Game Design Document (before production)

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Game Overview & High Concept

Title: Dungeon C rawler lite
Premise/Player Motivation/Synopsis : *Gather 3 All ies to make your wa y through a procedurally generated d ungeon and defeat the boss inside .*
Genre & Competition: RogueLite/Dungeon Crawler , Hades /Binding Of Isaac / Shin Megami Tensei
Platform: Windows
Rating (Age related issues?): PEGI 12+
Target Demographic: Teens – Adults -> Action RPG and RogueLi te/Like fanatics.
Publisher:
License:

Unique Selling Points : Choosing 3 random Allies from a tavern and having them help you in dungeons.

Design Pillars (3-5 Pillars of Design that motivate your design choices) : Exploration, Combat and AI

Core Gameplay Loop : Gather Allies -> Go to Dungeon -> Get Rewards -> Gather Allies ->…

Game Objectives (Long, Medium, Short Goals)

-Long Goals -> Repair a village with the amount of gold you can unlock
- Medium Goals -> Rank up player stats and allies
- Short Goals -> Clear the Dungeon

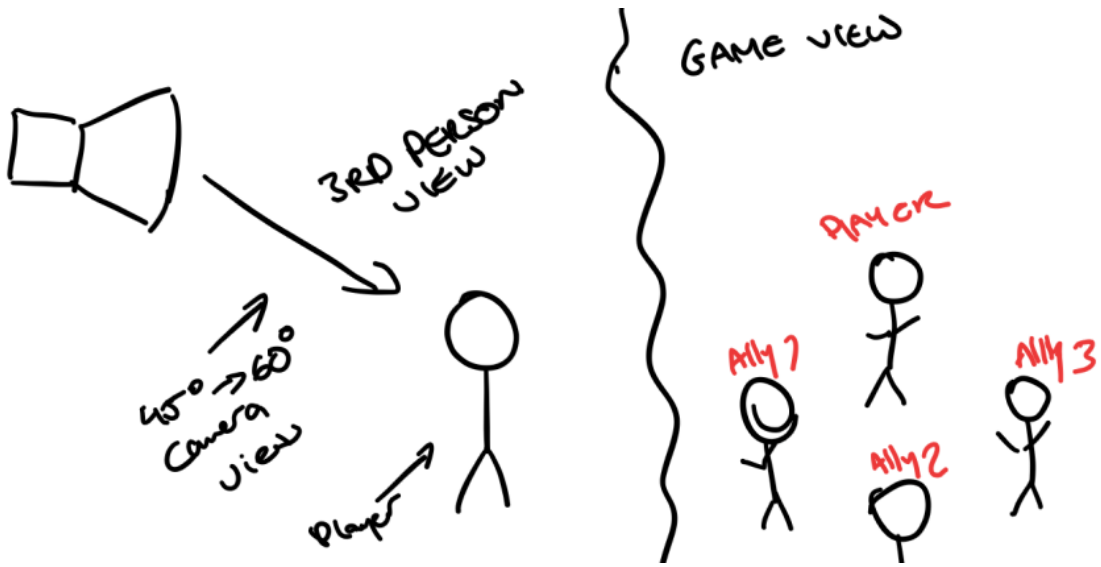
Game Rules (Mechanics including Mechanics Flowcharts)

- ➔ If the timer runs out before you complete the dungeon, you lose.
- ➔ If player dies at any point, you lose, and you're prompted to restart
- ➔ Enemies have a max of 1 move. Except Bosses that have 2.
- ➔ Allies have 2 moves.
- ➔ Find the key to unlock the boss door.
- ➔ Beating the Boss beats the game.

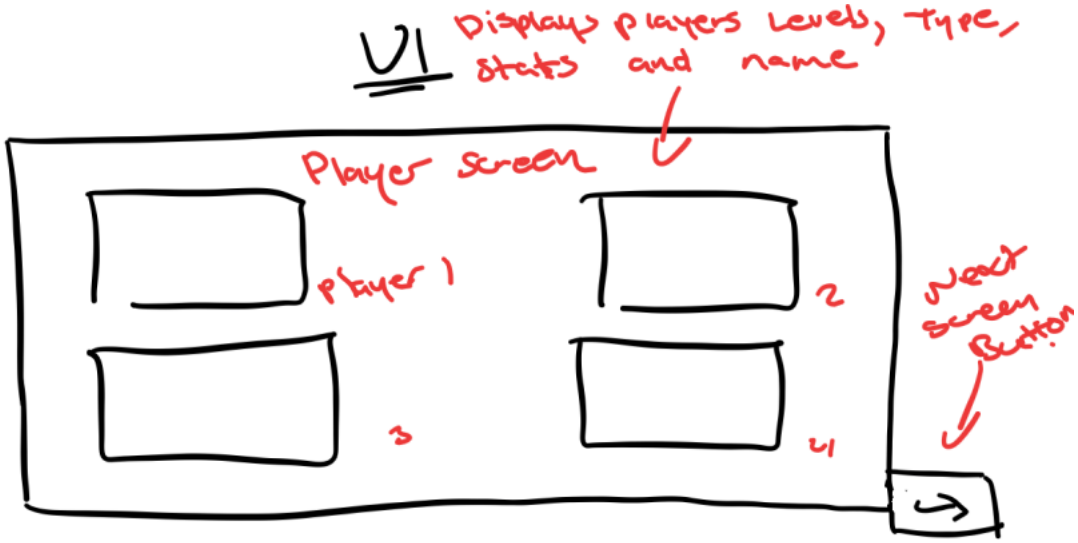
Game Structure (Play Progression, Game Flow)

- ➔ Level progression.

Gameplay (Controls, Camera, UI layout, show sketches of game view)



- ➔ Camera : 3rd person camera, zoomed out to fit allies. Free Look Camera and dynamic.



- ➔ WASD to move.
- ➔ Move mouse left and right to control camera.
- ➔ R to move straight to boss (DEBUG)
- ➔ Tab to open menu
- ➔ E to interact with chests.
- ➔ Click to close dialogue.

Player (Character, Metrics, States, Weapons (if applicable))

Character Line -Up (If applicable)

Allies:

- ➔ Earth Mage : Earth Type : High Special
- ➔ Unnamed Water Character : Water Type: High Special
- ➔ Warrior Character: Fire Type : High Physical
- ➔ Tank Character : Air Type: High HP and Special and Defence
- ➔ Unnamed Mutant Character : Lightning Type: High Physical and Special
- ➔ Unnamed Knight Character: Fighting Type: General All-Rounder

Enemies:
Skeleton: Fighting Type : High Physical
Mech Spider Common: Type Earth: Medium Physical, Rounded Stats
Mech Spider Uncommon: Type Fire: Medium Physical, Rounded Stats
Mech Spider Rare: Type Lightning: Medium Physical, Rounded Stats
Wolf Monster: Type Water: High Physical
Bat Creature: Type Air: High Special

NPC Enemies (List including Interaction Flowcharts(if applicable))

- ➔ Walk around in a random Position
- ➔ If a player is nearby chase
- ➔ If player is in attack range choose a random move out of 2 possible moves and attack enemy.
- ➔ Proceed to chase them
- ➔ If player is out of sight, return to roaming around

NPC Allies (List including Interaction Flowcharts(if applicable))

- ➔ Follow the player
- ➔ If Npc is less than 5 meters close to the player, proceed to an idle animation and stop following the player
- ➔ Check for an enemy in a radius, If an enemy is nearby, abandon the player and chase and attack the enemy
- ➔ Beat enemy and then return to following the player
- ➔ If player dies or the ally dies, It displays a death message onto the screen.

Art (Setting, Inspirations, Style Guide)

A more stylized look similar to Breath of the Wild.

Level Design (Layout, Prospect/ Refuge, Inspirations, overall game progression of levels)

Procedurally generated dungeons inspired by Spelunky and Hades. Each dungeon is different each time you play. One boss room. Dungeon gets easier over time due to increase levels. Unlock different types of dungeons by reaching certain levels.

Technical Design (Pseudocode, Interacting scripts/ objects, Technical challenges)

A more Scriptable Objected Oriented game. Health , Mana and Attacks are stored in Scriptable Objects for ease of use. Player data and player instancing will also be handled by their own respective Scriptable Object data classes.

Audio

4 main sets for audio. Audio for dungeon victory, audio for death, audio for tavern, audio for dungeon

General Challenges (Technical, Art, Skill etc, what problems do you envision needing to be solved)

Getting applicable character models at a low price to speed up development time and costs. Seeing whether or not I can effectively do an Action RPG oriented game and combine it with AI pathfinding and procedurally generated.

Team Roles (who is responsible for what)

Me -> Artist and Programmer and Designer

MVP (what will be contained in a minimally acceptable product for each of these stages:)

Prototype: have player combat /Have procedural Gen eration down

Alpha: Have player following , start - up screen and menus -> Have randomly placed enem ies

Beta: Have Randomly generated allies in ready to be recr uited in a tavern with many abilitie s and skills.

Gold/Shippable: (estimated timelines for all)

Have Advanced AI and have functional co -op mode.

Wishlist (Features to add before Beta)

- ➔ Enemy roaming AI
- ➔ Add Boss Fight before end of the dungeon that is randomly generated
- ➔ Add a simple tavern to choose which ally to recruit with randomly generated stats.
- ➔ Dungeon Chests

Player Feedback to Prototype (and design changes, if any made to the game because of this)

Tried switching to Turn based and Action RPG. Feedback from the results preferred the Action RPG. Originally planned to remove party following and do a single player experience. Feedback preferred the party following even if it would take more time.

Timeline (Project Plan, Gannt Charts, when milestones are due, Asset lists, task lists e.g. backlog)

Planned Assets to use:

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"Potion" () by rudolfs is licensed under Creative Commons Attribution
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Ink Unity Integration by Ink

Hit Impact Effects FREE - Travis Game Assets

Fantasy Monster(Wizard) DEMO - TS WORK

FREE - RPG Weapons - Blink

Earth Mage - Allan MacDonald

Mini Legion Grunt PBR HP Polyart - Dungeon Manson

Meshtint Free Polygonal Metalon - Meshtint Studio

Mini Legion Rock Golem PBR HP Polyart - Dungeon Manson

RPG icons - Little Sweet Daemon

RPG - Skeleton - IronicGame

Elemental Potions - Maya Pantic

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Creature Theme - EyeBat - Dr.Game

DL Fantasy RPG Effects - dreamlevel

Battle Wizard Poly Art - Dungeon Manson

Creepy Pumpkin Monster - woxec

Cartoon FX Free - Jean Moreno

Dragon For Boss Monster : PBR - Dungeon Manson

Dragon The Soul Eater and Dragon Boar - Dungeon Manson

Anime Kisora - Chan (FREE VR) - BLACKC Inc

Warrior Pack Bundle 2 Free - Explosive

Unity Chan! Model - unity-chan!

Warrior Pack Bundle 3 Free - Explosive

Warrior Pack Bundle Free - Explosive

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Fighter Pack Bundle Free - Explosive

Treasure Set - Free Chest - Fairy shop

Stylized Hand Painted Dungeon (Free) L2S Arts

Epic Boss Fight Loop - Esteban Mercado

Dragon For Boss Monster : HP - Dungeon Manson
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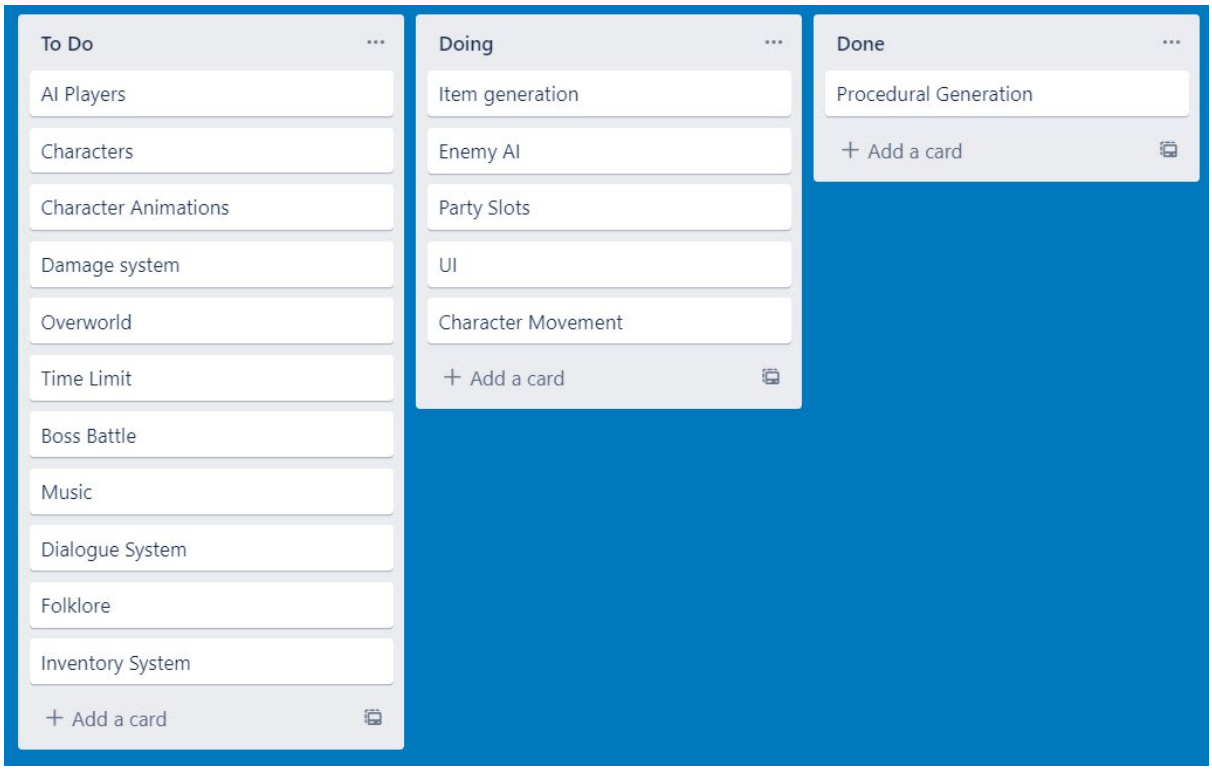
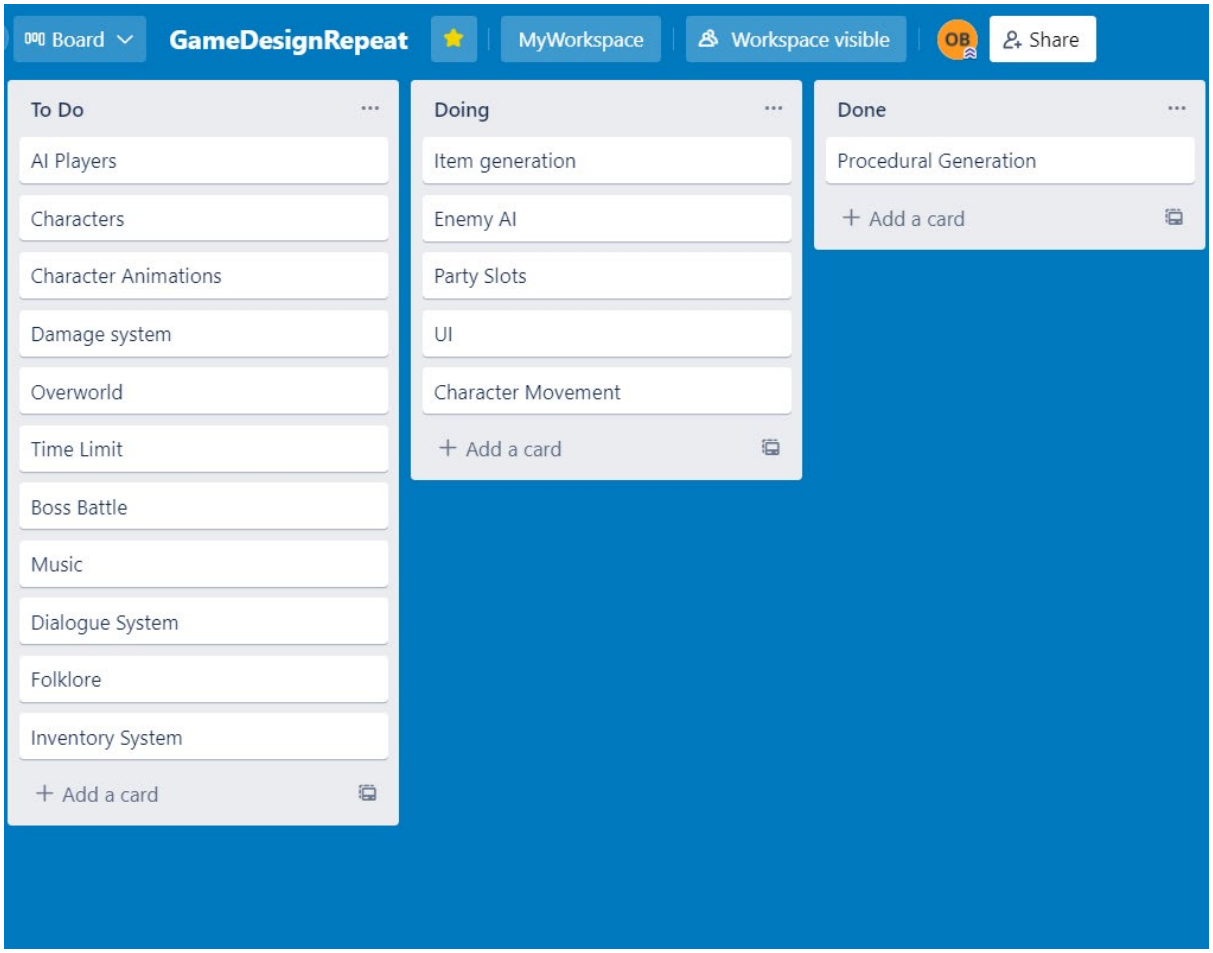
Plan List to do for the game :



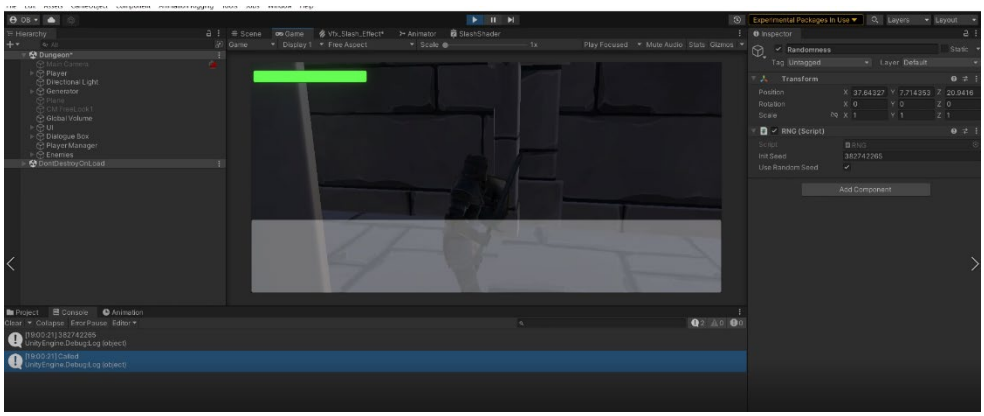
Living Postmortem Document (during/after production)

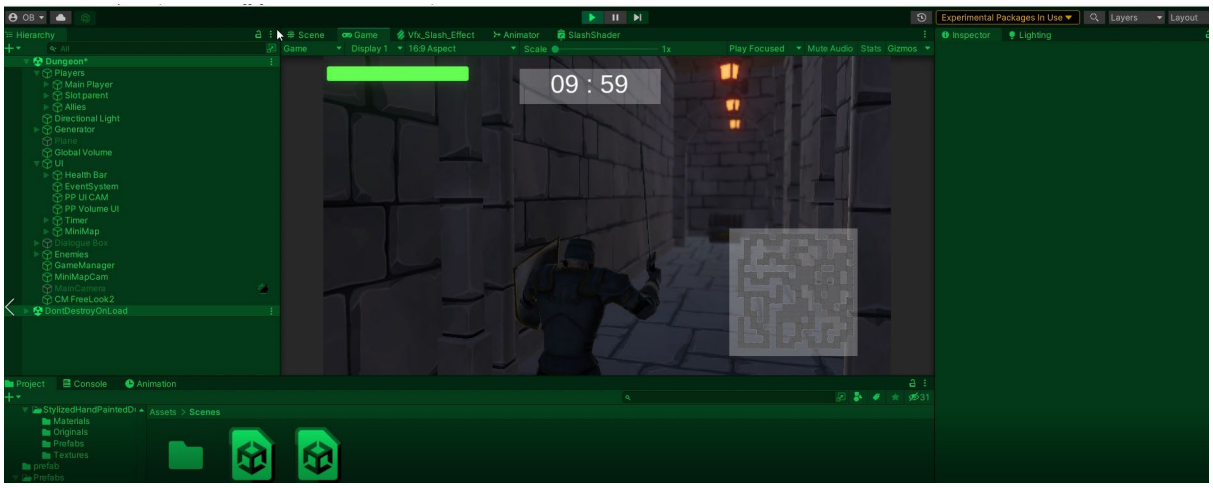
Task logs (screenshots of task trackers)



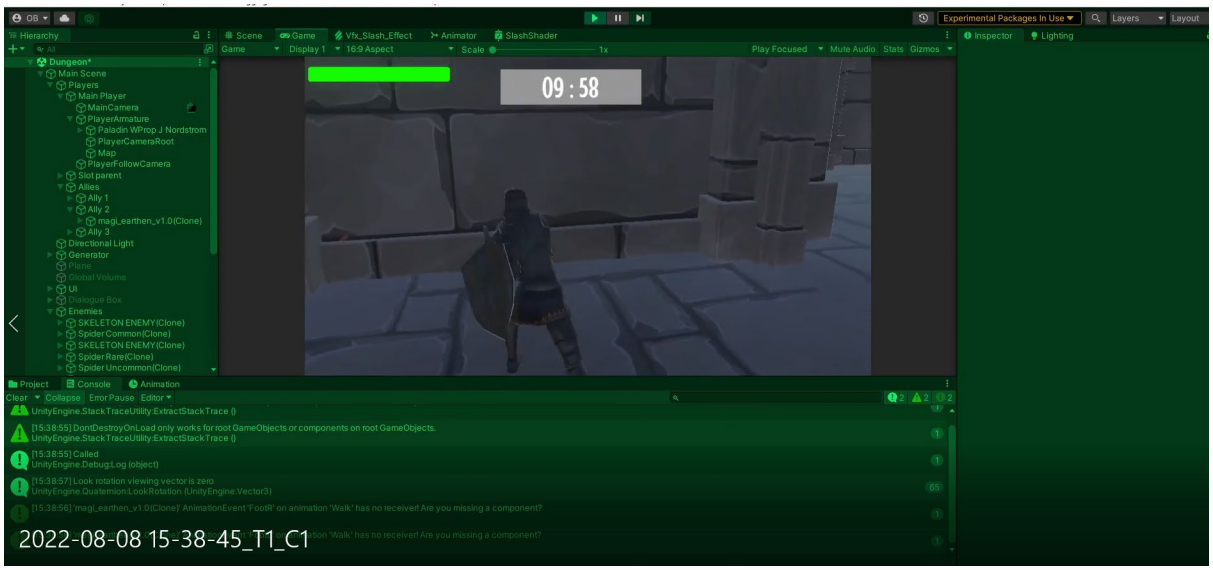
Design Changelog (which mechanics were added or changed, when and why. Progress screenshots from alpha, beta, final)

Old Prototype with no Levelling:

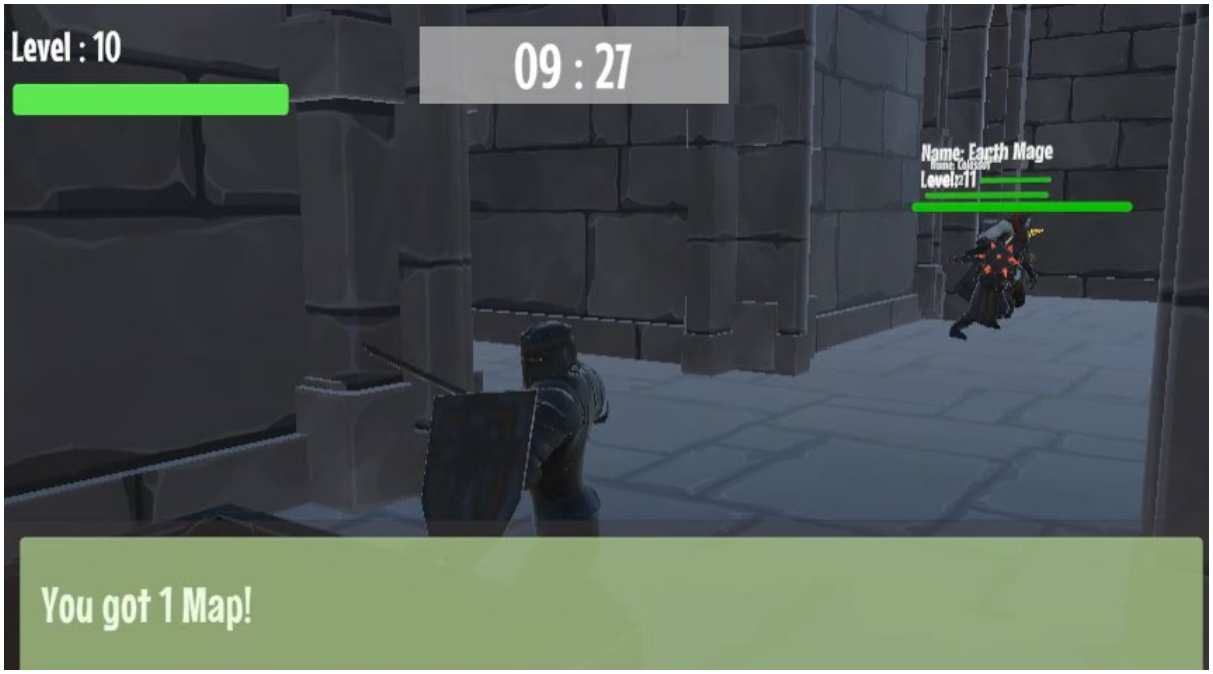




Added Fog (08/01). Added Map to make players not feel lost.



Added Timer to give a sense of Challenge as well. Removed Map and Fog as, to me it felt a bit distracting from the game.



Added Minimap (8/11) and dialogue Box as well as Levelling. Levelling was for progression. Dialogue to make the world more immersive. Added a map to prevent players from getting lost as from Player Feedback. Re – added Map and put it behind a chest to get players to explore first before picking it up

Added an Inventory so that platers can keep track of their items. Changed Font.

(8/12) Removed Village and village Sidequests as it took too long to implement. Main focus implemented being the dungeon.

Challenges (which challenges were harder/ easier than expected.)

Procedural Generation took around 4 weeks to fully grasp and understand to be used in the game. Enemy pathfinding was struggling to work with the procedural generation as the two systems were uncooperative. The solution was to use Unity's custom Navmesh Surface modifier to bake Navmeshes in runtime. However, that still resulted in many many errors with the enemy generation.

Player combat was easier than expected. Action RPG was surprisingly more easier to grasp and to do than Turn based combat and it fitted well with the procedurally generated dungeon as if I was going for a more turn based approach I would have to put more work and time into unloading and loading the dungeon in runtime which would lead to more issues.

Seeded Randomness was a bit trickier to approach considering that Unity's default randomness is not always seeded properly even when the seed is set. I had to default to C#'s standard Random in conjunction for seeded randomness, having enemies run on the Unity's built in random and the generation being handed by the RNG method.

Timeline checklist (which milestones were missed and what issues were highlighted at each point Prototype Alpha Beta Gold)

Week 1:

- ➔ Dungeon Boss would not generate correctly leading to corrupted dungeons

Week 2:

- ➔ Enemy Pathfinding would break.
- ➔ Enemies being unable to attack players
- ➔ Players being unable to follow enemies and return back to the player

Week 3:

- ➔ Could not add Folklore into the game.
- ➔ Removed Village goals and sidequests.
- ➔ Damage System would do much higher damage than usual.
- ➔ Stat modifiers would not apply properly

Week 4:

- ➔ Could not add multiple healing effects into the game
- ➔ Fixed stat modifiers
- ➔ Fixed Damage System

Player Feedback (spreadsheet of responses to questions, severity rating of these responses , pictures/list of feedback obtained from playtests, changelogs of what was done to address Feedback)

Feedback:

- Dungeon Layout was too confusing. -> Added a map to compensate and minimap display
- Added Party Following again after previously removing it as request from feedback.
- Turn based combat wasn't appropriate for the game -> Switched back to Action RPG focused combat.
- Game is Too difficult -> Increased Player starting level to compensate. Also reduced Damage formula calculations.

Production Critique (what ACTIONABLE knowledge would you impart to your past self. What processes would you change/put in place)

Be more productive and definitely don't overscope and overestimate what you can do. I spent a lot of time working on the procedural generation and making it more fancy and working on the littlest details instead of doing the more important ones first. Definitely plan better.

Production Successes (which features/processes did you implement well that you are proud of, and can implement in other projects in future?)

I am proud of the procedural generation and proud of the randomness I can use in other games of similar types.

Magic Wand (If you had more time, what would you like to add to this game?)

I would add custom death messages for the Allies to make the game more immersive. I would also add different bosses to the game and more Allies. Add all the features I couldn't add.

References/ Assets used (Where did you find information/ tutorials/ assets from)

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Dragon For Boss Monster : HP - Dungeon Manson

--OTHER ASSETS--

MIXAMO

-- TUTORIAL CREDITS--
https://www.udemy.com/course/procedural-maze-dungeon-generation/
BRACKEYS

https://www.youtube.com/watch?v=BIyYldTyyR8&t=347s - Random AI pathfinding