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 or in pairs** 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, 10th July 2022**

**Exercises**

**Exercise 1**

In this assignment you will develop an Android app that allows the customer to buy a car and this app should provide all the necessary information (see the entities info). Use a **Room persistence library and MVVM pattern** (as shown in class examples in week 6 and week 7) to create and manipulate the application's database. Create the following entities:

|  |  |  |
| --- | --- | --- |
| **Customers** | **CarSales** | **Cars** |
| custId  userName  password  firstName  lastName  address  city  postalCode | custId  carId  paymentDate  orderStatus  amountPaid    (You may include credit card payment details) | carId  brandName  modelName  price  color    (Any other two features of cars) |

Feel free to add more fields to the entities to make it real world app and Your application should contain the following activities: (You have a freedom to customize your activities and UI layouts, discussion is appreciated in the classroom)

1. The main activity that handles the navigation. **[4 marks]**
2. The login activity will **allow the customers to login**. Use custId or username with password as a user credentials for customer’s login. Use **Shared Preferences to store user name** after successful login. **[4 marks]**
3. The customer activity will allow the **customers to enter/view customer information**. **[4 marks]**
4. The customer update activity will allow **the customer to update/display customer information**. **[4 marks]**
5. The car activity will allow to enter **cars data as a hard-coded input or create an input UI** to get cars data. **[4 marks]**
6. The sales activity will allow the **customer to view car information for a given car brand and model** and also allow the customer buy car. (checkout) **[6 marks]**
7. 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:

**yourName\_COMP304SectionNumber\_Labnumber**.

Example: **johnsmith\_COMP304Sec001\_Lab4 a**nd each subsequent exercise should be added as **JohnSmith\_COMP304Sec001\_Lab4**and so on.

**Submission - Assignment Folder**

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

**yourName\_COMP304SectionNumber\_Labnumber.zip**

Example: **johnsmith\_COMP304Sec001\_Lab4.zip**

**Upload your zipped assignment file using the assignment link in e-centennial:**[**Lab Assignment 4 - Week 8**](https://e.centennialcollege.ca/d2l/common/dialogs/quickLink/quickLink.d2l?ou=795575&type=dropbox&rcode=CENCOL-2964074)

|  |  |
| --- | --- |
| **Evaluation table** | |
| **Activities** | **Percentage of the total mark** |
| **Functionalities**   * 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:**   * 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% |