SwitchWorld

Revision: 1.0.0

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# Overview

## Theme / Setting / Genre

* + SwitchWorld is a 2D platformer with the goal of reaching the finish line of each level while defeating enemies and bosses. On the way, you will pick up new weapons and skills to help you on your journey to produce a high score.

## Core Gameplay Mechanics Brief

* + Left and right movement with a possible speed increase
  + Jumping and double jumping to reach high obstacles
  + World randomization at the end of each level
  + Shooting weapons to defend yourself
  + Health system
  + Random drops
  + Costumes

## Targeted platforms

* + Windows PC

## Monetization model (Brief/Document)

* + Free-to-play or one-time purchase (undecided)

## Project Scope

* + Game Time Scale
    - Costs $0 to make (solo project, just takes my time)
    - Will take roughly 4 months to make
  + Team
    - Solo - William H
* Manages, codes, and designs the entire game
  + Unity license and music license
  + Total cost of $0

## Influences (Brief)

* + Mario (Nintendo)
    - Highly based off of the Nintendo franchises’ ‘Super Mario’
    - The basic mechanics of all 2D platformers originate from the likes of Super Mario, jumping and running as well as collecting coins exist in Super Mario and SwitchWorld.

## The Elevator Pitch

Mario meets weapons. SwitchWorld takes the simplicity of a 2D platformer and adds in weapons, end-of-level bosses and world randomization. Challenge yourself by changing your playstyle. Try to beat the level without killing anything, try to beat the level by killing everything, speedrun it for more points, collect all coins and more. At the end of the level, you either face a boss (win and select an extra bonus, lose and die) or you get a minor random bonus and continue to a new world with world randomization. Randomly generated levels make the game even more diverse.

## 

## Project Description (Brief)

SwitchWorld is a 2D Platformer where the player tries to navigate to the end of each level without dying from obstacles, enemies and bosses. On your way to the end, you collect coins and/or powerups to increase your score or your abilities (jump power, speed etc). When you reach the end of each level, the world changes randomly and will have different effects on the player. The player also adapts to the new world if you get the hidden costume in each level to negate all the effects of the world. Sometimes a boss will be generated, and if you beat the boss, you will be awarded with a bonus powerup. The player also has a weapon and can find other weapons in the level to defend himself with. As for multiplayer, maybe something like Mario Maker where people who play the level before hand can leave a message where they died (or see their ghost playing it/just leave an X where someone else died), otherwise there will be a racing style implementation to the end of the level, the winner gets more points and/or a bonus item.

## Project Description (Detailed)

SwitchWorld’s main focus is world generation. Each level is randomly generated based on pre-made obstacles with coins in completely random positions. At the start of the game, the player will spawn in a pre-made level, if they make it to the end, it will be randomized into a different world with new obstacles and coin placements. The world generation also affects the player’s movement abilities depending on the area. For example, if a world is generated in an ice level, the player slides around rather than gripping the ground. If the player finds the hidden costume in the level, the player will receive a buff to negate the movement affects of the current level.

A health system is also very important, it gives users a second chance at completing the level after taking a hit. The amount of life is still in the works, but it will play a key role.

Increasing your score is also a main focus in the game. Your score is determined by how fast you finish the level, how many coins you pick up, if you found the hidden costume in each level, how many lives you have left, and if you defeat multiple enemies and bosses each level. Your score will be negated if you take too long to finish a level so it’s a race against the clock. The score will eventually go on the highscore chart.

Weapons are key to increasing your score and finishing each level. Shooting enemies gives you points and killing bosses can only be done with the right weapon skills. Some weapons give you bonus score for killing which are very rare in the game.

Random drops are very useful in SwitchWorld. You receive random drops from killing enemies and bosses, and if you are lucky, the boss drop can be very rare. Score boost guns are great for posting high scores, so you have to pray to the RNG-gods that you get one of them.

# What sets this project apart?

* + An abundance of weapons
  + An abundance of enemies
  + Multiple bosses
  + Randomization in levels
  + Hidden items
  + RNG

## Core Gameplay Mechanics (Detailed)

* + Movement
    - Left and right movement as well as jumping and double jumping exist.
    - Left and right on the arrow keys or WD, spacebar to jump and pressing it twice will start a double jump. Use double jumps to reach high obstacles.
  + Weapons
    - Different types of weapons with different ranges, bullet speed/type, and reload rate
    - You start with a pistol with a slow fire rate and medium/close range distance. As you progress and receive bonuses, you can get better weapons.
  + Randomization
    - Each level, bonus rewards, enemies and bosses are randomized throughout gameplay. This affects the difficulty of each level and the possible score.
    - At the end of each level, a new world is generated along with obstacles, coins, enemies and maybe a boss.
  + Health System
    - The player loses health when they get hit by the boss or an enemy. In each level, health packs will be generated for the player to pick up to restore a certain amount.
    - Bonus health can be given as a random drop and you can get a base health boost for defeating bosses.
  + Costumes
    - The player can find hidden costumes in each level to help them combat the elements of each level. Costumes are hidden inside the level and will be hard to notice, they expire at the end of the level.

# Story and Gameplay

## Story

* + The main character is lost and is trying to find a way back to his homeland. He travels through all kinds of environments to make it home, but will he ever make it back? (In short, no.. but who knows?)

## Gameplay

* + The player travels across many different lands to get closer to his destination, home. He encounters countless enemies and bosses that try to stop him from continuing. He has to upgrade his weapon and stay alive as he journeys through each level to try to reach the end.

# Assets Needed

## 2D

* + Textures
    - Environment Textures
    - Weapon Textures
    - Enemy/Boss Textures

## Sound

* + Sound List (Ambient)
    - Worlds
  + Sound List (Player)
    - Character Movement Sounds
      * Movement on environment
      * Jump/landing sounds
    - Character Hit / Collision Sounds
      * Weapon shots
      * Enemy dying
    - Character on Injured / Death sounds
      * Health loss
      * Enemy death

## Code

* + Player Script
  + Ambient Scripts (Runs in the background)
    - Score, random generation, hit detection
  + NPC Scripts
    - Enemies, bosses

## Animation

* + Environment Animations
    - Coins floating
    - Hidden objects
  + Character Animations
    - Player
      * Idle, walking, jumping
      * Shooting
    - NPC
      * Idle, walking, jumping
      * Boss specific

# Schedule

## Character Designs

* + 2 weeks
    - Player, Enemies and bosses

## Entity Movement

* + 5 weeks
    - Moving/Jumping of all creatures and the player

## Shooting Weapons

* + 2 weeks
    - Aiming
    - Dealing Damage
    - Health

## Randomization

* + 3 weeks
    - Level generation
    - Bonuses
    - Hidden costumes
    - Coin placement
* **Score**
  + 2 weeks
    - Earning through coins
    - Time based on level finish