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Development Blog

Wednesday 2/14/18

- I came up with the idea to create a Zelda-like rpg 2D game and started on a basic prototype with a single sprite that you could move around.

Monday 2/19/18

- I added walls and created a small test are for my game.
- I changed how the player sprite was moved from using transform.position to rigidbody.velocity so that it wouldn't phase through walls.
- Implemented a feature that the player will rotate to look at the mouse.

Wednesdays 2/21/18

- I added a weapon sprite as a child of the player sprite and spent the majority of class figuring out how to move it fluently and return back to the player while it's attacking.
- I discovered that transform.Translate would do the trick.

Friday 2/23/18

- Implemented my transform.Translate method of moving the weapon into the game along with a few bugs that came with it.

Sunday 2/25/18

- Added a slime enemy and implemented a method for it to chase the player, but it lacks pathfinding, so I need to add that latter.
- I added stats for both the player and the slime, and made it so they can damage each other.
- Added UI elements like a hp counter in the top left corner, and lose and win text.

Monday 2/26/18

- I decided that the slime enemy was boring as it was and added to its script the ability to spawn baby Slimes when the mother slime dies.
- I made the mother slime and baby slimes both be prefabs.
- Changed the code so now the Player and Slime scripts have takeDamage(int damg) functions and made it so that when the slimes die their game objects are destroyed.
- I made it so that the Slimes themselves were no longer triggers so that they wouldn't overlap each other.

Tuesday 2/27/18

- Modified the AI so that the slimes will stay a certain distance away from each other based upon a circle trigger collider that is attach as a child object.

- Added a sprite I made for the Slime and adjusted the code so that the slime now rotates to face the player.
- Moved the weapon object to inside the player object.

Wednesday 2/28/18

- Created the Creature script which is the parent script to both Player and Slime and holds universal variables and methods needed by both scripts like `m_hp`, `m_speed`, `die()`, and `takeDamage()`.
- Also learned that you need to use `override` in the method description to override a parent script's method.

Saturday 3/3/18

- Attempted to implement Ethan's pathfinder code and failed (I got a null pointer error and don't know enough about the code to fix it).
- Created the Weapon parent script that holds universal variables and methods for all weapons like `m_atk`, `m_speed`, and `m_reach`.
- I created a new enemy called Lizardman who carries and attacks with a spear
- I created a new weapon a spear which has a greater reach than the sword and attacks faster, but deals less damage per hit
- I gave the Lizardman some basic pathfinding code to attack its enemy when it gets close
- Implemented a way for the lizard man to throw the spear at the enemy at a certain distance.

Sunday 3/4/18

- Improved upon the lizardman's spear throwing code and AI so now it will not go after the player when it's far away and will move into spear throwing range when the player gets closer and will go retrieve the spear after it's thrown.
 - If the lizardman is close enough to the player for a melee attack and it's holding its spear then the lizardman will not throw its spear but rather melee attack with it.
 - Being hit with a thrown spear does double damage
 - A spear will stop if it hits a player, enemy, a wall, or has moved 5 units from its original position
 - The direction of the spear throwing is buggy and I'm struggling on how to fix it.
- Created a health bar for the player that lowers when the player is damaged
- Found a way to reimplement the win condition code so that the win text will be displayed when all enemies, indicated under the Enemies game object in the inspector, are destroyed.

Monday 3/5/18

- Fixed the spear throwing bugs by adding a kinetic rigid body to the spear so that it will stop when it hits walls, and rediscovered that transform uses the game object's local transform axis instead of the global ones.
- Attempted to implement Ethan's new Pathfinding built for monsters that chase a target. However, each one requires its own node-mesh and when the monster dies the game gives a bunch of error because the monster game object was destroyed. I have decided not to

implement an advanced pathfinding mechanic until I understand the inner workings of the pathfinder so that I can augment it into something to fits the type of game I'm building.

Tuesday 3/6/18

- Implemented a healing mechanic for all creatures and created a healing potion that will heal the player when collected (ran over).
- I made it so that the player now can choose to use either the sword or the spear and can switch between them using the 1 and 2 keys on the alphanumeric keyboard.
 - The player can even throw the spear but won't be able to attack or switch to another weapon until it's collected.
- Created a chest game object that can be opened by the player when the player is close to the chest, and the chest spawns a health potion when opened. A chest can't be opened more than once.
- Cleaned up the Player, Lizardman, Spear, and Sword scripts.

Monday 3/12/18

- Created art for health potion, player character, and spear
- Attempted to implement a knock back mechanic where the lizardman would rotate hitting the player with it's tail and sending the player far enough back so that the lizardman would throw his spear at the player.

Monday 3/19/18

- Created a trap that will damage the player or an enemy when it enters it (I hope that it will cause the player trouble while fighting and exploring, and that it will offer a way to smartly damage enemies without getting close, hopefully it isn't overpowered).
- Decided against the lizardman tail whip feature (I'm debating whether the player should have the ability to throw the spear so that the lizardman's ability to throw the spear will make it more unique).
- Changed how potions work so that the player collects them and can use them at anytime they want by pressing f.
- Decided to keep implementing the knockback functionality into the game as a way for the player to tell when the player or an enemy takes damage.

Wednesday 3/21/18

- Finished implementation of the knockback feature and made it so that anytime a unit takes damage by a weapon, since I don't want the slime to knockback the player, it gets knocked back.
- Instead of determining how far a game object gets knocked back I instead determine the time it is knocked back (standard for getting hit is .1 seconds moving at 10 units per second) and made it so if the knocked back game object collides with something like a wall or enemy they will immediately snap out of knockback (I think I did that part when knockback was based on distance, but then I changed it so it was based on time so I don't know if I will change knock back to be based on distance again).

- Implemented an attack type for weapons and added weaknesses and resistances to the creatures (except for the player which I don't know if it should have weaknesses + resistances).

Monday 3/26/18

- Created the wraith enemy that can go through walls and can cast spells at the player, but it avoids going too close to the player, and if the player gets too close then it will spawn a bunch of spells around it to hit the player (I call it pulse).
- Created the spell that will travel forward and will travel through walls to try and hit the player (will only deal damage to the player).
- Made it so that the player can only hold four potions at a time (I plan on making the potion UI to have red blocks appear in the top left corner of the screen for every potion you have).

Wednesday 3/28/18

- Created scripts to create health bars to appear over enemy's heads and decrease when they take damage.
- Changed spell script into phantom dagger script that inherits weapon, made the attack type sharp, and increased the speed of thrown daggers to 10 instead of 6 to make it more challenging.
- Fixed issue with wraith that it was stopping and doing nothing, and the fact that the wraith was using its pulse too much.
- Made more ground tile art assists (implemented some of them but they seem small and repetitive).
- Implemented it so that the slimes attack will increase over time it is touching the player (prone to change. Also, thinking about reusing the enemy avoidance script, and improving it to work better).

Saturday 3/31/18

- Updated spear throw speed so that it's harder to dodge.
- Implemented a mace weapon for the player and removed the player's ability to throw the spear.
- Changed it so that the potions inventory uses icons instead of boring numbers.
- Created the Minotaur boss of the game and gave him an axe that he swings around (planning to add a feature for the mace and sword to swing as well). He also can ground pound dealing blunt damage and charge at the player dealing pierce damage (both have a few bugs that I need to fix).
- Created a Script that when you enter the boss room it will take away control from the player, have the player enter the room completely, and close a door behind the player.
- Made it so that if a weapon is being held by another game-object the direction of the knockback is directed from the game-object not the weapon itself unless the weapon is thrown like the spear or phantom dagger.

Sunday 4/1/18

- Fixed bugs with ground pound and charge attacks of the minotaur and added pseudo animation to the ground pound attack (hoping to add a red opaque radius to indicate the range of the attack).
- Fixed an error with the new weapon hit code that tells the game object hit where it will be knocked back to.
- Added art for the spike trap so that it blends in more and created more rooms for the project to show off all the enemies.
- Changed win text to be displayed when the boss, the minotaur is defeated.

Monday 4/2/18

- Fixed bug that lets player go through the boss door after the fight starts
- Started implementing a swing weapon method for all weapons but decide against it because if you spin the mouse around and attack then the player will do a spinning attack.
- Changed attack cooldown from being done from the weapon script and changed it so that it's done from the creature script

Wednesday 4/4/18

- Added poisoncreature, gotPoisoned, gotFrostbitten, and frostbitten to the functions in Creature so that phantomDagger, now known as Icicle will slow enemies down when they get hit by the icicle.
- Changed how the icicle works so that it will no longer goes through walls
- Created the atk_effect for weapons so that effects can be added on to weapons, poison and frost that will decrease their health over time or slow them down.

Saturday 4/7/18

- Made it so that enemies had to draw back their weapon before they attacked to give the player an indication of when the enemy was attacking. (this doesn't apply for the wraith or slime. The slime doesn't need any prep and the wraith needs an animation for creating an icicle out of thin air and I might be pushing off making that animation)
- Implementing raycasting into the AI of the wraith and lizardman so that they won't spawn projectiles if there is a wall in-between them and the player.

Sunday 4/8/18

- Fixed bugs and made changes to both the prep mechanic
- Made more rounder art for the floor tiles so that the traps can be more easily recognized but I have not implemented the new art yet.
- Created a main menu with the title of the game and a play button that will load the game.
- Made a game manager that keeps track of time, enemies killed (excluding the minotaur), and potions used that will be displayed on the screen when the player wins or loses. The screen will also have a quit button that will load the main menu screen and allow the player to play again (But for some reason this specific button doesn't work).

Monday 4/9/18

- Added in the venom prefab that the lizardman will spit at the player
- Made sur that the poison creature was working correctly for the venom and found that I need to update my health bar when the gotPoisoned function is being called otherwise I couldn't tell I was being poisoned visually
- Changed how the Lizardman's AI works so know it will spit wait a little bit, about 0.2 sec, and then move towards the player so that the Lizardman

Wednesday 4/11/18

- I thought that the Minotaur wasn't challenging enough so I increased its health from 25 to 40 and made it so that the it will charge three times, at 75%, 50%, and 25% health, instead of just twice.
- Made the minotaur be knocked back if he hits a wall while charging.
- I tried to make the reach of the minotaur's axe longer and the swing faster but it didn't work.

Sunday 4/15/18

- Implemented it so that that minotaur is only knocked back half the regular distance and that he will knock the player back twice the distance.
- Made it so that swords will cause bleeding (exactly the same as poison, damage over time) and that the mace will stun enemies causing them to move slower for a short period of time (exactly the same code as frostbite).
- Reimplemented the code that lets the player throw the spear and fixed an error where a thrown spear wasn't dealing any damage.
- Created a red circle that will appear under the minotaur when doing the ground pound to indicate its range, and increased its range to 4 units
- Made it so that the minotaur can't start attacking right when it's about to ground pound and lengthened the timer for when the minotaur can ground pound.
- Added in status Icons to indicate when the player is frostbitten and/ or poisoned

Monday 4/16/18

- Spent the entire class period testing various rotation methods so that the enemies weren't as laser focused on the player, but I ended up using the same code that I had before it was just rotating so fast that it was always focused on the player.

Wednesday 4/18/18

- Changed it so that the lizard man would move towards the player using transform.right, where the lizardman is facing, rather than just moving directly where the player is at, and implemented a way for it to detect when the lizard man was right in front of the player using raycast2D.
- Created more distinct art for the trap animation and implemented it into the game
- Implemented my trap animation sprites into an animation into unity and started trying to implement the trap animation into the game through the animator.

Monday 4/23/18

- After some tinkering I implemented animations for the trap being sprung and resetting
- Decided to remove traps from my game for the time being because the spikes aren't all that noticeable and there is still more work that needs to be done with the main mechanic, combat, so I will shift focus towards that
- Based on player feedback I decided to implement a movement cooldown method in the Creature script so that the enemies will not always be on top of you.
- Also decided that the wraith will no longer be able to go through walls

Wednesday 4/25/18

- Started implementing the movement cooldown to all the enemies so that they will not move or attack after performing some actions and tested it to make sure it works.
- Changed how all the enemies moved using transform.right and checking when the player is in front of them before they attack.

Monday 4/30/18

- After more play testing I discovered that using the arrow keys and pressing E or F was difficult I decided to change the input for the player to only use w,a,s,d for movement.
- The concept of opening chests and then being able to go over them to collect the potion is unintuitive and needs to be changed.
- There isn't a lot of feedback that your taking damage when the slime attacks you, when it collides with the player, and that is a big problem
- Lastly, I implemented it so that the wraith will spawn three icicles instead of one so that it will be harder to dodge, similar to some bullet hell games. However, it has some bugs with the rotation of two of the icicles.

Monday 5/7/18

- Fixed bug with the minotaur's health bar (m_maxhp was not changing when I changed it in Awake due to it being a static variable, so I got rid of all my static variables)
- Implemented a change into how potions work, you know go up to a chest and press e to open it and then you press e again to obtain the item.
- Finally, fixed issue with the quit button not taking you back to the main menu (I didn't have a event system).
- Implemented major change into how the minotaur attacks
 - Made it so that the ground pound attack is no longer decided by a timer and instead by a random number that will decide if the minotaur will swing its axe or ground pound. Changed ground pound damage from 8 to 7 and fixed a bug with the gp radius sprite not displaying the correct radius of the minotaur attack.
 - Implemented it so that the minotaur can no longer move during an axe swing and will not be able to move after performing an attack, swinging his axe or ground pounding.
 - Made it so that being knocked back will knock the minotaur out of his movement restriction

- Changed it so that the minotaur will no longer charge at the player when it reaches certain percentages of it's health but will instead only charge when it is far away from the player, but it will walk towards the player if it's close enough.
- Fixed targeting bug that was created when updating the code
- Cleaned up minotaur update function so all the lines of code for charging and ground pounding have their own functions that can be called.

Tuesday 5/8/18

- Fixed the spawning rotation bug with the wraith's icicles, I needed to use `transform.rotation.eulerAngles.x` instead of `transform.rotation.x`
- Created art for the wraith's frost pulse and implemented it into the game so that it will only cause the player to be knocked back, made changes to icicle and pulse cooldowns to the wraith.
- Implemented an animation for the player but will extend to other creatures when I have the time, that when the player takes damage their sprite will flash red (there are still some bugs to work out).
- Fixed bug with chest where they would give you another potion when you can't carry any more