Faculdade de Ciências e Tecnologia
Universidade de Coimbra
Departamento de Engenharia Informática

Mobile Computing Project

This project corresponds to the Practical Project defined in the course evaluation model. The objective of this project is for students to develop a game, work of art or any other application scenario, specifically programmed for Android Devices.

The rules for this project are the following:

- It must be developed for the Android Platform. Use of the Android SDK (together with other support SDKs, if needed) is mandatory. The standalone use of HTML/JS or hybrid frameworks is strictly forbidden.
- The project to be developed must address a specific need: be it a game, a work of art or any other kind of application, there must be a starting point, answering the three basic questions:
    - What do you want to create?
    - What is it good for?
    - Who are your potential users?
- The minimum level of complexity must include use of activities, fragments, database resources (at least an SQLite embedded database, but other DB technologies will be accepted), parallelism (*Threads, Loaders* or *Executors*) and connection to Firebase. Use of sensors, networking, web, connection to Arduino, and/or distributed computing mechanisms (webservices, eventing/messaging for notifications), etc. will count for bonus points.
- It is expected for groups to adopt and follow a Software Engineering methodology of their choice. This subject is not part of this course, as it was already addressed in other courses, but it is nonetheless orthogonal to this effort. Also, the prototyping effort (UI wireframe diagrams, gameplay studies, UI studies, etc.) is relevant and must be included in the final report.
- Quality of UI interface is a relevant factor, as well as usability and responsiveness.
- **It must be ideally implemented by the same groups of students that were formed for the challenges**. No exceptions allowed without prior teacher consent - this also applies to the general project rules.

The delivery deadline will be on the 4th of January 2025, by 23:59. Deliveries after the scheduled deadline will imply a 25% penalty. The expected deliverables will be:

- A development report describing the implemented concept and its software architecture, as well as the UI design and software engineering steps involved. Planning is also important: include GANTT charts for the predicted and expected development timeframes and describe the issues that had to be solved during development.

Rules for the report: 40 pages (maximum), A4 page size, normal margins (L/R, T/B: 2.54cm) font size 11pt, single spacing – no cover letter, index or references included in the page count.

- The project directory, including all project files (layouts, code, and resources), manifests and *Gradle* scripts.

Submissions will be made on Inforestudante. Main grading criteria includes factors such as: concept complexity, diversity of resources involved, quality of implementation, usability, articulation and cooperation between team members and quality of the documentation.

The students must be aware that, even though no formal metrics are given for the expected dimensions of the project, they must bear in mind that it must be compatible for the amount of work that can be developed by a group of three elements, concurrently with the other courses of this semester.

The project will be subject to a defense (it can be remote), scheduled via Inforestudante. The defense period will run between the **5th and 6th of January 2025 – registration on Inforestudante will be mandatory.** Students will be required to deploy their application from scratch during the defense on an emulator or real device, to showcase its operation.