CS 319 - Object-Oriented Software Engineering

Final Report

IQPuzzler Pro

Group 2J
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1. Implementation Process

Our implementation process starts with task distribution among the group members. For the first implementation process we are focusing on the core functions of the application which includes the pieces repository, pieces coordinates, puzzle patterns and the scoring system. This will follow the design routine elaborated within our design report. For the implementation we decided to go with fixed pieces without randomly generating from scratch. Tasks were divided in accordance with the works available. Mainly, the works at hand were the code implementation for the logic of the game and the user interface. A faction of the group worked on the logic and another on the user interface most of which was done by Kaan, As the logic of the game goes hand in hand with each other, the remaining group members worked collaboratively to reach a closure on a working system.

The implementation was done in two parts. The first part deals with the basic logic of the game which is also necessary for the demo of the app. The second part includes the additional features of the app such as story modes. At first the tasks were not divided but was left open, so members can choose according to their areas of expertise. Each member worked on the part they felt comfortable with. For the first iteration we worked on pieces coordinates, pieces inventory, the 2D grid, game session and the game scoring system. For the challenge part we have one fixed challenge for now more of which will be added in the next iteration.

Much work was put into the design stage of this game which laid foundation for the implementation and made it easier. As such we did not have to deal with problems of naming convention and the likes. Since most of the time we worked together at one place any instance of naming inconsistencies was sorted out as early as possible without much time wasted. Our only setback as it appears to be is the fact that the parts of the game are not 100% complete. For example, we have few challenges available and also the story mode is not actively in session as we prepare for the demo. But these are minor stuff that will not prevent the game form functioning properly. Below are the parts that are completed so far for the first part of the implementation:
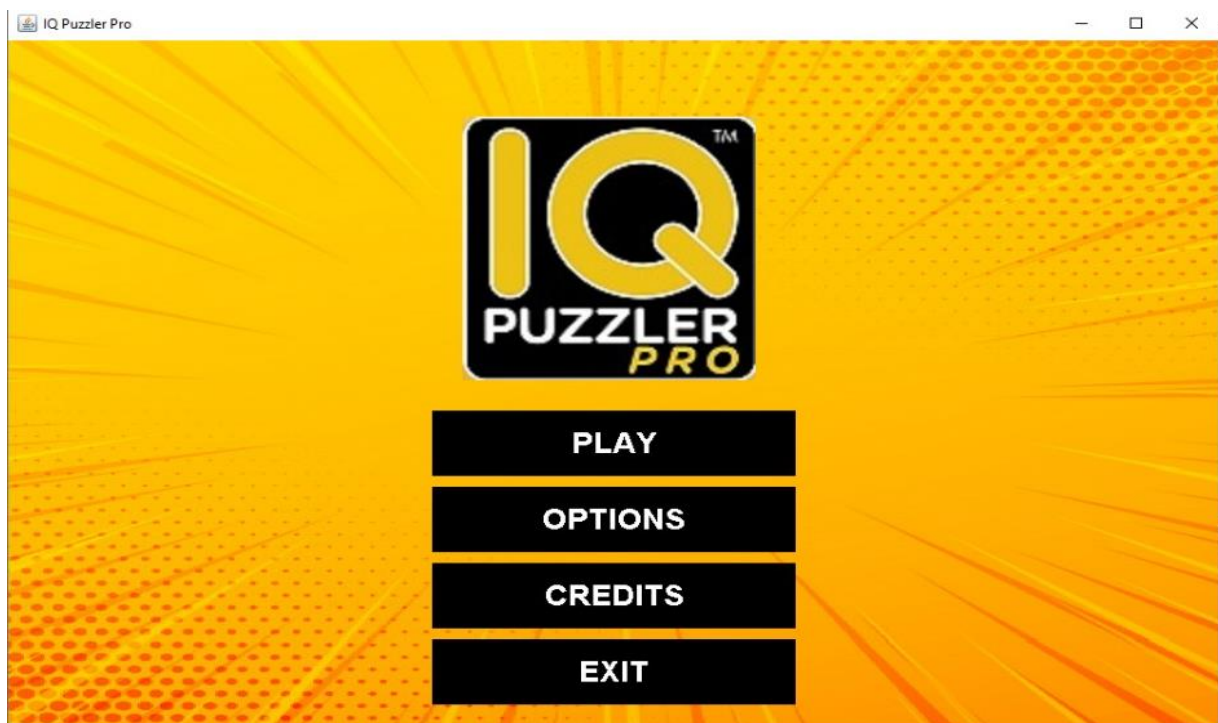

This is the main menu of the app which will greet the user. The user can choose to play the game, visit the options screen, view the credits or exit the game.

This can be achieved by rolling the mouse pointer over the desired section and clicking on it. Whenever a mouse pointer gets to a button it is highlighted with a blue color as can be seen in the display above.
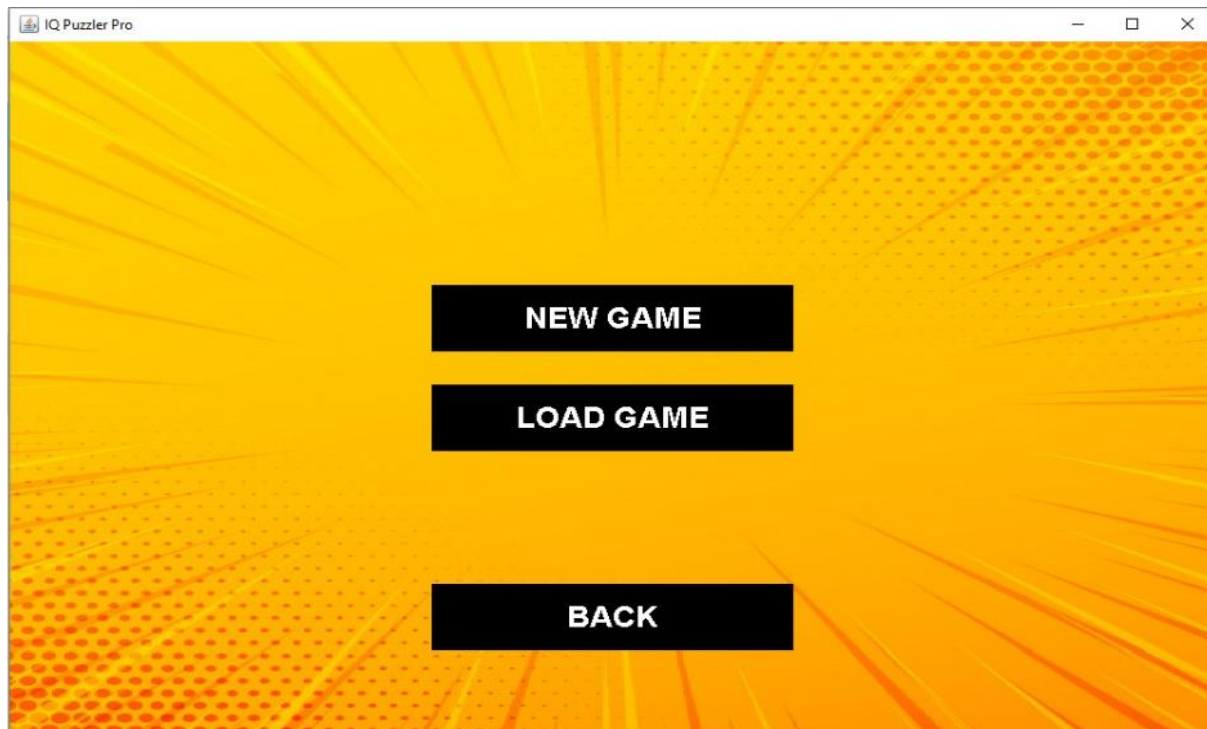
Upon clicking the play button, the user is directed to another screen which will give the option of playing a new game which will start a new session or loading an already existing game that was saved. The user can get back to the main menu by clicking on the back button.
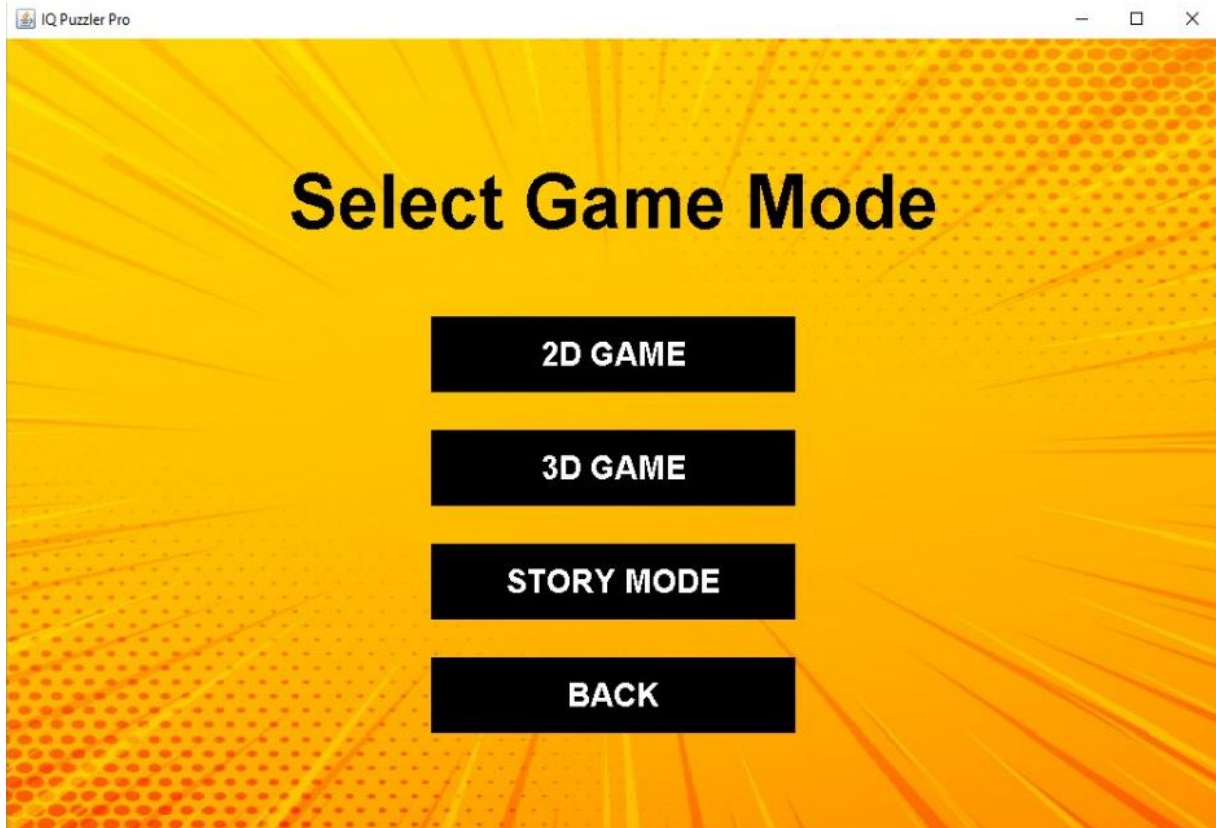
The new game button directs the user to this screen above. The user can choose to start a new 2D game, 3D game or a story mode. The user can go back from this page by pressing on the back button as visible in the above screen.
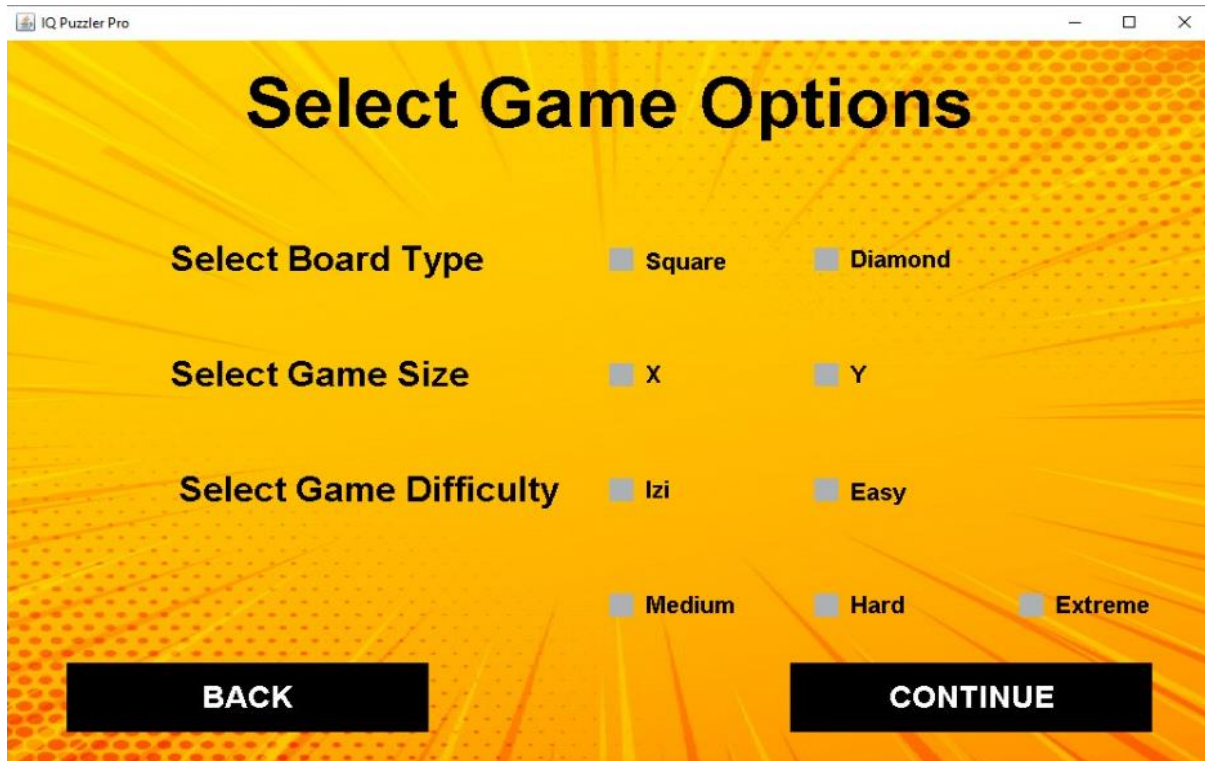
When the user chooses any of the game options, the user is required to select

some attributes of the game before continuing to play. The attributes include the

type of board, the game size and the difficulty of the game. The user can go

back from this page by pressing the back button.
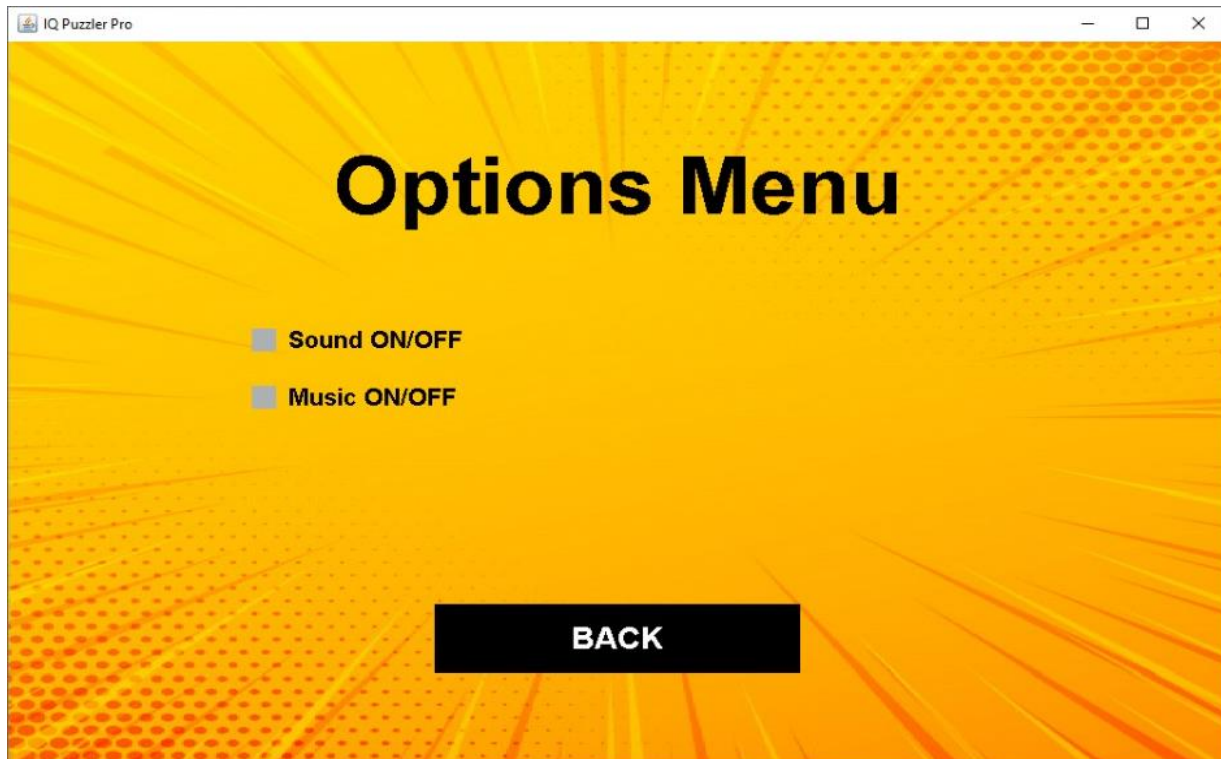
The options menu presents the user with an option to play the sound or the music. If the user wants to play silently, he/she can mute all sounds and music.

2. Changes in Design

There has not been much changes in the design as compared to the first iteration of our design report. Our implementation was done solely based on the design report. However, at first, we thought of generating pieces randomly in the game. But we have agreed to have fixed 12 pieces which will used by the player. This decision was informed by close-up look of the physical version of the IQ puzzler game. We realized that since the player always has a fixed number of pieces, we can create the game with fixed number of pieces. Also, the user at the start of the game will have some pieces (3 of them) which is

already inserted on the board. The user will then fill it up to the desired pattern. This decision again was informed by the physical version of the game. During the design process we thought the user will start with a blank board and start inserting the pieces. But now we have realized that it would be more logical if there are pieces already arranged in their appropriate with the user placing the remaining pieces to complete the game.

3. Implementation Status

The basic logic of the app which will enable it to be up and have all been implemented. These include the pieces, the coordinates of the pieces, the grid and the scoring system. Due to time constraint we have focused more on this aspect of the game logic which is key in the application demo. The user interface has also been completed for the most part. For now, the parts yet to be implemented are the story mode and further challenges as we only have few now. Most of the game implementation was done using eclipse IDE and intelliJ so we gained a lot of insight into how they work. For now, as shown in the diagrams above, the app is in its basic form with most of the UI done. These can be viewed in the diagrams included.