# Task AD: design and develop your own app

Putting it all together

**Due: several dates; read through spec for details**

## Aim

The aim of this task is for you to demonstrate your ability at designing and developing a non-trivial app, and explaining design choices via an experience report.

You should have started on (if not submitted) the credit tasks prior to starting on this task.

Students aiming for a Distinction grade need to 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.

## Timeline

| Deliverable | Due Date |
|---|---|
| 6.2D Pitch (half/one page pitch or video) | End of week 8 (in lab and via Doubtfire) |
| 7.3D Scenarios / Sketch / Navigation Model | End of week 10 (in lab and via Doubtfire) |
| 11.1D Experience Report / 11.2D Demonstration | Submission via Doubtfire and Portfolio Interview  (during exam period -- dates TBA) |

**All application ideas/sketches must be approved by the end of Week 11.**

## Tasks

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.

- Your report is expected to be less than 1500 words (ideally 1000 words is sufficient).
- Each code snippet/image counts for 250 words -- they must be captioned with a border.
- The report must have at least the following sections: Introduction, Summary, and References.
- 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)
- The report must contain screen shots of all activities in an Appendix which does not influence word count.
- 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

- The application must have at least 4 - 5 activities (fewer is acceptable if application is of greater complexity -- check with convenor).
- Must target Android 4.4 (or higher).
- Must make use of ActionBar/Toolbar, Fragments, and demonstrate use of both a global and contextual navigation in the design.
- Application can focus on either Portrait or Landscape orientation (or both).
- Application can target just one screen density (e.g., HDPI screen).
- Application should make use of complex layouts (i.e., not just linear).
- 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.
- Must demonstrate error handling functionality in some part of the app (e.g. network connectivity is not adequate).
- Must ensure appropriate design patterns are used for work done in a background thread safely.
- 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 via a written pitch submitted to Doubtfire or via a video (no longer than 3 minutes; link submitted to Doubtfire) outlining your app by the end of week 8. This should include a vision statement for your proposed app.

A hand-drawn sketch and navigation model must be submitted to Doubtfire by the end of week 10. For feedback to be provided, 5.3C must be marked as complete and 7.2C must be at least submitted.

An experience report can be submitted via Doubtfire for feedback during the SwotVac period. Students will be provided feedback which they can incorporate before the final portfolio interview. The final report must be submitted at least two working days before the scheduled interview, and the script for the interview/demo must be submitted on the day of the 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 medical certificate or other acceptable evidence will need to be provided. 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 as noted above. Office hours (where student can drop-in without an appointment) will also be posted in Week 12.