

Project Draft

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"I acknowledge that the Capstone Project is an independent study project to be completed individually. On my honor, I have not received aid on my Capstone Project other than what was provided by my faculty mentor and any persons explicitly cited in my work. I further acknowledge that if I have given any aid to another student in this course, the instructor of this course was made aware of my contributions".

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Objective of your project

Mobile application development is basically a computer-generated program that is designed to run on smartphones, tablets and other mobile devices. Mobile application development started in the early 90s when IBM Simon introduced the world with the first smartphone with applications, such as a calendar, calculator, notepad and address book. After that, Nokia came up with simple gaming applications like Snake and Pong. However, all these applications were limited to in-house only, which means developers were not able to design their own applications and get benefits out of them. Smartphone users as well were not completely satisfied until 2007-2008 when Apple launched the first iPhone and App Store (Shahid, 2014).

The Apple Store revolutionized the world of mobile applications development because it offered all apps that are available in the market and installing them was very easy. The establishment of Apple Store gave the opportunity to all app developers across the world to design their apps and benefit from them (Shahid, 2014).

For my capstone project, I would like to design an iPhone game using Xcode. I chose web applications to be my capstone project because I can see the importance of web applications nowadays. In our daily use, we always use video calling, email, and games apps and that defines the importance of mobile application development.

Background on the organization your project is creating an IT solution for:

Apple Inc. is an American corporation that designs and manufactures computer hardware, software and other consumer electronics. Apple Inc. headquarters is in California, CEO and co-founder is Steve Jobs and the company has 284 retail locations spanning 10 different countries. Apple's App Store is the second-largest app store with 1.5 million available apps while there are 1.6 available apps in the largest app store, which is Google Play. Therefore, my clients would be iPhone users who are interested in iPhone games.

Content Advisor with summary of qualifications:

My faculty member is Dr. Xiang Liu who is an associate Professor of Information Management. She got her bachelor's degree from Nankai University. Moreover, she received her master's from Tianjin Polytechnic University. Finally, she got her ph.D. From Boston University. Dr. Xiang has three teaching areas in Information Technology applications, Database technology as well as Software engineering. . "She received her doctoral degree in Information Systems from Boston University where her thesis topic was "Design Architecture, Developer Networks and Performance of Open Source Software Projects."

"Dr. Liu's research interests broadly center on the areas of design, enterprise architecture, and the uses and impacts of emerging technologies on social activities and behaviors. Her work appears in Proceedings of the International Conference on Information Systems and Proceedings of the Hawaii International Conference on

System Sciences, among others. Currently, her research project is exploring how IT, such as mobile technology and collaborative technology, are used by health care providers, nurses, doctors, and patients and how it will impact and redefine the doctor-patient communication. Another current project focuses on understanding how Web 2.0 technologies impact academicians' practices in terms of research and inquiry-based learning" (Marymount.edu).

Project Plan:

For my project, I will spend most of the semester developing the app itself because it is the most difficult component of my project. However, I have spent a decent amount of time watching tutorials about Objective-C and Swift to learn the codes that I need to use to design my app. I finished watching tutorials and reading articles around the end of February. After that, I just started developing the app itself and it would probably take me around a month or so. Then, I will download the app on my phone and tell my classmates and friends to use it and get feedbacks and suggestions. Moreover, I will create a survey for my customers to fill out. The survey would basically ask them if they liked the game and whether they have any suggestions to improve the game. Thereafter, I will try to fix as many issues as I can for a couple weeks. Therefore, I expect the app to be ready around April 15th.

Resources:

For my project, I need only one software, which is Xcode. The software can be obtained from [Developer.apple.com](https://developer.apple.com) and it is for free.

Project Details:

For the past two months, I have been watching tutorials about Xcode and reading some articles that I found helpful for me. From the beginning of Spring Break till the end of March, I will be developing the app itself and hopefully it will be ready by then. After that, I will get some feedbacks to fix the issues I have.

Knowledge being applied:

I started getting interested in developing apps when I took the two web development courses. I learned so much from these courses and it made it easier for me to learn how to create apps.

Risk factors:

There are some risk factors that could negatively impact my project. For example, a risk of building an app that my target users don't want. However, I think this is not an issue in the meantime because my goal of my project is to get me started into the developing apps world. Therefore, I do not expect the app to be successful. Another risk factor that developers might face is an unsustainable user growth. It is challenging if too many users start using the new app because the developer might get stuck supporting hundreds of thousands of users. The last and

most important risk factor is the risk of security breaches. Security breaches are not something new and it has been there for a quite long time. Security breaches can be in many different forms. For instance, it could be Insecure Data Storage and that can result in data loss for a user. Another security breach that could happen is Insufficient Transport Layer Protection. “When designing a mobile application, commonly data is exchanged in a client-server fashion. When this data is exchanged it travels across the carrier network and the Internet. If the application is coded poorly, and not secured, “threat agents” can use techniques to view sensitive data while it’s traveling across the wire” (TOP 10 MOBILE SECURITY RISKS, n.d). Another mobile security risk is poor authorization and authentication. Applications and the systems the connect to should be protected properly with authorization and authentication to ensure that devices, users and systems are authorized to transfer data in the app’s workflow.

Work to be performed by others:

As stated before, I have been watching tutorials on YouTube and I paid for an online course in Udemy that teaches you how to create apps using Xcode. I will be using some codes they provided to create the game I am creating.

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