

AC1 Evaluation

AC1 Evaluation

Response to Brief

- Evidence of Research to inform ideas
- This is *what you want the game to achieve*, not a direct GDD
- Game Engine Options
- Explore Potential Variety of Game Styles
- Initial Intentions
- How do these Intentions meet the brief?

To begin, I started researching games that I think would fit the brief well and inform me of common practices in the genre. The Brief has asked for a game that teaches practical skills to children from ages 10-15. I believe that looking into the rogue-like genre would be a good fit, as it has a very simple and easily repeatable closed game loop. This means young children would understand the formal aspects of the game in much less time.

The games I looked at were Enter the Gungeon, Risk of Rain 2 and Vampire Survivors. I chose these 3 games because they provided examples of the game loop I want to mimic, where the character builds up their gear over a single run and game fail-states are very easy to understand.

My hope with the game that I will create is that I can teach the basics of gaming to a new audience, with a simple 2D take on rogue-likes and bullet-hells.

Therefore, I've decided to automate a lot of the processes- such as aiming, firing and reloading- that more seasoned gamers are used to dealing with. Aiming and reloading will be automatic, and firing will be full-auto on every gun. My hope is that this lessens the learning curve for new/young players- this fits the brief because it is friendly towards 10-15 year-olds.

When weighing up game engines, I mainly considered Unreal and Unity. That is because both of them are very well supported and have a lot of QOL features. However I chose Unity, as it has better support for 2D environments and I know C# better than C++. It also has many built-in features such as Tilesets and Post-Processing Stacks that can increase the production quality of my game.

Games

- Why is this game interesting?
- What *don't* I like about this game?
- What can I learn about designing my game from how the mechanics work?

Vampire Survivors

Vampire Survivors



In Vampire Survivors, you play as a selection of characters (that differ slightly) and you fight off hordes of enemies in constantly-increasing numbers.

In order to level up, you pick up small gems (larger enemies drop better gems) which drops on about 50% of the enemies. You need to re-tread your steps to get gems. Once you level up, you can choose 1 of 3 items to take into your inventory (these items can be re-rolled and stack effects)

Example Items:

- Axe I : Periodically fire an axe that pierces one enemy
- Axe II : Fire one more projectile and Base Damage up by 20
- Garlic : All Base Area up by 10% per stack

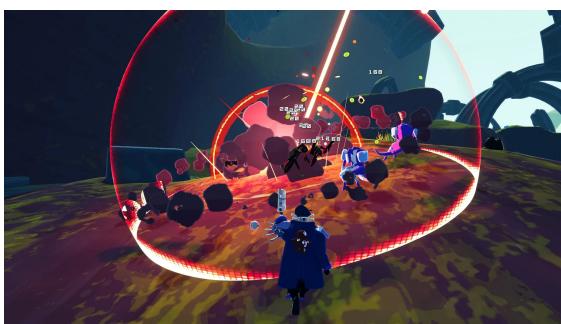
Evaluation

One thing that I like about this game is that it ramps up the difficulty by increasing the number of enemies on screen. This makes it extremely satisfying to wipe an entire screen that was previously full of enemies. It also makes damage scaling much simpler, as the difficulty is not based on damage numbers.

One thing that I dislike about this game is that it doesn't allow the player to move through the level at their own pace. I often found I was waiting a long time before the game started to get interesting. It has a very slow start to each round. In my game, I will ramp up the difficulty more frequently and clearly (with a choice on what specific part of the game should be harder). This means you can tailor the difficulty of the game to yourself and build specific item load-outs to perfectly counter the enemies' weaknesses (chosen by you)

Risk of Rain 2

Risk of Rain 2



ROR2 is a 3D Third Person Shooter, in which you fight through a level to get to a teleporter to the next one. There are swarms of enemies, especially as the level progresses, and you are usually fighting 6+ enemies at one time. Enemies drop money, which is reset every time you enter a teleporter. You can use this money to unlock Chests that you find strewn around the level.

These Chests give you upgrades, such as higher critical hit chance, and unique passive abilities such as Igniting enemies in a radius around every kill you achieve, etc.

You can also unlock Equipment, which works like an Ultimate in most team-based shooters and MOBAs. Its a powerful

ability that takes a long amount of time, usually over a minute, to recharge.

There are a number of other things alongside Chests that you can find, including a 3D printer, which removes a random upgrade and gives you the item displayed on its screen; A Scrapper where you can choose to recycle an upgrade for a free 3D Printer token; etc.

ROR2 prioritizes building synergies between different upgrades, as stacking abilities is very powerful.

Once you complete each level, you lose all of your money. This encourages you to get all of the upgrades you possibly can before moving to the next level, so you don't waste money.

Evaluation

One thing I like about this game is that there are different characters who have very different abilities and movement options. This allows you to play the game and create your builds in an extremely personalized way and create your preferred character. For example, you can play as a highly-mobile character with a lot of precision attacks for high damage, or a slow-moving, AOE and crowd-control "tank" character.

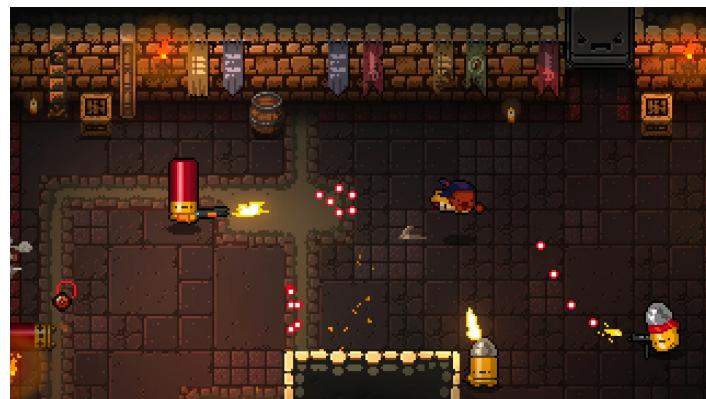
I also like how positioning comes into play with a lot of the characters. [Vampire Survivors](#) moves very slow, and progression happens over a long period of time, however ROR2 allows you to move very quickly and accelerate the starting difficulty if you need to. This means the player has more options and is able to play how they want.

However, I think the game can be quite daunting for new players. This is because you are able to roll any item in the game from the very start. This makes it hard to learn the game, as you are overloaded with many items to learn at the start.

I may lock some items behind kill milestones/achievements (such as "kill 50,000 enemies in a single run"), to drip-feed the items and lessen the learning curve for new players.

Enter the Gungeon

Enter the Gungeon



ETG is a top-down 2D roguelike that takes inspiration from bullet-hell games.

You start each level with a starter pistol and your main method of upgrade is picking up new guns from chests you find. There are nearly 200 different weapons, all with unique mechanics and play styles.

The level generation consists of multiple rooms that fit together (like puzzle pieces) and are randomly placed each level. You aren't allowed into a different room unless you have cleared the current one of all enemies.

There are many enemy types, such as enemies that throw bombs at you, some that use shotguns, some that are melee only, etc.

At the end of each level, there is a boss. The boss is chosen randomly based on the stage.

There is also a secondary mechanic called Blanks, which can clear the entire play area of all bullets and enemies. They are fairly limited so they don't get abused.

Evaluation

Overall I enjoyed this game. It had a very simple but appealing art style, something I may like to replicate. This game is good for children as it is very readable and easy to understand visually. This helps newer players understand what is happening much easier.

However this game is not very suitable for children as a large part of the gameplay is based on guns. This may be too adult for small children, and the age rating might be too high for the target audience if I add realistic weapons to my game. Therefore, I have decided on an art style that deliberately avoids realistic guns, so it is more suitable for the target audience (10-15y/o).

Noita

Noita



Noita is a 2D side-on platformer rogue-like in which you play as a wizard that can build wands with custom combinations of spells. Spells are items that you can buy after each level, and you can shift around the specific builds at the end of each level.

This allows you to create your own extremely specialized wands and play the game exactly how you want.

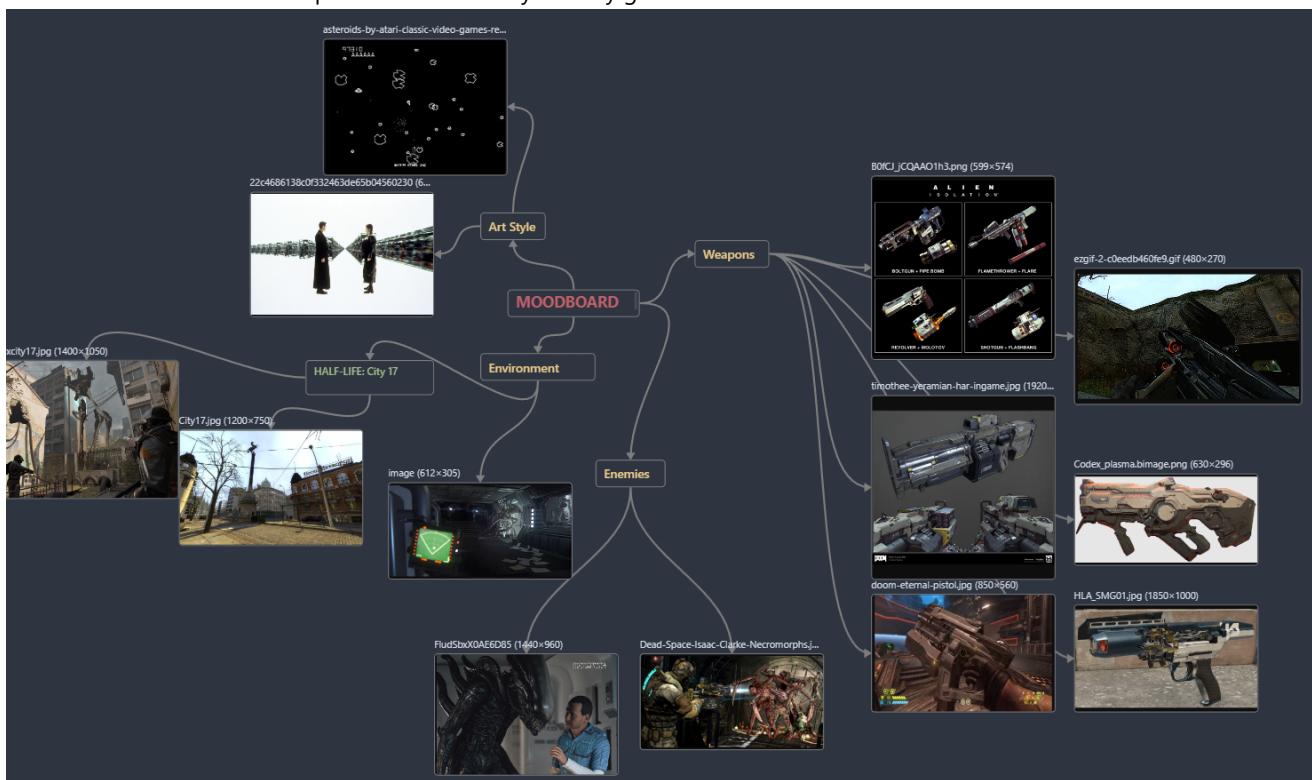
As well as this, the game takes inspiration from pixel simulation and sand-box games. Every pixel of the environment can be destroyed and has gravity acting on it at all times. This means that you can carve through walls with bombs, or pour oil on your enemies and set them on fire. This allows for extremely creative use of the environment in order to kill enemies and access new areas of the map.

Evaluation

I enjoy the level of player expression that Noita gives you, as in the late-game you can personalise your loadout and traverse the entire map in a very short amount of time. This game has a very good late-game and many secrets to find. However, i think it can be way too complex for a 10-15y/o to understand, so if i were to take inspiration from this game, it would have to be simplified a lot.

Moodboard

I created a Moodboard to help focus the visual style of my game.



AC2 Evaluation

AC2 Evaluation

Response to Brief

- Summary of what I need to actually do to finish this assignment
- Initial Reactions- will it be hard, easy, etc
Why?
- What am I going to do?

Idea Generation

- Idea Generation - at least 5
- Multiple game ideas
- Evaluate them and pick one

To begin I generated some ideas that take inspiration from the games I researched in the [AC1 Evaluation](#).

I wanted to take the parts of each game that I enjoyed, while trying to fix the issues I had with them.

Game 1: PULYA

- Top-Down 2D Shooter, Mouse-based crosshair (no Aim-Assist)
- The "Draw" of the game is that you can shoot enemies' bullets out of the air, and deflect them back.
- It will have an ability system including passive upgrades and abilities (like a hero shooter, I.E. shields, AOE damage/crowd control, new movement tech such as dashing, charged shot for more damage, etc)
- Dark Souls style level design with lots of secret passages and shortcuts, with semi-random generation of prefab rooms (similar to [Enter the Gungeon](#)). This can teach younger audiences about spatial awareness and mapping areas in their head.
- Set in Victorian era, dark art style and historic weapons.
- Your character is a wraith, meaning they can turn invisible and dash forward a short distance. They have to find the person that turned them into a wraith and confront them.

Game 2: SURVIVORS

- Top-Down 2D Shooter, Auto-aiming. Option to turn off auto-aim and use Mouse-based crosshair instead
- Similar to [Risk of Rain 2](#), Every 1 minute, the difficulty ticks up a level. Each time this happens, you can select from 3 difficulty-increasing "upgrades."
- Weapons and abilities randomly spawn around the level. They can be unlocked by trading in a certain number of kills (one kill is one "coin").
- Sci-fi, You play as a security guard/mercenary who has to fight off computer viruses in a Matrix-Style virtual world.

Game 3: SURVIVORS2

- Action Platformer, side-on 2D shooter. This is more familiar to a younger audience as they may be more acquainted with games like Mario or Rayman.
- Similar to [Noita](#) in shooting gameplay (aiming style, weapon cooldown/projectile speed)
- Shop area at the end of each level where you can buy abilities and passive upgrades
- Tile-based generation of level sections (similar to [Enter the Gungeon](#), but side-on). This makes the game more replayable without getting into the complication of real procedural generation.
- Same story idea as Game 2, SURVIVORS

Game 4: AUTOMATON

- Top-Down 2D Shooter, Auto-aiming.
- Automation controls such as auto-shooting, inventory management and combining upgrades.
- This would be very hard to create in one month, as it requires a lot of systems and different layers of controls.

- However it would be very interesting to create as this genre of game hasn't really been done with such a level of automation.
- Story is an engineer who has been abandoned in his spaceship, which is breaking, and he needs to traverse the area to fix things around the ship in order to get home, while fighting off hordes of aliens.

Evaluation

Game 1, PULYA, was a good idea, however it would take too long to finish, as the level design is a large part of the gameplay. This would mean spending extra time on tilesets for art, drawing up plans for the level, and code for procedural generation of rooms that do not intersect and can be easily traversed. This means that I would have to spend less time on other parts of the game, and it would be a lot of work.

Game 3, SURVIVORS2, would be my second choice as it is almost as simple as SURVIVORS. However I think the bullet-hell aspects of the game would not work as well, since there would be lots of cover and blocks for the bullets to collide with. I would also need to figure out how AI would work, as it would need to pathfind around complex geometry.

Game 4, AUTOMATON, is another interesting idea, however it would likely be way too complex for this size of assignment. It would also not fit the brief as well as others, as it would require a lot of logic and micro-management. This means it may be too complex or difficult for a 10-15yo to understand. However I think its story could be interesting. However, I don't think the story is enough to base my game off.

Game 2, SURVIVORS, was my final choice. This was because it was unique enough that it provided a fresh take on the bullet-hell and roguelike genre, without getting too complicated with systems (such as AUTOMATON). It also had a good story idea, based on film The Matrix, and it would be fairly simple to write dialog and a small backstory.

GDD

Overview / Genre

SURVIVORS will be a bullet-hell roguelike that takes inspiration from Vampire Survivors and Risk of Rain 2, among other games of a similar style.

every 1 minute you get to decide (like a vampire survivor level-up) what part of the game you want to be harder (more health, more damage, faster movement, etc)

enemy kill count is the same as currency, and you buy upgrades with kills

Weapons

Different weapons have different stats, such as the Pistol, which fires quite slowly and has slow-moving projectiles, and the SMG which can fire faster and has faster bullets, but lower accuracy.

This means you have to choose the most effective weapon for the specific circumstance and it adds some logical thinking to the game.

Upgrades

Special upgrades

- "Back-blast" - BB - Bullets propel you backwards in recoil.
- "Hidden Magnet" - HM - Bullets curve towards your crosshairs.

Generic upgrades

- "Container of Hearts" - CH - Max Health += 1;
- "Wind's Blow" - WB - Movement Speed * 1.1;
- "Marksman's Meal" - MM - Target Acquisition * 0.9; //this is an upgrade- lower is better on this

Weapons

- Pistol
- Shotgun
- Machine Gun

Enemy Upgrades

- "Strong Armor" - E-SA - All Enemies: Max Health += 1
- "Marksman's Scope" - E-MS - Rangers: Muzzle Vel * 1.1

Camera

I think a slowly auto-scrolling camera will work well with this game, as it keeps the player on the right path. This is important because children often don't know the way to continue the game, and get lost very easily. An auto-scrolling camera means there is a very simple direction for the player to go and they cannot get sidetracked.

Character Controller

Taking inspiration from Vampire Survivors, the game will be entirely playable with just one hand. The only controls you need to think about are WASD for movement, holding space to shoot automatically, and swapping weapons with Q and E.

Replay Value/Progression

To unlock permanent upgrades, you reach milestones of kills (such as 100, 500, 1000, etc.)

These unlock abilities such as dashes, invisibility for a short time, etc.

Because I don't have enough time, I think I may miss out this feature for the deadline.

Bosses/Enemies

There will be 2 enemy types to start the level, Melee and Ranger. Melee will have a speed bonus and Rangers can fire bullets at the player.

As the game continues and they level up, there are rare upgrades that add new enemies to the mix, such as a shotgun-wielding enemy and larger boss enemies.

Game Mechanics

The main game mechanics will be a bullet-hell style. This means that there are a lot of enemy bullets on screen that all move fairly slowly, and you have to dodge and weave through them in order to not get hit. The game progresses and gets more hectic/fast as it continues and ends when you die. Therefore I have a closed game loop that is re-playable.

Health

My initial idea is to have an integer-based health system, where you deal 1 damage and enemies deal 1 damage by default. When upgrades are applied, they are simple iterations (adding one to the current number) to the stat. This makes it simple to understand these upgrades and stats, as the number of upgrades is equal to the stat itself (damage, maxHealth, etc.).

Interactive Objects

Scattered throughout the level, there are player upgrades. These cost kills to pick up (starting at 10 and increasing by 5 each time), and make your character more powerful. Every time an enemy cycle happens, a random number (increasing by upgrades) will be placed in the map.

Different weapons are also pickups in the map, though they don't cost any money to acquire. They will be placed further out from the spawn point depending on the quality of the weapon (you start with a pistol, then shotgun, then machine gun, etc.)

Level Design

The level design should be kept simple, as complications could occur with enemy pathfinding. It could also get frustrating for players to be trapped in an area, unable to dodge bullets or enemies. The bullets/enemies are the main obstacles that the player has to traverse through.

Art Style

I think a simple art-style would work for this game, so I chose an ASCII-based text style. This could be mixed with some post-processing effects such as Chromatic Aberration and Lens Distortion to give the game a "CRT Monitor" effect, like you are playing on an old computer/arcade game. For this, there is a Unity Package that provides a base for creating your own post-processing effects.

The program playscii is a simple ascii art editor, which is free on itch.io. It allows you to create ASCII art, and save it as png or image sequence for animations.

Pitch

Playtest Feedback

Ryan Pedder- 17/01/2023

"This game is really good. I have a bit of feedback:

The overall movement of both the enemies, the player and the Bullets are a bit slow. They could be sped up a bit more. After a while the enemies stopped spawning, but I think there were a few still alive off the screen because bullets were coming from the top left corner.

It would be good to see more a variety of types of enemies"

Niko - 30/01/2023

"its pretty fun, i definitely like the foundation, i will say it did feel pretty unintuitive at first and i was quite confused visual clarity wise but i think its pretty solid.

i did however get softlocked. i got curious and just tested the waters and i did eventually get all of the enemies to stop chasing me, because i had gone out of vision, and i guess i must have ended up somewhere crazy because i could not get back to the center of the playing field.

Suggestion: edge colliders attached as a child object of the camera to keep things clean and to prevent leaving bounds, or you could also just let the player move at their own pace and just do frustum culling as you move potentially.

I think its quite enjoyable.

i also think the natural pacing felt very slow to start, thats just one of those game feel tweaking things, obviously i imagine you probably want the game to have a natural scaling sense of progression, but i think its worth finding a middle ground and just making everything faster if its taking a lot of downtime to get to the more fun parts of a game."

Playtest Evaluation

This feedback was very valuable, as it showed me where i need to improve the game, and helped me fix some bugs (such as the enemies not chasing you after a certain amount of time, and stopping spawning). I fixed this by killing enemies that were outside of the view of the player so they didnt get trapped outside of the play area.

It also let me know how the pacing felt, as Niko thought it was a bit too slow to start off with. Ryan also thought that the player and bullets were too slow. Therefore, i will speed up the start of the game by modifying variables and possibly speeding up the enemy spawn rates.

I will also need to update the visuals of the game a bit, as Niko said it was quite obscured and hard to understand,

AC4 Evaluation

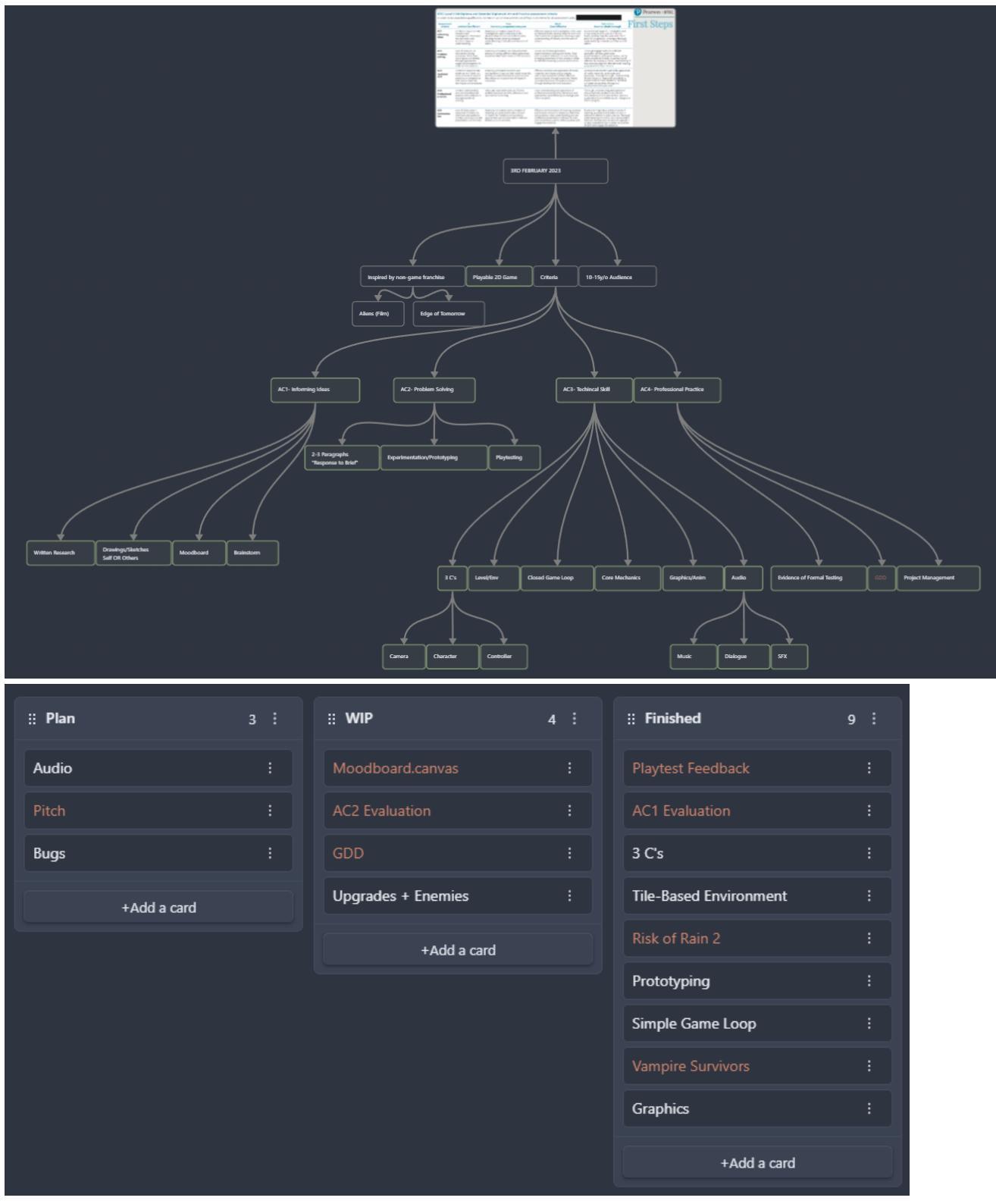
AC4 Evaluation

To Plan my project, i used a Trello board, as well as mapping out everything I needed to achieve in a moodboard.

The Trello board was very useful as i could see visually how far everything was completion and i could add/move things as i needed them.

The moodboard was a good initial plan to understand everything i needed to achieve, and i started writing everything from that moodboard into the Trello boards just after.

I also blocked out the individual weeks and made sure I was doing a relevant thing each week, and spreading out the workload across the entire time. This meant I was not forced to crunch at the end, to fix things and finish writing, and my work was well paced out throughout the month.



References

References

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