Physics Game - Collisions and Gravity: Problem Statement

1 Problem Statement

Develop a physics-based game focusing on realistic collision dynamics and gravitational interactions using C++/C# or JavaScript. The aim is to engage players in manipulating objects, analyzing trajectories, and applying physics principles in a challenging environment.

2 Game Elements

- Projectile: Object with initial position, velocity, and mass.
- Targets/Obstacles: Various shapes and sizes.

3 Physics Simulation

- Realistic collision interactions.
- Gravity affecting projectile motion.
- Additional forces like wind.
- Visual feedback for collisions.

4 Controls

- Intuitive controls (mouse clicks, touch inputs).
- Adjustable launch angle, force, etc.

5 Graphics and Sound

- Enhanced graphics.
- Complementary sound effects.

6 Goals

- Engage players in a physics-based interactive environment.
- Demonstrate realistic physics phenomena.

7 Stretch Goals

- Enhance physics simulations for more complexity.
- Expand control options for diverse gameplay.
- Upgrade graphics and sound for a more immersive experience.