Cybersecurity Password Vault using Java

Password Vault

A password vault is a program that will allow a user to store their username and passwords for websites and programs. It uses encryption to ensure only the user will have access to the information

Password Vault Team

- John Crosby - Authentication

- Kevin Yang – Password Encryption

- Brian Sumner – User Interface

Project Overview

- When starting the program, the user will have the option to create a new vault file, or opening an existing vault file.

- User will enter a password with an optional 2-factor verification using a keyfile.

- User's password vault file will be opened, decrypted, and displayed using a graphical user interface.

Project Overview

- User may create new entries, delete entries, or alter existing entries to securely store their usernames and passwords.

- Before exiting the program, all information will have the option to be saved, encrypted, and stored on to hard drive.

Authentication

- User will enter their password and optional keyfile for 2-factor authentication

- The program will convert both the password and the file into byte arrays.

- The byte arrays will be sent to a SHA-256 hashing algorithm and combined to form one hash.

- The hash is converted to a character array and used as authentication to open the password vault.

Password Vault
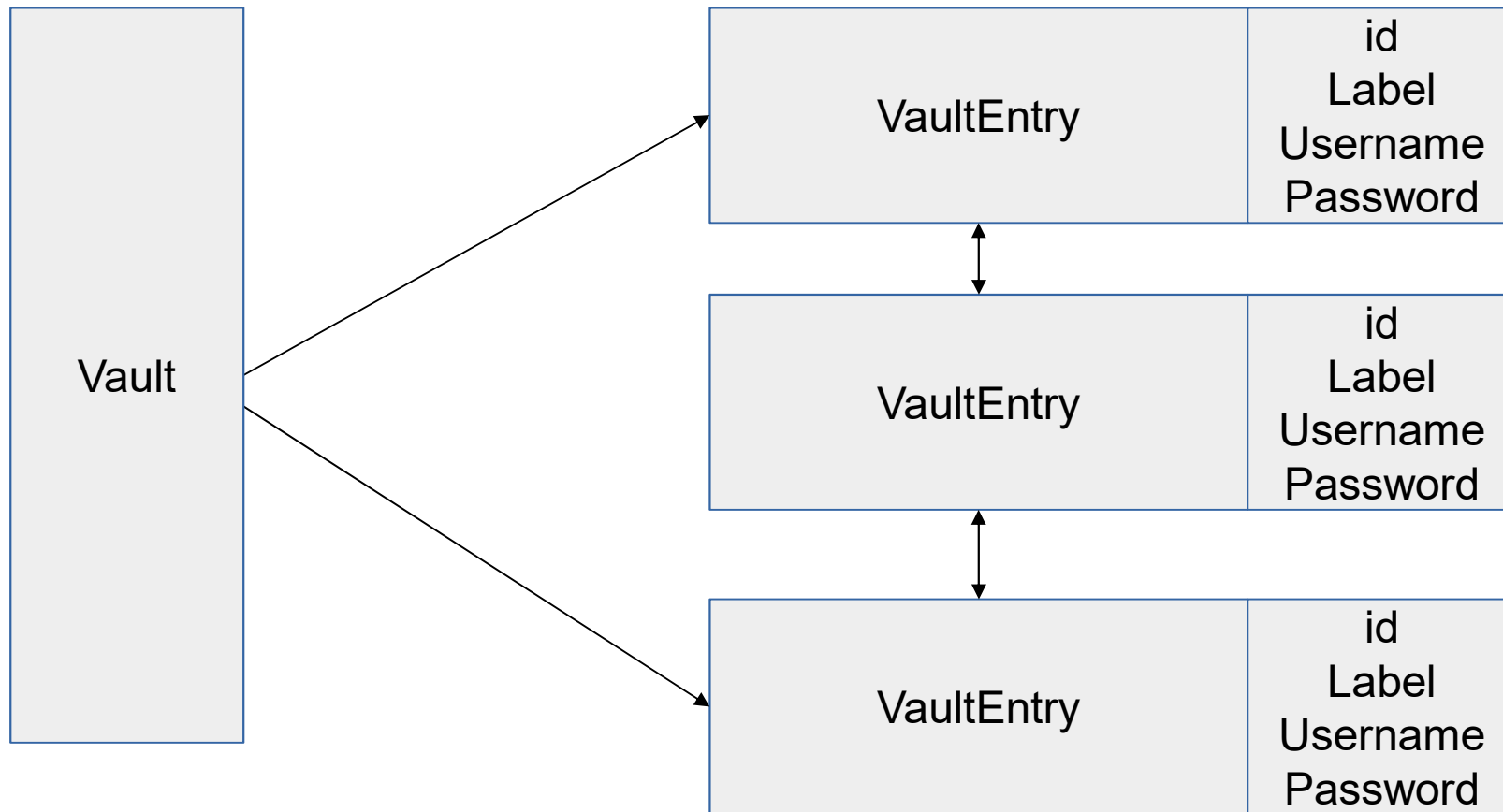
Password Vault

- File

firstId	0
lastId	2

nextFreeId	3

- (Entry #0)

label0	google
user0	bobble
pass0	secret@2
nextEnt0	1
prevEnt0	-1

- (Entry #1)

label1	facebook
user1	bob
pass1	pass123
nextEnt1	2
prevEnt1	1