



Electrical and Computer Engineering Department
ENCS5150 – Advanced Computer Systems Engineering Laboratory
Android Project
Second Semester - 2022

Submission Deadline: June 10, 2022

Discussion Date: the week after the submission deadline during the lab time

Team Work: Teams of two students

Total Points: 100; 40% out of the final grade

Project Description:

We want to create an application to manage **to-do lists for multiple users**. Each user should sign up using an email address and password. When users are logged in, they should be able to **add a to-do task**, **view current tasks in the list**, and also **mark completed task**.

The application should have the following functionalities:

1. Signup, Sign in, and Logout [30 points]

This layout should have a “Sign in” and “Sign Up” buttons.

- a. **[10 points]** In the main page (first page), the user can enter his or her e-mail and password that are registered **in the database to sign in**. This layout must have a check box called “remember me” which will save the email in shared preferences, so that next time the user does not need to re-type the email address.
- b. **[20 points]** The “Sign Up” button redirects the user to a sign-up form which has the following required fields:
 - I. **Email address**. Must be in a correct email format. It is the primary key of the user.
 - II. **First name**. Minimum 3 characters and maximum 20 characters.
 - III. **Last name**. Minimum 3 characters and maximum 20 characters.
 - IV. **Password**. Minimum 8 characters and maximum 15 characters. It must contain at least one number, one lowercase letter, and one uppercase letter.
 - V. **Confirm password** field.

If all required fields in the sign-up form are filled with valid data, **then and only then the user can be registered**. Otherwise, an error message is displayed, and the missing or invalid fields are colored in red.

2. Home layout [70]

This layout should be a **Navigation Drawer Activity** which will contain the **to-do tasks** for today. The navigation bar should have the following functionality:

- a. **[5 points] Today:** displays the to-do tasks for today (main page).
- b. **[5 points] New task:** allows the user to add a new to-do task with a specific date.
- c. **[5 points] Week:** displays the to-do tasks for a week grouped by day.
- d. **[5 points] All:** displays all the to-do tasks grouped by day.
- e. **[10 points] Search:** allows the user to display to-do tasks in a period specified by a start date and an end date.
- f. **[5 points] Profile:** allows users to view and edit their profiles.
- g. **[5 points] Logout:** allows user to log out from the application and redirects them to the sign in page.

The user should have the ability to **modify any of the displayed to-do tasks**, **mark them as completed**, **share them via email**, or **delete them**. **[15 point]**

When all the tasks for today are marked as completed, the application should display a congratulations message using toast messages (you can also think of an additional nice animation to display for a short period). **[15 point]**

The project must be designed using Android packages and must use: Android Layouts (dynamically and statically). Intents and Notifications (toast messages). SQLite Database. Animation (frame or tween). Fragments. Shared Preferences.

We would like to leave the application UI design up to your preference. Nice UI design will be rewarded.