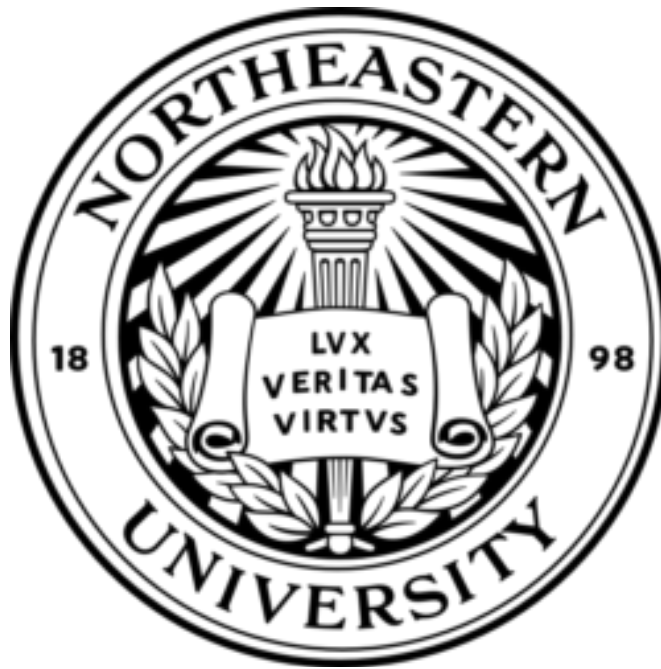


FINAL PROJECT REPORT

I Can Refer – iOS Application



Fall 2021

Course

Mobile Application Design & Development using iOS

Instructor

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Student

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Introduction

`I Can Refer` project is created keeping in mind the current situation caused by COVID19 pandemic. Many people have lost their jobs and are struggling to find new ones during the pandemic. Also, some people have come forward to support and help others by providing referrals for their current organization's available positions. This project is one such endeavor to help those who needs professional assistance from the community.

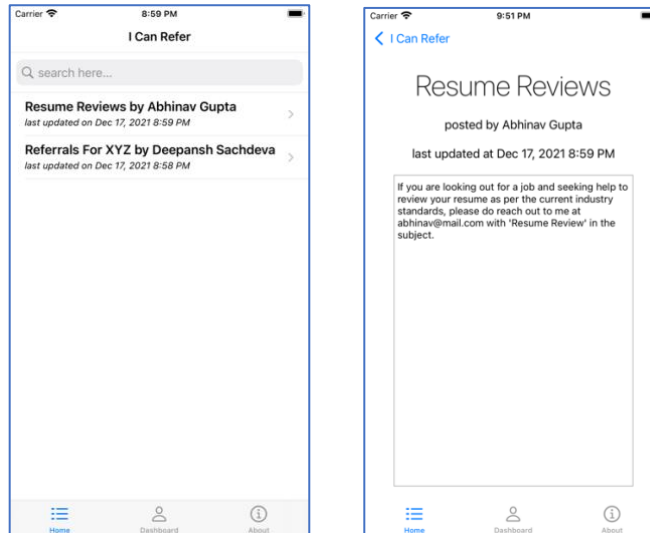
The application provides a consolidated platform for the users to post details about referral or any professional help they can provide. The post can have details such as organization's name, available positions with required skills, contact details, etc.

Users can view all the available posts and contact the concerned person via given details. Also, users can log into the application and open the dashboard to manage i.e., view, create, update, & delete their posts.

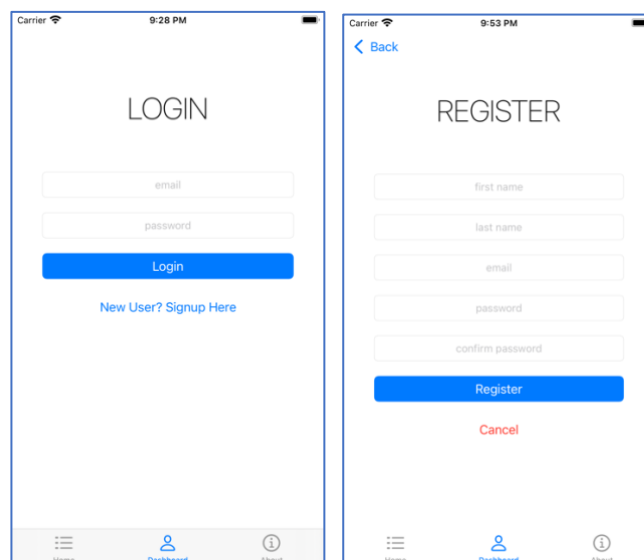
Design

The application is designed using Storyboard in XCode IDE and starts with tabbed interface implemented using a TabViewController. The following tabs are visible in the application:

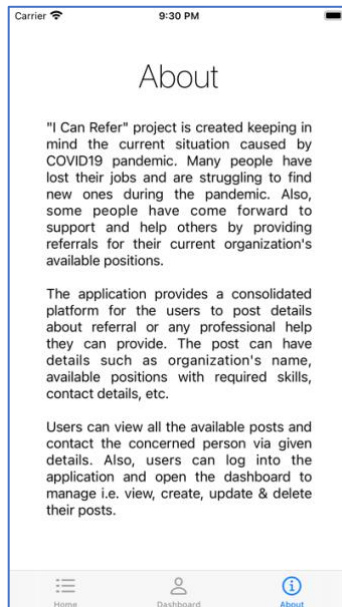
1. **Post/Home Tab** – all the posts posted by users are visible using a list implemented by table view controller. Users can tap on any item on the list to open the details of the posts.



2. **Dashboard Tab** – used to login/register the user, and after user is logged in the application, they can manage their posts i.e., view, create, update & delete them.



3. **About tab** – provides general information about the application



Posts & Dashboard tabs has their own navigation flow using Navigation View Controller for each of them to provide further functionalities.

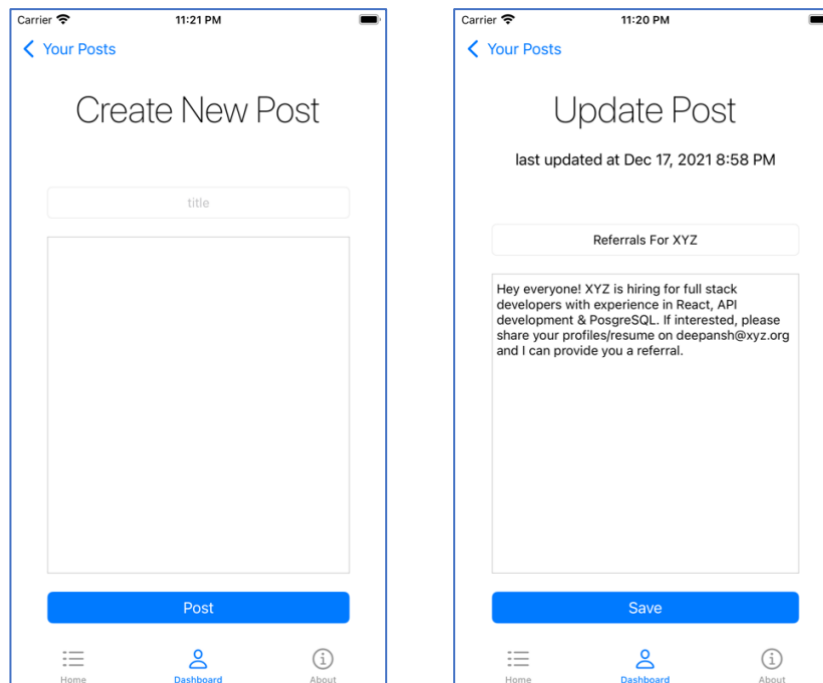
The user can either login or register from the dashboard tab to manage its posts in the system. When a user is logged in the application, he/she can see list of posts created by him/her, as shown in the following screenshot:



The user is now shown the following options:

1. Logout – to log out of the application
2. Add – to add new post
3. List of posts created by the user

User can click '+' at the top right corner to add a post or any of the post in the dashboard list, to view/update the post:



Both screens are implementation of a single view controller, to create, view or update a selected post using the dynamic code. The item can be right swiped in the list to delete.



Data Model

The system includes 2 data models, namely:

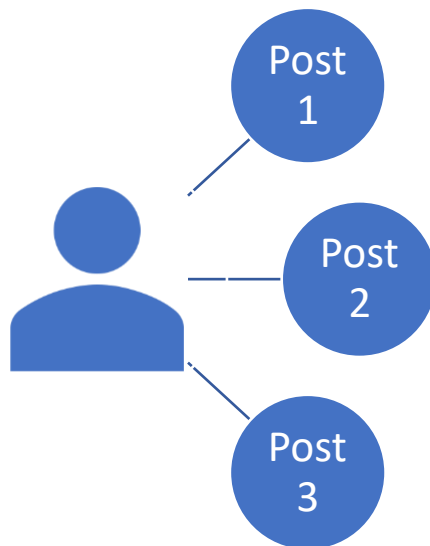
1. Post
2. User

The user has the following attributes:

1. UID
2. firstName
3. lastName
4. email

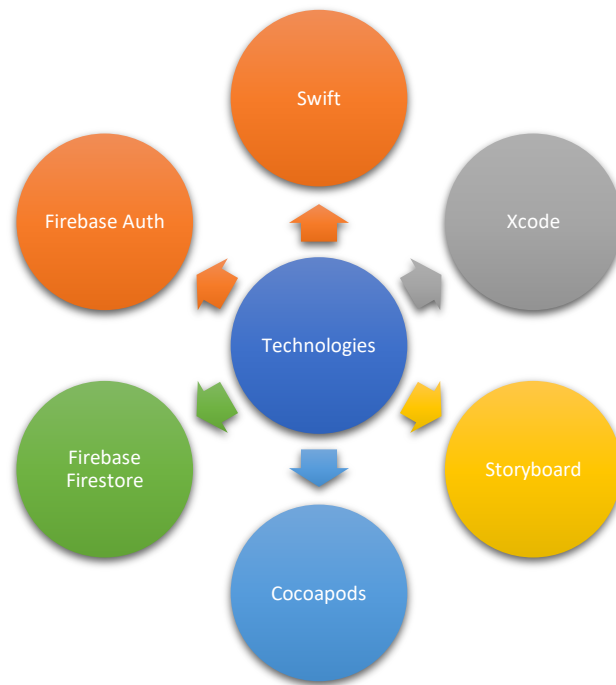
The post has the following attributes:

1. ID
2. title
3. body
4. createdByUID
5. lastUpdated



Both models implement Codable protocol, which is an alias for Encodable & Decodable protocols. The protocol was required to easily encode & decode data itself, so that it can be easily written & read from firestore database.

Technologies Used



Key Highlights

1. The firebase firestore database provides offline access to data, if internet connection is not available at that time. When internet connection is up again, the data is synced to the firestore in the cloud.
2. Codable protocol is used to encode & decode data for the firestore database.
3. The Table View Controller includes refresh control to implement pull to refresh latest data from the firestore database.
4. The home tab implements a search bar to filter results based on keyword text (case insensitive) input against the title.
5. Autolayout is implemented to provide adaptive interface across iPhone & iPad devices.
6. Custom UI connected to firebase auth is used to implement user login/register functionalities.
7. Appropriate keyboard type used for respective fields like email, phone number, password, etc.
8. Proper validations with user-friendly message for required, email, passwords, etc. type of fields in the all the forms, wherever applicable.

Conclusion

The application will be useful to consolidate all the posts regarding professional assistance to any user. However, the application can be improved further by adding the following enhancements to the current application:

1. Admin panel for reviewing & monitoring each post to avoid any spam / illegitimate content in the system.
2. Interested users directly message the user who posted it, by implementing a message inbox for each user.
3. Option to create various drafts of post or checkbox to make post unpublished for a certain period.