

FINAL PROJECT REPORT

DIGITAL VAULT

BY: GROUP 9

MUHAMMAD ALI (021-21-0013)
MUSKAN CHAWLA (021-21-0031)

| Email: mali.bscs21@iba-suk.edu.pk
Email: muskan.bscs21@iba-suk.edu.pk

Introduction:

We use several websites on a daily basis as a result of the rising use of the internet, and practically every website, from social media apps to business banking apps to academic sites, requires us to register a user account and choose a password. With dozens of passwords, the human memory can't keep up. Because of the amount of harm that can be done when a login credential is compromised, password security has remained one of the most essential areas of IT security since then. As a result, the major motivation for developing this application, is that it will allow quick access to all passwords in one location.

Problem Statement:

The user can't come up with a unique and strong password every time, so they prefer to use the same password for almost all the accounts or they just choose an easy password or write passwords and login details on their notebooks. Hence, a user can easily become the victim of identity theft if someone gets access to their login details. Thus, managing all the passwords and login details of a user securely is the primary reason behind creating this application.

Methodology:

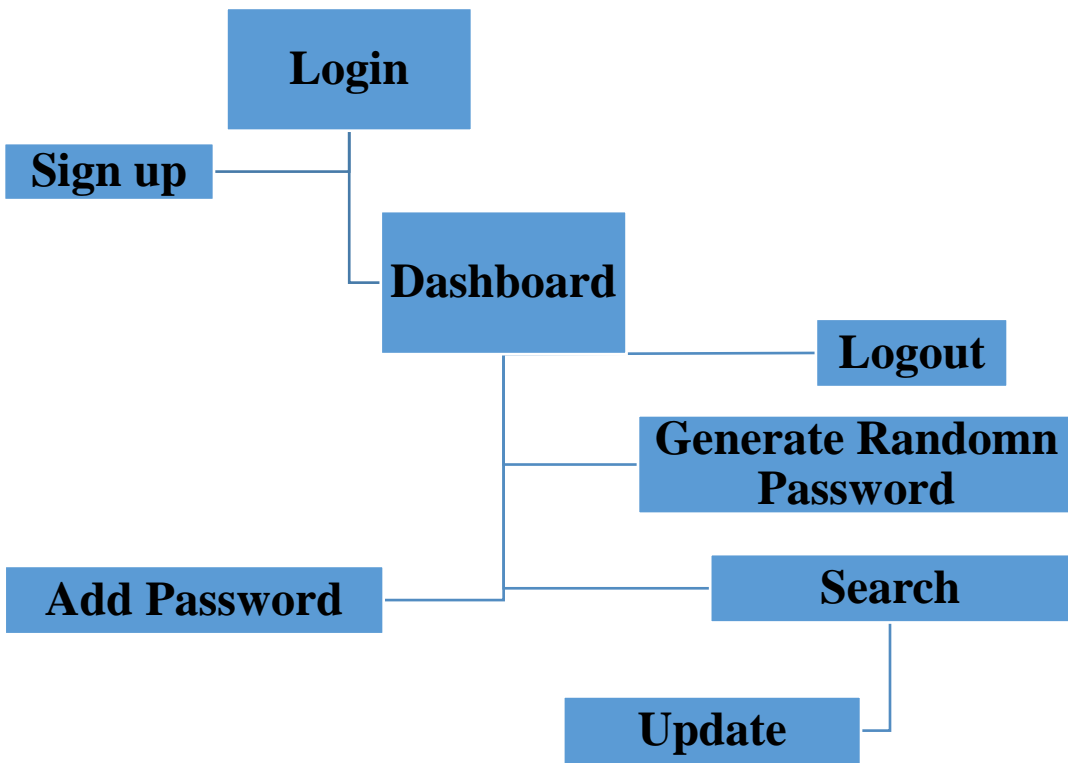
We have developed this application by applying all the Object-Oriented concepts we've learned in this course to maintain the code reusability and simplicity. Moreover, we have designed a decent graphical user interface with the help of Swing and Abstract Window Toolkit (AWT) and exception handling to counter all the errors that may lead to unpredictable behavior of the application. We have used MySQL database and Java Data Base Connectivity (JDBC) API in this project to store, fetch and update the credentials of the user.

Major Outcomes:

By using this application, users can get all of their login credentials at a single place hence the users will be freed from the fear of forgetting their important login credentials. This will also solve the problem of reusing the same password for all the accounts because users will have to remember just a single master password to access all the credentials of their important accounts. Moreover, this application will also save the time a user spent on resetting passwords.

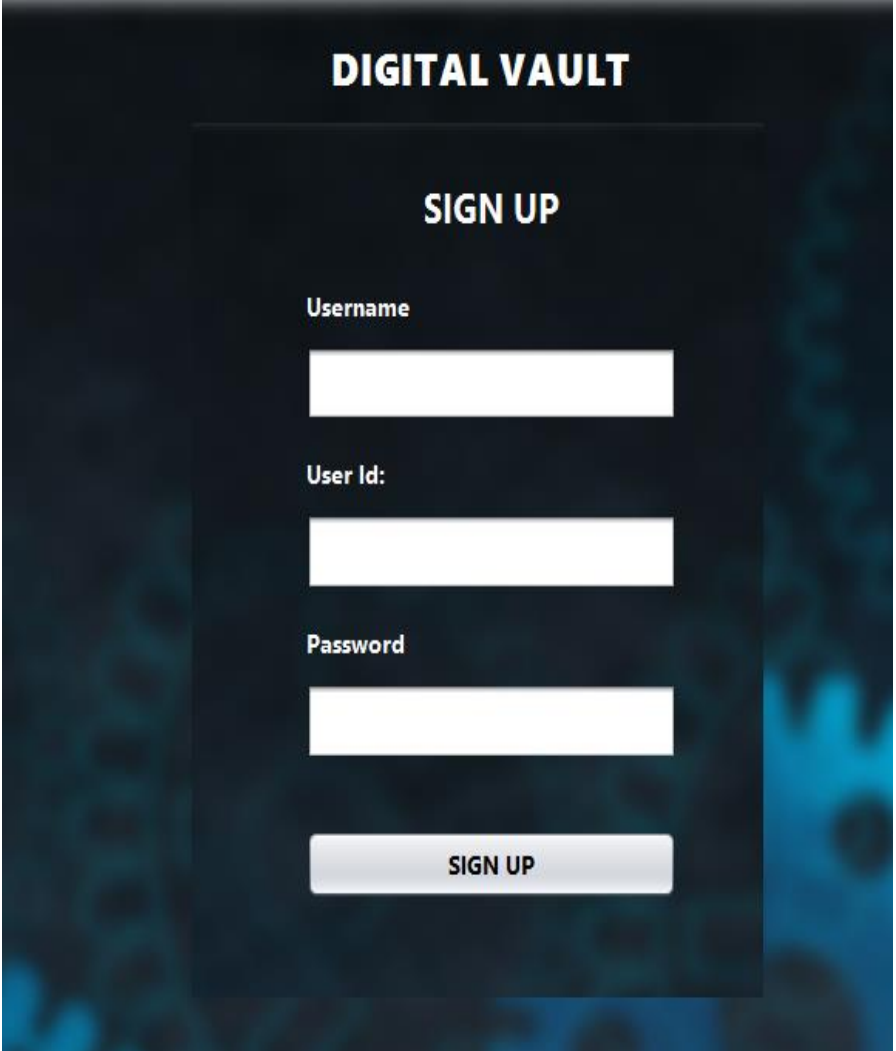
Implementation:

The application is developed successfully by using the technologies laid in the project proposal, Swing and Abstract window toolkit(AWT) is used for GUI and handling events, Structure query language (SQL) is used to store data, and object oriented programming (OOP) concepts are used to make the code readable and reusable. The Application provides the user the privileges to o add, search, generate, or update the password of any account. The user can store as many passwords as they require. Users can gain access these features by making an account in the application, entering a username and password on the sign up page, and then logging in with the same username and password on the login page. After logging in, the user can access the dashboard to add a new account password, search for, generate, or alter the password for an existing account in the application. A Diagram is provided below for better understanding of the flow of the application.



We'll start with the login page; as soon as you open the app, you'll be provided with a form that allows you to login in to the digital vault; the buttons on the side allow you to select between logging in and signing up as a new user; let's start with the signup page.

You need to enter your username, user id and password in the text fields provided and then click signup. After clicking signup, the username, user id and password will be saved in the database, and we will be able to retrieve them in order to login. A user id may not be used more than once.



The image shows a digital interface for a 'DIGITAL VAULT' sign-up process. The background is dark with a blue, abstract pattern. A central, slightly lighter dark rectangle contains the form. At the top of this rectangle, the text 'SIGN UP' is displayed in white, bold, uppercase letters. Below this, there are three input fields, each preceded by a label in white, bold, uppercase text: 'Username', 'User Id:', and 'Password'. Each label is followed by a white rectangular input box. At the bottom of the form, there is a white rectangular button with the text 'SIGN UP' in black, bold, uppercase letters.

DIGITAL VAULT

SIGN UP

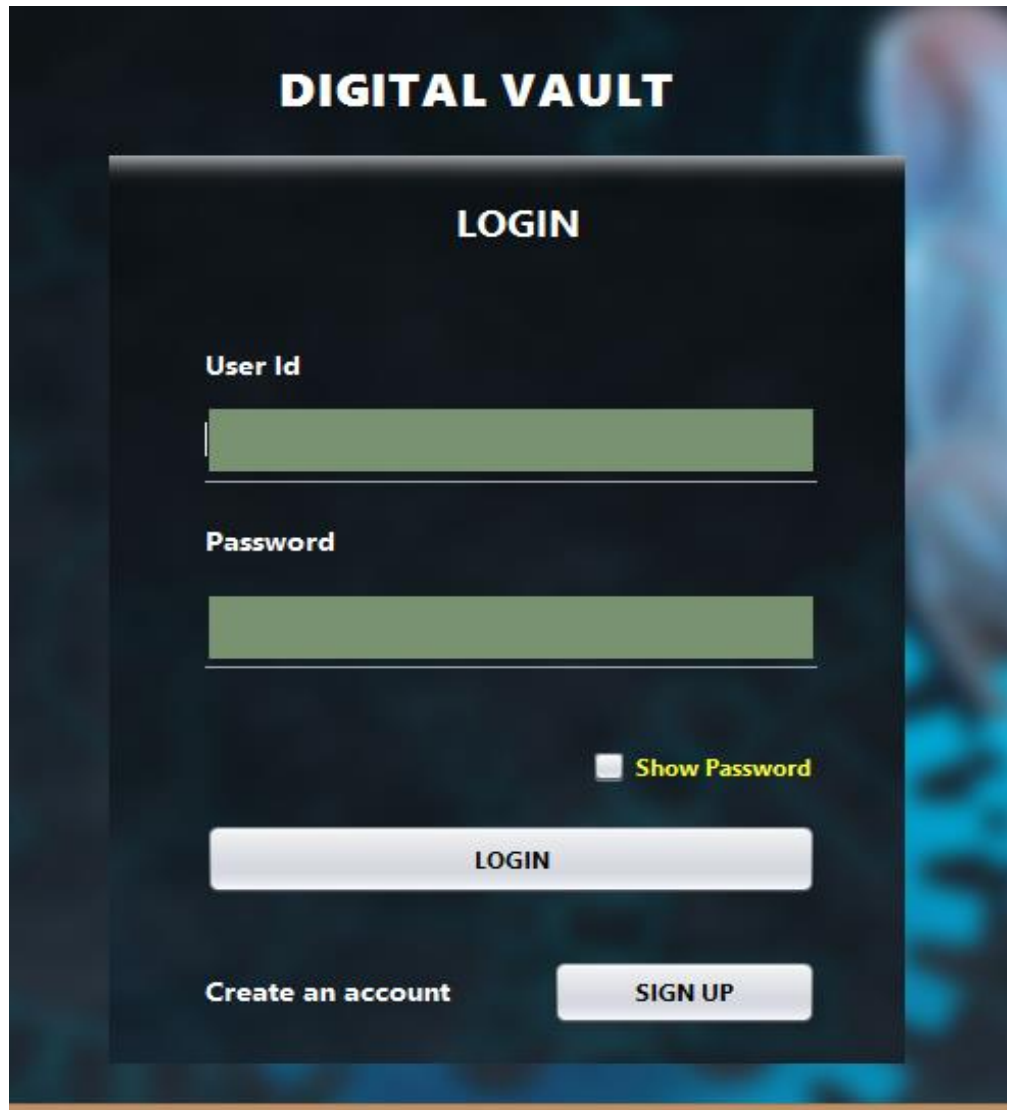
Username

User Id:

Password

SIGN UP

After sign up, login main portal appears. To login, you must provide the correct user id and password. When you click the login button, the provided username and password will be checked through the database, and if it matches any record the person will be logged into digital vault.

The image shows a login portal for a system called "DIGITAL VAULT". The portal has a dark background with a subtle blue and orange pattern. At the top, the title "DIGITAL VAULT" is displayed in white. Below it, the word "LOGIN" is centered in white. There are two input fields: "User Id" and "Password", both with green borders and white text. To the right of the password field is a checkbox labeled "Show Password" in yellow. Below the input fields is a large white button labeled "LOGIN". At the bottom, there are two smaller white buttons: "Create an account" on the left and "SIGN UP" on the right.

DIGITAL VAULT

LOGIN

User Id

Password

☐ Show Password

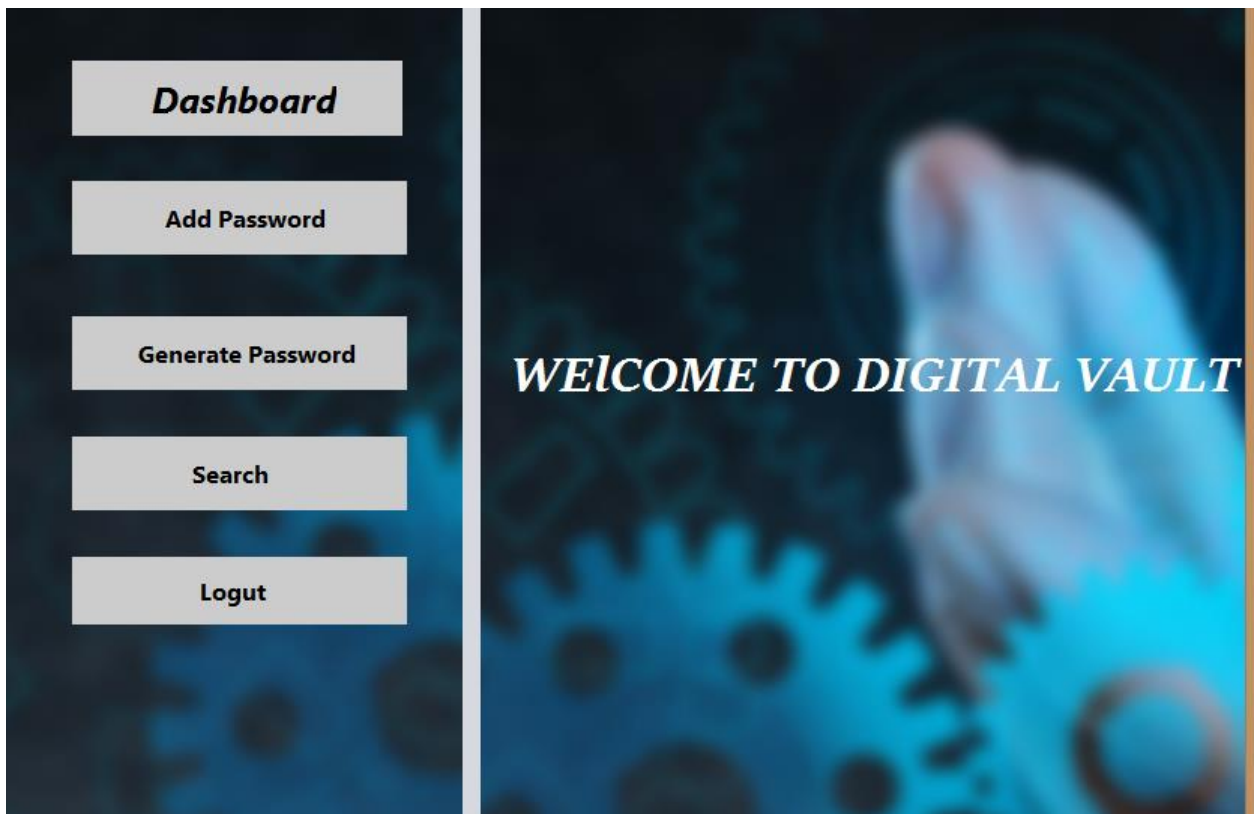
LOGIN

Create an account SIGN UP

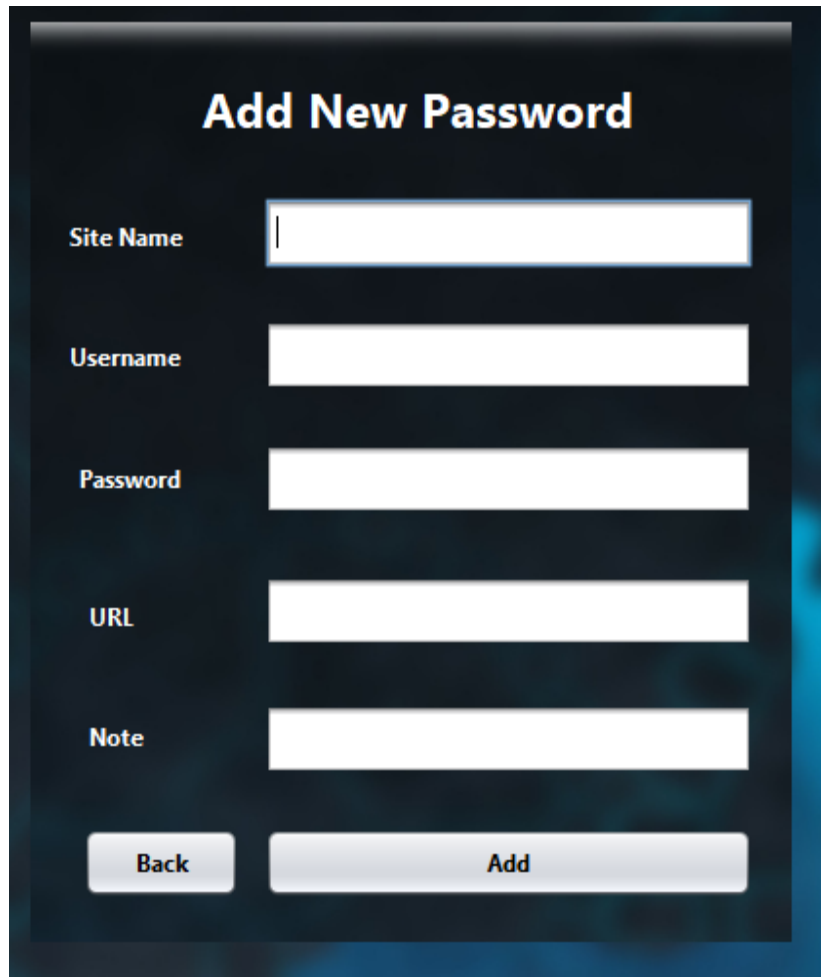
After logging in, you will be presented with a dashboard in which there are four options:

- Add Password
- Generate Password
- Search Password
 - Update Password
- Logout

These will provide you the facility to add, generate, update or search password of your account.

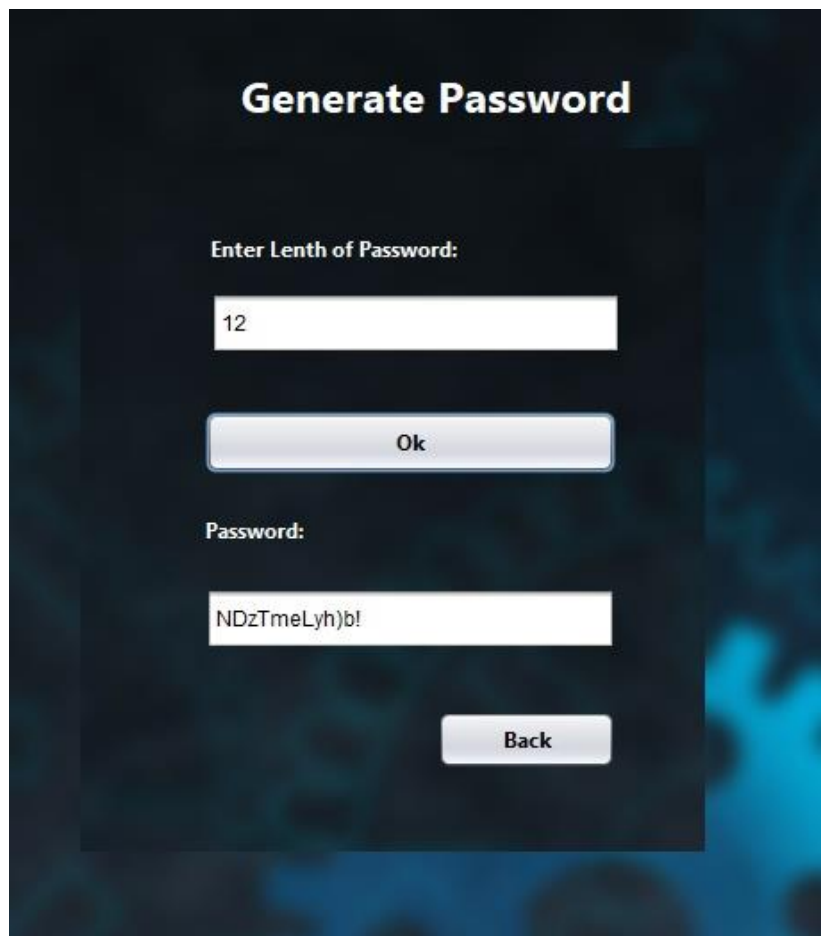


After clicking “**Add new password**”, you will be presented with a form which will let you add account of any of your site. It requires Site name, username, password, optional URL and addition note. Site name, username and password are mandatory fields. If you miss to enter input in any these fields then it won’t proceed further and show you a dialog box to enter in that particular field. Upon hitting the add button, the password is stored into the database.



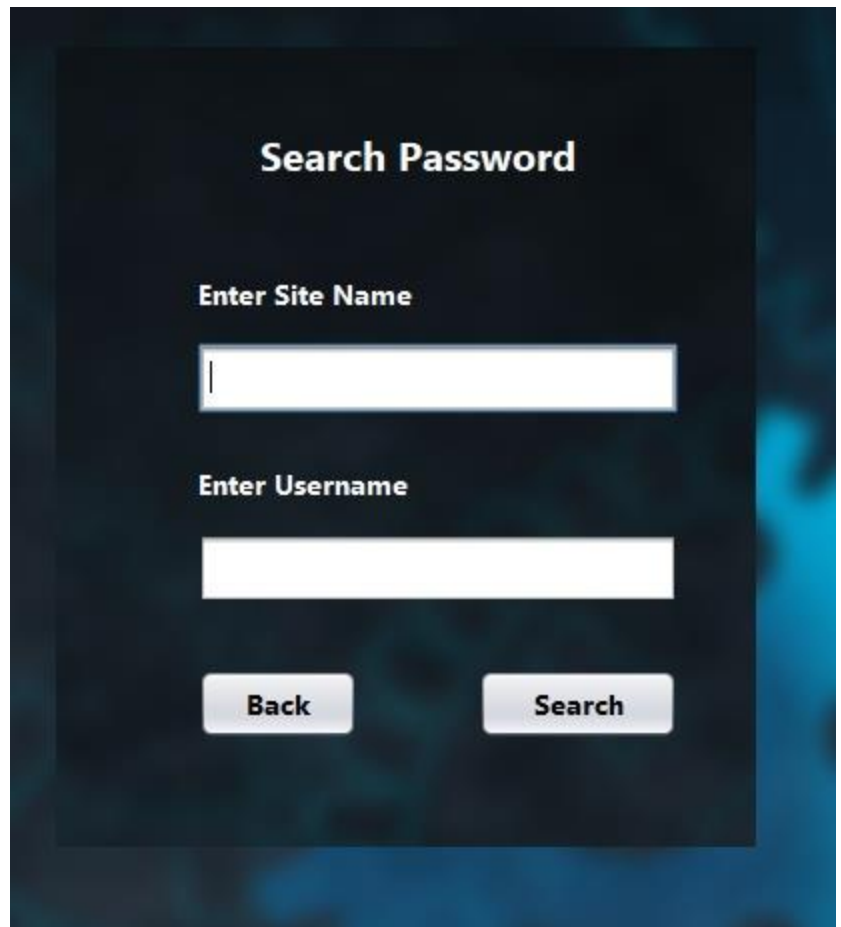
The screenshot shows a web form titled "Add New Password" in a bold, white font at the top center. Below the title, there are five input fields, each with a label to its left: "Site Name", "Username", "Password", "URL", and "Note". The "Site Name" field has a small vertical line in it, indicating it is active. At the bottom of the form, there are two buttons: "Back" on the left and "Add" on the right, both with a light blue gradient and rounded corners. The background of the form is dark blue with a subtle pattern.

In the dashboard, you have option of “generate password” in which you will be provided with this form in which you need to enter length of password then click ok. After clicking ok, password will be randomly generated for your account and you can copy this and paste it into add password for storing new password and then clicking back to get back to the dashboard.



The screenshot shows a web form titled "Generate Password" in a bold, white font at the top center. Below the title, there is a label "Enter Lenth of Password:" followed by an input field containing the number "12". Below this input field is a button labeled "Ok" with a light blue gradient and rounded corners. Below the "Ok" button, there is a label "Password:" followed by an input field containing the randomly generated password "NDzTmeLyh)b!". At the bottom right of the form, there is a button labeled "Back" with a light blue gradient and rounded corners. The background of the form is dark blue with a subtle pattern.

Search Password is where you can search your existing password that you stored in the application. Here you will enter your account name and username that you added in the “**Add password portal** “. After entering details in the given text fields, click on search button. This button will check details in the database and if it matches then it will let you enter in another form that is called **update password**.

A screenshot of a web application interface for searching passwords. The background is dark blue with a subtle pattern. A central white rectangular box contains the form. At the top of the box, the title "Search Password" is displayed in bold black text. Below the title, there are two input sections. The first section is labeled "Enter Site Name" in bold black text, followed by a white text input field with a vertical cursor. The second section is labeled "Enter Username" in bold black text, followed by another white text input field. At the bottom of the form, there are two white buttons with rounded corners. The left button is labeled "Back" and the right button is labeled "Search", both in bold black text.

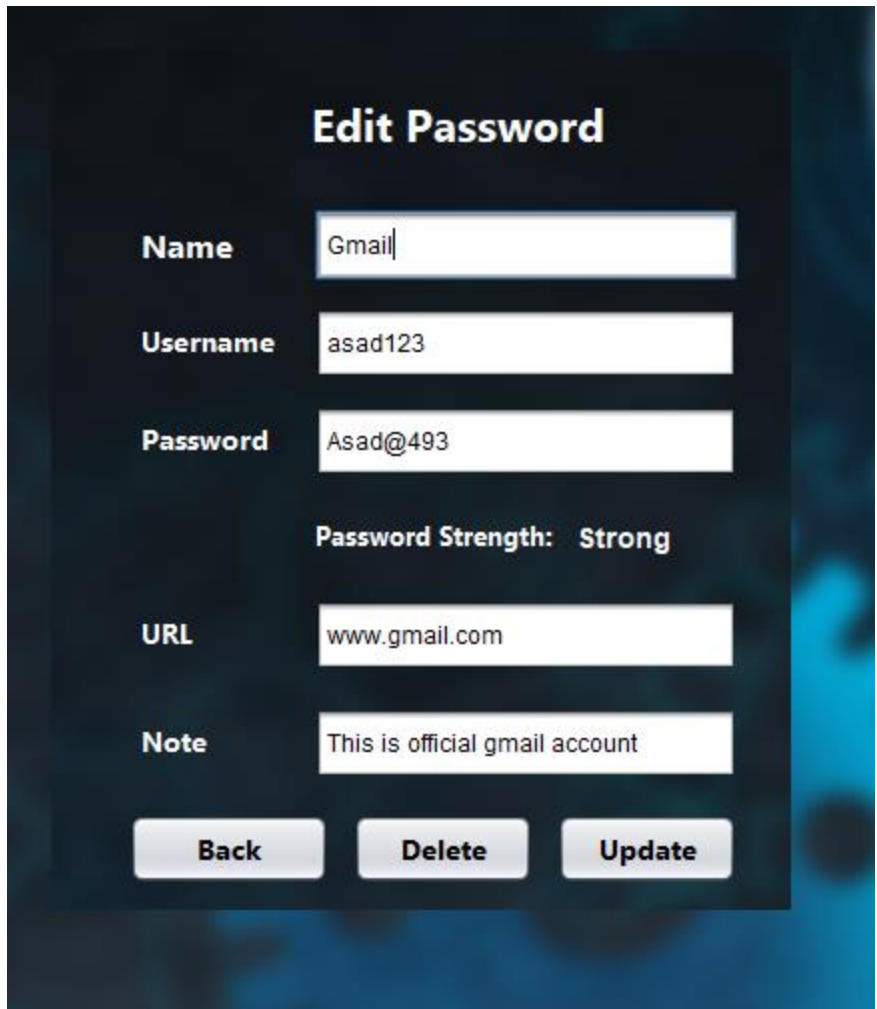
Search Password

Enter Site Name

Enter Username

Back **Search**

After clicking search button, you will be provided with this form that is **update password** or **edit password**. Whatever account name you searched in the “**Search password portal**” the password and all the details of that account will be visible on this form. Here below password field it also show you password strength, whether your password is weak or strong. Now it is your wish if you want to update it, delete it or just note that password and get back on dashboard by clicking on the “**back**” button. After clicking back button, click on the “**logout**” button on dashboard for closing all the connection and it take you back on login page.



Edit Password

Name	Gmail
Username	asad123
Password	Asad@493
	Password Strength: Strong
URL	www.gmail.com
Note	This is official gmail account

Back **Delete** **Update**

CONCLUSION:

As we know that today’s digital life requires so much privacy. Every kind of platform or website needs our credentials to create an account and make it accessible only for us. But it is not humanly possible to remember such a huge number of login credentials. The project named “Digital Vault” will be useful to make it easy for anyone to store and retrieve any credential information in such a user friendly and secured platform. User would only have to remember one master password to access all the functionality of this program. This application would also suggest the User any random passwords while creating any account and stores them automatically, if approved.