Project Proposal

Title of the project: Uber for haircuts
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Background introduction:

The idea for this project was born because of being influenced by COVID. The aim is to be the middleman between the barber and the customer. The special point of this application is that it not only offers offline appointments, but also barber visits to the customer's home. The former is a need for regular life, the latter is a need that was discovered when the city was blocked, and offline shops could not open under the impact of the epidemic. There are several similar apps as competitors, for example, Freestyle Cuts, Booksy, Treatwell.

Of course, even after the epidemic has subsided, home haircutting services are still viable, just like meal delivery services. Analyzed from the customer's point of view, such a service would save time travelling to and from the shop and queuing. For the barber, it may reduce the cost of renting an offline shop and enable them to be promoted online. So, this is a win-win for both barbers and customers, and there can only be business opportunities when both parties are profit driven.

Implementation:

The application has 5 key functions including geolocation, booking system, payment system, review system and information service. Overall, there are about 40 pages of screens. What is special for the front-end design and development in this project is that the interaction interface for the barber and the client is different. Although it looks like the same function and implements the same thing, the content and interaction logic is different for both parties to see. In production level application development, there are generally two solutions, one is to develop the customer application and the merchant application in two separate applications, and the other is, to develop them in one application, showing different interfaces depending on the identity. The latter has the greater advantage and is very beneficial both for the promotion of the software and for the integration of functionality.

The main challenge may not come from developing the application itself, but from the identity of this summer project and the computer conversion type of student. There is a

lot to learn as developing tools, such as, Xcode and SDK, Swift and SwiftUI Kit, etc. Some of those are basic for coding and some of those can simplify process and speed up developing with unitive style. And it is difficult to have detailed idea of the overall development process, so it is difficult to keep track of progress.

In this project, I was responsible for the front-end and the back end was developed by another student. At this point in the testing process there may be some issues that arise, there are some features that need to be tested with the back end and due to the inconsistent rate of progress, it may be necessary to mock the server for testing.

Evaluation:

For the evaluation of this project, I will be looking at the following areas. Firstly, maintainability, in terms of the development process and the quality of the code, how well structured it is overall and whether it is well organized and easy to maintain.
The second is the evaluation of the results of the tests, both the small unit tests and the overall tests, whether they meet the initial objectives and whether new features have been added. The last, ideally, would be to have user studies and statistics to provide evidence for the claims to quality.

Materials:

About user interface design:

Material Design Guidelines: https://material.io/design/
Apple Design Resources: https://developer.apple.com/design/resources/
Principle Tutorial: https://principleformac.com/tutorial.html
iOS Human Interface Guideline:
https://developer.apple.com/design/human-interface-guidelines/ios
WWDC 2018 Designing fluid Interface:
https://developer.apple.com/videos/play/wwdc2018/803/

About language and application development:

A Swift Tour: https://docs.swift.org/swift-book/
Stanford University: Developing iOS 11 Apps with Swift
https://itunes.apple.com/cn/course/id1309275316
Plymouth University: iOS Development in Swift
https://itunes.apple.com/us/course/ios-development-in-swift/id950659946

High quality code Samples:

Apple Developer Center & sample code
https://developer.apple.com/documentation/
WWDC Scholarship Winners 2017-2019 as Samples:
https://github.com/wwdc/2017
https://github.com/wwdc/2018
https://github.com/wwdc/2019

Time Plan

What I have:

1. Time (from end of TB2 to 13th September 2021), totally 17 weeks.
2. Thoughts, fingers, and a keyboard with Mac.
3. Internet full of tutorials.

What I target at:

1. An IOS Application (front end design and development).
2. A dissertation for MSc.

Plan:

What I have is going to be consumed to exchange and finally achieve what I target at.

Principle:

1. There is a rough and main objective, which needs to be separated to little aims.
2. For each goal, no matter big or little, there is going to be a time limit and a prepared in case time for emergency accident.
3. To learn new skills, methodology helps improve efficiency. Construct certain domain concept in mind as framework, then learn to fill in details while practicing.

↑ ***Roughly***

↓ ***Detailed***

<table>
<tr><td rowspan="15">17 Weeks
Whole Project</td><td rowspan="14">15 Weeks
Target Limit Time</td><td rowspan="3">5 Weeks
Learn
&
Practice</td><td>2 Weeks</td><td colspan="2">Learn IOS development tools themselves, such as Swift or maybe Objective C, SDK, and Xcode, etc. And Practise by following offical templates. Then communicate with backend mate to reach an agreement on API.

Three parallel routes I found:
1. An online course of Swift language from Zhejiang University in China. (for theory)
2. An online intern train of IOS App development from ByteDance company. (for practice)
3. Documentation and book from Apple offically. (for depth)</td></tr>
<tr><td>2 Weeks</td><td colspan="2">1. Solidify by combine pure development skills and my project aims in practice of implement demostrations.
2. Implement prototype design of my project application in the Principle.</td></tr>
<tr><td colspan="3">1 Week Prepared In Case</td></tr>
<tr><td rowspan="5">5 Weeks
Implement</td><td>1 Week</td><td>Display of about 40 screens.</td><td rowspan="4">Daily work:
(Developing for App and Recording for dissertation)
1. Write down the daily progress and question as records.
2. Push progress on Github.
3. Mark the references and materials.</td></tr>
<tr><td>1 Week</td><td>Interactions coding.</td></tr>
<tr><td>1 Week</td><td>Data transmission.</td></tr>
<tr><td>1 Week</td><td>Integrate and test.</td></tr>
<tr><td colspan="3">1 Week Prepared In Case</td></tr>
<tr><td rowspan="4">5 Weeks
Writing up</td><td>2 Weeks</td><td colspan="2">Write up with precious records and logs.</td></tr>
<tr><td>1 Week</td><td colspan="2">Check for problems both at the level of content and at the level of grammatical expression.</td></tr>
<tr><td>1 Week</td><td colspan="2">Correct any problems that arise as described above.</td></tr>
<tr><td colspan="3">1 Week Prepared In Case</td></tr>
<tr><td colspan="4">2 Weeks Prepared In Case</td></tr>
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