

SENIOR DESIGN PROJECT

CENG 4012
Spring 2021 - 2020

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Photo Sharing App

Abstract

For my final project, I developed a photo-sharing iOS app called 'Artista' using the programming language Swift. Users can select a picture from the camera roll and apply different photo effects provided by the app and can upload this image to the app. It is also a social media app where users can like and comment on others' posts, can follow each other, search for other users, and get notified when another user takes action on their posts or profile.

1 Introduction

Image sharing, or photo sharing, is the publishing or transfer of digital photos online. Image-sharing apps offer services such as uploading and sharing photos. In this project, I developed a photo-sharing social media app for iOS, and I called it 'Artista'.

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I used Firebase for user authentication and Firestore Database for storing data of the users and posts.

The project was written using Swift programming language. Swift is a powerful and intuitive programming language for iOS, iPadOS, macOS, tvOS, and watchOS. The app is only compatible with iOS which means it can only run on iPhones. I used Xcode IDE for creating the app.



Figure 1: App icon

2 App Controllers

2.1 Sign Up Controller

The sign-up controller is the page where users can create a new account.

Users should enter their e-mail address, password, full name and choose a username to use in the account.

They can also add a profile photo through this page. If the user has an account already, they can click on the 'Login' button to log in.

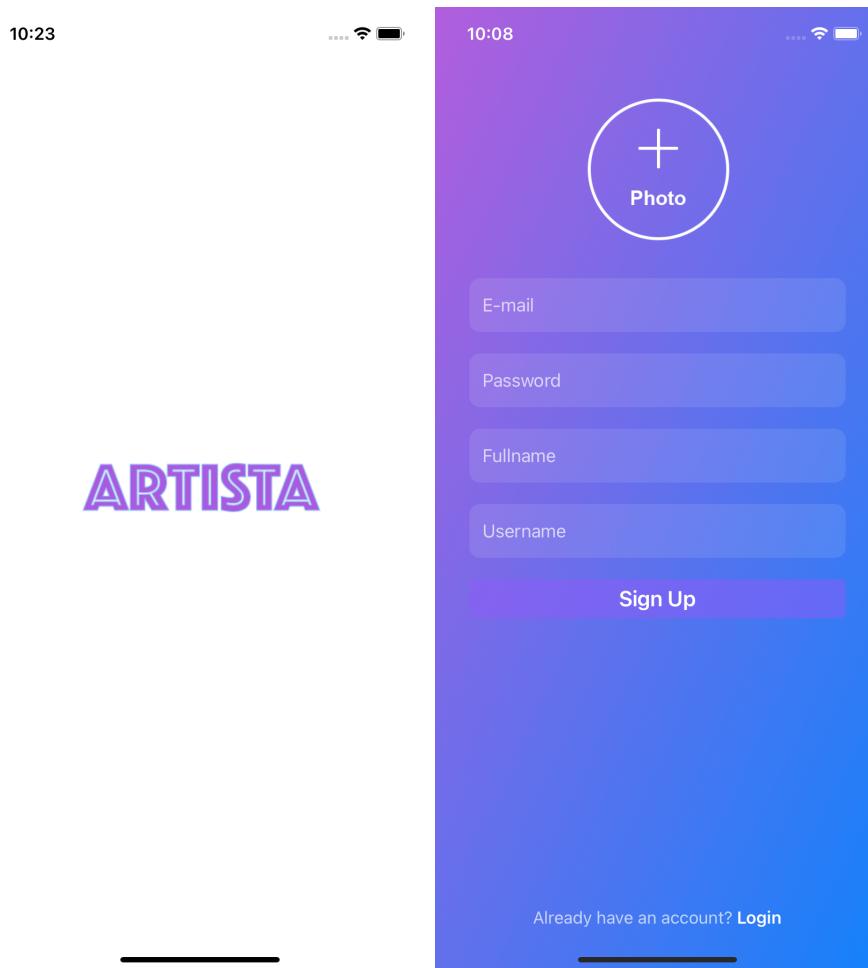


Figure 2: Launch screen of the app & sign up page

2.2 Login Controller

Users can log in to the app by entering their e-mail address and password.

If they have not created an account yet, they can click on the 'Sign Up' button and the app redirects them to the Sign-Up page.

If the user forgot his/ her password, they can click on the 'Get Help' button to reset their password via their e-mail address.

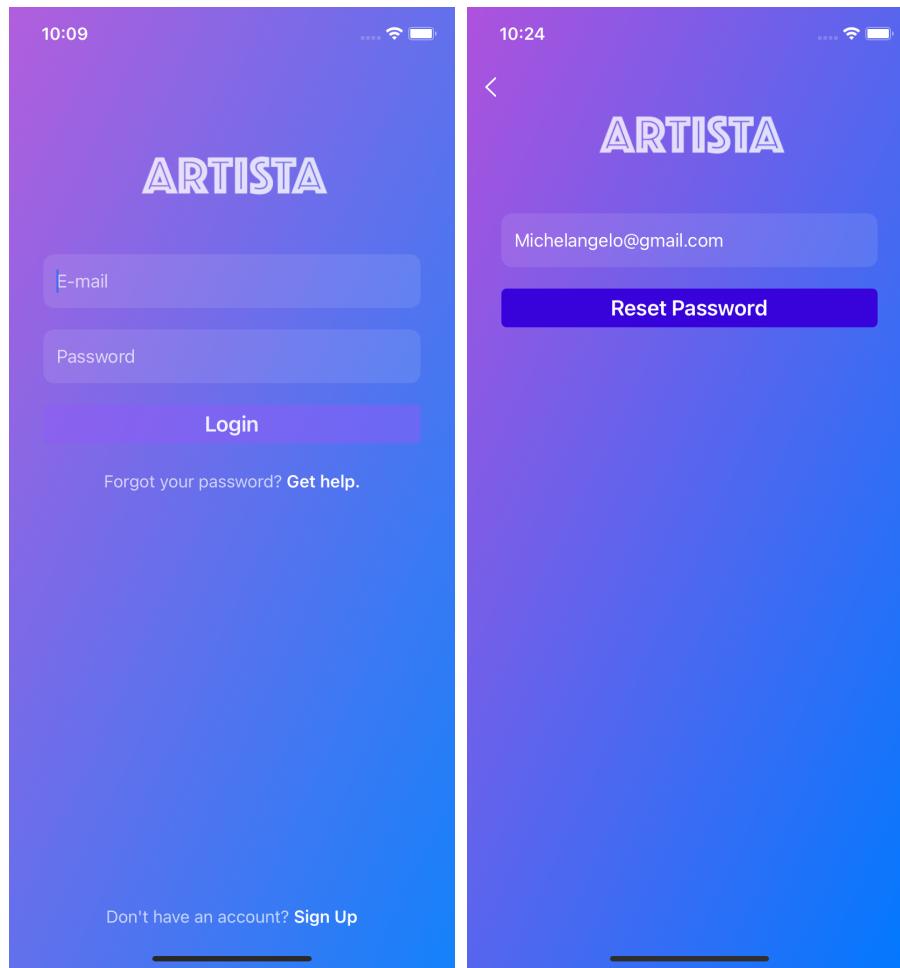


Figure 3: Login & reset password pages

2.3 Feed Controller

The feed controller is the page where we can see the posts of the users that we follow. Each post shows the user's profile image and user name to which it belongs, a description written by the uploader, a time label which shows the time that it was uploaded and it has like and comment buttons. Users can interact with posts via like, comment buttons, and by clicking on the image.

On the right up corner of the page, there is a log out button where users can log out and the app redirects them to the login page.

The user can use the tab bar for reaching the other pages.

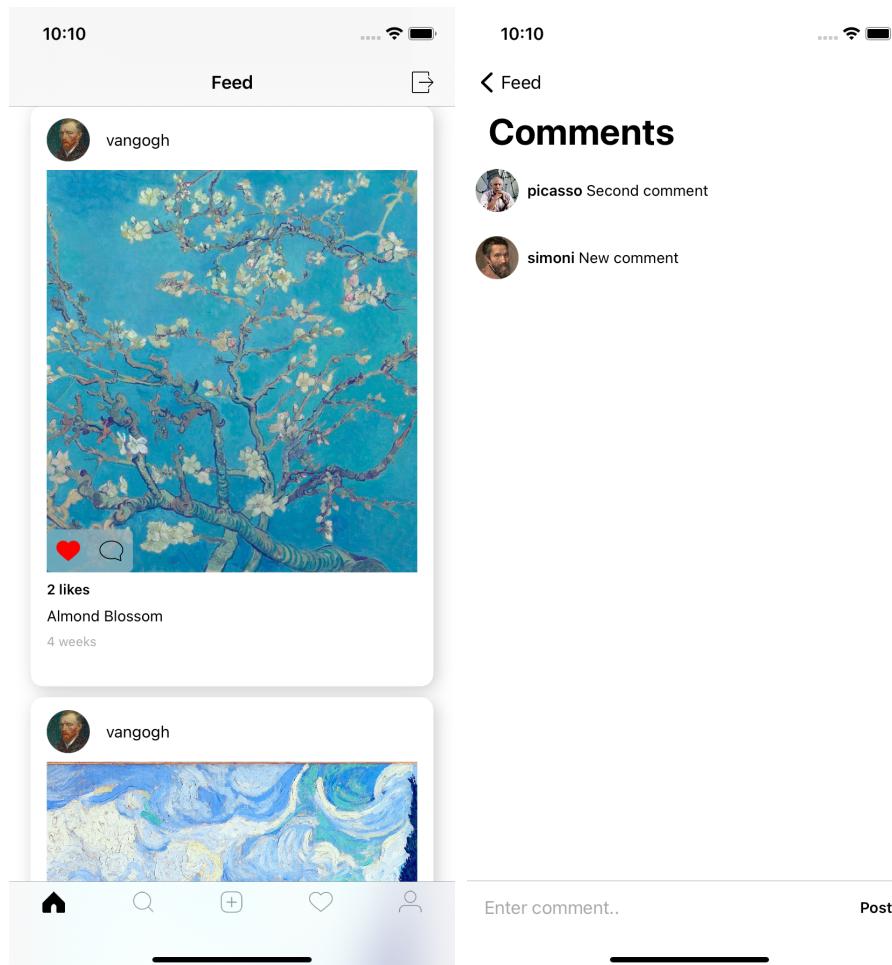


Figure 4: Feed page & comment section of a post

2.4 Explore & Search Controller

The search controller contains two different parts: The explore part and the search part.

The explore part shows via collection view, all the uploaded images by all the users.

When the user clicks on the search bar the app lists all the users of the app and lets the user search for others.

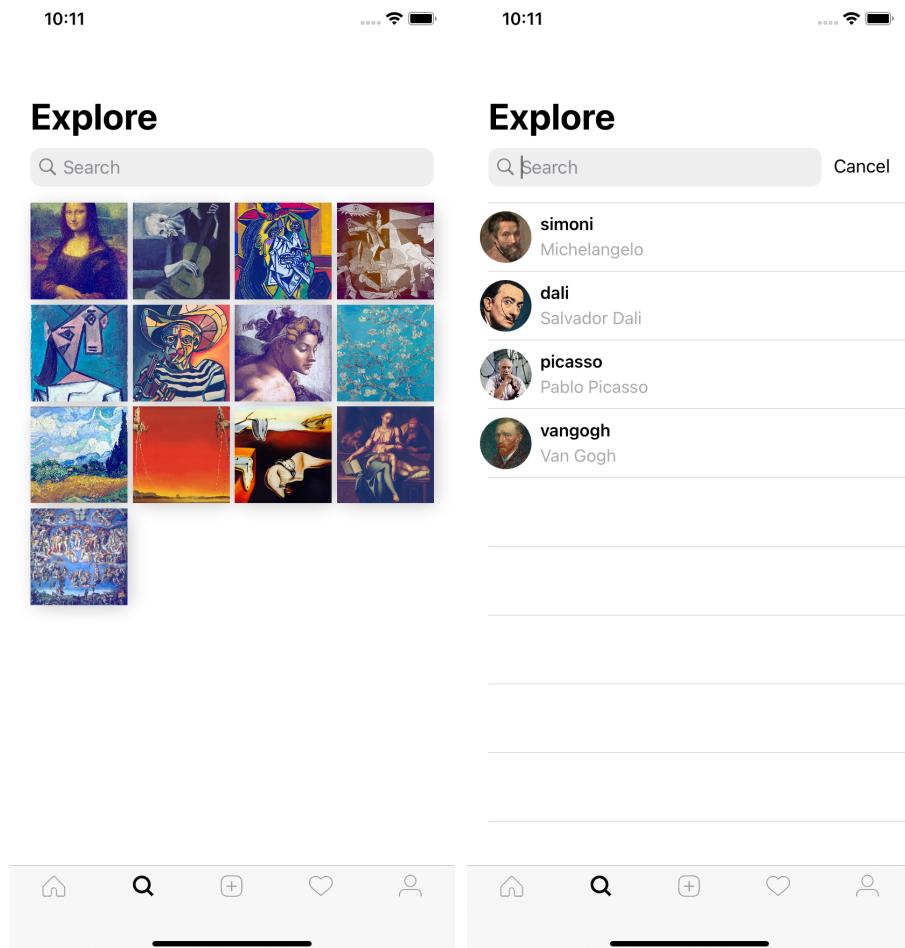


Figure 5: Explore page & search feature of the app

2.5 Image Selector & Upload Post Controller

The user can upload a post by clicking on the plus icon on the main tab bar. The app redirects the user to the camera roll of the phone to select an image to upload. When the user is done selecting the image, the app provides some photo effects to apply to the image. The user can select the one and click on the share button.

The app shows the upload post page for the user to fill in a description for the photo. The user can click on the 'share' button to upload the image when he/she is done with the description.

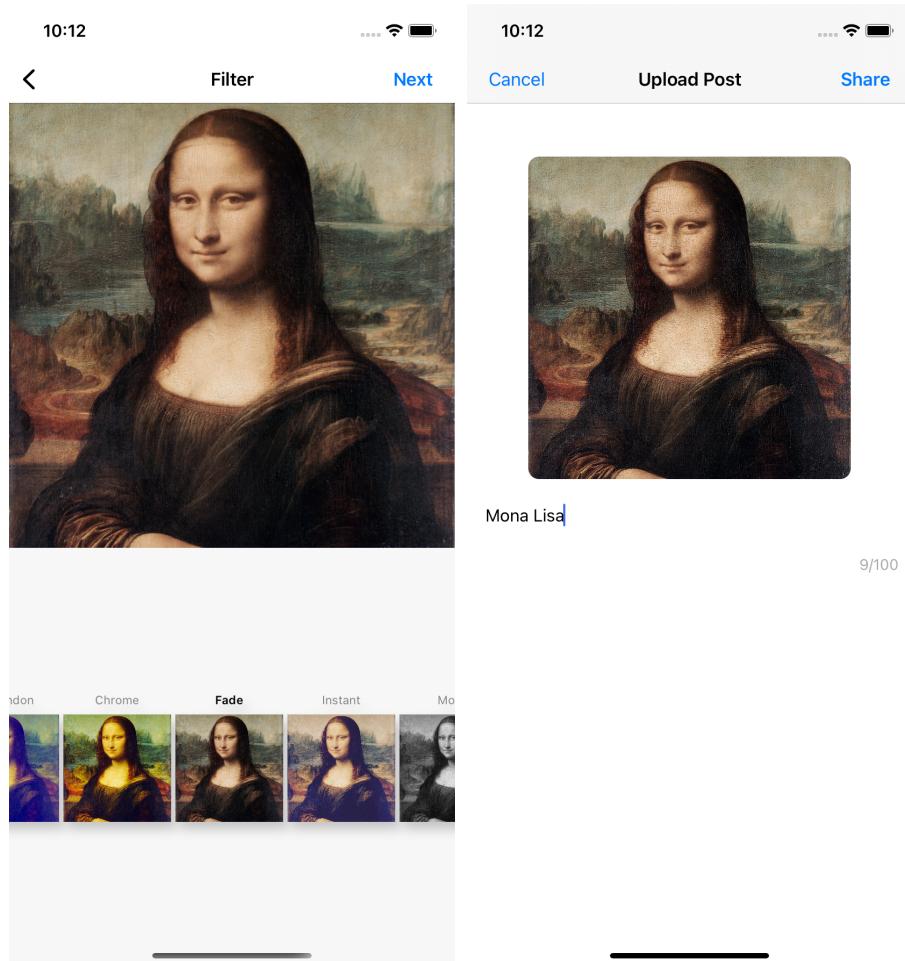


Figure 6: Photo effects & upload post page

2.6 Notifications Controller

The notifications controller the activities of the other users with the post or profile of the current user.

The user can see the comments made and the given likes for the posts. The user can go to the post by clicking on the post image and can go to the other users' profiles via clicking on the table view cell.



Figure 7: Notifications page

2.7 Profile Controller

The profile page provides information about users. The user can see how many people follow them and the number of posts.

There is a follow button on other profiles except for the current user.

All posts of a user are displayed on the profile with a collection view.

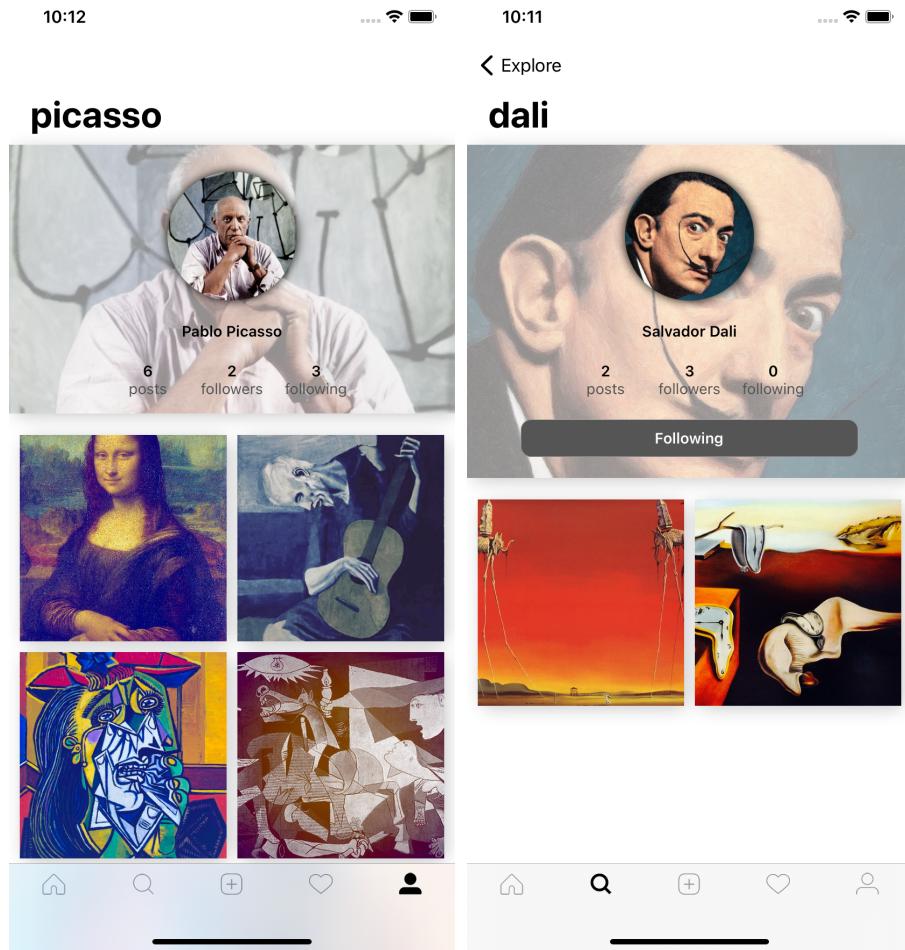


Figure 8: Profile page of the current user & another user's profile

3 Technologies used

- **Language:** Swift 5
- iOS 14.1
- Xcode IDE 12.1
- Firebase

4 Conclusion

In conclusion, I develop a photo-sharing social media app for iOS using Swift programming language. I used Firebase to store the data and used Xcode IDE to develop the app.

The app allows you to create an account and use this account for sharing photos. Users can upload photos and apply some photo filters to them. Users can like, or comment on others' posts and can follow each other. The app provides the basic functionalities of a social media app.

References

- [1] Swift Documentation
- [2] Apple Developer
- [3] YPImagePicker Package
- [4] SDWebImage Package