



## Assignment #2

School of Computing and Academic Studies

COMP3717

Programs: CST

Due: Sun Nov 7, 2021 at 11:59 pm

### ASSIGNMENT DETAILS

This assignment will be done in pairs of two students. Your lab instructor decides on the selection process.

The purpose of this assignment is to familiarize you with Firebase Realtime Database & Authentication.

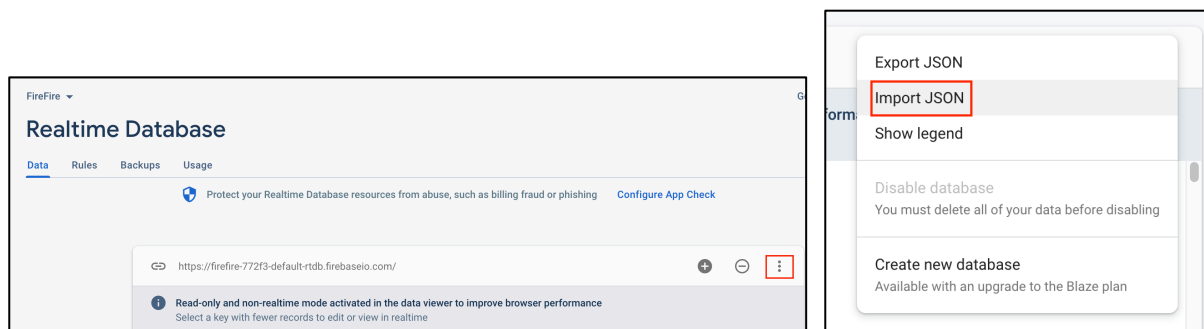
This assignment involves developing an Android app that provides statistics on the COVID situation in BC. Data is from the "BC Center for Disease Control" website pertaining to Case data:

<http://www.bccdc.ca/health-info/diseases-conditions/covid-19/data#download>

Download from the COMP3717 Learning-Hub folder for Assignment #2 a file named *BCCDC\_covid\_cases\_ending\_28oct21.json.zip*. This file contains a JSON file containing the data that you will be using.

You will import contents of JSON file into Firebase:

1. First, create your Realtime Database in Firebase
2. Then, use these screen shots to help you import the data.



Once you have imported the data into Firebase, you will generate the following reports:

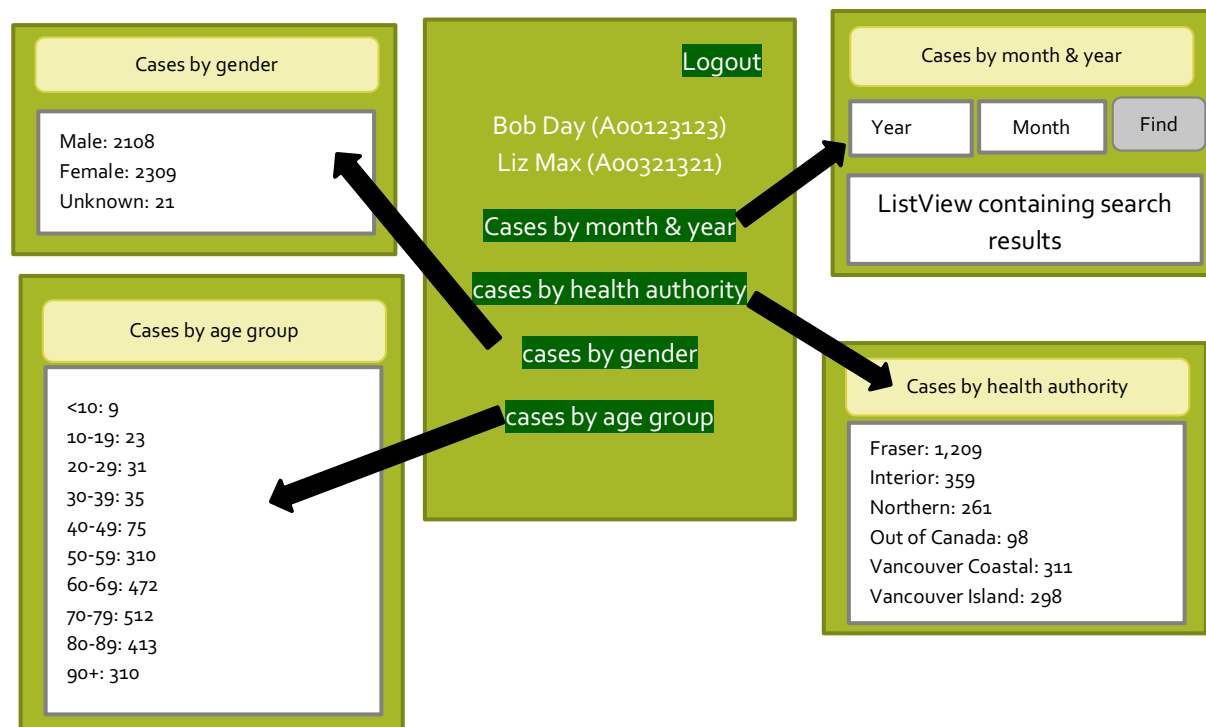
- list of cases during a month. The UI should allow the user to enter the Month & Year.
- case numbers grouped by health authority
- case numbers grouped by gender
- case numbers grouped by age group

Implement Firebase authentication such that only authenticated users are able to view COVID case data. Of course, you need to implement register, logout and login capability.

You are free to choose whether or not you want to use fragments, activities, or a combination

Also, the navigation on the Main activity can be a menu system, buttons, tabs, ListView, RecyclerView, etc. . . It is important that the user experience is intuitive.

Your app wireframes look like this:



Regarding the above wireframes:

- This is just a wireframe draft, so you do not need to conform to colors, fonts, layouts, etc.
- The numbers used in the wireframes above are bogus and incorrect.
- The above wireframes do not include *Registration & Login* screens

#### ADDITIONAL REQUIREMENTS

- Your application must cater to portrait and landscape.
- Your application must have a unique icon and a unique color scheme
- If there are any technical details missing, try to make realistic assumptions
- Use Android Resource files whenever possible and avoid using literal strings/dimensions in the application
- Make sure you set the minimum SDK to be 27
- Implement proper validations on all input data
- You are encouraged to go beyond what has been asked for, in terms of functionality and app design, but you should satisfy the basic features mentioned at a minimum.
- When you create the app in Android Studio name the Application *LastName1\_ LastName2*. This is required to enable the marker to identify whose submission it is and keep the number of assignment apps installed on the emulator to a small number.
- The names of students in the team should display on the default (starting) activity

## TESTING YOUR ANDROID APP

- The assignment will be tested with the *Pixel 3* emulator.
- Within Android Studio, open the AVD manager (Android virtual device manager)
  - Install the *Pixel 3* virtual device with API 28
  - Launch the *Pixel 3* device in the emulator
  - Drag and drop your APK file into the Pixel 3 emulator. Your program should automatically install.
  - Open your program to test it
- **Note:** If your program is not digitally signed, there will be no created certificate. As a result, for security reasons, your program will not install in the Android operating system.

## SUBMISSION:

- As you upload your solution to Learning Hub (D2L), put the following information into the comment:
  - your names, BCIT ID numbers and your preferred email addresses. Avoid your my.bcit.ca email account because it has file attachment restrictions. This is necessary in case the marker wishes to urgently contact you.
  - what you *have not* completed
  - any major challenges
  - any special instructions for testing your app
- Place your .apk file in the root of your application. Note that the root folder of your application is where the build.gradle & settings.gradle files exist.
- Assignments must be zipped (.zip extension) and uploaded to the drop-box folder for the Assignment 2 in D2L (Learning Hub). Do not use any compression utility other than plain Zip.
- Assignment Zip files should be named LastName1\_ LastName2.zip
- Your ZIP file will include all directories and files comprising your entire android app.
- There will only be one submission per team
- If you make more than one submission, then you must version the submission filename by adding \_v1, \_v2, etc.
- If you submit your assignment after the official deadline, you will lose 10% of the total grade for every late day up-to a maximum of three days.

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**COMP3717 ASSIGNMENT 2 MARKING GUIDE:**

Name 1: \_\_\_\_\_ Set \_\_\_\_\_

Name 2: \_\_\_\_\_

Name 3: \_\_\_\_\_

Task	Max Mark	Actual Mark
<i>Look &amp; Feel + Validation</i> <ul style="list-style-type: none"><li>• Unique icon</li><li>• Unique Color scheme</li><li>• UI elements properly &amp; professionally aligned / symmetric</li><li>• Data validation</li></ul>	8	
<i>Authentication</i> <ul style="list-style-type: none"><li>• Registration</li><li>• Login</li><li>• Logout</li></ul>	6	
<i>Reports</i> <ul style="list-style-type: none"><li>• import data to Firebase</li><li>• Cases by month &amp; year</li><li>• Cases by health authority</li><li>• Cases by gender</li><li>• Cases by age group</li></ul>	20	
<i>Other</i> <ul style="list-style-type: none"><li>• cater to portrait and landscape orientations</li><li>• using literal strings/dimensions</li><li>• student names on the main screen</li><li>• app &amp; submission names as prescribed</li><li>• Followed instructions</li><li>• Design and coding conventions</li><li>• D2L comments</li></ul> <p>NOTE: there will be a deduction of 5 marks if you do not upload an APK file. There will also be 1 mark deducted for every day that you do not respond to the marker's request for missing artifacts.</p>	6	
<b>TOTAL:</b>	<b>40</b>	