User Guide

Introduction

This program is a virtual reality simulation of our solar system. All planets are to scale with one another in terms of both distance and size. The Sun, however, is sized in a way that it is large without taking up a proportionate amount of space in the simulation. The user can speed up the rotation and orbit of all of the planets, with the default speed of Earth orbiting at a rate of 180 seconds and all other planets following proportionately. The rotation of each planet is not proportionate to their orbit, because for some planets (namely Jupiter), the rotation had to be slowed in order to reduce the likelihood of motion sickness.

Controls

This program is designed for use with an HTC Vive Pro. The controls are as follows:

- **Trigger**
    - When held down on either controller, all planets' rates of rotation and orbit increase by a factor of 3.
    - When not held down on both controllers, all planets' rate of orbit remain at the default rate, with Earth orbiting the Sun at a rate of 180 seconds and all planets following proportionately. All planets' rates of rotation also decrease by a factor of 1/3.
- **Up on Directional Pad**
    - When held down on either controller, a laser is pointed in the direction of the controller's pose.
    - When released, the user teleports to the location that the laser is pointing at. This can give you a unique perspective on our solar system that you couldn't otherwise get!
    - There is a plane underneath the solar system that you can teleport around to and you can also teleport on top of planets!

Summary

Other than that, the program is very simple! Rotation and orbit are handled by working with one another and only changes when you, the user, wants it to change! All that you need to do is put on a headset and grab the controllers!