**Project Proposal: Simple 3D Interactive Solar System Simulator**

**Description**

The proposed project is to develop a simple 3D interactive solar system simulator using three.js, a JavaScript library that enables the creation of 3D graphics in a web browser. This project is related to computer graphics and will utilize and extend the knowledge and skills taught in this course, specifically in using three.js and WebGL for 3D graphics rendering. The simulator will feature realistic representations of the planets orbiting the sun, allowing users to click on individual planets to get more information about them, such as their mass, size, distance from the sun, and main characteristics. Users will be able to zoom in and out and rotate the view to explore different perspectives of the solar system.

**Checklist & Grading Criteria**

1. **10/10 - Exceeds Expectations**
   * Create a 3D model of each planet.
   * Implement interactive features such as clickable planets with pop-ups that provide detailed information.
   * Incorporate an educational aspect, such as real-time simulation of orbits and planetary rotation to observe planetary motion.
   * Ensure smooth performance and responsiveness in various browsers and devices.
2. **9/10 - Meets Higher Expectations**
   * Develop textured 3D models for all planets.
   * Include basic interactive features such as clickable planets that display basic information.
   * Ensure good performance on desktop browsers.
   * Implement basic lighting that represents sunlight.
3. **8/10 - Meets Basic Expectations**
   * Create basic 3D models for the planets with minimal texturing.
   * Implement a static view of the solar system where planets are positioned in their orbits without animation.
   * Ensure the project works on desktop browsers without significant performance issues.
4. **Below 8/10**
   * Incomplete features such as missing several planets, lack of interactivity, or poor performance.
   * Limited or no use of textures and lighting to enhance realism.

This project will enable you to deepen your understanding of 3D graphics and enhance your skills in using modern web technologies for graphics applications. The interactive and educational aspects of the simulator will also provide an engaging way to learn more about our solar system, combining computer graphics techniques with practical application in a web environment.