Liam Jones

COMP-1004 design documentation

Contents

[Introduction 2](#_Toc150858723)

[Project planning 2](#_Toc150858724)

[Software development life cycle 2](#_Toc150858725)

[Design documentation 2](#_Toc150858726)

[Project vision 2](#_Toc150858727)

[Background 2](#_Toc150858728)

[User stories and use case scenarios 2](#_Toc150858729)

# Introduction

In this documentation I will be outlining the steps taken to design, plan, implement, and test my project for the COMP-1004 module. Due to my focus on the course being cyber security, I will be creating a program which caters towards this aspect of my course.

For this project, I will be developing a single page web application which will aim to act as a username and password storage system with an encryption system implemented. The user should be able to enter a username and password to be stored and the system will also indicate to the user the strength of their password.

# Project planning

## Software development life cycle

A crucial part to the development of any software development is conforming to a specific software development life cycle such as, Agile development cycle, waterfall development cycle, or iterative development cycle.

For this project I will be conforming to the standards of agile development. Agile development comes with the benefits of allowing for regular project progress communication in the form of scrums which allow the development team to stay on track and be aware of deadlines. This will be very useful for this project as it will allow me to stick to smaller short-term deadlines.

Other reasons that using agile development is relevant to this project include:

* Potentially previously unrecognised requirements in the program can be identified quickly using fast development and testing.
* Less documentation being required saves time which can be dedicated to the development of the solution.
* Changes in requirements can be accommodated for during the development phase without the need to go back and make major changes.

*Hackr.io. (2023). Top 7 SDLC Methodologies [Complete Guide]: Agile, Waterfall. [online] Available at:* [*https://hackr.io/blog/sdlc-methodologies*](https://hackr.io/blog/sdlc-methodologies)*. [Accessed 15 November 2023]*

## Design documentation

## Project vision

My vision for this project is for it to be made use of by non-professional web users who wish to securely store their usernames and passwords whilst being informed on the individual security of each password being stored to prevent the use of easily cracked passwords.

## Background

Username and password management systems have been available for public use for over 20 years and aid the user in keeping track of each individual login for various websites. The use of password managers has been widely observed to encourage higher standards of login security as the user does not need to remember various usernames and passwords as the manager keeps track for them, therefore security standards are more likely to be adhered to.

Due to the nature of data being stored by username and password management software, legal, and ethical considerations must be taken to comply with current regulations. The’ Data Protection Act 1998’ and ‘Data Protection Act 2018’ are the UK legislation which govern how data can be collected and stored as well as what steps an organisation must take to ensure the security of said data. In this case steps must be taken to ensure that only the necessary data is stored, e.g., Usernames, Passwords, and the site they are for. Furthermore, the program should securely store any data collected to comply with legislation and prevent data leaks.

## User stories and use case scenarios.

in this section, the user stories and use cases will be outlined in the following diagram.

Username/ email and password is output to user.

JSON file containing user data is searched for the corresponding URL.

User enters site URL.

Password checked for special characters.

Password checked for numbers.

Password checked for capitals.

Password length checked.

User enters password.

User wishes to retrieve login information.

User’s entered password strength checked.

Details are saved to JSON file.

User presses ‘save details’ button.

User enters website URL into appropriate box.

User enters password into appropriate box.

User enters username/email into appropriate box

User attempts to enter new sit credentials.