41889 - Application Development in the iOS Environment
42889 - iOS Application Development
Autumn 2020

Assessment Task 3

Group project: Design and develop an application

Due the week of 12 June 2020, in your tutorial

This project is worth 30% of the overall mark for this subject.

Use this Github invitation link: https://classroom.github.com/g/OK_cDNlN

Introduction

You will create an application that solves a real-world problem for a fictional user persona. You will follow an iterative product design cycle to produce a minimum viable product. On the final day of class you will demonstrate the product to fictional investors in a 10-minute presentation
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Requirements

1. You shall work in a group of three or four members, shown in table "iOS Team Up".

2. You shall create a source code repository using GitHub Classroom.

   The Team leader creates a new team, and other team members join the existing built team (this needs the permission of team leader).

   Each team member is expected to commit some code, documentation, or other assets to this

   repository.

3. You shall follow the Product Design cycle, iteratively planning, prototyping, and testing more detailed versions of your app.

4. You shall demonstrate your application in a 10-minute presentation, explaining who would use it and what problem it solves.

Schedule

Week	Lab Activity	Homework
22 May	Form groups and select a topic. Sketch your app's workflow.	Implement a wireframe prototype in Xcode.
29 May	Demonstrate your prototype in tutorial.	Refine the workflow, and begin implementing functionality.
5 Jun	Quiz 3 Code review exercise	Implement a Minimum Viable Product and prepare presentations
12 June	Final Presentations	

Assessment

15 marks: Final presentation

15 marks: Submitted code on GitHub

Late submission

Because of the group nature of this project and the semester teaching schedule, **no** extensions or special consideration will be considered. The due date is final.

Suggested Topics

Each group is encouraged to come up with their own app idea. If your group is unable to decide what to develop, select a topic from the suggestions below.

- Design and implement a crypto-currency wallet application that can hold a minimum of three currencies. The application doesn't require the implementation of a backend-server to manage wallets. The design should be visually appealing. (For example: Huobi Wallet)
- Create an application that makes it easy for a user to view and manage their crypto-currencies. Data should be presented to the user in a meaningful and appealing way. Information such as today's loss and gain should be implemented. Inspiration can be drawn from the default iOS stock app or other crypto apps such as Blockfolio.
- Show off features of a Cocoa Touch framework such as ARKit, AVKit, Core Data, Core ML, HealthKit, HomeKit, MapKit, PushKit, ResearchKit, SceneKit, SpriteKit, GameKit, or WebKit. See the list of frameworks at https://developer.apple.com/documentation/
- Show off features of a third-party framework such as Alamofire, Masonry, or Firebase. See popular frameworks at https://trendingcocoapods.github.io/

Academic Honesty Policy

You will be assessed on your ability to skillfully integrate existing frameworks and libraries to solve novel problems. You may use code from external sources as long as you **cite the source** in a comment or Podfile.

Week of 22 May

Form Groups

Arrange groups of 3-4 team members who will develop an application together.

Brainstorm an application to develop

1. Come up with an idea for an application that solves a real problem for a fictional persona.
2. Use the "Product Design Worksheet" to sketch a workflow for using this app, showing various scenes and the segues between them.
3. Before next week's lab, upload the "Product Design Worksheet" to your repository in Github.

Week of 29 May

Prototype your app workflow in Interface Builder

Place the essential scenes, buttons, and segues to navigate through your app, and get it running in a Simulator or on a device.

Demonstrate your prototype in tutorial (voluntary)

1. Show your prototype in tutorial.

2. Tell them what they are trying to use the app for. For example: "You are using this app to figure out what recipes you can cook with the ingredients in your kitchen."

3. Get feedback from your classmate and tutor.
4. Identify issues with your workflow, and record them in GitHub.
   (You can do this even if you have not yet uploaded any code.)
   A good issue describes the action that was taken, the expected result, and the observed
    result.

5. Before next week, write some code so that you can participate in the code review exercise

Week of 5 June

Code Review Exercise

Minimum Viable Product

Decide what functionality you want to include in your final app. This may be larger or smaller than your original design.

To get an idea of which features are on the critical path, ask someone from another group to use your app, and write down which features they try to use without being instructed.

Final Presentation Outline

Write an outline of your presentation. Decide how many minutes you will spend on each topic or feature.

Week of 12 June

You will have 10 minutes to present your application. Each team member must participate in the presentation.

A good presentation should:

1. **Describe the target audience** for this app.
2. **Explain what problem is being solved**, and how this app compares to other possible solutions.
3. **Show the app being used**. Decide whether you want to use a simulator or record a video.

Depending on the nature of your app, you may also want to discuss:

1. What **business model** this app supports.
2. What **frameworks** or services you used to implement it.
3. How your design and development **process** worked, and whether you felt it was eff

ective. At least one presenter should be prepared to answer questions about technical details.

You are suggested to make slides to demonstrate the contents listed in marking criteria.