Capital College Visual Science
Matthew Robinson, Foram Kalaria, Fery Kalaria, Dominique Nicolas, Danny Ruan

Next Gen Planet Simulator

Project Glossary

- **Celestial Body:** the subject of the simulation, usually a planet, but includes any gravitational mass that could be in a solar system, like asteroids, comets, and brown dwarfs.
- **Physical Properties:** parameters of the simulation that describe the celestial body (e.g. mass, size, atmospheric composition).
- **Simulation:** the physically based set of algorithms used to generate the physical behaviors of the active celestial body and its natural satellites.
- **Natural Satellite:** a celestial body orbiting another celestial body (e.g. moons, rings).
- **Stellar Model:** set of properties used to describe the thermodynamic input and the lighting of a celestial body, mimicking the effect that a sun or lack thereof would have on the system (e.g. red giant, black hole, rogue system).
- **Orbital Tilt:** the angle the celestial body makes between its axis of rotation and the stellar model's north pole.
- **Inspection Feature:** result of selecting a physical phenomena of the simulation in inspection mode, paired with a description of what that feature is and why it occurs in nature (e.g. Van Allen belts, volcanoes, craters).
- **Electromagnetic Simulation:** electrostatic simulation system describing the magnetic vector field around celestial bodies.
- **Atmospheric Simulation:** simulation system handling the composition of the gases and the basic fluid dynamics of the atmospheres around celestial bodies.
- **Geological Simulation:** smoothed particle hydrodynamics simulation system producing the geological phenomena including fluid mechanics of liquids on the surface of celestial bodies.
- **Gravitational Simulation:** simulation system producing orbits, tidal forces, and collisions between celestial bodies.
- **Kinematics Simulation:** simulation system modeling the motion and rotation of celestial bodies.
- **Thermodynamic Simulation:** simulation system modeling temperature, heat, and energy flow throughout celestial bodies.
- **Region:** a small section of the surface of a celestial body; can be zoomed in by the user and viewed up close.