IQ Puzzler

Final Report

Game Of Objects

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1.INTRODUCTION

At this stage, we have modified our project structure according to our new design and made the appropriate adjustments to the classes to be able to work together. We have implemented all the required panels in the main menu to provide the transitions windows inside the game. We changed the panel transitions such that there is no more the need to create a new frame to go between the panels. We have also implemented rest of the levels, which add up to 20, to keep the fun going. The game is fully functional, with shapes that can be dragged, placed, displaced and taken symmetry of.

2.DESING CHANGES

We focused on implementing the game modes we planned with the exception of “Rotating Map Mode”. The current version has two Single Player game modes: “Casual” and “TimeBomb” modes. Casual is the basic game we have implemented in the first version, while TimeBomb presents an upper bound to the allocated time. The allocated time increases as the difficulty increases over the levels. On the other hand, Multiplayer Mode offers a retro gameplay experience with your friends similar to what can be found in arcade games. Two players compete against each other to be the one to complete the current level, with each having their own allocated time. All levels that are above 1 are locked by default in all game modes. A locked level can be accessed once the preceding level is completed. We have added a Statistics feature to provide the player some insight about his performance, such as total move count, total time spent and number of games played. Settings panel is also implemented now, such that you can change the background colour of the game window or switch the ambient music on or off. How to Play screen now provides more visual help as a walkthrough for new players. If the player finds it too challenging to solve a certain level, a correct solution can be shown by clicking “Show Solution” inside the level.

3.LESSONS LEARNED

Throughout this project we have learned how to work together, as a group, and overcome problems depending on each other's strengths and weaknesses. We learned how to divide a problem into smaller and more manageable parts it amongst each other to conquer them easily. This allowed us to handle trivial parts of the development easily and focus more on the parts that required more cognition process. By individually overcoming encountered problems and helping each other out in various different aspects of the game we have each gained experience in essential game mechanics such as dynamic panel management, game logic implementation and miscellaneous visual improvement making processes. While doing so, we gained familiarity with the We have gained insight on merging each other's codes to come up with a working project, which will be commonly encountered in the sector.

4. USER' GUIDE

IQ Puzzler is fairly easy to learn and enjoy. The new players will not need time to adapt to the game as it is designed in an intuitive and user-friendly way.

4.1 System-Requirements and Installation

IQ Puzzler has considerably low system requirements as it does not depend on any pre-developed game engines or any other side algorithms. The game uses java swing and awt libraries to deliver a visual representation of the object-based game to the player. A basic java development kit, along with a java version above Java SE7, is used to compile and run the game. The game will require no installation as it will be in a compact form. The final state of the game will be in a .jar form which can also run on numerous operating systems.

4.2 How to Use

After execution of the program, the user is greeted with the Main Menu which offers navigation between the game windows. The user starts with choosing How To Play, which provides the user with needed visual and textual explanation of the game mechanics. After returning to the menu user then proceeds with Start Game which takes the user to Level Panel. After the desired game mode is selected user chooses the level to play. After each completed level a prompt is presented inquiring player to whether proceed with the next level, return to the previous level or go back to the level select instead. If desired, the user can turn the ambient music that plays throughout the game off by going to the settings screen. After playing the game for some time user can check his in-game statistics in the Statistic option of the Main Menu. Before exiting the game, the user can check the Credits section to pay tribute to the developers.

5. Build Instructions

- Download zip file from our group's GitHub repository's IQ Puzzler folder.

  https://github.com/GameOfObjects/project

- Extract zip file to one folder
- Open IQ Puzzler.jar file
- Enjoy the game.

6. GROUP WORK ALLOCATION

Mehmet Selim Özcan

- Generally organized all reports
- Contributed in GameManager and ShapeColection Class
- Generally organized all classes
- Generally organized Github repository
- Generally organized group meetings

Mehmet Sanisoğlu

- Wrote Introduction, Overview and System Architecture parts in the submitted reports
- Contributed in Box, Shape and Grid classes' implementations
- Worked in Panel Transitions
- Transitions between the levels
- Background Visualization
- Demo video making

Arda Türkoğlu

- Drew the activity diagram of the analysis report in two iterations.
- Wrote the description of the Controller Subsystem class and methods in the design reports.
- Contributed in Panel design and user interface implementation.
- Contributed in File Manager implementation.
- Contributed in displaying Statistics.
- Contributed in implementation of audio and other technical situations.

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Engin Deniz Kopan

- Drew all the seqeunce diagrams in analysis reports
- Contributed to implementation of interaction between all the panels.
- Contributed to graphical user interface of the game.
- Wrote description of the Controller Subsystem class and methods in design reports.
- Took the demo videos and contributed to slides.

Zafer Çınar

- Drew the mockups in analysis reports.
- Drew the state diagrams of the second analysis report.
- Wrote the Screen Elements Subsystem section of design reports.
- Contributed in File Manager implementation.
- Worked on the implementations of panels and user interface.
- Made the presentation

7. GROUP GATHERINGS

17.10.2018

First gathering was successful. Decided on the project details and gathered general knowledge on the project subject. Agreed on the general work distribution.

03.11.2018

Shared the gathered information with other team members.

07.11.2018

Shared the gathered information with other team members. Combined the work done in a template.

17.11.2018 - 18.11.2018

Worked on the implementation of the first demo. Everyone focused on their own part firstly and then gave a hand to those parts that required adjustments.

15.12.2018

Decided on the improvements to be done on the project. Made new work allocations to be done until the next meeting

22.12.2018 - 23.12.2018

Gathered for the final demo implementation. Focused on merging the project to a single working piece. Handled the adjustment problems encountered and made visual improvements to the game.

7. SCREENSHOTS OF OUR GAME

Here some screenshots of our game.

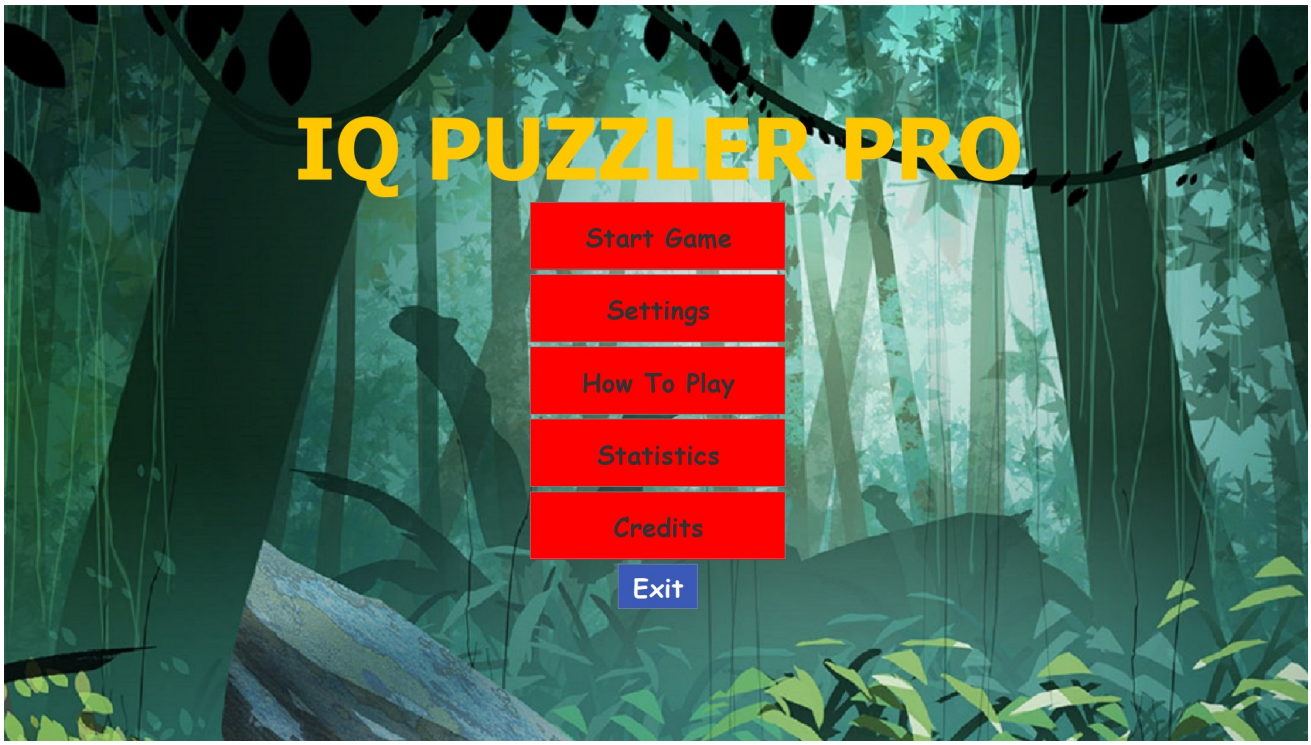

FIGURE 1 – Main menu

FIGURE 2 – Level Selection

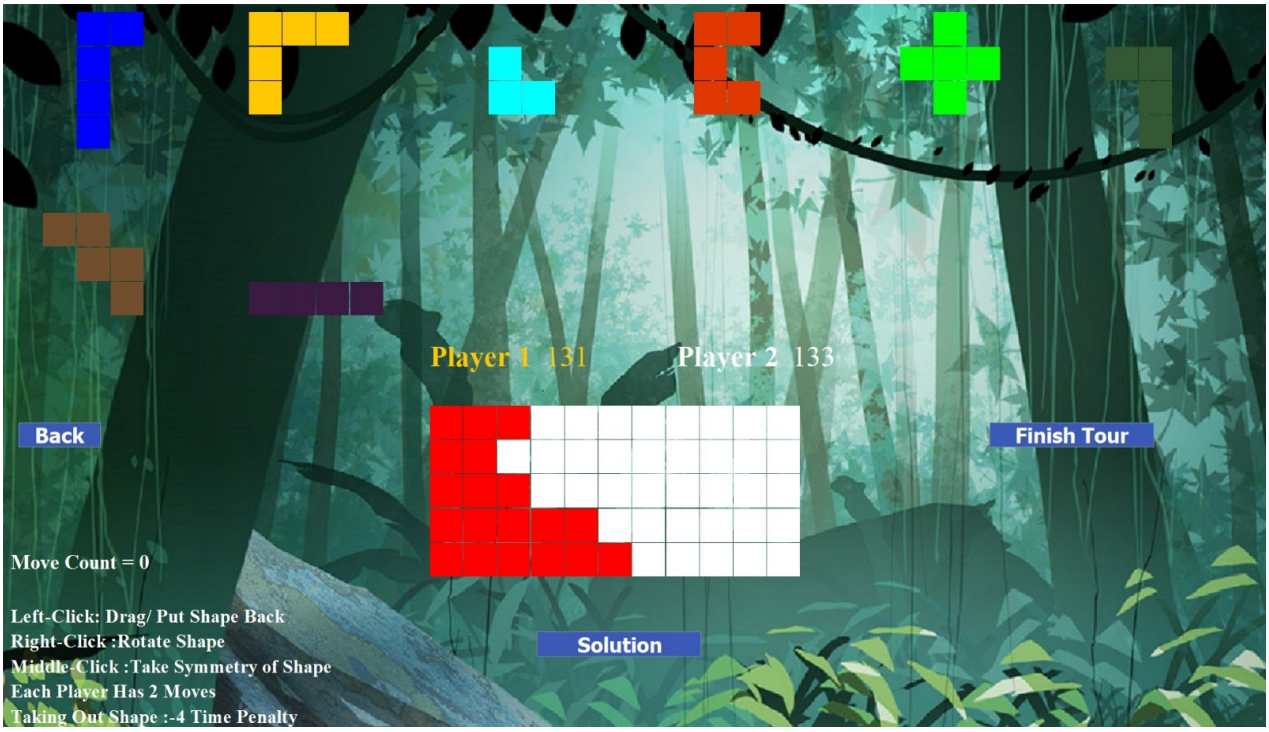

FIGURE 1 – Multiplayer Mode

FIGURE 1 – SingleCasual Mode