The Slums

Summary

The player takes the role of a rouge endlessly traversing through an infested village trying to escape dangerous enemies and obstacles. Equipped with a sword, you can slay some enemies while some, it may prove ineffective. In such cases, the player avoids obstacles by moving up and down by jumping.

Development

Developing the Player Controller, Collisions, Triggers, and UI were quite simple, so I will focus on the aspects that are more interesting or the parts that I've found challenging.

Spawning / Deleting

Generating the Environment

Since I wanted a more cinematic camera, lagging behind the player, I needed to spawn the environment to the right of the screen, rather than moving the background. So, I followed a similar approach to gameplusjams by creating a layout when the camera reaches a certain spawn point. It would be bland if the same map didn't change, thus I created two layouts, storing them in an array where a random layout would be chosen to generate.

Generating the Enemies/Obstacles

This is probably the more complex part of the development. Essentially, I stored 5 types of enemies into an array which will be spawned at a location in an Array List which bases its locations on the location of the environment layouts mentioned earlier. I used an array list to overcome the problem where the enemies were being spawned too close to each other or on top of each other. The spawner makes a copy of the List (so that the 10 locations will be saved for the next layout), saves and spawns the enemy at the index of the List, then removes that element so the enemy won't spawn there in the current layout.

Removing Clutter

I added a box collider to each layout (trigger) and remover trigger following behind the camera to the left. The remover trigger destroys the Game Object of anything it collides with thus removes all the clutter. The main problem I had was having a trigger recognize a collision with another trigger. To fix the issue I followed arkarian's solution and added a kinematic rigidbody2D to the remover which seemed to solve the issue.

Animations

For the most part, the animations were already premade in Sprite sheets, I just needed to put them together. I did get to play around with new animation tools thanks to techniques demonstrated by Brian Sinasac through the Labs. I was able to incorporate and utilize Unity's Blend Tree System and Sprite Editor. This helped smooth out the animations and created cleaner animation controllers.

A problem I've faced in animation involved waiting for an animation to end before moving a character in my case, the Skeleton. I have set up the skeleton AI to swing in the direction of the character; however,

when the player jumps over mid swing, the skeleton turns to face the character, completing the swing. To solve this issue, I started a coroutine/enumeration whenever he is about to swing, delaying the flip skeleton operation for the time of the swing animation.

Misc.

I developed a lot of scripts that communicate with each other. It seemed practical to do so thus I had multiple scripts referring to other scripts calling their functions or accessing their attributes. I did this so that I can have multiple colliders on one game object. For example, the player has two colliders stored in child objects; the hitbox and attack range. Each child object has their own respective script while the parent player has the player controller. When the player is hit via the hitbox, the hitbox accesses the parent player controller script, modifies the health, and plays the hit animation and sound. Similarly, when the attack key is pressed the player controller calls a method in the child attack range script which enables the attack collider. A similar approach was also taken into the enemies AI.

I made the game harder the further you go by the distance traveled, 0 < 10: 1 Enemy, 10 < 25: 2 Enemies, and so on until we are spawning 5 enemies at a time. I capped it at 5 enemies because beyond starts to generate more impossible scenarios.

Game Art / Premade Assets

Going for a Pixelated style game like Castle Vania I searched for sprites that fit a medieval/gothic theme that resembles a gloomy and dark atmosphere. All assets are royalty-free so long as they are not directly redistributed, and appropriate credit is given.

Environment

GothicVania Town created by ansimuz - https://ansimuz.itch.io/gothicvania-town

Audio

Background Music by Pascal Belisle - https://soundcloud.com/pascalbelisle
Hit and Swing SFX by Rocklynn Productions - https://assetstore.unity.com/packages/audio/sound-fx/voices/attack-jump-hit-damage-human-sounds-32785
Page Turn by Mark DiAngelo - http://soundbible.com/2066-Page-Turn.html

UI / UX

Health Info created by Fliflifly - https://fliflifly.itch.io/hearts-and-health-bar
Buttons and Text Boxes from Black Hammer - https://assetstore.unity.com/packages/2d/gui/fantasy-wooden-gui-free-103811

Characters

The Adventurer (Player) created by rvros - https://rvros.itch.io/animated-pixel-hero
The Slime created by rvros - https://rvros.itch.io/pixel-art-animated-slime
The Skeleton created by Jesse Munguia - https://jesse-m.itch.io/skeleton-pack