

Game Proposal

ChronoQueue

Team Team

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1. Game Description

Our vision of the game is creating a fast paced arena multiplayer with a unique feature that allows the player to focus more on just the weapon mechanics which are commonly seen in traditional Mono-a-Mono arena styled games.

Hook:

ChronoQueue is back!
Wait... was it ever there? No, but it's back anyway.

The fast-paced arena battler will mess with time and probably your ability to comprehend it.

Players will battle in a fiercely free for all with nothing but themselves... and themselves. You are the only one that can help yourself, and you already did. The player can get help from their past selves by "activating" a past form of themselves which will rerun the players movement and copy their every action. This allows you to plan complex strategies and maneuvers... and if they won't work there is no one to blame as yourself.

Who will conquer the concept of time duplication and will take it to their advantage?

Theme:

The course's topic is: *Duplicate*. We quickly came to the broad idea of duplicating the player or the level in a given way. First, it was not clear how. We had ideas of teleporting to different instances or switching the environment into different versions of itself. After some brainstorming, we focused more on the idea of a duplicated player. There are various versions of how to duplicate a character, but we wanted to keep the process of duplication as simple as possible for the player to not be overwhelmed with this game mechanic. We decided on a duplication mechanic based on time loops - a past copy of yourself, or rather multiple. This mechanic allows you to replay past actions of your own plays and actions simultaneously with your current ones; with this the player can incorporate past movements into their strategies or always think ahead to

how to use their current actions wisely later when their current self becomes their teammate later. But there is one more twist: The character has a trail of copies - Phantoms - following them called a Chronoqueue. But we will get into this mechanic more detailed later on.

Gameplay:

Let's paddle back a bit. This was a lot of paradoxical timeloop talk...

The game is a player vs player Arena Battler. The players fight each other from a top-down view in a confined arena. The game will be played locally on one monitor. The goal is to hit the enemy often enough to win the round.

The twist lies in the previous mentioned time looping mechanic the players have:

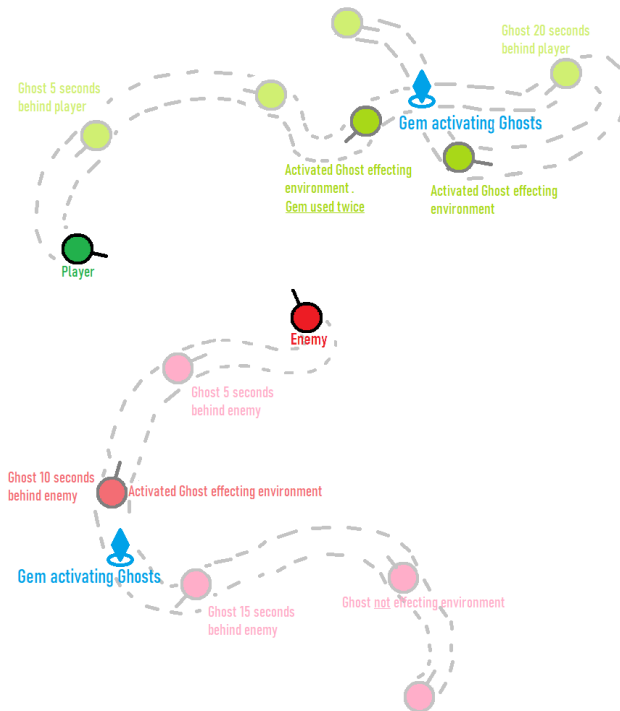
As the players start to move around the stage fighting each other, copies of the player will spawn with a certain time offset and will replay the players every movement they did, these are the so called *Phantoms*. If the player moves left after three seconds and shoots a rocket, each ghost will do exactly the same three seconds after being spawned in delay. So the player has a train of phantoms following them at all times - the Chronoqueue.

But at the moment the phantoms do not interact with the environment. This is where the so-called Chronogate comes into play. The Chronogate is an object, a marker the players can place at their current location and as they place it at their location, each phantom of the Chronoqueue will also run through said Chronogate one after another. If a Phantom passes through the Chronogate, it will get activated for a certain amount of time. While activated a Phantom will become a *Revenant*. In this time span everything they do while imitating what the player did, will interact with the environment. So if the player shot a rocket, the Revenant will as well. After their active time the Revenants will become phantoms again and keep on mimicking the players actions without directly influencing the environment unlike in their revenant form.

This allows the player to plan ahead and strategize every move after placing their Chronogate, as what they will do there will be replayed multiple times by their Chronoqueue. The player can now create a seemingly looping teammate of themselves. But the Chronogate is of course also visible to the enemy and can be disabled by them to stop your Phantoms from getting Revenants as they no longer run through the Chronogate.

The game ends when one player has no more health left, no matter if the other person or one of their activated ghosts hit them.

Duplication System:



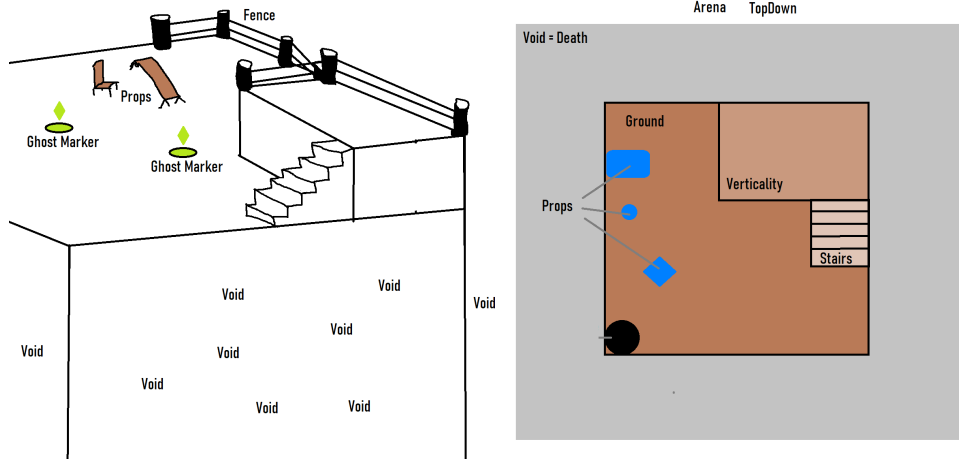
Drawing of ghosts following player and enemy

This mechanic would give the player the option to hold on to his most powerful attacks and perform them right after dropping this marker. Each ghost passing through that marker will now perform the same powerful attack. The player can use this feature to considerably boost his damage output as well as increasing the chance of hitting the enemy. The player can also use his superior knowledge over his own actions to his advantage and lure his enemy into positions where they cannot avoid the combination of the player's and his ghost's attacks thereby making it a key strategy to winning the game.

As this ability is the core feature and a strategic element, we plan to frequently give this ability to the player. It is initially planned to give a new marker to players after a specific amount of time but we plan to expand on this feature in the future. Current ideas involve handing markers to the player if it picks up an item, accumulating enough damage on enemies or by moving around the environment

Arena

An arena is a relatively small contained space which forces the player to fight and hinders constant fleeing.



Idea of a simple map design

Visual Artstyle

The game revolves a lot around time, time loops and ever repeating movements. So a fitting theme or motive would be the art style of Steampunk, as in Steampunk there are a lot of moving parts in the complex machines this art world revolves around. Clocks are of course a big motive for the game and art style as they consist of multiple intricate fine tuned gears which are an everlooping system representing our sense of time.

So the art style will revolve mainly about fine tuned steampunk-esque machinery, but to not alienate the players and fans of the local arena battlers, the style won't be too grim and dark but rather fun and light-hearted as the game itself will be.



Some concept designs for the character models

2. Technical Achievement

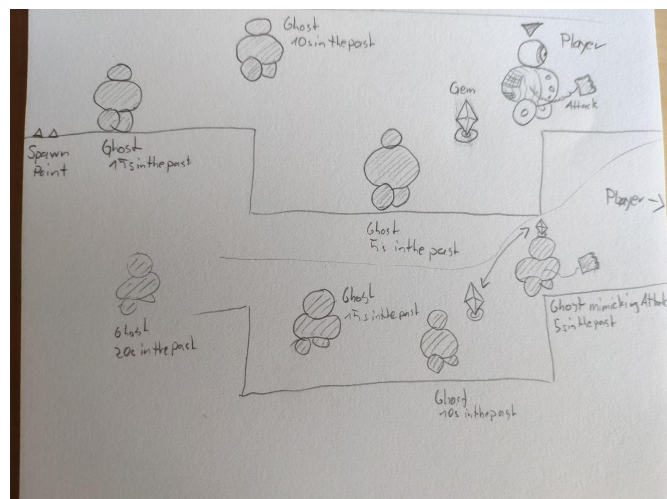
The core concept of the game that realizes the 'duplicate' topic will be a mechanic which lets the player replay parts of his actions he has done in the past. The idea is to spawn Phantoms replaying the players actions from the start as we described before.

This requires a system that is able to store information about all past states of a player. These states have to be recorded while the player is doing them and must be able to be replayed from and at any point in time.

While balancing and playtesting may result in reducing the complexity of the replayed actions, restricting the timeframes or limiting the amount of ghosts, we see it as the foundation of our game. Additional features will most likely depend on the capabilities of this system. Because of that it has to be created as generic and as powerful as possible.

This system comes with multiple technical difficulties that have to be solved.

- Recording character actions
 - How to record
 - What to record
- Storing potentially large amount of data at runtime
 - Structure of data
 - Structure of database
- Optimizing the data to reduce its size without losing accuracy
- Replaying character actions at the exact timing and position as they were recorded
 - FPS requirement
 - Visual complexity
 - Balancing
- Solving the visual overload for longer running games

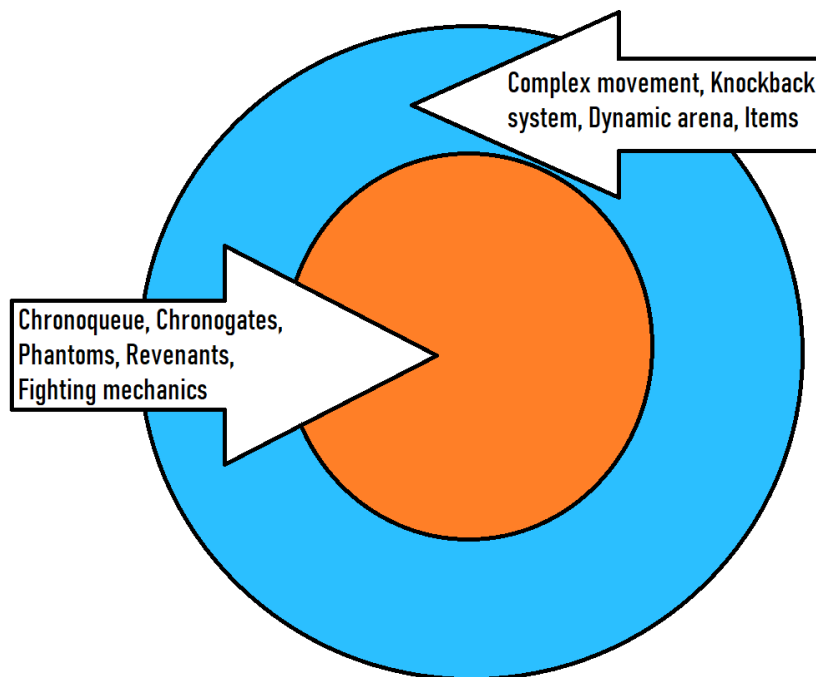


Drawing of duplicate system

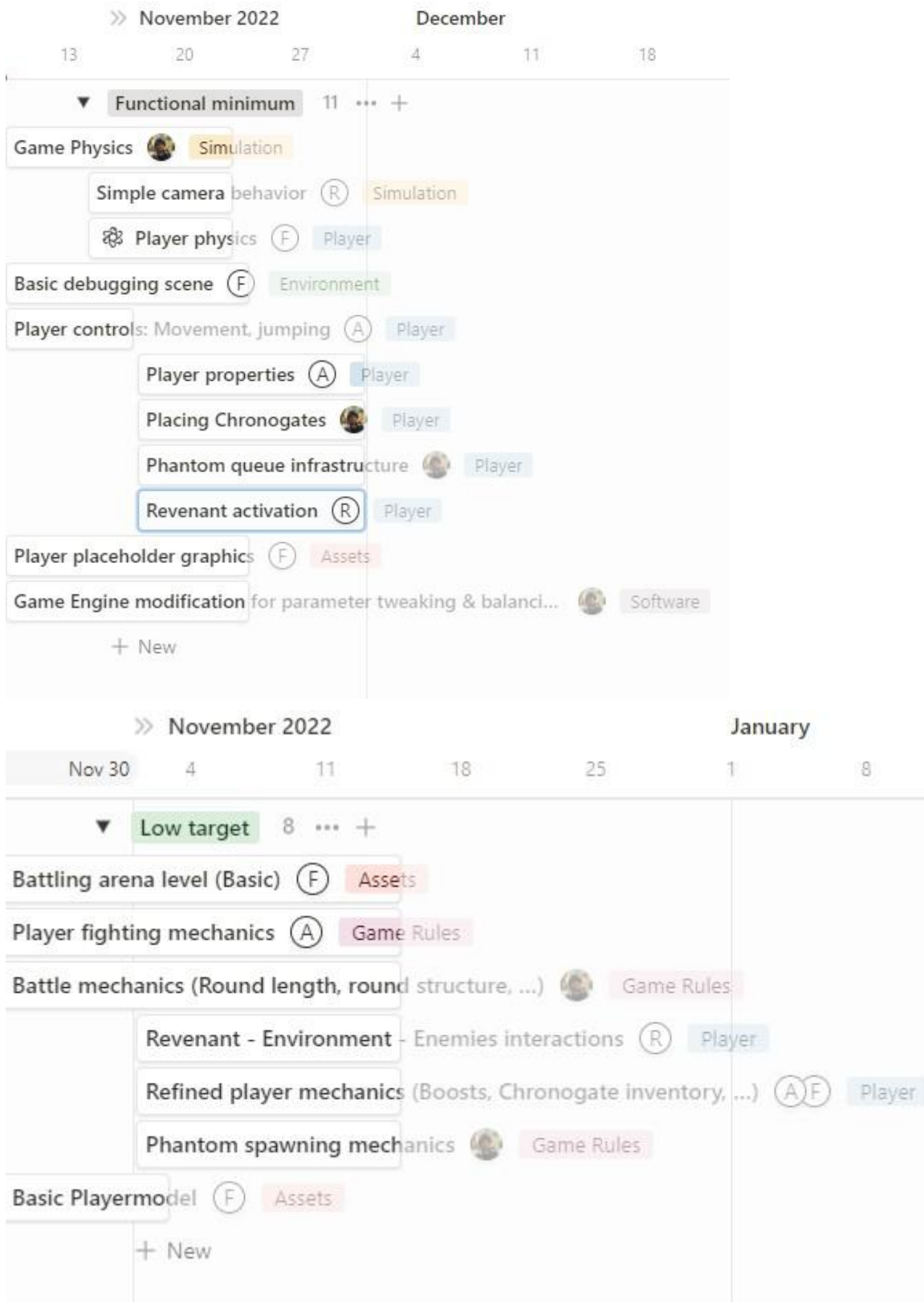
3. “Big Idea” Bullseye

The core idea for our game is for a player to have a surplus of strategic options to choose from for achieving victory. With the core mechanic of replicating attacks and abilities at different positions and different times no two battles are the same. At the same time chaos will inevitably be created with a growing number of Phantoms and raging Revenants. This chaos can create unpredictable situations which can even give inexperienced players an advantage over experienced ones. It should also make the game more fun for newer players as they can look forward to unpredictable attack combinations that a player cannot cause willingly. This will truly transform the game into a party game that can be played by players of differing experience levels instead of a purely competitive one.

Additionally, the concept of a Chronoqueue following the player character would be highly intuitive for new players to understand and use. With this core idea we can gradually improve on other aspects of the game that would improve the playability and attractiveness, like an added feature set which would include advanced visuals and a responsive NPC enemy AI.



4. Development Schedule



>> November 2022

January

4 11 18 25 Dec 26 Jan 8 15 22 29

Desirable target 6 ... +

- Better gameplay balance (HP, dmg) (A) Game Rules
- Improved camera behavior (R) Simulation
- UI Elements (A)(F) View/Controls
- Basic music accompanying existing scenes (Assets)
- Sound effects for better perception of the game (Assets)
- Materials, Shaders, Particles/Effects (Assets)

New page

>> November 2022

January

Nov 30 4 11 18 25 1 8 15 22 29

▼ **High target** 7 ... +

- Improved player models (F) Assets
- Dodging/Blocking attacks, Dashing (Player)
- Knockback system (Player)
- Player animations (F) Assets
- Multiple different attack moves (Player)
- Different characters with different abilities (Player)
- Support multiple players (Game Rules)

+ New

>> January 2023

February

March

22 29 5 12 19 26 5

▼ **Extras** 6 ... +

- Power-ups, special abilities (Player)
- Battling arena level (Advanced) (F) Assets
- Environment battling (Bots, monsters) (Environment)
- Advanced music / sounds (Assets)
- Networking / Online multiplayer (Software)
- Advanced animations (F) Assets

+ New

5. Assessment

One of the trending genres of the last few years has been arena battling games. While some of these games are designed "local-first", meaning they assume all players to be at the same place, others have implemented networking to provide an online multiplayer experience. Either way, this type of casual, short-term games have proven to be fun and engaging.

Our game's main strength lies in taking its roots from this branch of gaming – With the addition of an original mechanic that is simple to learn, yet hard to master. It's a trivial rule that can result in a diverse set of possibilities in gameplay. This balance allows us to focus on a single mechanic and polish it to the best of our resources, yet generate gameplay that is rich enough to be a standalone game.

The fun value of this game comes from the vast amount of strategies that can be applied via trivial actions such as moving, shooting, leaving gems and so on. We are aiming to pack the game with as many meaningful decisions as possible without overloading the player. Making the past actions of players a significant part of the current state of the game, we incentivize the players to consider their strategies while playing and act based on that. Most similar games do not incorporate this level of meaningfulness in their battle mechanics, making our game a unique instance of this genre.

Third-person battling games, such as the ones within MOBA and MMORPG genres, are no-doubt appealing to a significant portion of video game consumers. These players are accustomed to fast-paced use of skills and making use of the environment. Our targeted player segment is mainly intersecting with these players. In addition, a number of players without prior experience in similar games could be introduced to the genre via their friends playing our game.

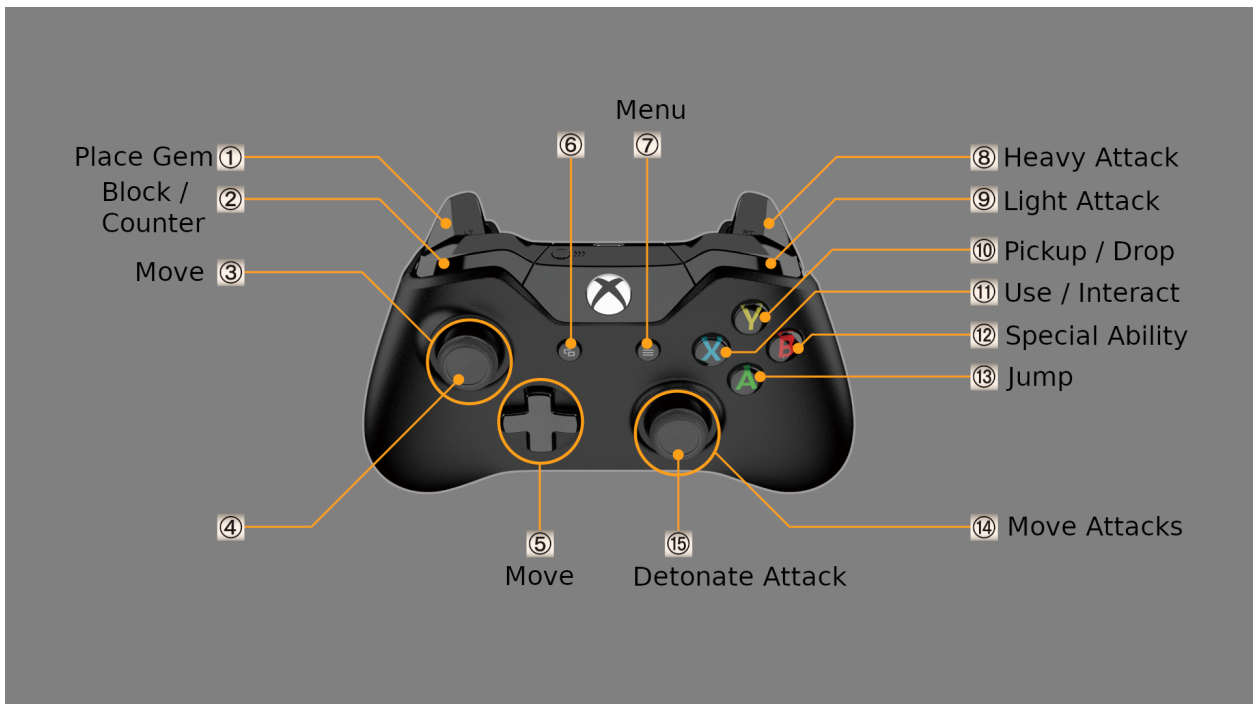
A number of existing games have provided inspiration for our game through their in-battle mechanics and their "metagames", i.e. meaningful choices within preparation for the actual battle. These games include classic brawlers such as the Smash Bros series, as well as other more independent releases such as MageQuit, Gang Beasts, Headsnatchers, Rubber Bandits and Crawl.

Similar to the inspiring titles, we are aiming to start with implementing the core mechanic and related assets in a local environment, testing and iterating as we move along. Eventually, we expect our core mechanic to mature enough that we don't feel the need to make a lot of changes. At this step, we would look forward to provide the logistical utilities that will allow more players to get a taste of it. The most important addition in this regard will be the support for online multiplayer. Following these steps, we are planning to follow the maturation of our game with providing aesthetically appealing elements, such as improved visuals and audio.

Although our initial focus is on providing a casual and fun experience, with enough maturation we believe in our game to become a valid platform for more serious competitions, such as tournaments or an ongoing league for competitive players. Therefore, a significant milestone for our game would be to evolve our product into an *E-Sports ready* game.

Further Ideas

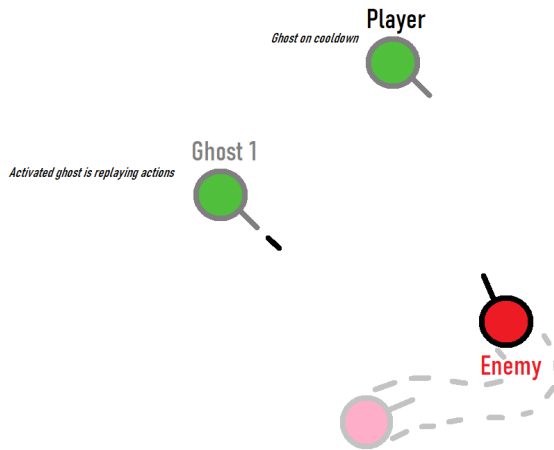
Possible Controller Layout



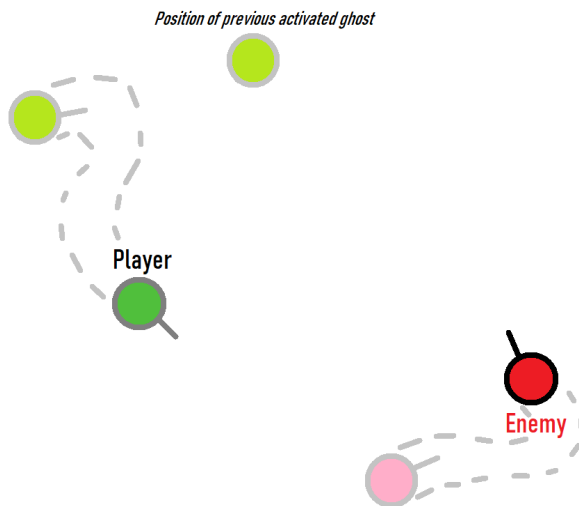
1. Place Chronogate (drops a Chronogate that activates ghosts)
2. Block/Counter (blocking certain attacks)
3. Move Character left/right/up/down
4. Move (maybe)
5. Pause / Open Menu
6. Heavy Attack (maybe hold to charge | huge dmg/knockback| different for each character)
7. Light attack (E.g. punch/small projectile | less dmg/knockback than heavy but faster | similar for each character)
8. Pickup / Drop (If there are items that can be held)
9. Use / Interact (Turn levers / consume held item / use held item)
10. Special Ability (Each character has a special ability, e.g. immunity to its own duplicate attacks / teleport to nearest duplicate / delete all duplicated objects near character)
11. Jump
12. Move Attacks (If we have heavy attacks that can be controlled, E.g. a Rocket)
13. Detonate Attacks (If we have attacks that can be controlled, E.g. a Rocket/Mines)

Sketches for earlier versions of the duplicate mechanic (may not represent final functionality)

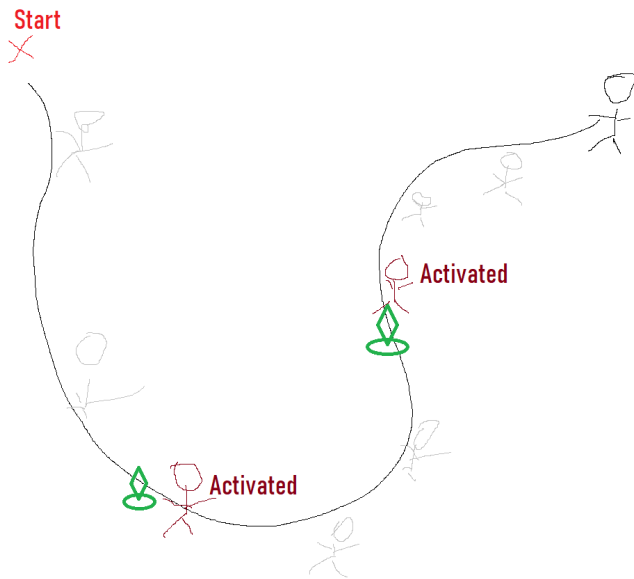
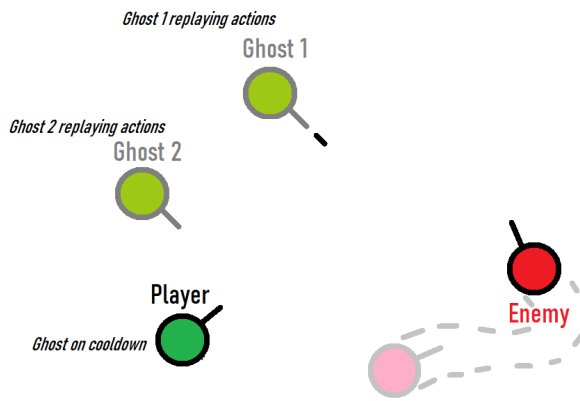
Player activated Ghost

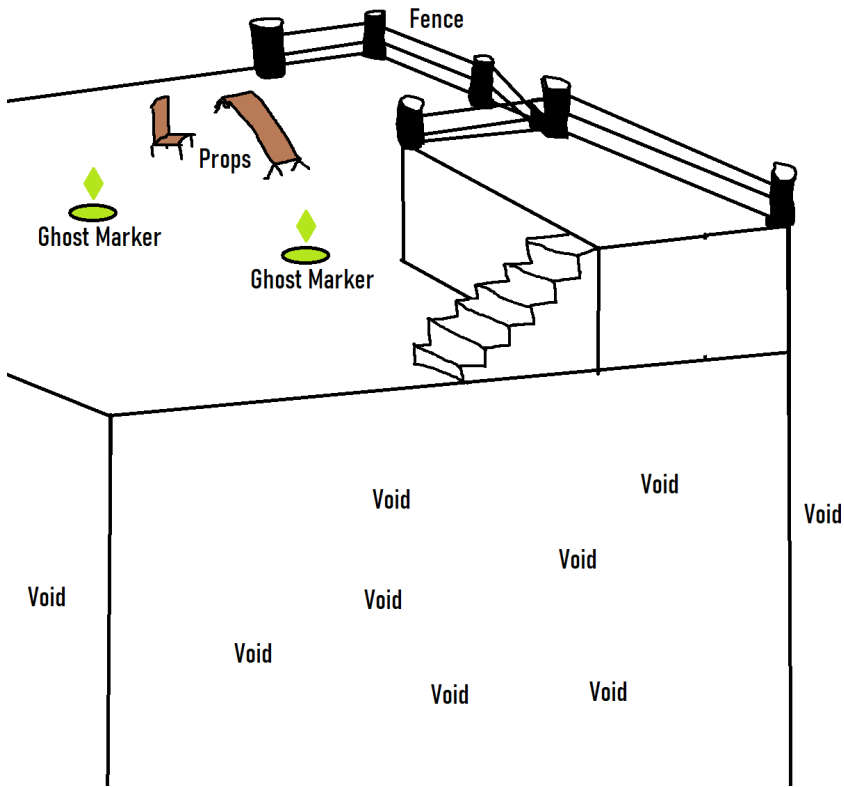


Player has ghost following his actions

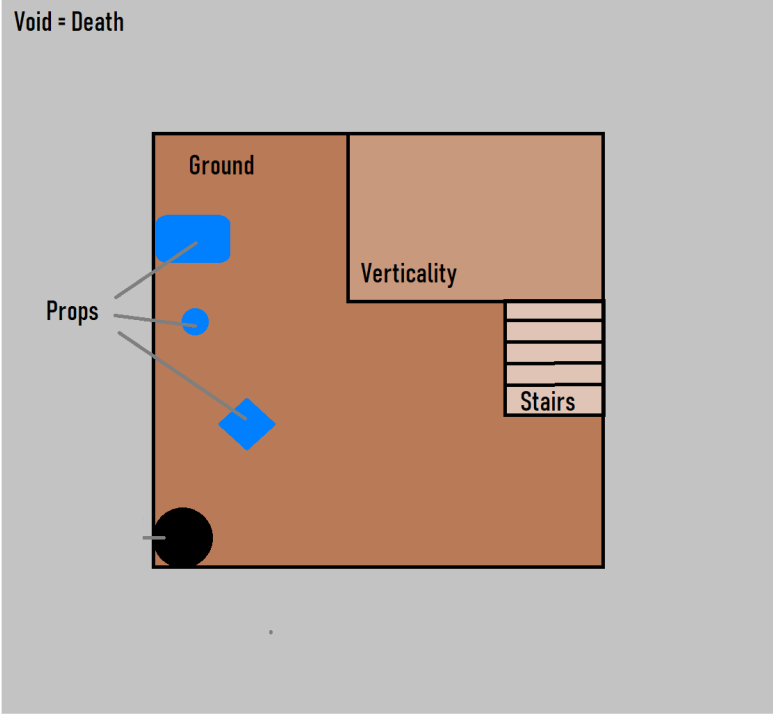


Player activated Ghost





Arena TopDown



Player has a ghost following his actions

