Bitcoin Wallet

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***Abstract*—**

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I. Introduction

This chapter will outline the objectives of the project along with the scope which we plan to complete those objectives in. An analysis of each of the chapters found in this dissertation along with a summary Github repository containing the project can be found below. This application will aim to satisfy the standards for a Software Development Level 8 project by surpassing the expectation of cryptocurrency wallets currently offered online. Bitcoin has received vast media coverage in the recent months because of its record high price. This brought a lot of new attention towards the technology, but to invest in or use this decentralized currency a benchmark of software and economic knowledge must be met. The members of this group have taken it upon themselves to create an application that not only allows users to use the cryptocurrency in a practical sense, but will also educate the users about the coins and offer feature relevant to members of the bitcoin community. Proper authentication and login will be applied to the app to allowing users to easily assess there coins securely and associate relevant information to an address that will be stored in a NoSql database. Most of the technologies discussed here are emerging technologies that are not taught in the Software Development in GMIT.

A. Objectives:

- Make the UI user friendly and appealing to new users of Bitcoin.
- Educate user on the technology bitcoin and how it works, display real time value.
- Strong authentication thats simple to use yet secure so users will trust us with their coins.
- Google Maps integration to show users bitcoin related locations like exchanges or stores that accept the currency.
- Use QR codes to easily send and receive coins.

II. Specifications

A. Web application:

- Receive bitcoin from external wallets at any time.
- Send bitcoin to external wallets at a fast and efficient rate using.
- Allow users to see their balance displayed clear and aesthetically.
- Google maps page show related bitcoin locations.
- Bitcoin price display showing the current value and related stats.
- Create new user.
- Log in.
- Log out.
- Update user details.
- QR Code integration.
- Delete user.
- Display related bitcoin news.
- Information pages to educate different bitcoin userst.

B. Database:

- Should store user details.
- Should store bitcoin address.
- Should store contacts.

C. Server:

- Provide secure routes for users.
- Authenticate users.
- Send requests received from web app to database.
- Receive and forward database responses to web app.

D. GitHub

The GitHub repository for the project can be found here at https://github.com/Smurfgalway/Final-Year-Project-Applied-Diss, the section below explains contents of the repository.

Github stuff listed here when done...

III. Methodologies

Todo!!!

IV. Technologies

A. MEAN

the following four technologies are the fundamentals of a MEAN stack(Monge,Express,Angular,NodeJS).

B. Mongodb:

This is a NoSQL database which uses schemas to store data. The structure of the schema is like the body of a JSON file. This is what we will just to store the wallet information and user details.

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C. Angular2:

This is a Typescript framework for JavaScript and HTML that was developed by Google. We built our front-end using Angular2 by using creating Angular components to represent part of HTML that can be served dynamically resulting in a high performance and reliable UI, any version of angular can be used with the MEAN stack but we decided to use Angular2 as it offers new features since the first version.

D. ExpressJs:

This is a web application framework used by NodeJS that allows JavaScript to communicate with a database, this is what we will be using to get the data in out app from the frontend to the database.

E. NodeJS:

This is a run time environment for executing server-side JavaScript. This allows us to easily install libraries and addons using the node package manager with the command line.

V. Other Technologies used:

A. Bootstrap:

Bootstrap is an open-source frontend framework which allows users to generate efficient UI components fast. We decided to use Bootstrap as it lets us create a dynamic application UI that will work on mobile, tablets, desktop etc.

B. QR Codes:

QR Code (abbreviated from Quick Response Code) is the trademark for a type of matrix barcode. They can be used to store a whole range of value types and are faster and have greater storage capabilities than traditional UPC barcodes. They have been adopted by many banks across the world for being used for payment. They are commonly used in cryptographic currencies in particular bitcoin. We will be using qr codes to store our users bitcoin public addresses as a easy way for them to be shared for payment.

VI. Conclusion

Todo!!

Appendix A
Proof of the First Zonklar Equation

Some text for the appendix.

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