BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY

Assignment #2

School of Computing and Academic Studies | *COMP3717*

Programs: CST | *Due: Sun Mar 8, 2020 at 11:59 pm*

ASSIGNMENT DETAILS

This assignment involves developing an Android app that helps keep track of blood pressure readings using Firebase.

Blood pressure is expressed as a measurement with two numbers, with one number on top (systolic) and one on the bottom (diastolic), like a fraction. For example, 120/80 mm Hg.

The top number refers to the amount of pressure in your arteries during the contraction of your heart muscle. This is called *systolic* pressure.

The bottom number refers to your blood pressure when your heart muscle is between beats. This is called *diastolic* pressure.

Both numbers are important in determining the state of one's heart health.

Numbers greater than the ideal range indicate that your heart is working too hard to pump blood to the rest of your body.

Here's a blood pressure condition table:

Condition	Systolic (top number)		Diastolic (bottom number)
Normal	Below 120	AND	Below 80
Elevated	120-129	AND	Below 80
High blood pressure (stage 1)	130-139	OR	80-89
High blood pressure (stage 2)	140 or higher	OR	90 or higher
Hypertensive Crisis	Above 180	AND/OR	Above 120
Consult your doctor immediately			

- Assignments must be done in teams of two students assigned by your lab instructor.
- Your application will enable the user to enter the following items of data for every reading:

User ID	This is nothing but a name (like bob, jane, etc..) and not a primary key
Reading date	defaults to current date. This value cannot be entered or edited.
Reading time	defaults to current time. This value cannot be entered or edited.
Systolic Reading	
Diastolic Reading	
Condition	automatically evaluated based on data. Possible values are Normal, Elevated, Stage 1, Stage 2, Hypertensive

Date & Time can be combined into one Java Date object that stores both.

The add data UI should only accept name, Systolic Reading and Diastolic Reading. Date & time should NOT be entered by the user but rather automatically saved by your app behind the scenes.

- The app will enable the user to add, edit, delete and list readings
- The app should generate a warning whenever the user enters a reading that is in the *Hypertensive Crisis* range. This warning should stay on the screen until the user has dismissed it.
- The app provides separate average month-to-date readings report for each person that looks like this:

Month-to-date average readings for Nov 2019	
Name**:**	Liz Fox
Systolic Reading:	135.32
Diastolic Reading:	81.65
Average Condition	High blood pressure (stage 1)

- Your application must cater to portrait and landscape. This also involves proper scaling to screen size.
- If there are any technical details missing, try to make realistic assumptions
- Use Android Resource files everywhere possible and avoid using literal strings/dimensions in the application
- Make sure you set the minimum SDK to be 26
- Provide sample data of at least 2 users, each with at least 5 readings
- All click events are to be handled by listeners
- You are encouraged to go beyond what has been asked for, in terms of functionality and app design, but at minimum you should satisfy the basic features mentioned
- 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 main activity

TESTING YOUR ANDROID APP

- This 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 has not been 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:

- Put the following information into a *readme.txt* file located in the root of your application:
    - 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
    - Also, put your *.apk* file in the root of your application.
- Put your *.apk* file in the root of your application.
- Look in the .gitignore file to determine which files are not needed. Delete those files before submitting the source code of your assignment so that it has a small foot-print. This should be done after closing Android Studio.

- 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.

COMP3717 ASSIGNMENT 2 MARKING GUIDE:

Name 1: _____ Set _____

Name 2: _____

Name 3: _____

Task	**Max Mark**	**Actual Mark**
Functionality: • Add, edit, delete and list readings • Month-do-date average of readings • Warning whenever the user enters a reading that is in the Hypertensive Crisis range. • Sample data	25	
Look & Feel + Validation • Unique icon • Unique Color scheme • UI elements properly aligned / symmetric • Data validation	9	
Other • cater to portrait and landscape orientations • using literal strings/dimensions • All click events are to be handled by listeners • student names on the main screen • app & submission names as prescribed • Followed instructions • Design and coding conventions • readme.txt & .apk in the Root/Home folder of the project	6	
TOTAL:	**40**	