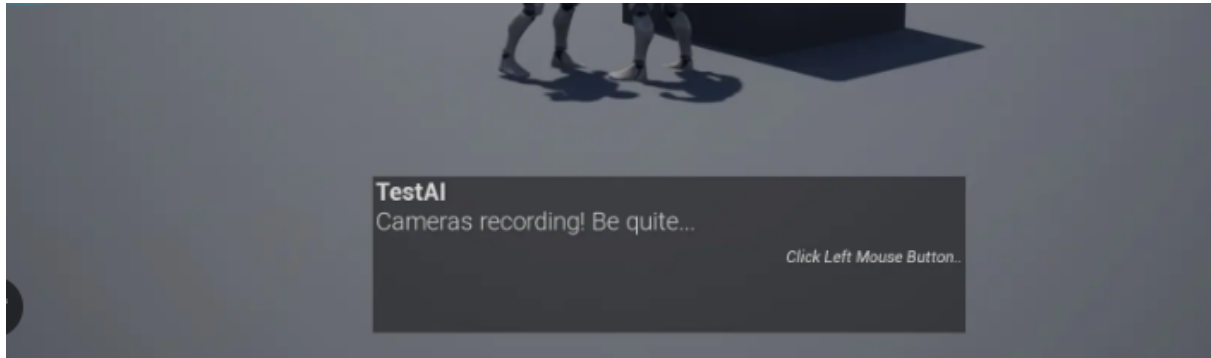


Second Chance Game Design Log

Game Mechanics Implementation (in engine)

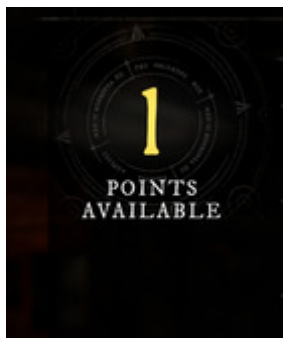
03/29/2023

Text cutscene pop up for encounters and interactions



Interactable objects:

The interactable objects have three main categories: Health recovery, health deduction, and gaining attribute points for upgrades(UI still in progress, placeholder art first).



Each object should have a highlighted outline when the player approaches and text feedback for the completion of the interaction.



Home	
Bed	recover full health
sofa	recover 50% health
drink leftover alcohol from the table	- 50% health
book shelf	add attribute point
study at desk	add attribute point
watch TV/ play Nintendo	add attribute point
Look into the closet(unwashed laundry)	-15% health
reach into the fridge	find snacks +15% health
Door	Open to get into the next room

Player movement:

Dodge: the players press k to avoid attacks, the player character will dodge any incoming attacks in the duration of the dodge, after a use it will be disabled for 3 seconds.

Animation can be found in the folder

Dash: player press spacebar to roll forward, by using this the players can quickly create distance and be invincible for the duration of the rolling. this will replenish in 5 seconds

Animation can be found in the folder

Combat:

The players press J for common attack combo(three ruler inward slash followed by one ruler outwards slash animation), and K for special attack.

Each consecutive attack without being damaged adds to a combo count(UI not made yet use placeholder if possible)



Upon receiving damage, the player will lose health and be stun for a very short time and have a chance of being knocked down(hit reaction and fall backward animation in the folder)

Enemy Behavior.

At the start of a room upon the player entering/spawning, the enemy will randomly spawn in the room, they will approach the player and deal damage.

When getting hit by the player, the enemy will be stunned(play hit reaction animation in the folder) and stay in place for the duration of the player's attack combo



(enemy stun)

After the player's attack combo, the enemy(if not dead) will be knocked back (distance depending on the player's weapon) and they can collide with other enemy characters and make them fall.

05/11/2023

Bug Fixes:

1. The Dad boss clips into the player character when he swings his pan forward.
2. The character should fall behind on the same direction as they are getting attacked
3. Falling off the map and Respawn: Falling off the map should be considered player death and should trigger the respawn. When the players respawn, they wake up again on the start of the same level, and this should be like restarting the game(all the enemies regenerate).
4. Make the ruler attack and player stun faster.

5. Make dashing the priority movement, once the players hit SHIFT to dash, it will cancel their current movement(attack, run) and start dashing.
6. Make the boss attack animation play faster. Also right now the boss's hit reaction animation cancels his attack animation halfway. Make the boss have to finish his attack animation and then react to the player's hits.
7. When pressing shift(Dash) and J(attack) at the same time, the character movement will be bugged.

Initial Cutscene and Transition between levels:

The initial cutscene of Tom being hit by a truck should be played before the game starts. When transitioning into the next level, the player's screen should transition into a all-white screen, and then spawn the players into the next level. The player will spawn in the new level with the weapon from the boss they defeated.

Conversation-Cutscene Mechanics

There should be three conversation cutscenes in each level: the first cutscene will be when the player enters the level(reflects on the relationship between him and the enemies) and the second will be when the player enters the Boss room. The final cutscene should be the players receiving the weapon from the bosses. After the conversation, It should transition and spawn the player into the next level with the new weapon they just received.

During the conversation cutscene all player movement should be disabled.

All the dialogue and Cutscene can be found here: [Game Narrative](#)

Save and load game

The game should save the players progress every time they get into the new level. If the players fail, they will lose their progress in the current level and replay the current level.

Boss AI Behavior

- Level One: Dad
 - Background and relationship to the player:
 - Dad has always been an important figure in Tom's life. Tom sees him as this unyielding and strong character. In the game, he is a warrior-like character, who's primary weapon is a Pan and can deal a lot of damage.
 - AI behavior:
 - Dad has two attacks: normal pan attack and a spinning attack
 - The spinning attack should be a high damage attack that keeps the player from getting closer



Standing Melee Attack 360

-
- After the Dad's special attack, he kneels down to rest for 5 seconds. During this time, the player can get close and attack him.
- Level Two: Manager
 - The manager has three attacks: normal lamp attack, lamp swipe and smashing attack
 - The normal lamp attack is when the manager uses the lamps bottom to hit the player, this is a relatively fast attack
 - The lamp swipe has a longer range, and is slower but deals more damage.
 - The smashing attack is a special attack when the manager smashes his lamp to the ground.



Great Sword Casting

-
- After the Manager uses his special, he stops attacking for a period of time, and this is the player's chance to get close and deal damage.
- For resting, maybe consider using the animation: Great Sword Casting in the combat folder, or use the same kneel and resting animation of Dad boss.
- Every time the manager rests, summon one to three waiters into the room, this should work like the random spawner.

Weapons Switching system

The player will receive a new weapon after beating a boss. The players are able to switch back and forth using mouse scroll or 1,2,3,4. When this is happening the weapon Icon in the widget will also be switched.

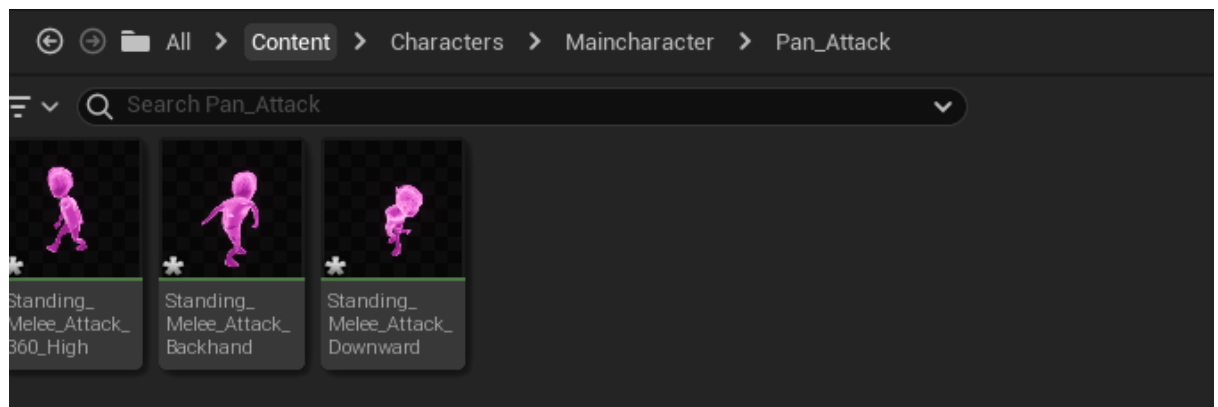
06/13/2023

Bug fixes:

1. When pressing movement and dodging and attacking at the same time(spamming keys), the player character will start autorunning.
2. The damage is applied to the players from the enemies when the attack animation starts right away. This causes an issue that the players cannot dodge and avoid the incoming attack. Change the timing of damage so that when the attack animation hits the player, the player receives damage.
3. Player entering game and respawning: When entering the game after the first cutscene plays, the player ideally should be waking up from his bed(play a getting up animation, and face towards the left).
4. Make that the interactable object only triggers once

Blueprint tasks:

1. Transition to the next level:
 - a. After defeating the boss, the end of the level conversation cutscene starts playing. Showing the Dad wanting to support Tom on his journey, and give him a new weapon. The cutscene ends fading everything into white, and transitions to the player spawning in the restaurant level from a full white screen. From here, the player unlocks the pan weapon.
2. Door: The door should be unlocked after defeating all the enemies in the room, or other win-conditions
3. The second weapon: The pan is a sword-like weapon that deals more damage than the ruler. The normal attack should play the standing melee downward animation. The special(combo attack) would be the 360 attack and this should be like a close range AOE that damages all enemies around the player.
 - a. The weapon icon switch

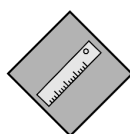
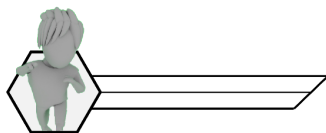


4. Save and load: Upon entering the game the player will have three choices: New game, Select stages, and Exit game. There will not be save slots within a level.
 - a. New game: The game starts with the cutscene and transition into the house level
 - b. Select stages: After finishing a level, that level and the next level unlocks for the player to come back. Every time they come back they start at the beginning of the level.
 - c. Respawn: When the players respawn in the level, they will start at the beginning of the level, and all the enemies should regenerate. However, the players do not need to trigger the cutscene that they have already previously triggered.

07/01/2023

Minor Bug fixes:

1. Make the initial cousin cutscene longer so that after the last line plays, the play engages in a battle, also when the cousin enters, the door can open the other way(push to open)
2. Right now, the text in the hallway pops up at the wrong time. It should trigger after the second wave of enemy spawn when the player is running down the hallway.
3. Get rid of text overlap for the cutscenes.
4. For normal pan attack combo, instead of making it randomly choose between the two types of attacks, make it a combo, just like the ruler attack: should be two melee downward attacks, followed by one backhand upward attack.
5. (Optional): Change the HUD for the conversation cutscene to the image below. Move the Name of the character to the middle, make it bigger, and add a line under it.



Tom

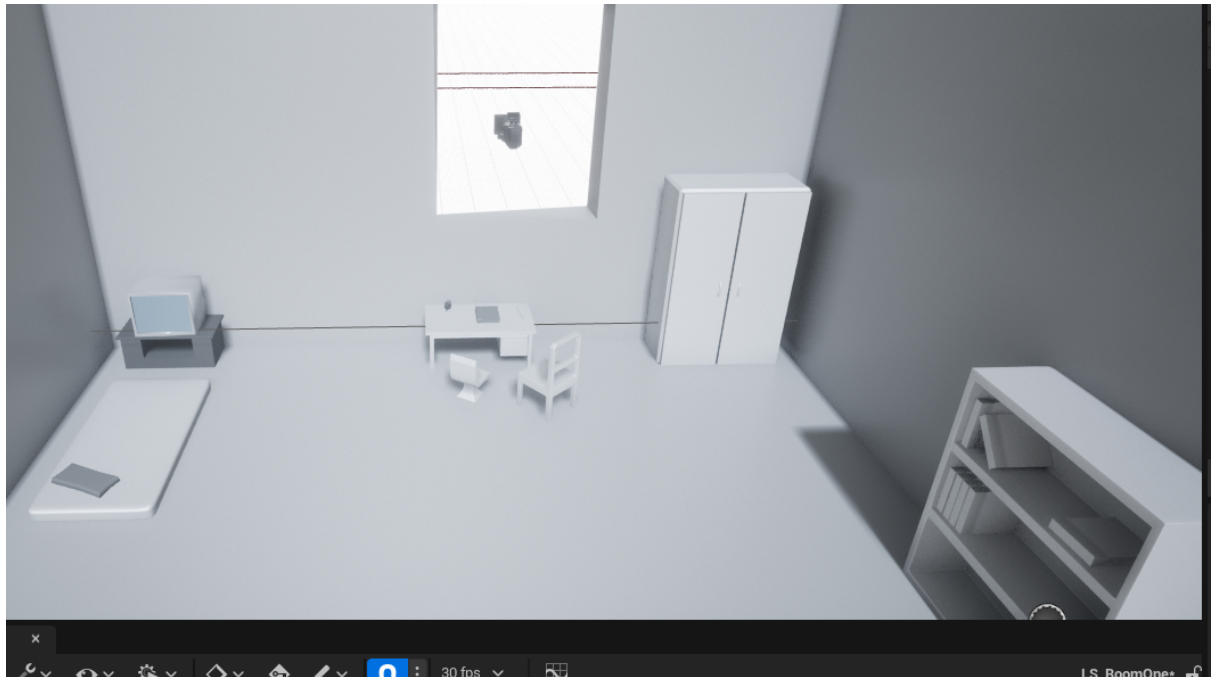
(To himself):

"This is... my room. But it feels different... less vibrant, somehow. And what's this feeling? Like I'm filled with energy..."

20 hits

6. (Optional): Fix the waiter bug that some of the waiters spawns into the ground.

7. This can be the new layout of the room, just make sure that in the initial cutscene, Tom wakes up on the bed.



07/09/2023

Start creating the final boss Level

- After defeating his close family and friends, Tom enters an empty room with nothing but himself, and the voices in his head. At this point, he is more powerful than before, but for the first time in his life, he is alone with no one by his side. He has turned his family and friends into his enemies. Voices start to pop into his head, it's his cousin, uncle, dad and friends asking why he is becoming distant and unapproachable(animus). In the white and empty room, the enemy starts to spawn, and Tom starts to question his intention. With him unsure about if he is doing the right thing, Tom gets defeated. He kneels down, and realizes he is here because of the support from his family and friends, and his biggest enemy is his rebellious teenage ego. At this time, his ego spawns in front of him in contrasting color. With a new motivation to return to his family and friends, Tom was able to get back on his feet and defeat his alter ego using the weapon he got from his family and friends. (In a dream, you need to kill yourself to get back to reality).
- New level empty hallway and room
- Text popups
 - The player spawns in the start of a long hallway with nothing but the player character. As they traverse through the hallway, text pop ups will trigger.
 - In the end of the hallway, there is a door that leads into an empty room. Upon the players entering, the door closes behind them. There is an enemy wave trigger box(blue light) in the center of the room. Upon colliding, it triggers the enemy waves to spawn.

- New mode in which the player has to defeat waves of enemies, and eventually get defeated. During this process, the player will not recover health until they are defeated.
 - First wave: A mixture of the family members spawn in the room surrounding the player, and the players survive the wave.
 - Second wave: Coworkers
 - Third wave: School
- New Boss_AI Tom is a replica of the player but in contrasting color
 - Cutscene: Upon getting defeated, Tom kneels down in the center of the room, facing his ego which is in contrasting color, and confronts it. With the determination of getting back to his family. The player recovers full health and stands back up to fight himself.
 - Boss AI Behavior: The final boss is going to have multiple phases. Right now we are going to focus on the first two phases: Ruler and pan. In each phase, the Boss AI's behavior is like the normal Enemy AI, and the attack pattern would be the same as the main character. The first phase lasts 12 hits, after the player hits the boss 12 times, the boss plays an animation(can be kneeling down, Draw weapon, or battlecry) and switches weapons to enter the second phase. The second phase lasts for 14 hits. Right now after phase two, the boss gets defeated, everything turns white again, and the game ends.
 - (Optional): During the fight, the boss can dash/roll to evade the player's attacks, and make the player chase him.

07/21/2023

Final Level minor bug fixes

- Make the room walls invisible, move the cutscene under the platform or away from the player camera.
- Add a delay to the wave, before the enemies spawn in the room, Tom completes his monologue and stands by himself for like one or two seconds, then the cutscene plays.

07/24/2023

Bug Fixes

- In the Home Level, move Tom's spawn location onto the bed.
- Disable the player's dashing ability during cutscenes
- Get rid of the : after the speaker in the dialogues
- Disable the manager boss movement and the chef when he is performing attacks(right now the manager and the chef slides and follows the player when performing attacks)
- Fix the waiter who always spawns in the floor

- Close the door behind the player when entering boss rooms
- Fix the text overlap in the first cutscene
- Make the second fade into the final level for now
- Final level: The hit combo disappears after player death in the wave mode
- After the Final Level it fades into white and a “The End” Screen

Restaurant Level Interactable Items

There are four tables with left over food, the last table grant a -15% health, whereas all the other three grant a 15% health

Restuarant	
Radio/speaker	Changes background Music(show text for now)
order-counter	temporary attack speed increase
Tips left on the table	Add attribute points
Leftover food on the table	+15% health
Sinks in the kitchen(finish dishes and wash hands)	-20% stamina and +15% health
Fridge	Found uncooked food(show text)
Pan	If the player have uncooked food from the fridge, +100% health, if not show a text: I can cook something here
Coffee table(manager office)	+50% health

08/05/2023

Current Schedule

Before 08/17

- change the pan rotation
- Trailer-finish by 08/17

Before 09/20

- change AP points into life count
- School Level
- Cutscene for Restuarant
- Lamp and baseball bat weapon
- playtest

Before 11/10

- Bug fixes and Packaging demo

09/20/2023

Narrative tasks

1. Write dialogue and implement cutscene for the restaurant level
2. Rewrite and implement cutscene for Home level

Art tasks

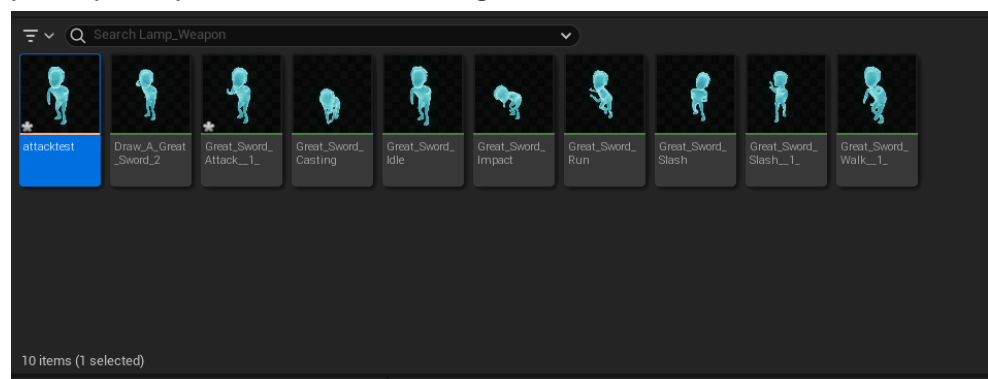
1. Brainstorm and Create 3D assets for the school level
2. Find reference pictures and create 2D sketch for student, teacher, and gym teacher
3. Add player animation for the lamp weapon

Design tasks

1. Playtest the playable build, document bugs and feedbacks
2. Adjust Stats that include: enemy hp and attack, boss hp and attack, player movement speed, enemy movement speed, player attack speed for each weapon, enemy attack speed.
3. Design details for the lamp weapon

Programming tasks

1. Change the AP points to life count
2. Organize player character event graphs.
3. Create weapon range process (Done for manager boss, but need to debug radius and socket position via a call).
4. Develop Lamp weapon based on the design doc



- a.
- b. The third weapon: The Lamp is a hammer-like two handed weapon that is slow but deals a lot of AOE damage. The player will get access to the Lamp after defeating the second boss(the manager). The attack combo

on this weapon should play the Gratsword_attack animation twice and followed by a great_sword slash attack. The special attack should play the great sword casting animation and it should be a shock-wave ranged attack that deals damage to the enemies facing the player.

- **NOTE: (We will continue to work with the new damage radius variables to find the right balance, especially for special attacks both from the player and AI).**
- c. The two handed weapon might need to use a new switching animation(can be found in the lamp folder), and new movement(blendspace_twohanded in the main character folder)
- 5. Enemy(Uncle and Waiter) stays still when attacking
- 6. Bug fixes: fix position glitch for the ruler special attack, fix interactive object highlight in the restaurant level
 - **Note: Ruler special attack will continue to be worked on as we find better solutions in terms of animation assets, etc.**

10/05/2023

1. Hitstop with mesh shake if possible

Referenece: [YouTube: Eight Hit Stop Techniques \[Design Specifics\]](#)

- **Note: This feature may introduce some bugs. We will continue to work on in future orders, but any observations are helpful to improving + fixing them as necessary.**
2. Add enemy knockback on the third attack on ruler and lamp combo
 - a. Reference: [YouTube: \[UE5\] Gameplay Ability System Example: Dashes & Knockbacks](#)
 - **Note: This feature will likely need to be heavily tested and modified to gain most desirable results in actual gameplay.**
 3. hide weapon(especially lamp) when dashrolling
 4. Add controller controls
 - All keybinding and controls

Control	Key board	Controller
Movement	WASD	Left thumbstick
Dashroll	SHIFT	gamepad left face button

Attack	J	gamepad bottom face button
Special Attack	K	gamepad right face button
Interactive objects	F	right bumper
close dialouge	Space	right trigger

Bug fixes:

1. change the capsule collision to further eliminate clipping
2. Manager: kneeling bug. Right now, the manager does not kneel everytime he releases his special attack, what's more, when the manager is kneeling, everytime if the player comes too close, it triggers a bug where the manager will follow the player when kneeling.
3. Lamp weapon special attack still does not have range

Sound effects(animation based sound notifier)

- To be consistent with the setting of this being a dream that happens in Tom's head. The SFX should lean more into the unrealistic but satisfying sound from the movies, games that he usually consumes. example: the pan hitting sound should not be realistic metal hitting sound but more satisfying splashy game SFX(party animal hitting sound, katana zero)

Implementation reference:

(1) Unreal Engine 5 Animation Notifies- Add Cool VFX & Sound: Part 2 - YouTube

(1) Dynamic Footstep System | Different Sounds On Different Surfaces - Unreal Engine 4 Tutorial - YouTube

- Ruler hit flesh sound
- Pan hitting flesh sound
- swinging shoosh for the pan special attack
- lamp top hitting flesh sound
- lamp bottom hitting flesh sound
- Swinging whoosh for lamp
- knockback sounds
- player getting punched sound
- Default interaction sound(like a bling or anything else)

10/31/2023

Tasks:

- Fix the knockback - The knockback will require some additional modifications in order to work properly, see video for reference.
 - add the knockback on the third attack combo

- add a delay for knockbacks, so that when the special attack hits it triggers the knockback.
- Lock the Lamp weapon until the final level
- Add a new ruler special attack animation
 - Need to set our current damage from the current weapon as soon as the game starts.
- Add weapon hotkey controls for the gamepad as well (perhaps use the D-pad for this since there are four weapons).
- Implement a simple pause menu for the game to quit, restart level and resume the game for now. Later, options / settings and return to main menus can be added as well.
- Change the manager office door open mechanic, so that after the players kill all the enemies they have access to open the door. In other words, do not open automatically.
- Keep the AP/life point after the player enter the next level
 - Add respawn points in level one and two, when the player has enough life points, respawn them at the respawn points instead of resetting the level. We will discuss adding more if necessary, but for now there is one in each level.
 - Life system will be moved into the game instance to be more appropriate for our requirements. This means the respawn mechanic will also be present in the game instance, rather than the game mode.
- When the players die, their screen turns white and then they respawn.
 - Possible ideas: when the player respawns, the screen turns white and the main character falls from the sky.
- Dad boss cannot be defeated in level one. Fix dad boss death bug. In the end of the Home level, the dad boss will not die no matter how many times the player hits him, the problem might be in the level blueprint.
- Fix the first enemy door in Mom level still having enemies occasionally spawn inside of the door, breaking the level and sometimes not spawning the other enemy needed to kill to open the door.
- Fix bug that allows you to glitch past the first cinematic in the Mom level.
- Stop enemies from rotating when death animation is being played after being defeated.
- Disable movement on Restaurant Boss by default and only enable movement when the player enters the boss room. This will prevent the restaurant boss from entering combat too soon no matter what happens.
- Possibly make it so that enemy doors do not just open automatically when they are unlocked by defeating the spawned enemies, but rather just unlock the door instead so that it may be opened manually by the player. This would eliminate bugs of AI trying to move through doorways too early and getting stuck in the process.

- On the “The End” screen, for now, until a main menu is implemented, also add an option that allows the player to replay the game from the first level titled “Replay” or “Play Again?”.
- Fix intro video not playing in other devices
- fix dad boss sequence playing twice
- fix player movement, and quitting issue in the test level

11/09/2023

Bug fixes continued:

- Lamp special attack.
 - Change the origin of attack to the player character instead.
- Ruler special attack not registering until switching weapons.
- Player knockdown remove or fix (optional). Left alone for now (return to this later).
- Pause menu controller right trigger.
 - Change the weapon switch on the controller to the right thumbstick.
 - Keyboard controls now also have a “cycle weapon” function that swaps weapons through a cyclic sequence as another option secondary to hotkeys.
- Add fade to white to the intro video-Tom, hide HUD when playing the first cutscene.
- There is a bug occurring where the Stun effect on enemy AI prevents the knockback event from having any effect on them.
- Make the weapon switch occur only once
- Add the manager office ending sequence-Tom
 - Ensure the sequence plays. (Add the unlock sequence node to the manager AI blueprint)
- Cousin sequence - snap player to location facing the cousin and do a quick fade-in before doing so.
- Fix the getting up *2 bugs in the first cut scene.
- When the player falls from the sky, play the newly added animation and make it longer. We'll start at around 4 - 5 seconds fall duration.
- Unlock weapon after checkpoint respawn. Only level we do not do this in, is the Mom level since the only weapon we use during it is the ruler weapon.

11/18/2023

Bug Fixes:

- Map kill right now does not register on the required kills on both door unlocks and wave mode unlocks.
 - In the AI blueprint, the required kills -1 happens before the destroy actor node
 - Both the wave mode and the enemy door
- Hitstop fixes
- Fix the bug where when the player runs out of stamina, they cannot perform normal attacks. Edit: Fixed? (Will discuss via call).
- (optional) Show weapons when the dodgeroll is canceled.

Features:

- Make each enemy AI's walk speed a variable.
- Change the player's walkspeed to a variable that responds to different weapons they are holding.
- Fine tune the player knock down.
- Make attack-cool cooldown a variable and decrease the delay everytime we increase the attack speed.

Horde Mode:

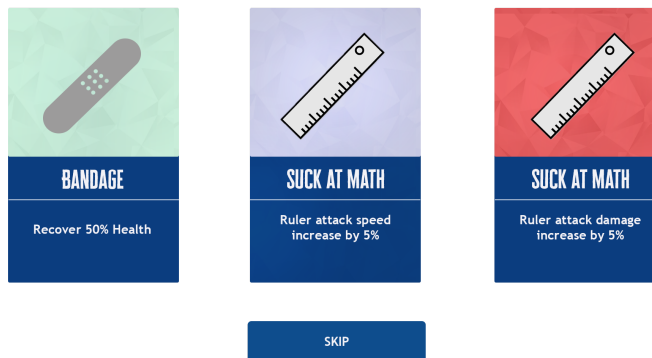
-
- (Optional) Make a functioning passive ranged attack
 - This is a damage circle, and it would automatically release a damage wave outwards from the player origin every x seconds. Every enemy within the radius of the circle will be damaged. (the damage and the radius can be increased with powerups)
 - Create a separate actor for sphere overlap that animates (expands) and then use this instead of sphere overlap function.
- Make a functioning wave mode game mode, and a level to utilize it.
 - This includes spawners, all mode mechanics and so on.
 - Add in a base score system that is influenced by various actions from within the mode itself, the main aspect being current kills for now.
 - Enemies waves should be progressive harder
 - Increase amount of enemies spawns
 - Boss wave every 5 waves(Include at least one boss enemy)
 - Fix boss wave not spawning properly every five rounds.
- Implement base Horde mode UI / HUD for use from within the horde mode map or level.
 - current wave number
 - in between waves countdown timer
 - a placeholder UI for powerups
 - current score
- Add in randomized powerups, for wave mode:
 - Things like weapon grant powerups.

- Health pickups that spawn occasionally or at the end of each round.
- Stat boosting power ups (see potential upgrades below).

01/28/2024

Bug fixes:

- Knockout animation is playing twice. (Tom fixed this).
- Change the player texture to Red for the horde mode(The boss_Tom Texture)
- Create an Elite only wave every 5 waves, and Boss Wave every 10 waves - Boss and Elites give higher points
 - Enemy damage multiplier every 10 waves (The only AI who do not receive this yet is the boss Dad, Tom boss, and Manager because existing base damage increases logic for special attack moves. Will discuss on call). This is a WIP.
 - Different enemy classes per wave (gets incrementally harder).
- Create the powerup card mechanics
 - Three random powerup cards should show up as a reward after the player completes a wave. After the player selects one of the three cards, the powerup that the player selects should be applied to the player. (use a placeholder powerup card UI for now)



Powerup Cards:

- Health Regen during combat (when not receiving damage) - This powerup IS currently a temporary activation.
- Health Increase (Bandage)
- Weapon Walk speed increase
 - For ruler
 - For Pan (only shows up after unlocking the weapon in shop)
 - For Lamp (only shows up after unlocking the weapon in shop)
- Attack speed increase
 - Only increases overall base attack speed for now; not weapon specific yet.
 - For ruler
 - For Pan (only shows up after unlocking the weapon in shop)
 - For Lamp (only shows up after unlocking the weapon in shop)
- Attack damage increase

- For ruler
- For Pan (only shows up after unlocking the weapon in shop)
- For Lamp (only shows up after unlocking the weapon in shop)
- Special attack damage increase (Need to add Special Attack Damage first).
 - For ruler
 - For Pan (only shows up after unlocking the weapon in shop)
 - For Lamp (only shows up after unlocking the weapon in shop)
- Knockback distance (radius) increase
- Dodge roll distance increase (we need to figure out how we are handling distance for the dodge roll in the player character BP as this seems to be not yet implemented)
- Dodge roll stamina consumption decrease
- Passive ranged circle attack damage increase (only shows up after unlocking)
- Passive ranged circle attack range increase
- Make it so that powerup upgrades are permanent increases by percent, and not a temporary activation.

Powerup card table:

Num	Powerup Name	Powerup Description
1	Quick Patch	Recover 50% health
2	Bandage	Regenerating health when not in combat for 60 seconds
3	Quick Math	Walk speed with the ruler increases by 5%
4	Hot Potato	Walk speed with the Pan increases by 5%
5	Speed of Light	Walk speed with the Lamp increases by 5%
6	Swift Measurement	Attack speed of the ruler increases by 3%
7	Wok Toss	Attack speed of the pan increases by 3%
8	Swift Lamp	Attack speed of the lamp increases by 3%
9	Dangerous Edge	Attack damage of the ruler increases by 5%
10	Stainless Steel	Attack damage of the pan increases by 5%
11	Luminous Flux	Attack damage of the lamp increases by 5%
12	AP Calculus	Special attack damage of the ruler increases by 5%
13	Chef's Kiss	Special attack damage of the pan increases by 5%
14	Voltage Booster	Special attack damage of the lamp increases by 5%
15	Kickback	Knockback distance increases by 3%
16	Roll don't hide	Dodgeroll distance increases by 4%

17	Parkour	Dodgeroll stamina consumption decreases by 5%
18	Area Effectiveness	Passive ranged circle attack damage is increased by 4%
19	Death Circle	Passive ranged circle attack range is increased by 5%

Upon defeating the tenth wave(the boss wave), A shop will spawn(use placeholder 3D models for now), and the players will have the opportunity to purchase upgrades with their points. After the purchase, the powerup will be shown as a dropdown, and upon picking that up, the player will gain the power up. The player can overlap with the blue light to exit the shop and enter the next wave.

Powerup Dropdown(Shop):

- Lifeline_Health Increase
- Energy Drink_Stamina Increase
- Weapon Unlocks
- Passive ranged attack
- Passive ranged circle attack unlock
- One more day_Life Count

Art tasks

increase the power up card UI size by *1.7

decrease timer

Hide card borders

Change player color

Make UI for shop and each powerup cards

Remake UI for Horde mode

add animation to the UI

move the camera angle to further and higher

02/28/2024

Bugs Fixes:

- The dodgeroll stamina decrease causes stamina to consume twice when dodgerolling.
- Look into the rendering setting issue for the power up cards (right now they look overexposed).
- Eliminate duplicate powerup cards.
- New bug: waves sometimes do not progress if multiple enemies are killed simultaneously. This issue is on and off working.

- Uncle's death animation loop is now happening after the delay was added on death event. See chat for reference. This was also present on the Chef, and Waiter.
- Fixed boss waves not working with the new spawn system.

Tasks

- Implement Dodgeroll distance increase.
- Implement attack speed and special attack damage increase for each weapon.
- Lock pan, lamp and passive ranged circle attack until the player unlock them in the shop (as well as the powerups related to them).
 - Add a filter for the powerups of the unlockable weapons, so that they do not show up until the player unlock each of them in shop.
- Change the weapon base damage only in horde mode. (Should be fixed now).
 - Ruler-75
 - Pan-100
 - Lamp-150
- Add FX to the passive range attack.
- Shop appearance and disappearance delay.

When the shop appears, rotate, open the shop doors and pause the timer until the player interacts with the blue light and leaves the shop, close the door and resume the timer.

Orbs make pickup radius and dropdown chance variables

 - Change the purple orbs to add lots of points instead of unlock weapons.
 - Add a yellow-colored orb for stamina pickups(instant stamina gain).
 - Add the new stamina pickup to the drop chance list.
- Change AI spawner logic.
 - Right now it spawns too many enemies. (Just made one spawner instead and spawns around the player now - see chat for reference).
 - Make the enemies chase the player when they spawn even if they are not facing the players.
 - (Possible idea): make the enemies spawn at a radius center around the player.
- Implement the new shop menu. (There are still things that need to be done, but I made a video explaining what the plans can be now - we'll discuss this further).

04/04/2024

shop_weapon unlock

new background for the shop

enter the values into BPC weapon inventory

Implement Tutorial page

Fix pan unlocking

add sfx to the shop menu

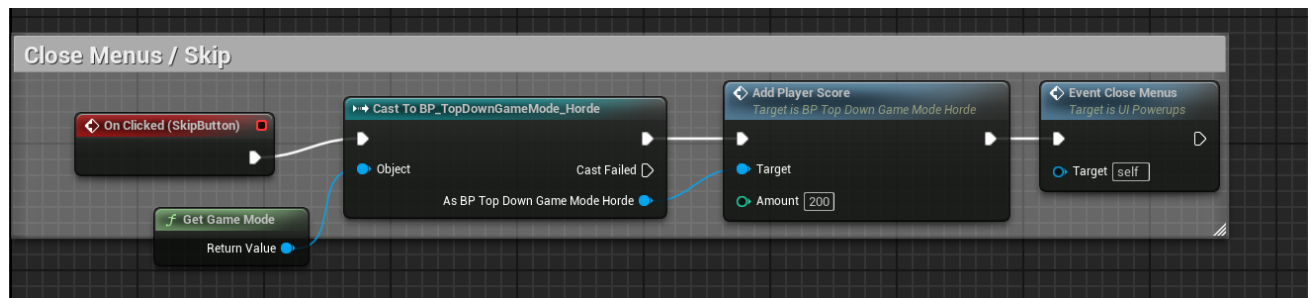
slow the knockdown animation down

resize lamp socket

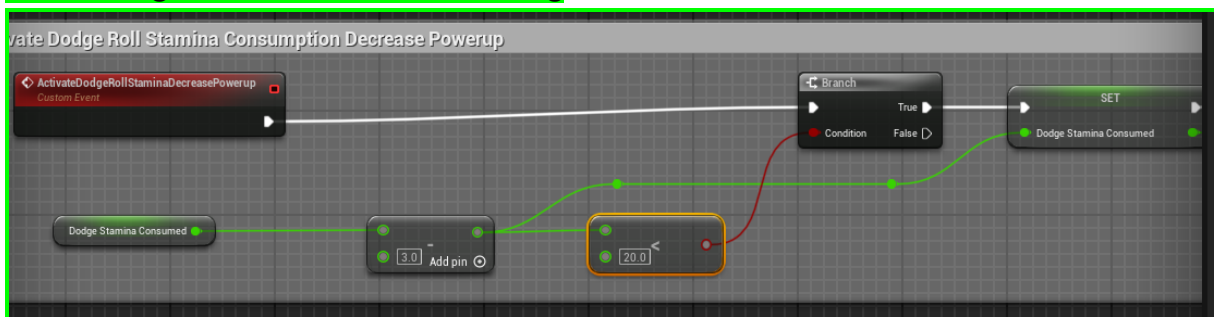
set waiter and chef delay time to 2s

decrease orb pickup time/increase range

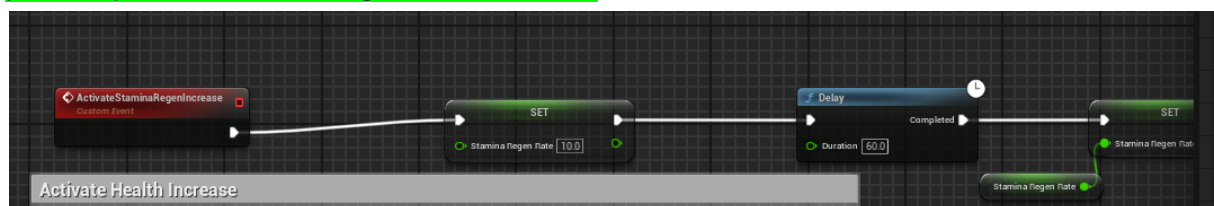
add points when skipping



fix the dodge roll stamina decreased bug



powerup card: stamina regen rate increase



debugged lamp special attack



Fixed dodgeroll weapon disappearing

increase lamp special attack play rate

heal debug key switched to H

PRC attack cards

baseball bat cards

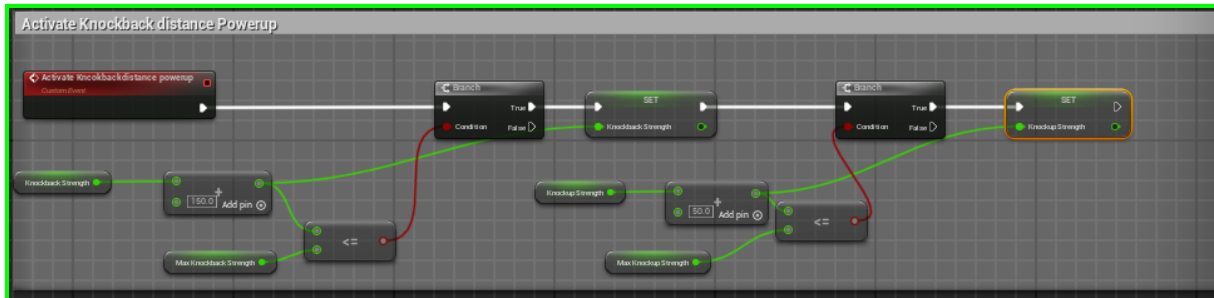
ruler attack montage debug

enemy fly off map gets stuck on the top left corner of the map

Right now the top left corner is not accessible

This is caused by the invisible floors that we placed in the level.

Knockback radius/Knockback distance



special attack damage update

Added ANS attack Trace to Cousin Chef and Waiter

Fixed the stamina depleted cannot normal attack bug

Hit count and Point switch position

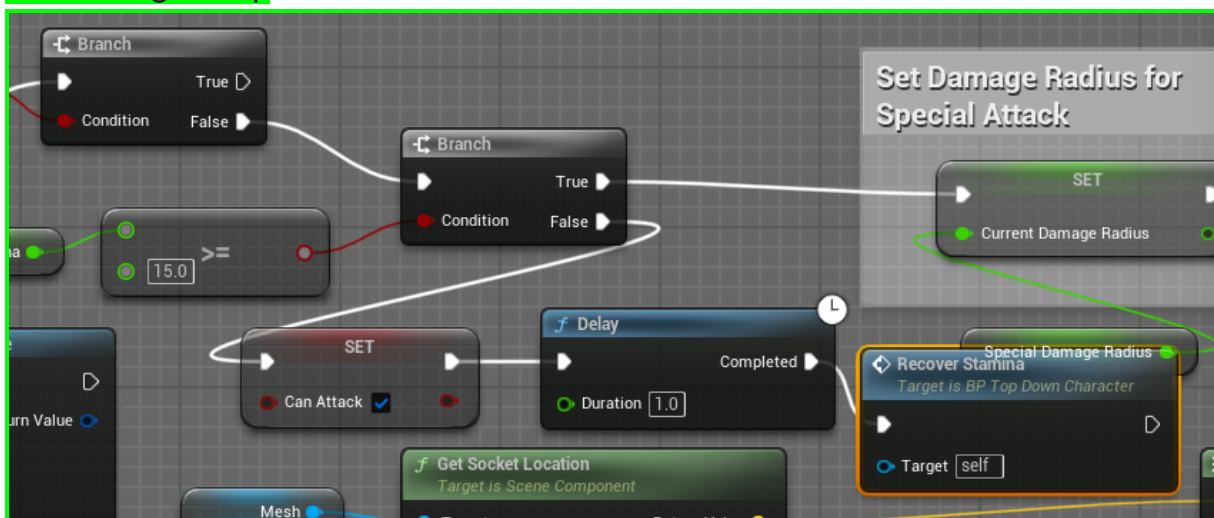
lower the shop music volume

Move the combo UI

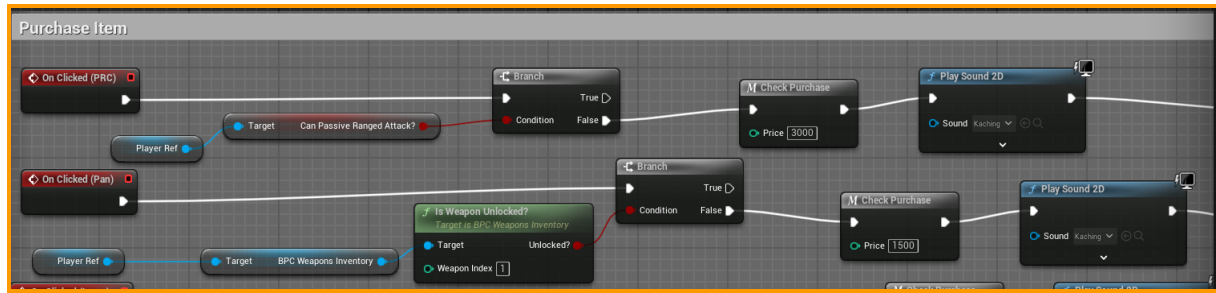
Pinpoint ANS attack trace

make bosses drop a lot of orbs (instead of adding 300pts)

when the stamina runs out, spamming the dodgeroll/special attack key makes the stamina regen stop



Make the pan and lamp only purchasable once



- Add lower body blend for the ruler outward slash.
- Bug fix: Right now the attack speed cannot be increase to 1.5* or above this is caused by the attack cooldown modifier(under topdowncharacter blueprint) not changed with the attack speed.
- Pause menu bug fix restart level button (removed right now).
- Huge Bug: Fix all attack trace systems on Enemy AI classes.
- Powerup card lock.
 - Add a filter for the powerups of the unlockable weapons, so that they do not show up until the player unlock each of them in shop.
 - This would be so far for: the pan weapon, lamp weapon, and PRC attack.
- Dodging leaving a trail of damage (see Chain hit fx for details).
 - use Chain hit FX in the FX pack
- Enemy Body explosion right before actor destruction.
 - Use Teleport Burst FX
- Add menu tab for difficulty buttons for the Horde mode.
- Difficulty Modes
 - Enemy DMG and Health
 - Boss wave difficulty scale(Boss Health and DMG).
 - Elites wave difficulty scale; includes (Uncles, Chefs, and Waiters - basically any enemy that is not the cousin aka; grunt enemy type) - Health and Damage.
- Implement respawn system into the Horde Mode
 - Player texture and weapon damage need to be updated to fit the horde mode.
 - Add cap for life points for horde mode.
 - (Optional) Player will be able to keep their powerup and unlocks after respawning.

Horde Mode Game Stats Table

AI Type	Normal attack damage	Special attack damage	Walk Speed	Health
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Player/ruler	65	75	480	100
Player/Pan	90	105	430	100
Player/Lamp	105	120	380	100
Cousin/Easy	4	NA	450	65
Cousin/Normal	5	NA	450	75
Cousin/Hard	8	NA	450	90
Uncle/Easy	8	NA	380	90
Uncle/Normal	10	NA	380	105
Uncle/Hard	12	NA	380	120
Waiter/Easy	10	NA	400	120
Waiter/Normal	12	NA	400	135
Waiter/Hard	15	NA	400	150
Chef/Easy	8	NA	350	150
Chef/Normal	10	NA	350	210
Chef/Hard	15	NA	350	300
Dad/easy	15	25	320	300
Dad/normal	20	30	320	350
Dad/Hard	25	40	320	400
Manager/Easy	10	30	350	400
Manager/Normal	15	35	350	500
Manager/Hard	20	40	350	600

change manager delay time kneeling

Weapon

Powerup cards

Add normal attack trail

having different enemy stun time for each weapon

make camera follow player

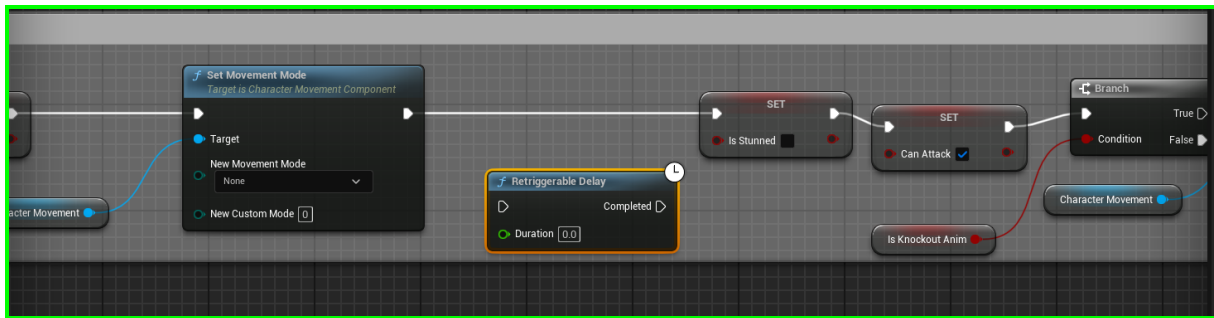
Fix the enemy AI not moving bug

Right now the enemy AI attack damage is triggered after the delay, this needs to be changed into the ans attack trace

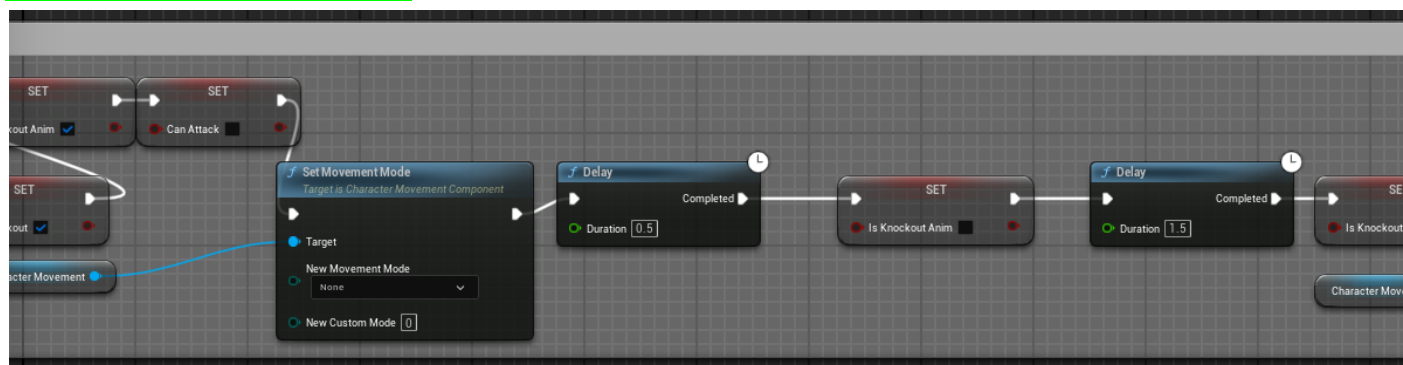
Increase the powerup cards(both UI and stats)

fix the orb stuck in the floor bug

Stun remove the retriggrable delay



knockback change delay time



Attack speed

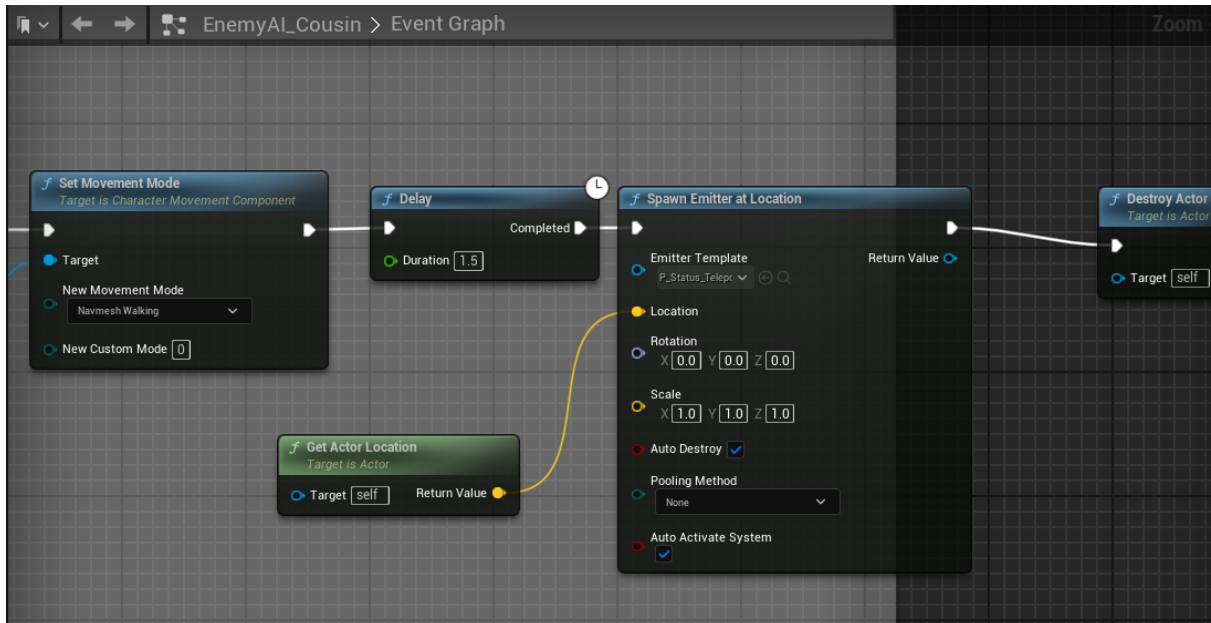
Respawn

Enemy dealing damage timing

Add sidedodge

- Difficulty selection from within main menus that can determine overall horde mode difficulty setting from entering the map.
 - Difficulty scaling options can have up to four tiers:
 - Easy /(insert creative name here)
 - Normal /(insert creative name here)
 - Hard /(insert creative name here)
 - Overkill /(insert creative name here)
- Possibly implement enemy + player damage scaling based on difficulty scale as well. Ideas can be tested and discussed.
- Powerup orb drop rate scaling per difficulty.

- Any other stat scaling that may be thought necessary during creation of this difficulty mode selection.



*Ideas for Future Improvements:

Having a card system where the player can swap upgrade cards in their builds
Enter the shop at the start of the game

- Spawn with 5 card base deck
- After every wave
 - Choose one of three cards to add to your hand
 - Swap out the cards in your deck
 - Upgrade existing card in your deck

Powerup rerolls

Luck attribute(determines tier of power ups and shop price)

Future bug fixes:

Hold off on this for now: Create a Horde mode UI page for the main menu.

- Furthermore, provide basic options that can be set, stored and then set for the game to provide further play options for players. IE; wave limit, enemies limit, stat modifications, etc.
- Fix Dad boss sometimes stopping movement entirely in Mom level after special attacks.
- Fix door locked status text to make sure it says unlocked when it can be opened and remains locked when it is locked.
- Fix door HUD text showing up in offset locations on the enemy door blueprints.
- Look into trying to improve third ruler weapon combo attack by eliminating forward step if possible.
- Fix mouse cursor being stuck on the screen at all times from the game start, even in a shipped game scenario. This should not be present unless the UI is on screen.
- Enemy capsule components should not have collisions specifically with the player when they are defeated. As soon as the death animations start playing, collision should not interfere with the player chaining attacks on other enemies. Otherwise it slows down attack fluidity.
- Dad boss needs some sort of upper-body hit reaction when hit during his kneeling phase. Without something like this, it is hard to tell whether hits are landing or not.
- Make sure the restaurant boss faces the correct way in the boss room.
- Correct the restaurant boss' defeat not proceeding to the next level afterwards as it should.
- Address minor z-fighting on the final level arena floor entrance near the first door.
- Add something like an interaction HUD to the center of the arena floor in the final level besides just the light to make it more obvious the player needs to go there to begin the wave. Otherwise in the future we can just create a simple objectives marker system to direct the player where he needs to go.
- Try to fix materials not showing up properly locally. Could be an issue with directories or something deeper, but it is a matter I would like to look into to solve once and for all if possible.
- In the final level during the first Tom boss sequence, make sure the actual sequence length is until the last line from Tom is completely off of the screen before entering the boss fight. With the normal waves it shouldn't be as much of an issue, but with a more direct sequence vital to the plot; this should be done to

ensure the player is not distracted by anything else when the fight actually begins.

Possible Ideas:

1. Apply different walk speed and acceleration when holding different weapons
2. Different knockback distance with different weapons
3. increase ruler attack attack speed, and decrease lamp attack attack speed.
4. Change lamp into a staff/spear attack with long range. Apply the current lamp attack to the baseball bat

Music and SFX

2023/9/21 - 2023/9/22

Sound tasks (Ivan Berlin):

Goals:

- Find inspiration for the style of music for the game
- Create and lay out instrumentation
- Create some drafts for what the music could be

Results:

- Settled on Yakuza (0) style, at least for the drafting stage
- Created some electric guitar and bass guitar sounds from synth patch + guitar rig + separate distortion (sometimes) + reverb (sometimes)
- Identified the kinds of percussion needed for the more synth vs standard elements
- Currently have 3 separate, very small drafts with different styles

2023/9/24

Sound tasks

Goals:

- Mixing
- Fleshing out the first of the three drafts
- Sending the drafts to Tom and thinking about how to implement feedback
- Setting up time to briefly discuss future implementation with programmer

Results:

- Didn't end up doing much mixing
- First draft is *much* nearer to completion, second draft is a bit nearer, third is still kinda weird
- Sent the drafts to Tom
- Asked Tom about contacting programmer

2023/10/7 - 2023/10/8

Sound tasks

Goals:

- Based on feedback, choosing song 2 draft and finishing it
- Creating a new draft for an additional song

Results:

- Didn't finish song 2, but the main section is done compositionally and I've started to incorporate a transition to a final boss section as part of song 2 instead of a separate song
- Created a draft for another song for a different level
- Sent drafts to Tom

2023/10/21

Sound tasks

Goals:

- Create SFX drafts based on hit list (above "before November 10th" sprint)

Results:

- Created drafts for almost all the SFX listed above, but missing a few
- Additionally created equip sound for each weapon
- Sent to Tom through google drive link on Discord
- Some SFX sound exaggerated as requested while some are still kinda realistic - need feedback on which to change and potentially how (what's missing?)

2023/10/28

Sound tasks

Goals:

- Implement current SFX drafts

Results:

- Implemented most of the current sfx successfully, though we will likely want to change where certain sound playback hooks into in the blueprints (separate branch linked below)
- <https://github.com/sssssddded/SecondChanceUE5/commits/feature-sfx-v1>
- Weapon attack sounds for ruler, pan, and lamp (currently no separation for lamp shade and lamp bottom) are implemented when the TopDownCharacter blueprint deals damage
- Above implementation also causes sound when the weapon collides with non-enemy objects, which may be desired - however, at the start of the restaurant level this seems to trigger the sound even when it looks like the player's weapon is hitting nothing
- Equip lamp weapon sound is triggered from an animation keyframe on the equip animation in the ILamp_Weapon folder under main character
- Equipping the ruler and pan seems to use the same animation/not have specific separate animations, so this is hooked into in the TopDownCharacter weapon switching script - this is not ideal, as the timing is a bit off and this would be better off triggered by an animation keyframe
- Player grunts/being hit are triggered by an animation keyframe on Hit_Reaction_Montage
- I wasn't sure where enemy punches hitting the player/another actual collision are handled, so temporarily, one of the enemy punch/impact sounds is triggered on the TopDownPlayer DamageSystem AnyDamage (this should definitely not be here in future, but works as a little demo)
- Interaction sound currently triggered at the end of the Interact function in BPC_Interaction_System - if an item is continuously interactable and you hold the interact button down, this continuously plays a new instance of the interact sound effect. This should instead be put somewhere where it will only play once per interaction

2023/11/4, 2023/11/5

Sound tasks

Goals:

- Create roll sfx, create footsteps sfx, create new variant for pan sfx
- implement the above sfx and implement the BGM

Results:

- Created the sfx listed above and implemented them (footsteps are temporary though, not very happy with them, just wanted to at least have something we can hear on the walking and running animations for now)
- Implemented the above sfx
- Implemented the BGM on the test level (could easily be done on any level but just did the test level for now) - each time you play the test level, it'll randomly choose one of the two music drafts that exists and then loop that until you stop the level
- Master/Music/SFX sliders not set up yet as far as I know, so I set the music to a somewhat quieter volume so it doesn't overpower the SFX
- The roll is kinda hard to hear with the music, so I may need to add more high end or see if I can make it duck (temporarily quieten) the music
- [The commit with the changes](#)

2023/11/11

Sound tasks

Goals:

- Boss room theme
- final level BGM (lead up path)
- final level Boss Battle theme (sketch the intro, something that flows off the lead up path BGM)
- door open sfx
- menu button click/select sfx
- sfx for cutscene dialogue

Results:

- Created the sfx listed above (plus a Close_Door sound)
- Created a first draft of a boss room theme (different direction, groovier than other tracks so far)
- Pushing off final level intro BGM and final level boss theme to next week

2023/2/11, 2023/2/12

Sound tasks

First off, I forgot an entry in December, which was making the drafts for the final level intro and boss music.

Goals:

- Implement door, dialogue, and menu button sfx
- Implement restaurant boss music
- Implement final level intro and boss music
- Set up fading between tracks/levels

Results:

- [Commit link](#)
- Completed all goals
- Close door sound needs to be slightly shorter (and maybe triggered by animation instead of interaction, if there are cases where doors open or close on their own)
- Dialogue sfx needs to be looped and synched with cutscene text

Playtesting Notes

July 2024

- Add visual to indicate weapon attack range
- sounds cue before enemy attacks
- increase the pickup range
- add fall damage
- add enemy scaling getting harder
- Add bleed or burn
- Different Enemy types and behaviors
- more way to add build