

Instituto Superior de Engenharia de Lisboa  
**Mobile Devices Programming**  
Practical Assignment - Option C, Winter Semester 2023/2024  
Delivery date: december 16, 2023

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The course's project is the Gomoku Royale application, to be developed throughout the semester. The main functionality of the application is to allow its users to play gomoku games with other users. The game description can be found [here](#). The choice of which rule variant to use is left to the authors' discretion.

This document contains the specification of the requirements for **option C** of practical assignment. **In this option, games are played using the players' devices and it is assumed that there is an HTTP API developed by the students within the scope of the DAW course.**

Each game is preceded by the matchmaking phase, where two players who want to play are paired. Availability to play is expressed by entering the lobby. The pairing attempt is initiated by an explicit action by one of the players, choosing another player in the lobby as his opponent. The game starts when the pairing procedure succeeds. If the pairing fails, the player whose device is responsible for the failure is excluded from the lobby, while the other re-enters, becoming available to play again. If the excluded player wants to try pairing again, they will have to reenter the lobby.

Each player controls a set of pieces: black or white. Players alternately place pieces on the board. The player who controls the black pieces starts. The first player who manages to create an uninterrupted horizontal, vertical or diagonal line of 5 of their pieces wins. When the game ends it can be marked as a favorite, in which case it is stored persistently for future reference.

The Gomoku Royale application contains, at least, the following screens:

- Screen for collecting the user's credentials;
- Screen for playing the game;
- Screen for displaying the global ranking;
- Screen for displaying information about the application's authors.

The screen for collecting the user's credentials is used to collect the information required for non-anonymous interactions with the HTTP API. If the API requires prior registration, this registration can also be done within this screen.

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 global ranking contains the list of players and their accumulated scores. Each item on the list contains the elements necessary to identify the player, his position in the ranking and his accumulated score. This screen supports the search for players given their name and includes a shortcut for immediate navigation to the position occupied by the current player in the ranking.

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.

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 “gomoku\_c” 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 16, 2023

ISEL, september 11, 2023