FreePass- A Random and Replicable Password Manager

Computer Science Project 20/21

Context

Nowadays it's **practically impossible** to keep track of all our passwords (and even our account names).

The obvious alternative would be to use **only one password** but that would lead to a serious security problem.

The most common solution to this problem is to use a **password manager**, but even that raises some concerns.

Problem

Most password managers require the use of a **database** to store every password in order to facilitate use between multiple devices.

That leaves the users in an awkward position where they have to **trust** the service to keep their information safe and to inform them in case of a breach.

Goals

In this project we plan to create a solution where we can generate random passwords in a **replicable manner** so we don't have to store them in a database.

We will ask the user the URL of the website, the desired username and a master password, from that we will generate a replicable password that's **secure** against most type of attacks.

This service is similar to the one that ***lesspass*** provides.

Lesspass example: https://lesspass.com

Tasks

To complete this project we will need to **develop**:

- A secure and replicable password generating algorithm;
- A way to sync usernames and iteration number between devices.

The **platforms** we are expecting to release our service in are:

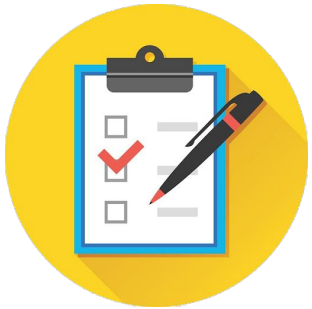
- A chromium browser extension (also firefox if possible);
- An android mobile app;
- A windows app (if possible).

Expected results

If we are successful in our project we will have a similar product to lesspass, but **more robust** to dictionary style attacks.

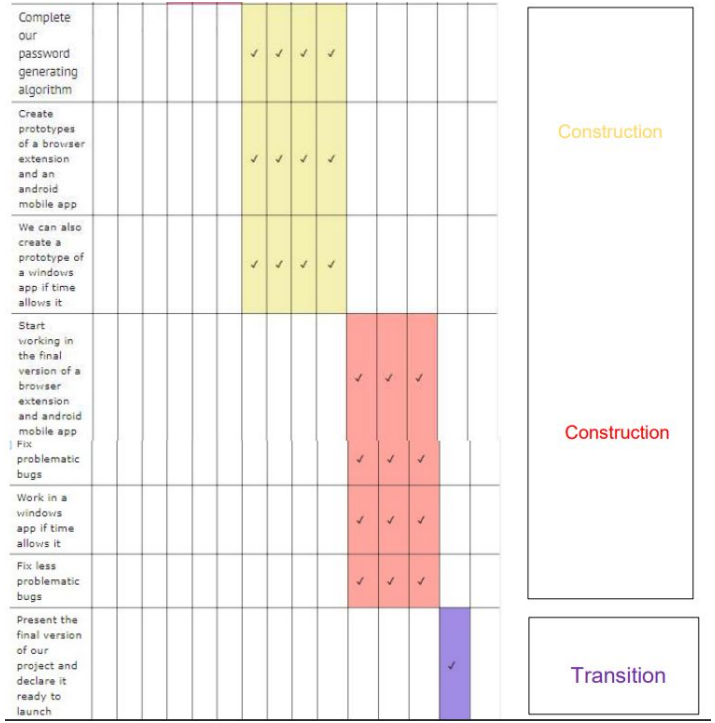
Ideally, our service will be **compatible** with other password managers the user may already be using.

We expect the user to be able to **sync** his username between multiple devices and to be able to **change** the password of a specific device.



Project calendar

Complete Calendar: https://bit.ly/3d6VPOG



The team

Our team is composed by:

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The End

Do you have any suggestions and/or questions?