CS319 Term Project

Final Report
Section 3

Team Name: JOKERS Team
Project Name: IQ Puzzler Pro

Project Group Members:

- Burak Erdem Varol
- Ravan Aliyev
- Subhan Ibrahimli
- Ismayil Mammadov
- Mahmud Sami Aydin
- Cihan Erkan

1. Introduction

We used JavaFX and Java Swing for coding part of this project. We decided parts according to interests of group members and everyone decided which part they are interested. Therefore, it makes more efficient work according to time and efficiency of program.

We designed single and multiplayer modes. In addition to that, we designed Level Creator part. This mode created for freely use of users. They can easily make levels and pieces in this mode. Apart from that, we decided to eliminate "Language" selection in the game. This part need internalization which can use all languages. However, we cannot use this feature. We decided use English language for the game. Apart from that, we cannot finish Random Level Creator.

1.1 Implemented part by the developers:

- Ravan Aliyev designed Settings and Music parts. In settings part the user can adjust music from the Music Menu. In Music Menu user can stop, play and switch between songs.

  Settings class, Music class designed by Ravan Aliyev.

- Burak Erdem designed Menu and orchestration. He designed interface design and connection between frontend and backend.

  Byrak Erdem designed GUI and orchestration.

- Subhan Ibrahimli designed Piece Creator part.

  PieceCreator class designed by Subhan Ibrahimli.

- Mahmud Sami Aydin designed models, control and Play Screen of the game.

  MyNode class, Polymino class, PolyminoList class, Board, GameEngine, GameView, Level classes designed by Mahmud Sami Aydin.

- Cihan Erkan designed Level Design and integrate it with control part.

 Level, GameEngine, StopWatch, HighScoreManager and Player classes designed by Cihan Erkan.

- Ismayil Mammadov designed Level Creator part of the game and able/disabling of same buttons when pressing them.

  LevelCreator class designed by Ismayil Mammadov.

2. Design Changes

At the first presentation we recognized that, some colors we are used in design is a bit boring colors for the user. Hence, we decided that, use some user-friendly colors in the design.

2.1 Main Menu
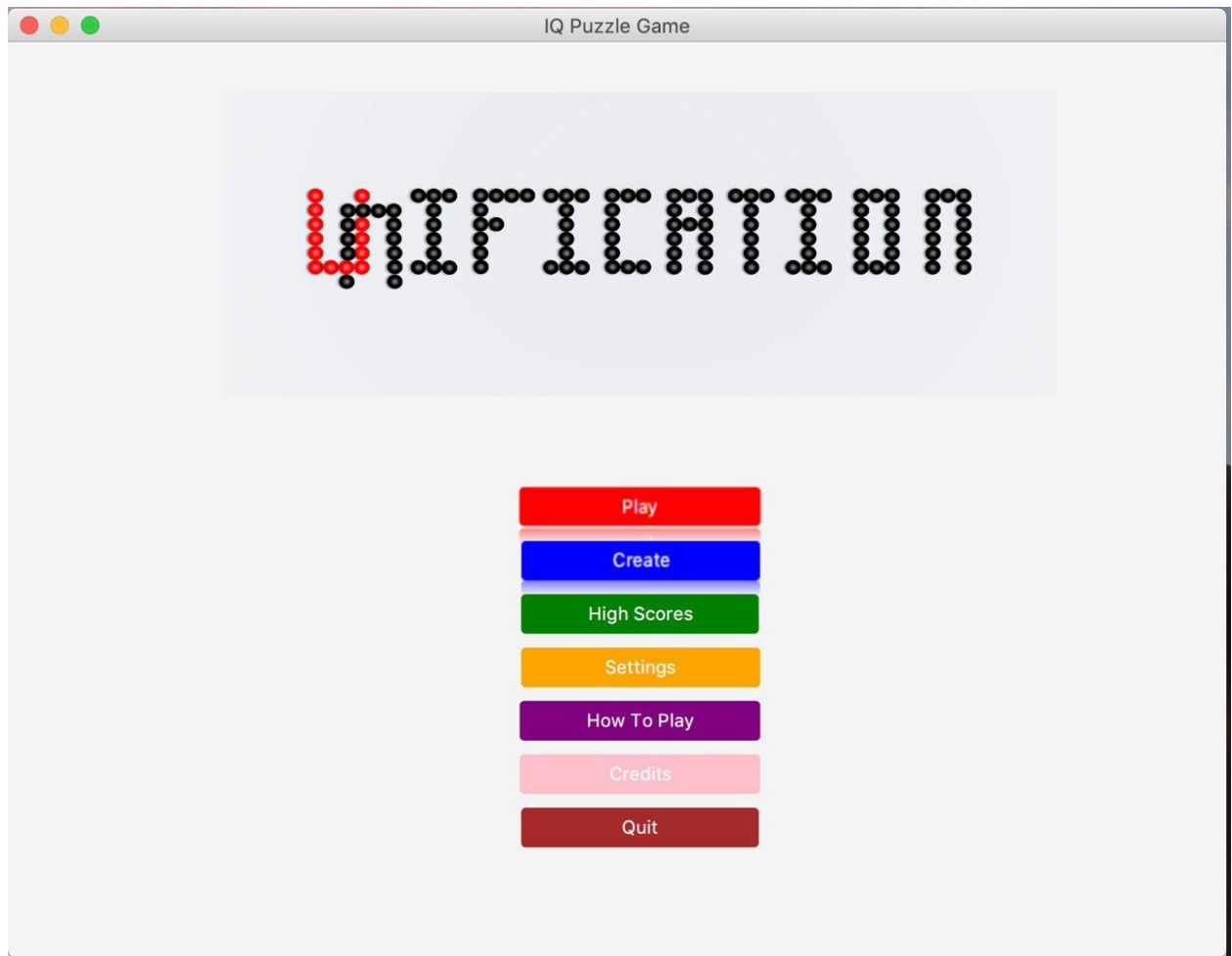
In main menu part, we use image designed by our Subhan Ibrahimli. This image based on true story of the image. Main Menu part designed for easy interaction between user and the game. User can start the game by clicking "Play" button, create his/her own game with "Create" button, check High Scores, adjust settings with "Settings" button, learn how to play and acknowledge about developers of the game with "Credits" button and quit the game.

2.2 Play Options
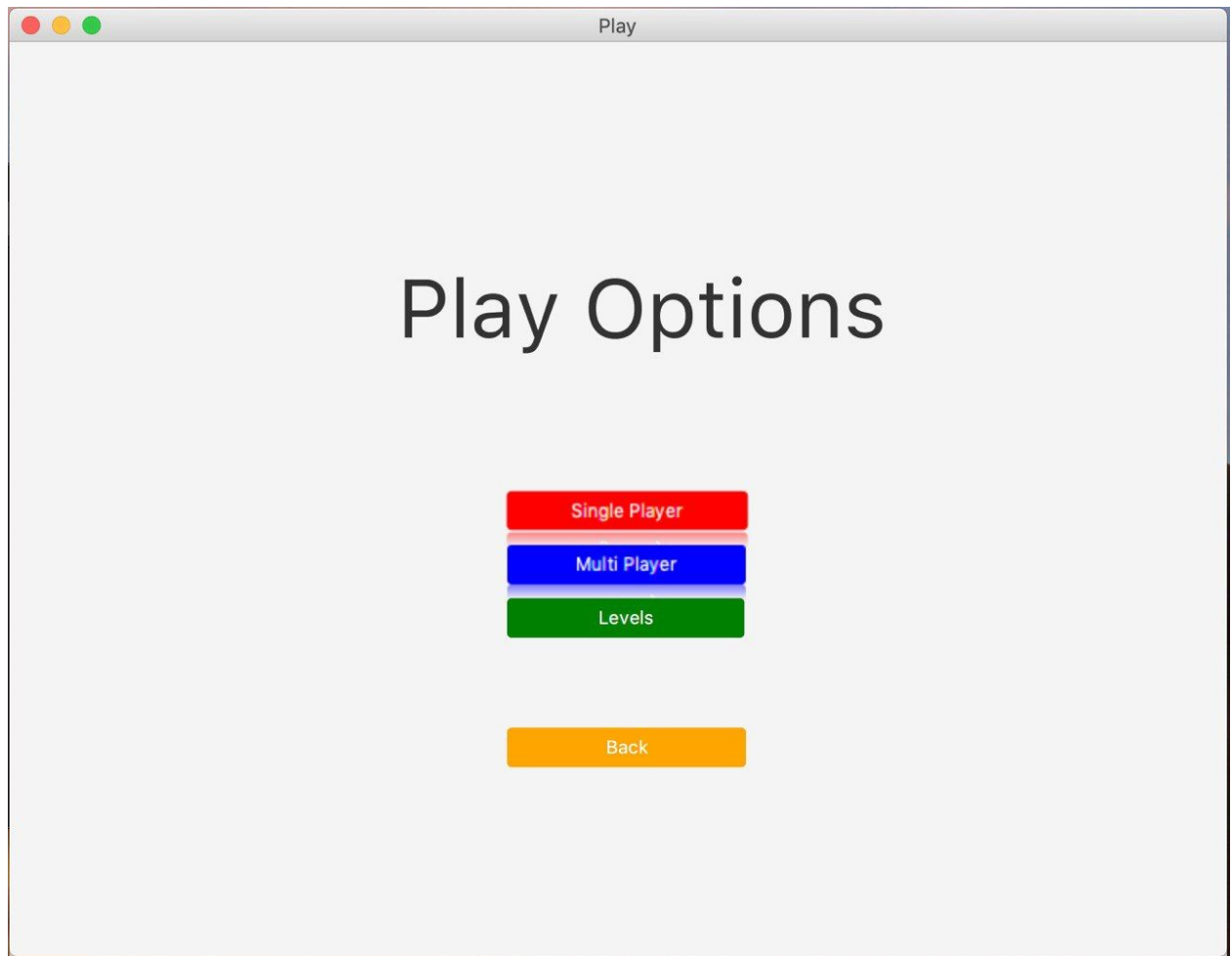
When "Play" button is clicked, "Play Options" will be opened for the user. User can select "Single Player", "Multi Player" or "Levels" modes
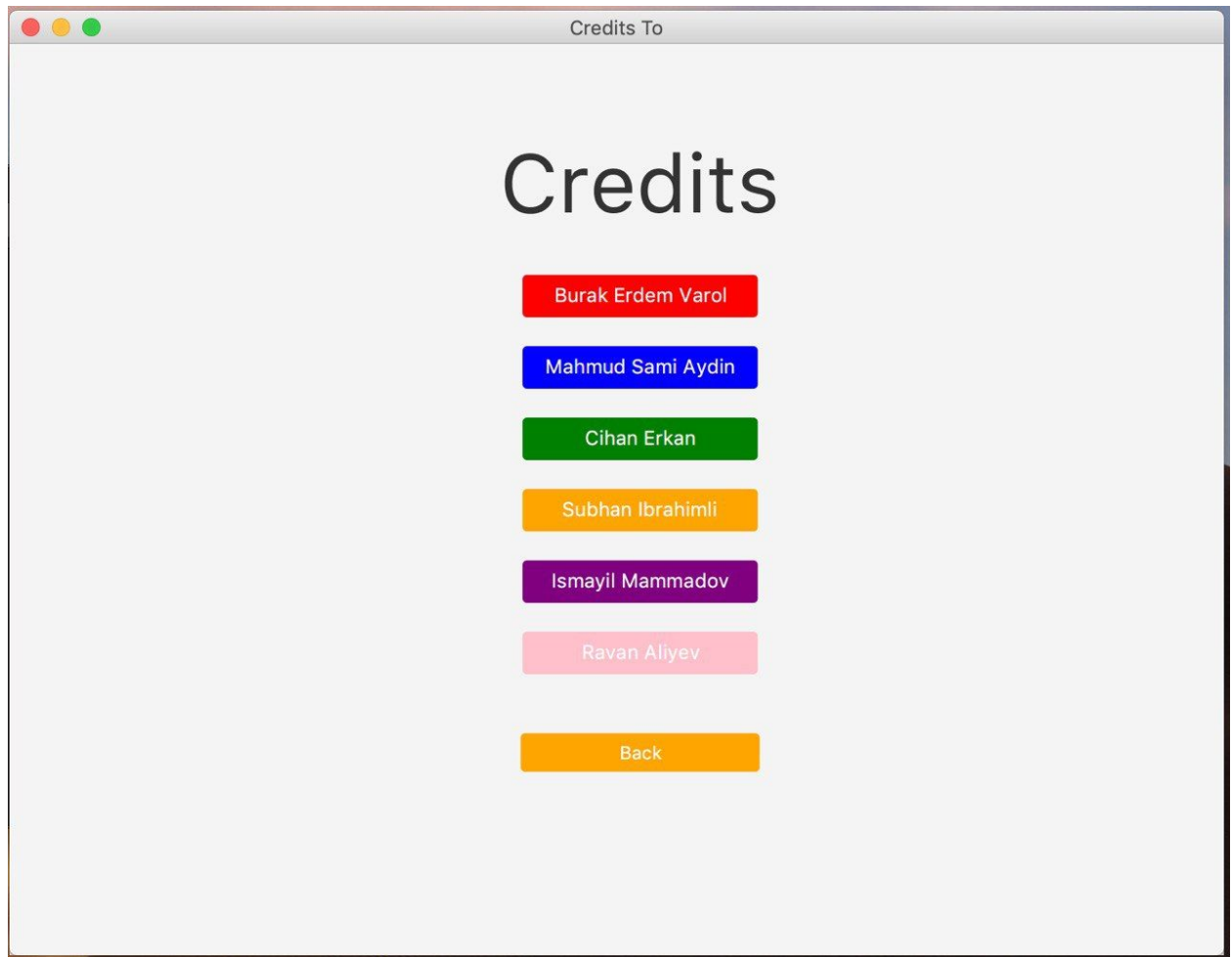
2.3 Game Screen
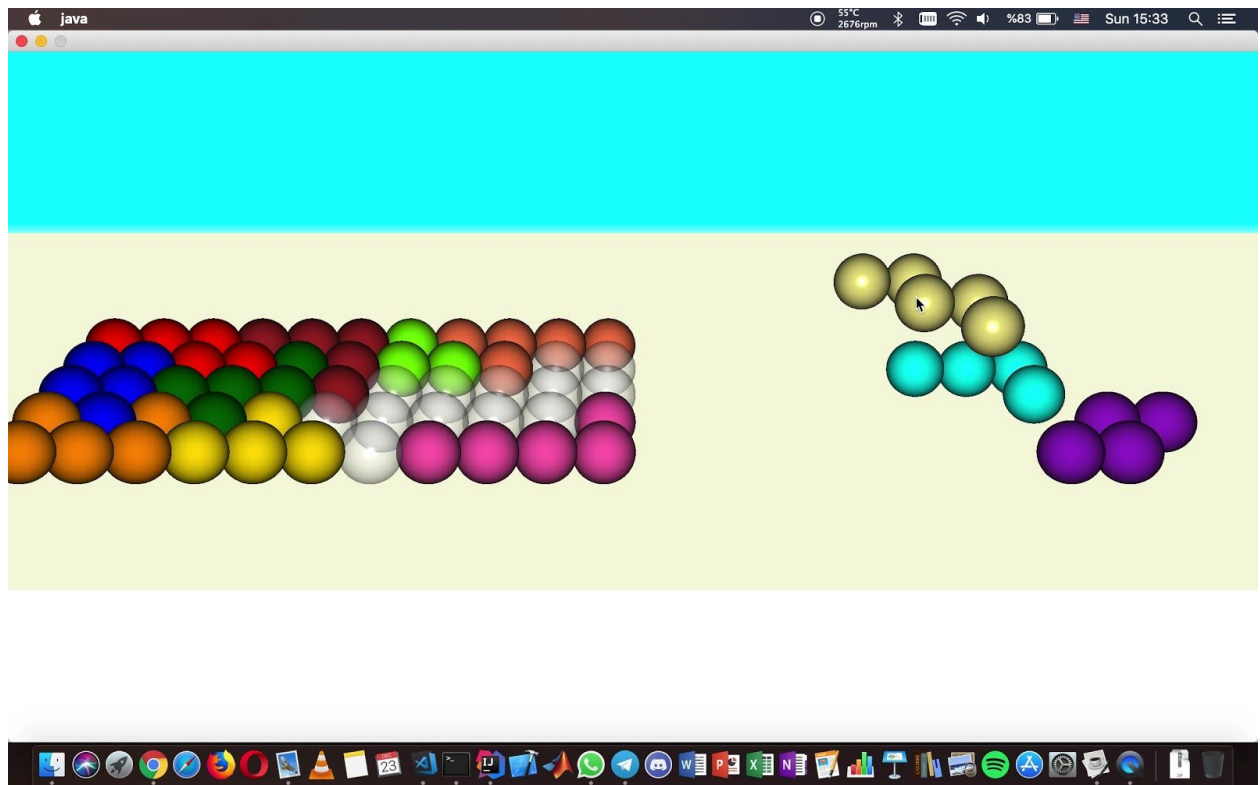
When user starts the game, Game Screen will be open as the image. User can rotate polyominoes with the help of control keys. User can pause the game, quit game or adjust the settings by clicking "Pause" button
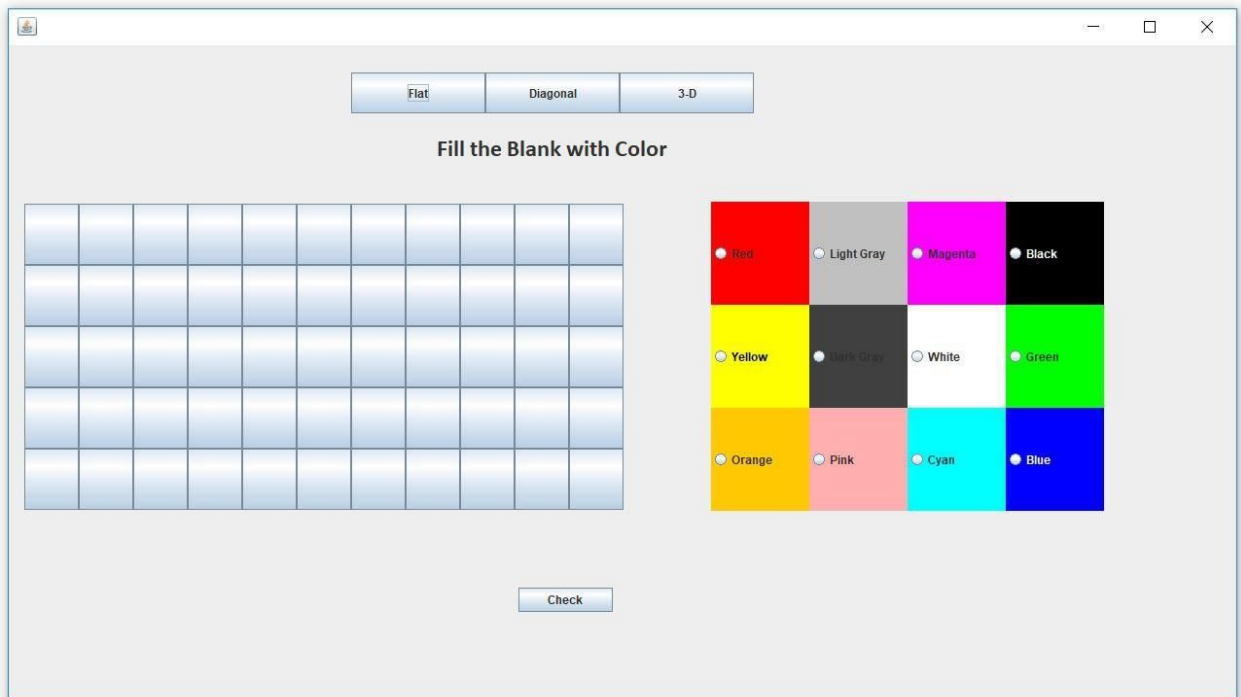
2.4 How To Play
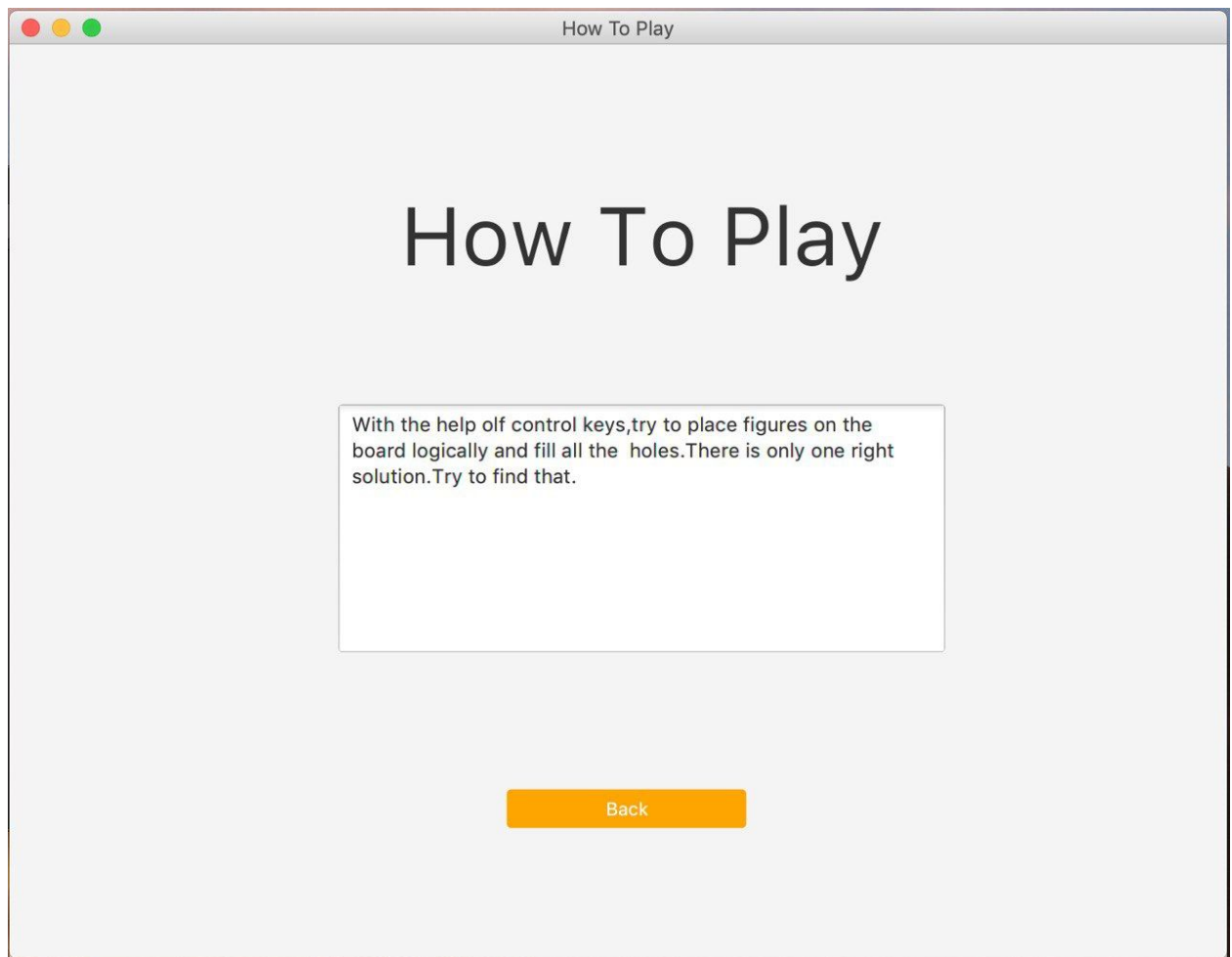
By clicking "How To Play" button, user can get guide for playing the game.

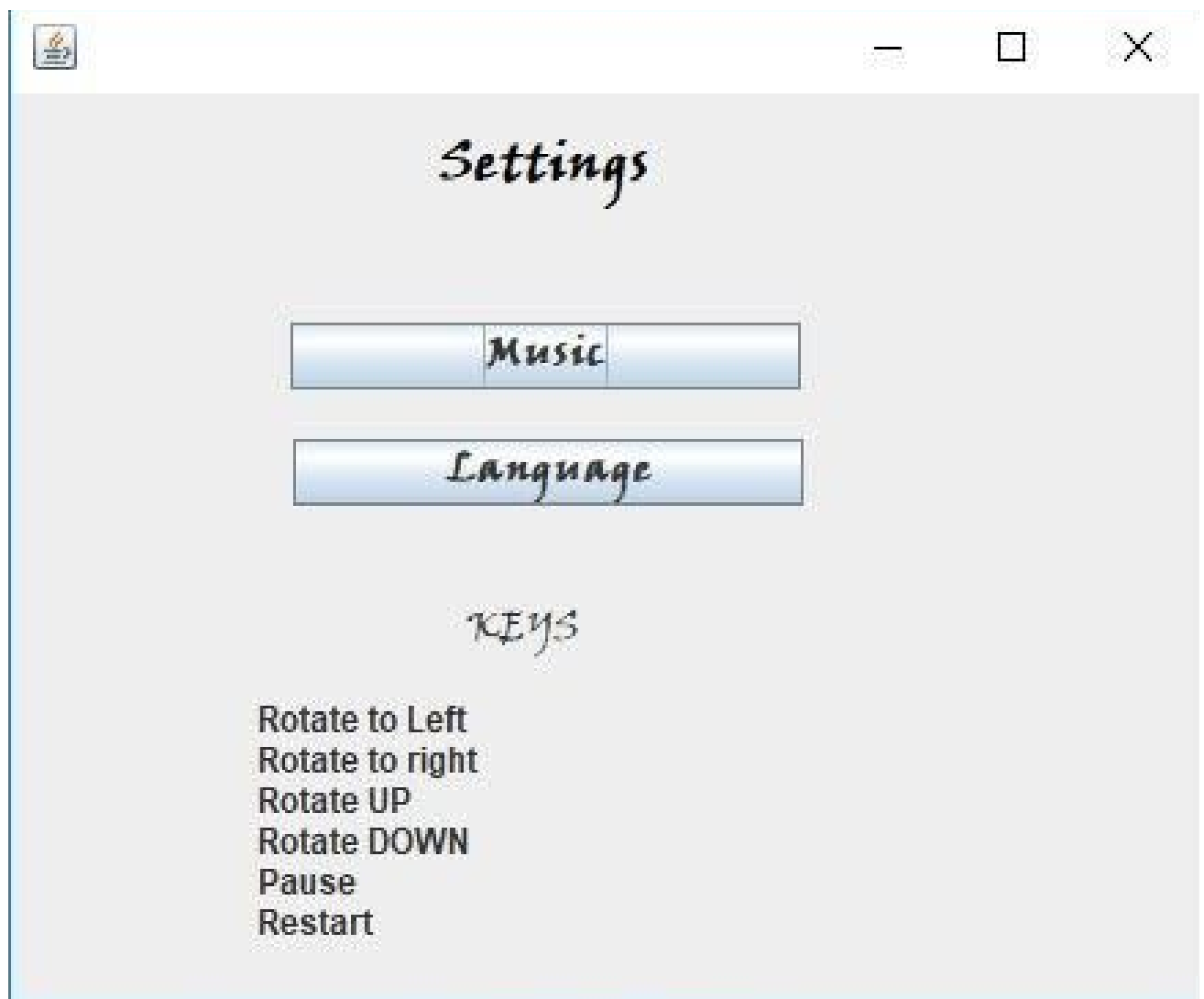## 2.5 Credits

By clicking "Credits " button, user can get information about developers of the game.

2.6 Piece Creator

In piece creator part, user can create his/her own pieces and color pieces with different colors.

2.7 Settings

By clicking settings button from the Main Menu user can adjust music and audio. In addition, the user can also get information about functions of buttons.

2.8 Music
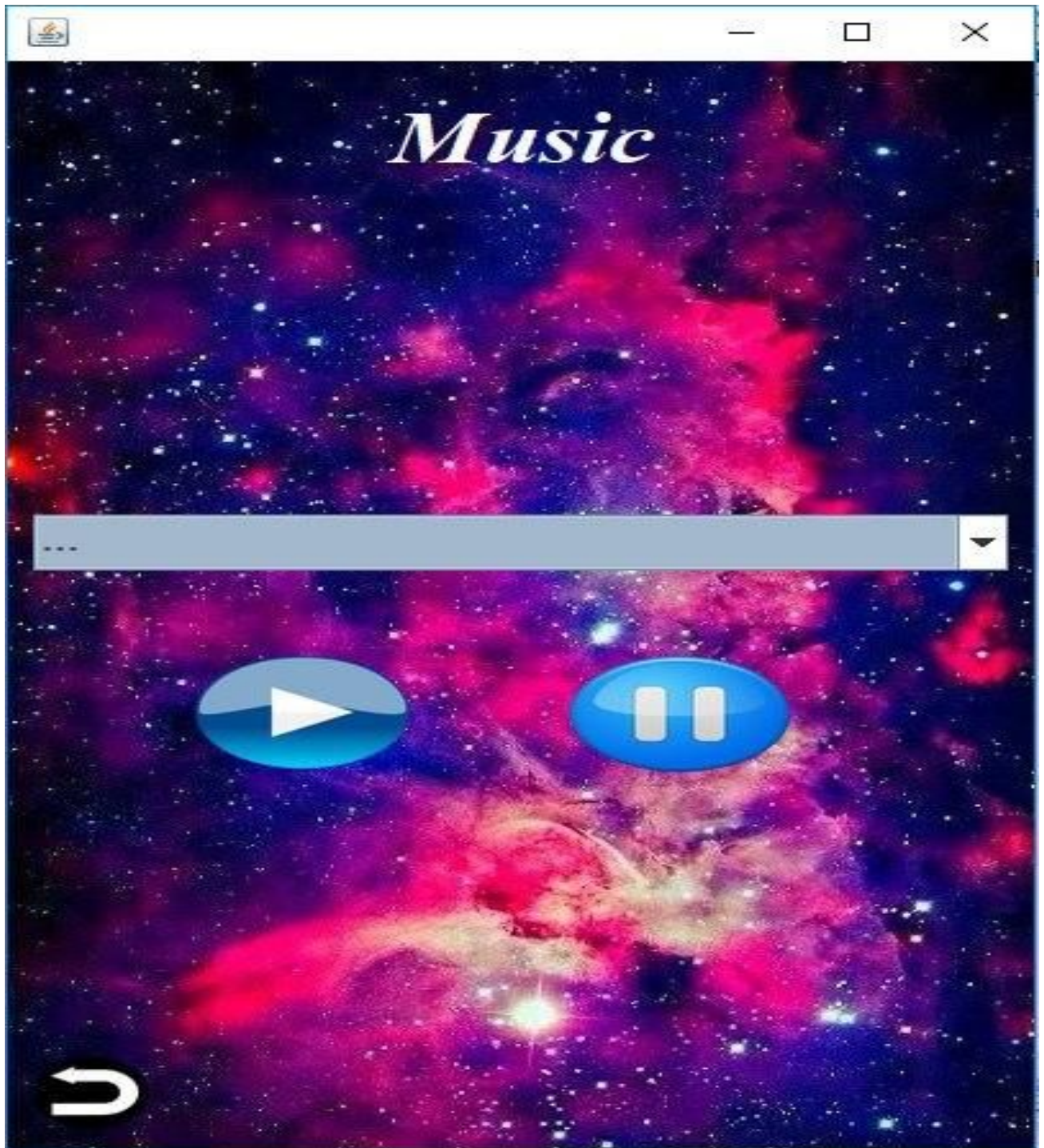
In music part user can easily adjust music according to his/her pleasure. This part designed to adjust the game for all categories of people who have different music pleasures from others.

3. Lessons Learnt

While working on this project, we learned many things that will aid us in our professional lives. First of all, we realized that it is very important to create a schedule before starting to work on a project. During Analysis phase, we created such a schedule and we tried to work according to it as much as we can. However, in Design phase we failed to meet our schedule and we left almost everything to last minute and as a result, we produced a poor report compared to our Analysis report. Moreover, we observed the importance of communication for projects that are composed of many people. We worked as a group of 6 people and even though that is a very small number, sometimes we experienced problems originated from lack of communication. Lastly, we understood that creating Analysis and Design reports before the implementation actually reduces complexity of the whole project. In the beginning most of us were not convinced that these reports are actually necessary. However, now it is very clear for us that all these reports worth the invested on them because they doing a great job of reducing the complexity of the overall project. In conclusion, we believe that everything that we learned in this project will be a beacon for our future lives as computer engineers.

4. System Requirements & Installation

We decided to present our game as a .jar file, because that will allow users to play the game as soon as they obtain it, without bothering with any installation process. We also believe that using a .jar file will make it very easy to distribute the game since because it is even possible to transfer the game via email or a messenger application, like WhatsApp, Telegram etc. Moreover, .jar files work on Microsoft Windows, Linux and MacOS machines and that was an important reason for our decision. For system requirements, any system that can run a .jar file can run our game as well.

4.1 How to Use

In this part we guide how to play the game.

4.1.1 How to Start a Game

To start a game, user should select "Play" button from the main menu. After that the game will direct user to "Play Menu" and here user may choose to play a multiplayer game or he/she can play a single player game. After selecting desired option in "Play Menu" next screen will allow user to specify the game that he/she wants to play, such as 3-D or 2-D, and timed or timeless etc.

4.1.2 How to Play

User can learn how he/she can play the game by selecting "How to Play" button from main menu. "How to Play" screen will inform the user about the goal of the game.

4.1.3 How to Create a Custom Game

User can press the "Create" button from main menu to open Level Creator. Here, user can design a different level according to his/her desires. First user has to color the empty spots in the board to specify which pieces will be present in this customly generated level. After that, to make it playable, user needs to remove some of the pieces he/she created while designing level. After that if the game created is appropriate, game will be saved to play later. User can play one of the custom games in the "Levels" section of the "Play Menu".

4.1.4 Settings

User can change settings by pressing "Settings" button from the main menu.

4.1.5 Achievements

User can see the achievements he/she gained and the high scores by pressing "Achievements / High Scores" button from the main menu.

4.1.6 Credits

By pressing "Credits" button from the main menu, user can see the names of the people who implemented the game in digital environment.

4.1.7 Quitting Game

User can quit the game by using the "Quit" button of main menu and pause menu.