

A290/A590
Tools for Computing
Android Application Design and Programming

Homework PROJECT 3

DUE Monday, February 20, 2017 by 11:59.59.99pm (before midnight)
Submit 1 ZIPPED file, preferably HP3.zip, with entire Project Folder to
OnCourse Dropbox Folder "Homework Assignments"

Preliminary Information:

Your goal is to show you can successfully build a version of the A290/A590 First Real Application (Sudoku) through **Section III of Meeting Guide 9** (First Real App Part 3). The basic instructions for doing so are contained in the various guide files available via the Meeting Outlines page of the website. You will need to consult some or all of Meeting Guides 7 thru 9. We went through the entire basic process together as well, so reproducing a version with all the original features should not be a real challenge. The real focus of this programming assignment is to successfully create, build, and test your version of this Project. Finally, you will have to ZIP the entire Android project folder/filesystems into its own file, **HP3.zip**. Submit the single zip file to your Canvas "Homework PROJECT 3" assignment 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: UITS strongly recommends only using a wired connection for large file transfers to Canvas. They suggest using on campus computers to further insure a successful upload.**

Assignment 3:

Create your version of the A290/A590 First Real Application (Sudoku) 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/A590 First Real Application **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. Properly name both your "main" XML and "main" java files with appropriate, i.e., not default, file names.
4. Home Screen with 4 buttons: About, Continue, New Game, Exit. Only "Continue" will **not** function.
5. Java, and XML layout files for "**About**" button as well as proper code in "Main" Activity to make it function, including the use of a Theme in the Android Manifest.
6. Pressing "**Menu**" button while on Home Screen of the Application reveals "Settings..." pop-up at the top of the screen and clicking on "Settings..." reveals the Preferences dialog with the "Music" and "Hints" checkboxes as per the Guides.
7. "**FirstRealAppPrefsActivity.java**" file to make #6 work properly, as well as "settings.xml" new resource, including properly created and registered "xml" folder in the "res" tree of the Package and the settings menu XML resource.
8. The "colors.xml" resource file and all the individual resources required, color by color.
9. The "arrays.xml" resource file and the proper content for the Game Dialog.
10. All the required string resources in the strings.xml resource file.
11. The Game Activity file and the Puzzle View java file to make sure the Game dialog works and clicking on any of the 3 options reveals a properly laid out game grid of 9x9 squares **with numbers**, drawn entirely with java code with Canvas, Color, Paint, and whatever other graphics classes are required.
12. 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 which files need to have such comments was discussed in class on various occasions.

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

AVD Requirements: [Be sure to test on the ARM emulator, not the x86 emulator.]

4.7 WXGA 720x1280:xhdpi
Android 6.0 – API Level 23
CPU/ABI: arm (intel with HAXM if available is preferred).

Start your AVD and when the Home Screen of the emulator becomes ready, “Run” or “Debug” your application. You have seen this in class, so you should know what you are looking for. Be sure your application “reacts” or provided the proper “output” as per the examples in class.

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

Zip your files, just as you did for Homework PROJECTS 1 and 2.

Scoring:

Project properly zipped and submitted so it can be unzipped and imported into Android Studio: **5 points**

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

All string, color, array, and settings resources created and named OR renamed: **10 points**

Project layout is properly modified to reflect the specific requirements of this Project, including all screens, whether activity, dialog, etc. All “object” instances are **uniquely named**, similar to guides: **25 points**

All java code works correctly and matches expected output for all actions, whether new screen, pop-up, dialog, etc.: **30 points**

Project Builds and run correctly on “target” AVD described above: **10 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] file to your Canvas “Homework PROJECT 3” assignment in the “Individual Homework Projects” section 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.