

**DEVELOPMENT OF ANDROID BASED SOCIAL APPLICATION FRIENDZADDA**

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This Report Presented in Partial Fulfillment of the Requirements for the  
Degree of Bachelor of Science in Computer Science and Engineering

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**DAFFODIL INTERNATIONAL UNIVERSITY**

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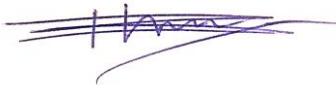
**MAY 2021**

## **APPROVAL**

This Project titled “**FriendzAdda application development using Flutter**”, submitted by **Mirza Minhaz Ahmed, Abul Hasan Shawn and S.M. Fahmidur Rahman** to the Department of Computer Science and Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on 02/06/2021.

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## DECLARATION

We hereby declare that, this research has been done by us under the supervision of **Md. Sazzadur Ahamed, Department Head, Department of CSE**, Daffodil International University. We also declare that neither this research nor any part of this research has been submitted elsewhere for award of any degree or diploma.

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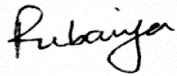


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Finally, we must acknowledge with due respect the constant support and patients of our parents.

## **ABSTRACT**

Abstract— FriendzAdda application development using Android-based flutter: a case study in the Computer Science and Engineering department, Daffodil International University. As we know, mobile application has become more reliant upon large amount of database and unorganized data such as videos, images, audio text files and other arbitrary types. It is difficult for relational database management system. It is an application whose purpose is used in overall interaction between person to person. This application is equipped with several prominent feature like taking photos or uploading photos from mobile gallery and storage. This application is basically developed using a flutter SDK and belongings. Also, the use of google Firebase, makes it more interactive with real time user data accessing. This application development is surely going to attract the user.

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# Chapter 1

## Introduction

### 1.1 Introduction

Our Android Flutter based project name is FriendzAdda app. It is basically a social networking app made for sharing photos from a smartphone. Similar to other prominent photo sharing platforms, this is also a promising project. There are two types of users in this app. User is able to share his/her precious moments. While other can interact with the respective. Firstly, user will have to create a user account or profile in this platform. With the help of google account, he can register in this app. Then photo posting feed appears whenever he completes the registration. Before that, user has to provide necessary information like profile username and bio. Then he can put a profile picture to his profile. Whenever the user posts, it will appear on his respective profile. Other registered users will be able to follow, like and post comment on his uploaded pictures. Users can also interact with other users on SCA by following each other, liking photos, commenting and searching for another user. Interaction between users is one of the basic virtues of this app.

### 1.2 Motivation

Social media has become a huge aspect of millions of people. The importance of social media is increasing day by day. This makes us re-thinking about developing the app. It will attract users of all ages because people love consuming and creating media, sharing, and socializing. Our app will make it in simple, eye-catching way. Users always search for interesting things; this app will work

for them. During Covid-19 timeline, we stay at home, depending mostly on social media. This is just a side of necessity of social media. This is our opportunity to catch their necessities.

### **1.3 Objectives**

At the point when you share a on the app, it will be on your profile. Different users who follow each other will see their posts in their own feed. Moreover, they'll see posts from different users whom they decide to follow.

## **Chapter 2 Background**

### **2.1 Preliminary**

Smartphones have become one of the supporting tools in the communication process owned by users. Many people are communicating with each other virtually rather than physically in this era. We have developed our app based on social communication. The application on a smartphone will depend on the operating system used by the smartphone. Today the working framework applications that are regularly made by application designers are Android and IOS. This is on the grounds that clients of both working frameworks are positioned 1 and 2 for the cell phone

working framework market. Flutter is such a developing platform where we can re-build this app for IOS users too.

## **2.2 Related Works**

Our project is based on communication theory. Whenever we see the popularity of virtual Social Media is increasing. Nobody is bound, everyone is open to share his/her feeling on social media. Then our app is such a nice platform of sharing feeling. Social media is now a revolution of communication. As like other platforms like Facebook, this project is just an approach of joining this revolution.

## **2.3 Scope of the Problem**

Providing a user friendly and interactive interface is the first and foremost preferences that we have followed while creating our app. Considering people choice, we have provided GPS location system, which can be added while posting photos. Even user can find another user by searching their user name.

## **2.4 Challenges**

Since we developed this application, we have faced several issues. Firstly, we had to install several plugins and other extensions. Then we had to deal with several issues like debugging, importing native libraries, establishing firebase database connections, installing components through command prompts and other things like flutter installing, firebase auth and license installing, GPS regulation and connection, google-sign in settings etc.

# Chapter 3

## Requirement Specifications

### 3.1 Use Case Modeling

The Use Case diagram is given below

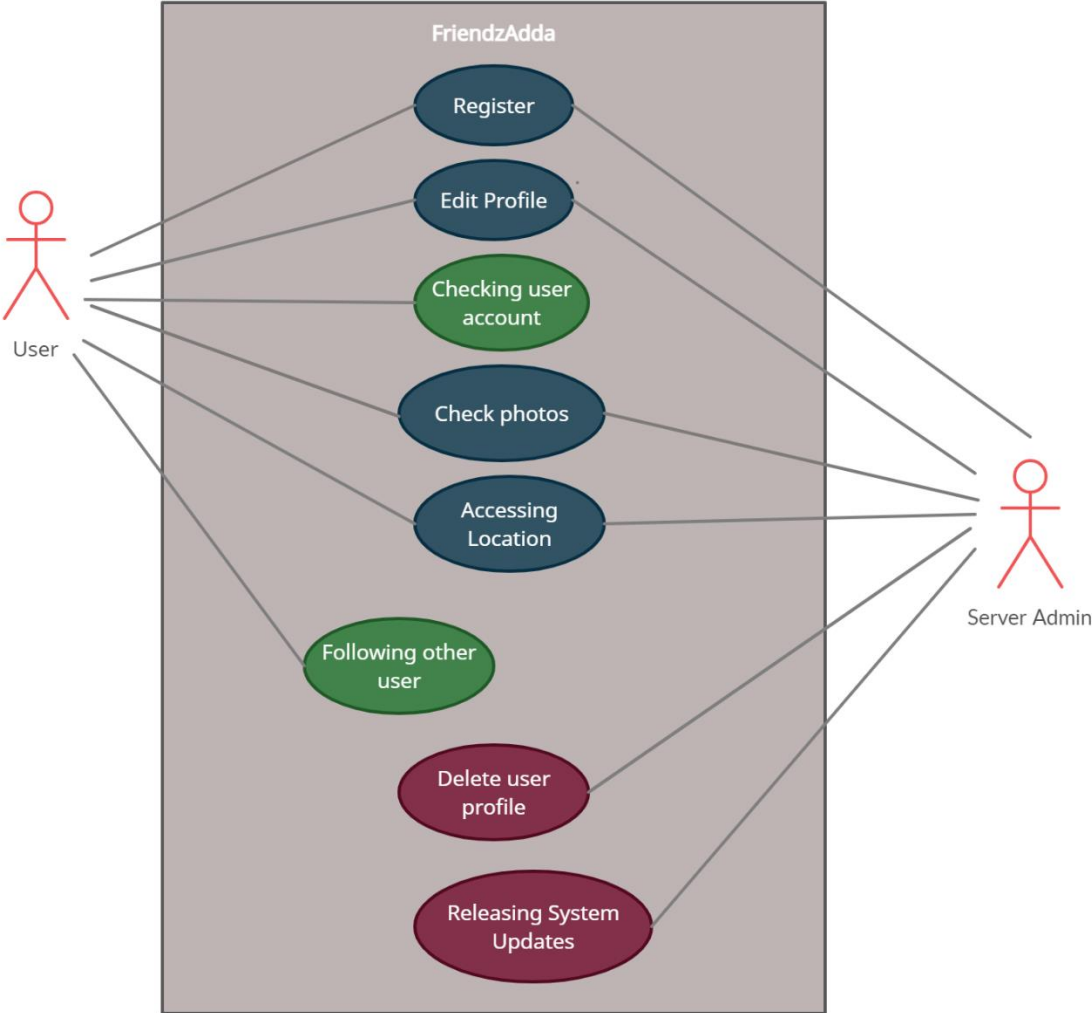


Fig-3.1: Use Case



### 3.2 Data flow diagram

Following Data Flow diagram shows the model of the mobile application

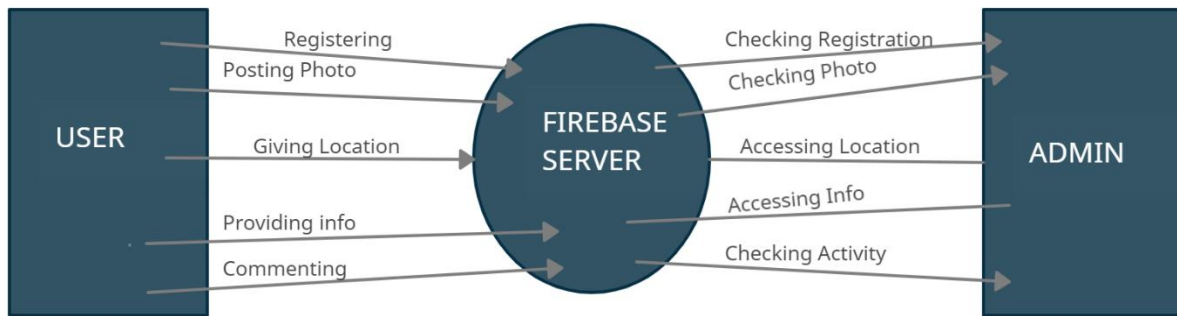


Fig-3.2: Data Flow Diagram

### 3.3 Incremental Model

In Incremental model, development had occurred till the finishing and finalizing the app.

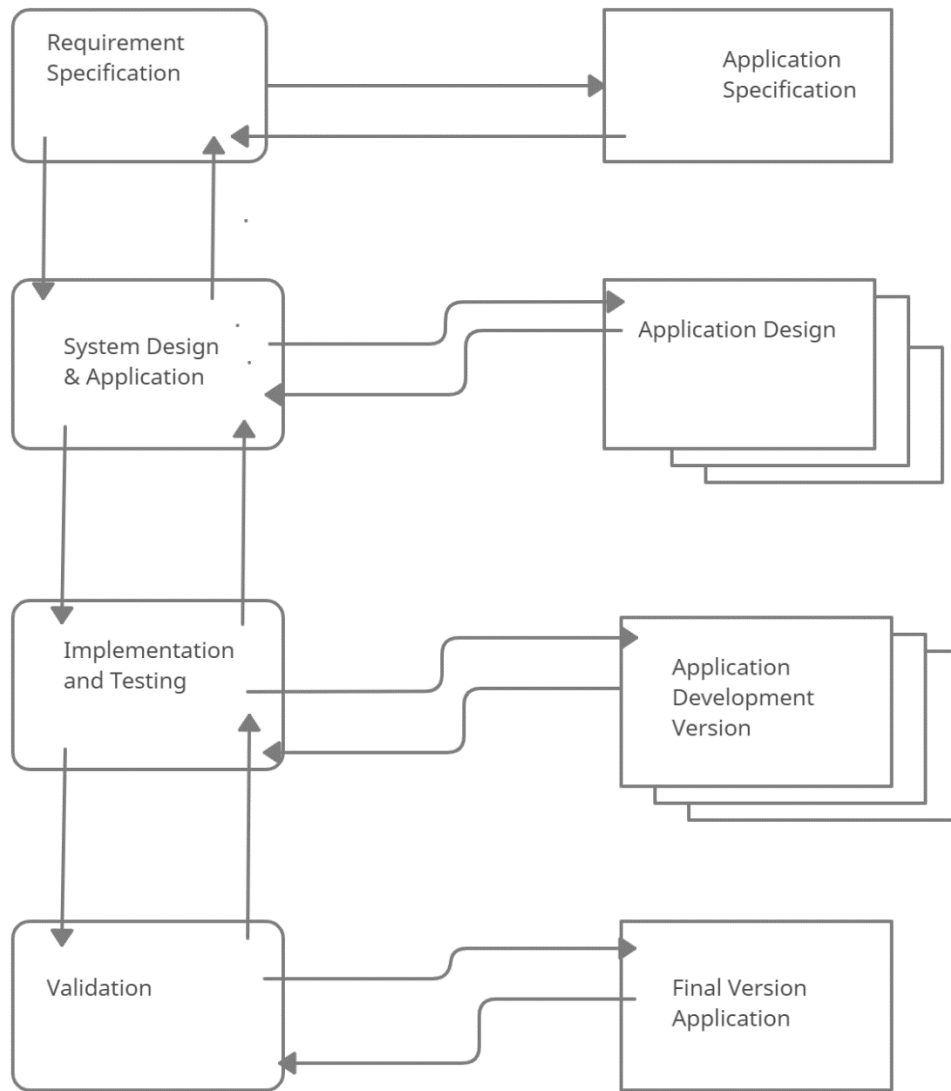


Fig-3.3: Stages of App development exhibited by incremental model

### 3.4 System Architecture

The System Architecture is given below

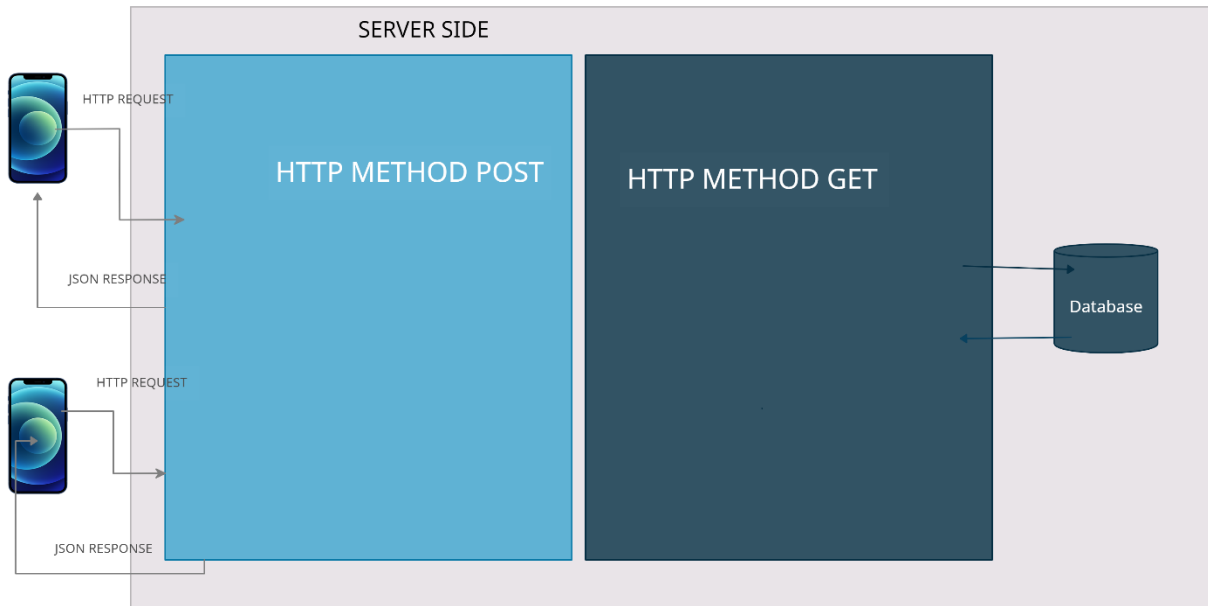


Fig-3.4: System Architecture

## **Chapter 4**

### **Design and approaches**

#### **4.1 Flutter SDK**

Since we have used Flutter in our project, Flutter is an advancement structure for building applications for mobile, web, and desktop area stages. Since its first authority discharge by Google in two or three years prior, it is acquiring such a lot of fame among mobile application engineers, in any event, being viewed as a distinct changer. There is a huge number of existing native applications being used that meet the prerequisites of a specific working framework by utilizing its SDK. Google released it in December 2018, it is acquiring so much popularity among mobile application developers. One of the purposes behind its quick prominence is that it is asserted that Flutter has settled the working issues related with existing cross platform improvement approaches like Microsoft Xamarin, and Facebook's React Native. Flutter could be a decent answer for an individual application developer or a little group of engineers to help numerous stages, since anyone compose with Flutter and keep a solitary code base for different stages.

#### **4.2 Firebase database**

We have used the google Firebase for our database support. Firebase appeared for Android applications which utilizes JSON for restoring information. Previously, the server utilized for Android applications are Oracle SQL, Microsoft SQL Server, and MySQL which are associated with the worker with PHP documents. The other server sites utilize a table more likely lines and

columns for design to store data. Firebase is different, non-SQL based. There are not very many cloud-based workers accessible which are like firebase.

### **4.3 Requirements**

- Flutter SDK
- Firebase Database
- Visual Studio Code
- Android Emulator or Smartphone
- Web Browser

## **Chapter 5 Implementations**

## 5.1 Database Implementations

Firestore has been used as database server

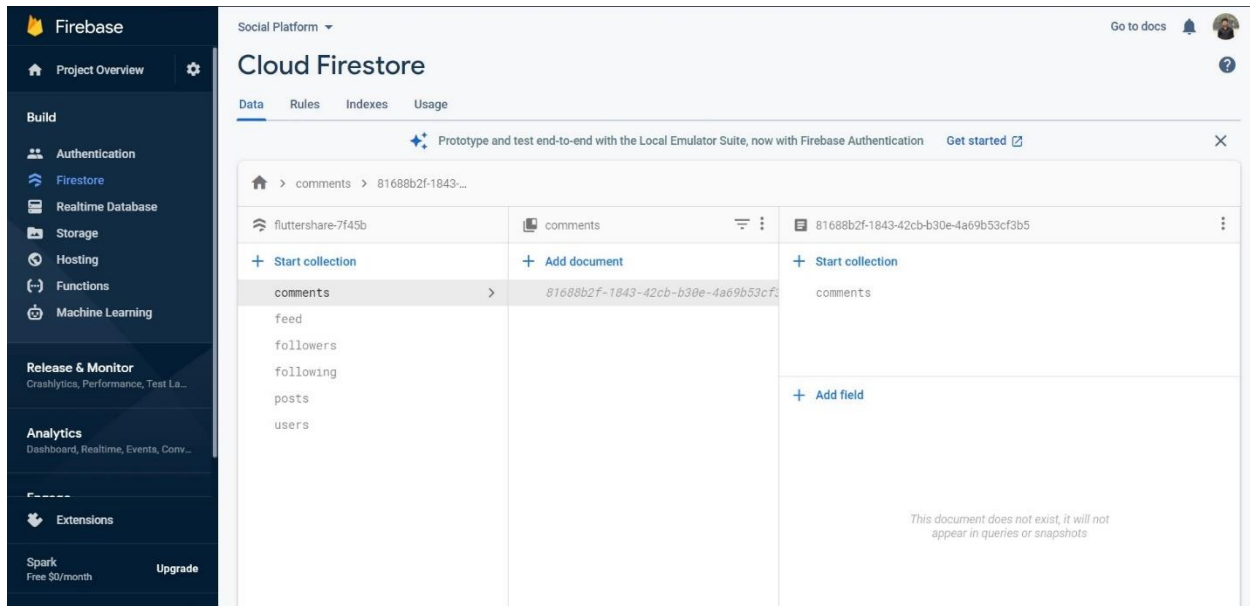


Fig5.1: Admin home interface page

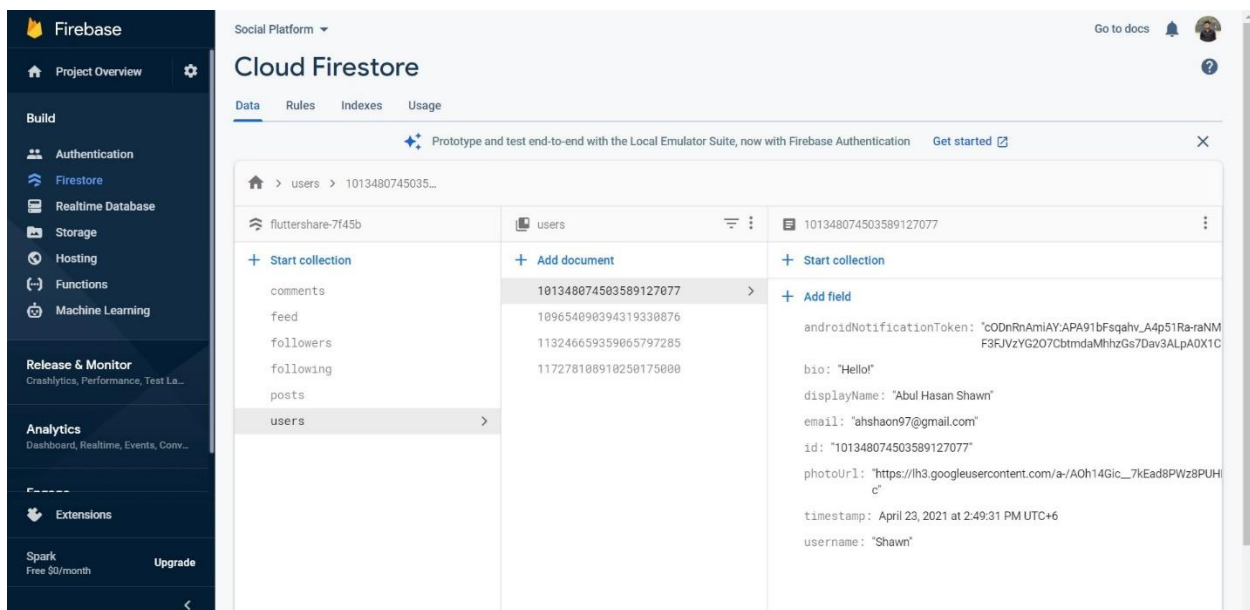


Fig-5.2: User details page

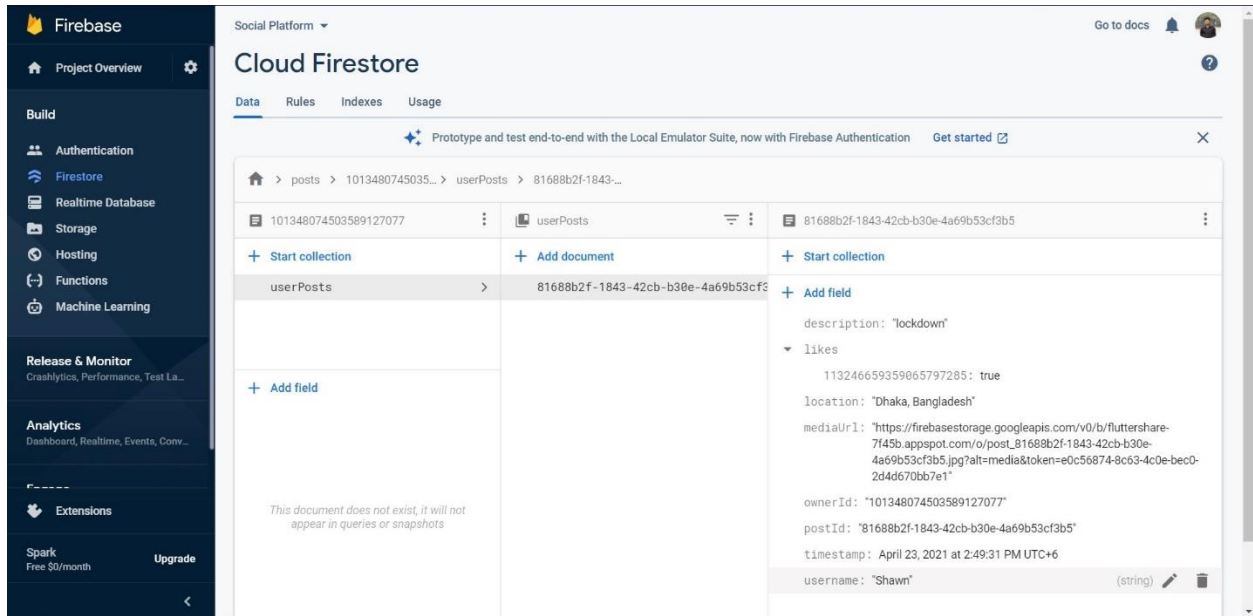


Fig-5.3: User post details

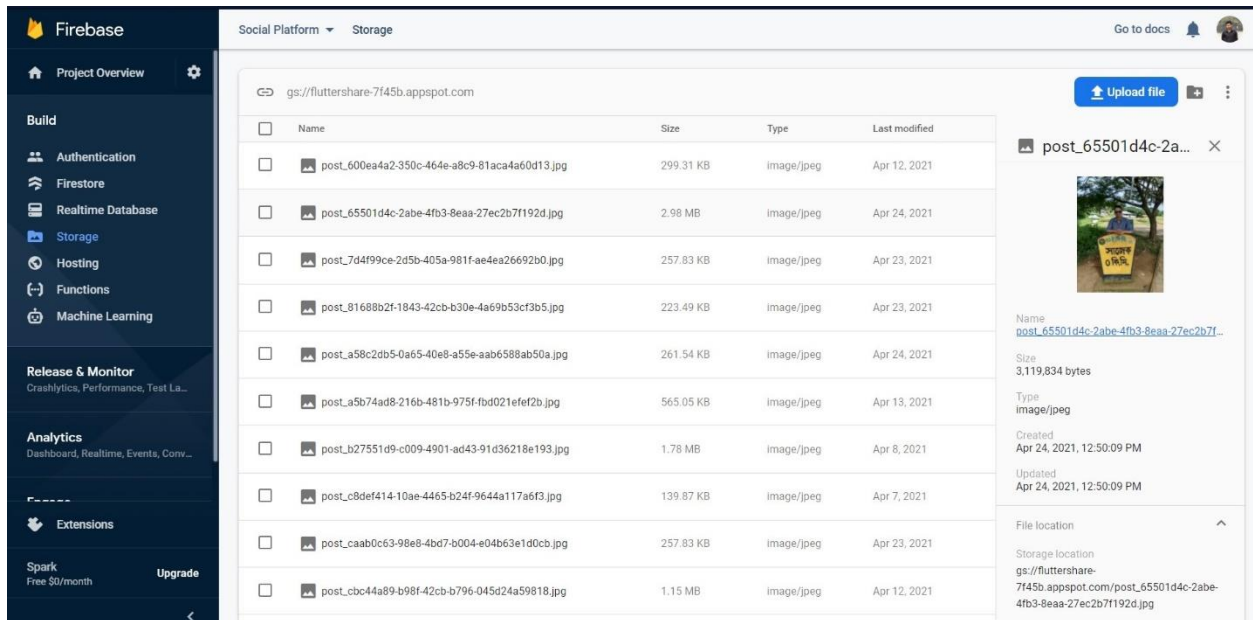


Fig-5.4: List of photos posted by user

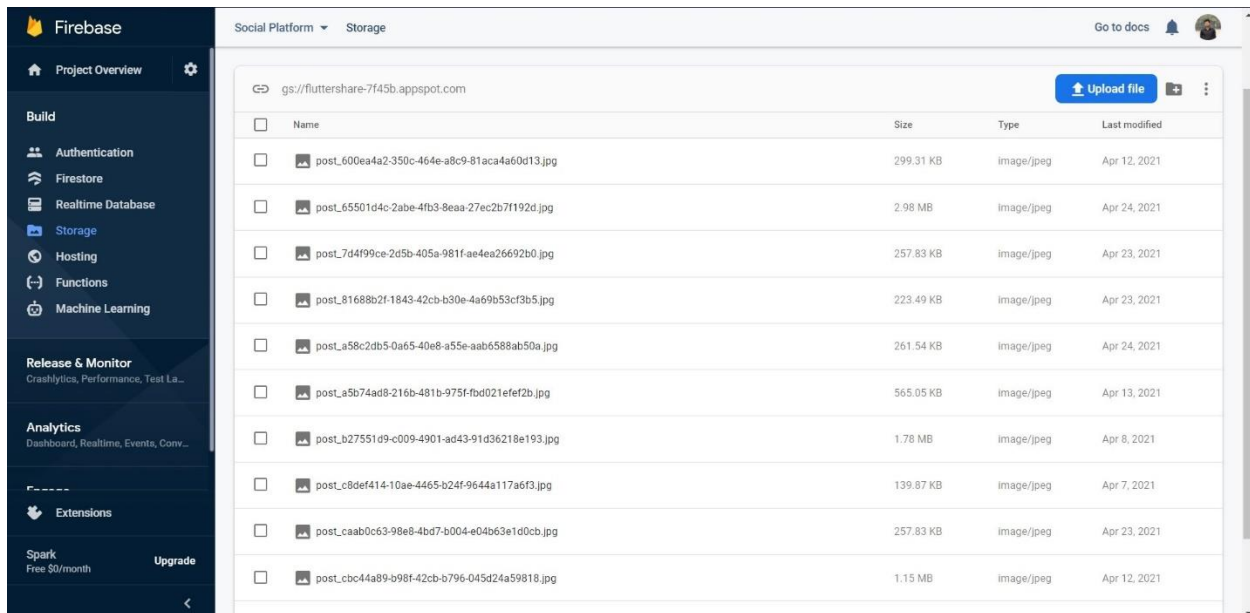


Fig-5.5: List of photos posted by users

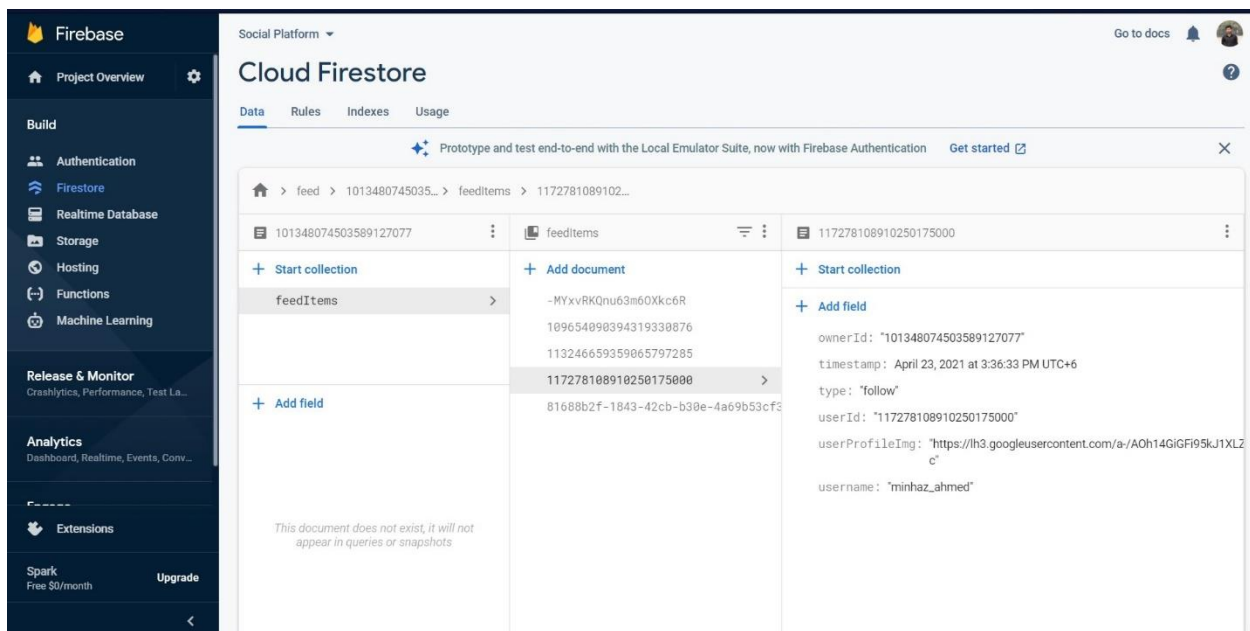


Fig-5.6: Followers info



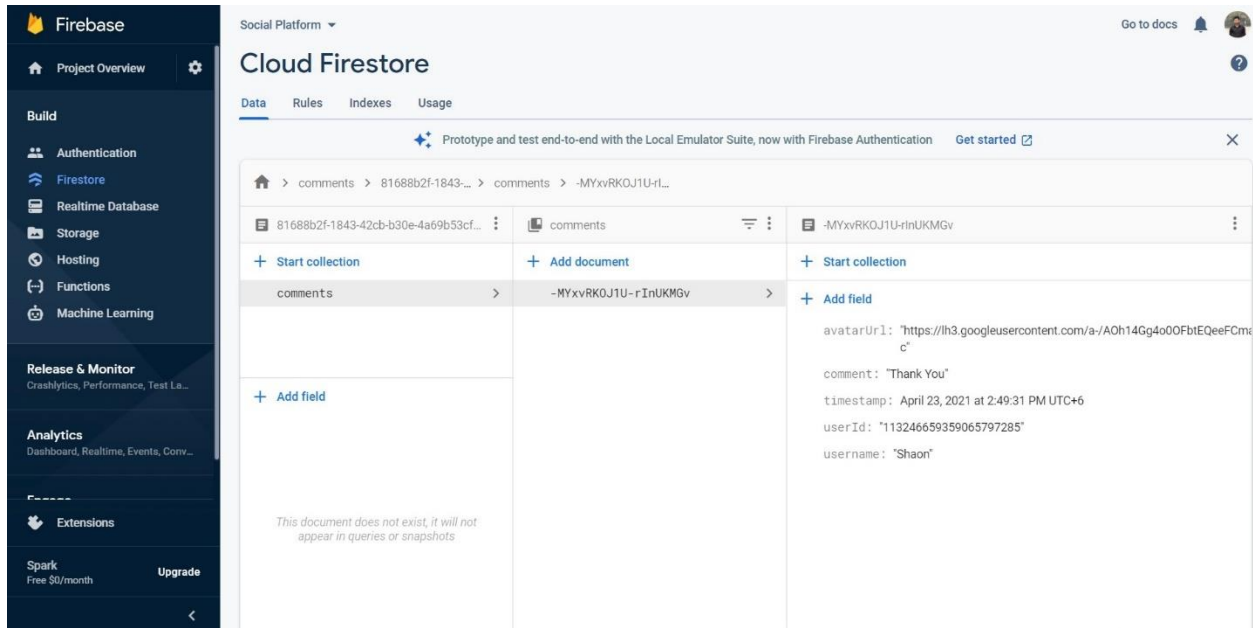


Fig-5.7: User commenting activities with details

## 5.2 App interfaces Implementations

In this section, we have provided app interfaces when a user uses the app.



Fig-5.8: Login interface

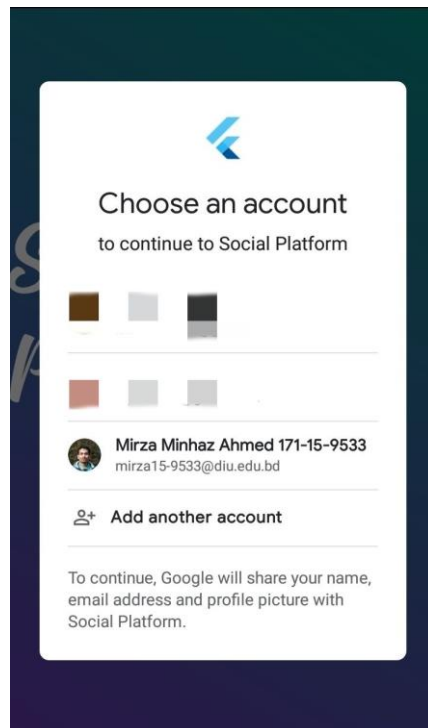


Fig-5.9: Registering using Gmail



Fig-5.10: First interface after login

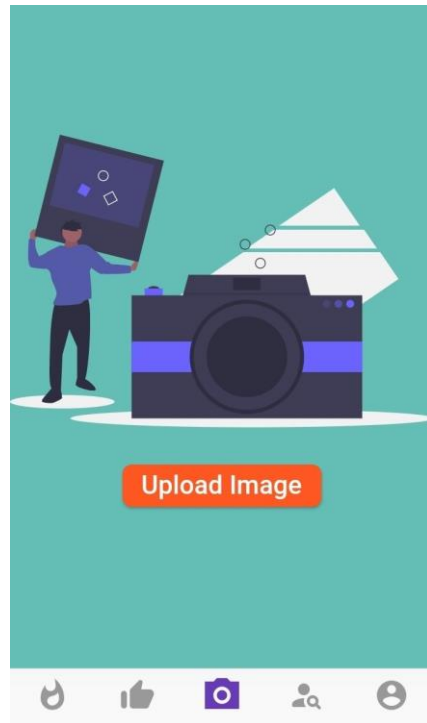


Fig-5.11: Photo uploading interface

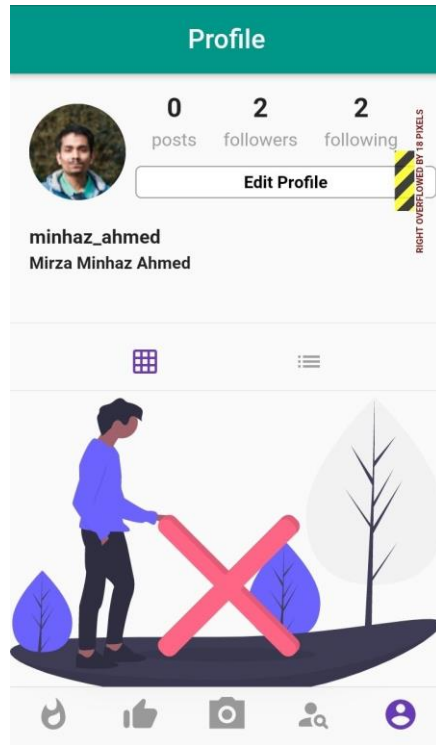


Fig-5.12: Profile interface

### 5.3 Implementation of Interactions

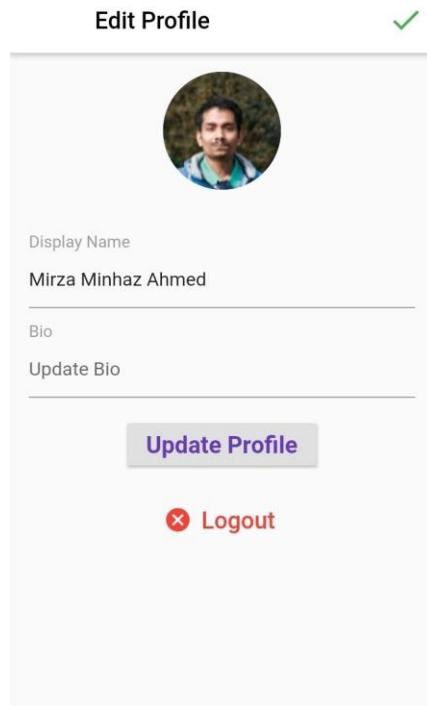


Fig-5.13: updating profile by changing bio

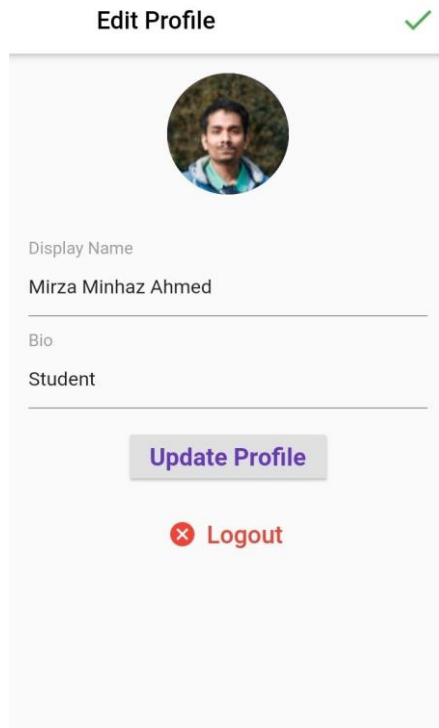


Fig-5.14: providing bio

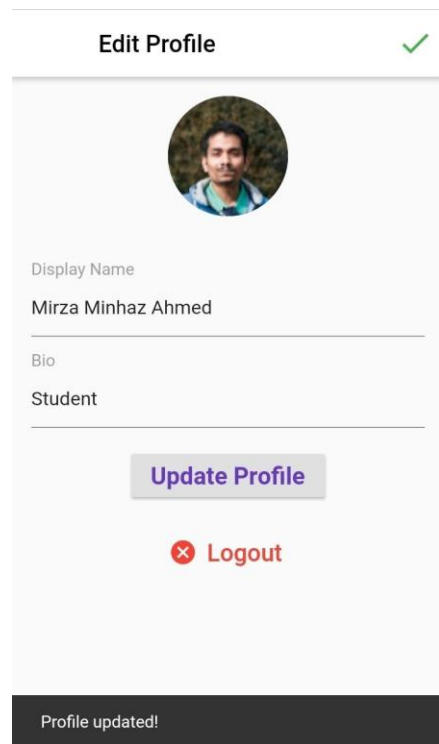


Fig-5.15: Interface after updating bio with pop-up message

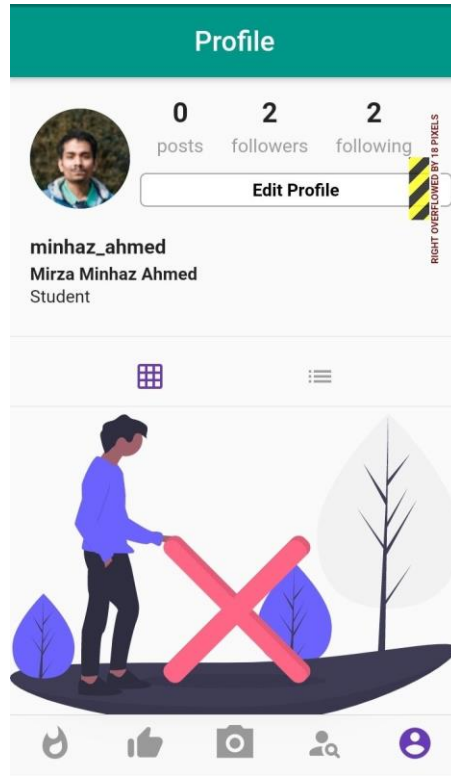


Fig-5.16: bio visible in profile

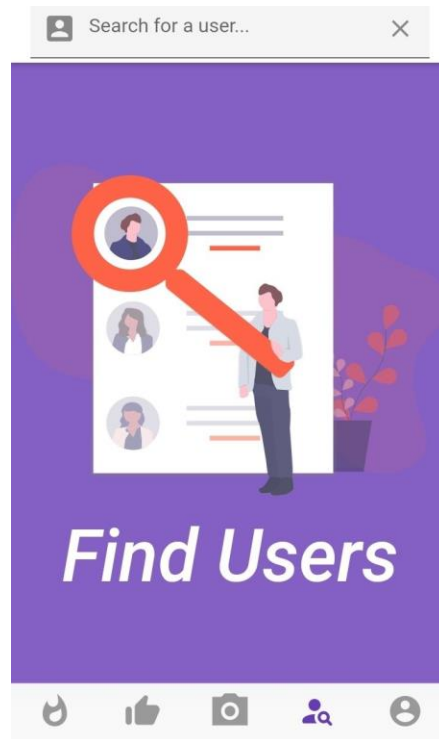


Fig-5.17: user searching interface

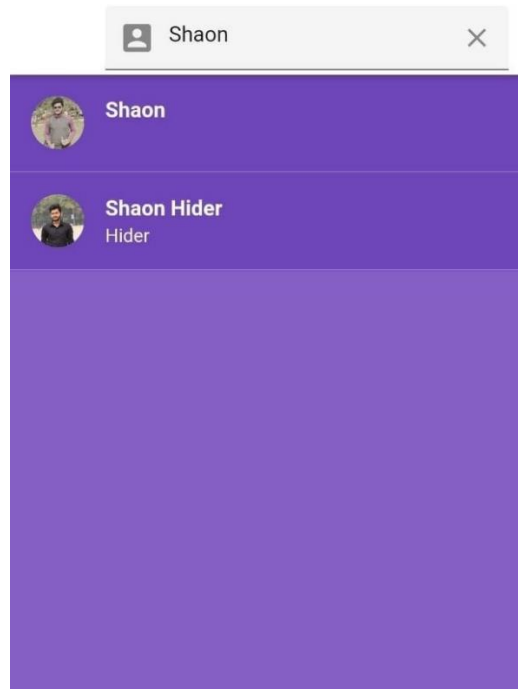


Fig-5.18: finding users

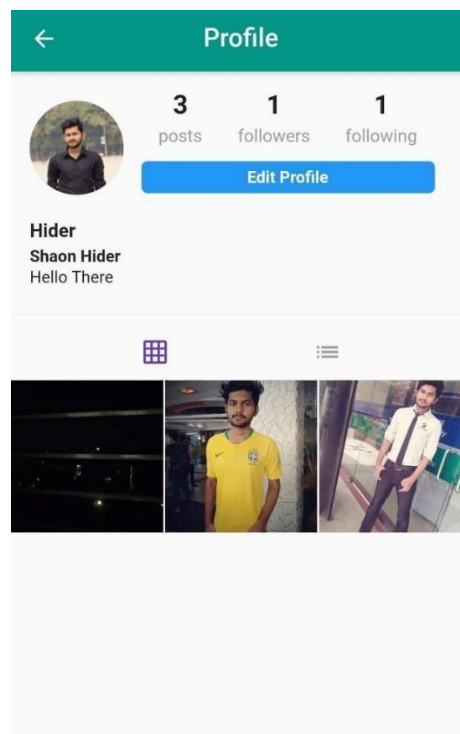


Fig-5.19: Another user profile interface



Fig-5.20: Activity feed interface after getting followed by another user

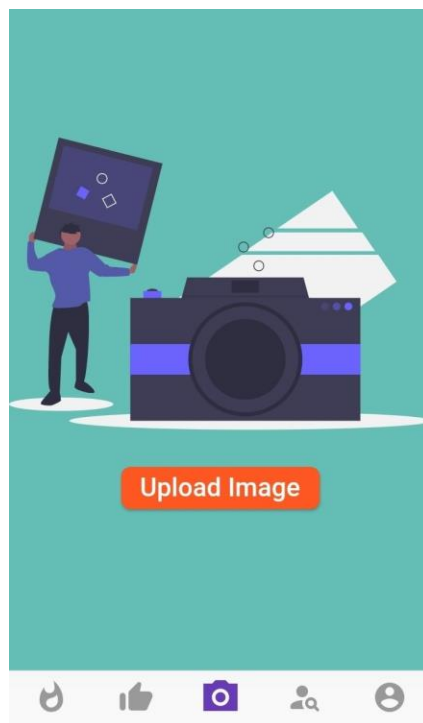


Fig-5.21: Photo posting interface



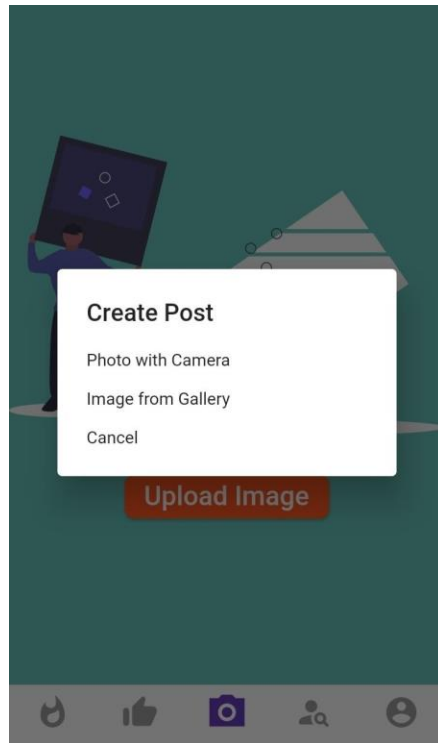


Fig-5.22: creating post

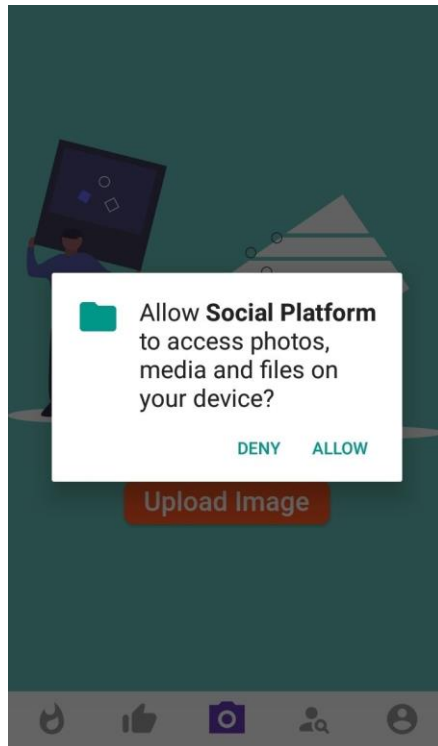


Fig-5.23: user needs to give access to media files, interface with pop-up message

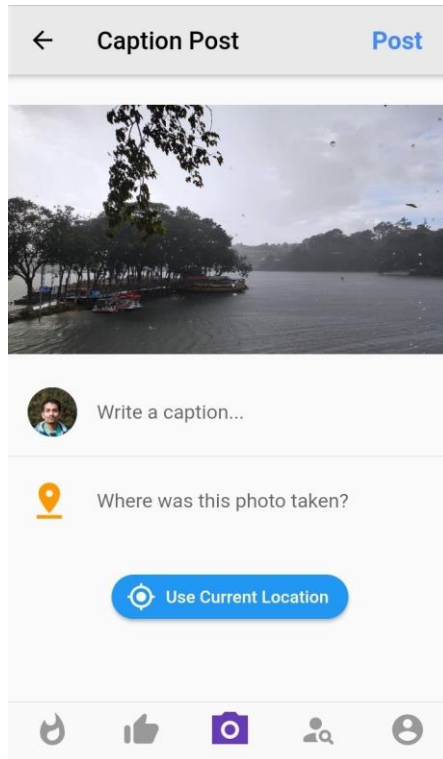


Fig-5.24: Photo posting interface

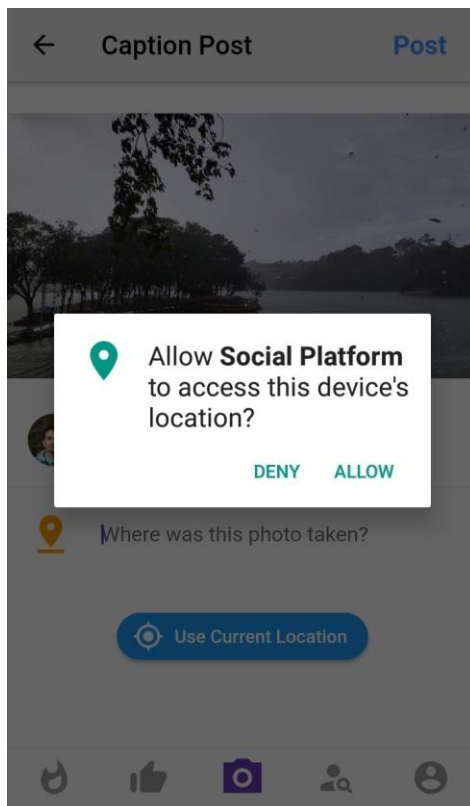


Fig-5.25: User needs to provide device location, interface with pop-up message

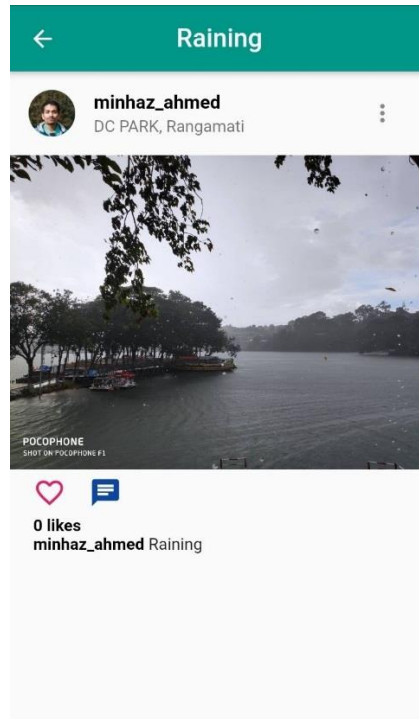


Fig-5.26: Interface after publishing photo with specific location and caption

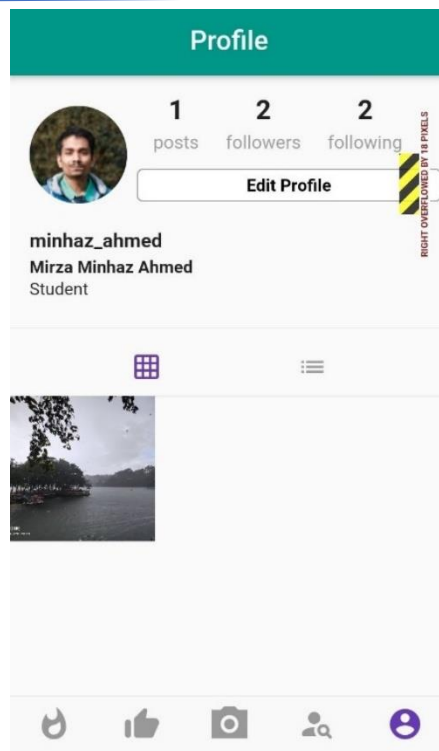


Fig-5.27: Profile interface after posting photo

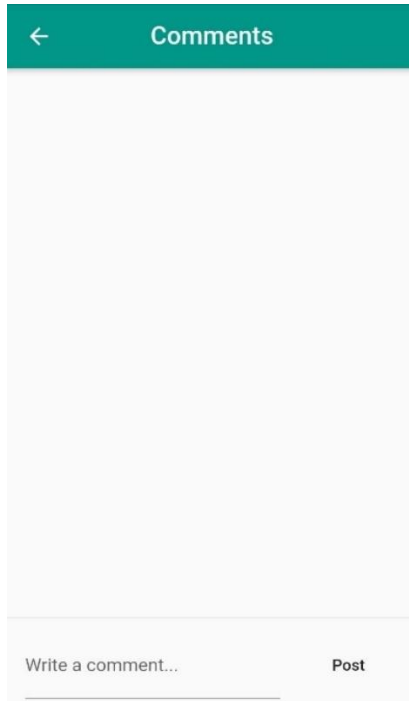


Fig-5.28: Comment section interface



Fig-5.29: Another attempt of publishing photo

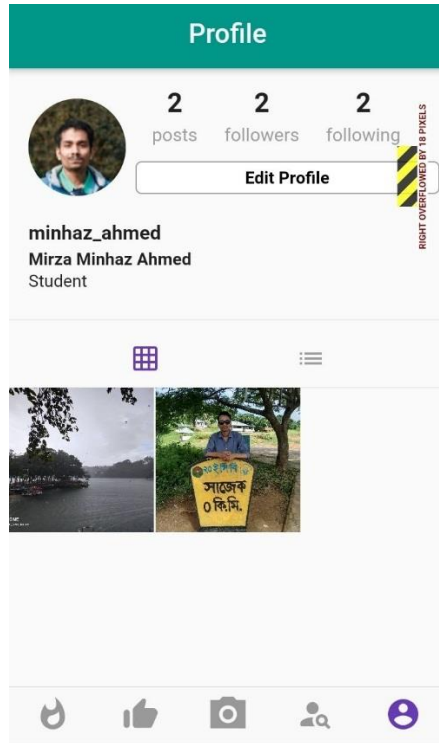


Fig-5.30: Grid view of photos interface

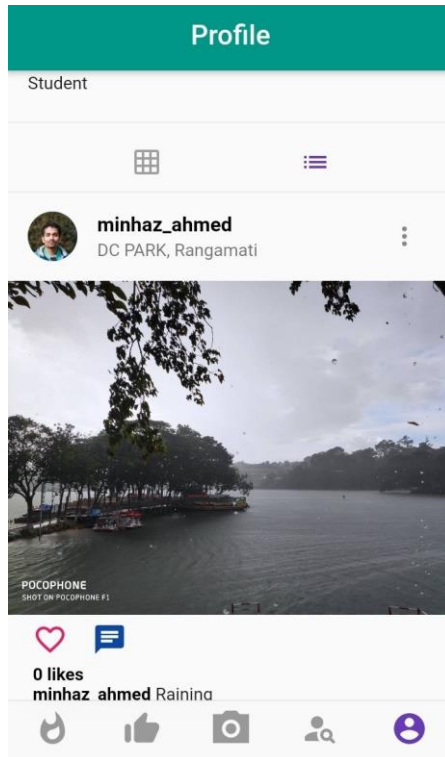


Fig-5.31: List view of photos interface

## **Chapter 6**

### **Services and Usability**

#### **6.1 Utilities**

Some prominent features have made this FriendzAdda app more interactive. Any user can create a post with caption. He can provide his location with GPS technology. He can follow or can be followed by other users. Then he can search for different users on this app. Particular user has particular profile. Anyone can add bio to his profile. Then he can react and comment on other users post. He can do the same thing on his post too. Then Server Admin has so many accessibilities. He can find any user of this app. With details, he can observe any kind of activity of the respective users. Admin has the ability to remove any user. He can see all the posts and user activities.

#### **6.2 User feedbacks**

Our prepared app has been used by several users. We have seen their satisfactory and expectations both. Most of the users have used this app without any delay or lag issue. One user has faced loading issue just because of the internet connection. After re-establishing his connection, he was able to use the app. All over, most of the user are satisfied with this app performances.

## **Chapter 7**

# Testing

## 7.1 Application Installation Testing

Table-7.1. RESULTS OF APPLICATION INSTALLATION

BRAND	MODEL	INSTALLATION	INFORMATION
XIAOMI	K20 Pro	Yes	Can be used
	Redmi Y1	Yes	Can be used
	Redmi Note 9 Pro	Yes	Can be used
REALME	7	Yes	Can be used
NOKIA	Nokia 6	Yes	Can be used

## 7.2 Application Usage Testing

So, we have tested the app whether the application can be utilized in its real conditions, testing the utilization of the application by directing a testing by several users. The testing was done several times. The number of users were upwards of 5 individuals who played the part of being users. In this simulation of participation users have used the application into their individual cell phones. Although, we wanted to test the application in our classroom by our classmates. But for Covid-19 pandemic, we could not run the application testing by so many persons. So, they have installed the application in their smartphone. After subsequent using and observing, we have encountered noticing the running interaction of reproduction exercises, discovered a few things, specifically:

- The application has been installed properly on different smartphones. As mentioned in table.
- The application can be used at any places with enough internet facilities.
- No activity occurs without proper internet connection.
- The login requires 3-4 seconds; with Gmail sign in, the time is determined.
- There are still highlights that are running ineffectively. These highlights include: user searching option works fine on PC emulator but we faced the problem while searching on mobile.

- Even however, all the users have reported that the app is working fine. Sliding from one activity to another activity was quite significant. No delay was occurred and it is seen that the application can be utilized properly.
- Re-starting the app when occurring any problem makes the working process more effective.

### **7.3 Workability Testing**

Several things we have seen after running the tests of the application by several users. The testing was done several times. The number of users were upwards of 5 individuals who has different smartphones.

- Geolocation feature enables the user to provide current location of the user. Geolocation in mobile applications is perhaps the best innovation today that gauges the genuine location area of your smartphone that is connected with the web. This innovation is utilized to set up connection between devices that has GPS. It includes testing in testing application utilization, analysts think about the unique distance and the distance acquired by the application. So, Estimations were made in several spots by several users. The outcomes were realized that the distance estimations completed by the application was significant. User location has been quite accurate. No false location was reported. The feature has been working well.



## Chapter 8

### 8.1 Summary

Based on the outcomes that have been gotten, it tends to be closed a few ends focuses. Based on the application work process that is made, the application meets the necessities particular, so it is to be said that the application is running under the predefined admin. The applications that are made can be matched on five Android cell phone marks and can run. In posting a photo the app requires some seconds. The comment liking feed is quite faster and the notification system is also quite significant. Geolocation system has made this app more interactive. Although this app cannot be run without an internet connection.

### 8.2 Conclusions

After a long period of discussion, planning, designing, implementing and developing, finally we have created our project and the respective report to it. With the vision of our supervisor, we have completed our project. We highly believe that our application will satisfy the users to the fullest. During the Covid-19 pandemic, what we need to do is staying home and using the social media to keep connected with our loved ones, family and friends. This social media app is such a platform where users can interact with each other. A simple like or comment can turn into bigger happiness. That is what we all can expect.

### 8.3 Future Scope

Applications that are made actually have a few deficiencies, in this way a few things can be grown so the application runs better in its use, things that should be created are as per the following:

- For additional events, application can have texting options where user can text with each other.
- Making the home page more interactive and user-friendly for users.
- Improving the user searching algorithm so that users can find other users more easily and effectively.

- Build up the UI or appearance of the application with the point of useful, easy to use, also, simple to utilize.
- Improving security of this app.
- Developing a web version of this project.
- Adding more functionalities.

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