COS30017/COS80019
Software Development for Mobile Devices

Formative Assignment - 01 (Graded as Pass / Fail, Individual Work)

Due: By the day of your Week 3 Lab

YOU MUST SUBMIT YOUR ASSIGNMENT TO DOUBTFIRE !

Objectives

This assignment task has the following objectives,

1. Become familiar with the SDK, Emulator, and IDE used to develop software for the Android platform.
2. Explain the basic components of the Android platform
3. Create a simple application that illustrates how the Android platform makes use of conventions to support multiple screen resolutions / sizes.

Tasks

Task 1

Create an app. that will display the text 'Android' in three different font sizes. Take a screen shot in Landscape and Portrait modes.

Task 2

A number of fundamental differences exist between a mobile operating systems and one designed for PC. List three key differences, and explain why these things are handled differently on a mobile operating system.

Task 3

Create an app. that will make use of 3 icons (from the Icon pack provided). Your app must display all 3 icons below some relevant text.

- You must take a screen shot of this app running at three different resolutions in the emulator (MDPI ~160dpi, HDPI ~240dpi, and XHDPI).
- Also force an XHDPI screen to show low-density images & take a screen shot. Briefly comment on why this is not ideal.

Task 4

In UI design, software engineering theory advocates the *"separation of concerns".* Briefly explain what this means, and what the underlying principles of this approach are with respect to UI design. Provide examples of how this is achieved in Android app development (screen shots of your IDE may be used).

Core/Extension Tasks

All tasks in this assignment are Pass Tasks. You must complete all Pass Tasks, submit for feedback, and achieve a pass for all tasks in order to be eligible for a pass grade in this unit.

Submission

You are required to submit a PDF report using doubtfire:

- login to doubtfire at http://doubtfire.ict.swin.edu.au
- The header (or) footer of the document must contain your name, student id, and unit code.
- The document must have a title (e.g. Submission for Assignment 01)
- Evidence that shows you completed each task must be presented in a separate section.
- The document does NOT need a table of contents (or) a cover page.

The reports are assessed and feedback given via doubtfire and, if required, in your lab. You are expected to incorporate the feedback (esp. if changes are required) and submit the changed reports as part of the final portfolio.

Note: This is a formative assignment. That is, an assignment designed to provide feedback. If you fail this assignment, you have 1 week to make corrections and resubmit to pass.

Useful References

Resources to help get started:

Hello World - http://developer.android.com/resources/tutorials/hello-world.html

Emulator Control (for portrait and landscape mode) -
http://developer.android.com/guide/developing/tools/emulator.html

Where can I learn more about supporting multiple screen sizes?

http://developer.android.com/guide/practices/screens_support.html

What is this about a device independent font?

http://www.captechconsulting.com/blog/steven-byle/understanding-density-independence-android

Cross Reference

The following checklist will help you check that you have covered key points required in order to pass this formative assessment.

Task 1

- Screen shot in Portrait showing Swinburne in three different fonts
- Screen shot in Landscape showing Swinburne in three different fonts

Task 2

- The difference between an operating system and the Android platform is clearly explained
- Examples drawn from the Android Platform to show this

Task 3

- You created three AVD (Android Virtual Devices) for the three resolutions
- Scaled up image on XHDPI should visibly give you feedback on why this is not a good idea

Task 4

- A clear explanation of what "separation of concerns" refers to
- A clear explanation of the principles underpinning this approach
- A clear example of how this is facilitated in Android app development.