Lab Assignment #4

Due Date: Mid-night (11.59 pm) 31st **Mar** **Marks/Weightage: 30/15%**

End Date: Mid-night (11.59 pm) **3rd April**

Purpose: The purpose of this lab assignment is to:

- Use Android Studio IDE – **Giraffe** version and **programming language - Kotlin**
- Practice the use of Maps, Locations and Jetpack Compose

References: Textbook, ppt slides, class examples, and Android tutorials (**http://developer.android.com/training/basics/firstapp/creating-project.html, follow the codelab**). This material provides the necessary information that you need to complete the exercises.

Be sure to read the following general instructions carefully:

- **This assignment must be completed in pair by all students. Groups are formed on e-centennial**
- You will have to **demonstrate your solution in a scheduled lab session**
- You will have to upload the solution on e-Centennial through the assignment link under Assessments.

Android Project Naming Rules:

Step 01: You must name your Android Studio **project** according to the following rule:
yourfullname_COMP304*SectionNumber*_Labnumber_Exercisenumber.
For Example: **johnsmith_COMP304Sec003_Lab04. Save location drive/folder name can be C: or D:\COMP304-003\Assignments**
If you have more than one exercise in the assignment, then you need to create separate project for each exercise.

Step 02: Submission rules

Once you complete, run and test project(s) for all the exercise(s), then submit it as one **zip file (Compressed file formats such as .rar, .7z are not acceptable) and it should be** named according to the following rule:
yourfullname_COMP304Sec003_Labnumber.zip.
Example: **johnsmith_COMP304Sec003_Lab04.zip**

Exercise 01:

[30 marks]

Write an Android app that allows a visitor to locate various landmarks in the city of Toronto. Your interface should display a list of available landmarks and their address. The application should display the **map and satellite map** of the landmark whenever user selects the name in the list.

Make sure to classify landmarks according to their **type**. For example: *old building* (like Casa Loma, etc.), *museums*, *stadiums*, *attractions* (CN Tower), etc. The first activity shows a list of different landmark types. Other activities show the **list** of landmarks belonging to the selected type. When user selects a landmark, another activity shows the map with a **marker** pointing to the selected landmark.

Provide a friendly and nice UI. Use RecyclerView controls for displaying the list of landmarks types and landmarks. Use styles to create nice displays of lists.

Exercise 02:

[30 marks]

Write an Android app that allows a student to select the program from a list of Software programs and then display the list of SEM4 courses for the chosen program.

If the student clicks on a course, the app should allow the user to see the course description for that course.

Provide a friendly and nice UI. Use proper **Jetpack Compose** elements for displaying the list of programs and courses of SEM4. Use nice layouts by arranging elements in a friendly way.

Evaluation/Rubric:

Functionalities: • Correct implementation of UI (use of RecyclerView, etc.) • Correct implementation of maps • Correct implementation of markers Proper naming of activities, variables, and methods. Provide comments. Provide explanation when asked during the demonstration of the app.	 30% 30% 20%

UI friendliness (proper layout, controls, styles, themes, images)	10%
Declaring resources in proper resource files	5%
Innovative features	5% (for example using https://developers.google.com/maps/documentation/javascript/places API or https://developers.google.com/location-context/geofencing)
Total	**100%**