CS 319 - Object-Oriented Software Engineering
Final Report

MazeRunner
Group E2
Ali Sabbagh
Mehmet Furkan Dogan
Umitcan Hasbioglu
Xheni Caka
Instructor: Ugur Dogrusoz

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Introduction

The project group decided to implement an arcade game because arcade games have an advantage which is the models can be drawn easier than the other programs. Thus, we decided to create a game which is a combination of “Pac-man”; and “Bomberman”. We decided to implement a stealth game Maze Runner that combines these two games and offers many new features. It will give you the present enjoyment of gaming plus the lovely nostalgia to the old days. The game can be played as a single player or multiplayer and the game purpose is to reach the end as soon as possible. The goal of our game is to solve a sophisticated maze as fast as possible with the least possible attraction of soldiers. Both single and multiplayer modes can plant a bomb and try to keep the patrols out of your way or damage your enemy (in multiplayer version). When the player reaches the end, he will receive bonus points with respect to remaining time.

User’s guide System Requirements

According to our design goal portability, the requirements for this game are not complex. The most important requirement is the machine should have Java 8 SDK installed and configured. It also has to satisfy the graphics.

Changes to the design

We didn’t have much changes to the design as we tried to implement as much as possible as stated. However we had some minor changes and most came as we tried to add some extra features to the game which we had not stated earlier. We had to add some more classes and methods in order to make them work. We had to add some more methods as well which were mostly related to key listeners. There are no changes in the layers. Most of the changes were done in the upper and middle layer as adding new features affected the UI and the logic.

UI Layer

The UI of our game didn’t have much changes compared to what was stated in the design. We kept the simple design we had planned and added a couple of more function related to keys.

Middle layer

This layer plays a bridge role between the UI layer and the file manager. The interactions between all of them are mostly the same with design report. However, in the implementation we faced the truth that we need some new methods. With respect to these changes, some methods and their parameter are changed. Besides this modifications, there are not many changes. We construct our middle layer according to our class diagram.

FileManager layer
We follow shape of the layers as we described in the Design Report. However, we had to add extra functions to easy interaction with other layers such as changing the scores and names according to game results in the ".txt" files. In extra functions, we used array lists since it was easier to handle data coming from a files.
Exposed Documentation
The Appendix is uploaded on the docs documentation in GitHub.

User's Guide

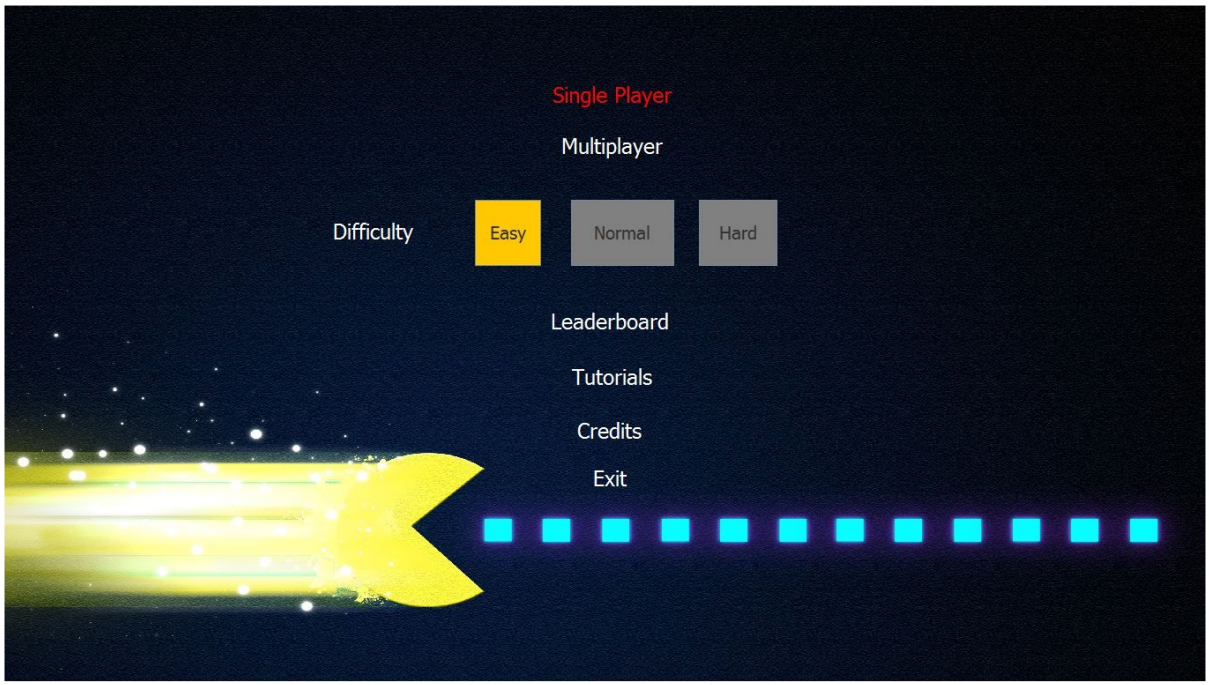
System Requirements
The requirements for this program are simple. The system should have Java 8 SDK installed and configured so that it is able to open .jar files. No internet connection is required.

How to build
In the GitHub folders you can find build.xml which you should download. "Ant Test" will help build the file and make it executable.

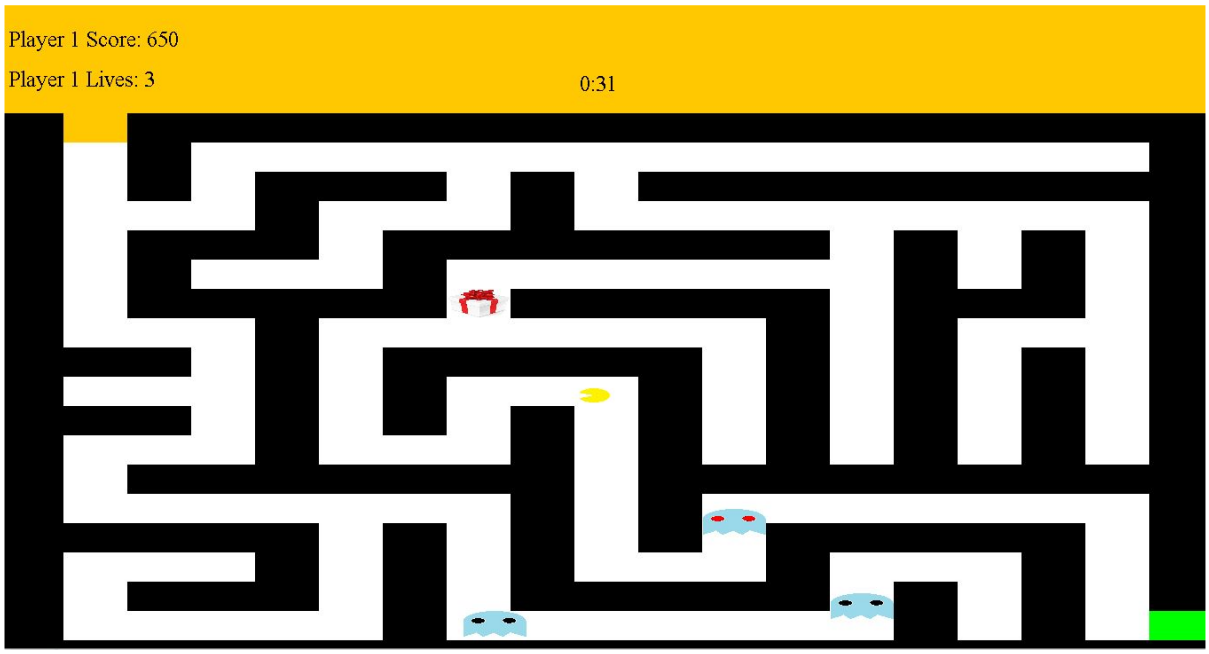
How to install
Nothing complicated. Just the jar file is necessary. If it exists it is installed.

How to play

When you run the game you will be in the Main Menu. There you will be able to start the game by choosing the difficulty level that you want and choose among the single or multiplayer modes. There you can also access the Tutorials, Leaderboards and check the developers of the program. Using the arrow keys and the "Enter" button you can make your choices. To go back to previous menus use the "Esc" button.

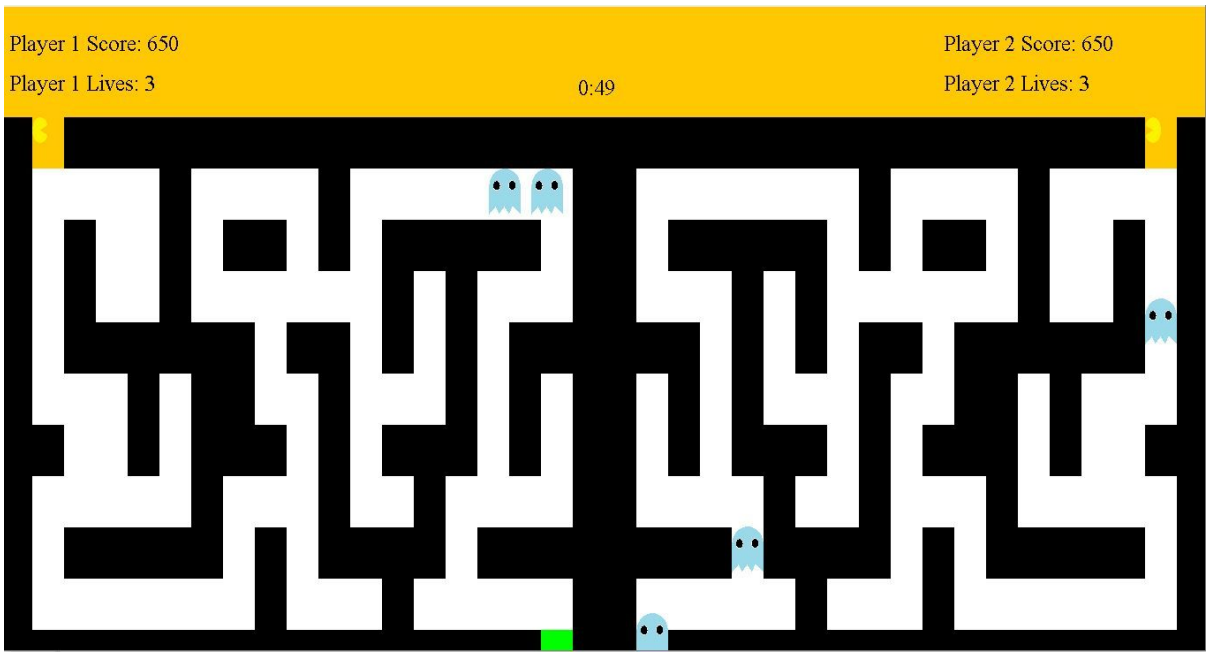


When you choose the Single Player mode then this screen appears. Each Pacman starts the game with 3 lives. The purpose is to reach the finish of the game as soon as possible so that you can have your name in the high-score table. Use W, A, S, D to move.

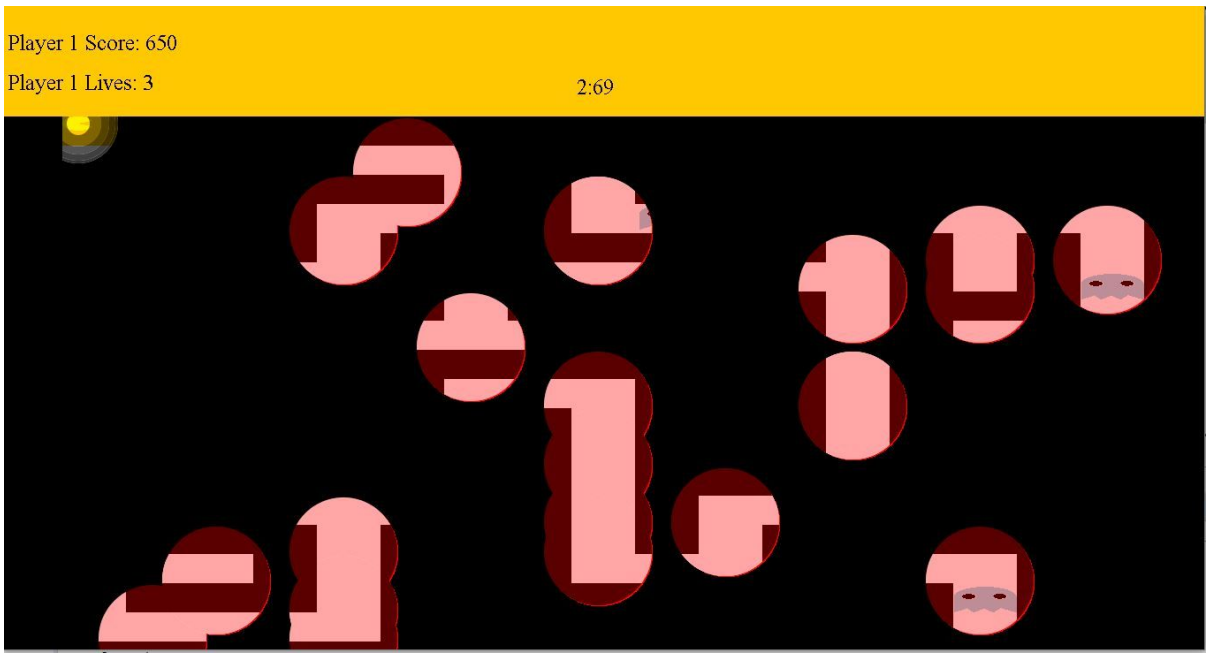


If you are playing in multiplayer mode the purpose is reaching the finish first. The second player uses arrow buttons to move. In the way to the finish you will face the patrols which

will try to make it harder for you. If they hit you, then you will respawn to the starting position.

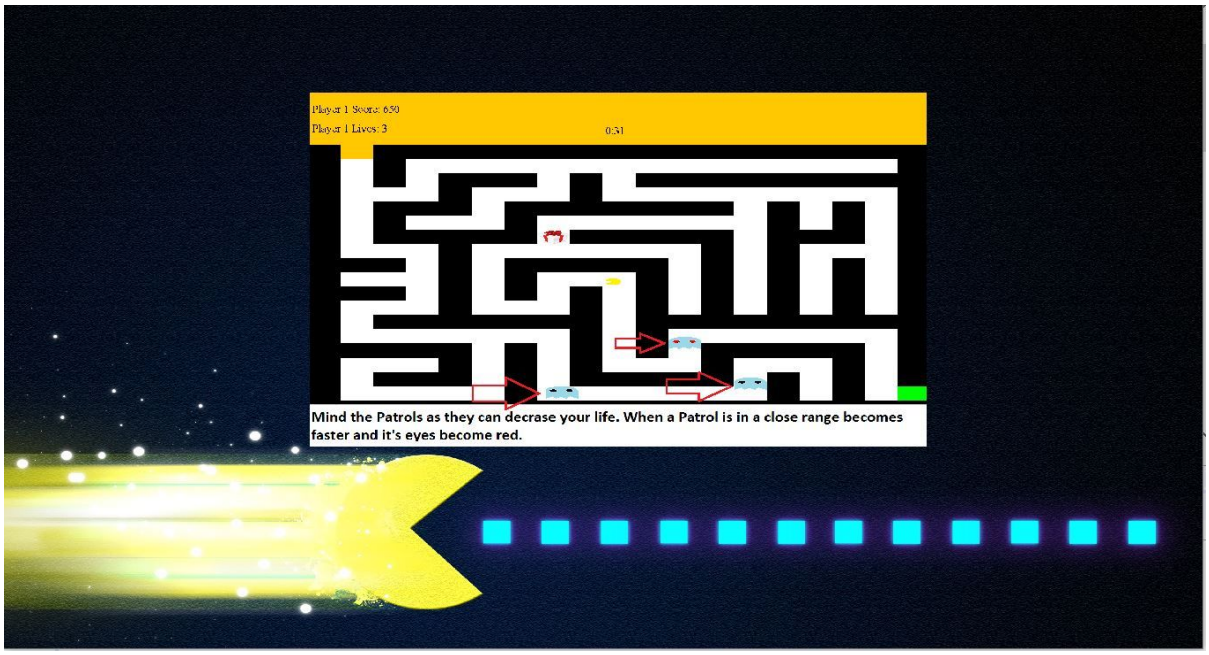


There are different levels in the game. The hardest level is a bit different as you are not able to see the whole maze but just portions of it. Wherever the Pacman is though, it is surrounded by light so that you can see the surroundings.

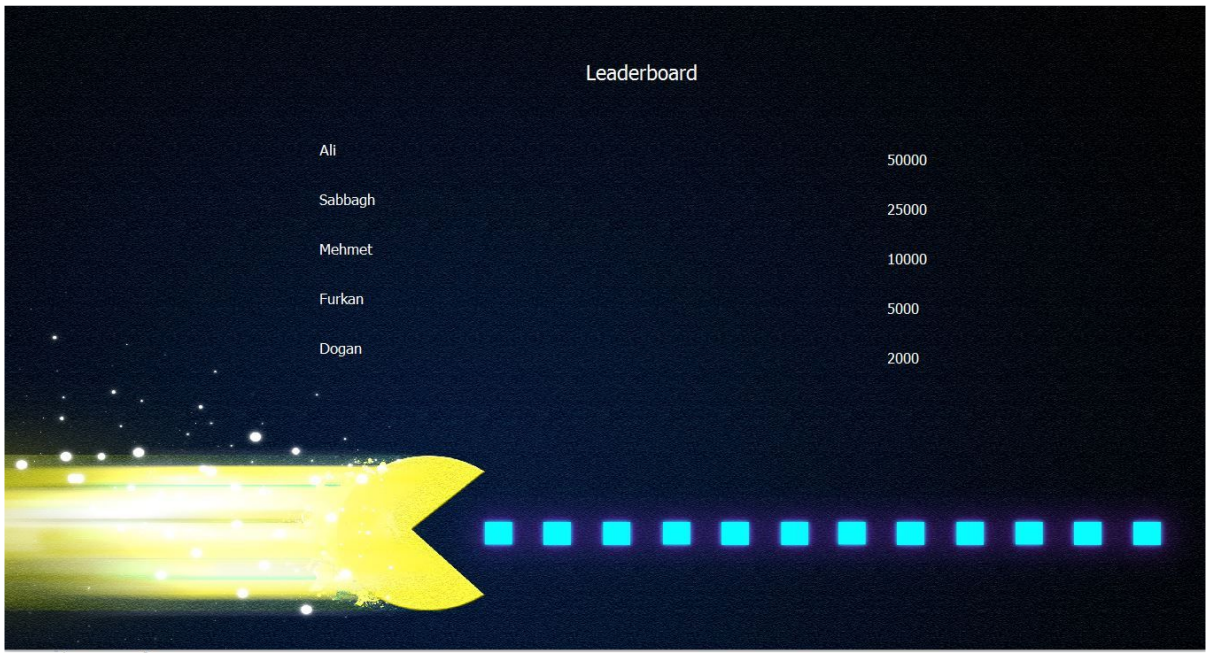


Make sure you get to the Bonuses on time. They appear in random times in different areas of the game and you can get them by taking your Pacman to the Bonus shown in the board. Bonuses can add you a life, score or speed.

When you are not sure how to play the game and need more details you can always access the tutorials from the Main Menu.



If you score is among the best scores that you get to save it in the end of the game by typing your name in it. You can check the best scores in the Leaderboard from the Main Menu.



What is left?
Everything is implemented as we discussed in the Analysis and Design Reports. All the features are there working

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The using issues are discussed in the following link.
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