Western Folk

3D Game Design Document

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1. Introduction

Western Folk is a 3D action-adventure prototype set in a stylized Western environment. Designed and developed using Unity, the game integrates mission-based progression, first-person shooter mechanics, and exploration elements. The goal of this document is to outline the vision, core gameplay systems, art and audio direction, technical specifications, and development approach taken from concept to prototype, as well as lessons learned for future iterations.

2. Game Overview

"Western Folk" is an action-adventure game set in a stylized Western environment. Players choose between a cowboy or cowgirl protagonist to navigate through four mission-based gameplay levels, engaging with various enemies and objectives. The game combines first-person shooter mechanics with exploration and strategy, using low-poly art for a distinctive visual style and featuring Western-themed music and sound effects.

3. Technical Description

"Western Folk" is initially developed using the Unity engine, incorporating assets from Synty Studios' POLYGON Western Pack for its low-poly 3D art. While the game is ultimately intended for mobile platforms, current testing and development are conducted on desktop systems. This approach allows for more straightforward debugging and iteration using desktop-specific controls, such as the 'E' key for opening doors and 'R' for weapon reloads. These controls are placeholders that will be adapted into mobile-friendly inputs, such as touch gestures, in future development phases. This setup ensures a robust testing environment while preparing the game for a seamless transition to mobile devices, optimizing for the different interaction models and screen sizes associated with those platforms.

4. Gameplay

4.1. Functional Requirements

- ★ Character Selection: Players can choose to control either a cowboy or a cowgirl as their main character. This choice is available at the beginning of the game and can be revisited in subsequent sessions.
- ★ Mission Structure: The game comprises four main missions, each with distinct environments and objectives:
  - Ω Mission 1: Wrecked train scene with enemies consisting of rattlesnakes and scorpions.
  - Ω Mission 2: Town setting where the main adversaries are bandits.
  - Ω Mission 3: Saloon interior with bandit enemies.
  - Ω Mission 4: Details to be decided and will be developed based on the narrative progression and player feedback from earlier missions.
- ★ Enemy and Player Health: Both enemies and the player character feature health indicators. Enemies have health bars that deplete upon taking damage, and the player has a health percentage that reflects their current condition.
- ★ Weapon Mechanics:
  - Ω Ammunition Management: Weapons have bullet counts which decrease with use. Bullets can be replenished by shooting barrels within the game environment and collecting the dropped ammunition.
  - Ω Weapon Recharge: Players must actively recharge their weapons using a specific control, enhancing the realism and strategic elements of combat.
- ★ Health Restoration: Player health can be restored by finding aid kits. These are obtained by shooting at boxes scattered throughout the scenes and collecting the aid kits released.
- ★ Main Menu and Settings:
  - Ω Main Menu Options: Players can start the game, adjust settings, or exit the game.
  - Ω Settings Menu: Includes toggle options for music and sound effects.
  - Ω Game Start Sequence: Upon starting the game, players encounter a pop-up for character selection (cowboy or cowgirl), display of current gold coin count, and weapon selection, each weapon purchasable based on accumulated gold coins.

- Ω Mission Selection: Post-character and weapon selection, players are directed to choose from one of the four available missions.

★ Game Termination:

- Ω Player Death: The game concludes when the player's health percentage reaches zero. This can occur if the player is unable to successfully evade or combat the enemies, or fails to collect enough aid kits to restore health during missions.

★ Mission Completion:

- Ω Defeating All Enemies: A mission is considered successful and complete when the player has defeated all enemies present in the mission's environment. Each mission has a predefined set of enemies that must be cleared to progress, including rattlesnakes, scorpions, and bandits depending on the mission context.

★ Mission Progression:

- Ω Unlocking Missions: Completing a mission successfully (by defeating all enemies) automatically unlocks the next mission in the sequence. This ensures a structured flow through the game, where each mission serves as both a milestone and a gateway to the next challenge. Players must complete each mission to advance to the next, maintaining a narrative and developmental progression that keeps the gameplay engaging.

4.2. Non-Functional Requirements

The game prioritizes a seamless user experience with minimal loading times, an intuitive UI, and stable frame rates across all supported platforms.

4.3. Player Character

Players control a main character with configurable features (cowboy or cowgirl). Characters have health points and an arsenal of weapons, with the ability to upgrade their equipment by collecting gold coins.

4.4. AI Characters

Enemies include rattlesnakes, scorpions, and bandits. Each has specific behaviors and attack patterns, with health bars that decrease upon being hit.

4.5. World Interaction

The game world is interactive, with collectibles and specific areas that players can explore using the game's navigation and movement mechanics.

5. World Design

The game features diverse environments from desert scenes to Western towns and saloons, each crafted to support immersive gameplay and strategic navigation.

6. Level Design

Levels are designed to challenge players with strategically placed enemies and objectives. Patrol routes and enemy engagement tactics are carefully planned to enhance the gameplay experience.

7. UI/UX

The UI includes a main menu, settings, character and mission selection, a game screen for each of the four missions, and pause menu. The design is user-friendly and provides clear feedback on player status and progression.

8. Sound and Music

Audio features include background Western music, weapon sounds, and interactive button sounds to enhance the immersive experience.

9. Assets & Art Pipeline

The game uses a combination of licensed and custom-created assets, ensuring both efficiency in production and a consistent visual identity.

★ 3D Models (Synty Studios – POLYGON Western Pack)

- Ω Cowboy & Cowgirl characters
- Ω Rattlesnake, Scorpion, Bandit
- Ω Train Wreck Scene Props, Saloon Interior, Town Structures, Cacti, Desert Rocks

★ Custom UI Elements

- Ω Main Menu Background, Gold Coin Icon, Health Bar, Ammo Counter

★ Textures

- Ω Wood Panel (Synty)
- Ω Desert Sand (Synty)
- Ω Custom Cloth Textures

★ Audio

- Ω Gunfire, Reload, Enemy Vocalizations (licensed from royalty-free libraries)
- Ω Western background soundtrack (royalty-free)

★ Pipeline Tools

- Ω Unity Editor, Blender (model adjustments), Photoshop (UI design), Audacity (sound editing)

10. Development Plan

The project followed an iterative development cycle, balancing feature implementation with continuous testing.

★ Week 1 – Concept & Planning

- Ω Defined game concept, genre, and core gameplay loop
- Ω Selected visual style and asset packs
- Ω Outlined missions and core mechanics in GDD

★ Week 2 – Core Systems & Prototype Build

- Ω Implemented player movement, aiming, shooting
- Ω Created AI for snakes, scorpions, and bandits
- Ω Set up health, ammo, and weapon recharge systems

★ Week 3 – Level Design & UI/UX

- Ω Built and populated all four mission environments
- Ω Integrated main menu, mission select, settings, and HUD
- Ω Connected game flow: character select → mission start → mission completion

★ Week 4 – Balancing, Testing & Optimization

- Ω Tuned ammo/health kit drop rates and enemy difficulty
- Ω Conducted internal playtests for pacing and UX
- Ω Applied performance optimizations for mobile and desktop

11. Testing

Testing was carried out throughout the development cycle to maintain stability, playability, and performance.

- **Unit Testing**: Validated player health system, ammo counters, AI damage logic, and mission completion triggers.
- **Integration Testing**: Confirmed weapon mechanics, AI behavior, and UI elements worked cohesively across all missions.
- **Performance Testing**: Benchmarked FPS on desktop and Android emulator, applied occlusion culling and LOD optimizations.
- **User Acceptance Testing**: Playtests with target users to evaluate controls, pacing, and difficulty progression.
- **Bug Tracking**: Logged and tracked issues using Trello for visibility and resolution tracking.

12. Post-Mortem Analysis

★ What Went Well

- Efficient integration of Synty Studios assets for cohesive Western-themed visuals
- Mission-based structure successfully encouraged progression and replayability
- UI/UX design minimized onboarding time and provided clear in-game feedback

★ Challenges & Solutions

- **Gameplay Balancing**: Initial ammo scarcity slowed pacing → adjusted drop rates and reload times
- **AI Predictability**: Added variation in patrol routes and attack ranges for more dynamic encounters
- **Economy Tuning**: Introduced incremental weapon upgrade costs and coin bonuses for skilled play

★ Lessons Learned

- Ω Early platform-specific testing prevents late-stage redesigns
- Ω Balancing core systems early reduces iteration costs
- Ω Modular systems simplify feature expansion

★ Next Steps

- Ω Add additional enemy archetypes for variety
- Ω Introduce micro-objectives to enhance mission replay value
- Ω Finalize mobile control schemes and HUD scaling for smaller screens

13. Appendices

★ Game Logo

The logo for "Western Folk" was created using the ChatGPT AI image generator. It features both a cowboy and a cowgirl, symbolizing the player's choice of character within the game. The design is intended to reflect the game's Western theme with a stylistic approach suitable for both promotional materials and in-game aesthetics.

★ Inspirational Sources

- Ω Red Dead Redemption II: The game draws significant inspiration from the popular action-adventure game, particularly in its portrayal of a richly detailed Western setting and deep narrative structure.
- Ω Western Themes and Desert Aesthetics: The game's artistic direction is influenced by classic Western visuals and the rugged beauty of desert landscapes, aiming to capture the essence of adventurous and lawless frontier life.
- Ω Personal Connection to Western Culture: The game's Western theme is deeply inspired by a personal love for American Western culture. Frequent travels to the West and experiences there have instilled a fond appreciation for this unique aspect of American heritage. The playful term "Western Folk," often used among loved ones while visiting these regions, directly influenced the naming of the game, reflecting both a personal and cultural connection to the theme.

★ Game Design Decisions

- Ω Mission-Based Gameplay: Inspired by the structure that was used in previous game development of Evader 2D game which was inspired by popular games, "Western Folk" incorporates a mission-based gameplay system, where completing one mission unlocks the next. This system keeps players engaged with a clear sense of progression and accomplishment, and so I wanted to implement the same for this game as well.
- Ω Weapon Upgrades and Economy: Players can upgrade their weapons by collecting gold coins during missions. This mechanic adds a strategic layer to the game, encouraging players to explore and engage with the environment fully.