Instituto Superior de Engenharia de Lisboa

Licenciatura em Engenharia Informática e de Computadores
Licenciatura em Engenharia Informática, Redes e Telecomunicações

Mobile Devices Programming

Practical Assignment - Option B, Winter Semester 2024/2025

Delivery date: december 21, 2024

This document contains the specification of the requirements for **Option B** of this course's practical assignment. In this option, the goal is to implement the **CheR (Chelas Reversi)** application, whose main functionality is to play Reversi. **In this option, games are played using the players' devices.**

The game consists of an 8x8 board and 64 identical pieces. Each piece has two sides: one white and the other black. Each player chooses the color they will use throughout the game. Players alternately place pieces on the board with their chosen color facing up. After the move, all pieces that are in a straight line between the played piece and another of the same color are flipped. The player who chose the black side goes first. The game ends when the board has no empty spaces or when no more moves can be made. The player with the most points (i.e., the most pieces with their chosen color facing up) wins. When the game ends, it can be marked as a favorite, in which case it is stored on the device persistently for future reference.

The **CheR** application contains, at least,the following screens:

- Screen for matchmaking (lobby);
- Screen for playing the game;
- Screen for displaying the list of favorite games;
- Screen for showing the replay of a game previously marked as a favorite;
- Screen for displaying information about the application's authors.

The matchmaking screen contains the list of players in the lobby. Each item on the list contains the player's name, chosen when entering the lobby. This name does not have to be unique in the lobby, nor does it always have to be the same for a given player.

The game screen is used to make moves, observe the current state of the board and, when the game ends, to announce the winner.

The screen for displaying the favorites contains the list of games marked as such. Each item on the list contains the elements necessary to identify the game, that is, its title, the opponent's name and the date and time of the game. This data is collected when the game is marked as a favorite, using a screen dedicated to this purpose if necessary. When one of the items in the list is selected, the screen used to view the replay of that game is displayed.

The screen for displaying a game replay shows the state of the board and the moves that were made by each player. On this screen the user can navigate between moves (i.e. next and previous) to observe the evolution of the game.

The screen for displaying information about the authors of the application contains the identification of all members of the group. The identification of each element consists of the student number and first and last names. The screen also contains a button to send an email to the group members, for example to congratulate them on their excellent work. 😆 The emails to use are those assigned by ISEL.

Communication between devices is carried out using the publish/subscribe model supported by Firestore, to be presented during the courses' classes.

The remaining details related to the user experience, such as the general appearance of the UI, which orientation is used on each screen, and other navigation details between screens, are left to the authors' discretion.

Delivery is carried out by creating the “cher_b” tag in the group’s GitHub repository. The repository is created within the scope of GitHub Classrooms by the teacher of each section group and **must contain at its root the README.md file with the identification of the group's members and the link to the video demonstrating how the application works.**

Due date
december 21, 2024

ISEL, september 16, 2024