🎮 Unity FPS Game - AI, Checkpoints, and UI

📌 Overview

This is a First-Person Shooter (FPS) Game built in Unity, featuring:

- AI Enemies that roam, detect obstacles, and shoot fireballs at the player.
- Interactive Checkpoints for respawning after losing health or lives.
- Target Shooting Mechanics, including a Santa collection system.
- Health & Lives System displayed in the UI.
- Game Timer to track the duration of each run.
- Settings Menu with adjustable speed and jump height.
- Christmas Theme with festive elements like Santas and snowmen.
- Final Checkpoint Objective where players must survive and reach their goal.

🛠️ Features

✅ Player Mechanics

- Movement using a CharacterController.
- Can take damage from enemies.
- Respawns at the last checkpoint or original spawn if no checkpoints are reached.
- Collects Santa objects using the 'E' key.
- Can shoot enemies and destroy moving snowman targets.

✅ Enemy AI

- Moves randomly within assigned boundaries.
- Avoids obstacles and changes direction when hitting a wall.
- Shoots fireballs at the player.
- Stops moving when defeated.

✅ UI Elements

- Health & Lives Counter.
- Santa & Target Counters.
- Game Timer.
- Settings Menu to adjust movement speed and jump height.

✅ Game Flow

- If the player loses all lives, the game resets.
- Defeating all targets & collecting all Santas triggers a win condition.
- The timer resets upon respawning.
- A victory screen appears upon successful completion.
- A game over screen triggers when all lives are lost.

🎮 Controls

Action	Key/Button
Move	WASD
Jump	Spacebar
Interact (Collect)	E
Shoot	Left Click
Open Settings	Escape

🚀 Setup & Installation

Unity Version

This project was built using Unity 2022.3.15f1 (DX11). Ensure you have this version or a compatible one installed.

Building in Unity

1. Open Unity Hub and select the project.
2. In Unity Editor, navigate to File → Build Settings.

3. Ensure the correct platform is selected (e.g., Windows, macOS, WebGL, etc.).
4. Set the target resolution and graphics settings as needed.
5. Click Build, then choose a folder to save the final game files.

Running the Game

1. Once the build is complete, navigate to the output folder.
2. Locate the executable file (.exe for Windows, .app for macOS, or WebGL folder for web builds).
3. Double-click the executable to launch the game.
4. If on Windows, ensure all game files stay in the same directory as the .exe file to avoid missing assets.

🛠️ Troubleshooting

❓ Common Issues & Fixes

Issue	Solution
AI Enemies not shooting	Ensure fireballPrefab is assigned in WanderingAI.cs
Settings menu overlaps controls	Check if Cursor is unlocked in SettingsManager.cs
Game resets but UI says "New Text"	Ensure UI elements are linked in the Inspector
Player doesn't respawn correctly	Check PlayerCharacter.cs and ensure initialSpawnPoint is set
Missing UI text updates	Ensure GameManager.cs correctly updates UI elements
Background music not playing	Check BackgroundMusicManager.cs and verify audio settings

📜 Contributors

This project was developed by Jonathan Lopez and Christopher Poche, with both contributing equally to all aspects of design, development, and implementation, including:

- Game Mechanics & Programming – Implementing player controls, enemy behaviors, and game logic.
- UI & UX Design – Designing and integrating user interface elements like HUDs, settings, and game status tracking.
- Audio Integration – Implementing background music, sound effects, and custom audio triggers.
- 3D Assets & Environment Setup – Integrating third-party assets and creating interactive environments.
- Testing & Debugging – Identifying and fixing gameplay issues, including UI inconsistencies and game logic errors.

🎵 Audio & Assets

Audio

- Background Music: Pixabay - Game Music Player Console 8bit
- Cannon Sounds: OpenGameArt - Old Cannon (Licensed under CC BY 3.0)
- Custom Audio: Christopher Poche

3D Models & Environment

- Santa and Snowmen: Unity Asset Store - Low Poly Christmas Pack
- Industrial Set Environment: Unity Asset Store - RPG FPS Industrial Set

⚡ Future Features

- More enemy types with unique behaviors.
- Weapon upgrades for the player.
- Multiplayer mode integration.
- Expanded level design with new challenges.

❗ Known Issues

- Wall Jump Exploit: Players can wall jump outside the map, leading to infinite falling.

🔥 Have fun playing! Let me know if you need improvements! 🎮🚀