

CPEN 321 Software Engineering Winter 2023

Group, Projects, and Presentations (Friday, September 22, 9pm PT)

This is a **group** assignment. However, as groups are not formed on Canvas yet, **each student** of a group should submit (the same) version of this report individually. That is, the submissions of all group members are required and should be identical.

We will use these reports as a confirmation of each student's willingness to be part of their corresponding group. **Students failing to submit a report will be assigned to a group at random.**

Groups should strive to include 4 members. If your group has <4 students, we will "break" it to "fill up" other groups to include the target number of students.

If any assistive AI technology was used in any stage of working on this assignment, you **must** explain how it was used. No points will be deducted for documented use. Undocumented use will be considered **academic misconduct** and will be treated accordingly.

PROJECT

As part of this submission, you will need to come up with two ideas for two different projects that can be implemented in this course. Below is general information about projects that are considered in-scope for the course.

Project Scope. Each project is a client-server software system with the client (front-end) running on a mobile device and the server (back-end) running in the cloud. It must include at least the following four components:

- Use of an external authentication service, e.g., Google or Facebook authentication.
- Use of at least one additional external service accessible via an API, e.g., Google calendar, Google maps, etc.
- Real-time updates, e.g., multi-user chats, push notification, etc.
- Non-trivial logic in either front-end or back-end component (i.e., something that involves an algorithm, not a simple API call or database read/update/delete)

Front-end Technology: As in M1, the client mobile app must be written natively for Android in Java. Using other tools and frameworks, e.g., React Native or Expo, is not permitted. The app must work on at least one mobile device and on a Google Pixel 3 emulator running Android Q (API 29).

Back-end Technology: As in M1, the back-end must be implemented in Node.js and deployed on a cloud VM. If your back-end uses a database, you can choose between MySQL and MongoDB. Using other cloud services (e.g., Azure app service, MongoDB Atlas/Realm, Azure Functions, etc.) is not allowed.

The **submission** for this milestone will include two parts:

PART I: a PDF file named "Project", which includes the following information:

- 1) The name of your group.
- 2) A list of your group members (student id, first name, last name, as listed in Canvas).
- 3) Two project ideas. For each project idea, provide:
 - A short name + a full title of the project (1 line).
 - Target audience and the main problem the project is aiming to solve (1-2 paragraphs).
 - Main actors and three main use cases of the project.
 - The most interesting part/highlight of your project (1 paragraph).

PART II: a PDF file named "Presentation", which includes slides for the project presentations. The presentations will be held in class during the week of September 25. A presentation by each group will be 8 minutes long: 3 minutes for each project + 2 minutes for questions.

For each project, include 4 slides:

- 1) The name of the project and group members
- 2) Why needed? The project's high-level idea and target audience (1 minute)
- 3) Description of the main actors and three most central use cases (1.5 minutes)
- 4) Your project highlight (0.5 minutes)

Notes:

- In order to save time transitioning between the groups, the course staff will extract your submitted pdf files and will display them from their computer. This means that if you do not upload your presentation on time, you will be unable to present.
- Do not use animation in your slides. Instead, you can use multiple subsequent slides (with the same number) to gradually introduce your ideas. However, make sure you stay within the time limit. The course staff will stop presentations that go over the limit.
- During the presentation, you will need to tell the instructor who presents your slides when to go to the next page.

Good Luck!