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# The Legend of Arlo: Hyrule's Labyrinth

## BACKSTORY

In an alternate timeline, after the events of The Legend of Zelda: Breath of the Wild, Link and Lyra, a skilled archer, welcome a son named Arlo into their family. However, the remnants of Ganon, the Calamity, begin to stir once more, slowly regenerating and threatening to plunge Hyrule into darkness once again.

Realizing that he may not be able to defeat Ganon in his current state, Link makes a solemn decision. He entrusts the Master Sword to the Guardian's Gauntlet at the depths of Hyrule's Labyrinth, a maze shrouded in mystery and danger, accessible only to the bravest and most capable warrior. Link leaves behind a message for his son, Arlo, urging him to retrieve the sword and fulfill his destiny by vanquishing Ganon once and for all.

As Arlo grows into a young adult, he takes up his father's mantle and embarks on a perilous journey into the heart of the labyrinth. Along the way, he must navigate treacherous puzzles, face formidable foes, and prove himself worthy of wielding the legendary Master Sword.

This is a chapter of the story of Arlo's coming of age, a tale of courage, destiny, and the enduring legacy of Hyrule's greatest hero.

## OVERVIEW

In this epic adventure, you take on the role of Arlo, a brave explorer venturing into the treacherous Labyrinth of Hyrule. This ancient maze is patrolled by formidable Guardians and the ever-watchful Skywatchers. Arlo must tread carefully, for these foes are mighty and relentless. Once a Guardian sets its sights on Arlo, it will pursue and attack him relentlessly

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until either Arlo's vitality is depleted, or the Guardian is ensnared by a cunning trap.

Arlo's quest is to reach the heart of the labyrinth, where the legendary Master Sword awaits its rightful owner. But the journey is fraught with danger and deception. To navigate the twisting paths, Arlo can use mystical Guide Stones to mark his trail. He can also set traps to deter his relentless pursuers. But beware, once a trap is set, it becomes invisible to all, including Arlo himself. He must remember where he placed them to avoid a perilous misstep.

The game reaches its thrilling climax when Arlo claims the Master Sword and makes his daring escape from the labyrinth. Will you guide Arlo to victory, or will the labyrinth claim another victim? The fate of Hyrule hangs in the balance. Embark on the adventure of a lifetime in this Maze!

## CORE FEATURES

### User Interaction

The user controls Arlo using the keyboard. The 'W', 'A', 'S', and 'D' keys are used to move Arlo forward, left, backward, and right, respectively. The 'G' key is used to mark the path with Guide Stones. The 'T' key is used to place a trap at Arlo's current location. The 'R' key is used to retrieve items such as Guide Stones, Traps and the Master Sword. The game will also use on display clickable buttons.

### Game Functionality

When Arlo moves, his position in the game world is updated accordingly. If Arlo comes into contact with a Guardian or a Skywatcher, it will turn red and attack Arlo and his health will begin to decrease. If his health reaches zero, the game ends.

When Arlo interacts with a Guide Stone, the stone is marked on the maze as a gold stone, helping the player navigate the labyrinth. When Arlo interacts with the Master Sword, he picks it up, and the player's objective becomes escaping the labyrinth.

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When the player places a trap, it becomes invisible and will trigger when a Guardian / the Player comes into contact with it. The trap will eliminate the Guardian and then disappear. If Arlo steps on it, the game will end.

The game is won when Arlo retrieves the Master Sword and successfully exits the labyrinth. Upon exiting, all Guardians will detect an intruder and will rush to the Guardian's Gauntlet therefore Arlo must be quick. If Arlo's health reaches zero before this happens, the game is lost.

## CATEGORIES

### Complex Movement Algorithms

The guardians use wander behavior to wander around the maze. The skywatchers use path following (seek) to follow Arlo if detected. The skywatchers use collision avoidance to avoid colliding with each other and use flocking when attacking Arlo if more than one skywatcher detects Arlo.

### Path Finding

The guardians on the ground uses Flow Field pathfinding to rush to the Guardian's Gauntlet after Arlo retrieves the Master Sword.

### Decision Making

The guardians use state machines mainly to switch between attack and wander mode when the player is detected and when it's no longer able to track the player.

### Procedural Content Generation

I'm using depth first backtracking Maze Generation to generate the maze.

### Other

The game uses pursue when guardians detect Arlo. The environment uses a tile based graph.