

A290/A590
Tools for Computing
Android Application Design and Programming

Homework PROJECT 1

DUE Tuesday, January 31, 2017 by 11:59.00.00pm (SHARP)
Submit ZIPPED file, AndroidCalling.zip, of entire Project Folder to
The “Homework PROJECT 1” Assignment in your Canvas Individual Homework Projects” group

Preliminary Information:

Your goal is to show you can successfully build a version of the A290 Android Calling application used thus far as an example in class. The basic instructions for doing so are contained in the various guide files available via the Meeting Guides page of the website. We went through this entire basic process together as well, so reproducing a version with the original features should not be a real challenge. The real focus of this programming assignment is to successfully create, build, and test this Project. Finally, you will have to ZIP the entire Android project folder/filesystem into a single file, **AndroidCalling.zip**, and submit that file to your Homework PROJECT 1” Assignment in your Canvas “Individual Homework Projects” group by the deadline indicated above. **Please BE SURE to use WinZip or compatible tools to ZIP your Project. This means, if you use 7zip, you need to make a “zip” archive, not a “7z” archive. REMEMBER: CANVAS does not have a filesize limit, BUT UITS STRONGLY RECOMMENDS ALL UPLOADS use a WIRED connection.**

Assignment 1:

Create your version of the A290 Android Calling Application demonstrated in class. By your “own version” I mean your application can/should reflect some of your own design ideas. You are free to make some of your own choices about things, as long as you meet all the requirements. Your A290 Android Calling **must** include the following features:

1. A properly named Package Folder with properly named *.java and *.xml files.
2. All folders created by Android Studio when you create an Android Project. These should be all created automatically when you create of proper Project/Package.
3. Make sure your Home Screen has the Application name, “Android Calling.”
4. Modify the appropriate files so that the “Hello World” string is replaced with “Hello Universe!!! Android Calling!” and the string resource is correctly renamed.
5. Add the following widgets/components to your Home Screen: Button, Clock, Check Box, and TextView with “Large” font. All of these except one were described and discussed in Meeting Guide 4.
6. Modify the “string” and any other properties for each of these objects to “clear” any error or warning indicators. BE SURE to give each item that has a “string” a more interesting “label” that the default. What you want that to be is up to you. This means your “Button” should not say “Button” when you are done and your “Check Box” should not say “Check Box” when you are done.
7. Override or eliminate the relative layout that is automatically created and replace with an absolute layout as demonstrated in class.
8. **For your relative layout “override” or absolute layout:** you are free to decide where on the Home Screen you want these additional items to be placed, but you must be sure, as a group, they meet the following requirements:
 - a. At least one of the four must be right justified.
 - b. At least one of the four must be left justified.
 - c. At least one of the four must be centered horizontally in the Home Screen.
 - d. At least one “pair” must be aligned vertically with each other, i.e., they need to be next to each other.
9. Proper **comments** in both your *.xml and *.java files, including both Heading Block comments and in-line comments. The guidelines for these are clearly explained in the file posted as a link on the Homework Page and will be discussed in class on 1/24/17.

Your final Home Screen will have a total of 5 visible items, plus the application title.

[continued]

Once you have complete your Project, be sure to **test it** with an AVD with the following, minimum features. This is what we will use to test. If you project loads and works on a “more powerful” AVD, it should work on this one.

AVD Requirements:

4.7 WXGA 720x1280:xhdpi
Android 6.0 – API Level 23
CPU/ABI: arm
“Enable” Use Host GPU.

Start your AVD and when the Home Screen of the emulator becomes ready, “Run” your application. You have seen this in class, so you should know what you are looking for. Be sure your Button and Check Box “react” as expected, even though they do nothing at this time.

Once you have successfully tested, as well as confirmed that your files are properly commented, exit Android Studio so you can zip your file.

Zip your file, as demonstrated in class, creating a file name “AndroidCalling.zip” that contains your entire Android Calling Project.

Scoring:

Project properly zipped and submitted so it can be unzipped and imported into Android Studio: **10 points**

Proper Comments in **ALL RELEVANT PAGES: 20 points**

All 5 items present on Home Screen: **15 points**

All string resources created and named OR renamed: **10 points**

All items aligned with absolute reference rather than relative: **10 points**

At least one item right aligned: **5 points**

At least one item left aligned: **5 points**

At least one item aligned horizontally on Home Screen: **5 points**

At least one “pair” of items vertically aligned, i.e., side-by-side: **5 points**

Project Builds and run correctly on “target” AVD described above: **15 points**

TOTAL: 100 points

Handing in your Assignment

It should be clear that failure to successfully submit your ZIPPED [Please use WinZip or compatible tools **and only the *.ZIP archive format**] file to your “Homework PROJECT 1” assignment in your Canvas “Individual Homework Projects” group or failing to meet the deadline will result in a score of zero (0). Partial credit will only be possible if you are unable to make the project work, but are successful in submitting your project and most or all of what you submit is correct. If you have questions about this, ask them ASAP.