**Title – Password Manager**

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**Project Overview –**

The application we have made is an interactive password manager. The app has been developed solely by using Tkinter(Python). It is a real pain to keep a track of passwords and usernames of different websites that we use. The tremendous amount of websites that we log in, require a manager to keep a track of all the passwords and usernames for a specific user. The app that we have developed helps us do the same. The app requires a use to sign in and subsequently keeps a note of all the usernames and passwords of the user while simultaneously mentioning the app linked with it. The protection of the passwords is protected by using cryptography which hashes the passwords allowing full privacy and security to the user. Also as an additional feature, we have added a password generator for suggesting passwords as per their lengths and the type of strength the user demands.

**Features –**

1. GUI – The GUI of this app is very simple to use, it does not open a new window on pressing a button, instead the code is written in such a way that the frames are stacked on top of each other and the desired frame is shown to the user
2. User Login – The app allows multiple user login. So we built a login page for allowing existing users to login. The information i.e. the username and password. Once the user enters his/her credentials, the database checks the validity of the user and if the details match, it allows the user to log into the application, else if not, it gives an invalid prompt.
3. User Signup – The app allows the user to create new accounts to store their username and password. The information gets stored in the database and the application redirects us to the login page. From there we can login and reach the main page
4. Password Manager – This is the main page of the project. The left side of the page contains the information. It is a scrollable text box which has the name of the website. The username and the password for the user is displayed just below the name of the website On the right side of the page is another frame in which the user has the option to enter an new website name along with the username and password for the given site.
5. Password Generator – This page has a random password generator. There is one field to select the length of the password you required. Also another option is given through radio buttons to decide the strength of the password required. i.e. weak, medium and strong.

**Additional libraries used –**

Firebase-admin- For registering the user and storing the user into a database, we use firebase. The usernames and the encrypted passwords for the users is stored in this as well.

Cryptodomex – To encrypt the passwords of the user so that they are not visible in standard for to the viewer of the database.