## ****Golf Ball Collector Game Documentation****

### ****Overview****

This game visualizes an NPC that gathers golf balls scattered throughout a map while managing a health bar that gradually decreases over time. The game begins with a start button, allowing the player to engage once ready. The camera initially provides a top-down view before following the NPC throughout gameplay, with the session concluding upon the depletion of the health bar, a final score is displayed, with the option to restart or quit game.

### ****Gameplay****

**Game Start**

* 1. When the game launches, a start screen with a "Start Game" button is displayed.
  2. The game waits in an idle state until the player clicks the button.

**Game Flow**

* 1. After Start button is pressed, golf balls are generated across the map. Each golf ball has a spherical area around it. The area material indicates the golfball difficulty. Green, Blue, and Red indicate Easy, Moderate, and Hard-respectively. The NPC begins moving toward randomly distributed golf balls on the map.
  2. Each golf ball’s difficulty level affects the NPC’s score when collected.
  3. The health bar above the NPC decreases over time. When the health bar reaches zero, the NPC stops gathering balls.
  4. Players can slide the Game Speed slider to increase the speed of the game.

**Initial Camera Transition**

* 1. Upon starting, the camera shows a top-down view of the entire map for 2 seconds, offering an overview of the playing area.
  2. After 2 seconds, the camera transitions to follow the NPC, maintaining a position that allows players to observe the NPC's path and interactions with the environment.

**Game End**

* 1. Once the NPC's health is fully depleted, the game pauses, and a Game Over screen is shown.
  2. The final score is displayed on this panel.
  3. A "Restart" button on the Game Over panel allows the player to reset the game and play again, and the quit button on the top right allows the players to exit the game.

### ****Core Components****

**UI Components**

* 1. **Start Game Button:** Initializes the gameplay when clicked.
  2. **Game Speed Slider:** Changes the gameplay speed.
  3. **Health Bar**: Visible above the NPC, it decreases over time.
  4. **Quit Panel:** Allows player to exit the game.
  5. **Game Over Panel**: Contains the final score and a "Restart" button, displayed when the game ends.

**Camera System**

* 1. Starts with a top-down overview of the map and transitions to follow the NPC after 2 seconds.
  2. Smooth transitions provide a seamless experience and ensure the player maintains focus on the NPC during gameplay.

**NPC (Player Character)**

* 1. Equipped with a NavMesh agent to navigate the terrain.
  2. Targets golf balls based on difficulty and distance, adapting its choice depending on health levels.
  3. Stops gathering balls when the health bar reaches zero, triggering the Game Over screen.

**Golf Balls**

* 1. Randomly distributed across the map at varying distances from the NPC's starting position.
  2. Balls appear in different coloring (Green, Blue, and Red) with different difficulty levels impacting the score upon collection.

**Scoring System**

* 1. Each collected ball contributes points to the score based on its difficulty.
  2. The score is displayed on the Game Over screen at the end of each game session.