



Player Guide

CS3217 Software Engineering on Modern Application Platforms

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Game Summary	3
Playing the game in single-player mode	3
Playing the game in multiplayer mode	3
User Interfaces	3
Interacting with the Start Screen	4
Selecting a Game Mode	6
Single Player Mode	7
Interacting with the Game Stage Selection Screen	7
Game Map	7
Stage Preview	8
Stage Overview and Avatar Selection	9
Gameplay Recording	12
Interacting with the Gameplay Screen	13
Interacting with the Pause Screen	28
Interacting with the Game End Screen	29
Multiplayer Mode	31
Setting Up a Game	31
Playing the Game	34
Interacting with the Game End Screen	37

Game Summary

The game's objective is to kill the enemies before they reach the end point (i.e. your territory). The enemies will spawn at the top of the screen and move downwards towards the end point. Kill enemies by drawing out the gestures associated with the enemy. Collect mana points to activate power ups to aid you in the game! If the enemy reaches the end point, you will lose health points.

Killing an enemy earns you coins (which serve as the game score). Killing multiple enemies will increase your combo, and earn you more coins.

Playing the game in single-player mode

For single-player mode, you will win the game when you destroy all enemies in the stage, with health points remaining. On the other hand, you will lose the game when you lose all your health points.

The game is structured into stages. You can choose to play as a different avatar for each stage. Each avatar is associated with different power-ups, and has different health and mana points.

Playing the game in multiplayer mode

In Multiplayer Mode, the aim is to simply out-last your opponent! Enemies will spawn continuously in both your arena and your opponent's arena. You and your opponent will have to battle it out to see who can survive longer. The enemy waves will also progressively become more difficult. Sometimes, you may even be able to send extra enemies over to your opponent's arena! To help you keep track of your opponent's status, a mini-map of your opponent's arena is provided to you.

User Interfaces

Currently, there are five main interfaces that you will interact with: **Start Screen**, **Pause Screen**, **Game Mode Selection Screen**, **Game Stage Selection Screen**, **Single Player Gameplay Screen**, **Multiplayer Gameplay Screen** and **Game End Screen**. The main UI elements for each of these screens and how you can interact with them will be detailed in the following subsections.

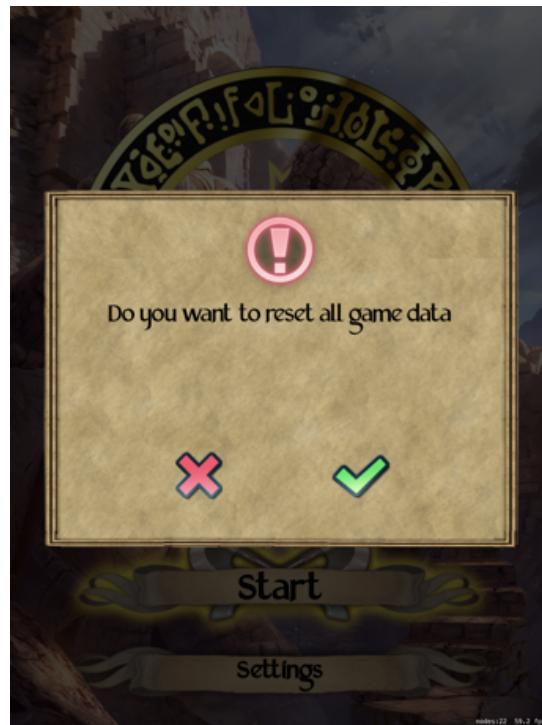
Interacting with the Start Screen

The Start Screen consists of the following UI elements.

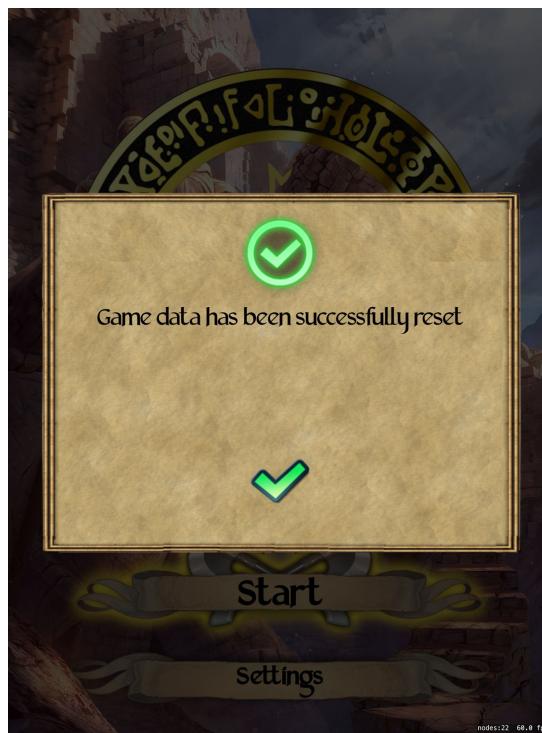


The Start Screen is the first thing that you see when you first launch the application. Tap on "Start" to select the game mode. Welcome to the game!

Also, you can tap on the “Settings” to reset the game data. See the figures below.



Resetting game data



Successfully reset game data

Selecting a Game Mode

You may choose between 2 modes: Single Player and Multiplayer.



Choose between Single Player and Multiplayer modes

The rules for Single Player mode are slightly different from Multiplayer mode. The flow through the UI is also slightly different between modes. See the following sections for more information.

Single Player Mode

Interacting with the Game Stage Selection Screen

Game Map

The Game Stage Selection Screen consists of the following UI elements.



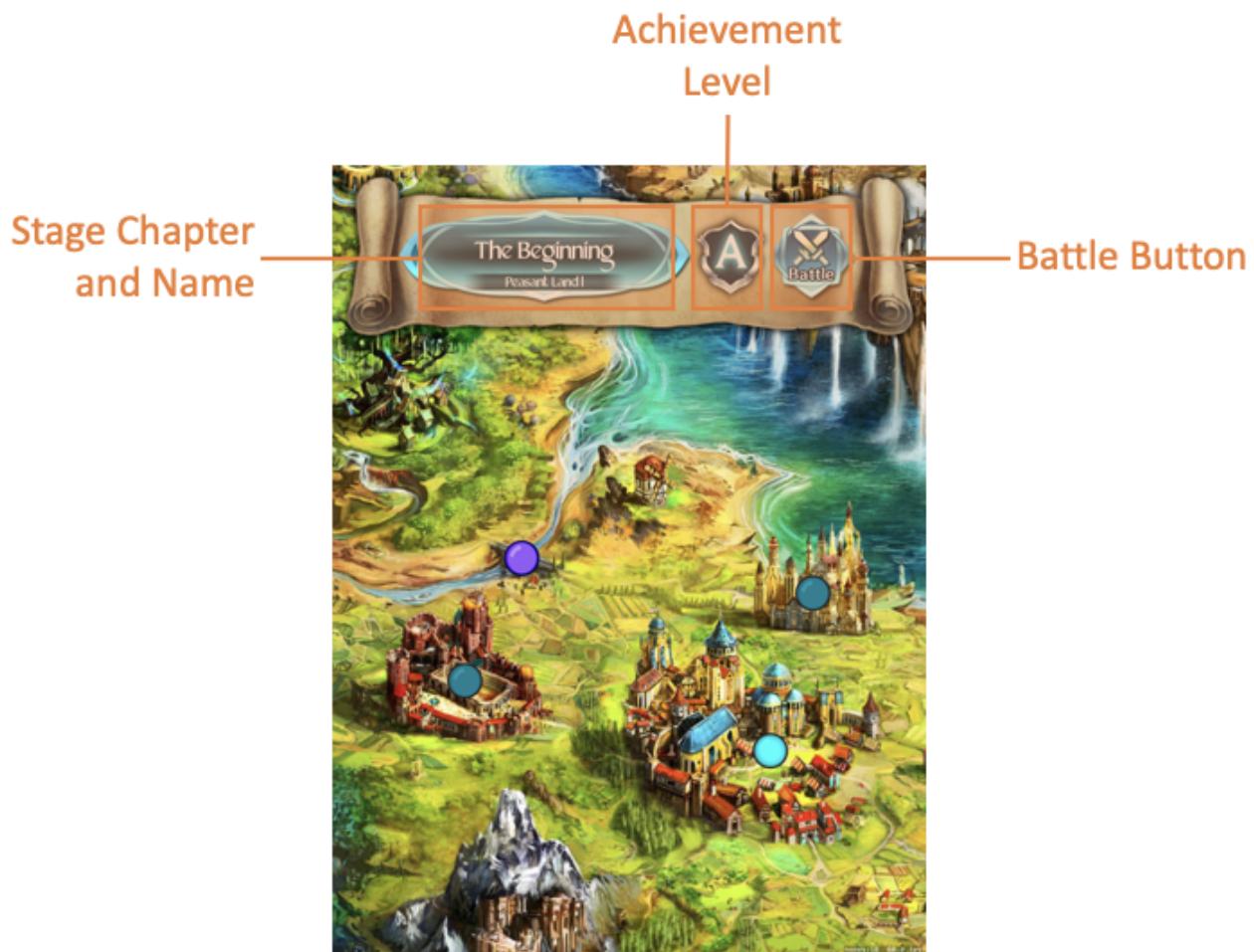
There are 2 main types of stages:

- Normal Stage
- Boss Stage

Normal Stages are a lot easier than Boss Stages. Clear these first to gain more experience!

Stage Preview

When you tap on any of the stage nodes, the stage node will light up and show you a preview of the stage (see the figure below).



Stage Selection Screen UI After Tapping on Stage Node

Achievement Level

The Achievement Level tells you how well you have done for this particular stage. There are 5 Achievement Levels (in order of merit): empty, C, B, A, S.

The Achievement Level will be initially empty. If you have successfully completed the stage, then you will get at least an Achievement Level of C. Aim to achieve a higher score to get a better Achievement Level - combos and power-ups help a lot here!

Battle button

Tap on “Battle” to get more details on the stage and prepare for battle!

Stage Overview and Avatar Selection



Avatar selection UI After Tapping on “Battle”

This is where you decide which avatar you want to use for the stage. There is an overview of the stage on the left, and an overview of the selected avatar on the right. You can tap on “Cancel” to return to selecting another stage or you can tap on “Play” to begin the stage.



Breakdown of the Stage Description Panel UI

Arena Terrain

The Arena Terrain shows a preview of the terrain on which you will be fighting the enemies in the stage!

Stage Difficulty

This tells you how difficult the stage will be. Don't underestimate this!

Number of Waves

This tells you the number of enemy waves in the stage.

High Score

This records the best score you have ever achieved for this stage.

Achievement Level

This records the best achievement level you have ever achieved for this stage.



Breakdown of the Avatar Selection Panel UI

Avatar Name

This is the name of the avatar. Each avatar is associated with a specific set of power-ups. Each avatar also has a different maximum health points and maximum mana points. More health points means that you can take more damage from enemies. More mana points means that you can cast more expensive power-ups and more power-ups in a shorter span of time.

Avatar Navigation Buttons

Tap on the Arrow buttons to navigate to the next available avatar. The attributes (health, mana, power-up) associated with the avatar will update automatically.

Power-Up, Power-Up Cost and Description

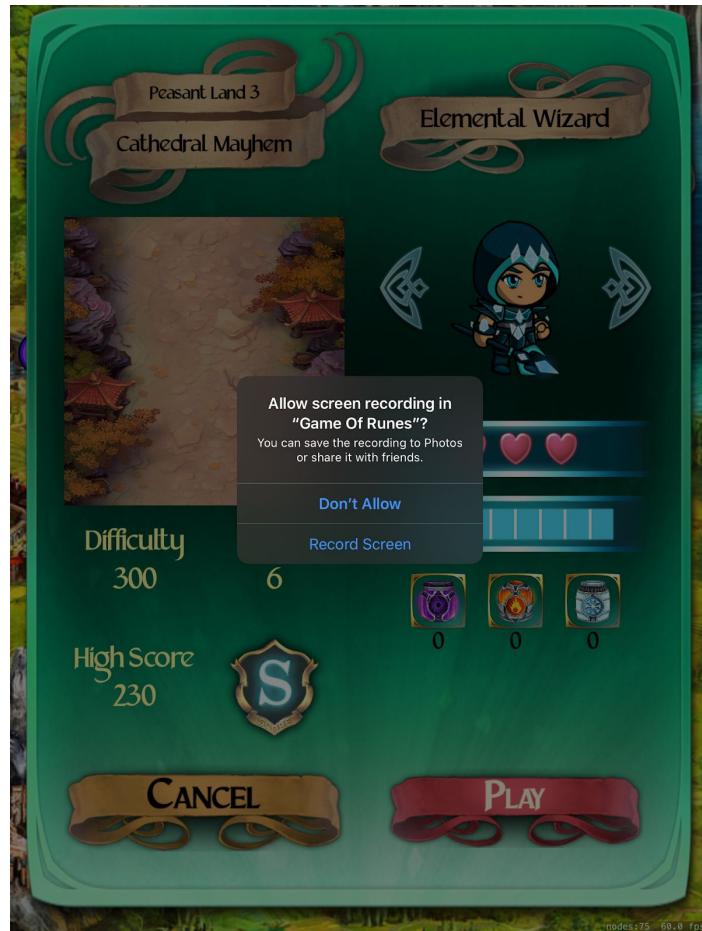
The Power-Up cost tells you how many mana points are necessary to activate the power-up. Take this into account when deciding on which avatar you want to use for the stage.

Tap on the power-up to display its description. The description of the power-up gives you more information about the power-up - its effects and how to activate the power-up.

Once you have made your avatar selection, tap on “Play” to begin the stage! Onward!

Gameplay Recording

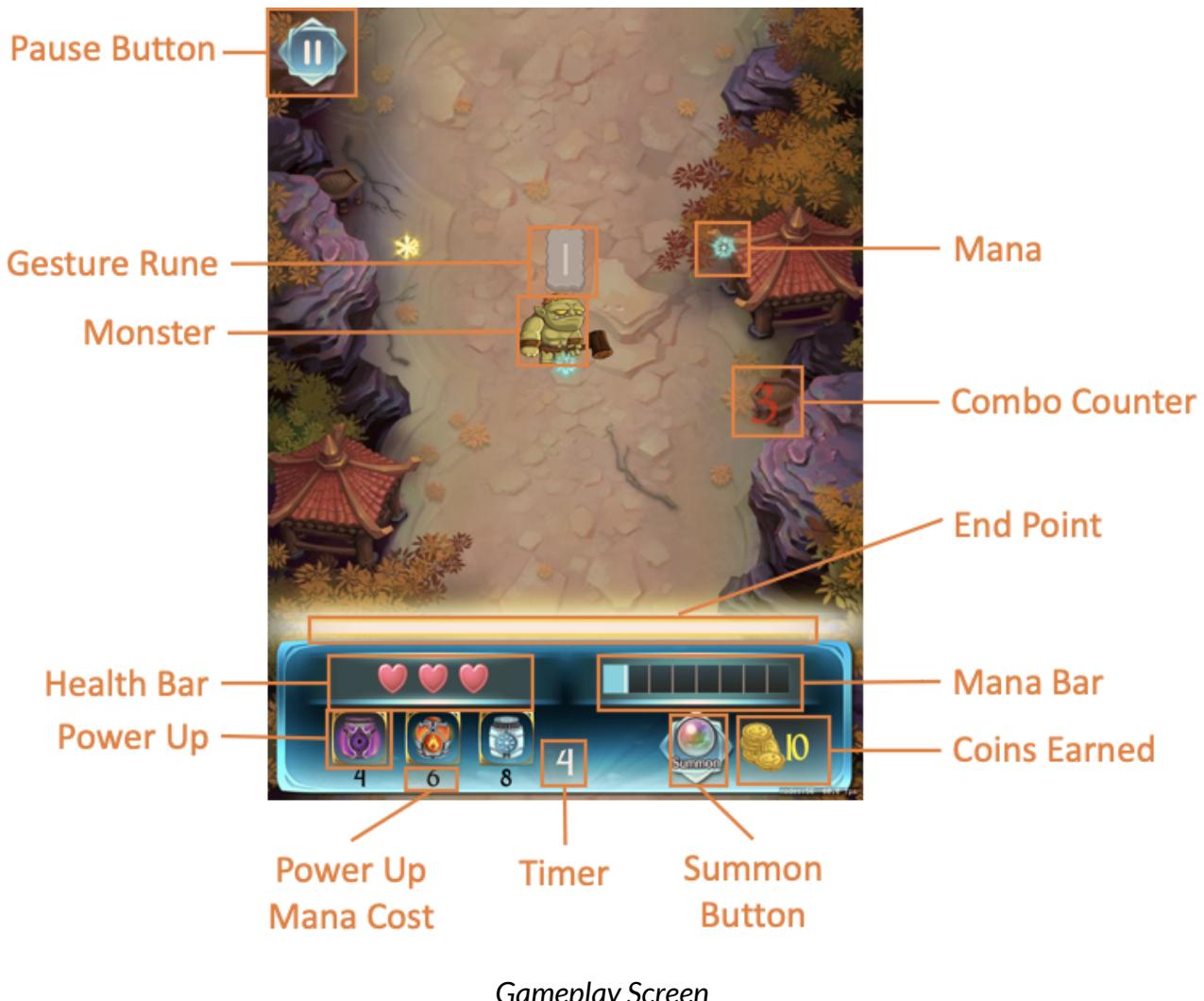
Another feature of the game is Gameplay Recording. When you play a stage, the app will ask for your permission to allow screen recording, as seen in the diagram below. Click on “Record Screen” to enable recording of the gameplay. The gameplay recording functionality is only available for the Single Player game. The recording can be retrieved, saved and shared among your friends when the stage ends.



Game requesting for Permission to Perform Gameplay Recording

Interacting with the Gameplay Screen

When playing the game, you will be interacting mainly with the Game Screen. The Game Screen consists of the following UI elements.



General Information

The Gameplay Screen can be separated into two regions: the **Game Area** and the **Player Area**. The Game Area is the area where enemies will roam and you can perform gestures to destroy them. This Game Area is bounded by the top of the screen and the Player Area. The Player Area contains the Health Bar, the Mana Bar, the Power Up Containers, the Timer, the Summon Button and the Coins earned.

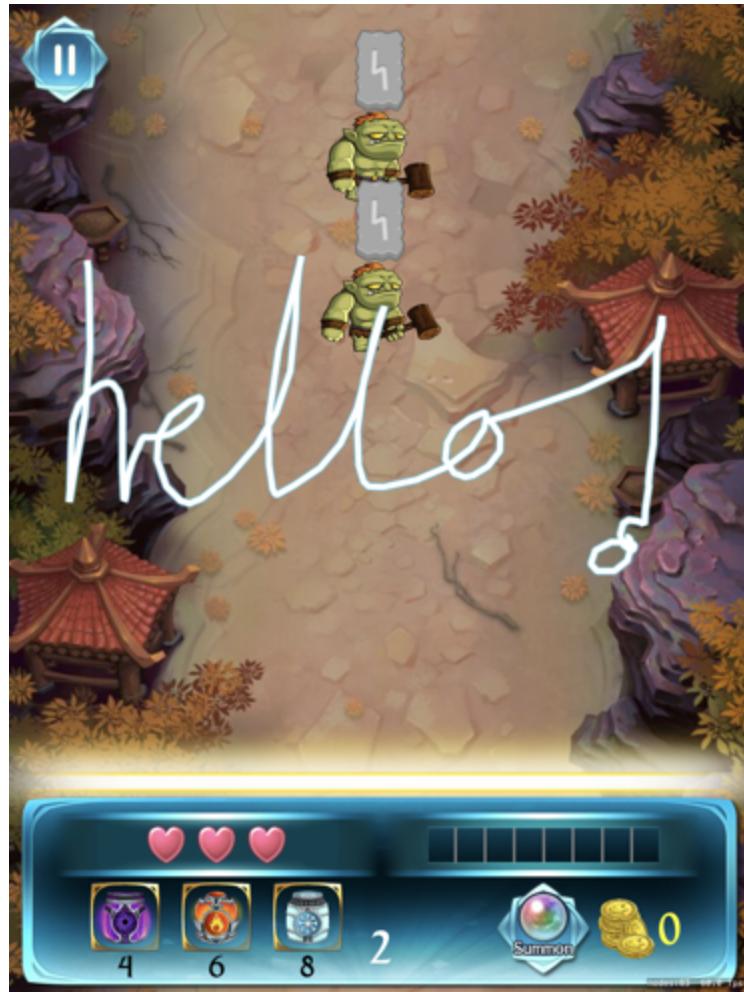


Game Area



Player Area

Break Down of the Gameplay Screen



Showcasing swipe lines which trace out the player's current gesture.

- Gestures can only be drawn in the Game Area. However, a gesture cannot begin at a point where there exists a Dropped Mana. This is done to support collection of mana, which is further elaborated below.
- Gestures end when the finger has lifted the screen.

Timer

The timer keeps track of the number of elapsed seconds since the start of the stage. Note that as of Sprint 2, the time tracked by the timer has no consequence. In future Sprint cycles, the time elapsed will have consequences on the game.

Health Bar

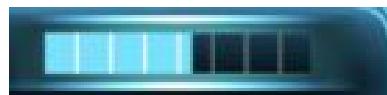
The health bar keeps track of the amount of health you currently have. The number of filled hearts indicates the amount of health points you currently have. When you lose one health, one of the filled hearts will turn into an empty heart.



When 2 enemies reach the end point, you will lose 2 health points. In this case, your health will drop from 4 points to 2 points.

Mana Bar

The mana bar keeps track of the amount of mana you currently have. Mana will be useful when you wish to activate power ups.



Mana Bar

The mana bar increments whenever you collect mana. However, you can only use whole-numbered units of mana at any given time. For instance, in the diagram above, there is slightly more than 4 units of mana. However, only a maximum of 4 units of mana can be used to activate power ups.

After activating power-ups, the Mana Bar will decrement by the mana cost of the power-up.

Summon Enemies

The enemies will appear wave-by-wave, and the appearance of each wave will be separated by a specific time interval for the stage. However, if you are feeling adventurous, you can choose to immediately summon the next wave by tapping on the Summon Button. If there are no waves left for the stage, then tapping on "Summon" does not do anything.

Kill Enemies

Notice that each enemy has a gesture rune attached to it. The gesture rune shows the shape of the gesture that you must trace out on the screen in order to kill the enemy. See the figure below for an example. A swipe line is created that shows the player the gesture that he/she is creating. The swipe line is then removed when the finger lifts off the screen, meaning that the gesture has ended.



Tracing out the enemies' gesture to kill the enemies

Currently, there are a handful of gestures that are being supported:



Runes representing gestures that are currently supported.

Every time an enemy is killed, you will earn some coins. The coins serve as your score for the stage. In a future iteration of the game, these coins can be used for upgrades (of the avatar, power-ups etc.)

Types of Enemies

There are 3 main classes of enemies: Orcs, Trolls and Knights. Each type of enemy is associated with a different speed, health and set of gestures.

Speed:

- Enemies with higher speeds move towards the end point faster.

Health:

- Enemies with **x** amount of health would be associated with **x** number of rune gestures.
- Hence, you must make **x** rune gestures in order to kill the enemy.

Set of Gestures:

- Different enemy classes (Orcs, Trolls and Knights) are each associated with a different set of gestures. The Orcs' gestures are the simplest, so they are the easiest to kill, followed by the Trolls' and finally, the Knights'.

Taking these 3 factors into account, each enemy is then assigned a difficulty rating. See the figure below for more information on the stats associated with each enemy.

Name	Orc1	Orc2	Orc3	Troll1	Troll2	Troll3	Evil Knight
Speed	Slow	Normal	Fast	Slow	Normal	Fast	Boss (Very Slow)
Health	2	2	1	3	3	2	5
Gestures							Orc and Troll Runes, as well as
Difficulty	1	2	3	4	5	6	7

Stats associated with each enemy type

Coins and Combos

Killing a single enemy reaps you 10 coins. Having a multi-kill reaps you more coins, depending on the number of enemies you have destroyed with a single gesture. Killing more than 3 reaps you 30 bonus coins, and more than 5 reaps you 50 bonus coins!

You can also rack up combos. Keep your combo alive by killing enemies within a short period of time. Every combo counter of 10 will give you an additional coin multiplier of 0.1x, meaning that enemies killed in this time will reap you 10% more coins!

Enemies reaching the end point

When an enemy reaches the end point, you will lose health points.

Collecting mana

When an enemy is killed by gestures, it will drop some mana on the ground. Tap on the mana to collect it. The mana bar will increment. The amount of mana that you gain also varies from time to time. This dropped mana is shown below. The different colors represent the amount of mana that is dropped. In increasing order of mana quantity and rareness of drop: teal, yellow and magenta.



Dropped mana

Activating power-ups

Activating a power-up costs mana. Note that the mana costs are whole numbers.

A set of 3 power-ups is associated with a single avatar. You can only use the power-up associated with the avatar you chose for the stage.

If you do not have sufficient mana to activate a particular power-up, the game will tell you when you try to activate the particular power-up. See the figure below for a reference.



Insufficient mana when activating a power-up

Currently, there are 6 power-ups that you can activate (3 for each of the 2 avatars). They are listed below:

1. Dark Vortex

- a. Mana cost: 4
- b. Associated with the Element Wizard avatar
- c. Tap on the Game Area to summon a Dark Vortex at the tap point
- d. Will draw enemies towards the Dark Vortex and compete with the end point for attraction of the enemies.



Dark Vortex power-up in effect

2. Hellfire

- a. Mana cost: 6
- b. Associated with the Element Wizard avatar
- c. Activate by drawing a circle on the Game Area
- d. Will destroy enemies that come into contact with it
- e. Destroyed enemies do not drop mana



Hellfire power-up in effect

3. Ice Prison

- a. Mana cost: 8
- b. Associated with the Element Wizard avatar
- c. Activate by drawing a circle on the Game Area
- d. Will freeze the enemies that come into contact with the Ice Prison (normal and slow enemies will stop moving, while fast enemies will be slowed).



Ice Prison power-up in Effect

4. Divine Blessing

- a. Mana cost: 2
- b. Associated with the Holy Knight avatar
- c. Activate by drawing a circle on the Game Area
- d. Will simplify and substitute all enemy gestures in the circled region, making them easier to kill.



Divine Blessing power-up in effect (Middle enemies' runes are simplified)

5. Divine Shield

- a. Mana cost: 5
- b. Associated with the Holy Knight avatar
- c. Activate by tapping on its power-up icon in the Player Area
- d. A shield will be activated, making you invulnerable and you will take no damage from the enemies. In other words, any enemy that reaches the end point while the shield is up will be destroyed, but your health points will not drop.
- e. Destroyed enemies do not drop mana



Divine Shield power-up in effect

6. Heroic Call

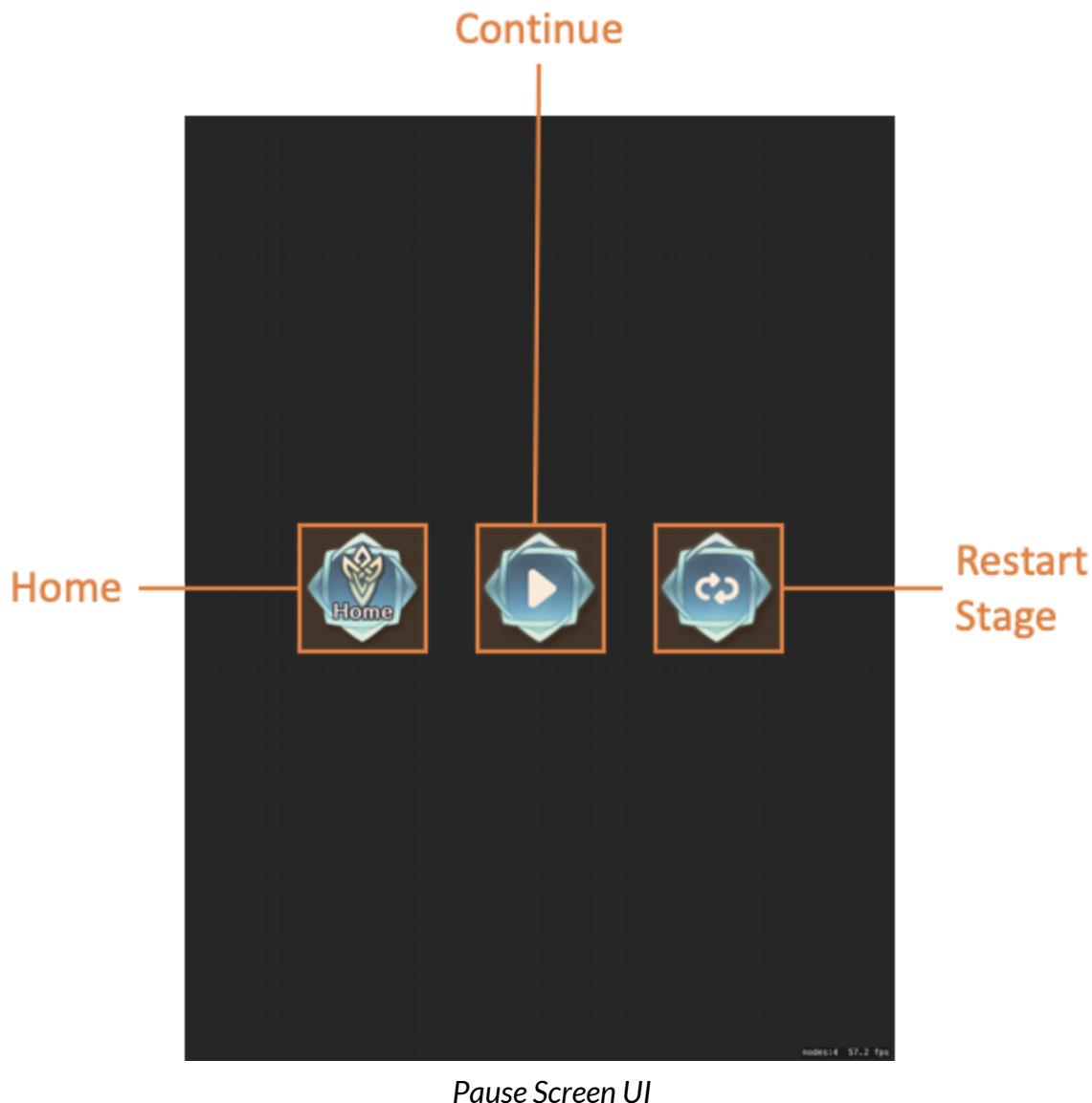
- a. Mana cost: 4
- b. Associated with the Holy Knight avatar
- c. Activate by tapping on its power-up icon in the Player Area
- d. Will summon 3 elite knights to aid your fight! These elite knights will advance upwards and kill some enemies before being heroically slain in battle.
- e. Destroyed enemies do not drop mana



Heroic Call power-up activated

Interacting with the Pause Screen

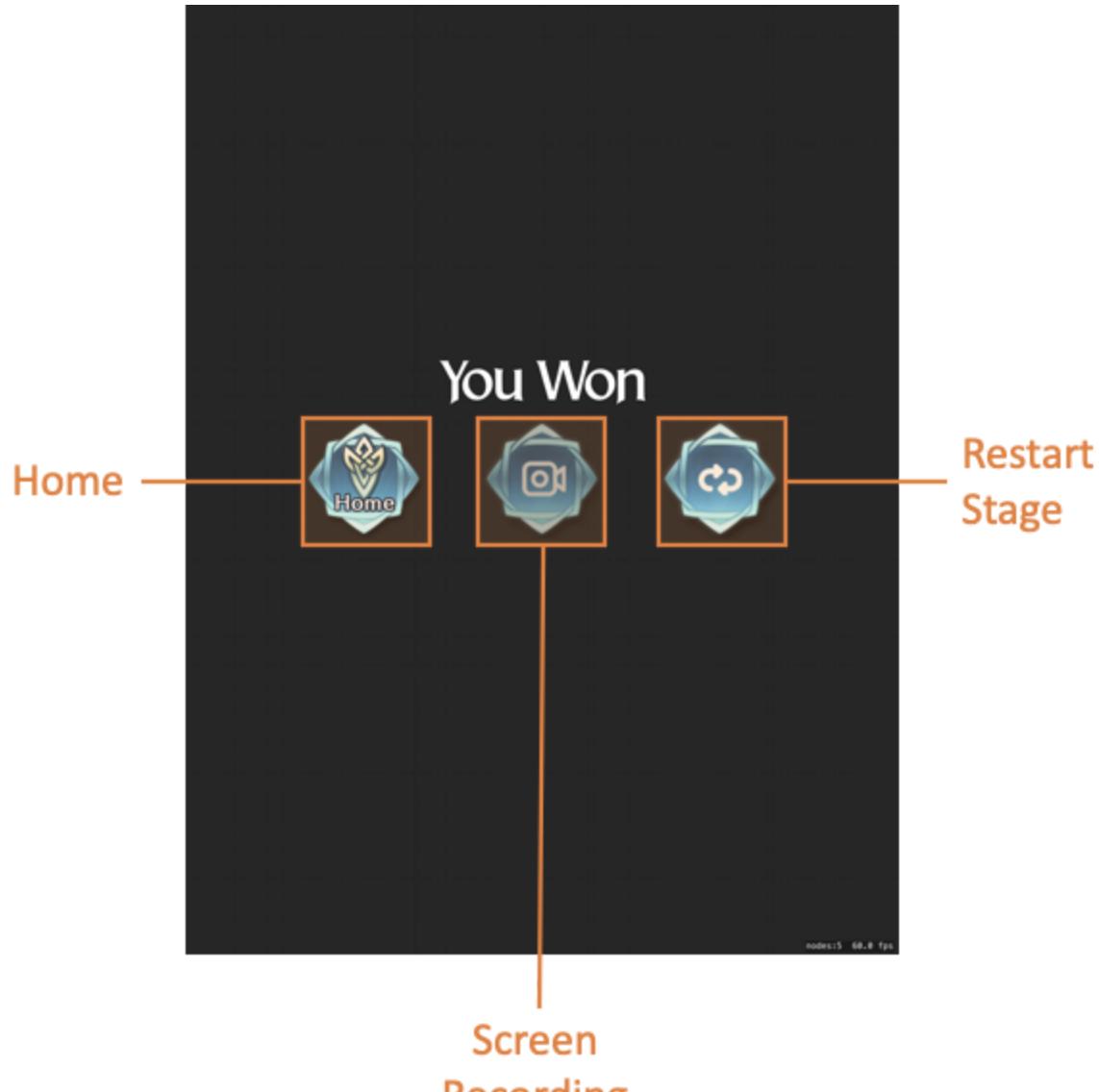
The Pause Screen consists of 3 buttons: "Home", "Continue and "Restart"



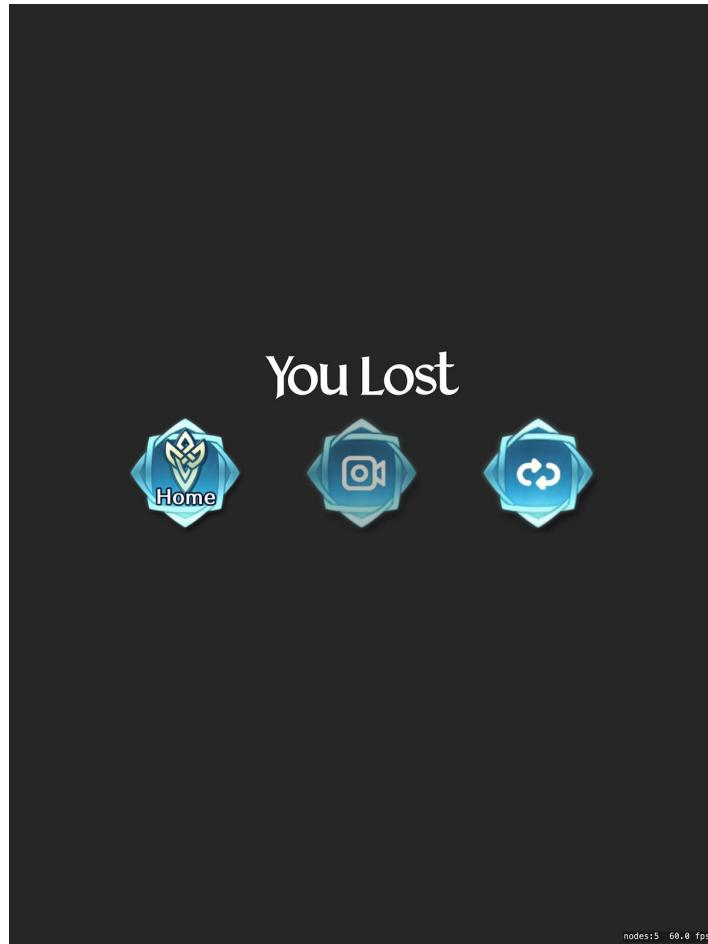
When the game is paused, you are presented with the Pause Screen. Tapping on "Continue" will resume the game from where you last left off. Tapping on "Restart" will restart the stage (the current game progress will not be saved). Tapping on "Home" allows you to exit the current stage and brings you back to the Stage Selection Screen.

Interacting with the Game End Screen

The Game End Screen tells you whether you won/lost the game.



Game End Screen (Win)



Game End Screen(Lost)

You will only encounter this screen when you win or lose the game. You will lose the game when you have lost all your health points. You will win the game when you have destroyed all enemies for the stage (i.e. all the enemy waves have been cleared), with health points remaining.

The Game End Screen consists of a “Home” button that brings you back to the Stage Selection Screen, and a “Restart” button, which allows you to play the stage again. If you have allowed gameplay recording for the application, tapping on the “Screen Recording” button will then show you the recording of your game, which you can then save and share with your friends.

Multiplayer Mode

Setting Up a Game

For the Multiplayer Mode, you must first set up a connection with your opponent before the game can begin. After selecting Multiplayer Mode in the Game Mode Selection Screen, you will see this screen:

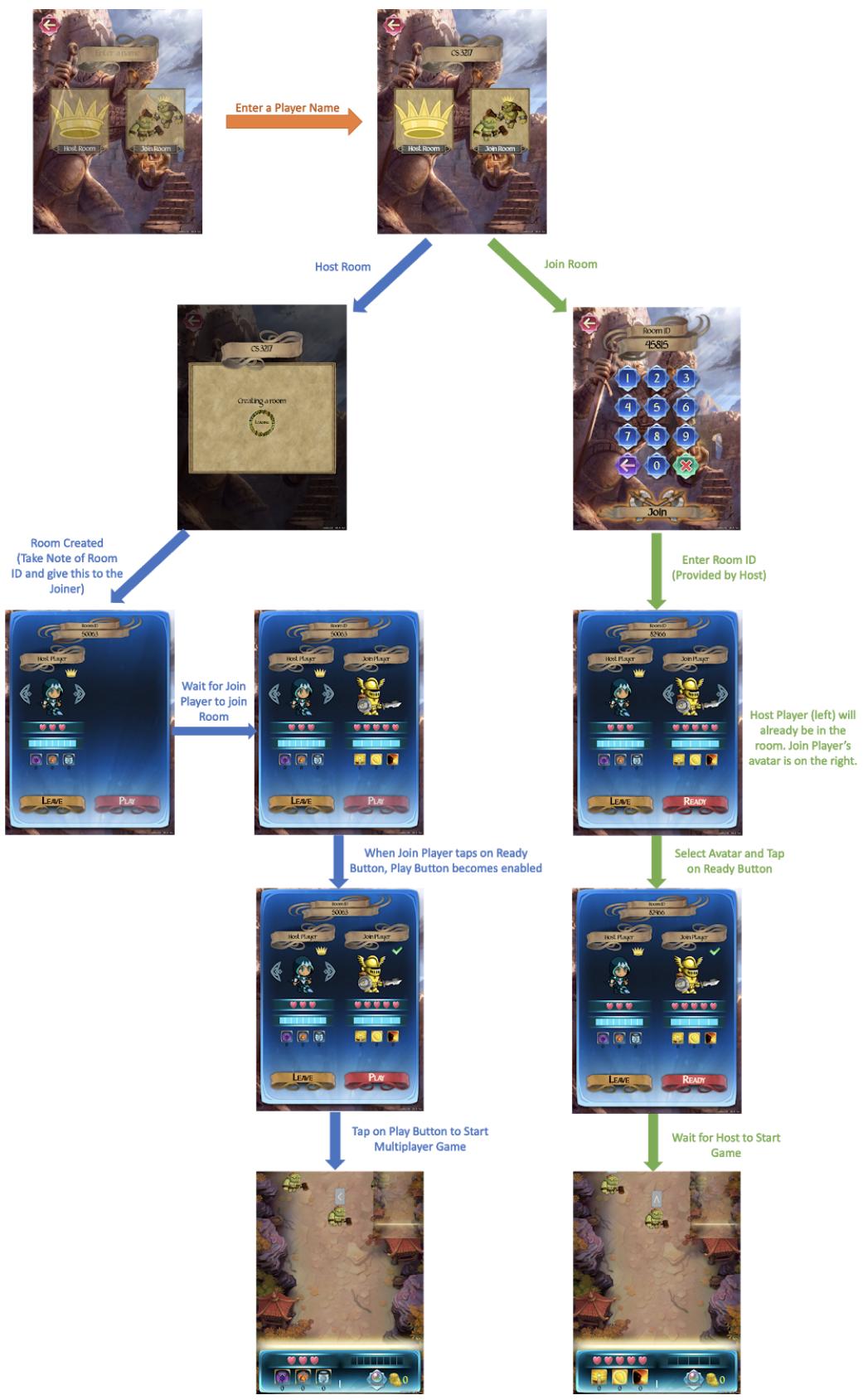


Choosing between hosting a room and joining another room

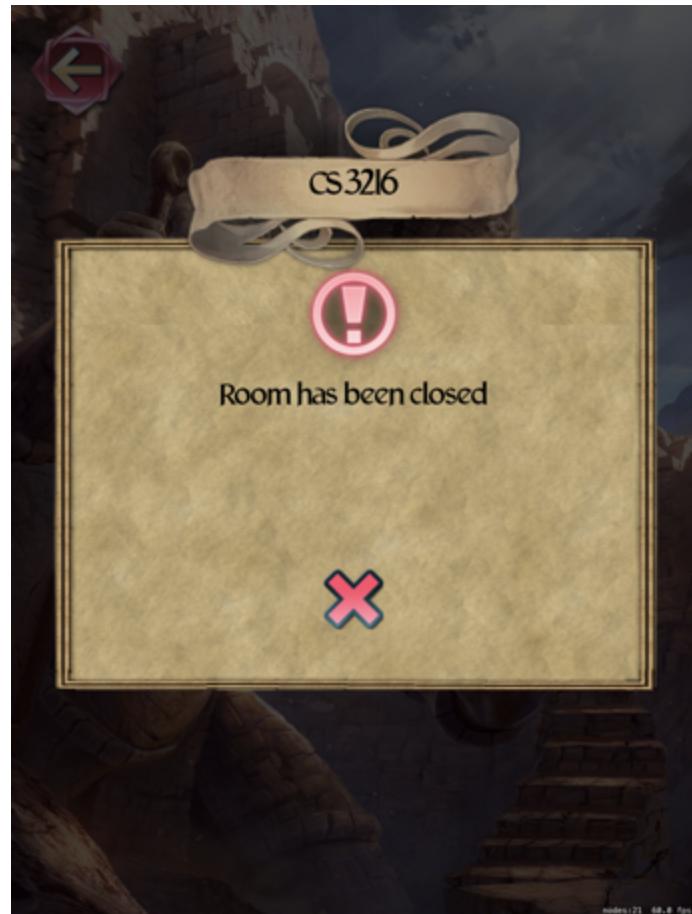
There are 2 options:

- Hosting a Room
 - The host's avatar is always displayed on the left and can be identified by the "crown" icon
- Joining a Room
 - The joining player's avatar is always displayed on the right.
 - After the joining player taps on "Ready", a green tick will be displayed next to his/her avatar. This tick will enable the host to start the game.

Depending on whether you host a room or join another room, the navigation through the UI is different. The following diagram summarises the navigation flow required to start a Multiplayer Game:



Whenever the host leaves the connection set-up screen (either intentionally or if the network disconnects), the room will be closed, as shown in the following diagram:



Room is closed after the host has disconnected

Playing the Game

Comparing with the Single Player game, the Multiplayer Game Screen consists of an additional mini-map UI element, as shown in the diagram below.



The Mini-map shows your opponent's game and his/her progress/status.

It displays the following:

- The enemies currently in your opponent's arena (i.e. how he/she is doing in the game!)
- Any power-ups that your opponent activates

All other UI elements of the Multiplayer Game Screen are identical to that of the Single Player Game.

An example of the Multiplayer Game Screen while the game is in play can be seen in the diagram below.



Multiplayer Gameplay

Aim of the Multiplayer Game:

The aim of the multiplayer game is to **outlast** your opponent. To increase the competitive element, you can even send extra enemies over to your opponent's arena whenever you have a multi-kill (≥ 2 simultaneous enemy kills). The extra enemies are tinted **red** as shown on the arena and the mini-map.



Extra enemies being sent to/from the opponent

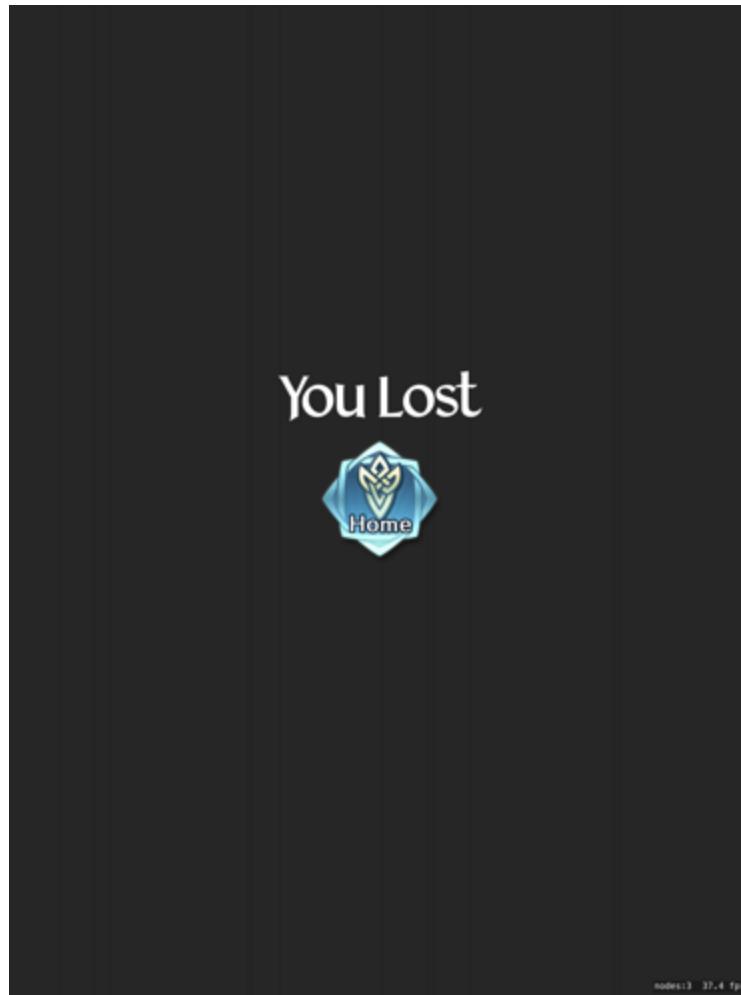
Other than that, everything else works the same as in the Single Player Game - activating power-ups, how enemies are killed, the fact that you lose health whenever an enemy reaches the end point.

The game's win/lose condition is:

- You win if your opponent loses all of his/her health before you
- You lose if you lose all health before your opponent does

Interacting with the Game End Screen

Unlike the Single Player Mode, there is no screen recording functionality or a “Restart” button for the Multiplayer Game End Screen. It simply tells you whether you have won/lost the game against your opponent.



Game End Screen for Multiplayer Mode

Tapping on “Home” brings you back to the room with your opponent. If you wish to start another game with the same opponent, the joining player must tap on “Ready” again, before the host can start the game again.

Otherwise, if you wish to exit the room or wish to start a new multiplayer game with another opponent, tap on “Leave”.