

Assignment 1: Mobile App Design Specification

Due Date: Friday Week 4 (26th March, 11:55PM) - Weight: 20%

Purpose:

The purpose of this assignment is to plan out the major iOS application that you will develop this semester.

Completion of this assessment should demonstrate the following learning outcomes:

- Describe the feasibility and technical challenges of creating iOS apps using UIKit and associated technologies
- Analyse mobile interface guidelines and technical constraints to design effective navigation and user interfaces for mobile apps
- Follow iOS best practices to design a non-trivial iOS app with a web service component

Task:

For this assignment, you will produce a design specification for an innovative iOS app. Over the rest of the semester (as part of Assignments 3 and 4) you will develop the app you have described in this design document. This assignment is an opportunity to use creative and technical skills to plan an application of your own design or based on one of our suggestions, and to get feedback on the feasibility of your design from your demonstrator.

Before you begin working on your own design specification, you must get your lab demonstrator to approve the suitability of your app idea. Feel free to approach any unit staff if you have any other queries regarding the assignment.

Assignment Options:

For this assignment you have two options:

1. Design your own application with approval from your lab demonstrator. You must ensure that your application utilises persistent storage (Week 4), web services (Week 5) and contains at least two other technologies from the following list:
 - Firebase Cloud Platform (Week 6)
 - Maps and Location Services (Week 7)
 - Motion Services (Week 8)
 - Audio / Video Frameworks (Week 8)
 - Gesture handling (Week 9)
 - Local Notifications (Week 10)
 - Deep linking (Week 10)

You should consider these requirements prior to seeking approval from your demonstrator, though if you are stuck they may be able to provide suggestions on how to meet them.

2. Select one of the app suggestions below and expand it into your own app design.

App Suggestions:

You may elect to choose one of the following application ideas as a starting point. You must then expand this into your own unique take on the concept, and have it approved by your demonstrator.

- **Book/Movie/TV Club App**
Create an application where people can rate, review and share their watch/read history with friends. Make use of online data sources (e.g., thetvdb.com, tmdb.com) for movie/tv show information and images.
- **Podcast App**
Create an application for listening to podcasts.
You must design an application that allows people to track available episodes of their favourite podcasts and listen to them using the app.
- **Community of Interest App**
Create an application to allow people with a particular interest to find events of interest, organise meetings and communicate with local, like-minded people in their area.
Make use of maps, chat and an online data source (e.g., for locations). This could be centred around whatever interests you: dog-parks, skateboarding, board-gaming, etc.
- **Calorie Tracker / Weight Loss App**
Create an application to allow people to manage their dietary needs along with tracking their exercise. Make use of online data sources (e.g. Nutritionix) for nutritional information.

Marking Criteria:

Your design specification will be assessed on the following criteria (100 marks total):

Application Concept – 20 Marks

You must clearly articulate the application you wish to develop. Key things that must be included here are the target audience and an overview of the key functionality. You should include as much detail as possible. It is recommended you discuss the app concept with your peers and teaching staff to get feedback on your ideas.

Competition and Innovation – 10 Marks

You should provide a competitor analysis of similar applications to your idea. You should review two published applications of the same type on the App Store and report on their key functionality, strengths and weaknesses.

You should clearly describe what makes your app innovative. You should discuss the key features that differentiate your application from existing apps of the same type. It is fine for your app to serve the same purpose as existing apps but it must be better than existing offerings in some way.

Feasibility and Technology – 20 Marks

Based on your application idea, you must review the iOS platform and describe what capabilities, technologies and frameworks can be used to realise your app. Imagine you are writing for a potential investor who doesn't know iOS and you are trying to convince them that your app idea is feasible.

You should describe both the frameworks/APIs/UI Elements within iOS that you know will be used and the things you think might be useful. You shouldn't depend only on what we have taught so far (see the unit outline in Week 1 for the things we cover). This will require some additional research from you to determine how you could implement specific functionality. This is all about determining feasibility. You are not locked into these choices for the final application.

Interface Design and Storyboard Mock-ups – 30 Marks

Your specification needs to propose a rough user interface design and describe the navigation for the app. This should follow good usability practices. You must provide complete storyboards for the application and show the navigation hierarchy for the app.

Detail is key here—the more information you can provide the better! The format in which you present your storyboards is up to you. They can be sketched or drawn with a professional tool, but they must be legible. Adobe XD or Lucid Charts may be good options for this.

Additionally, the app's interface must be designed in line with the Apple Human Interface Guidelines (HIG). In order to receive high marks, you should make it clear where design decisions are driven by advice in the HIG.

Scope and Limitations – 10 Marks

As you will be developing your application throughout the semester, you should ensure that the development scope and limitations of your application are well defined to ensure the project can realistically be completed. You should describe which functionality would be necessary for the Minimum Viable Product (MVP), i.e., the minimum functionality that would be necessary to release the app to the public in a useful state.

Estimated Project Timeline – 10 Marks

Your specification needs to provide a breakdown of development tasks (different parts of the app) and describe the order they will be developed in. This should provide a timeline in terms of the prototype submissions (Week 9 and 12) and the final submission. You should also provide details on potential setbacks that may impact the development of your application. Again, this is an outline of how you think you can feasibly develop your app.

Submission Requirements:

Your assignment will need to be submitted online via Moodle. Your design specification document must be submitted as a [single PDF file](#). You should ensure that the file is named using the following convention **STUDENTNAME-A1-MobileAppDesign**.

Your submission will be marked according to the marking criteria described above. Your submission should be logically structured and free of grammatical and spelling errors. If you have any questions or concerns regarding any section of the design specification, feel free to post on the discussion forums on Moodle. Ensure that any external resources that you used to write your specification are referenced in the document. Failure to reference resources used can be considered as plagiarism and result in zero marks being awarded for the assessment.

Failure to submit your assignment on time will result in a 10% mark penalty for each day late (including weekends) up to a maximum of 7 days late. Submissions later than 7 days will receive a mark of 0.

If you are unable to submit your assignment on time due to circumstances beyond your control, you may be eligible for special consideration. Special consideration applications must be sent to Monash Connect via the following link

<https://www.monash.edu/connect/forms/modules/course/special-consideration>.

Supporting documentation needs to be submitted with the application.