



Bilkent University

Department of Computer Engineering

CS 319 Project

Project name: Piece12

Final Report v1.0

Fantastic 4

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Contents

1. Introduction	2
2. Design Changes	2
3. Lessons Learnt	3
4. User's Guide	3
4.1 System requirements & installation	3
4.2 How to use	4

1. Introduction

For the time being, we only have implementations for basics of our game, such as:

- UI's for some state classes
- Connections between states
- Usage of some buttons
- Game entity classes
- Classes with no functionality (How to Use, Credits etc.)

We are considering to finish all the implementations except the PlayState class, until the end of the next week. We are still learning to use some specifications of LibGDX with Android Studio, so the implementation phase takes a little more time than usual.

2. Design Changes

Since our latest design was planned in detail, there are no important changes occurred during the implementation phase. At the designing phase, we decided to exclude some details about GUI, like buttons and labels of each page etc. since they were trivial and we had some sample GUI's of our game that we designed before to help implementation. So, different than our latest design, we added some GUI components to our implementation.

To see our latest design, please click [here](#).

3. Lessons Learnt

While implementing this game, we have learnt many skills that a software engineer should have. We have encountered some regular problems that were expected before implementing the game. However, while solving these problems we have learnt crisis management and time management. Therefore, we have learnt social skills that a software engineer should have. On the other hand, we also mastered our programmer skills on Java, LibGDX and Android Studio. It had become a great practice and experience implementing this game.

Last but not least, we have acquired some core skills that a software engineer should have such as, building diagrams, creating time schedules and having responsibility that working as a team member. Therefore, implementing this game helped us becoming more and more a software engineer.

4. User's Guide

In this part basically user instructions will be explained. How to use and system requirements & installation of the game will be clarified briefly.

4.1. System Requirements & Installation

Piece12 is a game that is implemented in Android Studio. User needs to have an Android device such as, smartphones, tablets... etc. or an Android device emulator on his/her computer. Genymotion, MEmu and Bluestacks 3 are some of the emulators that user can play the game via using them. System Requirements are listed below:

- A device that supports Android 6.0 Marshmallow or higher versions.
- A Google Play Account in order to play the game online and have a place on leaderboard.
- Storage information will be explained detailed further, after the whole game is completed.
- Piece12 can be installed via Google Play Store or it can be installed by an .apk file.

4.2. How to use

In the opening of the game, 4 options will appear. New game, how to play, leaderboard and credits. Other than that there will be 4 icons on the corner. Each one will lead to, rate us, daily mission, shop and settings page.

Play Game

After choosing new game option, player will select single or multiplayer game. In each player mode there will be three game modes; classic, memory and time race. User can play whichever he/she wants. In classic mode there will be given map and user will try to fill it. Filling the map will be done by drag & drop. User can pause the game by pressing pause button which is on the top right corner of the screen. After that user can change setting, can go home or continue playing. In memory mode, firstly, a fully finished map will be showed to the user in constant time. Then, user will try to fill the map according the what s/he saw before. It should be exactly the same. If map is fulfilled but different than the given filled map before, game will give error message and user will try again. In the time race mode, as it seems, user will play against the time. After a map is finished successfully, points and stars gained will showed to user. If a level is accomplished, user will be able play the next level. There will be 40 different levels in each game mode. Levels will be getting harder as they increased. If a level is finished successfully, user can play it again anytime.

In multiplayer option almost everything is the same. However, this time user will play against to a person maybe a friend. In classic and memory mode, first one who finishes wins and in the time race mode, who complete the more map in given time, wins.

Settings

In settings option, user will be able to turn on/off the music, sound effects and notifications separately.

Shop

User can use stars/coins that earned in the game to buy new items to the game such as different themes and unlock augmented reality option. Themes consist of different board shapes and patterns, colorful backgrounds, different piece colors and patterns. In augmented reality option, user can use camera to play a game as if it is a real board game. This option will change the game background to the camera's vision. For example, by launching the back camera and pointing it to a table, user can have the feeling that the board and pieces are actually on the table.

Leaderboard

User will be able to see top 5 high scores of each single player mode and their places on the leaderboard.

How to play

There will be some indications and introductory pictures for user to learn the game and play it easily. User can easily understand the game just looking at this section and play after that.