Software Development for Mobile Devices

Formative Distinction Assignment (Graded Pass / Fail, Individual Work)

Objectives

Demonstrate your ability at designing and developing a non-trivial mobile application, and explaining certain design choices via an experience report.

Students aiming for a Distinction grade need to attempt satisfy expectations for a credit grade, and develop a non-trivial application, and write an experience report. This assignment task provides details of the expectations for the non-trivial application and the experience report.

Deliverable	*Due Date*
Idea (Verbal)	Week 8 (in lab)
Scenarios / Sketch / Navigation Model	Week 11 (in lab)
Demonstration / Experience Report	Portfolio Interview (during exam period -- dates TBA)

All application ideas must be submitted for approval in Week 11 (or earlier)

Custom Application Development Task (for D or higher grade)

You are expected to create a non-trivial application and write an experience report. The experience report can be written from one of 3 different perspectives. Select your perspective before creating the application to ensure you have all of the relevant material for the report.

Experience Report

You need to write an experience report from **one of three** possible perspectives (explained in next section). An Experience Report captures your reflections on applying principles and concepts related to the subject to a project of your own creation.

1. Your report is expected to be less than 1500 words (ideally 1000 words is sufficient).

2. Each code snippet/image counts for 250 words -- they must be captioned with a border.

3. The report must have at least the following sections: Introduction, Summary, and References.

4. You must clearly indicate in your report the perspective that you have selected. These perspectives loosely map to the intended learning objectives of this unit (see the unit outline)

5. The report must contain screen shots of all activities in an Appendix which does not influence word count.

6. The sketches, scenarios and navigation model are to be presented in an Appendix

Experience Report Perspectives

1. **Design Constraints Perspective:** Describe how you applied your understanding of both the hardware / software technology within the design of the application.

2. **Design Communication Perspective:** Communicate the design of your application. The report should provide a Class diagram, Interaction/Navigation model, and a data model. You should also discuss any known limitations of the API that you have used. For example, limitations arising from the use of sensors and/or networking API.

3. **Usability Perspective:** Create paper prototypes and use the usability heuristics checklist. Address the strengths and limitations of the paper prototype approach based on your own experiences. It should include a set of recommendations on how to improve the effectiveness of the paper prototyping approach.

==**Note: You need to write the report from just one of the above perspectives.**==

Minimum Expectations of Non-Trivial Application

1. The application must have at least 4 - 5 activities (fewer is acceptable if application is of greater complexity -- check with convenor)

2. Must target Android 4.0 (or higher).

3. Must make <u>use of Action Bar, Fragments, and demonstrate use of both a global and contextual navigation in the design.</u>

4. Application can focus on either Portrait, or Landscape orientation (or both)

5. Application can target just one screen density (e.g. HDPI screen)

6. Application should make use of complex layouts (i.e. not just linear)

7. Application must make use of local storage, and networking (audio/video is optional. If you are using audio/video it must be non-trivial use -- check with convenor.). You can connect with existing API end-points.

8. Must demonstrate error handling functionality in some part of the app (e.g. network connectivity is not adequate).

9. Must ensure appropriate design patterns are used for work done in a background thread safely.

10. Must demonstrate a structured development approach (e.g. Sketches, User stories, Vision, Prototype, Working app, and some structured testing).

Submission

The idea must be discussed verbally with the unit convenor

A hand-drawn sketch and navigation model must be presented before Week 12

An experience report can be submitted via email for feedback during SwotVac period. Students will be provided feedback which they can incorporate before the final portfolio interview.

Demonstration

You **will** be asked to demonstrate your custom application during the portfolio interview. You should be able to do this either on an Android device or in an emulator and explain your code.

FAQ

What happens if a student is unable to submit the assignment?

If you are unable to submit due to medical reasons, then a doctors certificate will have to be shown. In exceptional circumstances, an email submission is permitted (with prior agreement with convenor).

What happens if assignment submission is graded as 'insufficient'?

You will not be eligible for the Distinction grade if the assignment is graded as insufficient during the portfolio interview. However, students can obtain feedback before the interview. Students can request feedback this up to 2 days before the portfolio interview by making an appointment to see the unit convenor. Office hours (where student can drop-in without an appointment) will also be posted in Week 12.