CS 480
Solar System Manual
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Movement

Basic movement and rotation of the camera are handled by the mouse and the keyboard, with the WASD keys handling movement, with the Shift key making movement of the camera faster. The camera is mouse-controlled in FPS fashion.

CSV

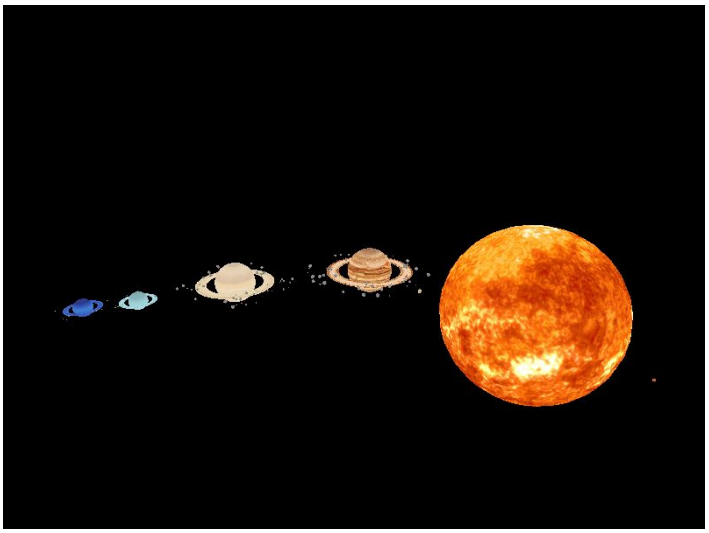
The program reads in all of the information for planets and moons, including their rotation speed/size, orbit speed/size. To change the configuration of the solar system, the user just needs to change values in the CSV file.

planet	diameter (km)	rotation_period (hrs)	distance_from_sun (10^6 km)	orbital_period (days)	number_of_moons	has_ring_system
Mercury	4879	1407.6	57.9	88	0	No
Venus	12104	-5832.5	108.2	224.7	0	No
Earth	12756	23.9	149.6	365.2	1	No
Mars	6792	24.6	227.9	687	2	No
Jupiter	142984	9.9	778.6	4331	79	Yes
Saturn	120536	10.7	1433.5	10747	62	Yes
Uranus	51118	-17.2	2872.5	30589	27	Yes
Neptune	49528	16.1	4495.1	59800	14	Yes
Pluto	2370	-153.3	5906.4	90560	5	No

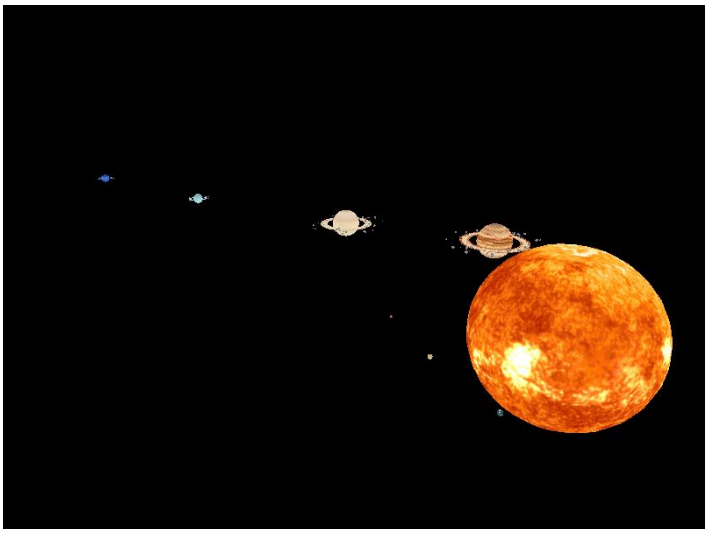
Distance From Sun

To see all the planets, press K to normalize the planet's distance from the sun. This will place every planet as close to each other as possible with some offset. To get a more realistic view, press I to scale out the planets to be proportionally at the correct distance from the sun as specified by the CSV file.

Normalized Distance



Scaled Distance



Time

To speed up or slow down time, the user needs to press P or O respectively. This will slow down or speed up both the rotation and orbit of every object within the solar system.

Extras

The user can press H to change the textures on the planets and moons to the picture below, or J to change the textures back to what they originally were.