Portfolio Report

COS30017 - Software Development for Mobile Devices

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1. Overview

2. Evidence

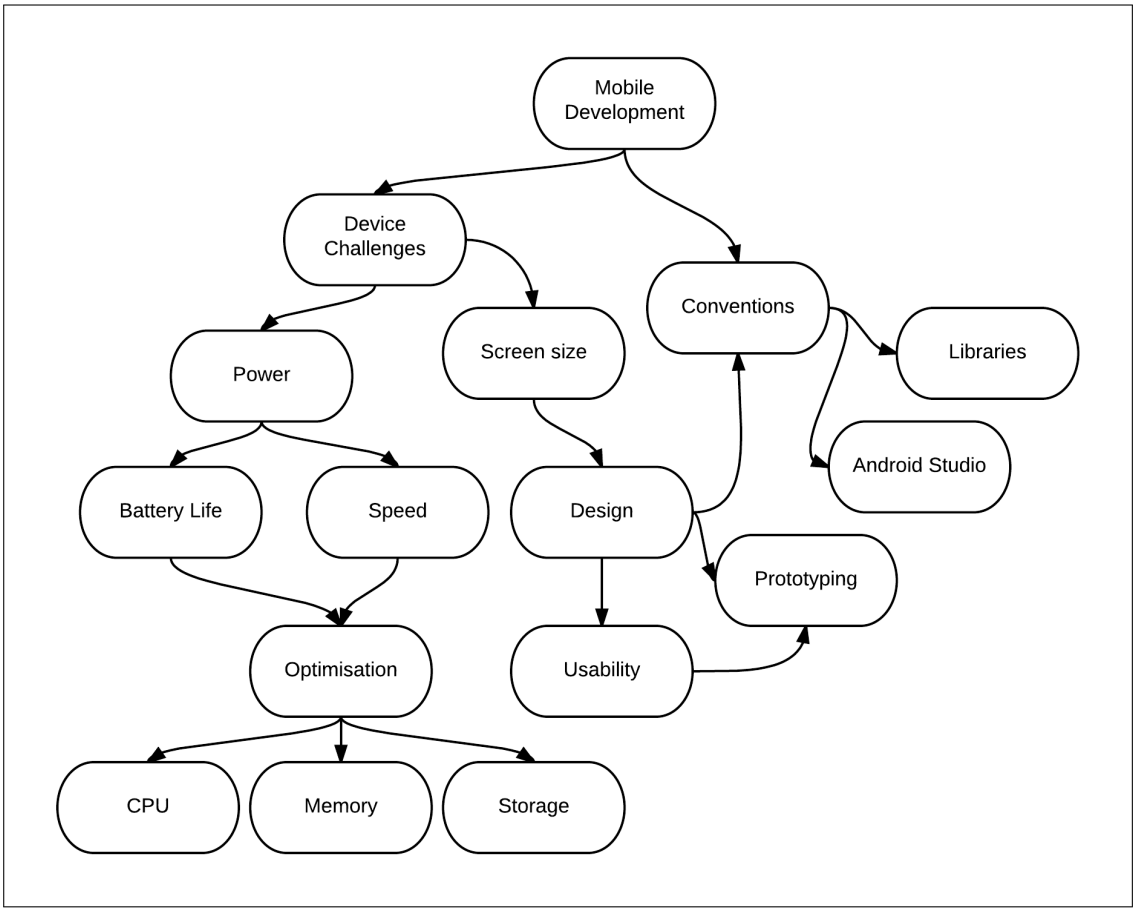
- = *in progress*

Assessment	Completed
Core Assignments (for Pass)	✓
Extension Tasks (for Credit)	✓
Custom Application (for Distinction)	-
Research Report (for HD)	-

Project brief has been submitted for custom application and I also intend on completing the HD research report as well.

3. Reflection

3.1. Concept Map



3.2. Mobile Application Development Process

The process to developing a mobile application is in a lot of ways a combination of web development and conventional desktop application development. From desktop application development comes the usual development methodologies such as agile, scrum etc., which are proven in providing a good and reliable framework for delivering applications. The web development processes that are also inherited by mobile development are those of iterative app design, user interface and usability testing, and then heavy design implementation.

At a high level the resulting process for designing mobile applications is as follows:

1. Ideation - Exploring the app's idea, what it will do, features etc.

2. Exploration - User stories/scenarios, constraints, UI sketches and heuristic evaluation.
3. Initial Clarification - Navigation flow, hi-fi prototype and usability test.
4. Executable Prototype - Create prototype, validate the app.
5. Iterative Development - Continue developing features, run usability tests and other validation methods to assist with refining.

3.3. Analysis and Problem Solving Approaches

3.4. Comparison and Contextual Placement

Mobile development is different to developing command line processing software and is even different to developing websites, though it does have characteristics from both areas and is in may ways a combination of them. Mobile development requires the kind of design approaches long used in web development, but also commonly requires some module of complex underlying logic written in an OOP language. This makes mobile development quite different as a result and as such there are slight differences in the way that the development is practised.

One aspect of Android development in particular that's accentuated heavily on is the concept of 'Convention over Configuration', and this is apparent when using the newest Android integrated development environment, Android Studio. Every part of an Android application has it's place in the structure of the project, to the point where if it's not in that location, then the app may not compile correctly or at all. Anything to do with layout, design, dimensions, string constants and much more must be placed in their respective directories and xml files within the 'res' directory, whereas any application logic needs to go in the 'java' directory.

Mobile development also requires that there is a greater emphasis on validating the UI decisions made. This is usually in the form of user tasks and usability tests both on prototypes and on a working executable of the app whilst it's in development. Design and usability of an app is paramount to it's success in the market of smartphone users, and if the app is either difficult to use or doesn't function exactly as required then it isn't likely to succeed. This is true of any application, however it seems to be a lot more important in mobile development, and much less likely to be excusable.

The process of creating and designing mobile applications, both for Android and iOS has been somewhat simplified by the design guidelines and conventions that Google and Apple produce to assist developers in creating good apps for their platforms using their development kits.

3.5. Generalization

3.6. Challenges in Mobile Development

3.7. Explorations