



Lab Assignment 4 – Graded 10%

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The purpose of this lab assignment is to:

- Develop an Android App that manipulates a Room database
- Use **Room persistence library**
- Use **MVVM** architecture

Be sure to read the following general instructions carefully.

This assignment must be completed individually by all the students. You will have to upload the completed assignment on eCentennial through the assignment link under Assessments.

Due Date

Due end of Week 8, Sunday, 11:59 PM ET

Assessment Information

Total Mark: 30 marks

10% of the overall grade

Exercises

Exercise 1

In this exercise you will write an Android application that allows the nurses to keep track of various classroom assignments in a college. Your application could be used by administrators in colleges. Use **Room persistence library** and **MVVM pattern** (as shown in class examples) to create and manipulate the application's database. Create the following **entities**:

studentId firstName lastName department professorId classroom	classroomId studentId professorId floor airconditioned	professorId firstName lastName department password
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Add more fields to Test entity, to describe other medical tests. Your application should contain the following activities:

- The main activity that handles the navigation. [\[4 marks\]](#)
- The login activity will allow the nurse to login. Use professorId as user name for the professor. [\[4 marks\]](#)
- The patient activity will allow the nurse to enter/view student information. [\[4 marks\]](#)
- The test activity will allow a nurse to enter test data for a student. [\[4 marks\]](#)
- The view test info activity will allow the professors to view test information for a given student. [\[4 marks\]](#)
- The update info activity will allow the professor to update/display student information. [\[6 marks\]](#)
- Use Shared Preferences to store professorId after successful login. Provide a friendly and easy to navigate UI. Use images and image buttons. [\[4 marks\]](#)

Android Workspace / Project Naming Rules

You must name your Android Studio workspace and project according to the following rule:

yourfullname_COMP304SectionNumber_Labnumber_ExerciseNumber.

Example: **johnsmith_COMP304Sec001_Lab4_Ex1** and each subsequent exercise should be added as **JohnSmith_COMP304Sec001_Lab4_Ex2** and so on.

Submission - Assignment Folder

Submit your projects as **zip** files that are named according to the following rule:

yourfullname_COMP304SectionNumber_Labnumber_ExerciseNumber.zip

Example: **johnsmith_COMP304Sec001_Lab4_Ex1.zip**

Upload your zipped assignment file using the assignment link in e-centennial: [Lab Assignment 4 - Week 8 \(/d2l/common/dialogs/quickLink/quickLink.d2l?ou=658923&type=dropbox&rcode=CENCOL-2964074\)](#)

Evaluation table	
Activities	Percentage of the total mark
Functionalities <ul style="list-style-type: none">• Correct implementation of the model (entity classes, Room database, Dao, and Repository classes)• Correct implementation of ViewModel class.• All activities working, proper naming of activities, variables, and methods. Provide comments. Provide an explanation when asked during the demonstration of the app.	30%
	20%
	25%
UI friendliness: <ul style="list-style-type: none">• proper layout, controls, styles, themes, graphics and images	15%
Declaring resources in proper resource files	5%
Innovative features/ effective way of coding	5%
Total	100%

References

Textbook, online course material, class code examples, Lab Session examples, [Github Android Architecture Components - samples](#) (/https://github.com/android/architecture-components-samples/tree/master/BasicSample) and the following Android tutorials:

- [Save data in a local database using Room](#) (/https://developer.android.com/training/data-storage/room/index.html)
- [Shared Preferences](#) (/https://developer.android.com/reference/android/content/SharedPreferences)

This material provides the necessary information that you need to complete the exercises.