USAMA MALIK

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Product Specification

IS53007D: COMPUTING PROJECT

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Work Overview

I am planning to prototype a mobile application which acts as a "**eBusiness card**".

The purpose of this app is to provide an opportunity for individuals to network with professionals, but also to be able to find individuals that provide professional services around the same area.

The main **networking** side of the app is for individuals find people with very specific professions and contact them to ask for advice or guidance. These professionals will have eBusiness cards which can be found by going into a discover section which I plan to present this like the apple wallet credit card dashboard.

One example of the use case would be if an individual might need help to get into the IT industry. They can use this app and find a professional person in their area that have an eBusiness card with the profession of for example database administrator and contact them via the contact information they provided.

I am also hoping to be able to save money and time for professional individuals. Firstly, they won't have to spend time and money paying a designer to design their own business card design, the app will provide different **ready-made themes** to choose from. Secondly carrying a stack of business cards around can also be a nuisance and one may have to spend more money to buy a business card holder.

When adding someone's eBusiness card, individuals will interact with it to similar fashion of how Snapchat's adding a friend using **QR codes** work.

After the initial setup, individuals can scan another person's QR code and receive all their professional information such as name, email, phone number, social links and the services they provide. Individuals will also be able to add a services section if they wish. In this section they can have listings of all the professional services they provide.

Individuals will also be able to see other professional's business cards near their area and see all their info such as social links, phone number and the services they provide. If they would like to buy one of their **service**, the individuals can contact them via the contact info they provide.

Due to the portable nature of this idea, this will need to be portable to be able to scan the QR codes, the most suited application of this would be a **mobile application**.

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Computing Project

Technologies and Materials

I am planning to use **Flutter**; it is an open-source mobile application development framework created by Google. Flutter is used to develop mobile application for both **Android** and **iOS**. It uses one codebase but can be compiled for both android and iOS, meaning I won't have to code separately for both. I have some experience in using Flutter which will make the development easier.

The main reason I have decided to use flutter is because it provides powerful tools for UI creation which allows for elegant yet **flexible UI** elements to be made.

For the database I want to use Cloud Firestore. It is a **NoSQL** document-based database that lets you easily store, sync, and query data for mobile and web apps. The main reason I would like to use this is because it is made with mobile apps in mind. Another reason I would like to use this is because I have never used it before, and it will be a great challenge to have a go at it.

For the web app I will be using **Flask**, Flask is a popular, extensible web microframework for building web applications with **Python.**

Motivation Research

One of the main motivations that is inspiring me to pursue this idea is due to my personal employability and networking experiences. It is really difficult nowadays to get into the industry you are studying for.

For example, a student of Aerospace engineering may find it extremely difficult to get a job after graduating because they did not prepare before graduating to become desirable to employers. This project will help individuals get help from professional individuals, sort of a mentor. They will be able to contact these professionals and ask guidance, to prepare them and make them as employable as possible.

However, this is just one part of app. The other part is professional individuals will also be able to sell very specific and specialty services.

New Knowledge

There are aspects of this project where I will have to challenge myself and learn new knowledge to be able to successfully complete this project. One new knowledge I will need to acquire is knowledge of **complex dynamic web application**. Using this I will be able to create unique site paths for every user for their business card.
(https://pythonise.com/feed/flask/generating-dynamic-urls-with-flask)

Another skill I will need to learn is **QR code generation**. This will be fairly easy as there are plenty of material online such as API's that can generate fancy QR codes with logo designs.
(https://www.qrcode-monkey.com/qr-code-api-with-logo)
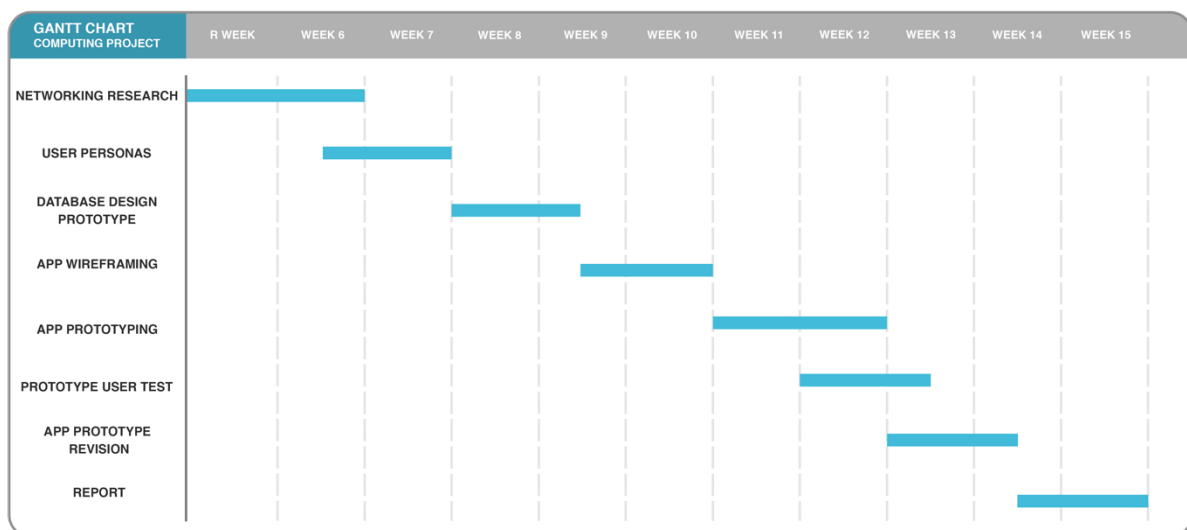
Existing Knowledge

Most of the existing knowledge I have, I learned from past or current modules. The main database knowledge I acquired from the Database and the Web module in my penultimate year of higher education. There I learned both **SQL** based, **NoSQL** based databases and their advantages. The core knowledge of web application I also learned from the same module.

I also have knowledge of two ways to develop mobile applications. Phone Gap, and the other is using another framework called flutter. With this knowledge I already know flutter is the better way to create apps. This is because Phone Gap uses HTML, CSS and JavaScript, these are not the most optimised for mobile phones. With flutter it is closer to the mobile OS and most importantly, due to the mobile optimisation, it is a lot faster.

Timeline and Milestones

To summarise the timeline and milestones I have created a very simple Gantt chart for during Christmas until January.

After January the main focus will be on programming and building the project, and get support for things I will require assistant in.

The minimal viable product will be account and business card creation with the "near me" section and the database supporting it. With this individuals will be able to see professionals near them and contact them.

GitHub Repo - https://github.com/usama-malik89/Computing-Project