Individual Project (CS3IP16)

Department of Computer Science

University of Reading

Project Initiation Document

## PID Sign-Off

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| **Degree programme** (BSc CS/BSc CSwIY) | **BSc Computer Science** |
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| **Supervisor Name**  *(Consultation with supervisor is mandatory)* | **Atta Badii** |
|  | Supervisor to sign PID form on Bb (grade centre) |
| **Date** | **08/10/2020** |

# SECTION 1 – General Information

## Project Identification

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| **1.1** | **Project Title** |
|  | Password Manager |
| **1.2** | **Please describe the project with key-phrases (max 5)** |
|  | Investigating existing password managers and creating a secure password manager application to suggest or generate and store passwords. |
| **1.3** | **E-logbook maintenance agreed with supervisor**  *Use Google doc, OneDrive, or any mobile App whereby you will be able to generate a PDF copy* |
| **Google Docs** |
| **1.4** | **GitLab link for maintain source code and research data**  *Any change in GitLab link and Source code repository MUST be explicitly mention in final report* |
| **https://gitlab.act.reading.ac.uk/fm014385/password-manager** |

# SECTION 2 – Project Description

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| **2.1** | **Summarise the project’s background in terms of research field /application domain (max 100 words).** |
|  | Password managers rely on encryption and security research. If a password manager is online it relies on a network connection to a server where the database of passwords is stored. If the password manager is offline the database will be local. Some password managers include the option of a feature to use a physical, local device to generate a token and authenticate a user using two-factor authentication. This can also be achieved using an authenticator app on a smartphone. |
| **2.2** | **Summarise the project aims, objectives and outputs (max 250 words).** These aims, objectives, and outputs should appear as the tasks, milestones and deliverables in your project plan (fill out Section 3). |
|  | The first aim of the project is to research and investigate existing password managers, the security measures they utilise, and the features they offer. The first output should be a database to store usernames, passwords, and the websites they correspond to. The second objective must be a method of encrypting usernames and passwords and adding them to the database. The third objective should be a method of retrieving usernames and passwords from the database. The next aim is to create a front end for the user to interact with and use the database. Finally, advanced goals will be to create a method for generating new passwords, verification in the form of a ‘master’ username and password, and a form of two-factor authentication. |
| **2.3** | **Initial project specification – roughly indicate key features and functions of your finished program/application. Indicate possible method, data source, technology etc. (max 400 words)** (Sensible and relevant Charts, Table, and Figures can be used) |
|  | The program must have a database which stores a user with encrypted credentials and all their encrypted usernames, passwords, and the websites they correspond to.  There must then be a layer which handles communicating with the database, the encryption, decryption, storage, and retrieval of data. This layer must communicate requests between the client and the database securely, ensure the user is authenticated, and ensure the user is authorised to perform the actions they are trying to take.  Finally, there needs to be a client-side web app which handles the GUI for the user, and to make requests to the middle layer whenever needed.  This could be done using a software stack such as MEAN, which uses JavaScript. |
| **2.4** | **Describe the social, legal and ethical issues that apply to your project. Does your project require ethical approval? (If your project requires a questionnaire/interview for conducting research and/or collecting data, you will need to apply for an ethical approval)** |
|  | The only legal or ethical concerns with this project are data protection laws and dealing with user’s data responsibly. For the purposes of this project I am unlikely to use real data, and will instead create data to use so there are no concerns. |
| **2.5** | **Identify the items you may need to purchase for your project. A cost upto £200 can be applied (include VAT and shipping if known). You need to have consent of your supervisor. Your request will be assessed by the department.** |
|  | Potentially a two-factor authentication security key. |
| **2.6** | **State whether you need access to specific resources within the department or the University e.g. special devices and workshop** |
|  | No specific resource should be needed. |

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| **SECTION 3 - Project Plan** | | | | | | | | | | | | | |
| Please provide your project plan.  Below is an example project plan, you can use any tool or software to generate yours. | | | | | | | | | | | | | |
| **Project stage** | **START DATE: 12/10/2020****Project Weeks** | | | | | | | | | | | | |
| 0-3 | 3-6 | 6-9 | 9-12 | 12-15 | 15-18 | 18-21 | 21-24 | 24-27 | 27-30 | 30-33 | 33-36 | 36-39 |
| 1 Background Research |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| 2 Analysis/Design |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| 3 Develop prototype |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| 4 Testing/evaluation/validation |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| 5 Assessments |  |  |  |  |  |  |  |  |  |  |  |  |  |
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