MIT AITI
Android Software Development

Lab 1: Introduction to Android and Version Control

In this lab, we will introduce the basics of Android programming. You will also gain experience in using version control. Your task is to create an app that is a very simple calculator. Follow the steps below to get started.

Setup:
You will need the following software installed. If you are working on a computer that does not have this software already installed, the links below each one will guide you on how to install it.
1. Eclipse
   ➢ http://www.eclipse.org/downloads/packages/eclipse-ide-java-developers/junor
2. Android SDK
   ➢ http://developer.android.com/sdk/installing/index.html
3. ADT plug-in (to use the Android SDK in Eclipse)
   ➢ http://developer.android.com/sdk/installing/installing-adt.html
4. EGit plug-in (to use Git through Eclipse)
   **Eclipse Juno (the latest version) already has EGit. The plug-in is only necessary for older versions of Eclipse such as Indigo, Helios, etc.
   ➢ http://www.vogella.com/articles/EGit/article.html

Steps:
1. Clone the repository for Lab 1 from bitbucket.org
   a. Open Eclipse
   b. Select File -> Import -> Git -> Projects from Git
   c. Choose URI
   d. Type https://bitbucket.org/aiti_india/lab1.git into the URI field. It should automatically complete the Host and Repository path fields. Leave all the other fields blank.
   e. Select both branches (demos and master)
   f. Click Finish. You should now be able to see an Android project called Lab1 in your Eclipse workspace.
   g. You may get a build path error that the source folder gen cannot be found. In that case, you just need to create a source folder called gen. To do this, right-click on the project -> New -> Source folder, and name the new source folder "gen". Now Lab1 should not have any errors.
2. Create an Android Virtual Device and view the sample app
   a. In Eclipse, go to Window -> AVD Manager -> New
   b. Give your virtual device a name, and under "Target", select API level 2.1
   c. Now Lab1 is ready to run. Press the green play button to run the project (next to the bug in the toolbar at the top). Select to run the project as an Android application.
   d. You should see a virtual smartphone show up. It may take some time to start up. Then the sample app should be a simple screen that displays "Hello World".
3. Modify the app, so that it functions as a simple calculator. You will be working in the file called Lab1Activity.java in the src folder. Lecture 2 explained how to add buttons, text fields, etc. to an app. You will use these skills to create a simple calculator. Your calculator must

include two text fields that take in numbers as input from the user. It must also be able to add, subtract, multiply, and divide. You can choose how you would like to display these 4 options (ex. drop-down menu or 4 different buttons). Finally, there must be a button that the user can press to get the answer to the calculation. This answer should be displayed in another text field. Run your app to make sure it works as you expected.
4. Commit your changes to the repository.
    a. Right-click on Lab1 -> Team -> Commit
    b. Write a short commit message that succinctly describes the changes you made.
    c. Select only the files that you modified, and then press commit.