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Power struggle

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# Version Control

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| --- | --- | --- |
| Version | Date | Changes |
| V0.1 | 11-9-2023 | Added document structure, and added some non-functional requirements. |
| V0.2 | 11-10-2023 | Added test methods. |
| V0.3 | 11-12-2023 | Finalized test methods. |
| V0.4 | 11-14-2023 | Added title “Power struggle”, removed test methods as it doesn’t belong in this document, removed sources as in this document there won’t be any sources used, made functional and non-functional requirements, wrote some brief format use cases. |
| V0.5 | 11-30-2023 | Added use cases “Power moves & charge” & “In-game HUD”, improved use case “Attacks”. |

# Introduction

The goal of this document is to document the requirements and Use Cases that are needed to bring the game “Power Struggle” to a playable state. In this document you can find the functional, non-functional requirements, brief formatted and fully dressed use cases that this game “Power Struggle” is built upon. After reading this documentation it should be clear what functionality the game is built upon.

# Requirements

In this chapter both the functional and non-functional requirements will be described.

## Non-Functional Requirements.

|  |  |
| --- | --- |
| Performance | The game must be able to run in at least 24 frames per second, even for computers that aren’t the best. |
| Security | When the game gets online play through peer-to-peer connection there should be absolutely no way to access the opponent’s IP, home addresses and other sensitive information. |
| Reliability | While playing there should be no game crashes. The code needs to be simple so that unexpected crashes can be so close to 0 as possible. |
| Scalability | To make the project scalable, a GitHub project will be used where I can make a plan board which will make clear to me what is yet to be done and what needs to be done. |
| Usability | The game should follow a clear button layout that can be adjusted towards the players liking.  The UI also needs to be clear, compact, and organized; a beginner should be able to browse through the menus and not be lost. Everything that a player would need to customize their experience should be present in the menus. |

## Functional Requirements.

Non-Functional Requirements describe what an actor should be able to do to correctly function through the application.

|  |  |
| --- | --- |
| Requirement | Priority |
| As a player I want to be able to move my character using either WASD, a joystick, a d-pad or hitbox so that I can interact with the game. | Very High |
| As a player I want to be able to cast an attack using either assigned or custom button layouts so that I can deal damage and perform combo’s. | Very High |
| As a player I want my attacks to stun my opponent so that I can make a combo using several different attacks. | Very High |
| As a player I want to be able to block damage with either an assigned button or custom button so that I can evade damage and give myself time to strategize. | Very High |
| As a player I want to have UI that can tell me useful information (Health, super meter, rounds won lost or left, and if applicable any meters regarding my passive) so that I can know the information I want to know. | Very high |
| As a player I want the game to end when my opponent’s health drops down to zero so that I can win the game. | Very High |
| As a player I want to have a menu where I can select whether I want to play multiplayer or single player or change my settings so that I can navigate properly through the game. | High |
| As a player I want the game to have high security so that when I connect to a match I don’t have to worry about my opponent stealing sensitive information | High |
| As a player I want to have a super meter so that I can perform a super attack which will give me a flashy ending to the game or deal a lot of damage. | High |
| As a player I want to be able to make a medallion which will gives me buffs and transforms my gameplay before starting a match so that I can switch up or optimize my gameplay. | Medium |
| As a player I want to be able to perform a dash using charge from my super meter so that I can continue combo’s | Medium |
| As a player I want my language to be supported so that I can understand the game in my native language | Low\* |

(\*) Accessibility is important to me but due to lack of resources right now it just isn’t possible to do this, that’s why I gave it a low priority.

# Use Cases.

## Menu traversing.

A player should be able to traverse through a menu and find all the player wants to regarding settings and game modes.

### Acceptance criteria

* The user can select to play single player, multiplayer, or adjust settings.
  + When clicking multiplayer a user should be able to specify which game mode they wish to play.
  + When clicking single player a user should be able to specify which character’s story the player wants to play.
  + In either case the player should be able to create a medallion before starting a game.
* The UI is stylish and in the same style as the rest of the game.
* A new player should be able to find whatever they want instantly.

## In-game HUD.

The game should display all the necessary data that a player needs to succeed in the game while in-game.

### Acceptance criteria.

* There is a health bar that tells both players each other’s current and max health.
  + There should be a indication that tells the player which health bar is theirs.
* There is a countdown down to tell the players how long the round still lasts.
* There is a counter that tells the players how many rounds they won.
* There is a bar that tells the players how much Power charge they have for their Power move or Motivational burst.
  + The bar should have 5 checkpoints.
* When a combo is being performed there should be text displaying how many hits there are in the combo.

## Attacks.

A player should be able to perform an attack using the default button layout or a custom one if the player wishes to make one (this layout is accessed through one of the above-mentioned menu’s).

### Acceptance criteria

* The player can perform an attack using the right button layout.
* Attacks should be able to combo into each other.
  + These attack combos are predetermined by the character script.
* Attacks should be able to deal damage.
  + The damage of an attack will be determined by a variable in the attacks script.
* Attacks should have an animation to accommodate the attack.
* Attacks should play a sound when hitting an enemy.
* Attacks should be able to be a special move.
  + These special moves should be performed by a quarter circle or a DP which is short for dragon punch (for explanation for this terminology: <https://glossary.infil.net/?t=Notation>).
* Some attacks should be able to be cancelled using any another attack.

## Power moves & charge.

Power moves are this game’s variation of super moves, they are powerful attacks that can be performed by powerful characters. These moves cost power charge, which is divided by checkpoints, these checkpoints are displayed in the HUD.

### Acceptance criteria.

* A Power move should cost Power charge for powerful character.
  + The cost of the power move should be X power charge checkpoints.
    - X = the level of power move deployed.
  + This power charge should be charged by an attack.
* A Power move should have a cinematic animation to accompany the move.
* A Power move should be charged by an attack.
  + The amount of charge received by an attack is determined in the attacks script.