Bilkent University

Department of Computer Engineering

CS319-3E-DE Project

The Defenders: Cinematic Edition

Final Report

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Progress Report
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This report is submitted to the Department of Computer Engineering of Bilkent University in partial fulfillment of the requirements of the Project of CS319.

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Final Report

Project short-name: Defenders

1 Introduction

This is CS 319 final report for Defenders game. Our implementation mostly consists of source codes, FXML sheets, PNG/JPEG/GIF and Text files. We implemented relevant classes from JavaFX to construct GUI. We started coding from scratch, that is why all the progress we made is the overall progress of the project from its beginning. First we worked on the backend of the project. We implemented all the necessary classes to generate each object and its utility. We worked on generating the player with its character and its gameplay options. The player can go up/down, right/left. Furthermore, it can shoot in the direction that it faces. We also created necessary classes for start-up. We have an additional class dedicated for processing usernames; storing them in text file with an assigned ID. It can also search through text file and find users by ID or display them in a list. Our Controller class is the main processing unit of the gameplay. Additional classes for screens like start-up screen or store screen is implemented as well.

Figure 1: Original game

2 Design Changes

1. **Controller**: This class has all the necessary UI components to display the game and interact with user to play the game. We changed the responsibilities of the in-game management with previously mentioned GameManagement class to Controller.
2. **Saver:** As planned, we made an additional class to process usernames even though we did not put it on our design previously.
3. **Back buttons**: Back buttons supposed to be buttons with icons. However, we designed simple button with "back" remark on them.
4. **Buttons:** We used to have a design where our buttons are transparent. But we changed that to visible ones.
5. **Pop-up screens:** Due to plans, creating new user and loading previous user should have done on pop-up screen. In this implementation, these operations are done on the main screen.

3 Lessons Learnt

Our project has comprehensive abstraction. We learned how to edit FXML sheets using JavaFX Scene Builder for JDK 8. As we made the design we also learned how to implement Listeners, Scene transitions and display. We learned how to merge permanent storage tools with our project.

4 Proposed System

4.1 System requirements

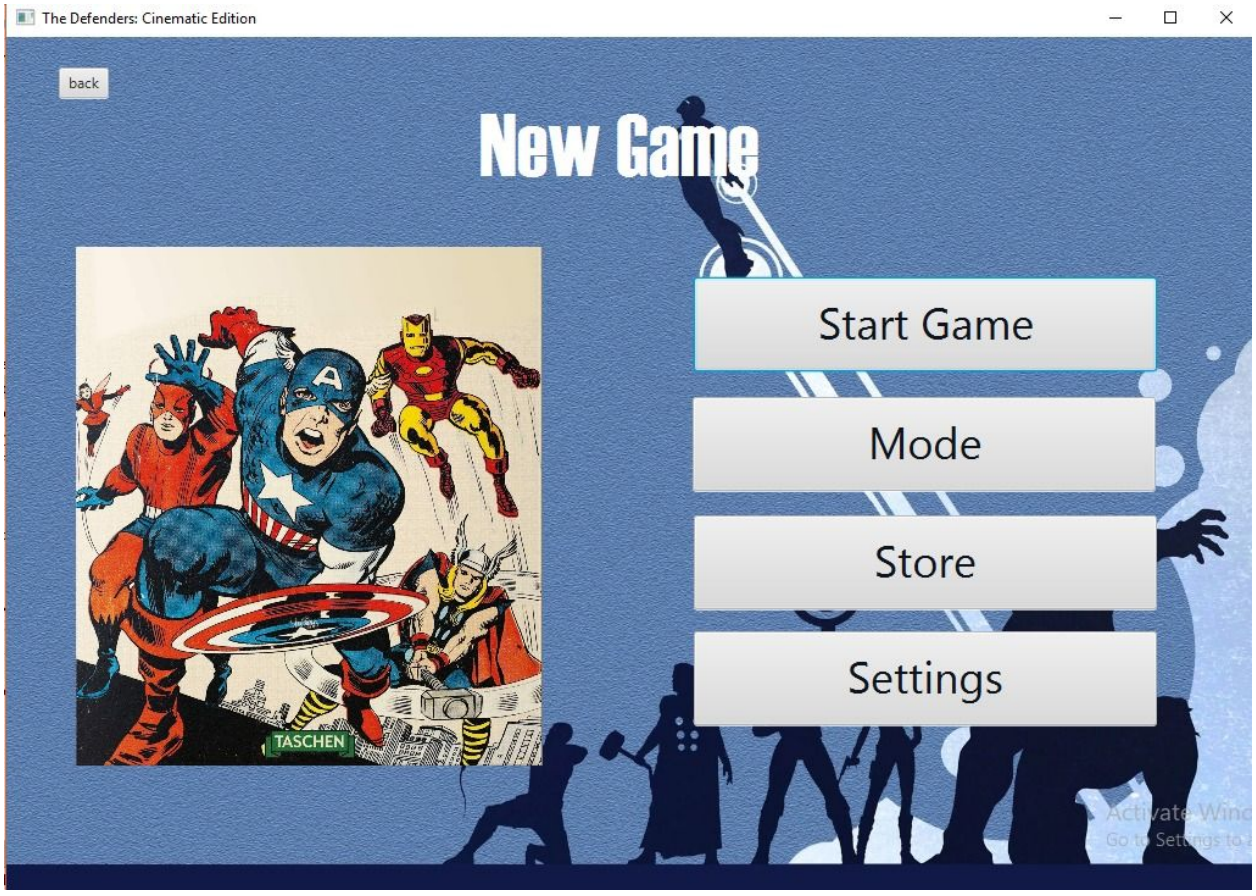
Defenders is programmed in Java, but since we have not implemented .exe yet, user needs to download and install JRE (Java Runtime Environment).

Requirements:

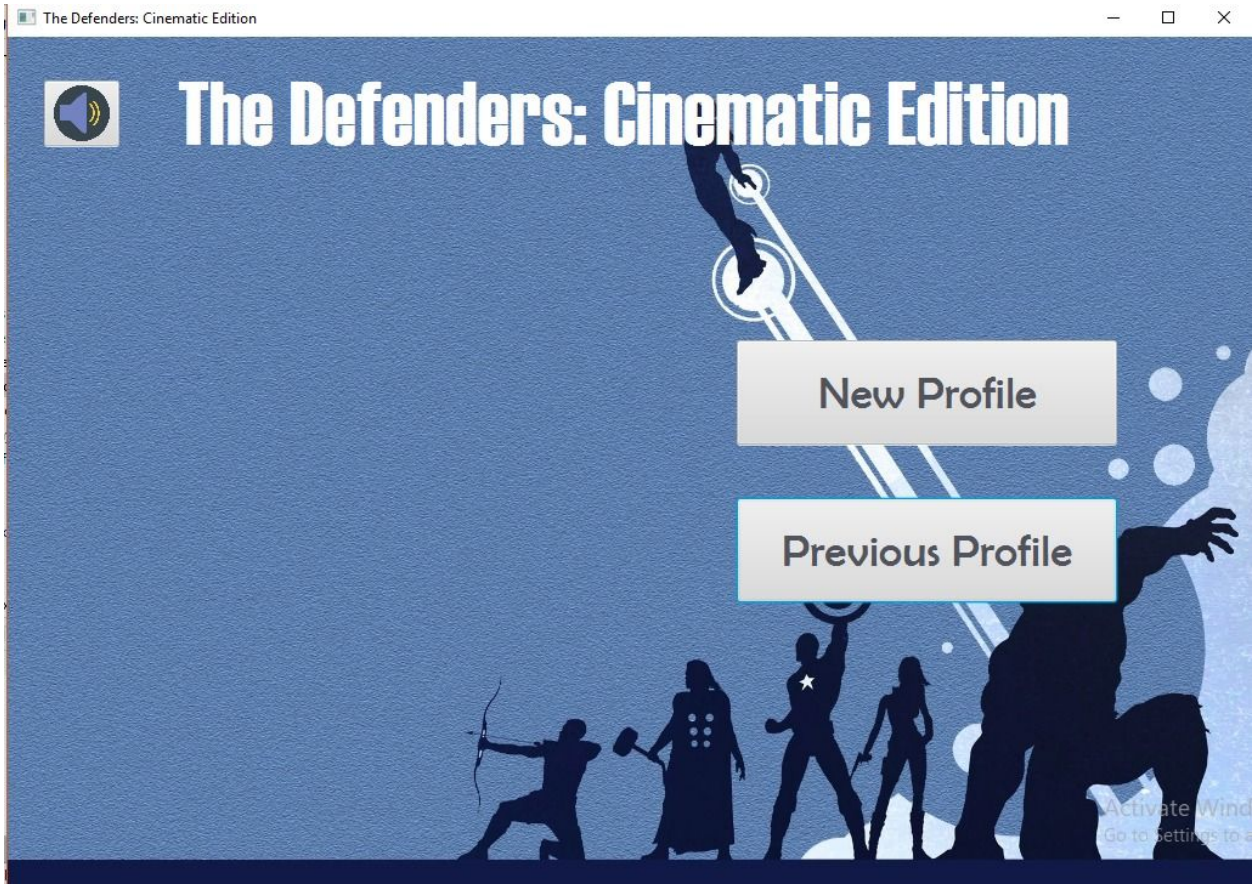
- Windows
- Pentium 2 266 MHz processor or later versions
- 512 MB of RAM or higher
- Reccomended 60 Hz refresh rate
- JRE 8

4.2 How to use

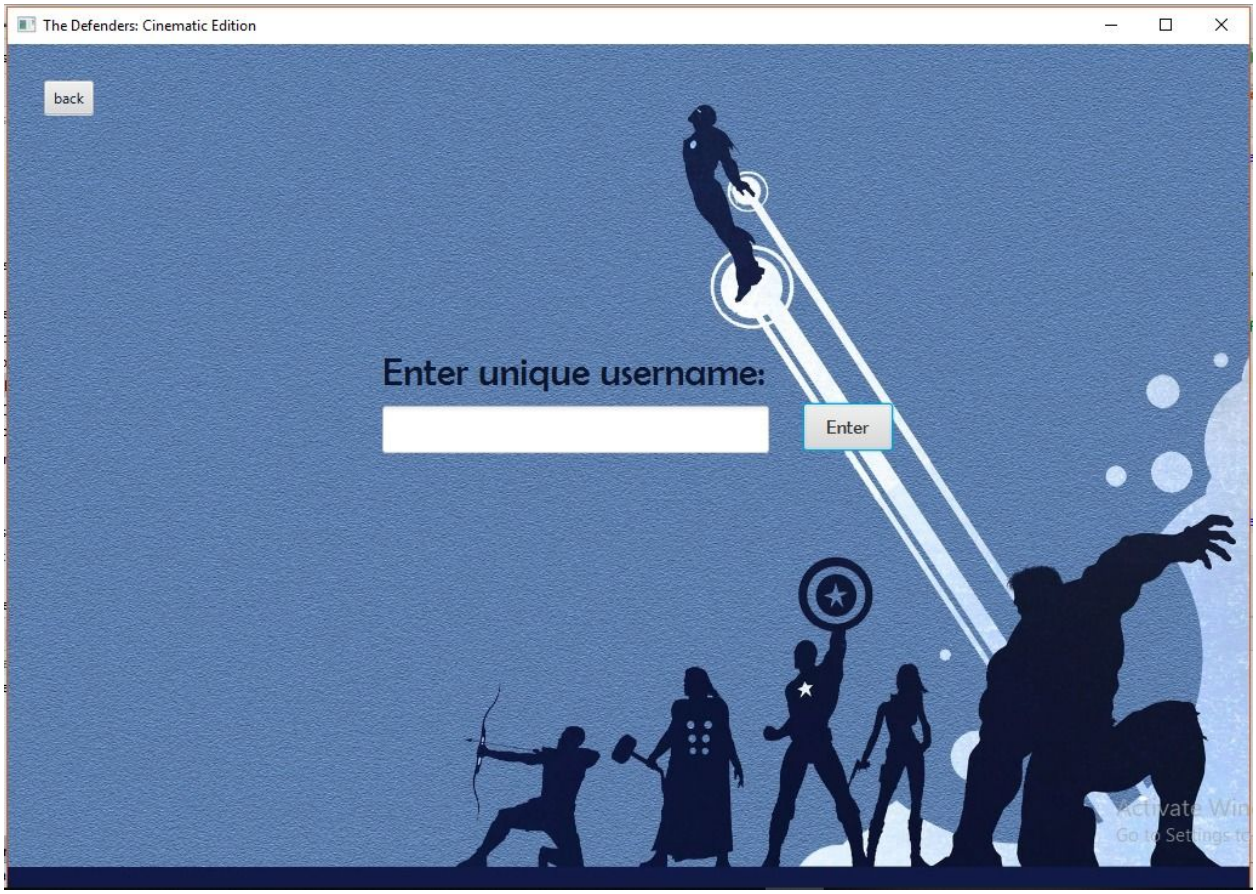
Here is a quick guide for the user:



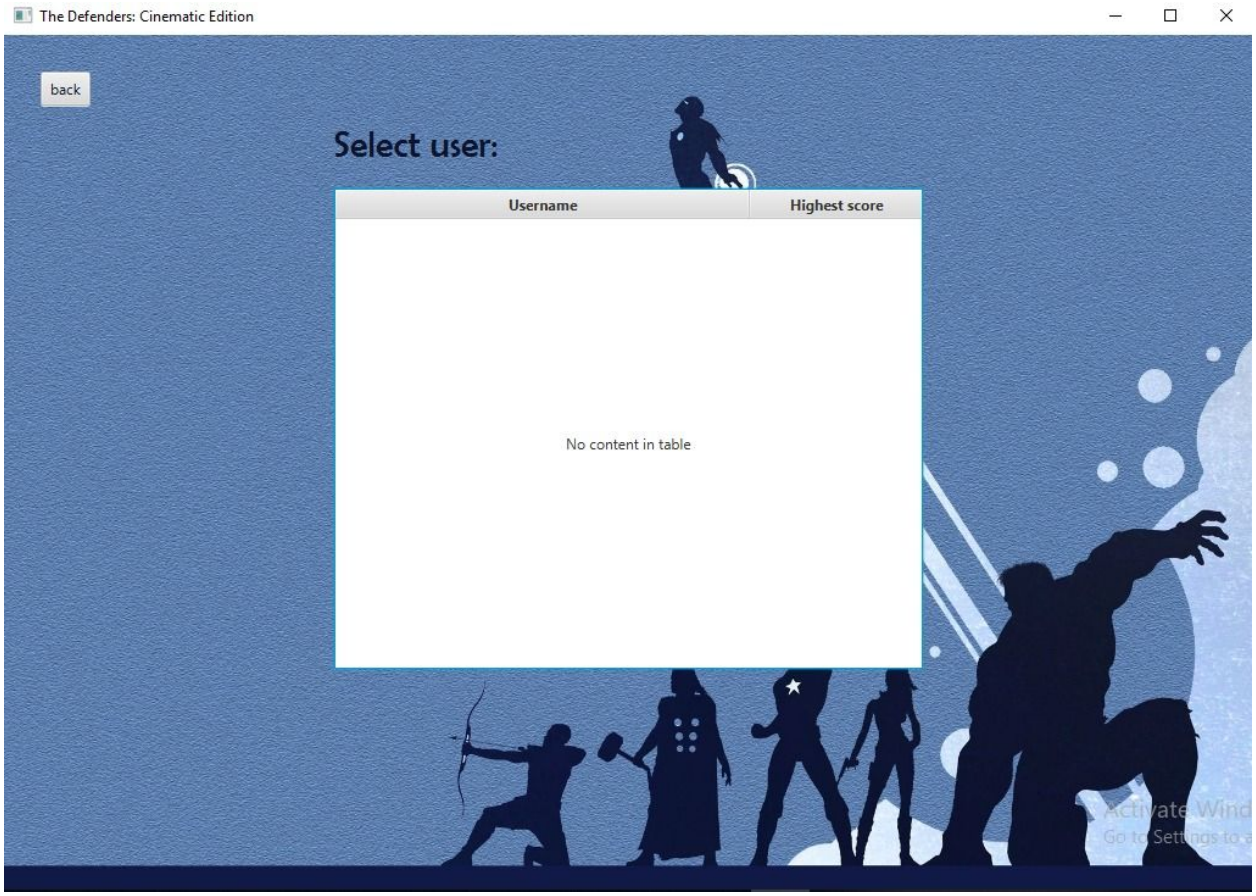
This is our main screen



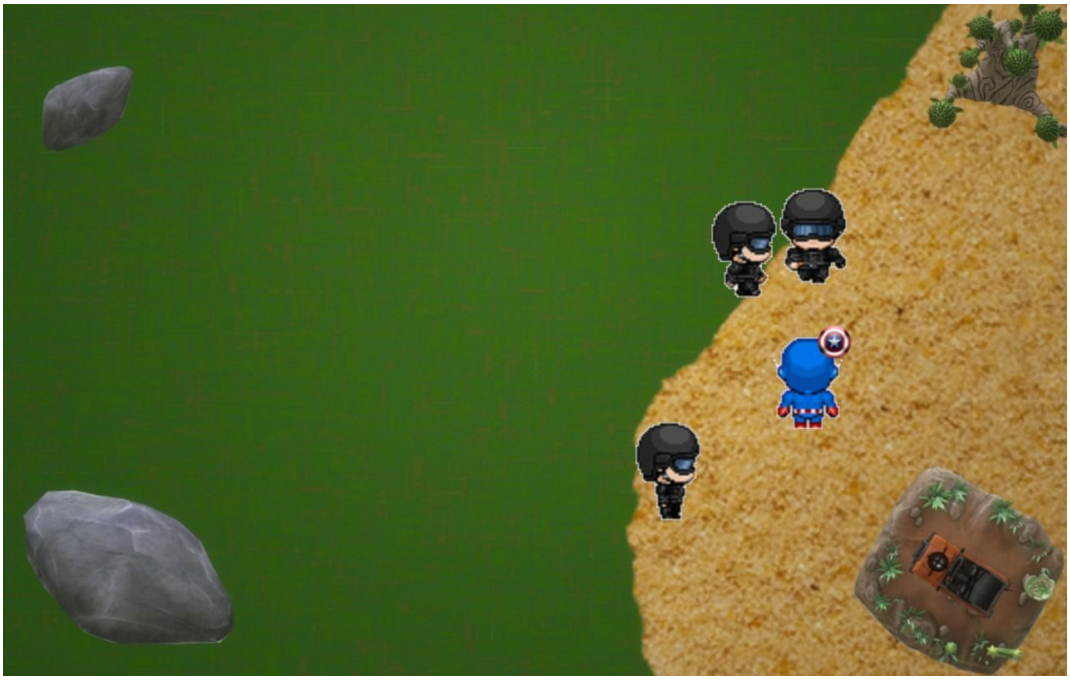
This is our start-up menu. User can either select to make a new profile or load from previous profiles. There is also mute button on the top left corner which mutes all the sound of the game.



User is required to enter user name and will receive a unique ID.



This is the table for all the players. Users will choose their usernames with assigned IDs and will start the game immediately.



This is game-play. The player will try to destroy its enemies without being touched.