

# King of Fighter 2022

Creative Lab: Epic Battle Simulator

CS5004 Object-Oriented Design Spring 2022

04.2022

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# **Chapter 1: Introduction**

**Requirements:** Number of Players (1 Player);  
Playing Time (Approximately 5 minutes);  
Age (3+)

This is a fighting game based on a random character picker. The game will end once all characters from one side are knocked out.

## Chapter 2: Components

- A hero list includes five different heroes with different appearances and personalities.
- An evil list includes five different evils with fierce faces.
- A weapon list includes three powerful weapons provided to heroes while evil characters have strong bodies rather than weapons.

### Description of Hitpoints, strength, and mana system

Every character has hit points and strengths. But only heroes have mana.

Hero has hitpoints of 15, when hitpoints <= 0, hero dies.

Hero also has the strength of 3, so when attacked barehand, the hero will cause damage of 3.

Hero has mana with a value of 12.

Evil guy has hit points of 20, and a strength of 3.

	name	hp	power	mana
<b>Heroes</b>	Chester Wells	15	3	12
	Anastasia Fry	15	3	12
	Glenn Bray	15	3	12
	Travis Ruiz	15	3	12
	Eva Health	15	3	12
<b>Evils</b>	Ihliah	20	3	n/a
	Mastli	20	3	n/a
	Askusi	20	3	n/a
	Ehtlelu	20	3	n/a
	Usseshla	20	3	n/a

### Description of weapons and their special attacks

#### Ranged:

Ranged is a weapon that has low durability of 6, its highest strike is 6.

When a hero attacks with Ranged, it will deduct 2 points from weapon durability, and result in damage from 1 to 6.

When using a special attack with Ranged, it will deduct 2 points from weapon durability, and result in damage from 4 to 6.

**Melee:**

Melee is a weapon that has high durability of 8, its highest strike is 8.

When attacking with Melee, it will deduct 2 points from weapon durability, and result in damage from 1 to 6.

When using a special attack with Melee, it will deduct 4 points from weapon durability, and result in damage from 5 to 6.

**Magic:**

Magic is a weapon that does not have durability itself, instead, when Magic is used, it will deduct the hero's mana, which is 12 at initial.

Magic's highest strike is 6, when attacking with Magic, it will deduct 4 from the hero's mana, and result in damage from 2 to 6.

When using a special attack with Magic, it will deduct 4 from the hero's mana, and result in damage from 4 to 6.

Punch - normal attack without a weapon, will cause damage that is equal to hero's strength

Cannon Strike - attack with weapon

Supreme Power - special attack

Weapons	durability	strike	attackwithweapon	spec attack
Magic	10(=hero.mana)	6	damage=2~6; hero.mana - 4	damage=4~6; hero.mana - 4
Ranged	6	6	damage = 1~6; durability -- 2	damage=4~6; durability -- 2
Melee	8	8	damage = 1~8; durability -- 2	damage = 5~6; durability -- 4

# Chapter 3: JavaFX Project configuration

## Step 1: Download JavaFX SDK

Download the SDK 17.0.2 version (we use for our project) from

<https://gluonhq.com/products/javafx/>

Select the compatible version for your device. The picture below shows what I chose for my mac.

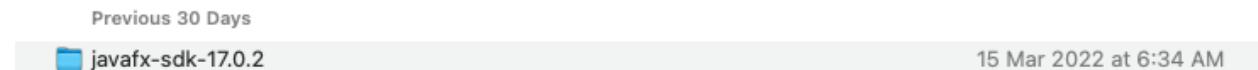
Downloads

JavaFX version	Operating System	Architecture	Type
17.0.2 [LTS]	macOS	aarch64	SDK

Include older versions

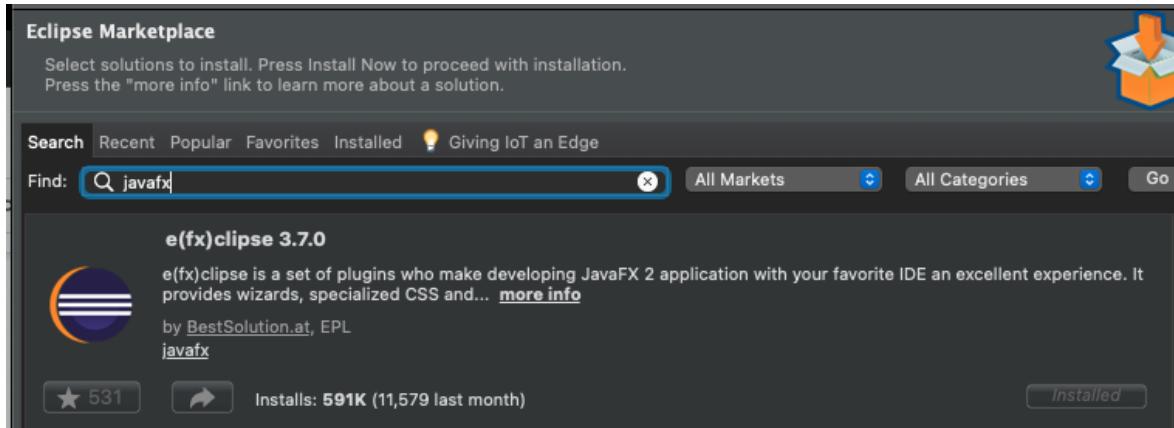
OS	Version	Architecture	Type	Download
macOS	17.0.2	aarch64	SDK	<a href="#">Download [SHA256]</a>

I have unzipped the SDK resource in my Downloads folder. Please keep the SDK resource at a fixed path as we will need to add the path to the project.

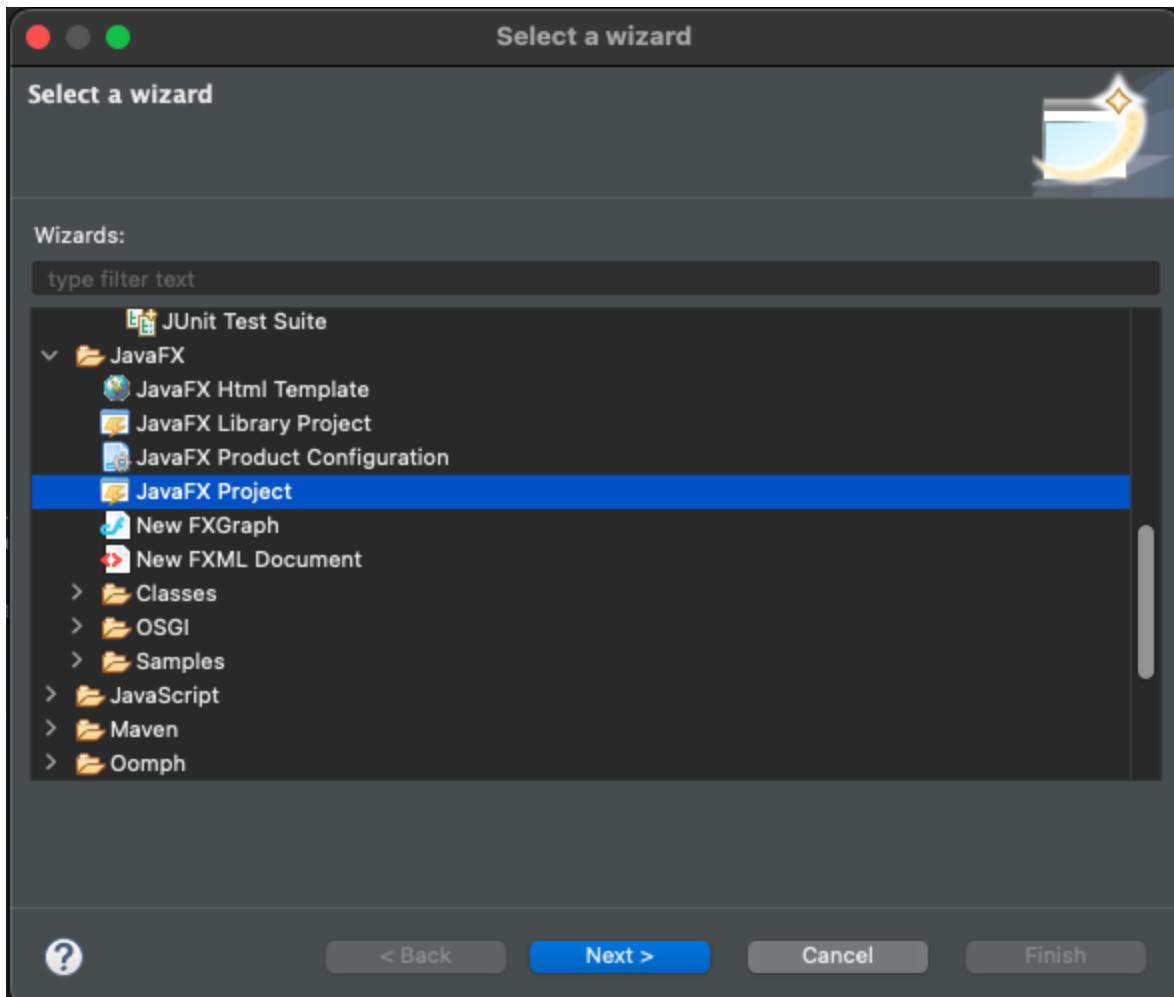


## Step 2: Create a JavaFX project

You may need to install the JavaFX plugin from Eclipse Marketplace:



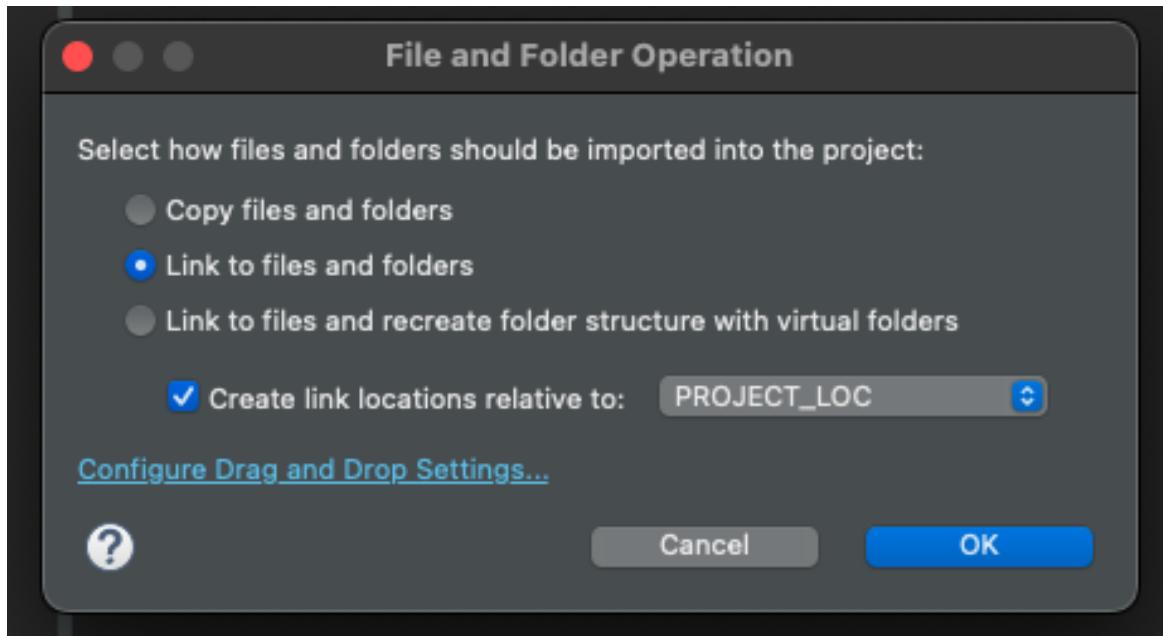
With that installed, we are prepared to open a new JavaFX project.



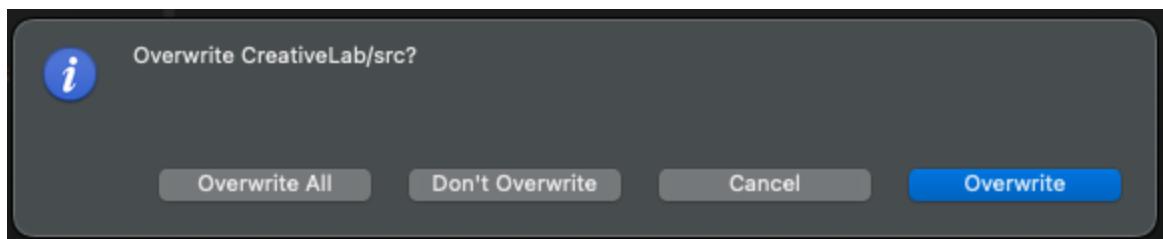
Choose a project name and finish the setup.

## Step 3: Add resources to this new project

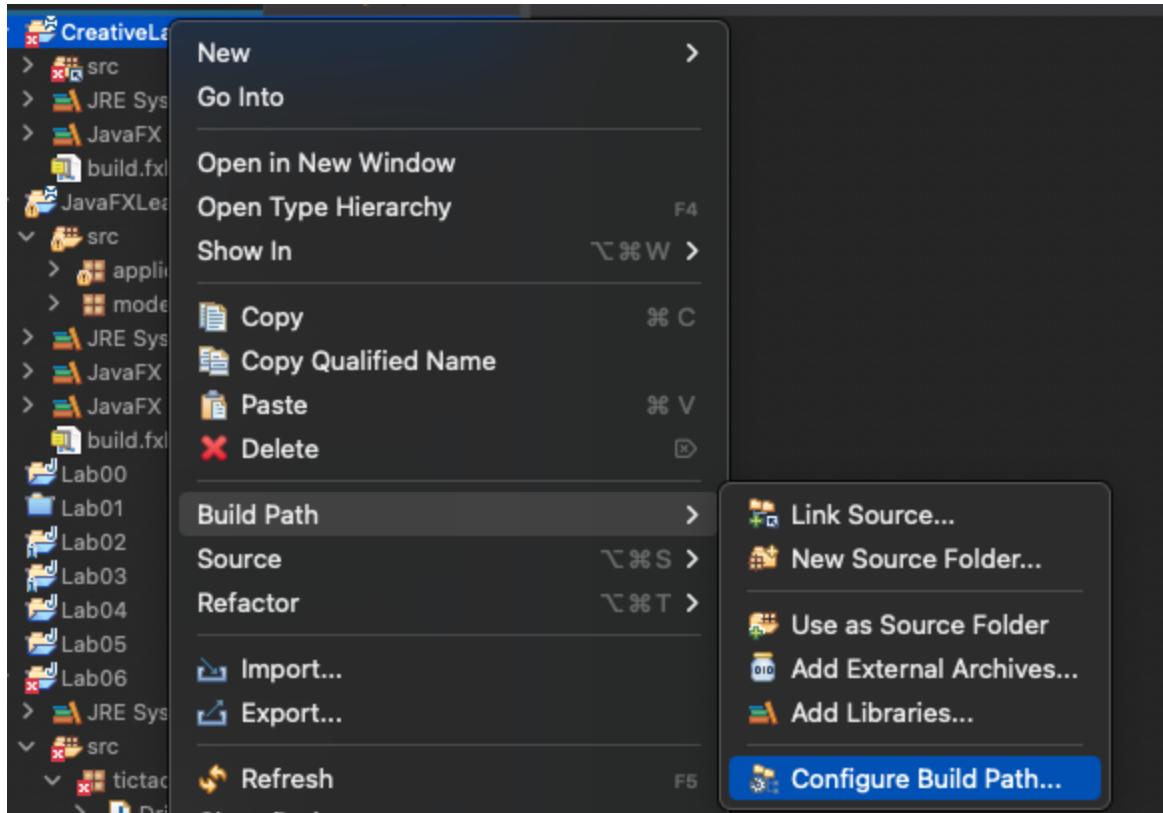
Unzip the project folder uploaded for this lab, and drag the “src” folder inside the new project folder in Eclipse.



Select “Link to files and folders” and select “Overwrite”.



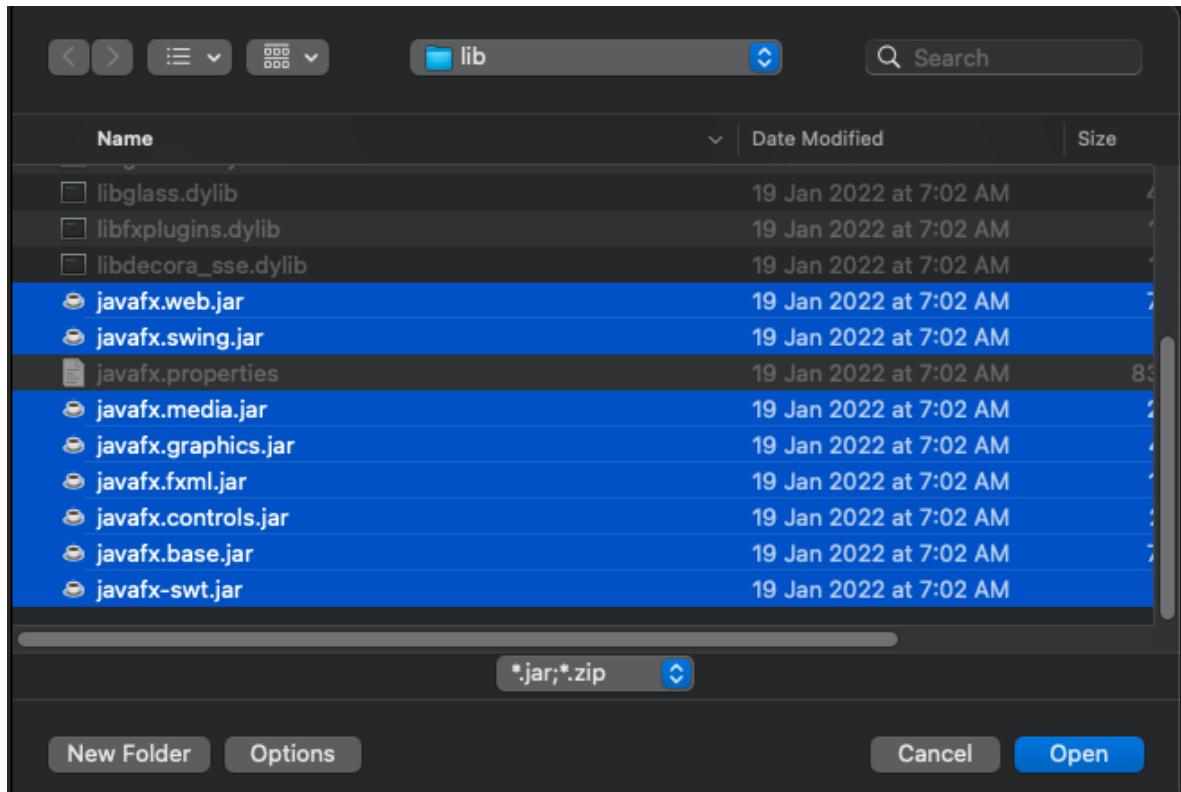
## Step 4: Configure the project build path



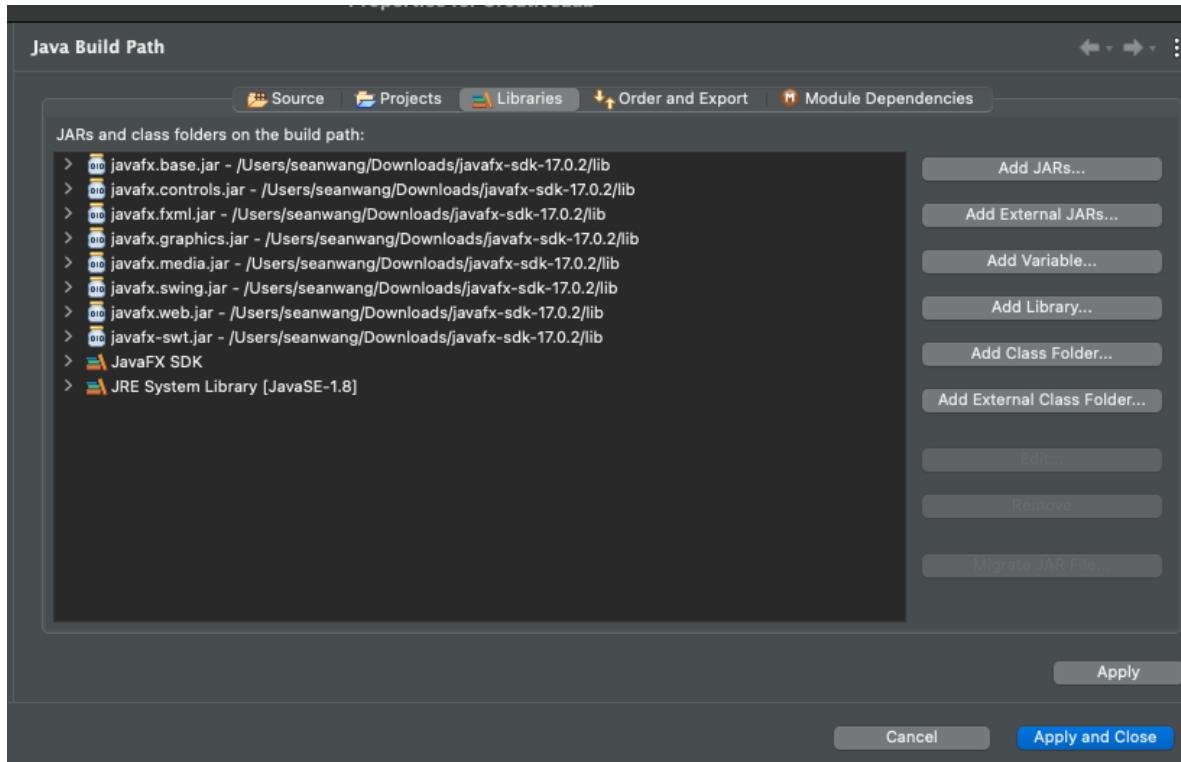
Go to “Libraries” tab, and select “Add External JARs” at the side.



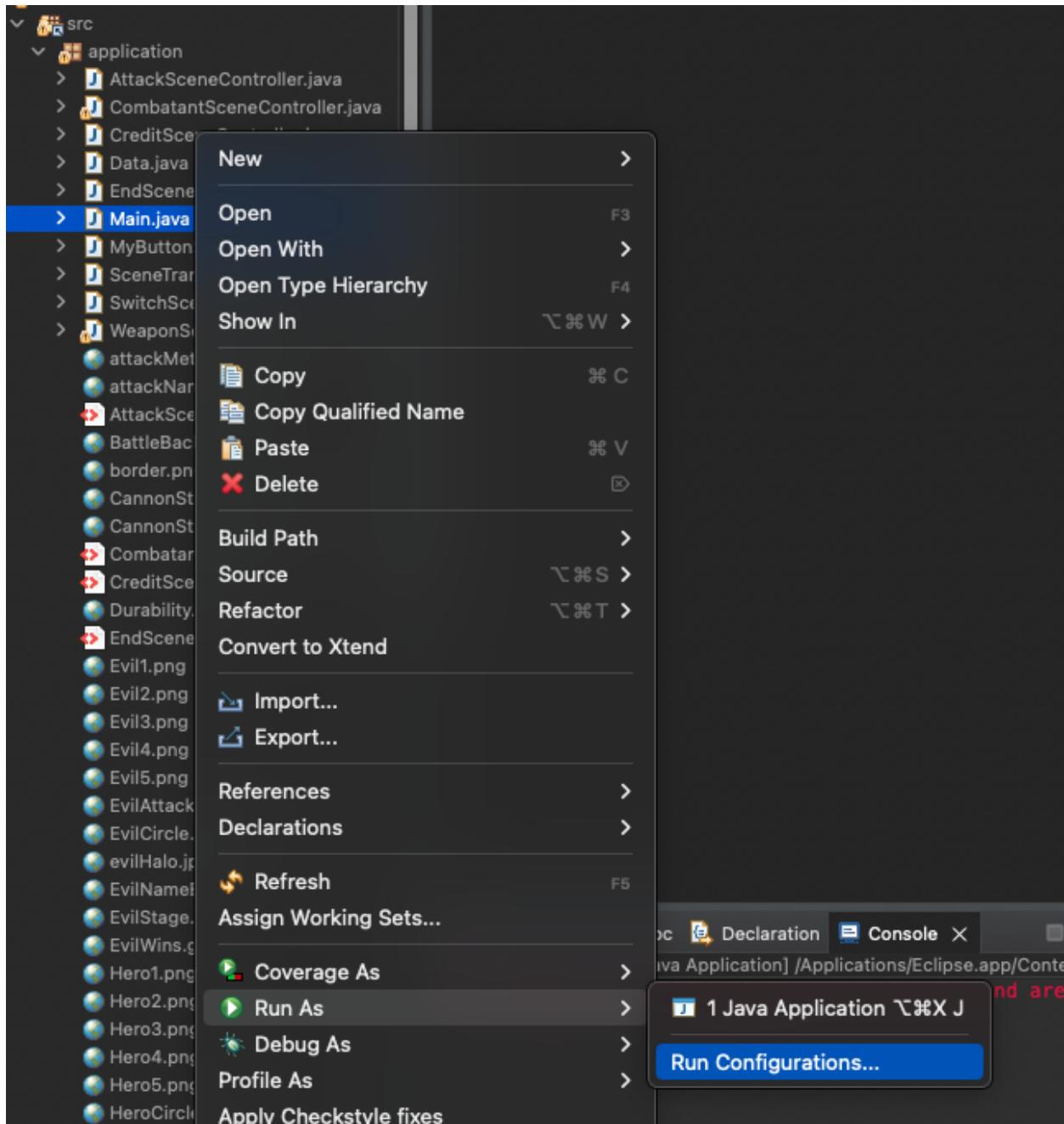
Open the JavaFX SDK folder -> lib and select all .jar files, then click “Open”.



Apply and Close.



## Step 5: Configure run application

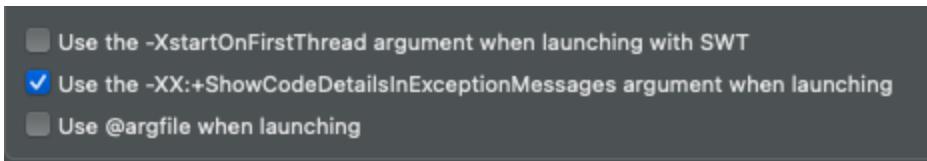


Right-click on Main.java in the application package. Select Run As -> Run Configurations...

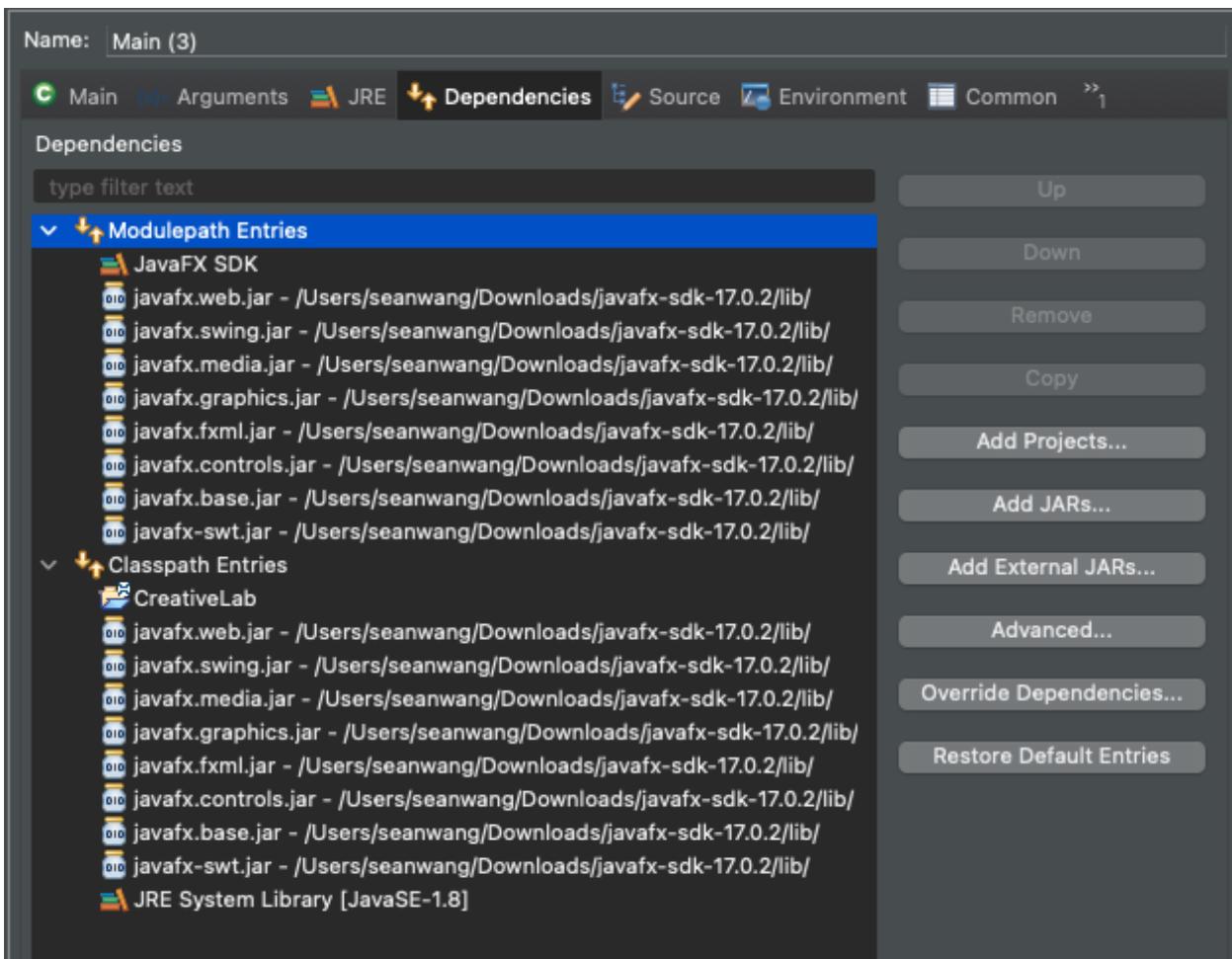
In the Arguments tab, paste the following path into VM arguments. Please note to change the following folder address to the one you have on your device:

```
--module-path /Users/seanwang/Downloads/javafx-sdk-17.0.2/lib --add-modules  
javafx.controls,javafx.fxml,javafx.graphics,javafx.media
```

Keep only the second option checked:



Go to the Dependencies tab, and add all .jar files to the Modulepath Entries if you don't have them listed there:



Click Run and here we go.

## Chapter 4: Start a Game

There are a few choices at the starting scene of the game:



1. You may click the "Start" to start a new game
2. You may Click on "Heroes" which will display more information about heroes as the image displayed below.



3. You can also choose to quit the game by clicking on "Quit".

After you choose to start a new game, the story of an evil invasion and homeland defense unfolds.





The homeland could not bear more sorrowness, it's time to stand out and fight for the peace of home!

[CONTINUE](#)

## Chapter 5: Run a Battle

The Game is played in a series of rounds. During each round, you can:

- Pick out one hero and one evil by using the random characters picker.
- Pick a weapon for a hero before each round.
- Pick a special attack for a hero before each attack.

### Start of a Round

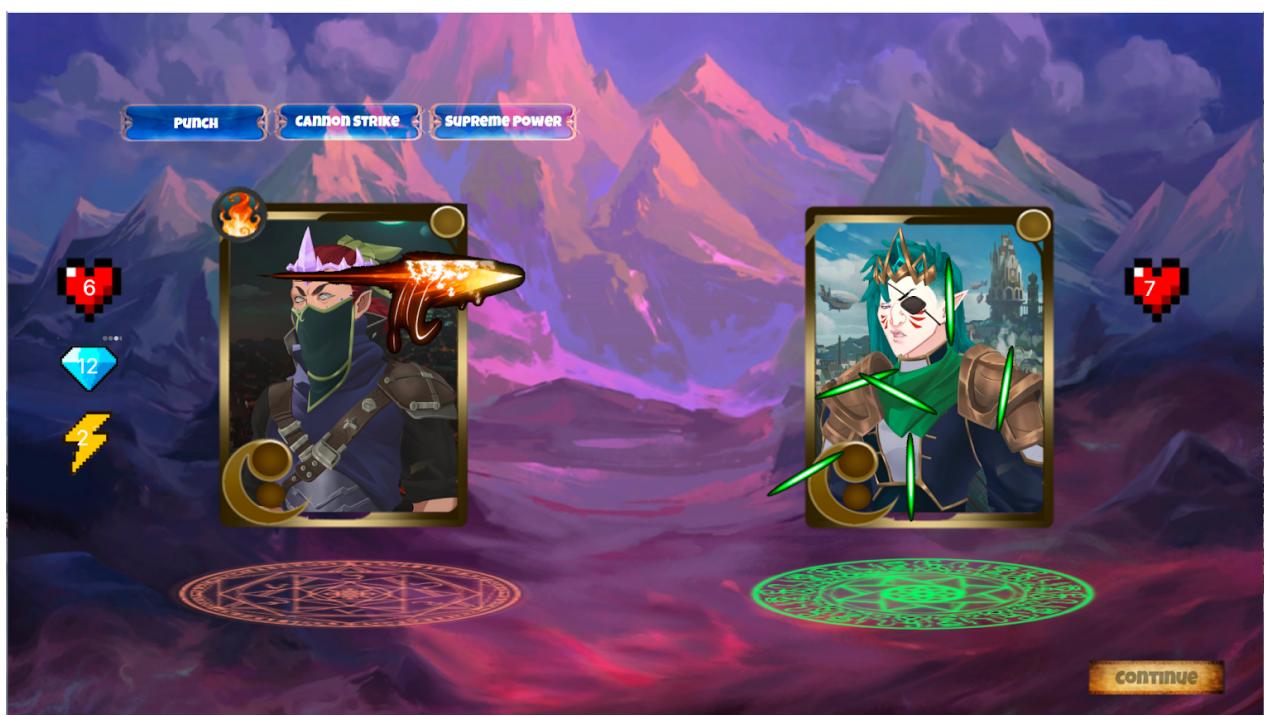
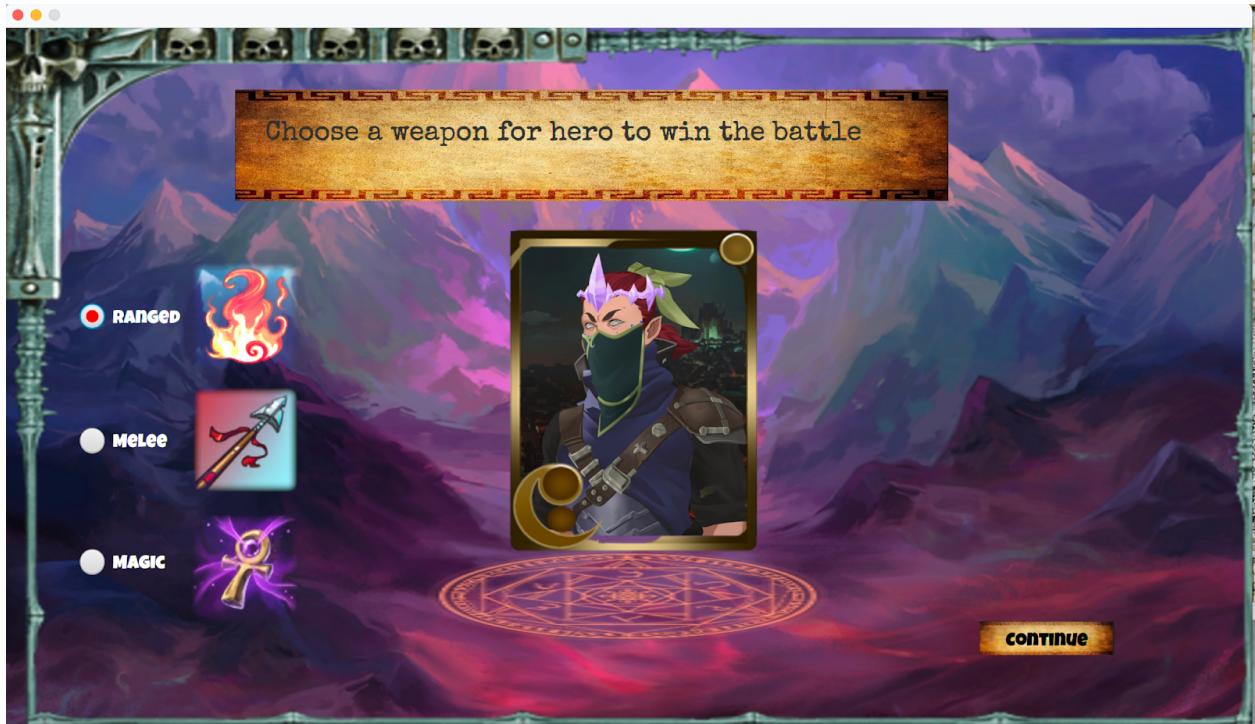
You need to pick one hero v.s. one evil by using the random character picker. The characters chosen will be marked.



### Description of Player Actions

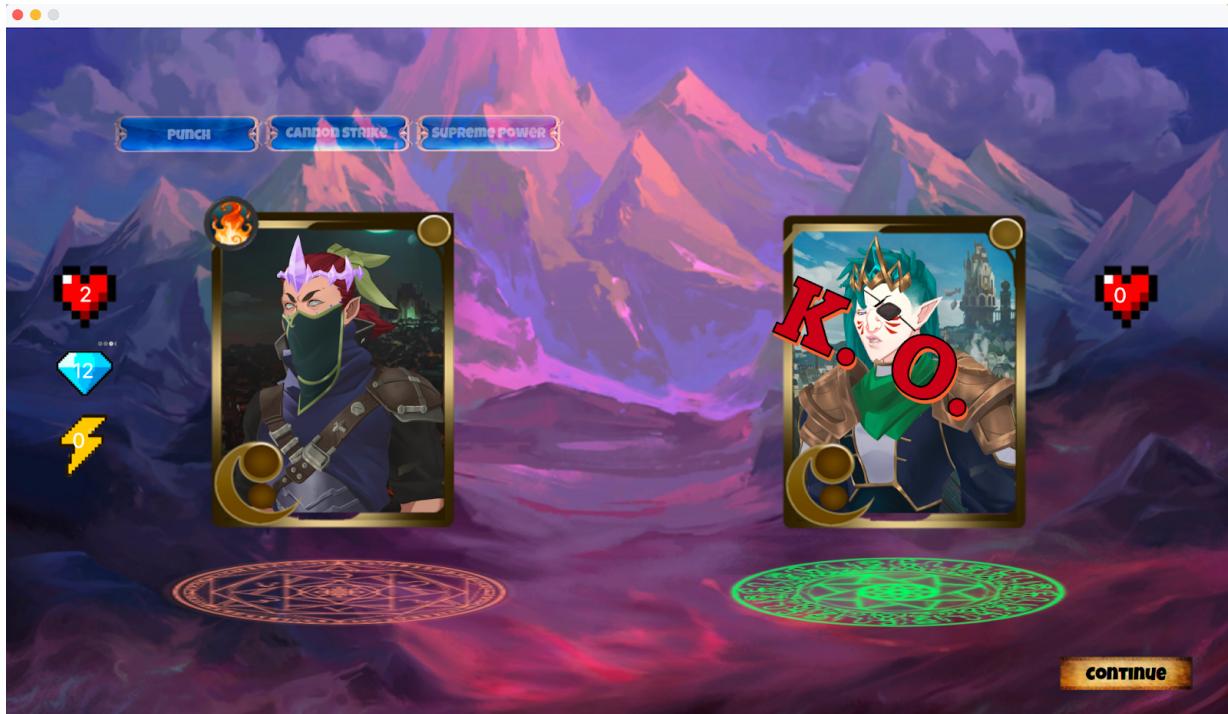
You also have the choice of attack way during each round.

- Pick a weapon for the combatant hero
- Pick a special attack that hero exerts during each attack against the evil



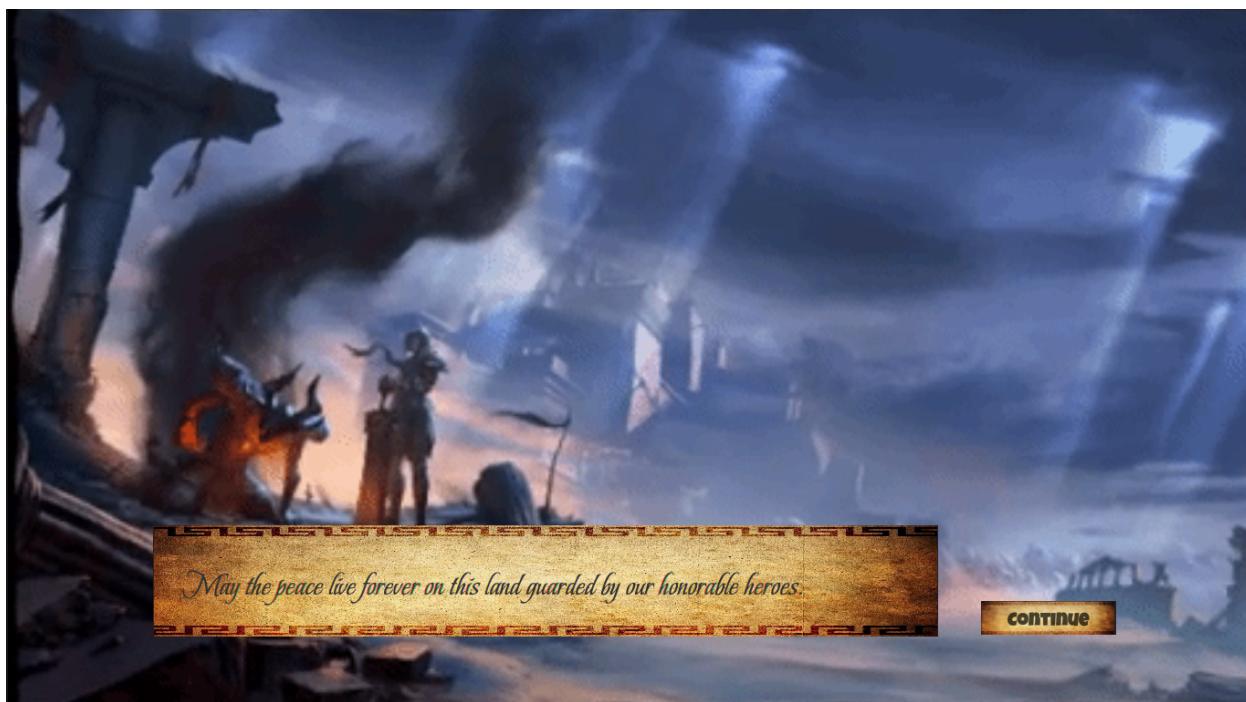
## End of a Round

Each round will end up with one side KO the other side. When either a hero or an evil has zero hit points left, the round ends.

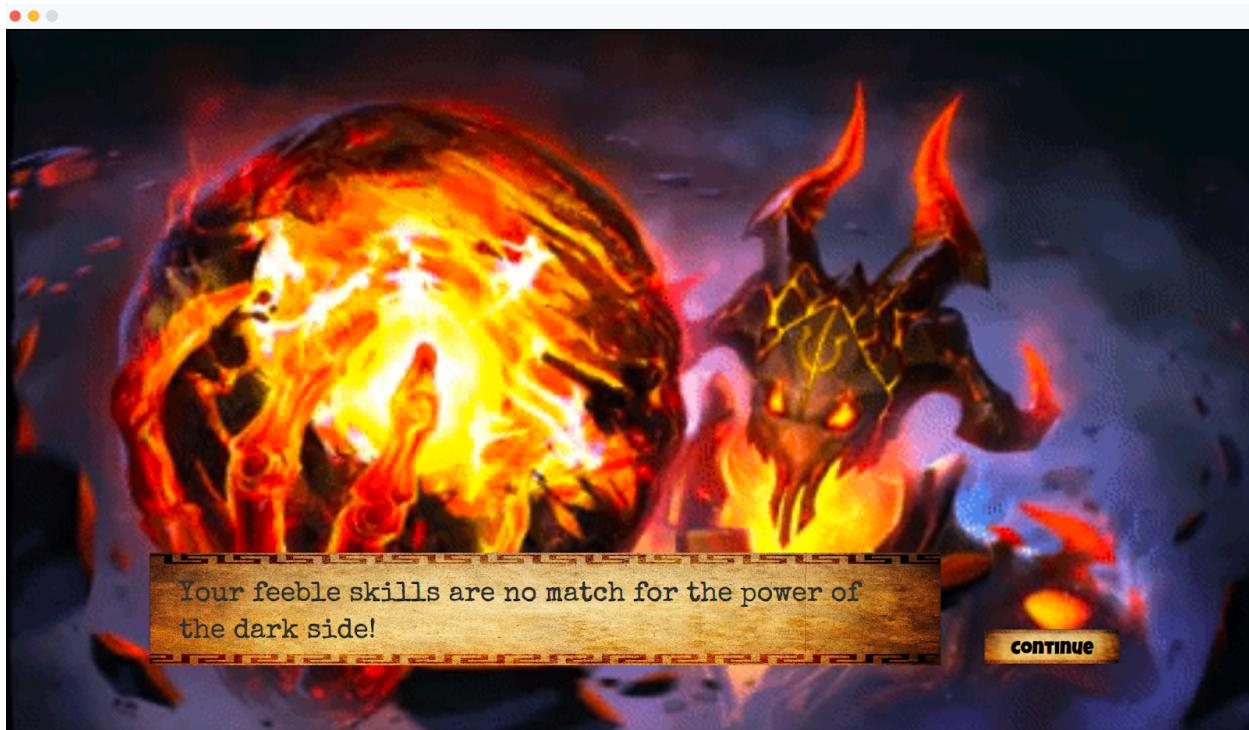
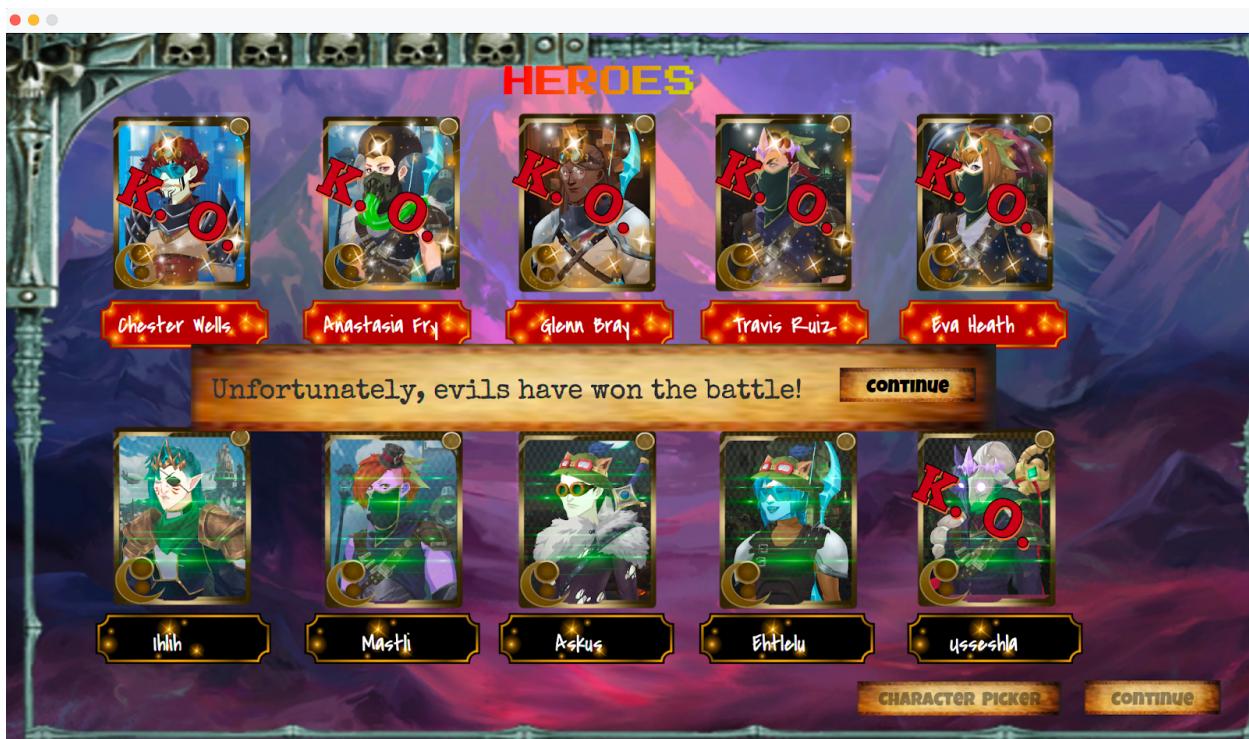


## Chapter 6: End of a Game

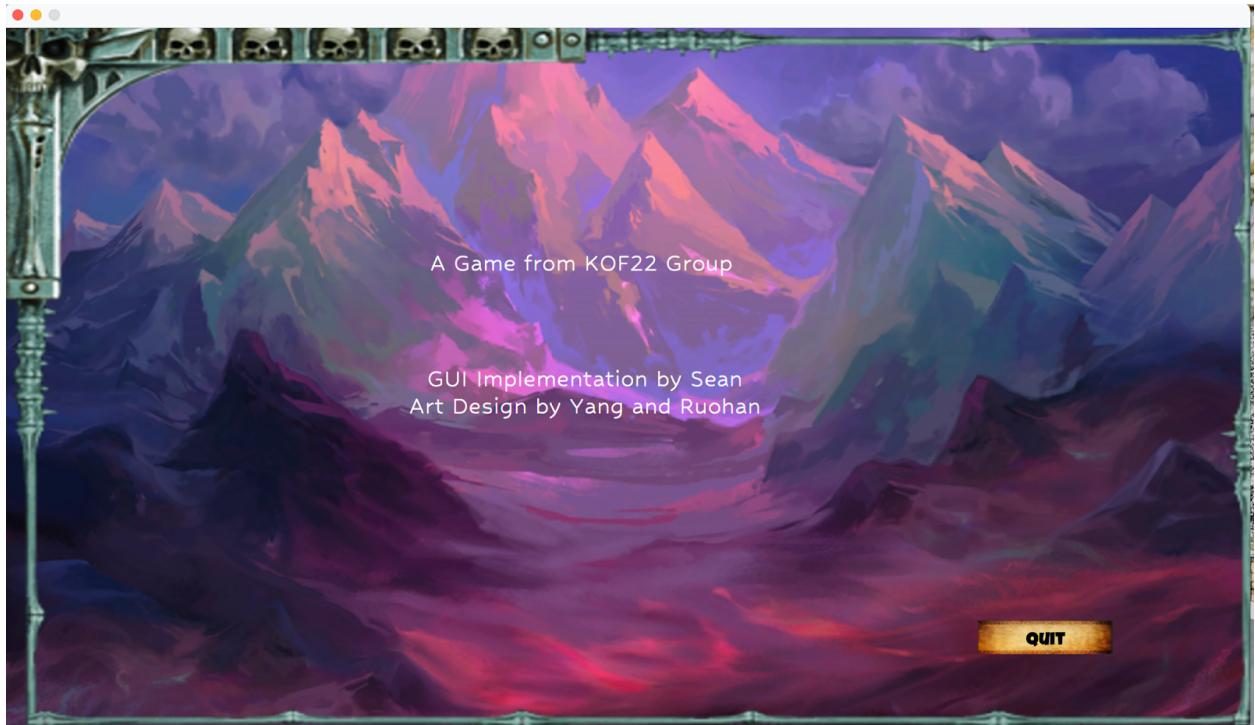
The game will end once all characters from one side are knocked out.  
The following will show up when heroes win the battle.



The following will show up when the evils win the battle.



Credits to Contributors at the end



## **Chapter 7: Demos**

Please check our demo video at

[https://drive.google.com/file/d/19NEI8\\_rPmTVCynyhr9y1o7M2QwvjLxMw/view?usp=sharing](https://drive.google.com/file/d/19NEI8_rPmTVCynyhr9y1o7M2QwvjLxMw/view?usp=sharing)

and submitted Prototype.pdf file.

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