Biometric File Encryption Mobile Application

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Purpose

- Every computer systems relies on files for sharing or storing information.
- What if the file contains sensitive information ?
- This application leverages biometric encryption to local files, ensuring stronger protection and safety.

Core Features

The applications consists of 5 core features:

- Encryption / Decryption
  - Providing strong security for the users files
  - Biometric encryption
- Upload files
  - The user is able to upload files from their device to this app for encryption
- Multi-fragment application
  - Leverages the use of multiple fragments rather than using multiple activities, reducing the overhead
- Friendly User Interface

Encryption & Decryption

- The selling point of this application is that encryption and decryption happen via the use of biometrics

Pros

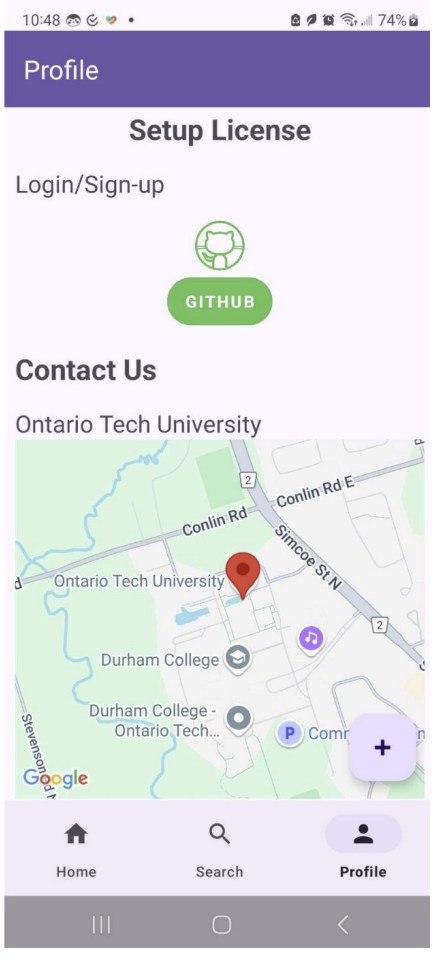
- The use of biometrics acts as a **very strong** password thus making the encryption that much more effective.
- Encryption is extremely difficult to bypass providing very good security measures.

Cons

- The current app only supports one type of biometrics and that is the fingerprint scanner.

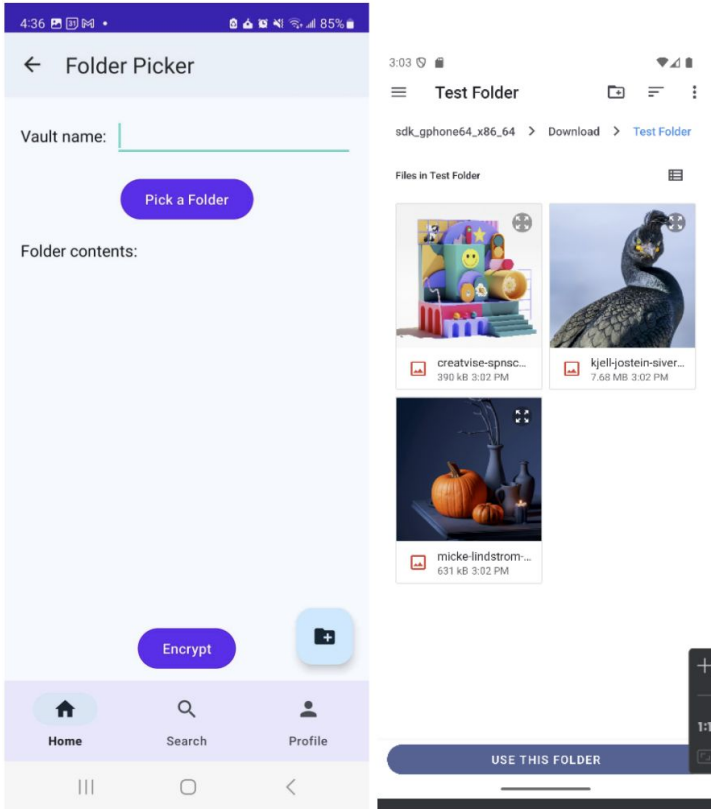
Profile Management Page

- This page is responsible for logging in and authenticating the users.
- Users are authenticated via their own github



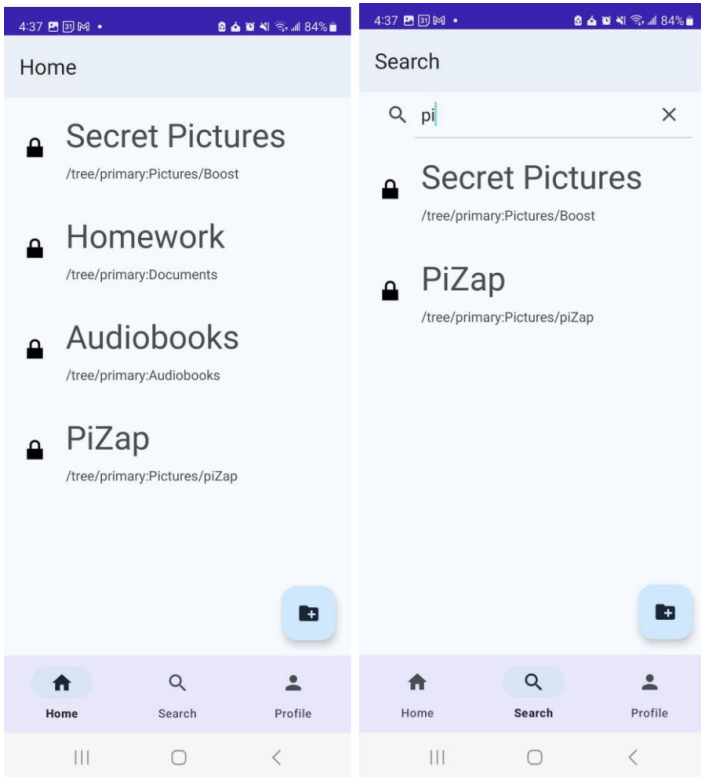
Folder Picker & View Folder

- The folder picker provides a view of all the folders on the device.
- The user can search for the folder they'd like to encrypt using the search bar.
- Once the user finds a folder they'd like to encrypt they can select the folder, then encrypt its contents.



Folder Picker Cont'd...

The following screenshots show the search bar in action, and another folder view.



Implementation Challenges

- SDK Synchronization
- OAuth
  - Connecting a server to our application proved to be difficult
  - Integrating the libsodium library to work
- Implementing and demoing the application on a real android device

Demo: