



CS 319 – Object-Oriented Software Engineering

Final Report

IQ Puzzle

Group 3-H

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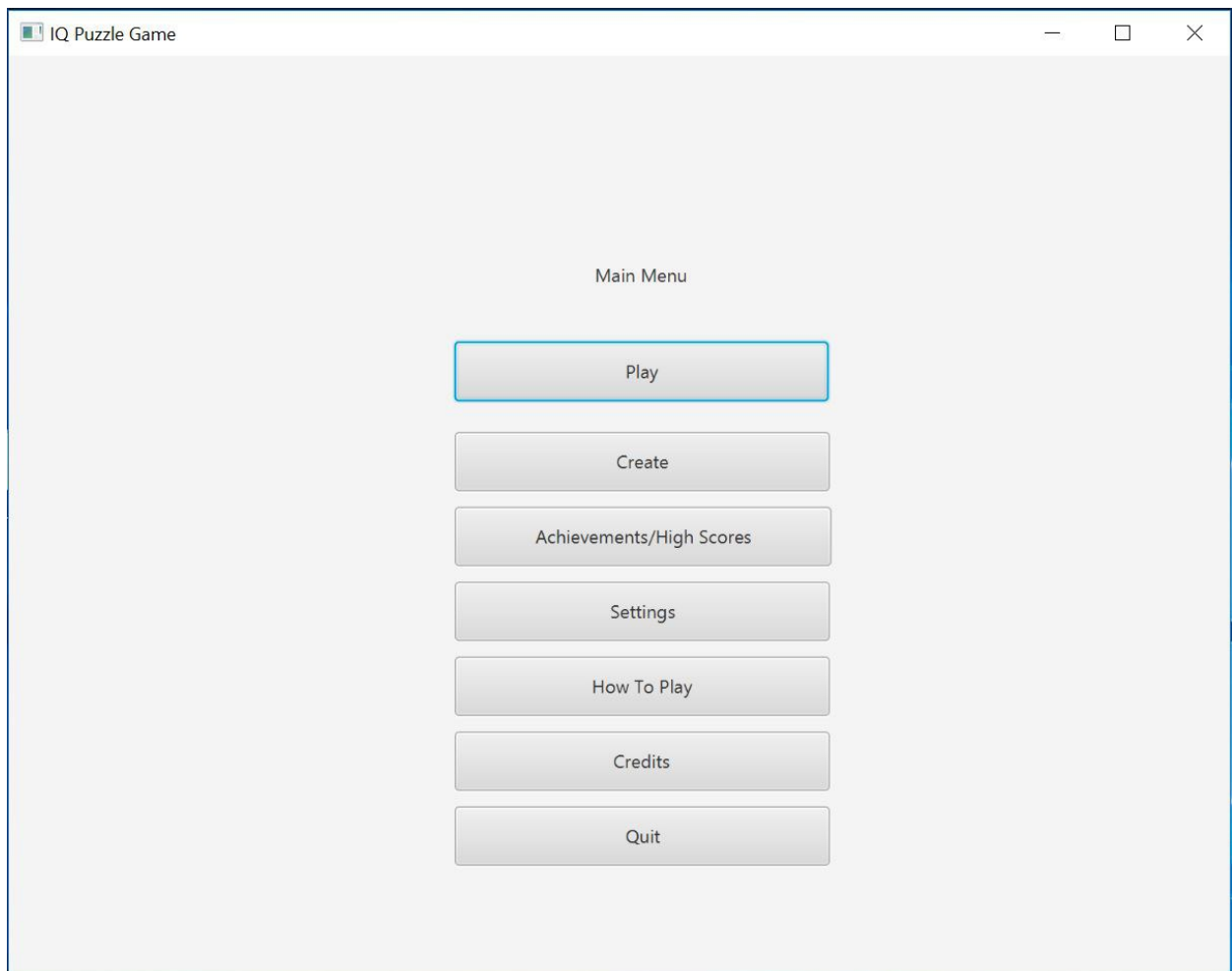
Mahmud Sami Aydın

Subhan Ibrahimli

Ismayil Mammadov

1.Implementation

We started project design 3 weeks ago. According to feedback we decided workload among group members and started coding part this week. 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. Ravan Aliyev designed Settings, Music and Language parts. In settings part the user can change the control keys or can go to Language and Music Menus. In Language part user can choose one of the 4 available languages. In Music Menu user can stop, play and switch between songs. Burak Erdem designed Menu and orchestration. He designed interface design and connection between frontend and backend. Subhan Ibrahimli designed GUI of Level Creator. Mahmud Sami designed models, control and Play Screen of the game. Cihan Erkan designed Level Design and integrate it with control part. Ismayil Mammadov designed piece creating part of game and able/disabling of same buttons when pressing them.



Main Menu part user can start the game, create his/her own game with “Create” button, check Achievements/High Scores, adjust settings with “Settings”, learn how to play and acknowledge about developers of the game with “Credits” button and quit the game.



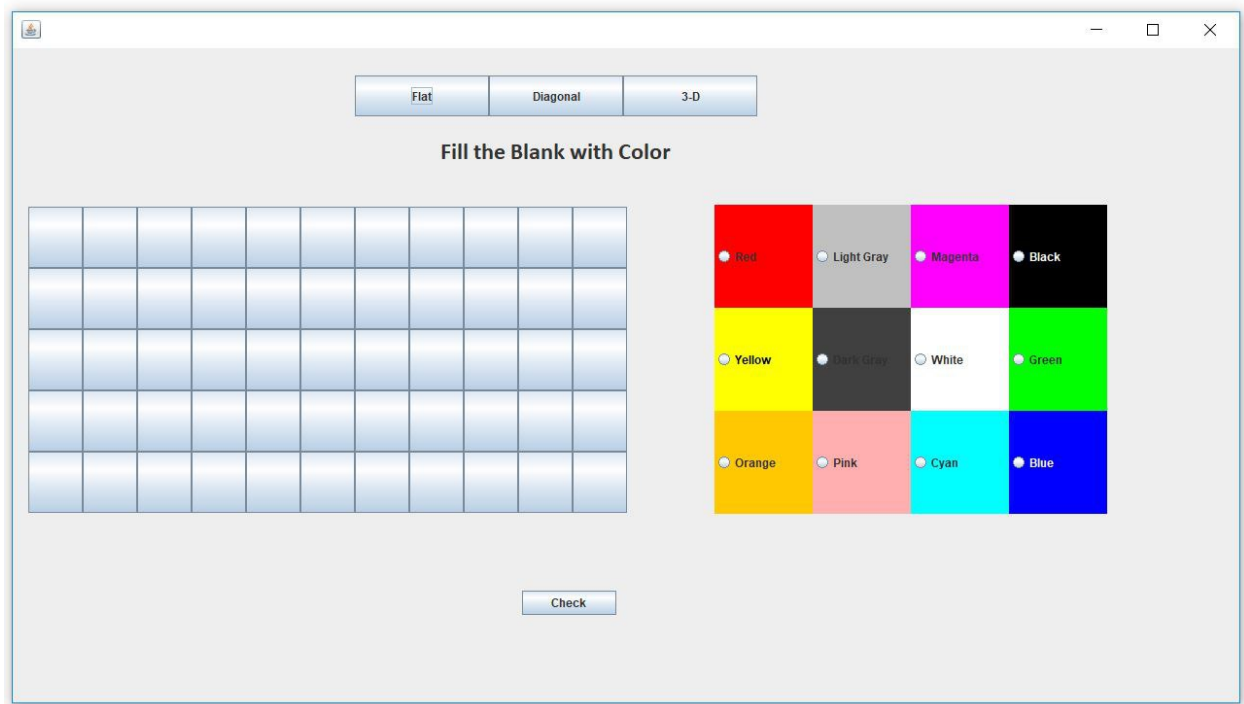
In play screen, user can select game modes for the game.



After selection, game screen will look like that.



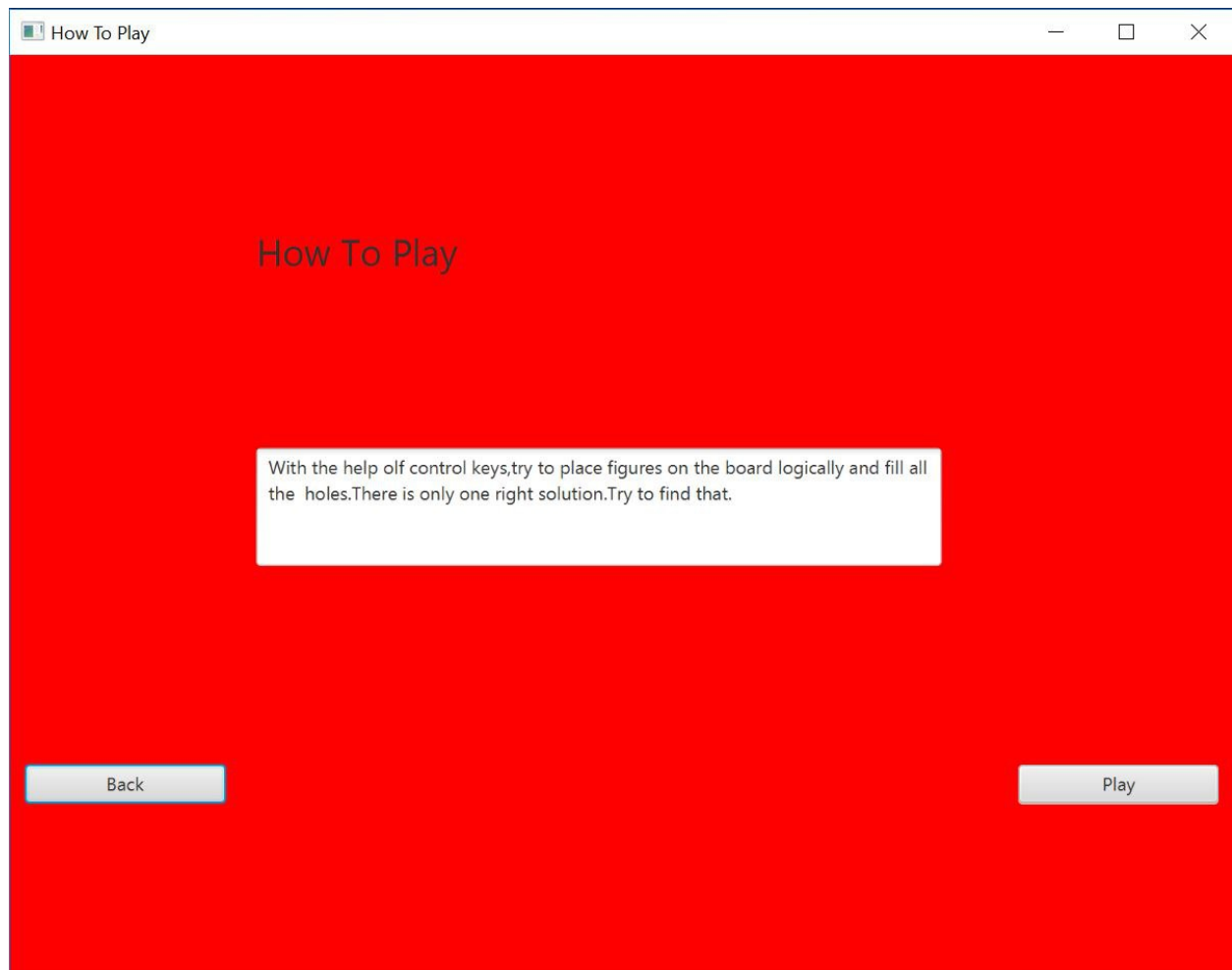
Levels part will be paid part. User should pay money to play this mode. In levels mode all levels will be unlocked for user.



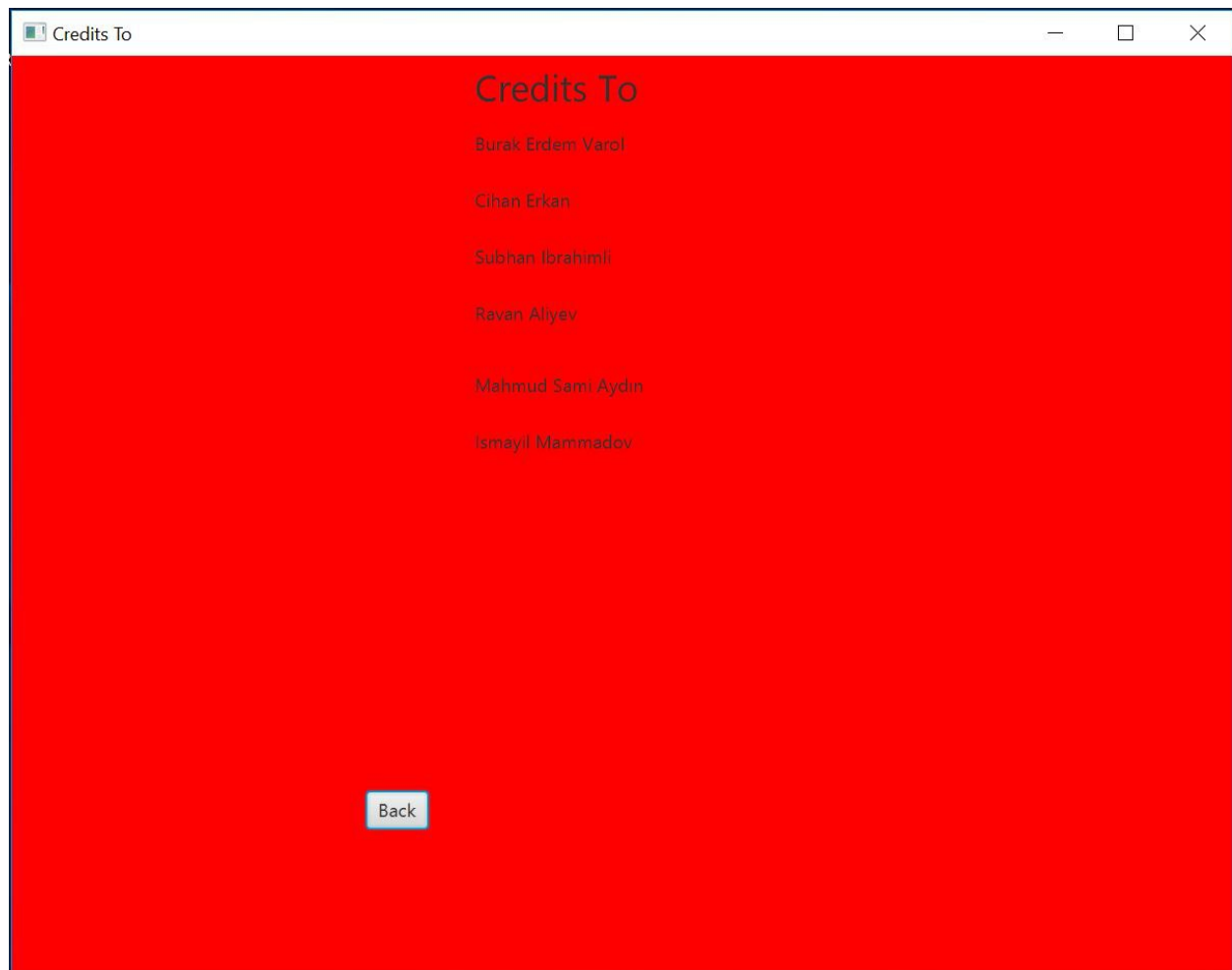
Create Level part make free-use for user. He/she can design his/her own design with this mode.



User can get information about high scores and achievements by clicking “Achievements/High” Scores button.



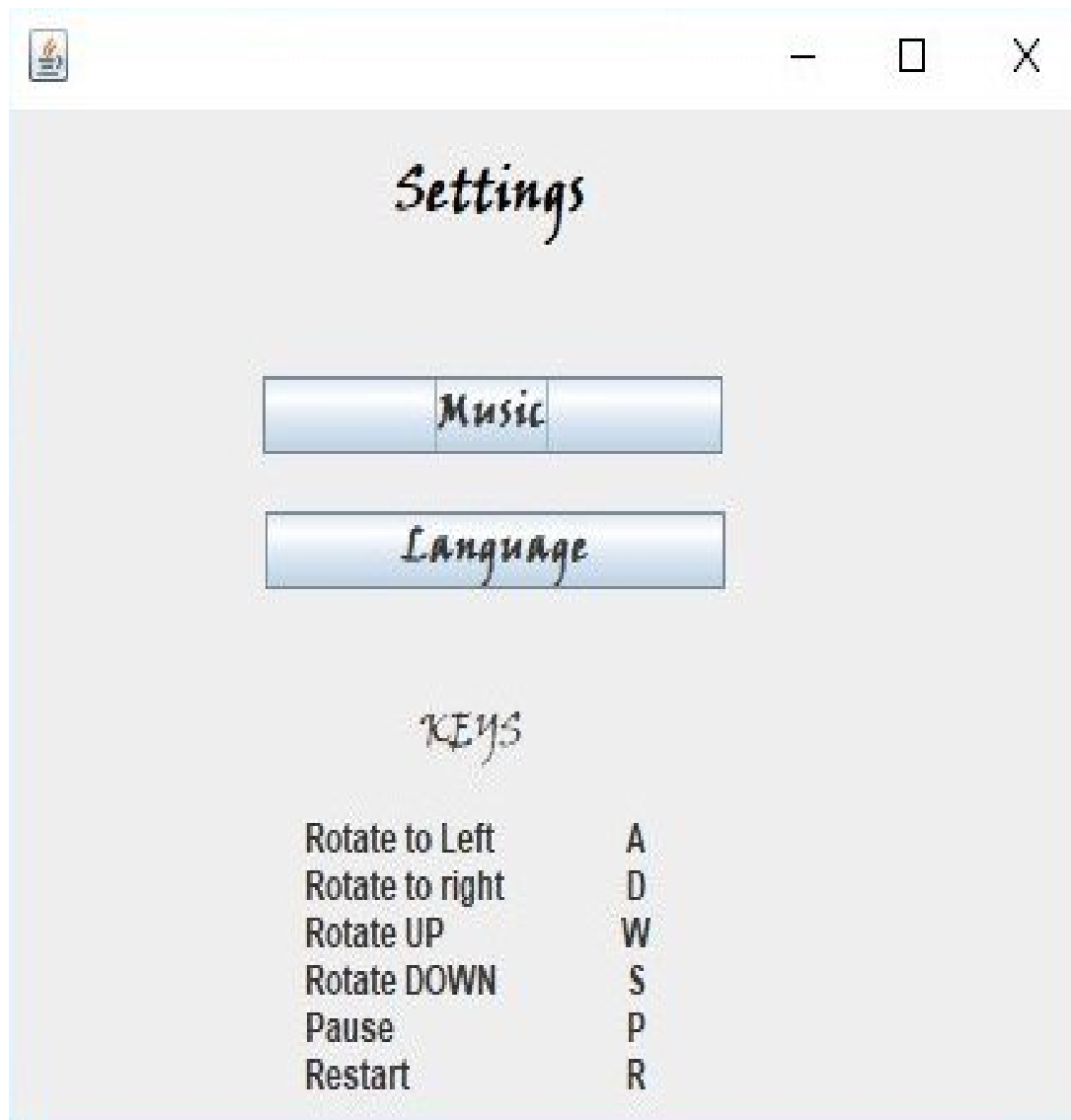
How to Play part clearly explain user how to play this game with the help of keyboard.



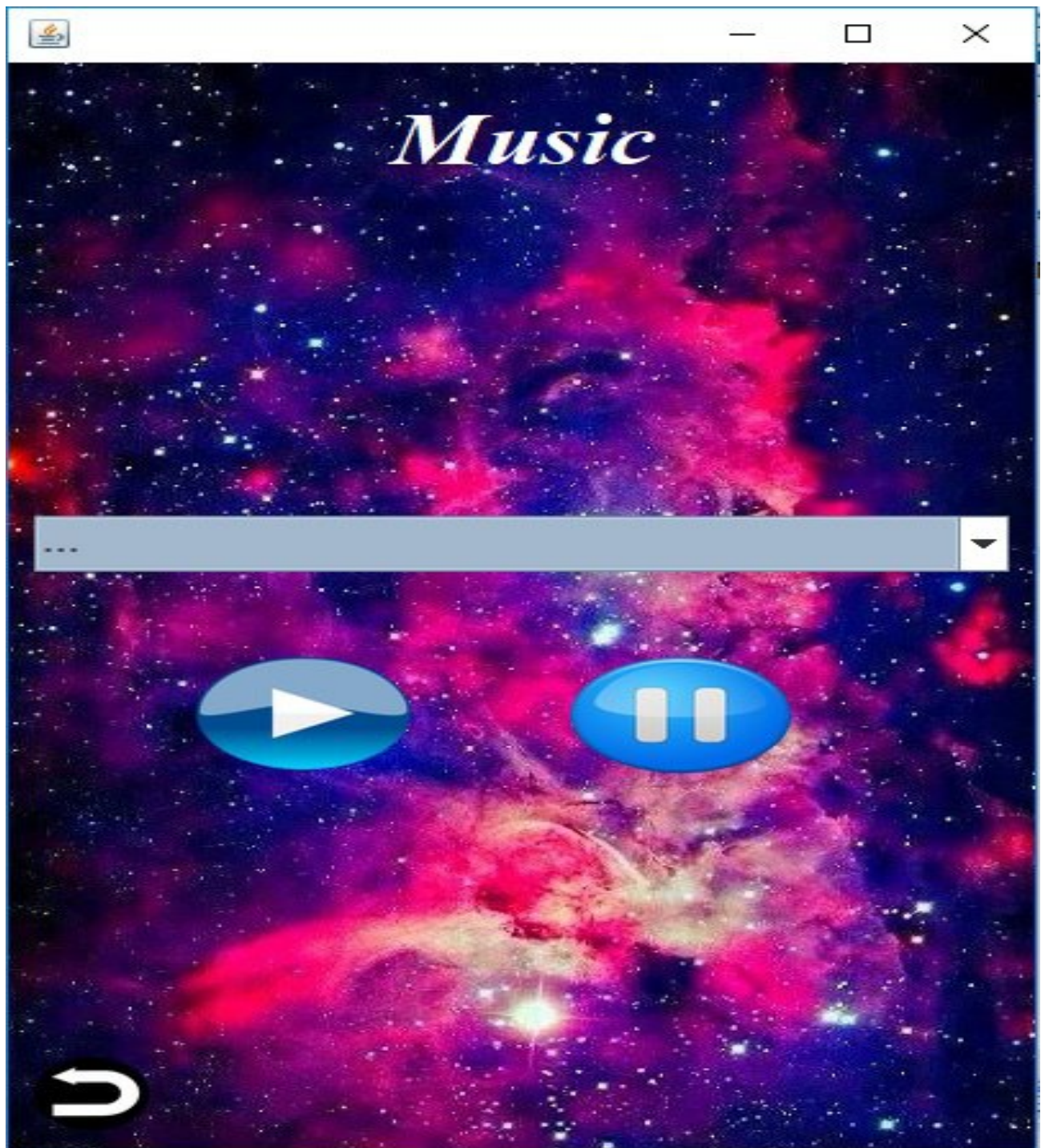
In Credits panel, all developers showed for user.



Language Selection will be used for comfort of foreigner users. If they cannot understand current language, they can change language



Settings part will be used adjusting part of the game



In music part user can easily adjust music according to his/her pleasure.

2. Design Changes

After first design report, during meetings among group members we decided that some of our models and classes are unnecessary. Therefore, we decided to change them properly. Model Control View (MCV) is used for improving project.

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. 1 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.

4.2 How to Use

In this part we guide how to play the game.

4.2.1 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.

4.2.2 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.

4.2.3 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”.

4.2.4 Settings

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

4.2.5 Achievements

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

4.2.6 Credits

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

4.2.7 Quitting Game

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