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# Making an iPhone App: Password Vault

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## Introduction

Along with the internet and the convenience of doing so many things online came the need of confirming your identity via usernames and passwords.

Online sites tend to enforce different requirements to increase the complexity of your password and make it hard to guess. They accomplish this by asking users to combine letters, numbers and symbols, and expecting a minimum length of characters.

As a result users are often left with a large number of accounts with different passwords that are hard to remember.

Password Vault assists users in organizing and storing these account credentials securely in the convenience of their phones.

## Objectives

### Functionality

- Allow users to organize their credentials in an accessible and secure place
- Provide an authentication system to prevent unauthorized access
- Offer users different ways to find their accounts

### User Experience

- Make the app easy to understand
- Use controls that iPhone users are familiarized with
- Allow users to access their accounts in 3-taps average
- Provide a mechanism to easily lock out the application

## Materials & Methods

### Xcode 8

Xcode is an integrated development environment containing a suite of software tools developed by Apple for creating applications for macOS, iOS, watchOS and tvOS.

### Swift 3

Swift is the newest programming language for developing iOS, macOS, watchOS and tvOS apps. It offers safe programming patterns and adds modern features to make programming easier and more flexible.

### SQLite v3

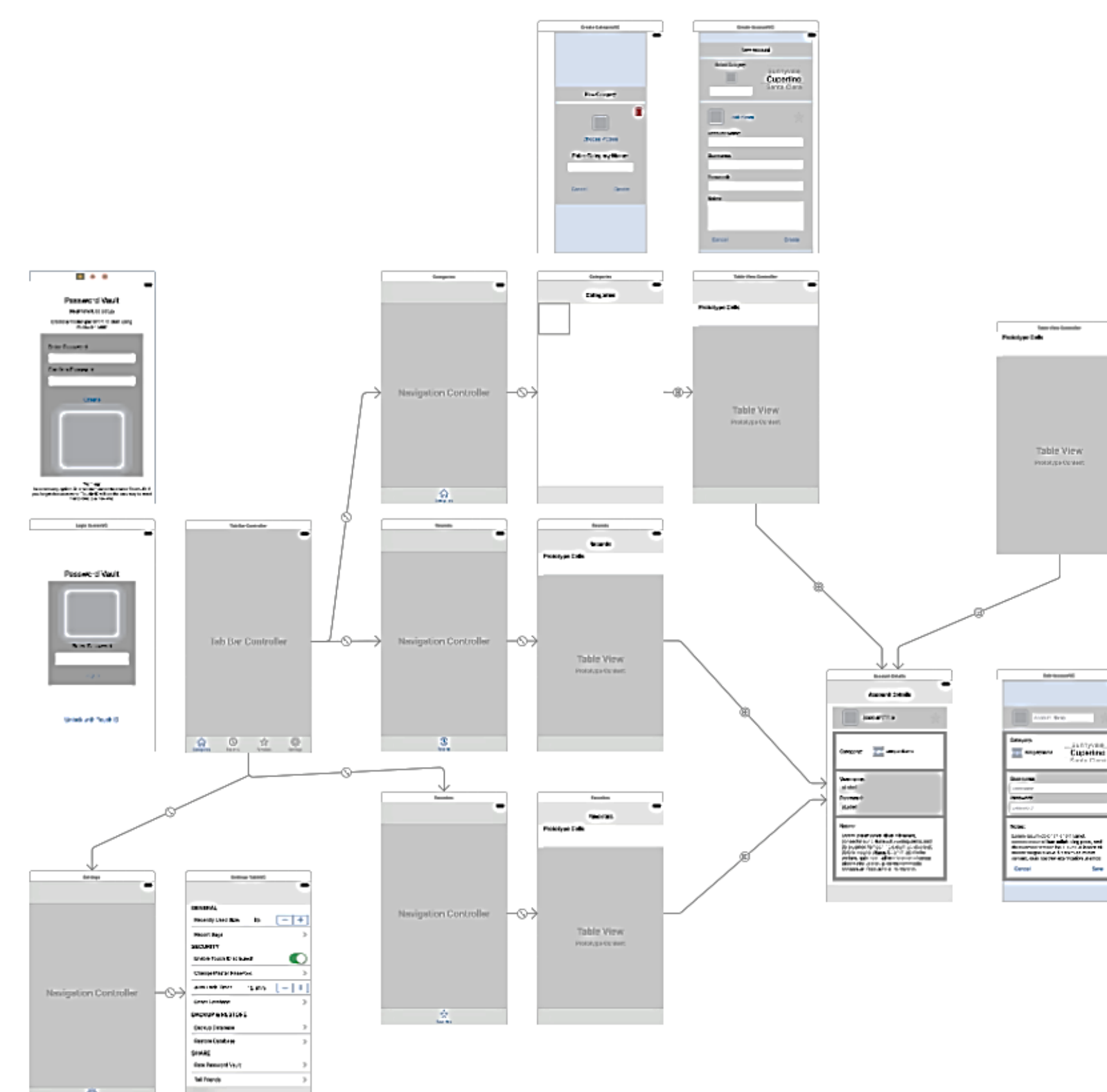
SQLite is an in-process library that implements a self-contained, serverless, zero-configuration, transactional SQL database engine.

### Keychain Services

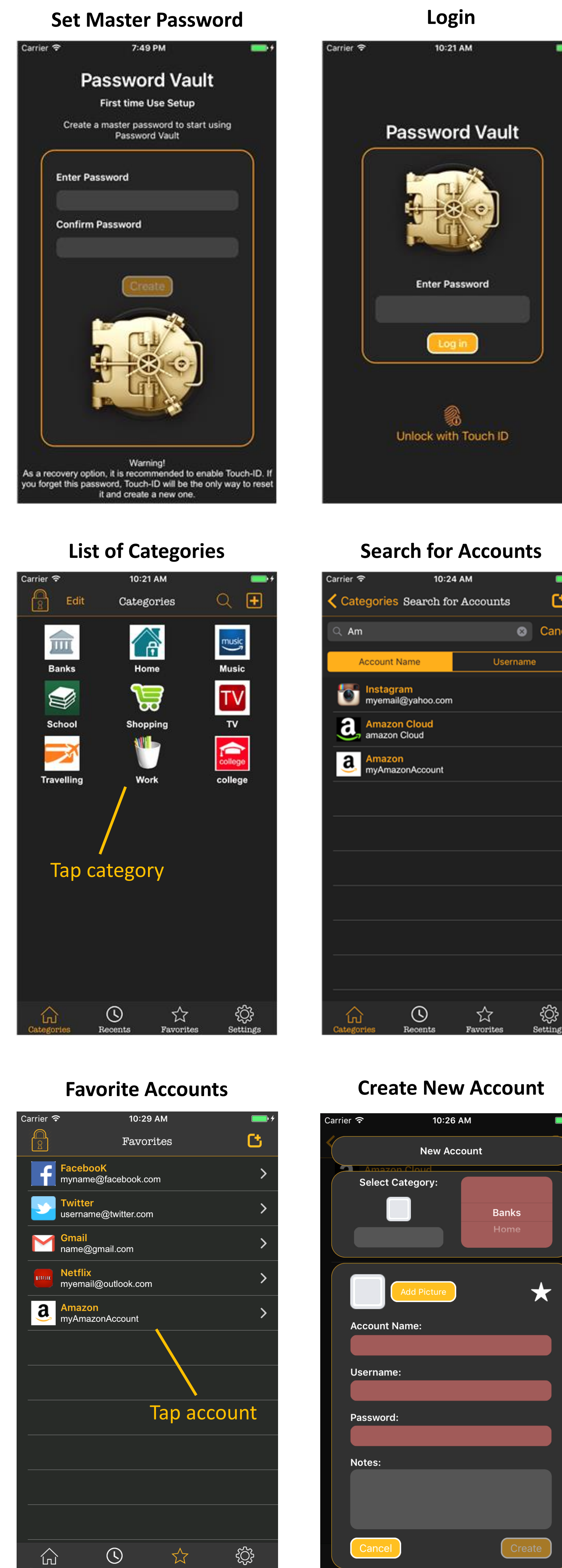
Apple's security framework that encrypts and stores small amounts of data which can only be accessed by the authorized application.

## App Structure

The following diagram depicts the different controllers used to build Password Vault along with internal connections established between them.



## Interface and Controls



## Conclusion

There are some features that could not be implemented due to time constraints; however, users that tested the app found it appealing and easy to use and said they would be likely to download it if they were to find it on the App Store.

Some future improvements I plan for this app include an extension to the database to encrypt all of its contents, the ability to search for images via Google search within the app to customize category and account icons, and visual improvements to the app's graphic interface, to name a few.

Finally, building Password Vault proved to be a great learning experience and helped me realize that building mobile apps is the career path I want to follow in the future.

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