

Project Proposal: One-Player Billiards Game

1. Introduction

1.1 Project Overview

The project aims to develop a one-player billiards game using object-oriented programming principles. The game will simulate the basic rules and mechanics of traditional billiards with a focus on providing an engaging and enjoyable experience for a single player.

1.2 Purpose

The purpose of the project is to create an interactive and user-friendly billiards game that allows players to enjoy the game of billiards in a virtual environment. The game will be designed to run on desktop platforms.

2. Features

2.1 Core Features

1. **Single-Player Mode:** The game will support a one-player mode where the player competes against the computer.
2. **Game Physics:** Implement realistic ball movement and collision physics to mimic the behavior of real billiard balls.
3. **Gameplay Mechanics:** Include fundamental billiards gameplay mechanics such as aiming, shooting, and scoring.

2.2 Additional Features

1. **Tutorial Mode:** Provide a tutorial mode to guide players through the basic rules and controls.
2. **Score Tracking:** Keep track of the player's score and display it on the screen.
3. **Game Settings:** Allow users to adjust settings such as difficulty level, table appearance, sound preferences, and game rules.

3. Use Cases

3.1 Play Game

Description: The player launches the game and enters the one-player mode.

Steps:

1. Start the game.
2. Choose the one-player mode.
3. Begin the game by positioning the cue ball and aiming for the target ball.
4. Use the mouse or keyboard to control the cue stick.
5. Execute the shot by hitting the cue ball.

Expected Result: The game simulates the shot, and the player scores points based on successful shots.

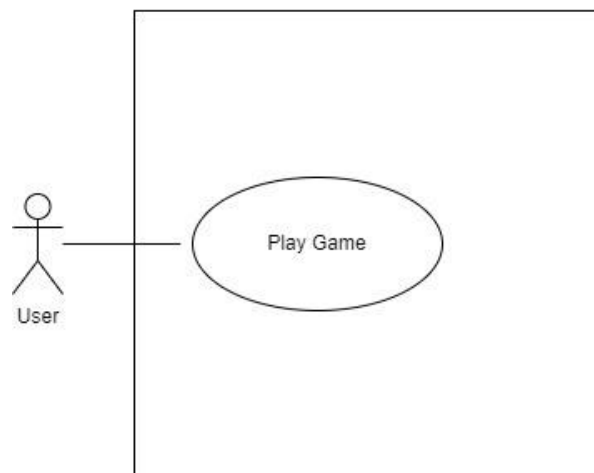
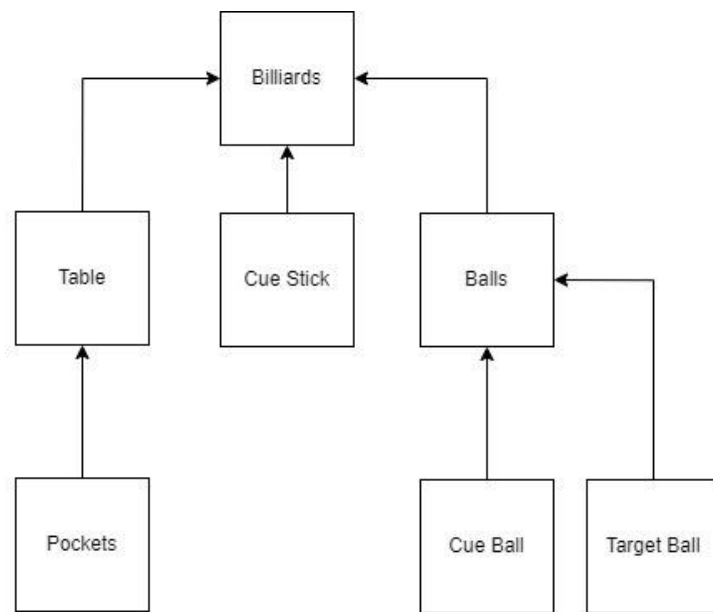
4. Conclusion

The proposed project aims to deliver a simple yet engaging one-player billiards game with realistic physics and user-friendly features. The focus will be on creating an enjoyable gaming experience that captures the essence of traditional billiards, with the added flexibility for players to customize their gaming experience through various settings.

5. Project Progress Link

https://www.youtube.com/channel/UC2jGvt1VW0C0S0bsbyX_jBg

6. Class Diagram and Use Case



7. Github Repository Link

<https://github.com/Allie09/Oop-Project>