Design Document

Overview

This project is a scaled-down remake of the classic 8-bit successor to Nintendo's original LoZ, *The Legend of Zelda II: The Adventure of Link*, built using Unity with modern tooling but faithful to NES-era aesthetics and design. The game maintains a hybrid perspective, covering exploration, combat, and progression systems featuring:

- A *top-down overworld* map where the player traverses the Hyrule terrain, visits towns, enters encounters, and find dungeons
- A *side-scrolling* view for exploring towns, palace interiors and caves, and all combat.

All visual assets are sourced from The Spriters Resource's rips of the original NES game : https://www.spriters-resource.com/nes/tloztheadventureoflink/

All audio assets are sourced from The Sounds Resource's rip as well as other open source archives : https://www.sounds-resource.com/nes/zeldaiitheadventureoflink/

Gameplay Mechanics

Top-Down (Overworld)

Movement

- Grid-aligned, smooth stepping movement
- NES-inspired 4-directional walk animations
- No diagonal movement
- Transition-based camera (screen scrolls when Link touches an edge)

Camera Behavior

- Screen is divided into chunks; camera snaps to a new chunk when Link touches the screen edge
- Camera displays exactly 16x15 Unity units (matching 256x240 NES resolution at 16 pixels per unit (8-bit))
- Entry-side snapping ensures the new screen aligns based on the direction of movement

Tile Interactions

- Player interacts with:

    - **Towns**
    - **Caves** and **Palaces**
    - **Enemies** (random encounters)
- All these open up a scene in the side scroller perspective.
- Collision is implemented using a secondary Tilemap with 2D Composite Colliders.
- Collision tiles include mountains, water, impassable forest, and boundaries, among others

Side-Scroller (Combat & Exploration)

Movement & Physics

- Side-scrolling Link uses jump, crouch, walk, and stab
- Physics include gravity, jump arcs, and grounded detection
- Movement is handled using Rigidbody2D with raycast checks for terrain

Combat Mechanics

- Link uses sword attacks:
    - Standing stab
    - Crouching stab
    - Jumping stab
- Enemies have hitboxes, movement patterns, and HP
- Combat supports damage cooldowns, knockback, and death/respawn

Magic System

- Spells are unlocked in towns and use a magic meter
- Example spells:
    - **Shield** (reduces damage)
    - **Jump** (increases jump height)
    - **Life** (restores health)
- Spells are activated via keypress and consume MP

Health & UI

- HP and MP meters displayed at top of screen
- UI mimics NES layout
- Link respawns at the last checkpoint on death

Player Goals and Experience

The player controls Link and aims to:

- Explore Hyrule to locate and complete all palaces (number of palaces may differ from the original as scope is condensed)
- Defeat bosses and acquire key items or crystal fragments
- Restore the crystals to temples and unlock the final Great Palace
- Save Princess Zelda and restore peace to Hyrule

The player experience is guided by:

- A sense of classic NES-era challenge and mystery
- Strategic combat and exploration pacing
- Skill-based swordplay and platforming
- Progressive empowerment through spells and items

Visuals and Art Style

- All sprites are sourced from The Spriters Resource NES rips of Zelda I and II
- Side-scrolling segments use combat-ready sprite sheets
- Visuals stay faithful to the original 8-bit design via 16 PPU scaling
- Resolution locked to 256x240 to match NES screen ratio