

ITIS/ITCS 4180/5180 Mobile Application Development
In Class Assignment 2

Basic Instructions:

1. In every file submitted you **MUST** place the following comments:
 - a. Assignment #.
 - b. File Name.
 - c. Full name of all students in your group.
2. Each student in the group is required to submit the assignment on moodle.
3. Please download the support files provided with this assignment and use them when implementing your project.
4. **Export your project as follows:**
 - a. From eclipse, choose "*Export...*" from the File menu.
 - b. From the Export window, choose *General* then *File System*. Click *Next*.
 - c. Make sure that your project for this assignment is selected. Make sure that all of its subfolders are also selected.
 - d. Choose the location you want to save the exported project directory to. For example, your *Desktop* or *Documents* folder.
 - e. When exporting make sure you select *Create directory structure for files*.
 - f. Click Finish, and then go to the directory you exported the project to. Make sure the exported directory contains all necessary files, such as the .java and resource files.
5. Submission details:
 - a. All the group members should submit the same zip file.
 - b. The file name is very important and should follow the following format:
Group#_InClass02.zip
 - c. You should submit the assignment through Moodle: Submit the zip file.
6. **Failure to follow the above instructions will result in point deductions.**

In Class Assignment 2 (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 currency convertor application comprising of a single activity.

Important App Requirements:

1. The required Android Virtual Device (AVD) should have **minimum SDK version set to 14 and target SDK at least 19**. The app should display correctly on 3.2" QVGA (ADP2) (320x480: mdpi). Your assignment will not be graded if it does not meet these requirements, and you will not be granted any points on your submission.

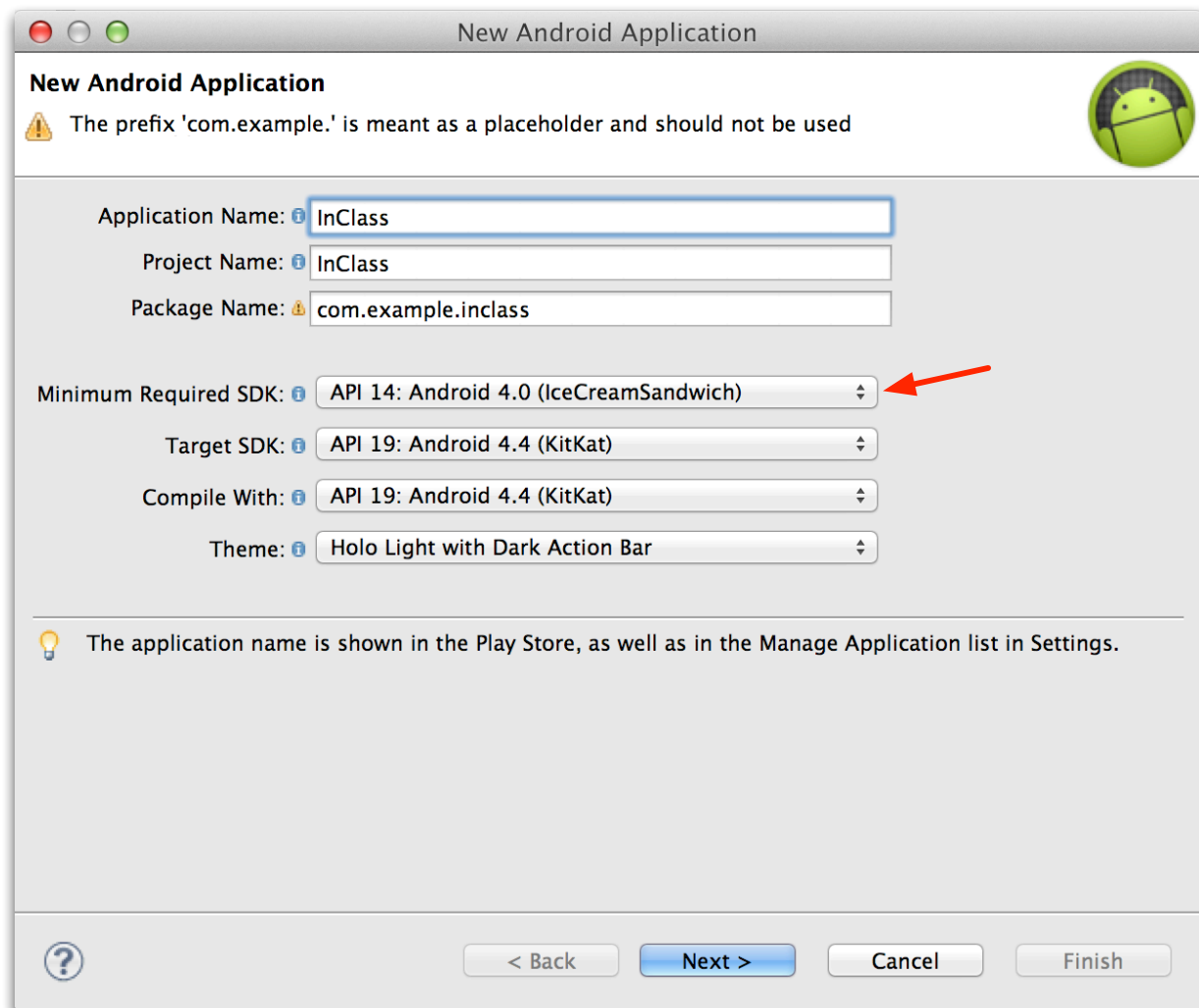


Fig 1. Choosing Minimum Required SDK to 14

(a) Initial Screen

(b) Performing conversion from USD
to EUR

Figure 1, Application User Interface (Part 1)

Part 1 (50 Points): Using Buttons

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

1. Create a new android project called "In Class 2a".
2. The string values used for the button labels should be read from the strings.xml file and should not be hardcoded in the layout file.
3. This is a simple calculator that performs currency conversion from United States Dollar (USD) to four other currencies (EUR,CAD,GBP,JPY). Each button will perform the logic of the corresponding conversion and display the converted amount in the Result textView in the format shown in Figure 1(b). The conversion rates from United States Dollar (USD) to the above four currencies are as follows:
 - a. Euro (EUR)= Amount * 0.849282
 - b. Canadian Dollar (CAD)= Amount * 1.19
 - c. British Pound (GBP)= Amount * 0.65
 - d. Japanese Yen (JPY)= Amount * 117.62
4. Use the "hint" attribute to set the "Amount (USD)" grayed out hint.
5. The input entry should be restricted to 2 decimal places. Similarly, the converted amount should be rounded off to 2 decimal places.
6. The Result should be displayed in the format: 1 USD = 0.84 EUR. Note: The name of target currency should be changed each time based on the selection.
7. Your code should check for special cases such as when no amount is entered, invalid number and special characters. In such cases, display a Toast message indicating the error.
8. ClearAll: should clear the entered amount and the result, and set them to their default grayed out hints "Amount (USD)" and "Result:" respectively (See Figure 1(a)).

(a) Initial Screen

(b) Performing conversion from USD
to CAD

Figure 2, Application User Interface (Part 2)

Part 2 (50 Points): Using Radio Buttons

The interface should be created to match the user interface (UI) presented in Figure 2(a). You will be using layout files, and strings.xml to create the user interface. The layout XML file can be modified through the raw xml, or through the GUI tools provided within eclipse. To build the UI, please follow the following tasks:

1. Create a new android project called "In Class 2b".
2. The string values used for the button labels should be read from the strings.xml file and should not be hardcoded in the layout file.
3. This is also a simple currency converter doing the same operations in Part 1 but using Radio Buttons instead of Buttons. You are asked to properly use Radio Group and Radio Buttons to check which operation is being selected and perform it accordingly when the user clicks the "Convert" button.
4. When the application launches, the Amount should be set to 1, and the Euro (EUR) currency should be selected. The Result textView should display: 1 USD = 0.84 EUR. Note: The name of target currency in the Result should be changed each time based on the selection.
5. Your code should check for special cases such as when no amount is entered, invalid number and special characters. In such special cases display a Toast message indicating the error.
6. ClearAll: should set everything to default. This means that the Euro (EUR) radio button should be selected. The amount should be set to "1", and the result should be set to "1 USD = 0.84 EUR" (See Figure 2(a)).