Technical Design Document

Contents

[Features 2](#_Toc62720079)

[Game Loop 2](#_Toc62720080)

[Feature Description 2](#_Toc62720081)

[Conditions of satisfaction 2](#_Toc62720082)

[Game Entities 2](#_Toc62720083)

[Feature Description 2](#_Toc62720084)

[Conditions of satisfaction 2](#_Toc62720085)

[Game Entities Movement 2](#_Toc62720086)

[Feature Description 2](#_Toc62720087)

[Conditions of satisfaction 2](#_Toc62720088)

[Screen Wrap/Boundary Collisions 2](#_Toc62720089)

[Feature Description 2](#_Toc62720090)

[Conditions of satisfaction 2](#_Toc62720091)

[Entity Collision 2](#_Toc62720092)

[Feature Description 2](#_Toc62720093)

[Conditions of satisfaction 2](#_Toc62720094)

[Server and Client Setup 3](#_Toc62720095)

[Feature Description 3](#_Toc62720096)

[Conditions of satisfaction 3](#_Toc62720097)

[Server and Client Incorporation into Project 3](#_Toc62720098)

[Feature Description 3](#_Toc62720099)

[Conditions of satisfaction 3](#_Toc62720100)

[UI Implementation 3](#_Toc62720101)

[Feature Description 3](#_Toc62720102)

[Conditions of satisfaction 3](#_Toc62720103)

[Game Rules 3](#_Toc62720104)

[Feature Description 3](#_Toc62720105)

[Conditions of satisfaction 3](#_Toc62720106)

[Bug Fixes 3](#_Toc62720107)

[Feature Description 3](#_Toc62720108)

[Conditions of satisfaction 3](#_Toc62720109)

# Features

## Game Loop

### Feature Description

This feature will add a game loop to the project that will be used to update the game world and entities that reside within it.

### Conditions of satisfaction

* Implement a game loop
* Add functions for rendering, updating, and handing inputs.

## Game Entities

### Feature Description

This feature will add a base class for the players visuals and two inherited classes for player types, authoritative host, and clients.

### Conditions of satisfaction

* Implement a base player class for visual using SFML
* Implement the client player.
* Implement the authoritative host player

## Game Entities Movement

### Feature Description

This feature will add movement to the base class player.

### Conditions of satisfaction

* Add basic movement to the base player class.

## Screen Wrap/Boundary Collisions

### Feature Description

This feature will make entities on the screen wrap around the screen and appear on the other side or boundary collisions will stop entities from passing the edge of the screen.

### Conditions of satisfaction

* Implement screen wrapping for the base player

## Entity Collision

### Feature Description

This feature will handle all the collisions between entities in the game. This feature will be handled by the authoritative host.

### Conditions of satisfaction

* Implement basic circle collision.
* Implement on the authoritative player.

## Server and Client Setup

### Feature Description

Watch the tutorials 1-7, 13 and 20 to get a basic implementation of a client and a server.

### Conditions of satisfaction

* Watch tutorials on YouTube.
* Implement the client and server from the tutorials from YouTube.
* Have a functional server and client that sends data between each of them.

## Server and Client Incorporation into Project

### Feature Description

Take the server and client from the previous feature and implement them into my project.

### Conditions of satisfaction

* When a game is started you can choose to be a host or a server.

## UI Implementation

### Feature Description

Implement UI to show the current state of the game, waiting, playing, game over. Implement UI for choosing host, or client and for entering an IP.

### Conditions of satisfaction

* Implement a functional UI to make the game more understandable.

## Game Rules

### Feature Description

Add the game rules for a game of tag.

### Conditions of satisfaction

* Implement states for each game stage.
* Handle game waiting, game playing and game over.

## Bug Fixes

### Feature Description

Fix any small bugs that occur during the project.

### Conditions of satisfaction

* Playtest and attempt to see If there are any bugs within the game.
* If there are any bugs fix them and playtest again to ensure that the game is operating correctly.