The Demons We Make: Game Documentation

Theme/Inspiration:

The Demons We Make is an action-adventure game following the gothic horror genre. The player's objective is to go across multiple levels (one level design has currently been completed), facing the hordes of demons, undead, and other horrors. All of these horrors are representation of our fears, something that our main character faces as they progress through the game.

Controls:

Players control "the hero", a sprite designed and published by ansimuz at opengameart.org. The players have four simple controls for movement and actions, those of the left arrow key, the right arrow key, the up arrow key, and the A key. The left and right arrow keys enable the player character to move left or right respectively, the up arrow allows the player character to jump, and the A key causes the player character to attack. While touching the ground, the player character's attack action (caused by the A key) will stop the character and play an animation. After the animation is complete, the player character can move again. The player character can also attack in the air, which is occurs after jumping then pressing the A key. Player characters, when doing this, play a unique animation and can still move while attacking in the air.

Player Mechanics:

Player characters have some rather unique mechanics associated with them. At the top of the screen should appear the number of hearts associated with the player character's current hit points. These hit points are determined by the current armor the player is wearing (more of this in detail later) plus four. If the player character's hit points reach zero, then the game shifts to a game over screen.

Player characters can both damage or be damaged by enemies and the boss. This occurs when the player character and said enemy/boss overlap each other. Player characters are damaged by one point of damage, resulting in a heart being lost at the top of the screen. If a player character is damaged, two things occur. First the player character makes a grunt sound, as if in pain, then goes into invincibility frames, allowing the player character to not be damaged for up to 10 seconds (note: Because of the differences in time between updates in both Replit and Visual Studio Code, this time may be either longer or shorter). However, if a player character overlaps with an enemy/boss while "attacking" (after pressing the A key), then the player instead deals damage to that enemy/boss based on their current weapon (more of this in detail later). If an enemy/boss reach zero hit points, that entity dies.

Enemy Types and Mechanics:

Ghost:

The ghost has the following stages: appear, idle, attack, and disappear. For the appear stage, the ghost appears and goes through an “appearance” animation. This appear stage only occurs if the player character is within 400 pixels of the ghost. At that point, the ghost stays in its idle stage, player its idle animation. If the player character gets within 200 pixels of the ghost, the ghost then goes through its attack stages, which has its own animations. During the attack stages, the ghost projects fireballs heading towards the player. If the player is hit by a fireball, then they take 1 damage and go into invincibility frames. The fireball then disappears. The fireball also disappears if it hits a player character while in invincibility frames. Ghosts follow the player, so if the player character is able to get to the other side of the ghost, the ghost simple turns around and continue its actions. Player characters are also damaged if they touch the ghost, again by taking 1 damage.

Each ghost only has 20 hit points, so when it reaches zero hit points, the ghost plays its disappear animation then ceases to exist in game. Some weapons will kill ghost in one shot, some will take two or more. It is up to the player to strategically place themselves and get well timing to remove these enemies before being more damaged.

Fire Skulls:

Fire Skulls are another unique enemy in *The Demons We Make*. They only have one pattern. Players will come across them mid way during the level. These enemies fly in a constant pattern, following a zigzag pattern over a set distance and then turning around and doing the same pattern over the same distance. If they touch a player, they deal 1 damage.

Players are given two options to dealing with these enemies, either avoiding them through well timed movement, or attacking them with their sword. These enemies have 10 hit points, making them easy to hit/defeat.

Spiders:

Spiders are another unique enemy. They only follow one pattern, walking back and forth over the same distance. Spiders, however, can’t be damaged by the player character. It is recommended to avoid these creatures by jumping over them.

The Boss and Arena:

Once the player reaches the end/bottom of the level, the player will have to face the boss. Walls surround the area, making it impossible to escape. All other enemies disappear and the screen zooms in on the arena. The boss then appears. The boss has three states: idle, breath attack, and its energy balls attack. In its idle state, the boss goes through an idle animation. During its breath attack, the boss lets out a fire breath that if the player is in, damages the player. During its energy balls attack, the boss lets out four energy balls in four direction making a X that bounce off the balls of the arena. The boss then goes back into its idle mode once all energy balls disappear. Balls can either disappear by hitting the player or hitting the walls 3 times. Each ball, the boss, and its fire attack all deal 1 damage to the player.

At the bottom of the screen will appear the boss' health bar. The health bar will decrease in size based on the percentage left of health. The boss in total has 40 hit points. Upon the boss' death, the game transition over to its game over screen.

Other Mechanics:

Weapon/Armor Selection:

After the introduction screen, players are taken to an item selection screen. From here, players select both their armor and weapon that they will be taking with them through the level. Players select these weapons by clicking on them with their mouse. This emits both a sound. Information about the item is displayed by text if hovered over by the mouse. Once the items have been selected, then you press the "game start" button to move on to the actual game. If a player didn't make a selection for one of the types of items, default items are given to you, with the weapon being the short sword and the armor being the leather armor.

Here are the following items and their properties:

- Weapons
  - Dagger: Deals 5 damage and gives the player character an attack speed of 3 fps.
  - Short Sword: Deals 10 damage and gives the player character an attack speed of 5 fps.
  - Long Sword: Deals 15 damage and gives the player character an attack speed of 7 fps.
  - Great Sword: Deals 20 damage and gives the player character an attack speed of 9 fps.

- Armors
  - Clothes: Gives 0 additional hit points and gives the player character a movement speed of 200 pixels per second.
  - Leather Armor: Gives 2 additional hit points and gives the player character a movement speed of 180 pixels per second.
  - Chain Mail: Gives 4 additional hit points and gives the player character a movement speed of 160 pixels per second.
  - Plate Mail: Gives 6 additional hit points and gives the player character a movement speed of 140 pixels per second.

Development:

Prototype:

The prototype consisted of a simple Grey Box design. Built to mainly demonstrate the beginning of player controlled actions, the player character was only able to move left, right, jump, and attack on the ground. Within the game was also an “ice block” that could be attacked. Attacking at this stage was governed by colliding objects, not overlapping. The block would disappear after 3 hits. Your equipment, long sword and chain mail, were displayed in the console. The long sword was currently set at doing 10 damage to enemies.

Pre-Alpha:

In this stage of development, the game moved towards the creation of the level environment. It incorporated an instruction page after the introduction screen by pressing TAB and went back to the introduction page after pressing ESC. When entering the game, players worked through a gothic castle. At the end of the map, players get stuck in the boss arena where walls drop. Players could leave this level by pressing E, which took them to a game over screen. Background music was also incorporated to play on a loop during the level.

The player character has one more option in this section, a jump attack being implemented when the player character was in the air. Problems with glitching through walls did occur, mainly due to the constantly changing body dimensions as while running.

In terms of fixing problems from the prototype, a peer recommended incorporating stronger gravity. I didn’t change any of the gravity mainly due to considerations in later designs.

Alpha:

In this stage of development, the game moved towards incorporating npc enemies. The ghost and spider were both added during this stage of development. Weapons were set at a long sword and armor was set at chain mail. A “swish” sound was added when you sung your sword and a pain noise was added when the player character took damage. Upon death, the game over screen appeared, but this screen could still be accessed by pressing E.

Problems with glitching through walls still occurred despite trying to fix body dimension issues with the walls at the boss arena. This time it occurred with jumping and then trying to run through them. This problem would keep happening throughout the design process. At the current moment I have no plausible solution to fixing this problem without making to big of a body for smaller sized graphics.

In terms of fixing problems from the Pre-Alpha stage, a peer pointed out the problems with collisions with stairs. Upon seeing this, I removed most of the stairs and just made them horizontal walking surfaces. Another suggestion was to change the color of the text for the instruction screen, which I did.

Beta:

In this stage of development, the game moved towards making the final npc enemy and boss. The flaming skull was added. Weapons were still set to a long sword and chain mail armor. The boss was incorporated, along with its health bar and screen focusing. At this point in development, the boss, when making its energy ball attack also displayed a breath attack. At this point I was having difficulties moving between actions with animation events, which I would later fix.

The player character's hit points were also displayed by the hearts at the top of the screen. Whenever the character took damage, the heart that was full at the end of the sequence would go dark. At this point, when the player character died, they were taken to a death screen that took them to the introduction page if they pressed ESC. A loading screen was also incorporated so that all assets could load. However, if a player was to try to go back to the start of the game a second time, an error would occur with phaser.

In terms of fixing problems from the Alpha stage, a peer pointed out a problem with loading in sprites between the introduction screen and the actual game. This problem was mainly fixed by the loading screen, however this was a problem that is caused mainly due to the fact that it was running of replit and replit can often cause phaser to run a game without loading all of the code. Another peer found a problem with the jumping. I had never come across this problem when play testing myself, so I believe that this problem was another caused by replit.

Final Build:

This was the final stage of development. In this stage, I added a selection scene where you could select one weapon and one armor before going to the actual game. I also fixed the problems associated with the loading screen by making a loading scene were all the assets were loaded. This fixed problems associated with going through the game a second time and such.

I also fixed the hit boxes of all enemies, making them more realistic. I also did some conversion between visual studio code and replit, adjusting custom timers to deal with the time lag between the two IDEs. At this point, I finally changed the long sword stats to the short sword stats. I included all weapons and armor, add sound effects for selecting an item, and removed the E key for leaving the game. I also fixed and separated the two attacks that the boss by making separate animations the boss had for each attack option.

Accreditation:

The pain.ogg sound file was created and provided by Michel Baradari under a Attribution 3.0 Unported (CC BY 3.0) license.
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