

Mobile Device Programming

Project assignment - part 1, Winter semester of 2021/2022

Delivery deadline: 21st November 2021

The course's project is the ChessRoyale application, to be developed throughout the semester. The main feature of the application is to provide its users with the means to play chess games between them simply by using their mobile devices. The application also includes the functionality of providing chess puzzles, retrieved daily from the Lichess API, here: <https://lichess.org/api>.

Application development will be carried out in three phases. This document contains the specification of the requirements for the first phase. The requirements of the remaining phases will be published in due course. The delivery of each of the phases is carried out through the corresponding tag in the group's GitHub repository. The tag name for the first delivery is "chess_royale_1".

At this stage of the project the emphasis is placed on the support for puzzle solving. The implementation of this functionality will lead to the creation of the building blocks to be used on the main functionality of the application: the chess game itself. For now, the ChessRoyale application is composed of 3 screens (e.g. Activities):

- The Home screen, where the puzzle of the day is obtained;
- The Puzzle screen, for solving the daily puzzle;
- The About screen, for display the credits, that is, information of the authors of ChessRoyale application (i.e. the students) and a reference to the source of the daily puzzles, the Lichess API

Daily puzzles are fetched from the Lichess API, via a GET request to the resource identified by the URL <https://lichess.org/api/puzzle/daily>, as documented [here](#). The response to the request produces the puzzle information, encoded in JSON.

In the response produced by the API, the state of the board with the puzzle is represented by the sequence of moves that, having as a starting point the initial state of the board, lead to the moment represented in the puzzle. This sequence of moves is in the **game.pgn** property of the JSON object contained in the response. Moves are represented using algebraic notation, described [here](#). The solution to the puzzle is in **puzzle.solution**.

In addition to the previously identified screens, the solution also has the following requirements:

- All screens support both orientations, i.e. portrait and landscape;
- The application supports internationalization, that is, all texts presented are specified for Portuguese and English (the default language). Erasmus students may use their native language instead of Portuguese.

The details related to the user experience, such as the general appearance of the UI and other navigation details, are left to the authors' discretion.

Deadline

November 21, 2021

ISEL, October 21, 2021