Moirai's Trial

Design Document

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Daniel Gonçalves [98845]

Diogo Sá [87652]

Diogo Silva [98776]

Martim Norte [87076]

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1 Core Experience

1.1 First Tweet

Moirai's Trial is a Battle-Royale/Co-op FPS where players are placed in a maze from which they must escape. Fight, deceive, BEAT THE TRIAL!

1.2 Game Description & Features

Moirai's Trial is being designed as a multiplayer first person game with a mix of Co-op and PvP, incorporating projectile/spell-based combat. Players begin each match by being placed randomly at the borders of a maze, accompanied only by an uncharted map they can toggle on and off. To win, players must complete challenge rooms, randomly spread throughout the maze, in order to unlock the portal room placed at the centre of the maze. Any player that manages to enter the portal wins, but only a limited number of players are allowed to go in before the portal closes. Each of the aforementioned challenge rooms is expected to contain one of several possible challenges designed to take full advantage of our combat mechanics without the need for new ones (e.g PvE challenges and Timing challenges). These challenges have a specific number of players that is needed to be completed (always 2 or more players are required) and as a reward, any player who participated in the challenge is awarded with a charted chunk of the map and the reveal of secret rooms that may possess powerful power ups (e.g stat boosts, short-range teleports and so on), giving them an edge when encountering possibly hostile players. Players are free to attack each other and they drop their gained powerups upon death. When this happens, a cannon fire sound can be heard at a distance, signifying that there is one less contestant in the maze.

1.3 Game's Setting

The game takes place in ancient Greece. The mythological creatures known as Moirai Sisters or Fates are beings placed even above gods. They weave and control the destiny of all living beings, deciding when to start a new life, everything that will happen throughout that life, and at what point does it end. Humanity is now being put to the test in the Moirai's Trials. They wish to know whether humans are beings worth creating and as such, they devised a maze filled with challenges that will not only test the selected champions' perceptiveness, fighting, and cooperation skills, but also evaluate their greed, bloodlust and lesser favorable, but equally human traits.

Throughout the maze, we intend on having the Moirai's comment, through voice acting, on certain events that might occur in order to invoke to our players the feeling of being constantly under watch and tested. Aesthetically speaking, we're aiming for an "ancient mystical greek" look, with our assets reflecting this time-period.

Sound will also play a big part in Moirai's Trial. Sounds of wind, leaves rustling and the dread of hearing nearby player's footsteps or nearby conversations (heard through the proximity voice chat) will all be mixed to both add depth, and increase the sense of anxiety of our players. Our Moirai will also occasionally comment on what's happening in the maze through a "game-host" like voice over that will echo throughout the maze.

1.4 **Main Design Goals**

This experience has two main Design Goals:

- **A co-op/PvP mix capable of being balanced** ensuring **interesting player social interactions**

Dealing with a game that has both cooperative and player versus player mechanics as main features means that neither one should be able to force itself on top of the other. As such, players that focus only on PvP and attack others on sight should be penalized, and players that never engage in fights should be equally punished. Now, here is the main question: The only way to force a player to play "by the rules'' is to define them right at the beginning of the game, right? So, we should split the gameplay into episodes where PVP is the protagonist, and episodes where a cooperative approach would be unequivocally beneficial. Well, that is kind of directly taking liberty from the players and forcing them to play by our rules. To some extent, every game forces (or at least, incentivizes) players to play by predetermined rules defined by the designers behind it, and **Moirai's Trial** does not intend to sail apart from that so as to avoid the risk of having an unfair or "unfun" experience. The magic is, actually, in how these rules are enforced. In **Moirai's Trial**, every player will be able to dynamically choose to either engage in PvP or Co-op, and even juggle around these two approaches. In fact, it's this juggle and dynamic decision making that we want to incentivize. Instead of artificially and forcibly enabling and disabling PvP as we see fit, it will be the actor's themselves deciding what the best course of action at their specific situation would be. This means that the players will be forced to mix Co-op and PVP without even knowing it, as for the perfect mix will be the only way to win (or, at least, the far easier). Let's get into the three main possibilities:

- A player chooses to take a **fully PVP** path: The Rambo himself tries to play this game. Every encounter is a "kill first talk later" scenario. After some minutes of pure blood and tears, a voice comes from out of nowhere: "Yout thirst for blood is

now your doom. You were fighting for all mankind, but your greed was more important. So, there is no future for your race, only death.". And just like that, it's game over for everyone.
- A player chooses to take a **well balanced Coop/PVP** path: Not only does the player use good manners to make an alliance, but it also knows that a fallen "colleague" can sometimes be as good as a dead foe (after all, it means there's less people competing to escape). At the end, the victory is imminent, as the player not only used its one or many alliances to get to the portal room, but it also studied each of its friends, so now it knows who to strike first.

- **Ensure replay value both through procedural generation and authored content**:
When speaking about a maze game board, you have two immediate strategies to use in order to get a full level design:

  - A **previously designed** maze with all the power ups, challenge rooms, and all other characteristics already defined and placed: This approach may seem like the only one where you can really attend to every detail of the maze and make its Level Design like no other: interesting, mysterious yet surprising! But, will it really be surprising? If this is a multiplayer online game, then it's intended for the players to play it again and again and again.If you have the same Level Design for every game, after 3 or 4 different experiences, the player may recognize some key aspects of the game, like the power ups' location or the challenge rooms' solution. This just makes the game unfair to new players and also, well, boring.
  - A **fully randomly designed** maze: This approach, when compared to the previous one, is definitely the one that fights better against boredom by repetition. But what about detail? There are some things that are not possible to be randomly generated. Some particular maze properties that to be generated and make sense with the other ones would be just a nightmare, a totally unnecessary one.
  - So what about a **mixed approach**?: If the maze structure itself and its necessary to be immutable components are previously designed, but the main items of the experience are randomly created, like the power ups and challenge rooms' types and locations, we would get a balanced Level design that is well thought whilst providing the intended "wow" effect.
  - After discussion with some users during a workshop, the team landed on creating a bunch of handmade rooms, with a lot of pathing possibilities, objects for cover and interesting landmarks, and then, creating the maze by procedurally picking them and arranging them in a random manner (whilst ensuring coherence and the possibility of going from point any point A to any point B). That way the team can curate the quality of the rooms and the maze, whilst still ensuring it's randomization and inter-match variety.

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1.5 **Goals Success Criteria**

For the first goal, success would be measured by the percentage of mixed co-op/pvp wins against only pvp or co-op ones. A higher ratio would be a considerate proof of success.

As for the second goal, and after getting feedback on the reasons why players don't replay the game, the level design should not be one of those reasons.

2 Review competition and domain research

2.1 Similar games strengths and weaknesses

Not only were these the games that immediately came to mind when this idea was brought to the table, but they are also the main competitors for whom we must prepare to be pitted against. In order to fully explore the competition and find the bubble in which this new experience fits, a comparison between the following games was made:

- **Among Us**
  - *Among Us* is a multiplayer deception game in which a group of crewmates have to cooperate to complete individual tasks before time runs out. However, one (or two depending on the number of players) of these crewmates are Impostors, who have the goal of stopping other players from completing tasks by killing them off one by one. When a body is discovered players can enter a chat in order to vote off who among them is the killer. The game ends when all tasks are completed or when all non-impostors are killed.
  - **Strengths**: The game offers a very unique gameplay loop based around social interaction and clever deception, rewarding clever thinking over mechanical skill (unlike most multiplayer games). The game is great fun to play with friends due to the impromptu situations that can occur. The game's design is very focused and clean, tying all of its gameplay loops very neatly and in a way that leaves very little flaws to be treated.
  - **Weaknesses**: While the game's design is very solid, the way the game functions and it's limited number of maps and tasks leads to a lot of repetition and boredom. After a while, players can get good enough at memorizing all tasks positions and timings to be able to call out who the impostor is in the first minutes of any match.

- **Dead by Daylight**
  - Dead By Daylight is an asymmetrical multiplayer 4vs1 horror game where one player takes on the role of a killer whilst the other four players play as survivors, trying to escape the killer and avoid being caught and killed. In order to escape players must find generators and start them up (via a quick-time-event minigame). After a certain number of generators have been started, the escape door opens allowing players to flee.
  - **Strengths**: Very short and tight design loop that lends itself well to expansion through the introduction of new killers with new abilities and maps with different layouts. Horror aesthetics provide a good boost to anxiety and stress survivors feel through the match.

○ **Weaknesses**: The game is very "janky" mechanically. A lot of bugs and unresponsive controls bring the game down. Generator minigame is very repetitive and the only thing survivors have to do. Killer's abilities can sometimes be overpowered upon release

● **Friday the 13th: The Game**
   ○ *Friday the 13th: The Game* is a third-person horror asymmetrical multiplayer, survival game where players take on the role of a teen counselor, or Jason Voorhees - the signature killer of the Friday the 13th franchise. As a survivor you must do everything possible to escape and survive while the killer tracks them down and brutally slaughters you.
   ○ **Strengths**: Survivors have a lot of possible ways to escape giving the game a lot of variety. Proximity voice chat contributes to fun moments of tension and roleplay. Usage of a well known franchise. Score system incentivizes creativity in kills. Players can attack each other to use each other as bait to escape from the killer.
   ○ **Weaknesses**: Very unreliable servers leading to poor netcode optimization and jank. Killer is overpowered unless they choose to "roleplay" and toy with their victims a bit.

With these games introduced, below is a table that highlights the key similarities and differences between each of them and **Moirai's Trial**, which will try to capture the best features of each of these influences whilst avoiding their downfalls:

Game	Similarities	Differences
Among Us	- Co-op component;	- Text chat; - Specific phases of communication through the game; - No FPS component; - Win or lose as a team - It's possible to create a Room and have friends join it (Team up);
Dead by Daylight	- Co-op component; - Mid-game challenges that unlock the way out.	- First person perspective only for the killer; - All can always escape; - No FPS component; - It's possible to create a Room and have friends join it (Team up);

Friday the 13th: The Game	- Proximity Voice Chat - Mid-game challenges that unlock the way out. - Co-op component;	- Third person perspective; - All can always escape; - No FPS component; - It's possible to create a Room and have friends join it (Team up);

Table 2.1.1 Some conceptually similar games to Moirai's Trial

2.2 **Similar real world activities related to the experience**

There are no real world activities that directly relate to this experience, but there are some whose players may be attracted by the gameplay we intend to design: Paintball/Laser Tag & Escape Rooms.

Starting by the first, it's obvious that these kinds of activities have a strong competitive component and can even have a strong Co--op component as well, if the intent is to play in teams. The main thing that separates these experiences with the one from **Moirai's Trial** is that you know from the start who your true allies are, and who you should trust versus who to shoot on sight. In **Moirai's Trial** the Co-op and PvP components are not previously defined, so it's up to each player to balance what kind of experience they want to build and how that Co-op/PvP ratio can help them win.

As for the Escape Rooms, the main similarity is obvious: A strong Co-op component that must be used in order to win. The main differences here are twofold: There is no PvP component in escape rooms and you always win as a team. In **Moirai's Trial**, if you get to the end and there are more people in your newly formed alliance then there are spots in the portal, then a bloodbath will inevitably subside.

3 Player personas & Scenarios

3.1 Target audience

It could be said that Moirai's Trial combines multiple genres and play styles - from the baseline gameplay loop of exploring the maze, to the skill needed for combat and challenges, to the social aspect of conversing and cohersing fellow players. In terms of core target audience, we're hoping to captivate players that fall under the mixed umbrella of **Killers** and **Socializers** mainly through our core gameplay, but also the **Explorers** through the usage of a well-built and interesting to explore maze as well as by sprinkling some of our setting and Moirais' Sister's lore.

All, in all, we're expecting our target audience to be players that fulfill one or several of the following conditions:

- Enjoy exploring and solving mazes and similar types of challenges (e.g escape rooms)
- Players that enjoy testing their social and discourse skills, winning games by mind-play rather than mechanical skill
- Players that enjoy the possibility of fights breaking out at any point and the anxiety of ambushing (or being ambushed) by other players
- Players that enjoy "free-for-all"/"battle royale" type games, where all players are pitted against each other

3.2 Personas

John Doe
  Gender: male
  Age: 28
  Background: born in the US, lived there since birth, plays game since childhood, ex cs:go pro-player
  Profession: Twitch streamer
  Favourite games: CS:GO, CS:Source
  Currently playing: Sea of Thieves, Call of Duty: Warzone
  Player type: Socializer, Conqueror, Camper
  Interests: Video games, e-sports, twitch drama
  Context of play: Plays at home, streaming what he plays on twitch. Sometimes plays solo, sometimes with some friends.
  Knowledge: Knows a lot about multiplayer shooting games, expert in fps
  Skills: Great aim mechanics, reaction time and spacial awareness
  Limitations: Impatient with teammates, rages a lot

Bio: John, a 28 year old man born and raised in the USA, has been playing games his whole life. He grew up with games like *Counter-Strike* and by the time he was 20 he managed to sign into a professional *Counter-Strike: Global Offensive* e-sports organization which had its headquarters near his hometown. For a few years he carried on this career path, harnessing some tournament titles for his team and continuing to polish his already good aiming and tactical decision making skills. His downfall, however, was his short temperament, which would lead to regular fights and arguments with his teammates. This, together with his growing age lead to his organization swapping him out with new young talent. Having focused his entire life to videogames, he went on to become an upcoming *Twitch Streamer* with an ever-growing viewer-base which allowed him to continue focusing on multiplayer first person games and shooters.

Mafalda Menezes
Gender: female
Age: 19
Background: born in Portugal, university student of History at Lisbon's University, resides in Lisbon
Profession: University Student
Favourite games: The Room, The Witness, Portal
Currently playing: Keep Talking and Nobody Explodes
Player type: Helper, Explorer
Interests: History (especially Myths, Legends and Fables), Puzzles, Escape Rooms, Hanging out with friends
Context of play: Plays at home on her laptop in order to relax from the stress of University.
Knowledge: Likes video games but is more of a casual gamer usually picking whatever peeks her interest without looking too much into it, and usually staying away with anything that seems too hardcore
Skills: Has a knack for puzzles and challenges
Limitations: Very limited FPS experience

Bio: Mafalda started being interested in history and ancient myths due to all of the stories her father used to read to her when she was little. Now, as a 19 year old, she's been studying History at the University of Lisbon for about a year, having had to move out of her home in Tomar into a shared flat in Lisbon. Over her first year of Bachelor's she managed to form a nice group of friends and together they participated in various activities, most notably, Escape Rooms. Mafalda has always loved puzzles and anything that would challenge her critical thinking and so, mixing that with the possibility of hanging out and cooperating with her friends quickly turned escape rooms into one of her favourite activities. She's been playing video games for a long time, having had several consoles throughout her life, but never managing to get engaged with the usual mainstream first person shooters all her friends were playing. As such, she's more experienced with single player puzzle games which she loves. Lately she found out

about *Keep Talking and Nobody Explodes* and loved the cooperative aspect of it, allowing her to partner up with friends in order to defuse a bomb in time through a series of challenges, or run out of time and face the consequences.

Ellie Faye
Gender: female
Age: 24
Background: born in the United Kingdom, joined her theater club in high school, resides in a small one-person London flat
Profession: Actress
Favourite games: Among Us, World of Warcraft, Black Desert: Online, Pokemon GO!, Dungeons & Dragons
Currently playing: Among Us, Black Desert: Online
Player type: Socializer, Actor, Leader
Interests: Theater, Acting, Being with large groups of friends
Context of play: Participates in MMO raids on weekends. During the week mostly does "AFK" tasks or tends to her guilds from her medium-end desktop
Knowledge: Has been playing MMOs for a while and most of her knowledge stems from this fact. Not very knowledgeable about the industry but reads a lot of MMO guides and wikis.
Skills: Acting, Coordinating & Leading people, Organization, Public Speaking, Cunning
Limitations: Not great with puzzles and has a subpar sense of direction, so she gets lost easily

Bio: A charming young lady from the UK, Ellie Faye has been in love with acting ever since she was a child. It wasn't until high-school, however, that she utterly fell in love with the art form when she joined her school's theater club. Her outgoing personality made it so she never struggled to make friends, whether it be off or online. She started playing MMOs at a relatively young age, drawn in by the social factor of these types of games. The possibility of participating in incredible events with friends and the ability of meeting new interesting people drew her in, but it was the guild systems and being able to coordinate and lead large groups of people in raids that fully hooked her. She adores talking, leading, and overall being surrounded by friends, and these traits carried on to her online personas. Nowadays she works for a professional theater company and her playtime has heavily reduced, mostly being able to play only during weekends. Some of her friends insisted that she'd try Among Us, and, whilst at first skeptical, she quickly started honing her acting skills, being able to convince all players to vote to kick whoever she wanted through her smooth talking and well placed arguments.

Img 3.2.1 Our Personas. From left to right: John Doe, Mafalda Menezes, Ellie Faye

3.3 **Play scenarios**

3.3.1 **Example game scenarios**

Scenario 1 - John Doe

John enters the maze, immediately starts running towards the center, trying to memorize the path he is taking so he doesn't get lost. He runs into a challenge room and sees no one. The room triggers the warning that it has been found and a beam of light shoots up into the sky, marking its location. The room requires two players to be unlocked. Playing it safe, John decides to hide and wait for other players to arrive. If one player came he would join him to complete the challenge room, if two came he would just hide, no point fighting 2vs1 he thought. After a while John starts hearing two players talking through the proximity voice chat. They look around a bit, but not finding anyone they go in the room. John knows that they should take some time to complete the room, so he decides to use that time to explore and prepare to ambush them. As luck would have it John finds an ability that ups his damage output. The two players come back from the challenge room, they decide to separate to get the secret power-ups that they found after completing the challenge. John carefully follows behind one of them, waiting eagerly to ambush him. As soon as the unknowing player opens the secret wall revealing the power-up John blasts him in the head screaming with excitement through the voice chat. The other player panics, turns around and manages to get a shot off, but John's position was far superior, he hones his aiming skills garnered through years of practice in FPS games and manages to land a killing blow, retrieving the secret power-up for himself.

Scenario 2 - John Doe

John, by luck, manages to stumble upon the centre chamber of the maze. He hasn't completed any challenges and has barely explored the map, but decides that he'll remain around this area and wait for other people to come to him in order to ambush them. Some time goes on and John hears an announcement saying all challenges have been completed and the portal will open shortly. Knowing people will be coming towards him, he remains hidden. Not long goes by until a single player arrives. John immediately jumps at them, judging that they'd be simple prey, taking into consideration his distinguished PvP

skills. He fires three shots. The first lands and takes a chunk out of the player's health, but as this happens they react and hastily utilize their power ups: First a force-field powerup blocks the other two shots, then, they riposte with some quick firing. Most shots miss, boosting John's confidence that this will be an easy fight. However, one of the shots hits and, due to some stat boost power ups, John loses a big chunk of his HP. This causes him to panic, making him move sloppily. This then allows the player, who probably has much worse mechanical skill, to finish off John, and proceed to the end. John will probably think twice before deciding to camp next time.

Scenario 3 - Mafalda Menezes

Mafalda is running around the maze, charting it and occasionally running into a couple of players, but overall sticking by herself out of fear of being killed on sight. Luckily she comes across a challenge room that only requires one person and she instantly goes in. Easily completing the challenge she then leaves the room, checks her surroundings to guarantee that she's alone and checks the new chunk of the map she had charted as a reward. She discovers that there's a secret room not too far away from her and as such she B-lines towards it. Entering the secret area she finds inside a powerup that gives her a significant speed boost. It's at this point that an announcement goes off, informing the players that all necessary challenges have been completed, and the portal room will open in a couple of minutes with the maze starting to close. Forced to move she continues exploring the maze trying to find the way to the centre. When she gets there the portal room timeout expires and the room opens, but she notices that there are two groups of players engaged in a fight. She tries to sneak by and as she makes her way in, a projectile goes right by her. As she looks back she sees that a member of one of the groups noticed her and alerted everyone. All players focus their fire on her, since she's currently the closest to the portal, trying to stop her. Knowing she has no way of winning this encounter she panics for a bit with desperation, but suddenly remembers the powerup she picked up. She activates it, and the speed boost allows her to evade all the projectiles being thrown at her and reach the portal before any others. As she enters the portal she glances back, gives a smug look to her prepetatours, who knowing they failed to kill her, went back to their fight, and secures her spot in the winner's podium.

Scenario 4 - Mafalda Menezes

Wandering around the maze Mafalda looks up and sees a beacon in the sky, signifying that a player called for help to complete a challenge room. She ponders whether this might be a trap or not, but looking that there's not much time left on the game's timer, she decides she has to risk it. Reaching nearby, she finds two players sitting next to the room. As she approaches they start talking using the voice chat and explain to her that the challenge room requires 3 players to complete and that the last player they were teaming up with tried to backstab them to steal power ups. Weighing her options, knowing she hasn't managed to get any meaningful powerups and killing her would be worthless, she agrees to help them and together they all go into the room. When they come out they start

congratulating each other just as Mafalda gets hit by a projectile. All three look towards the direction the shot came from and find a group of two players who probably saw the beacon and decided to stick outside the room in order to try to kill them as they came out. Having already been hit and not having any power ups to help evade or fight Mafalda gets demotivated and embraces death. It's at this point the two players she helped complete the challenge jump in front of her, and as one tanks some of the damage the other skillfully uses his power ups to attack. Together all three of them manage to kill their attackers. Mafalda thanks them, and one of her teammates responds that that's the least they could do, after all, she did help them complete the challenge. They tell Mafalda to get the powerups the attackers dropped, and after she does so, they carry on into the maze as a team.

Scenario 5 - Ellie Faye

Ellie is exploring the maze when she hears an argument going on over voice chat. There are two nearby groups of 3 players who are on a stalemate and about to erupt into a full on fight. Apparently the challenge room requires 3 players to complete, and both groups found to room at the same time. Whilst they did avoid "shoot first and ask questions later" upon meeting, neither of the teams is willing to let the other go into the room, as both want to be the ones completing the challenge and getting the reward. Ellie hears this and decides to step in. She manages to convince both teams to reach a consensus. One of the teams will go in, whilst the other guards the entrance and prevents any other players from attacking. After the team that went in comes out, they'll all group up and share the rewards from the challenge. All players agree and it all goes smoothly, and Ellie manages to get herself some teammates and protection until the end of the game.

Scenario 6 - Ellie Faye

The game has been going on for a while and Ellie hasn't managed to get any power ups or complete any challenges. By chance, however, she finds someone going around the maze. Knowing she wouldn't be able to win a fight as she is right now she decides instead to sneakily stalk behind that player and wait for an opportunity. By chance the player is attacked by a different third player. Ellie waits a bit and jumps in at the right moment to help the player she's been stalking. The player she's stalking eventually wins the engagement but is heavily hurt. Ellie approaches the player, saying, in a friendly voice, that she heard the commotion and came to check what had happened. The player describes the fight that Ellie had just seen, and Ellie, playing innocent and gullible, proposes to protect the player until he heals. The player thanks her, and they carry on together, with Ellie feeling quite smug for having been able to easily gain an ally without little to no effort.

Scenario 7 - John Doe

During his exploration, John managed to find a powerup which allows him to up his listening range for a limited amount of time. Disappointed that it is not any form of damage boost or something that actively helps him in combat, he takes it anyway since he still had

an available powerup slot and carries on. After a while he finds a group of two players and sneaks up behind them. Easy pray, he thinks. He notices that they're chatting but he can't quite make out what it is that they're saying, and as such he activates his powerup. To his surprise, he not only starts hearing the group he's been following, but also notices that another group of 3 players is not too far away and, if he can tell correctly by the sound of their footsteps, the two groups will collide not shortly after! As such, he chooses not to engage in the group he's currently following and instead waits. After a bit the two groups find each other and engage in a fight, out of which the group he was following comes out victorious but hurt. He takes this opportunity to jump them, easily taking the wounded players out!

Scenario 8 - Mafalda Menezes

Once again, Mafalda sees a beacon in the sky, signifying someone asking for help to solve a challenge room. She starts moving towards the room but, she suddenly hears a cannon being fired into the air signifying a player has just died. Putting 2 and 2 together, she realizes that someone likely activated the challenge room's beacon, and then hid in order to kill people coming over to help. With this thought in mind and preferring to not go into a fight, she turns around and decides to keep exploring the maze rather than checking out whether her theory is right or not.

3.3.2 Example real world scenarios

Scenario 1 - John Doe

John got the idea to play Moirai's trial from a fan who linked the game's itch.io page through a donation while John was starting the stream. He saw the trailer and thought the game would be right up his alley. He likes to play new games solo before starting to play with friends, so he bought the game and immediately booted it up. After just one match he was hooked, the stream ended up lasting 8 straight hours, rather than the usual 4, with barely any breaks.

Scenario 2 - Mafalda Menezes

Mafalda has been experimenting with multiplayer games for the past few weeks. While still preferring puzzle games, she's found out about Moirai's Trials through her friends. The game seemed fun but at first she was put off by the apparent "fighting" aspect of the game. Still she gave it a shot. She got into a lobby and soon she was exploring the maze. She explored the halls, enjoyed the ancient greek aesthetic and props, hearing the Moirais' comments and all other details that pulled at her love of history's strings. It wasn't until she helped a group of people complete a challenge, however, that she bit down into the core of the game and made the decision to keep playing for a few more matches.

Scenario 3 - Ellie Faye

Ellie is hanging out with her theater colleagues online. They recently created a Discord server to hang out and play together. Wanting to try something new, they find out about

Moirai's Trial. The game seems to allow them to all play together in the same lobby and as such, they decide to give it a shot. They mute themselves on Discord, after finding out the motif of the game and the usage of proximity voice chat and hop into a match. As players die or escape they unmute themselves on Discord and talk with each other, sharing anecdotes and events that happened throughout the match.

Scenario 4 - Ellie Faye

Ellie comes home after a long day of work and sits down to play **Moirai's Trial** with her friends. As she enters the game, however, she notices that her microphone is broken and not picking up any sound! Saddened, she messages her friends telling them she won't be able to play. However, her friends laugh and tell her that she can play even without a mic! By using the text-chat option of the game, she's still able to fully communicate with players within the game, even without a functioning microphone! She gets into the game and her and her friends have an enjoyable play session.

4 Progression

4.1 Inter-Match Progression

As a competitive and "episodic" multiplayer game **Moirai's Trial** has no "persistent *character progression*" per se in the sense that the player's character doesn't carry gained power from one match to another (although the player's character does get more powerful as time goes on within the match - see section **5.2**). Each match begins with players starting off with nothing but the basic movement and the ability to shoot a projectile in given intervals. Players start with no advantages and **no powerups**, akin to similar battle-royale/competitive games, everyone starts off in equal-footing.

What players do bring to each match, however, is their own knowledge of how the game works, how the shooting functions, which powerups are more beneficial or preferable, how each unique challenge room can be beaten, and so on. This **game knowledge**, acquired during iterative sessions of play, creates the sense of "*player progression*". As players get more familiar with the game's inner workings, and mechanics, they up their chances of winning each subsequent match. It is, however, important to note that, whilst the player gains knowledge amongst different aspects of the game, the **maze is randomly generated** at the start of each match and as such, whilst they may remember certain room layouts, things like the placement of each room, location of each challenge room entrance, powerups given as a reward and so on is random, both increasing novelty, preventing the game from feeling "samey" after a few matches and disallowing players with a lot of knowledge from simply "speedrunning" the game.

For engagement purposes, **cosmetic progression** can also be considered if budget (both in terms of time and resources) allows. As players play matches they may win "*Fate Tokens*" depending on the type of actions they perform - beating challenge rooms, winning games, killing players, and other actions that incentivize the player to actively engage in each match. With this currency they would be able to buy different cosmetics - such as hats, beards, outfits and so on - in order to customize the character they bring to the maze. This would both create further incentive for the players to "play well" and try their hardest on each match, alongside upping their engagement and retention and potentially keeping them coming back to **Moirai's Trial** for a longer period of time.

Alongside this, and in similar fashion, *experience* could also be gained from each match and used to track the player's overall "familiarity with the game". A player with higher *experience* would be a player that has played more matches, won more games and is therefore, more familiar with the game. This system should be implemented with care, however, as the player's level should not be made public during matches, so as to not incentivize players to only seek out and try to team up with higher leveled, more skilled,

players, rather than dynamically conversing and judging whether a player is a good pair or not during the match.

4.2 Intra-Match Progression

Referring to the progression that takes place within each individual match, while the player's character doesn't gain any power that persists through matches, during each match, the player does have several opportunities to improve their character through the usage of **powerups**. These are gained from completing **challenge rooms** as a reward, but may also be dropped, swapped out, or picked up from dead players (as each player drops their powerups upon death). The character can hold a maximum of **2 powerups** at any given time and they range in a variety of categories - from **offensive** ones like higher attack speed and damage, to **defensive** ones like a shield or an emergency teleport, or even **utility** powerups which grant things like higher audio range or invisibility. Some powerups are inherently better than others (and more rare), and they each cater to different types of players and playestyles. Each powerup's buff is temporary and they each have a cooldown before they can be used again.

Besides *character progression*, **Moirai's Trial**'s matches also follow a sequence of phases:
- At the beginning of each match we have the **Challenge Room Phase** - players are placed into the maze in random positions and with an incomplete map and must wander around and cooperate to complete challenge rooms. If players fail to complete all necessary challenge rooms within the given time limit, the game ends and everyone loses. During this phase players are expected to **cooperate**, and as such the number of player deaths should be minimal (as if too many players die during this phase, the game ends in a fail state for everyone).
- If players manage to complete all necessary challenge rooms, however, the game moves on to the **Run To The Middle Phase**. As the maze starts closing in with deadly gas, players have to run to the middle of the maze in order to reach the portal room, but they still may not enter the portal itself as it will only open after a given timeout passes and a certain number of players is within the center room. As no more cooperation is required, **more fights** and skirmishes may take place, but players may still feel encouraged to stick with teams formed during the last phase in order to up their chances in combat.
- Finally we have the **Portal Phase**. The portal opens and players have to rush into it in order to win the game. As the portal only allows the entry of a limited number of players, it is expected that this phase will be the one with most bloodshed, with betrayals, coups and fights erupting all around the portal as players desperately run to the middle.

Each match will follow this progression path, with some variants such as early loss states, and different time it takes for players to progress the match to the next phase that may

take place. Each phase has different goals and objectives for the players. It is expected that most *character progression* (i.e powerup getting) and impromptu **team forming** will occur during the initial **Challenge Room Phase** (as proven by some of the prototypes elaborated), whilst the team expects that most fights will happen during the last two phases since the number of players who are allowed to win is limited. Table *5.2.1* showcases some expected statistics about how the game will play out during each phase (note that these are yet to be validated during a playsession).

Dimension \ Phases	Challenge Room Phase	Run to Middle Phase	Portal Phase
Duration	15-20 mins	5-10 mins	Less than 5 mins
Number of Deaths	Less than 3	2-4	3-5
Number of Players Alive at start	10	7-10	4-6
Avg. Powerups per Player	0	1	More than 1
Player Feelings	Curiosity ; Concern	Urgency ; Fear	Urgency ; Hope
Goal	Team up and complete challenge rooms within given time	Run to middle phase and avoid being killed	Enter the end portal as fast as possible and avoid others from doing so

Table 5.2.1 - *Experience Matrix* with the expected duration of each phase, number of deaths during the phase, number of players alive at the start of the phase, average number of powerups per player, overall player feeling and the player's goals.

4.3 Player's Journey

In order to give this topic a theoretical base while worrying about keeping such base simple and understandable, Yu-kai Chou's (https://www.linkedin.com/in/yukaichou/) approach to Gamification and Game Design will be used (https://yukaichou.com/gamification-examples/experience-phases-game/).
In order to get a full and integrated picture about the player's journey when talking about **Moirai's Trial**, each of the *player journey*'s phases will be tackled alone.

4.3.1 Discovery

This is the initial phase of a Player's Journey, and sometimes is not even pointed out as a phase itself, or even as a part of the game development itself. At this phase, the player is not even a player (at least regarding this experience in particular), it is just someone

looking to play something new. All that matters at this time is how the game will reach its intended audience and how it will retain it for long enough to start generating new players for this experience. For **Moirai's Trial**, this level will be "played" using some primitive directories: *Reach*, *Age* and *Type of Player*.

When talking about *Reach*, and if the game were to be released in the early 2000's, maybe the most widely reachable media, and the best to use as a launching platform for this game, would be printed/static media, like gaming magazines, gaming blogs, and other media services related to this area. But let's jump to the Present. Today you have the best media ever for quickly and effectively distributing a product, whatever it may be: The Social Media. Platforms like Facebook, Instagram and **Twitter** allow for small injections of content aimed to captivate unassuming players unexpectedly as they browse their feeds, whilst **Youtube** and **Twitch** are the best means to present a more extended look at our experience, by the eyes of those who deal with different kinds of gameplay every day while managing a strong number of followers: the Content Creators. Now, let's follow simple logic: If the content creators are always looking for new content to show to their audience, and the development studio has that content and needs to build such an audience, then that's the best of both worlds!

Now, looking into *Age*. Each signle one of those media platforms have a specific audience with a specific age span. There are just a few social media platforms that, while maintaining a big user database, can attend to a wide age span. For example, Facebook leans to a far older audience, while Instagram and Twitter and more interested in a younger audience. As such, for a game like **Moirai's Trial** that intends to target a teenager to young adult audience, Instagram and Twitter are the main platforms to go with.

As for the last parameter, *Player Type*, it is important to say that it is the one that sails away from the hands of the development studio, just because it's the players that, depending on their type of play style, will choose to play this game or not. The only use for this characteristic by the side of the development studio is to choose content creators based on their type of player.

4.3.2 Onboarding

The Onboarding phase is the part of the experience in which the player is still understanding the whole mechanics of the game, and has not yet understood each and every bit of it. So, for **Moirai's Trial**, because the story is not full of action with a fully developed beginning, middle and end, it's more akin to a setting and an end goal. The introduction of the player to the game's setting may be easily achieved by using a **little cutscene** with static images and short sentences at the beginning of the game (similar to certain retro games). Regarding the mechanics themselves, they will be simple enough that a splash screen with controls should be enough to fully cover all main controls and

available actions. The idea with the challenge rooms is to use those same mechanics as the rest of the game, in order to keep it simple yet inventive. After this, the game works by learning through repetition and depends more on the minute-to-minute strategies and decisions made by the player rather than on the technical mechanics itself. In doubt, keep it simple.

4.3.3 Scaffolding

This phase is all about exploring win scenarios and relates to the part of the experience in which the player is still exploring the game in order to find new and better ways to win. This will be the part that will mostly define this game. The goal is for the player to always be looking for that perfect balance between Co-op and PVP in order to win, building a habit of playing this game. Since the game has some randomly generated parts and the most random thing of the world: Human Interaction, a strategy that works with a set of opponents/teammates, will most likely not work for the next game.

4.3.4 The Endgame

The final phase of this definition of a player's journey is The Endgame. At this phase, the player already knows about everything in the game. All the mechanics, the interaction techniques, everything. As was said before, the goal is for this phase to be almost unreachable on **Moirai's Trial**, counting on the unknowns nature of human social relations and its itricates (truth, lies, manipulation, etc.), but once it is reached, there are some things that are intended to be made, like modding and regular updates. Talking about updates, the greek mythology is full of mysteries and ancient tales, so content would not be a problem when thinking about updates. As for new mechanics to those updates, the beauty of having a simple experience from the start with few different mechanics is that there are always new sets of those that can be used. New power ups, new challenge rooms and even new board designs would also be at play in this scenario. As for the modding approach, if instead of just outright banning them, the team incentivizes and verifies them,not only new content flows better and appears at a more substantial quantity, but it'll bring the community closer to the developers, increasing the dedication of the players and acting as some kind of reward.

# 5 Core Gameplay Loops

5.1 Primary Gameplay Loop
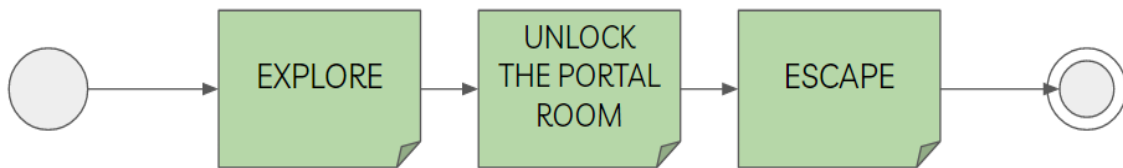
Img 4.1.1 The baseline gameplay progression of each match - Players start by exploring the maze, in order to unlock the portal room, so that they can escape and win

The main gameplay loop is pretty simple: **Explore**, **Unlock**, **Escape**. But it is simplicity that brings some of the beauty of the game to the light. A player, at every game session, just needs to join a random room, explore the maze once the countdown starts, make sure that the Portal room is unlocked by solving the challenge rooms, and make sure that you passed through the Portal in order to win the game.

As for our primary gameplay loop, or the "second-to-second" gameplay, they consist of the baseline **exploration** of the maze - as explained in the second design goal (section 1.3) , the maze will have to be engaging enough in order for the activity of walking around (players can move with standard first person controls and jump) the maze and uncharting it doesn't become dull. We're counting that **interaction with other players**, our other primary loop, will be enough to keep the players engaged, both through the fear and dread of being ambushed by other players, as well as the necessity for allies and dynamic interactions. In order to incentivize these interactions we'll have the proximity voice chat. Players will be able to either spy or find each other by hearing nearby players and conversations. Sound will also play a big part in this mechanic - hearing nearby footsteps or rustles and sounds of combat will help foment these dynamic player interactions. Note that interactions with other players might be direct or indirect, as in, the players might directly run into each other and either converse or fight, or they might indirectly interact with each other just by walking around, making sounds and such. Speaking directly to other players works via a proximity chat system in which, by default, all of the player's mics are active (but nevertheless giving them an option to mute themselves in order to avoid problems of intrusion). For those who do not possess a mic or do not wish to converse via voice for any reason, **Moirai's Trial** will also allow for text-chat conversation. The way this works is the player types what they want to say, and this text is then displayed on top of their head, accompanied by a text-to-speech voice simulating their speaking.

5.2 **Secondary & Tertiary Gameplay Loops**

Instead of directly defining secondary game loops, and knowing that this game is a Multiplayer experience that has only one way out, it will be provided instead a full diagram of the game dynamics, in order to better understand different paths that the player can take along the way.
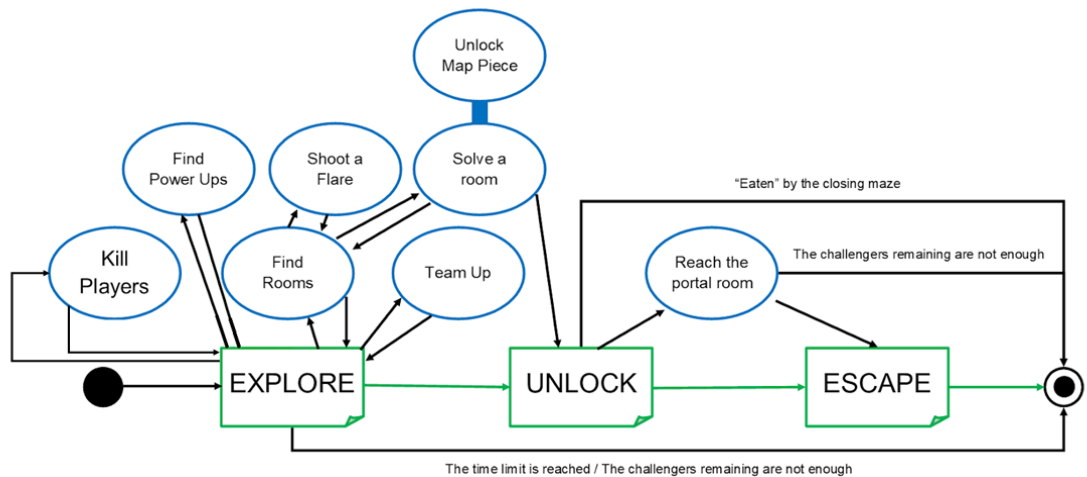
Img 4.2.1 Several activities may span from each of the "gameplay progression phases" adding depth to the game

As shown in the diagram we have several activities that could fall under the umbrella of the following secondary (or minute-to-minute) gameplay loops:
- **Combat** - Moirai's Trial will feature a relatively simple to use but engaging projectile-based combat. Players will be able to shoot "spells" (colourful projectiles with some visual effects) both to fight other players or to complete certain challenge rooms. As a First-Person game, players with better mechanical skills will have a baseline advantage, but through powerups we hope to level the playing field, giving less skilled players a chance to fight
- **Finding Rooms** - Through the maze's explorations, players will come across challenge rooms, which must be completed in order to unlock the portal room. These challenge rooms need to be sprinkled throughout the maze smartly. Players shouldn't be running into a challenge room at every corner, but they also shouldn't need to spend minutes on end before they find one - especially since certain challenges may require more than one player to be completed. In order to facilitate cooperation, all challenge rooms will possess some form of flare or beacon that can be lit by any player that finds the room. This will make it so any player on the map can see and easily locate the room by looking at the sky and convene upon it.
- **Solving Challenge Rooms** - In order to unlock the portal, players must work together to solve a number of these challenge rooms. They may require 2 or more players and might consist of either puzzle-type challenges or PvE

challenges. As an example, a room may require three players to, for example, time their shots in order to hit a target at the same time, another might force a player to shoot buttons to add platforms for the other player to traverse, a simpler one might simply require players to destroy a number of targets or enemies in a short amount of time, and so on. Although varied, they'll all be based around our base movement and combat mechanics and will follow a similar pattern (or sub-loop) of *Meeting other players > Entering the room > Analyzing the challenge > Solve the challenge > Leave* (although that first point may be ignored if the room so happens to require only one person). Players who fail to complete the challenge will be kicked out of the room (and they may retry it), and those who succeed get a chunk of their toggleable map uncharted and the location of a secret power up revealed. Note that only one group of players may be in the room at any time. When a certain number of rooms is completed, the portal will open (after a timeout buffer).

- **Finding Power Ups** - Power Ups are designed as an incentive for players to seek out and complete challenge rooms as they're hidden behind secret false walls which are revealed as a reward. They may possess things like stat boosts (more damage, speed, and so on), or active abilities like, for example, temporary negation of damage, dashes or temporary invisibility. Each player can only hold a certain amount of power ups and upon death players drop them.

Finally, we also have the tertiary (or occasional) gameplay loop of **Unlocking the Portal Room** - After a certain number of challenge rooms are completed the centre portal room will unlock after a timeout reaches zero. This is done in order to allow players to move towards the centre. While this timer progresses, the maze will begin to close in, similarly to the "gas" or "circle" mechanic of battle royale games. Basically players will be forced to stop their exploration, and focus on ending the match. After the timer reaches zero, and granted there's enough players near the portal room, this room will unlock and allow players to enter the portal. Taking into account that only a limited number of players are allowed to go into the portal, the team expects the finale of most matches to revolve around a bloodbath of players rushing into the centre, fighting each other to secure a spot, making snap decisions as to whether they should just run or try to slow down their opponents.

Each match of **Moirai's Trials** has three main end conditions:
- **Players enter the portal - Win -** Any player that enters the portal is said to win the match.
- **Players fail to unlock the portal in time - Lose -** To force players to hastily explore the maze, add a sense of urgency and make sure matches don't drag on for too long.
- **Too many players die - Lose -** If too many players are killed by other players (before the portal is open) then the game will end with a comment from the Moirais' on the player's greed and rage

6 Focus Group

To test Moirai's Trial, for both prototypes and actual implementation we'll be resorting to our friends (circa 5-10 people), due to the current pandemic situation. Most ranging from 18 to 26 years of age, all of them have at least minimal experience with videogames. Notably we will have some players who have been playing shooters such as Apex Legends and Counter-Strike: Global Offensive, competitive team games such as League of Legends, and avid Among Us players, with sharp and cunning deception and perception skills. The common link connecting our focus group is their enjoyment for multiplayer games and playing with groups of friends, either with, or against. For concrete examples, we have three friends who have already agreed to playtest both Moirai's Trial and prototypes right from the get go. For privacy's sake we'll be referring to them as **Among Us Master**, **Multiplayer Enthusiast** and **FPS King**.

Among Us Master is a semi-casual gamer who only started playing video games regularly during the past year. They are, however, very cunning and really good at Among Us, being able to hastily identify the impostors in just one "report" round. When we pitched our idea to them they found it interesting. Turns out they were pretty bored with Among Us due to how repetitive it got, and to them, Moirai's Trial seemed to be basically based around the same concept but with the added bonus of having actual combat and more skill. They did, however, emphasise that challenge rooms would need to be varied and not repetitive dull tasks, like in Among Us.

Multiplayer Enthusiast basically plays multiplayer games exclusively. They played Among Us (with Among Us Master), League of Legends, Valheim, Rust, and so on - anything their friends are playing at the time. To them, it was the possibility of having fun interactions with their friends that hooked them on our idea. They liked the fact that they could betray or ally any of them dynamically but showed concern that some of these interactions may be frustrating giving the example that "It wouldn't feel good to just get ganked by a group of players when leaving a room".

FPS King plays a lot of first person shooters. From Counter Strike to Valorant to Overwatch, with a sprinkle of battle royales like Apex. Anything that is competitive and involves teamplay and shooting enemies has at least some appeal to them. They expressed concern over the depth of combat in Moirai's Trial but retracted when told about power ups. Nevertheless, they said they would be willing to at least give it a shot since it seemed to be a game "different enough from other battle-royales due to the cooperative and deception/mind games component".

These persons are our "main focus group" as they're the three people who agreed to participate in all of our activities and test all of our prototypes. Some more people may be brought in as necessity calls for it.

In terms of correlation with our personas. We can make parallels between the **FPS King** and **John Doe** - both are really avid FPS gamers and have occasional rage spurts during gameplay, quickly losing their temperament. **Among Us Master** relates very closely to **Mafalda Menezes** in the sense that they both started playing games recently (having relatively low experience) and are both very perceptive and insightful, lending themselves well to puzzle-solving and intricate situations. Meanwhile, **Multiplayer Enthusiast** shares a lot of traits with **Ellie Faye** due to their love for the social aspect of games, and the ability to either cooperate or hinder friends in game scenarios.

7 Tech Feasibility

This section serves a succinct explanation of the major technologies that will allow for the development of the game **Moirai's Trial**. This report will go over the *Game Engine*, *Multiplayer Framework* and deployment options for this game.

7.1 Technologies

7.1.1 Unity

In terms of game engine, **Moirai's Trial** will be developed in **Unity 3D** using version *2020.3.0f1*. This engine was chosen for three main reasons. First, and foremost, is the fact that this is a free piece of software. Secondly, everyone in the programming development team has already had a fair share of experience using this engine and as such, this will ease the implementation. Thirdly, there was already a code-base and small prototype implementation of the multiplayer matchmaking created by one of the team members using this version.

Additionally, **Unity 3D** also possesses an active and expansive community of tutorials and resources - of which 3D Models are the most notable and important for this project as we do not possess any 3D Artists.
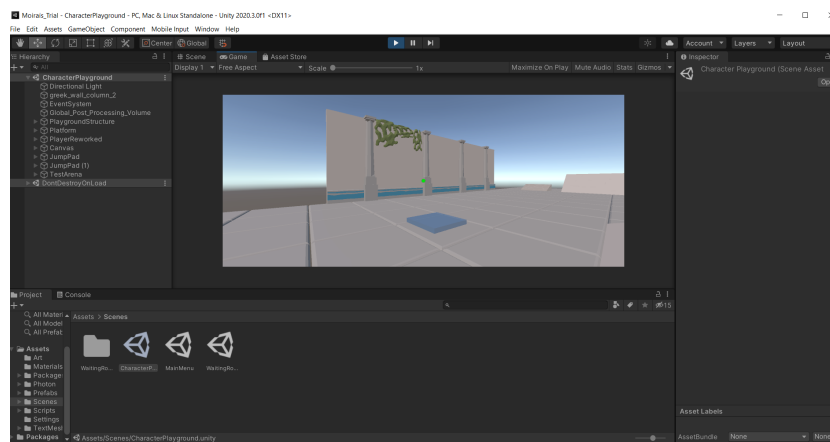
Img 6.1.1 The Unity3D editor with a character movement prototype playground scene running

7.1.2 Photon PUN

Photon PUN 2 - https://www.photonengine.com/en-US/PUN - is a tightly integrated multiplayer framework for **Unity 3D**. It lays the foundation and allows for the quick and seamless integration of multiplayer matchmaking providing a simple, yet powerful and expansive networking backend API. Furthermore, this framework has a free plan which allows for up to 20 players to be connected at the same time. It also has a feature called **Photon Voice 2** that will provide us with our very much needed Proximity Voice Chat.
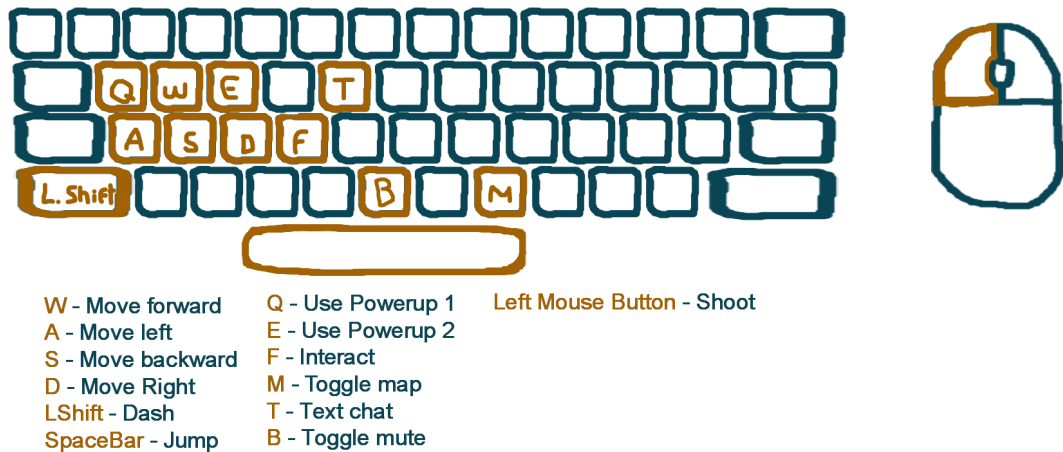
7.2 Deployment

With **Photon PUN**, the team will not have to worry about server hosting as this is all handled automatically by the framework. As such, the only deployment that the team will have to be concerned with is in which platform will the game be hosted and available for download. For this, **itch.io** was chosen, both due to project requirements, but also due to it being the *de-facto* indie marketplace. The game's page has already been created and is available at https://fenixds.itch.io/moirais-trial.

8 Controls

As a **first person game**, **Moirai's Trial**'s fun heavily relies on the usage of intuitive and responsive movement and control mechanics. Keeping it simple, players in **Moirai's Trial** are able to **move** forward, backward, left and right using the classic *WASD* control scheme and **jump** using the *spacebar*. Furthermore they can use the camera to control where the character is looking and moving forward will always move the player in the direction they're looking at. To **shoot** players simply must use the **left click** of their mouse. Additionally, pressing **Left Shift** also allows the player to perform a dash move.

Besides this, players also have access to 2 power ups which type can **activate** by pressing the **Q** or **E** keys respectively. They may also drop their powerups by pressing CTRL + Q or CTRL+ E, respectively. In order to **interact** with objects, such as buttons, to activate the challenge room beacons, or to enter challenge rooms, players may press the **F** key. Furthermore the player may press **M** to open their **map**. In order to use the text **chat** players may press **T** and, if they choose to **mute** themselves they can press **B**.

A full control design scheme is presented in the image below.

W - Move forward
A - Move left
S - Move backward
D - Move Right
LShift - Dash
SpaceBar - Jump

Q - Use Powerup 1
E - Use Powerup 2
F - Interact
M - Toggle map
T - Text chat
B - Toggle mute

Left Mouse Button - Shoot

Img 7.1.1 Current Control Scheme

9 Presentation

When talking about presentation, **Moirai's Trial** will be played in a first person perspective and heavily relies on immersion to create situations of tension and dynamism. The game's art style is based around a low-poly look which provides a clean, non-cluttered, yet aesthetically pleasing look, with 3D models that pay homage to the game's "ancient greece" motifs. To complement the game's immersion the HUD will be simple and show only what is necessary: A **Crosshair**, a **Health Bar** and the player's **Power Ups**. Power Ups which require time to recharge should also display how much time it will take before they can be utilized again in the interface, by having them greyed out and gradually being filled out in color as they become available. Additionally, opening the player's map obscures their vision, purposefully creating a moment of temporary vulnerability which other players may take advantage of. Image 7.2.1 showcases some interface mockups, whilst Image 7.2.2 showcases the finalized look of the game's HUD.
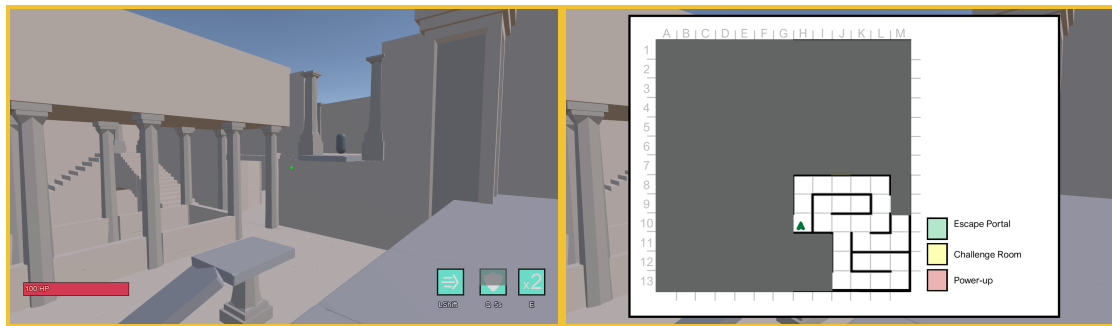
Img 7.2.1 Player HUD mockup health bar, crosshair, and abilities (left) and Map HUD mockup with fog of war (right)
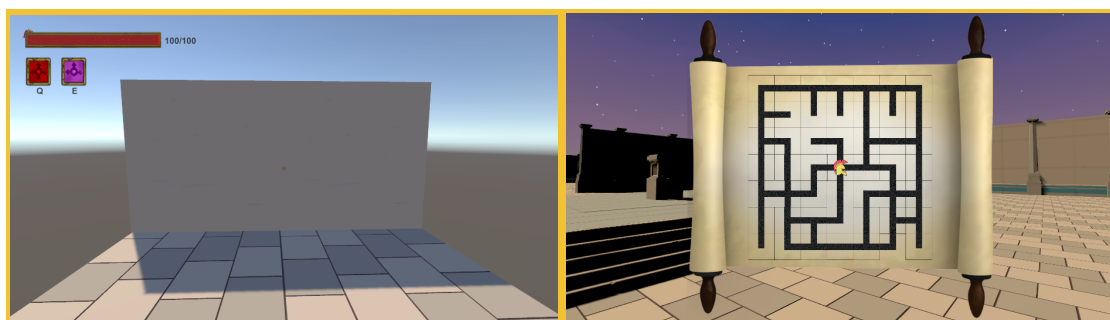
Img 7.2.2 Player HUD health bar, crosshair, and abilities (left) and Map HUD with the player's marker