

Project B: Journeying through Space

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User Goals:

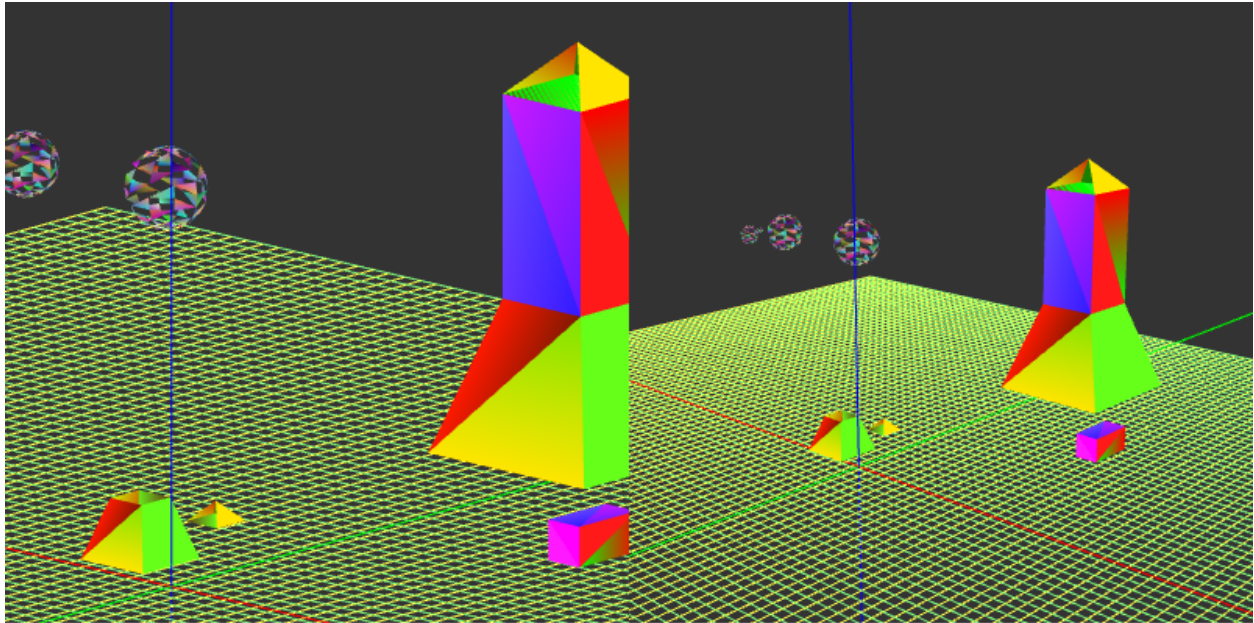
The goal of this system is to allow for user to move around in 3D while controlling a rocket blasting off in space. As the rocket moves through space, it passes a planet with a complex arrangement of its moons. The user can move to any 3d space and watch the rocket launch or the movement of the planets. Two views are shown side by side - one showing an orthographic view with the other showing a perspective view of the system.

In order to manage this variety of allowed actions, there are a few controls implemented that the viewer may use to control her/his interactions with the system. First, there are the actions associated with actually *moving* around in space. The up key moves the user towards the direction in which the user is currently looking. The down key does the exact opposite, it backs the user up along the direction in which the user is looking. The 'R' key increases the vertical position as well as the vertical look at point, and the 'F' key decreases both these values. This was allowed so that users could easily change their height instead of having to look at an approximate point above/below, moving, then readjusting their view.

The next four controls deal with controlling where the user is looking. The 'W' and 'S' key control the looking up and looking down actions, respectively. These will not change the actual location of the user, merely where the look at point is placed. The 'A' and 'D' key control the turning left and turning right actions, respectively. If held down, these will result in a complete 360° rotation and the user will see the same view where she/he started.

Finally, the user can use the spacebar to 'liftoff' the spaceship from its launching point and send it to space. Once the spacebar is released, the rocket will slowly lower down to the ground.

Results:



Welcome to space! Check out the controls below:

Space bar - hold it to send the spaceship out of the world!!

Up Arrow - Move forward in the direction that you're currently looking

Down Arrow - Move backward in the direction that you're currently looking

W - look up

S - look down

A - turn left

D - turn right

R - move in the z+ direction (vertical)

F - move in the z- direction (vertical)

Image 1: The default view of the system, all objects are shown along with controls.

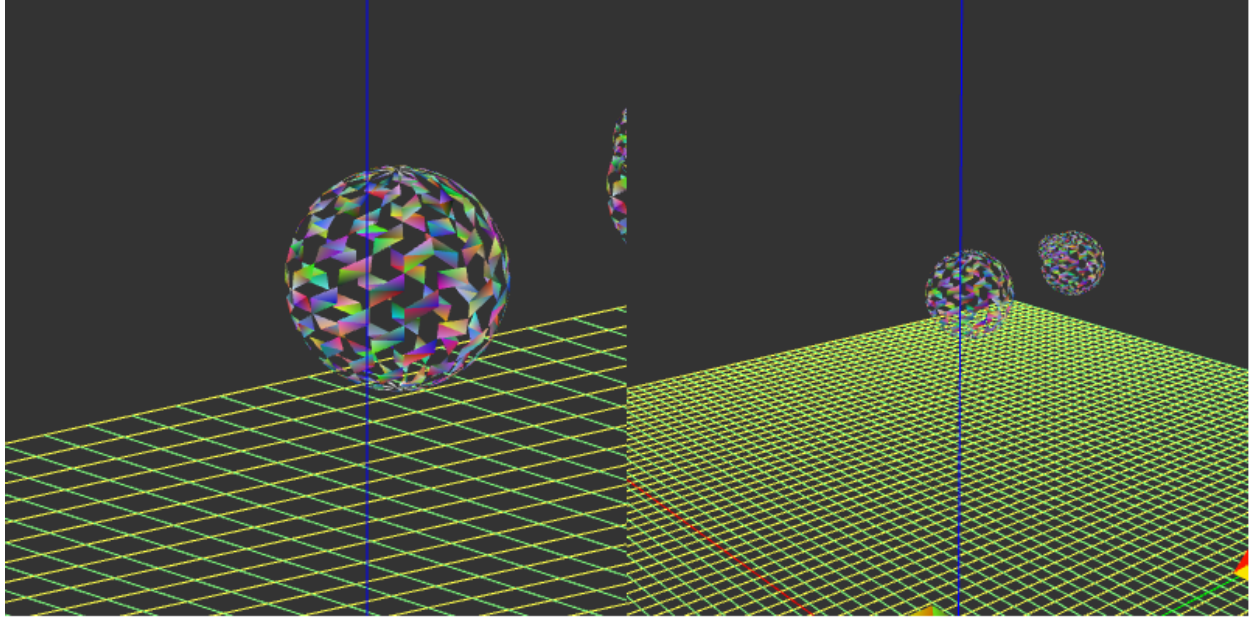


Image 2: An up-close shot of the planets and its moons - the small moons are currently hid behind the other larger moon.

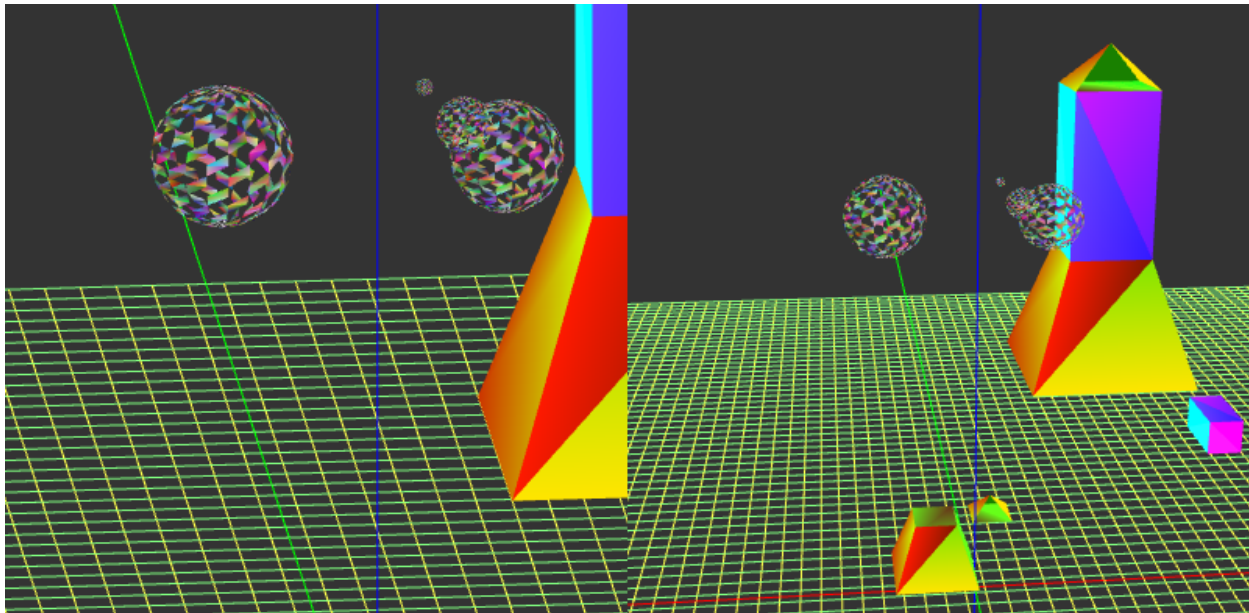


Image 3: A view of the system from another angle.

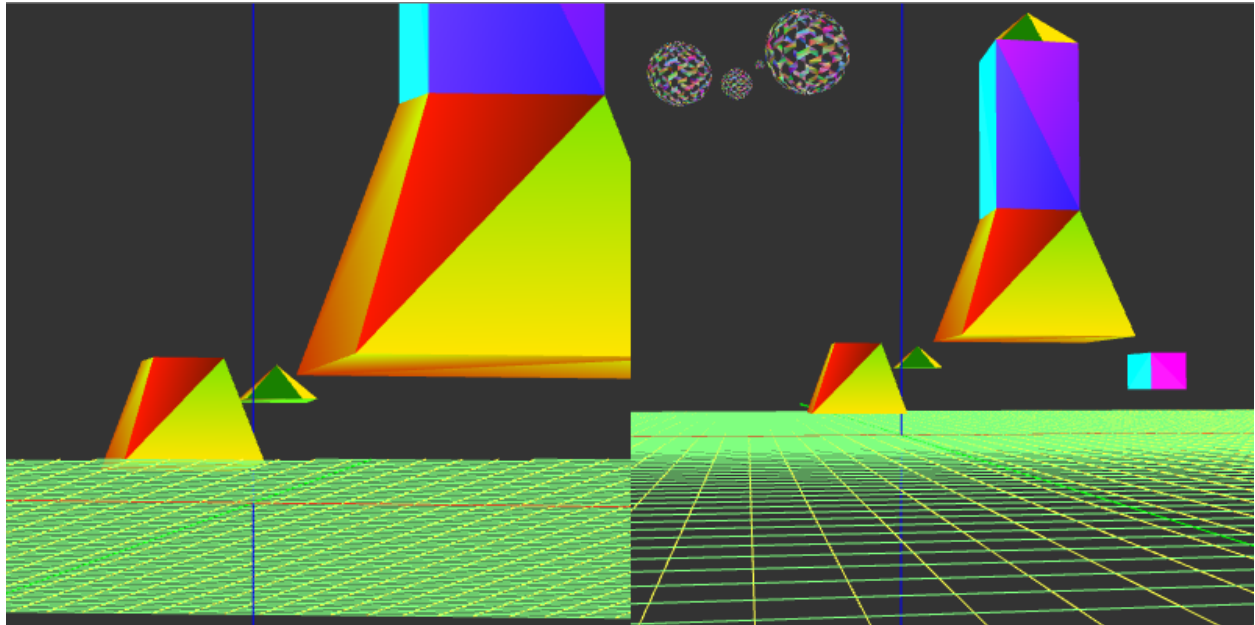


Image 4: A view of the system from the ground facing up.

Proj B Scene Graph

