Project Journal

Individual Responsibilities

Rather than being assigned individual tasks and responsibilities for the project, all members of the project assisted in completing every component of the project. Within each of these components, however, specific team members were tasked to develop solutions for each component.

- Setting up HTC Vive with project
    - Stevens, Maxwell, and Joshua set up the controls and functionality of the HTC Vive
- Modeling
    - Matthew did the modeling for the orbit paths and Saturn's rings
- Textures and Other Assets
    - Maxwell downloaded most of the planet's textures from NASA and Solar System Scope
    - Stevens located and downloaded the texture for Pluto
    - Joshua installed a Star Skybox from the Asset Store
    - All textures and assets are available to view on References.pdf
- Game Object Positioning
    - Stevens and Ayrton scaled all of the planets in the Solar System and positioned them proportionately.
- Script Development
    - Stevens, Maxwell, and Joshua created LaserPointer.cs
    - Joshua made Orbit.cs, Rotation.cs, and SpeedUpPlanetsTest.cs
- Planet Orbit and Rotation
    - Ayrton found a ratio for each planet's orbit and rotation to Earth's orbit and rotation
    - Ayrton applied these orbits and rotations to the game objects in the project
- Lighting and Orbit Paths
    - Joshua added a point light to act as the Sun's light source
    - Joshua made the Sun's material emissive to make it light up in the scene
    - Matthew modeled the orbit paths of each planets
    - Joshua made the orbit path's material emissive to appear to glow in the scene without emitting light to other planets.
- Testing and Debugging
    - Matthew, Stevens, Ayrton, and Joshua tested and debugged various components of the program
    - Stevens, Maxwell, Ayrton, Matthew, and Joshua came up with techniques to approach the problem differently

- Jonathon asked a question about the size of the Sun relative to the planets

Encountered Problems

- Controllers could not be found by the headset when running the program.
  - **Solution**: The pose of each controller was not deleted and then assigned to the action pose of each controller within the "Controller Binding UI" window.
- Creating a script that controlled the orbit (and later rotation) of all of the planets.
  - **Solution**: Rather than attempting to find a trigonometric expression that represents the orbit of the planets created by Matthew, we instead decided to create an object that offsets the position of the planet and rotate this grouped object every frame.
- Rate of the planets not accurate
  - **Solution**: Ayrton did mathe-magic to find a formula that makes the rate of the planets accurate.
- Rotation of the planets not working and then too fast
  - **Solution**: Using Ayrton's formula for the orbit of planets, Joshua and Stevens created a new script that focuses on rotation and added this script within SpeedUpPlanets.cs
- Trigger not working for speeding up the planets
  - **Solution**: We rewrote a few scripts in order for the trigger to work accurately.