**Name:** Rachel Ruddy

**NetID:** RJR2979

Project B: Escaped Alien Creatures

**User's Guide**

Creating this project, I intended to offer the user creative freedom to explore and manipulate the environment. With the time constraints of the project, I was able to implement highly controllable camera movement, as well as quaternion rotations and another slider-modifiable jointed object.

With the geometric alien assemblies I created, I implemented the following user controls: There is a slider that can be increased/decreased to change how far the palm-tree-like assembly sways, as seen in my project A. There is also an assembly, shaped like three diamonds stacked at the ends to form a horizontal tower, which can be rotated when the user clicks and drags on the screen. As for camera movement, you can press the 'W' and 'S' keys to aim your camera up and down respectively, as well as 'A' and 'D' for turning (in place) left and right respectively. Aside from aiming, the user can also use the up/down arrow keys to move forwards/backwards, and the left/right arrow keys to strafe to the right and left. Finally, there is a Run/Stop button which will halt all traveling motion while maintaining most of the angles, so the user does not need to chase assemblies about the scene to view them up close.

## Results

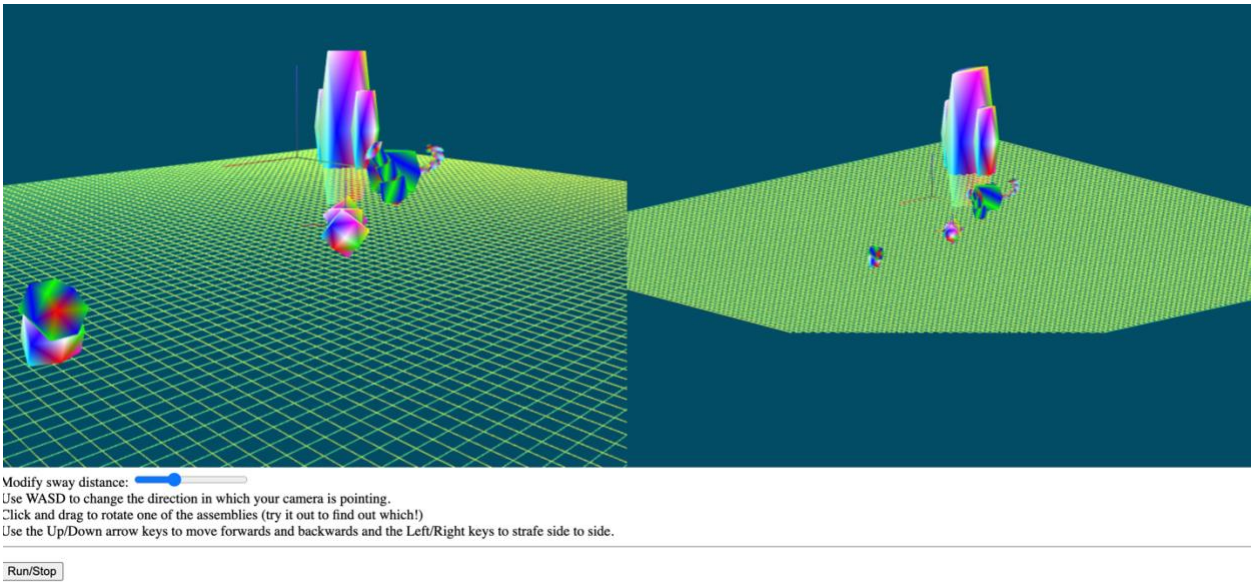


*Figure 1: The project in its default state*

This first image demonstrates the project as it is upon first loading, with the window taking up the whole browser size. On the left we have our projection view, and on the right, we have our orthographic view.

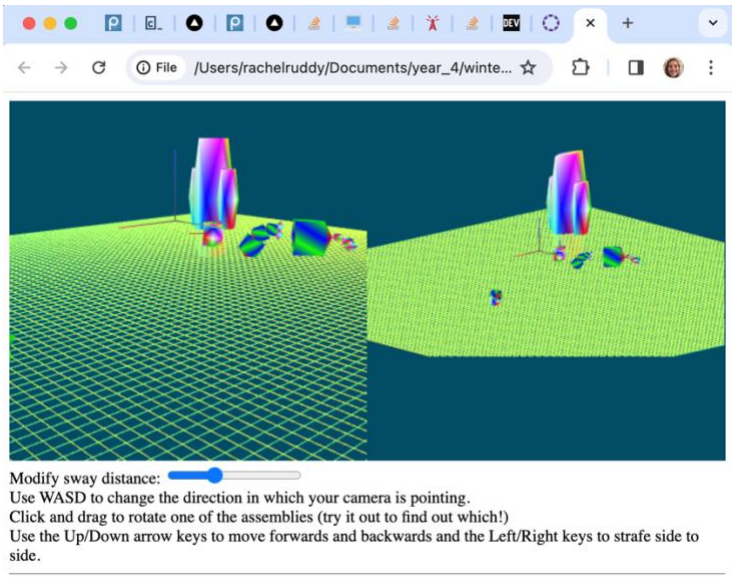


*Figure 2: The project with a narrower window.*

This second image demonstrates the automatic resizing of the canvas drawings when the browser window is resized. No matter how tall or wide the browser is, the shapes are undistorted.

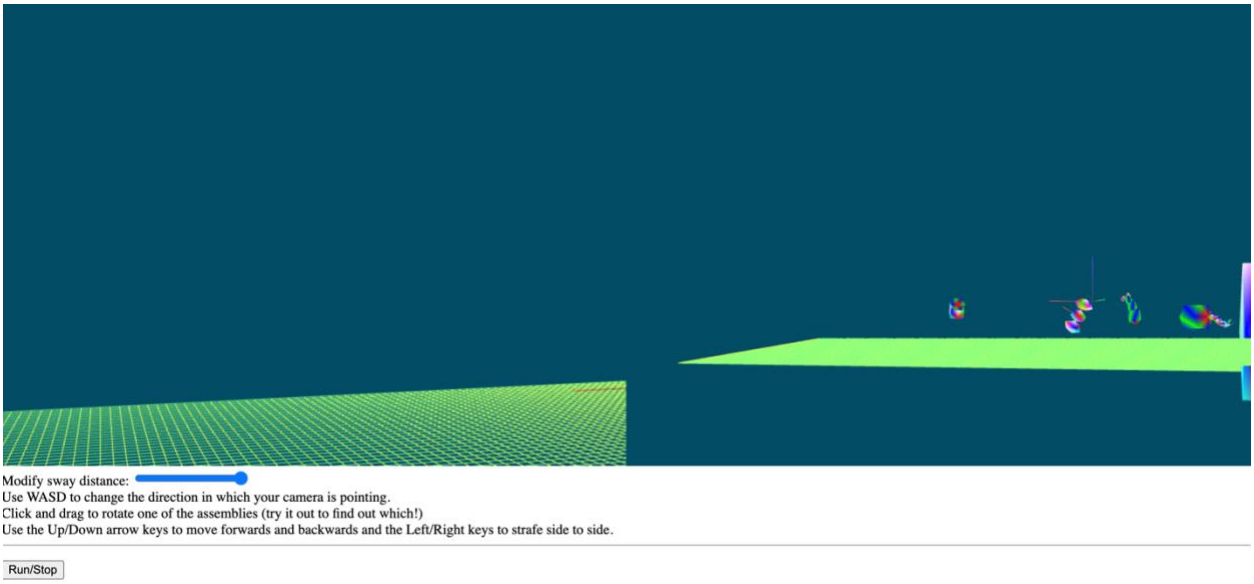


*Figure 3: Modifying the direction of the camera.*

In this picture, we see the effects of modifying the tilt and direction of the camera. The shapes are still present, as demonstrated in the orthographic view, but the camera is facing away from the shapes in the perspective view. This display was accomplished using the WASD keys.

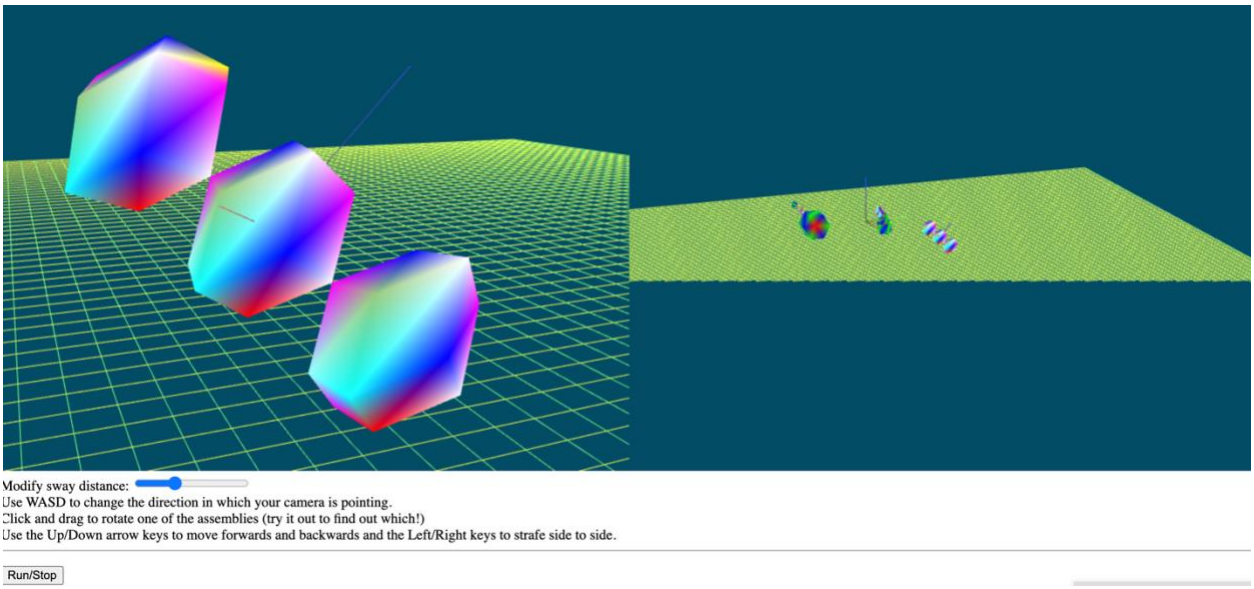


*Figure 4: The effects of camera movement and quaternion rotation.*

In this final image, we see the effects of moving the camera about the world space (using the arrow keys) as well as the angular modifications offered by dragging the mouse.