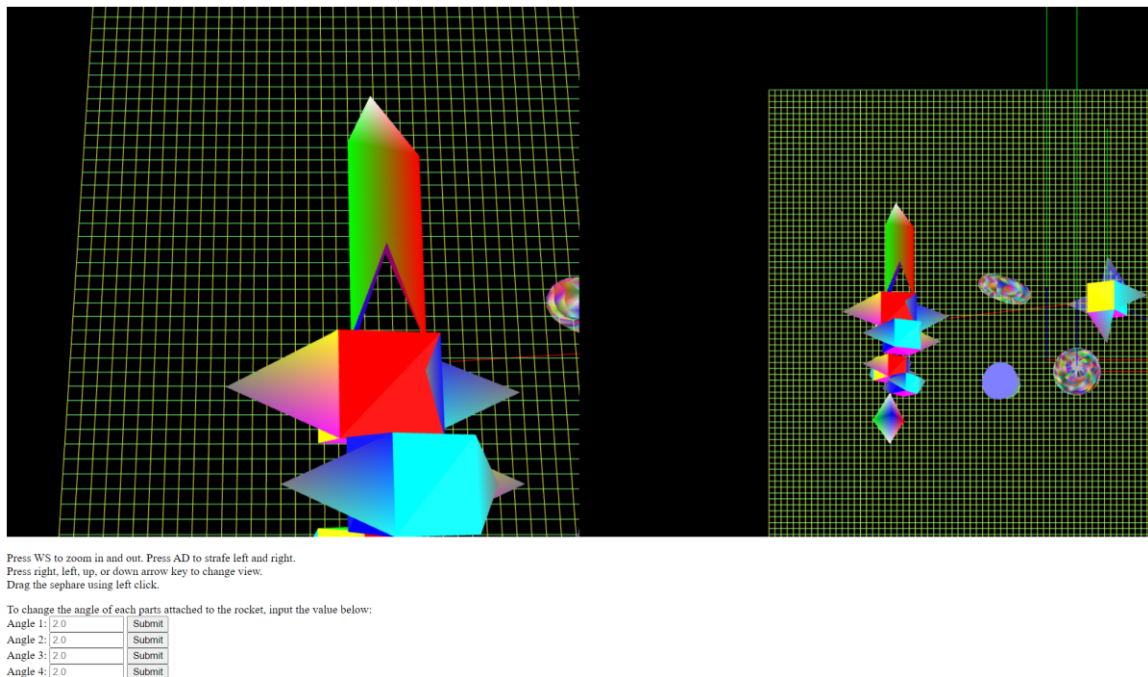
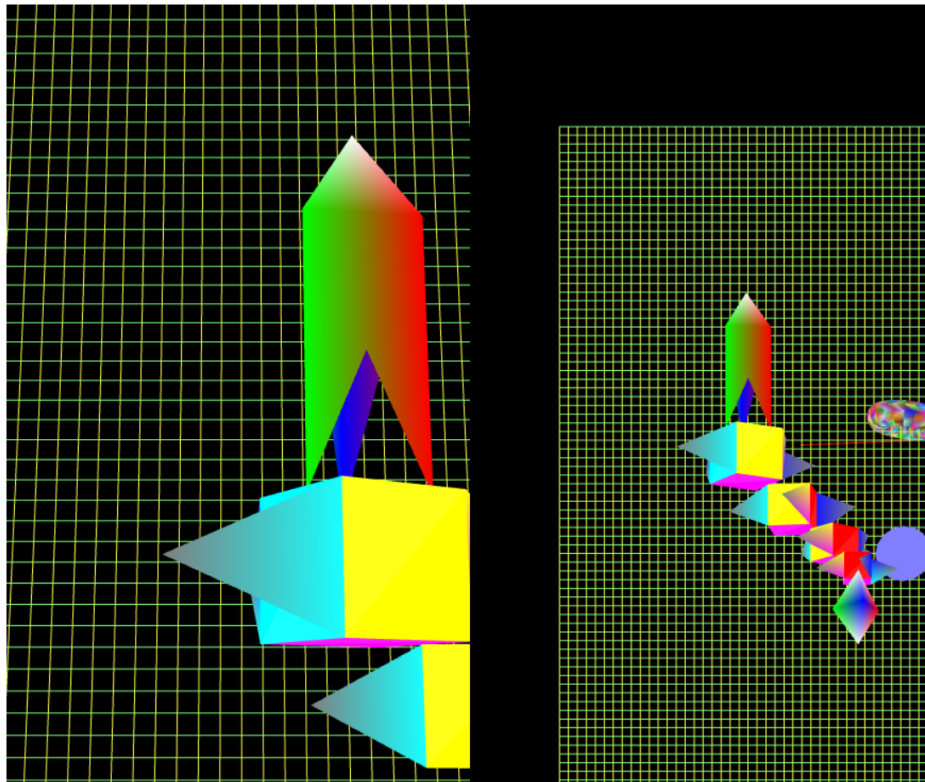


Figure 1 Side-by-Side Viewports.

On the left is perspective Camera with 35-degree vertical field-of-view. On the right is orthographic camera with width, height matching perspective camera's view-frustum size measured at $-z = (\text{far}-\text{near})/3$



Press WS to zoom in and out. Press AD to strafe left and right.
Press right, left, up, or down arrow key to change view.
Drag the sephare using left click.

To change the angle of each parts attached to the rocket, input the value below:

| | | |
|----------|----------------------------------|---------------------------------------|
| Angle 1: | <input type="text" value="2.0"/> | <input type="button" value="Submit"/> |
| Angle 2: | <input type="text" value="2.0"/> | <input type="button" value="Submit"/> |
| Angle 3: | <input type="text" value="2.0"/> | <input type="button" value="Submit"/> |
| Angle 4: | <input type="text" value="2.0"/> | <input type="button" value="Submit"/> |

Figure 2 Auto Resizing.

When changing browser window width, canvas will be automatically re-sized to fill the full width of browser window and at exactly (70%) of its height.

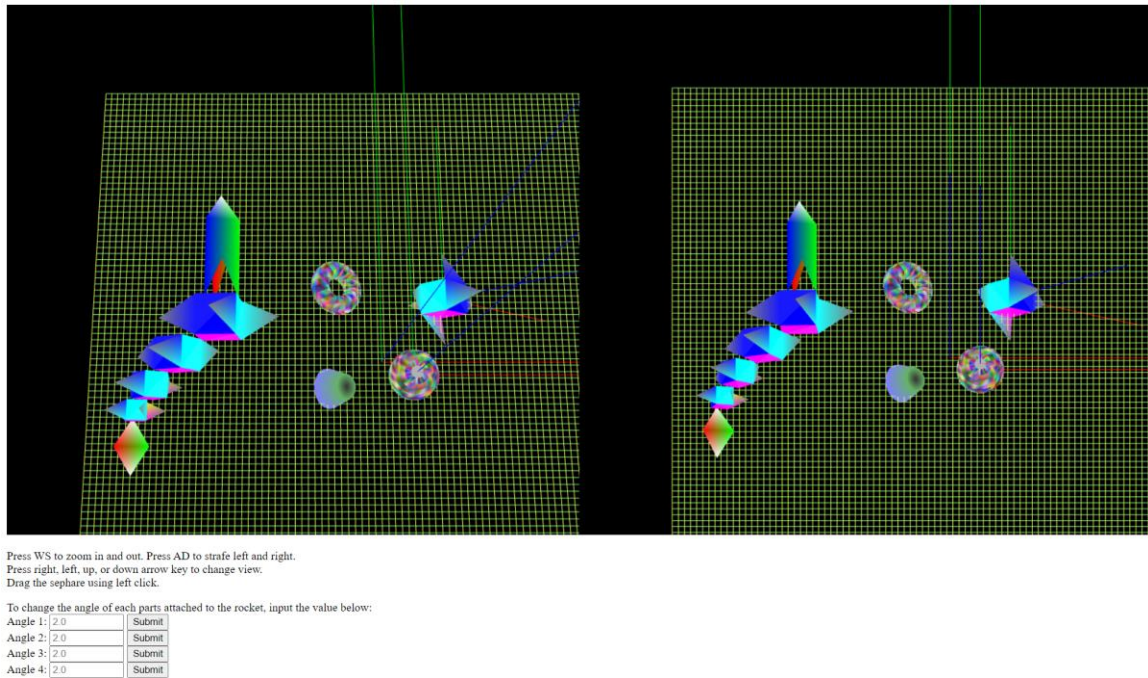
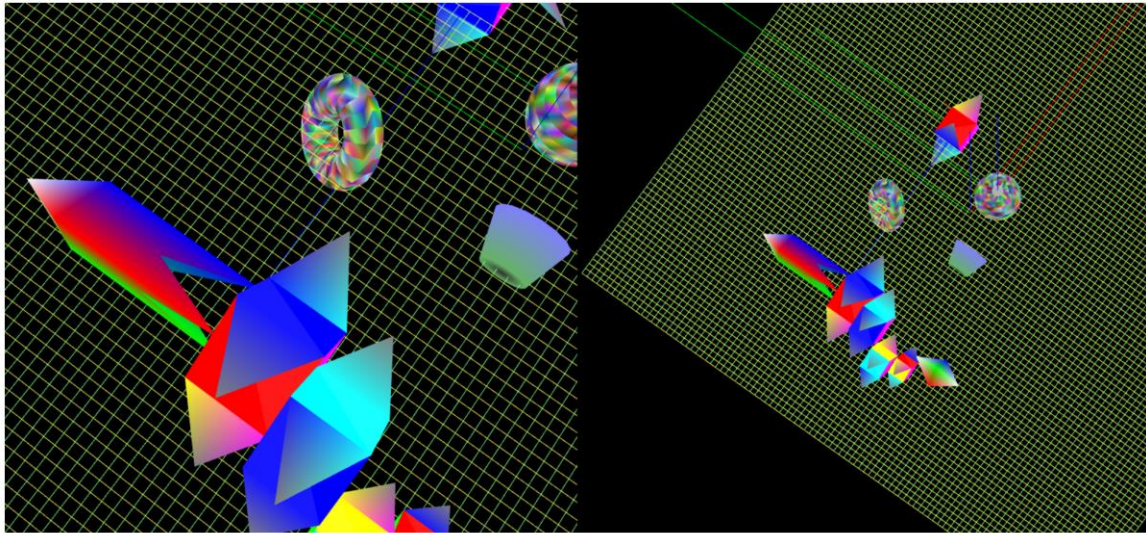


Figure 3 Moving the camera without rotating it.

One the left is a moved camera by using WASD keys. WASD keys move the camera without rotating it: W/S keys move forwards/backwards in direction-of-gaze; A/D keys ‘strafes’ camera left/right at current altitude.



Press WS to zoom in and out. Press AD to strafe left and right.
Press right, left, up, or down arrow key to change view.
Drag the sphere using left click.

To change the angle of each part attached to the rocket, input the value below:

| | | |
|----------|---------------------------------|---------------------------------------|
| Angle 1: | <input type="text" value="20"/> | <input type="button" value="Submit"/> |
| Angle 2: | <input type="text" value="20"/> | <input type="button" value="Submit"/> |
| Angle 3: | <input type="text" value="20"/> | <input type="button" value="Submit"/> |
| Angle 4: | <input type="text" value="20"/> | <input type="button" value="Submit"/> |

Figure 4 Aiming the camera without moving it.

Figure 4 shows a changed camera view without moving it by using arrow keys. Arrow keys aim the camera without moving it: Left/right arrow keys rotate view left/right; up/down arrow keys tilt up/down.

