

ITIS/ITCS 4180/5180 Mobile Application Development, Spring 2017
Homework 1

Basic Instructions:

1. In every file submitted you **MUST** place the following comments:
 - a. Assignment #.
 - b. File Name.
 - c. Full name of the student.
2. This is an individual practice assignment.
3. Export your Android project and create a zip file which includes all the project folder and any required libraries.
4. Submission details:
 - a. Compress the contents of your project folder. The file name is very important and should follow the following format: **HW1_Student800Number.zip**
 - b. You should submit the assignment through Canvas: Submit the zip file.
5. **This is a mock up assignment. So, it will not be graded. However, everyone is required to submit. Everyone must complete it individually. If anyone fails to submit, 5 points will be deducted from your final marks.**

Home work assignment 01 (100 Points)

In this assignment you will build your first Android application. You will get familiar with common Android components and how to interact with them. You will build a single activity Currency Converter application.

Part 1 (30 Points): Building the Interface

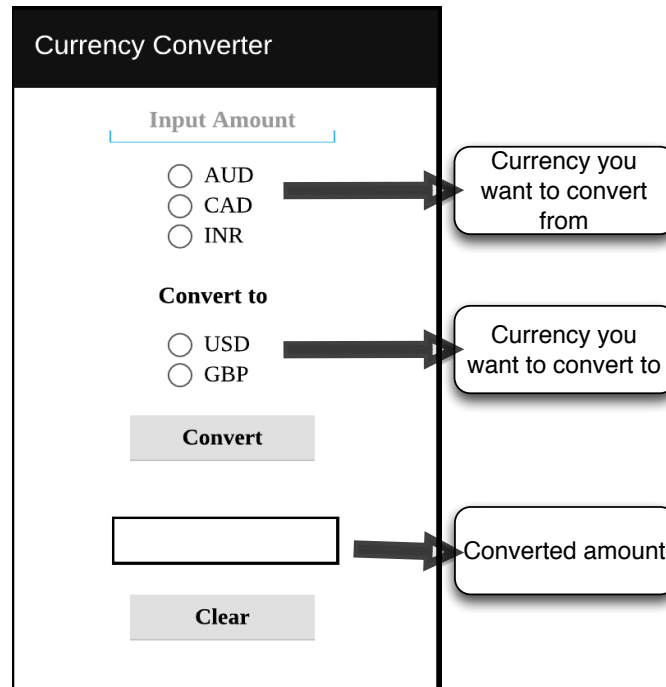


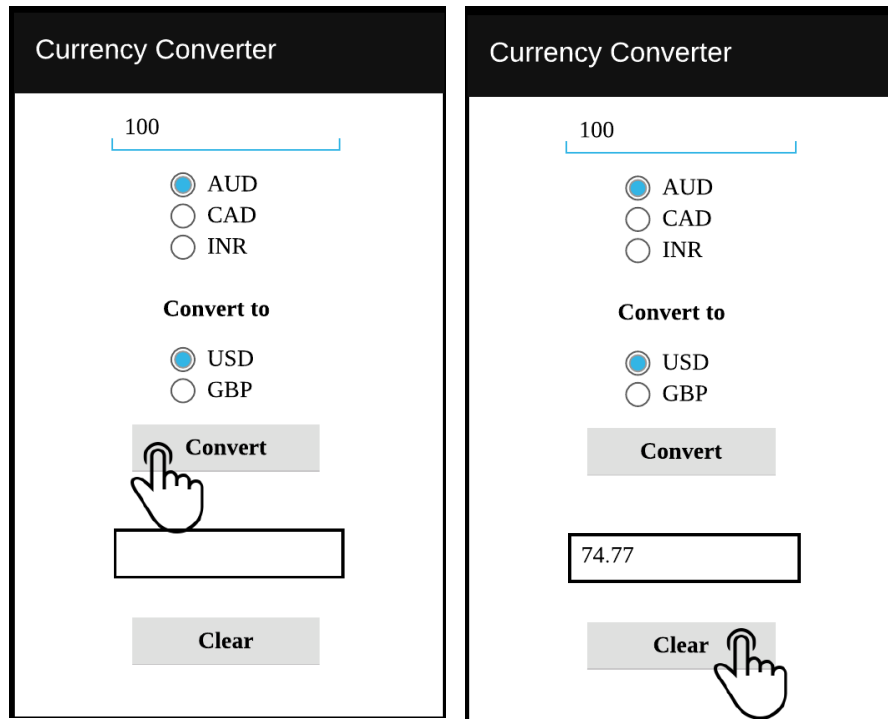
Figure 1: Currency Converter Wireframe

The interface should be created to match the user interface (UI) presented in Figure 1. You will be using layout files, strings.xml and drawable files to create the user interface. The layout XML file can be modified through the raw xml, or through the GUI tools provided provided within Android Studio. To build the UI, please follow the following tasks:

1. The string values used for the text labels, button labels and hints should be read from the strings.xml file and should not be hardwired in the layout file.
2. Use an EditText component for the user to enter the amount you want to convert.
3. Use radio buttons to select from Australian Dollar (AUD), Canadian Dollar (CAD) and Indian Rupee (INR). See Figure 1.
4. Use a Text box to display the string "Convert to".
5. Use the second group of radio buttons to select from US Dollar (USD) and British Pound (GBP). See Figure 1.
6. There should be a button displaying "Convert".
7. There should be a TextBox to display the result.
8. There should be a second button displaying "Clear".

Part 2 (70 Points): Event handlers and App Behavior

This part is to develop logical components. The requirements are as follows:



(a) Convert

(b) Clear

Figure 2: Convert and Clear

1. First group of radio buttons will be used to select the currency you want to Convert from. For example, in Figure 2, we put 100 as amount and selected AUD as the input currency.
2. Second group of radio buttons will be used to select the currency you want to Convert to. We select USD here.
3. The standard exchange rates over USD for the currencies as per January 15, 2017 are:
 - 1 USD = 1.34 AUD
 - 1 USD = 0.83 GBP
 - 1 USD = 1.32 CAD
 - 1 USD = 68.14 INR
4. When you click on the Convert button, you should create an event handler using OnClickListener interface on this activity, as in Figure 2(a). In the event handler you should implement the logics to convert the first currency to the second currency. You should display the converted result into the TextBox, as in Figure 2(b). In this case the result is 74.77. It denotes that, 100 AUD = 74.77 USD.
5. When you click on the Clear button, it should clear all the things and display the screen just as it is in Figure 1. In this case, to clear the screen, you should create an event handler using the XML layout file, not using OnClickListener interface.
6. If you put anything besides a non negative real number in the EditText on the top, you should detect it and display a Toast showing: "Invalid input".

Happy Coding!