1. INTRODUCTION

The greatest asset any institution can have been the alumni system. Alumni are people who represent the institution in real world.
The aim of this Alumni Management System project is to build a system that will be able to manage alumni data of a college and provide easy access to the same. Alumni of a college generally stay in touch with their immediate friends but find it hard to stay connected with other college mates.

The Alumni management system (alumni) embodies one of the ways the university can track its graduates. With the exception of university-graduate communication, system must allow communication between the graduate themselves and their personal presentation to a crowd.

System should also collect factual information about the professional experience of graduates, which can improve faculty credit and the teaching process. The signature info system covers all of these points and focuses on the usability and comfortable user interface. The aim of this project is to build an Alumni of GH Raisoni Institute of Engineering & Technology online dashboard, it is intended to manage especially the Alumni of college with their respective fields.

The Project management of new students and alumni graduates with their respective credentials by actively participating in registration, research, alumni management to share professional knowledge their, network, job opportunities and resources. This engagement has evolved into multiple dimensions; and is now looking to officially enter the field of student counselling through a regular program. Alumni Management System is step towards this, creating multi-way interaction between current and former students of the GH Raisoni Institute of Engineering and Technology College.

There are various benefits for being an alumni member of a college or Institution, some of these benefits are: information concerning a former student can easily be received and other members of the alumni community can be located without much stress. Another benefit is that in our alumni application we have an option which will show us when a student updated information regarding themselves which will help them keep track of their career activities. In our alumni application we have options related to the graduates for instance; year of passing, contact information, social profiles, job status, company name, designation, projects they made, etc. This information will help the institution to keep a proper track of the former students without any strain which otherwise requires loads of manual work.

Our alumni management application also consists of a search bar where we can search for a student by their designation. We have composed the data with the help of firebase. Firebase only permits access to personal data by people who sign in with Google Sign-In and 2-factor authentication.

This project is aimed at developing a Repository for alumni of the college, which is of importance to a college. The Alumni interaction is an application that can be accessed by the faculty.

2. LITERATURE SURVEY

In era of digital age, alumni association should move its strategies to establish a more visible and impactful role within the University and among its alumni. Considering alumni's interest in connecting to the University, the increasing value of their diplomas and a particular desire for business and career networking are desirable. The researcher should emphasize its study to understand the value to alumni in being members of association. The outcomes of the study should support alumni to get the factors which improve sustainability of alumni associations.

Trends and best practice of alumni association in digital age are far different from the past.

2.1 Literature survey will include:

- Name of the research works
- Authors
- Description about their work
- Publication date
- Pages

2.2 Research papers:

- "Centralized Alumni Management System (CAMS) - A Prototype Proposal" (April 2019)

    Authors: Aritra Mukherjee, Adrita Roy, Manish lath, Arnab Ghoshal, Diganta Sengupta.

Description:

This paper proposes a centralized system for alumni management which is institution independent and concentrates on alumni network pan organizations. The fundamental incentive of the system lies in the mentorship process in the institution as well as organization verticals. The system recognizes as an alumni not only graduates but also those individuals who are presently in the institution/organization, thereby facilitating network among the professionals and the students of the institutions from where the professional had graduated. Apart from the alumni, the institutes/organizations also enjoy a comprehensive list of benefits. The minimum age for registration for alumni has been mandated to be 15 years. Hence, the system takes into account those institutions also from where a certain individual has passed the 10th examinations. Hence, the system defines the list of aluminates those institution which serve degrees for 10th, 12th, graduation, postgraduation, doctoral and working organizations. Literature comparison has been done with an existing proposal and our system exhibits better features.

- "Gathering Alumni Information from a Web Social Network" (January 2015)

  Authors: Gabriel Resende Goncalves, Anderson A. Ferreira Description:

An undergraduate program must prepare its students for the major needs of the labor market. One of the main ways to identify what are the demands to be met is creating a manner to manage information of its alumni. This consists of gathering data from program's alumni and finding out what are their main areas of employment on the labor market or which are their main fields of research in the academy. Usually, this data is obtained through available forms on the Web or forwarded by mail or email; however, these methods, in addition to being laborious, do not present good feedback from the alumni. Thus, this work proposes a novel method to help teaching staffs of undergraduate programs to gather information on the desired population of alumni, semiautomatically, on the Web. Overall, by using a few alumni pages as an initial set of sample pages, the proposed method was capable of gathering information concerning a number of alumni twice as bigger than adopted conventional methods.

- "Development of Intelligent Alumni Management System for Universities" (June 2021)

  Authors: Nayyar Ahmed Khan, Ahmed Masih Uddin Siddiqi & Mohammad Ahmad

Description:

The need for communication between graduates and their colleges and universities increased in recent years to learn a lot about them and their needs and the labor market needs. This research continues to contribute to building a solid base among graduates and university students to learn more about the needs of the Saudi labor market of qualified labor enough to strengthen the labor market in the field of information technology and new efficiencies. Communication between graduates and university can be suitable for both sides the faculty also wants to keep in touch with its graduates using web application, providing a channel for professional and social communication between graduates themselves and the faculty. The ALUMNI research focuses on design and implementation of the system that would accomplish these needs. A Faculty of Engineering and Computer Sciences- Faculty of Engineering and Computer Sciences graduate is a person who has been studying at this faculty. During this period graduates establish a lot of social contacts with their classmates and their teachers as well. After graduating, these contacts are usually broken and only rarely continue. Generally, after a student leaves the university, he lost most of his contacts. However, the faculty does not want this trend to continue. Faculty can see its graduates as potential business partners with possibility of cooperation after the studies. Graduates are very good source of information and critics that could help to improve the quality of the faculty. Nowadays a need for social networks sites among people especially those working in information technology field as graduates and all those involved in this vital area in this day and age.

3. OBJECTIVE

1. To gather and maintain database of employment information and to assist the members in securing suitable jobs.

2. Generate insights into institutional quality improvements.

3. Measure alumni experiences and satisfaction with all areas of their education – from academic experiences to student experiences.

4. Gauge the interest of alumni in making monetary contributions to the educational institution.

5. Gather information on the interests of alumni to participate in alumni events.

6. Analyse and report on data to provide statistical information for the purpose of accreditation.

7. To bring together all the old students and the faculty of GHRAET to share their experiences with each other

8. To maintain and update the data base of all the alumni of the college and to interact with them

9. To utilize the rich experiences of old students of the college for the benefit and progress of the present students

10. To provide guidance to the present students in their endeavour for better employment and higher studies.

11. To promote the campus placements through the old students working in reputed industries in India and abroad.

12. To get the valuable advices of the Alumni in the overall development of the college.

13. To involve the members in the overall development of the college and the Society.

4. Methodology

4.1 SDLC Model

Using the waterfall SDLC model, we have developed the application using the waterfall development methodology. Waterfall model is selected as a development methodology based on the factors that are applicable to the project. Waterfall modelling is a simple concept to grasp and understand. In a waterfall model, each phase must be completed before the next can begin, and the phases do not overlap. Software development is illustrated as a linear sequential process in the waterfall model. As a result, any phase of the development process starts after the previous phase has been completed. This waterfall model does not overlap phases. All phases of the software development process are separated. In the Waterfall model, the outcome of one phase is typically used as an input to the next phase.
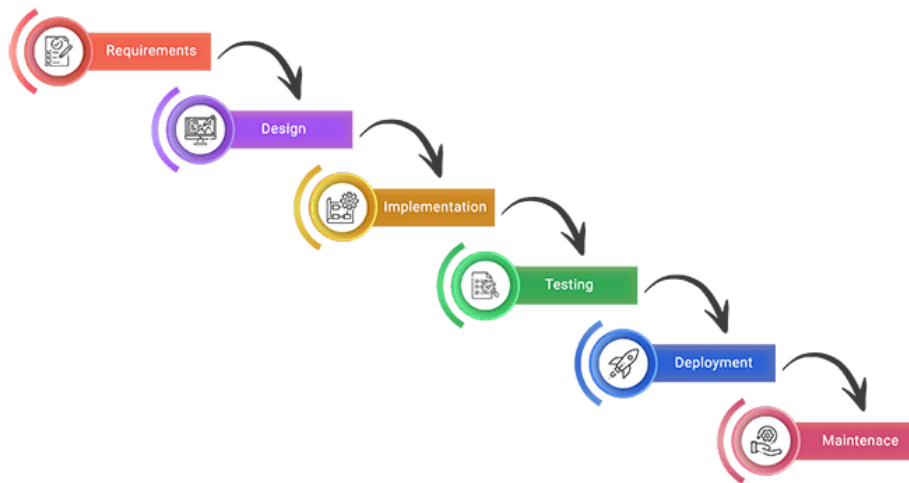
Fig. 4.1 SDLC MODEL

4.2 Waterfall Methodology

The Waterfall Model has 6 steps are as follows:

    a. Requirement net Analysis: - In this Phase all possible requirements of the system to be gathered. We have taken all the take the advices of faculties what kind of features they want in our project and noted down each and every point.

    b. System Design: - The requirement specifications from first phase are studied in this phase and the system design is prepared. This system design helps in specifying hardware and system requirements and helps in defining the overall system architecture. We have designed the flowcharts and did planning on how things going to work.

c. Implementation: - With inputs from the system design, the system is first developed in small programs called units, which are integrated in the next phase. Each unit is developed and tested for its functionality, which is referred to as Unit Testing. The coding has begun.

d. Integration & Testing: - All the units developed in the implementation phase are integrated into a system after testing of each unit. Post integration the entire system is tested for any faults and failures

e. Deployment: - The functional and non-functional testing is done in this phase and the project is deployed on the android play store for making available the application for all the users.

f. Maintenance: - The app is developed and deployed and now the maintenance phase is going whenever any bug or crash is occurred in the application then needs to solver it quickly.

4.3 Screen Methodology
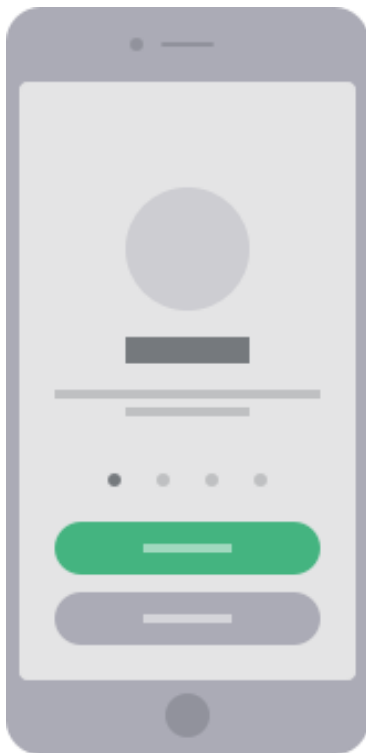
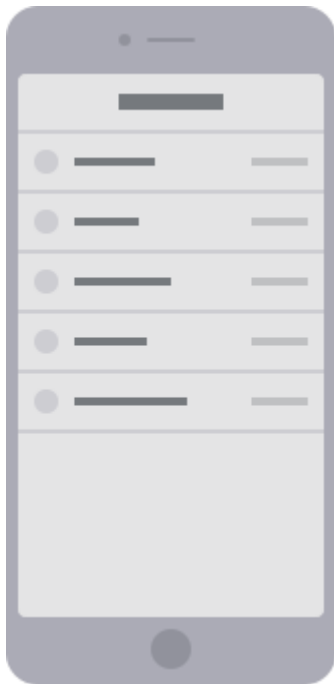(a) Welcome Screen   (b) Sign In
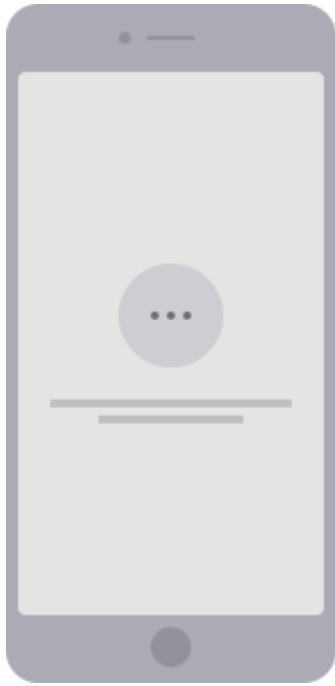
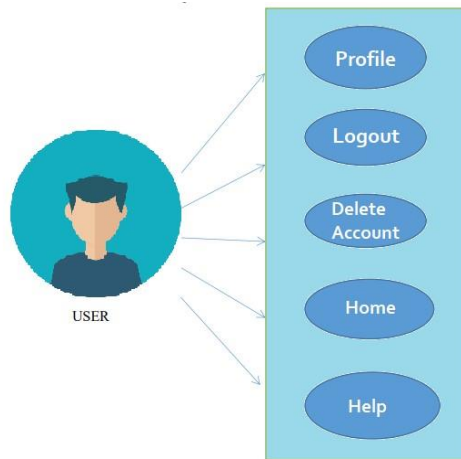(c) Loading Screen
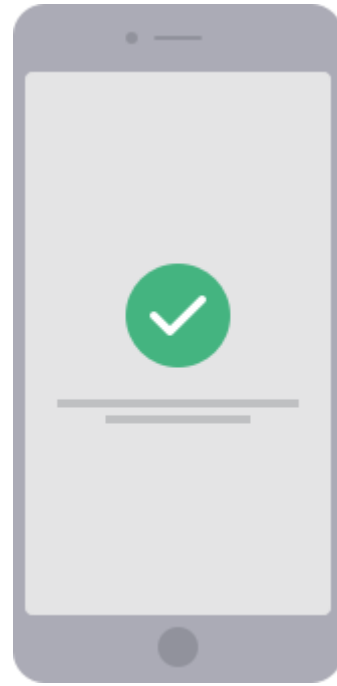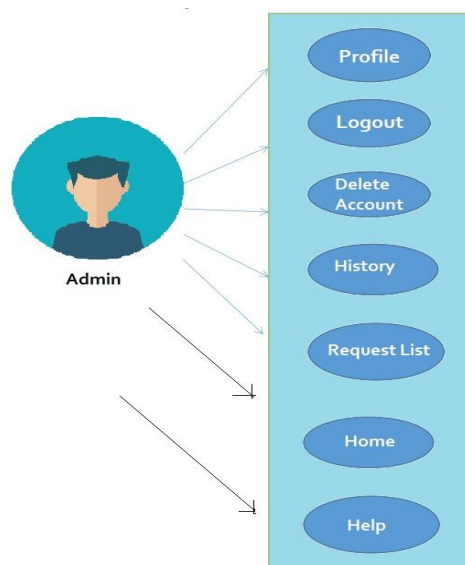

(d) Success Login

(e) Alum Data

(f) Search Screen

Fig 4.2 Screen Methodology Diagram

4.4 Application Design:

The main aim of the system design is to explain the scenario using use case diagrams. Use case diagrams clarify the flow of the application by deriving the use cases for all the functionalities in form of diagrams for the users.

(a) ALUMNI USER

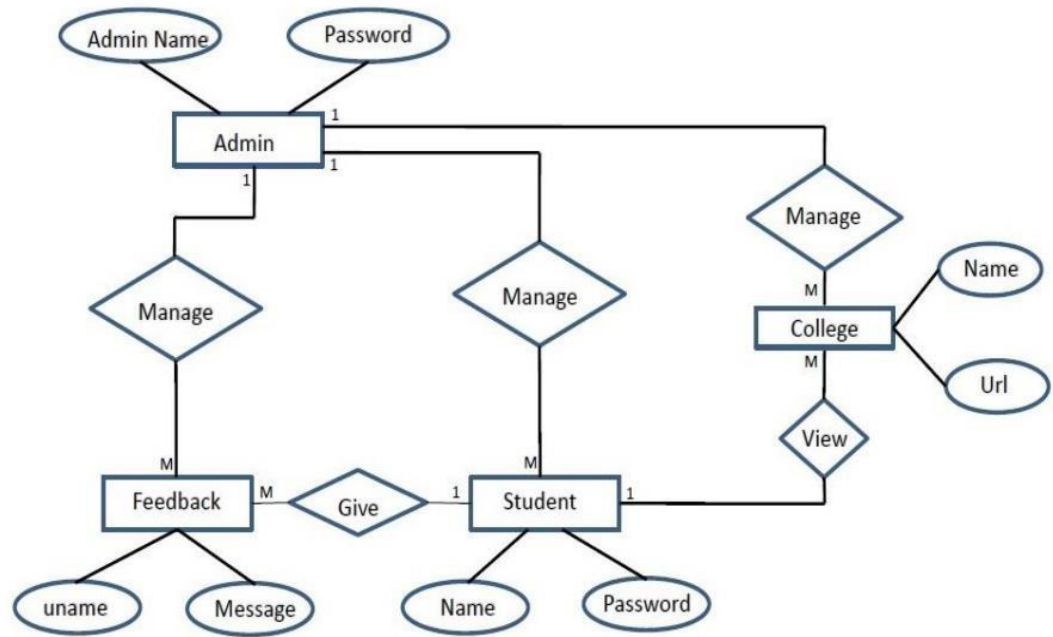(b) ADMIN

Fig 4.3 Use case Diagram

4.5 Flowchart:

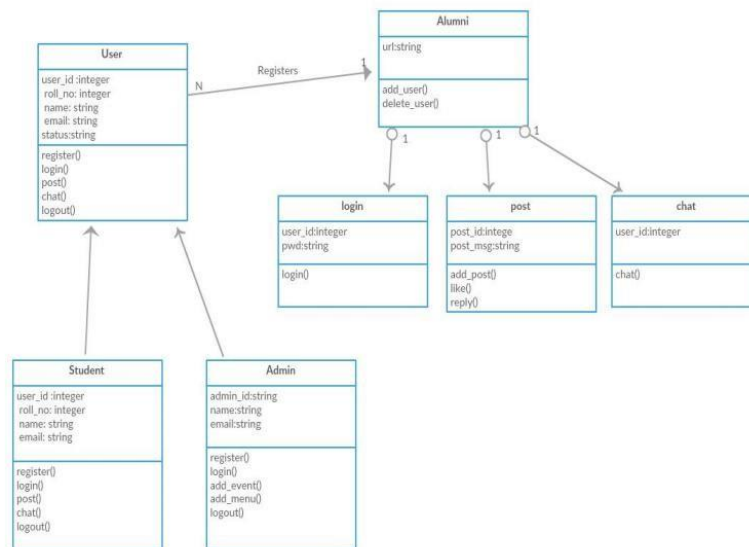Fig 4.4 Flowchart of Activity Flow

4.6 Class Diagram :

Fig 4.5 Class diagram of app

5. SOFTWARE AND HARDWARE REQUIRMENTS

5.1 PROGRAMMING LANGUAGE (JAVA)

Java is a programming language and a platform. Java is a high level, robust, object-oriented and secure programming language.

JAVA was developed by *Sun Microsystems* (which is now the subsidiary of Oracle) in the year 1995. *James Gosling* is known as the father of Java. Before Java, its name was *Oak*. Since Oak was already a registered company, so James Gosling and his team changed the name from Oak to Java.

5.2 IDE USED (ANDROID STUDIO)

An IDE or Integrated Development environment is a comprehensive solution that allows mobile app velopment cy

pace.   g, compiling, testing, and debugging the code. For rapid

development, we had used the   it is derived from IntelliJ IDEA.

Developed by Google, Android St   under integrated development environment that allows
Android developers to get what they desi   -   **Develop Android Apps IDE** Gradle-base support -
with features like a visual layout editor, i   time profilers, and APK analyser.
real

in terms of er
archy.

5.3 FIREBASE

Firebase is a Backend-as-a-Service (Baas). It provides developers with a variety of tools and services to help them develop quality apps, grow their user base, and earn profit. It is built on Google's infrastructure.

Firebase is categorized as a No SQL database program, which stores data in JSON-like documents. The features we used in application are Firebase Fire store, Google Authentication etc.

Fig 5.1 Firebase

5.3.1 Key Features:

1.   Authentication: It supports authentication using passwords, phone numbers, Google mail and more. The Firebase Authentication (SDK) can be used to manually integrate one or more sign-in methods into an app.

2.   Firebase Fire store: Firebase Fire store is a NoSQL document database built for automatic scaling, high performance, and ease of application development. While the Fire store interface has many of the same features as traditional databases, as a NoSQL database it differs from them in the way it describes relationships between data objects.

5.3 DESIGN (Adobe XD)

Adobe XD helps you craft prototypes that look and feel like the real thing, so you can communicate your design vision and maintain alignment across your team efficiently. Adobe XD is a powerful and easy-to-use vector-based experience design platform that gives teams the tools they need to craft the world's best experiences collaboratively.

6. DESIGN AND IMPLEMENTATION

6.1 DESIGN

6.1.1 ADOBE XD

All the layouts of the application are made on the Adobe Xd and then implemented in xml file.

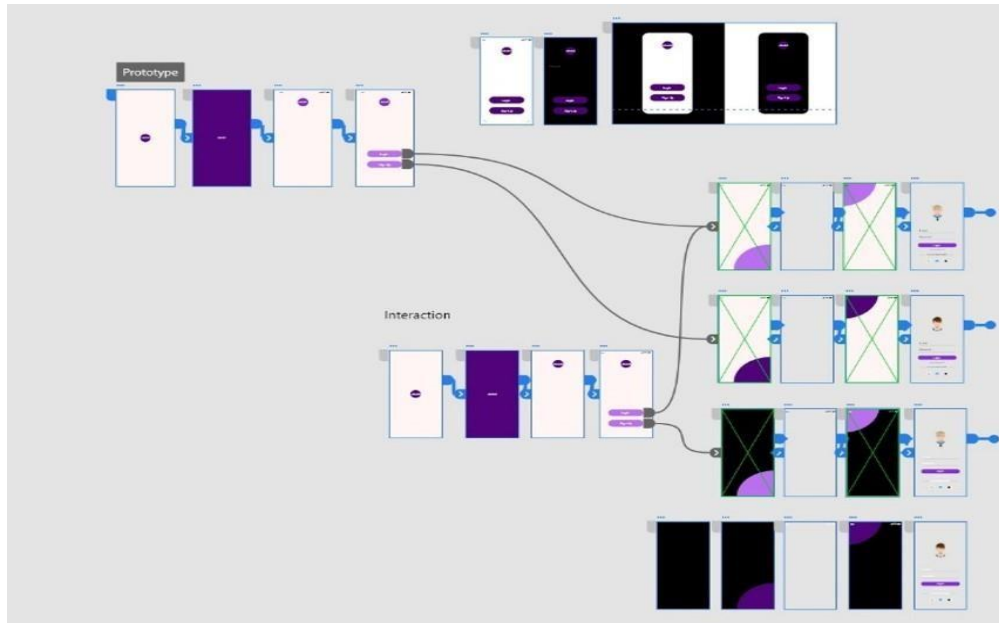

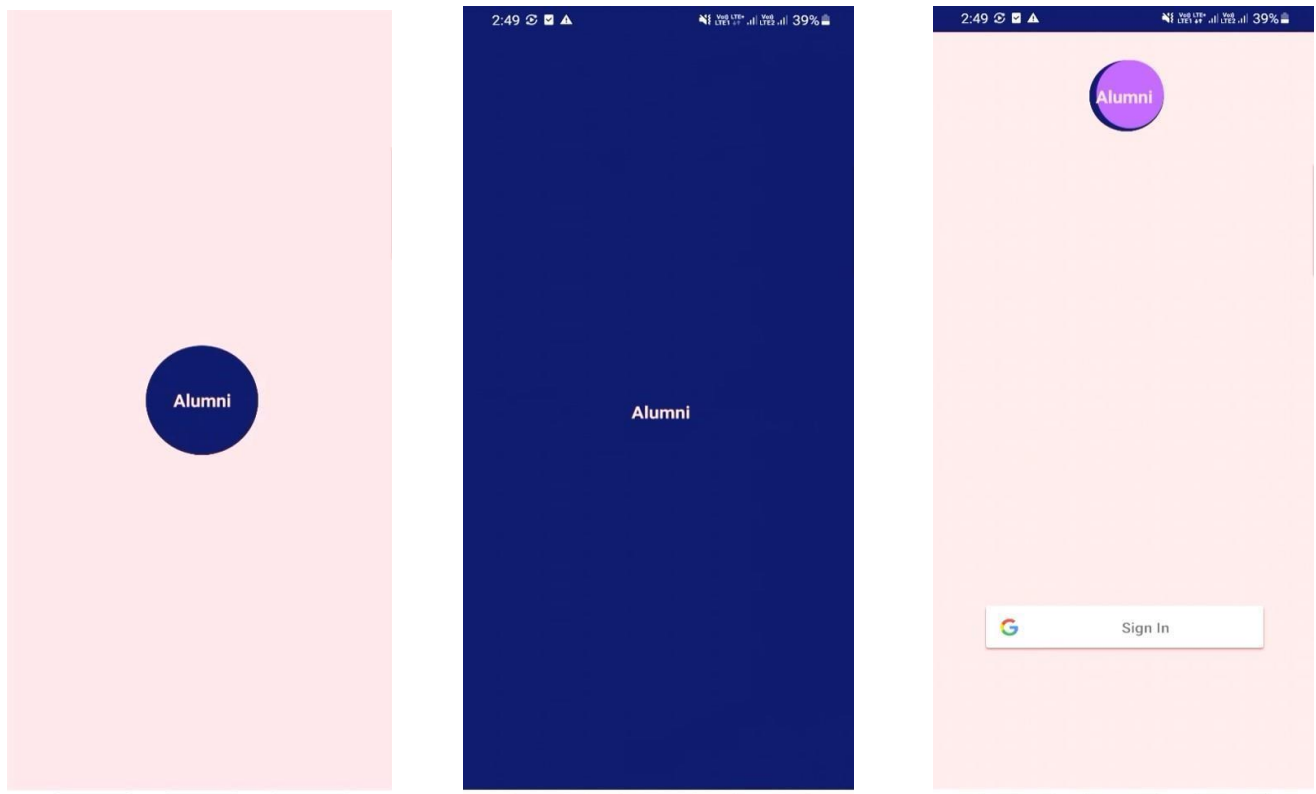Fig 6.1(a) Adobe Xd (.xd file)

6.1.2 GUI Design

Fig 6.1(a)   Splash Screen

i. **Splash Screen:** Splash Screen is the firest Screen Visible on Screen, it gives time to load the constructors of Acticity(java file). The animated design of splash screen is developed using motion layout. Motion Layout provide features to alter position of objects and transition between different positions.
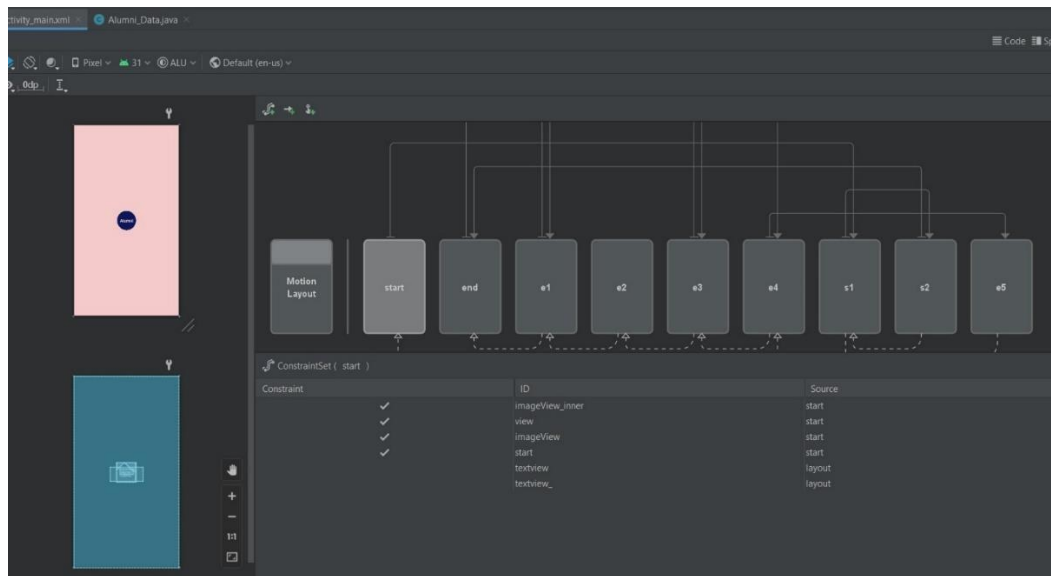

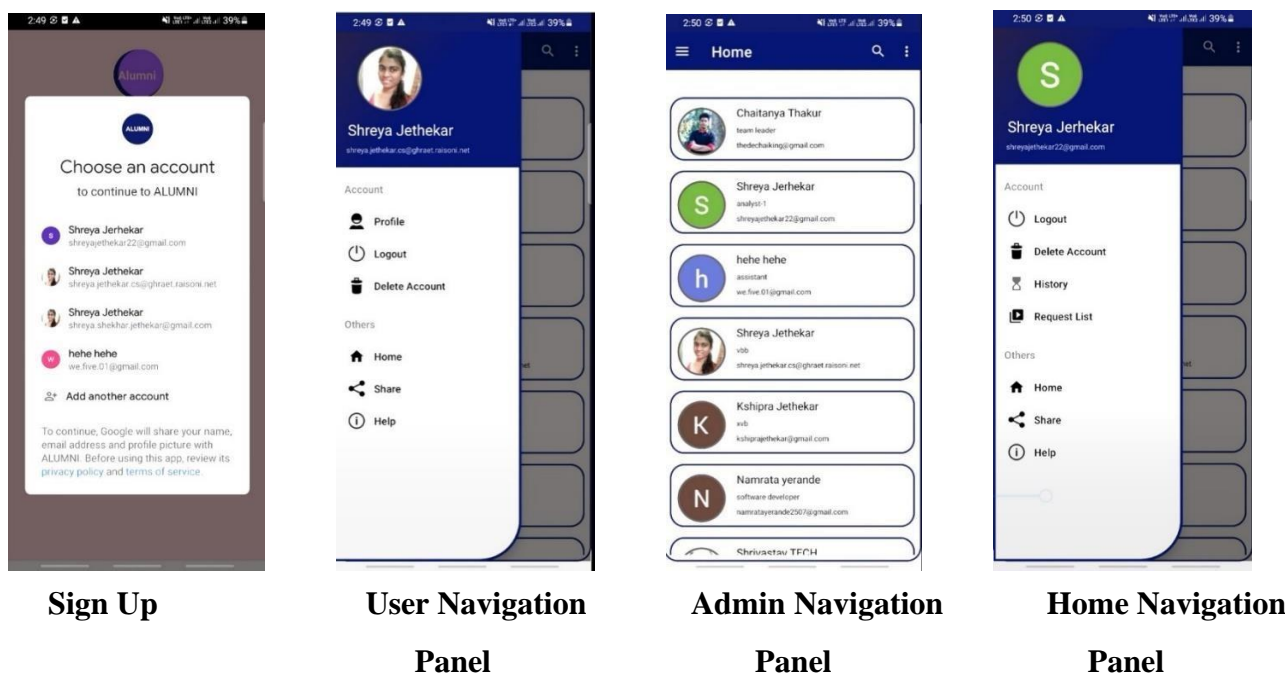Fig 6.2 MainActivity.xml(Motion Layout)

ii. **Google Signup/Sign in:**

| Sign Up | User Navigation Panel | Admin Navigation Panel | Home Navigation Panel |

Fig 6.3 Login Screen

Dependencies: -

Dependencies are added in the Gradle(module) file of android application.
implementation platform ('com. google. firebase: firebase-bom:30.1.0') //Firebase BOM Library//
implementation 'com. google. firebase: firebase-auth'   //Google Authentication Services//
implementation   'com.google.android.gms: play-services-auth:20.2.0' //Google play Services//
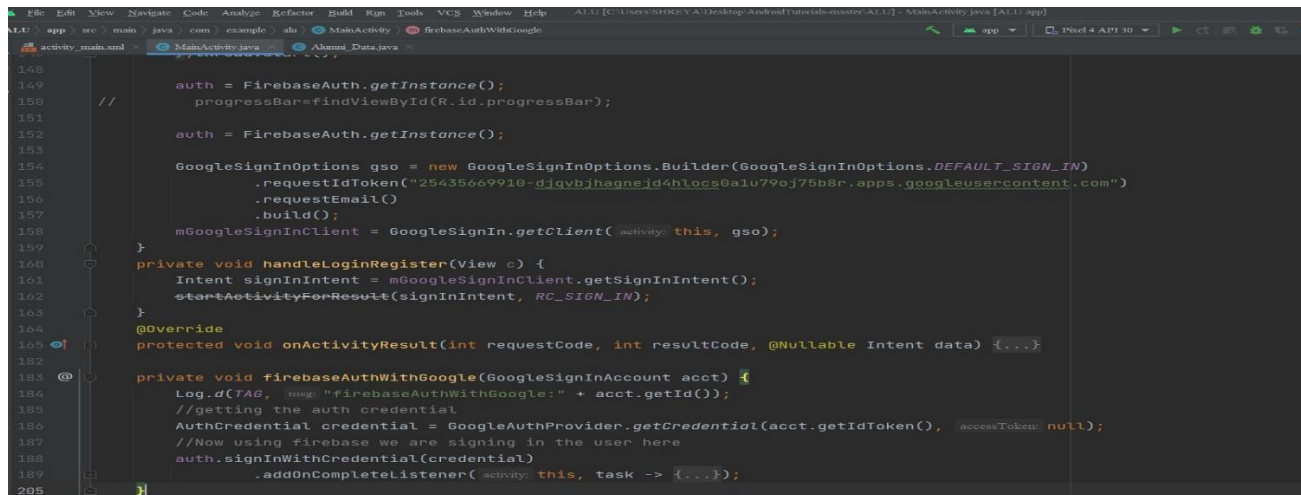
Code Snapshot: -

Fig 6.4 Google Sign In

ii.   Data Requirements

The set of data that is involved in any project is defined using data requirements. For this project, the
main data required is the Alumni positions in different companies for adding their personal info they had
to create a profile after successful login. After clicking on Save data the profile request is sanded to the
admin, there the profile data is Validated at college level if the student exits in the college, then it is
admitted to create his profile or else discarded. Without this information the application cannot process
the other functionalities.

(a)Profile Create Activity   (b)Profile Create (data filled) Activity

Fig 6.5 Profile Module

The save Button is for saving the data. Delete for deleting the User Profile from entire Profile. After adding data in required fields save button is clicked which will trigger the add alumni list where list of requests is shown.

(a) List of Profile Requested   (b) Validating the request

Fig 6.6 Request List

Code snapshot & DATABSE :-

```
DISS();

public void DISS() {
    fstore.collection( collectionPath: "ALUMNIS_REQUEST").get()
            .addOnSuccessListener(new OnSuccessListener<QuerySnapshot>() {
                @Override
                public void onSuccess(QuerySnapshot queryDocumentSnapshots) {
                    if (!queryDocumentSnapshots.isEmpty()) {

                        List<DocumentSnapshot> list = queryDocumentSnapshots.getDocuments();
                        request_arrayl.clear();
                        for (DocumentSnapshot d : list) {

                            Alumni_Data p = d.toObject(Alumni_Data.class);
                            p.setId(d.getId());
                            request_arrayl.add(p);


                            if(request_arrayl.contains(user.getUid())){
                                Toast.makeText(getContext(), "Mac...", Toast.LENGTH_SHORT).show();

                            }
                            else {
                                Toast.makeText(getContext(), "NOd....", Toast.LENGTH_SHORT).show();
                                    auth++;
```

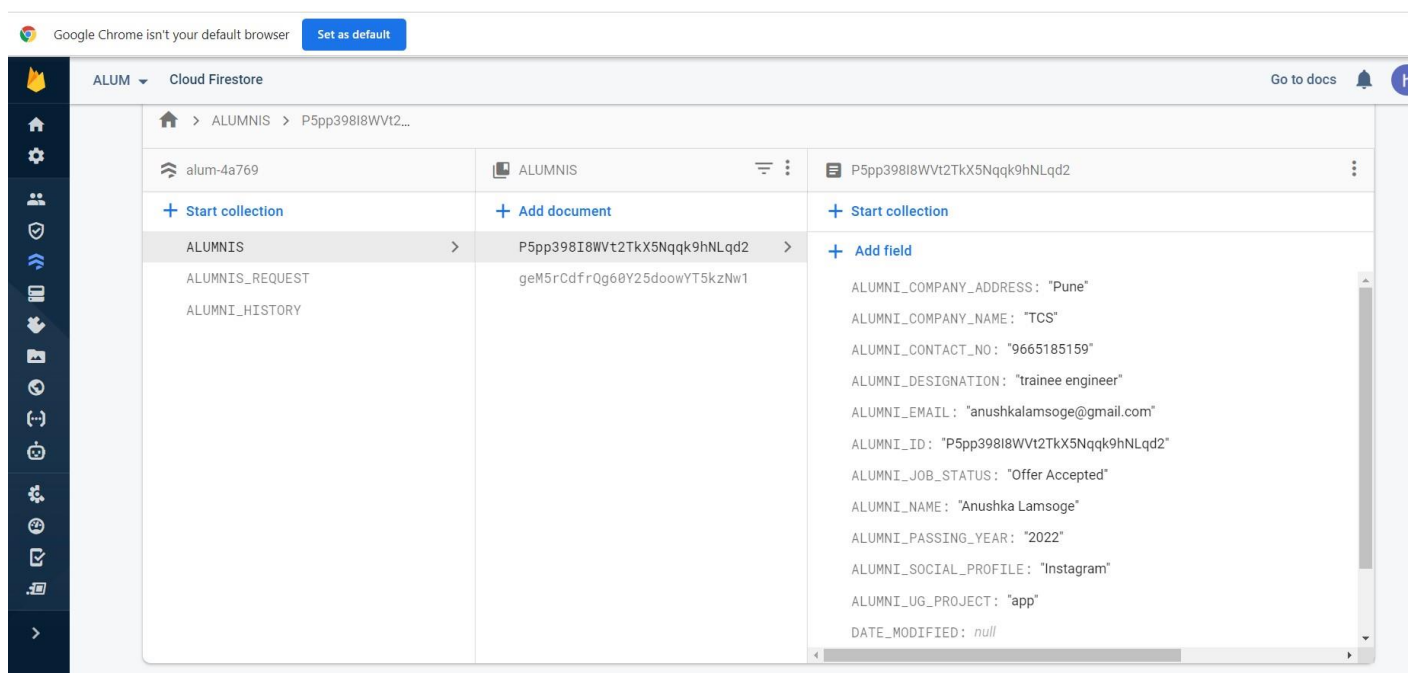Fig 6.7 Function used for Data Add up in Fire store Database-

Fig 6.8 ALUMNIS COLLECTION

ALUMNIS, ALUMNIS_REQUEST, ALUMNIS_HISTORY are the various collections (Nodes) where data is added in firebase. As we know Firebase is a no SQL database where data is stored in the form of collections. Each collection had number of Documents equipped with UID (Token provided while Authentication) and it stores the entire list of information added by the user.

ALUMNIS collection: stores profile information displayed to all users of app.

ALUMNIS_REQUEST collection: stores list of requests for data add up.

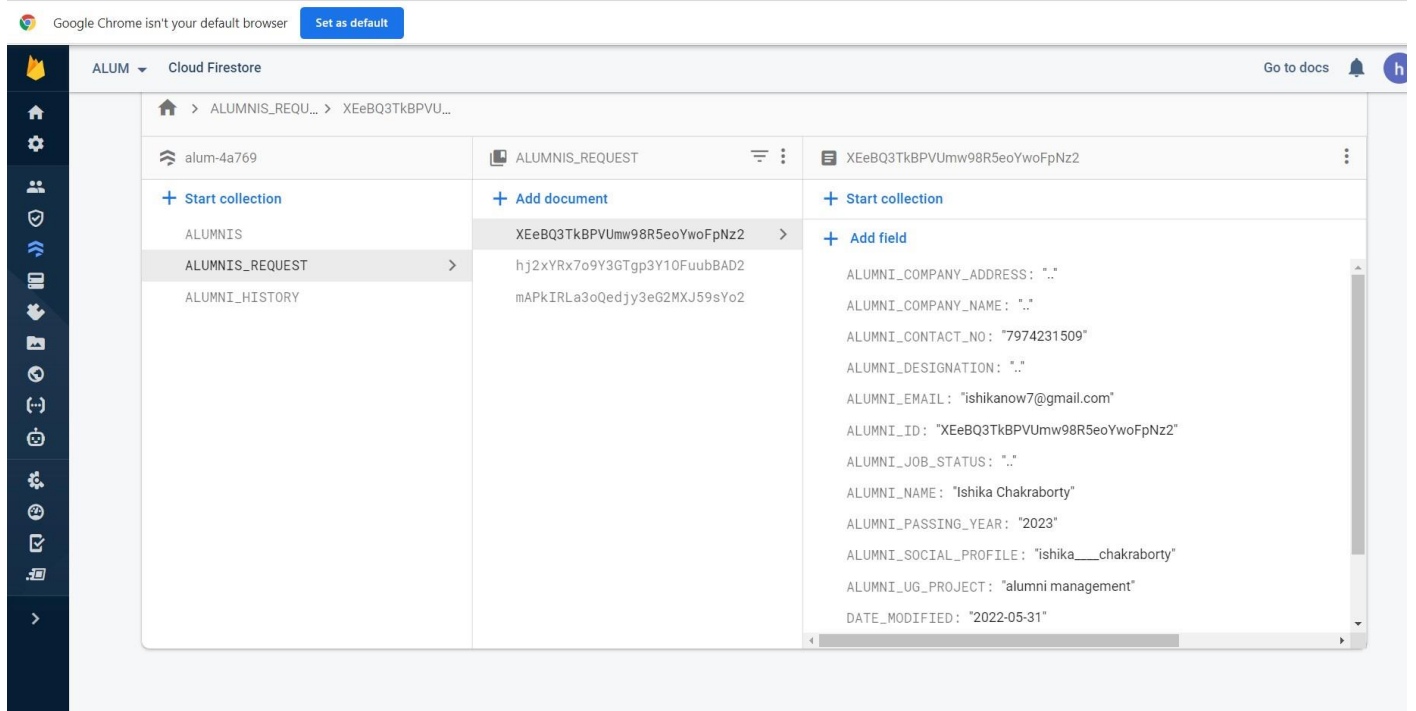ALUMNIS_HISTORY collection: stores history of data updated by alumni as per the records.

Fig 6.9 ALUMNI_REQUEST COLLECTION

Fig 6.10 DATA CLASS used for Adding data

7. RESULT AND DISCUSSION

The project's main aim was to develop an Application which will help the college to show placed student list and also can be able to manage all the Alumni data. All the objective of the proposed project is achieved and successfully tested.

7.1 Advantages :-

- **Online Registration** was designed specifically to facilitate the registration of alumni in the system over the Internet. It includes all the data of the alumni in order for them to navigate all the sub menus

- **Log-in form** is one of the menus in the system. It prompts the user to enter the user name and password for their access. Alumni can be a member if they had signed up and provided necessary information in the alumni profile. For those who are not a member of the system they cannot access the entire menu in the site.

- User can also search their batch mate using the menu search a soon as they fund it out they can view the profile of it but will not be able to edit the information

- **Help** page contain the procedure and guide on how to use different menus of the system.

- **Alumni Profile** page which contains all the important alumni information, such as their Personal Data and Contact information wherein they can update their own profile.

- **Database Maintenance** allow the system administrator to manage data and backup the system.
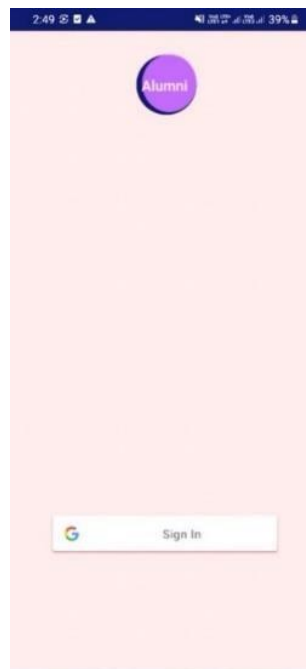
7.1 Limitations :-

- As ALUMNI is an Android Application, iOS users cannot use it.

- The Application may be not able to perform smoothly on Android Devices with Android 6.0 or Lower OS.

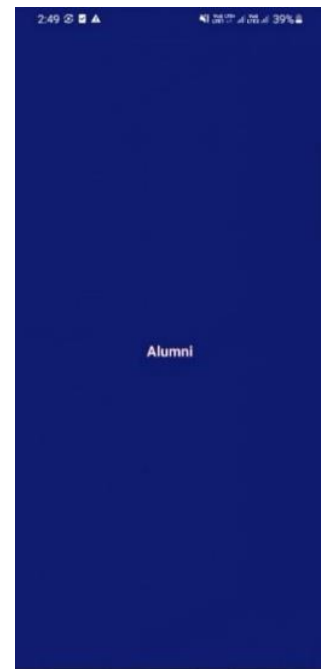- Internet Access is required for searching the student alumni.
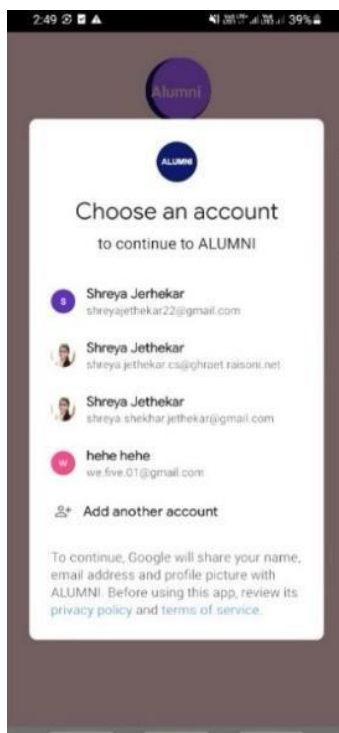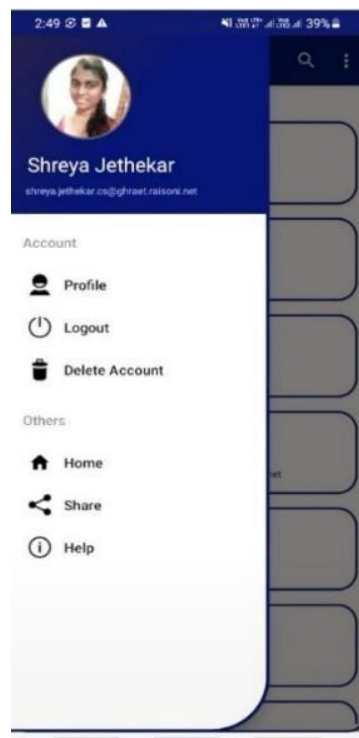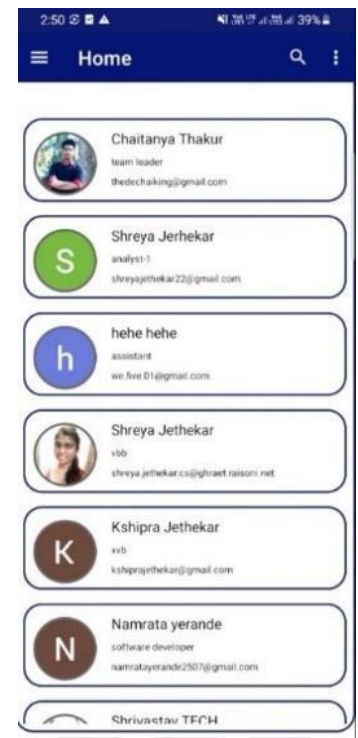
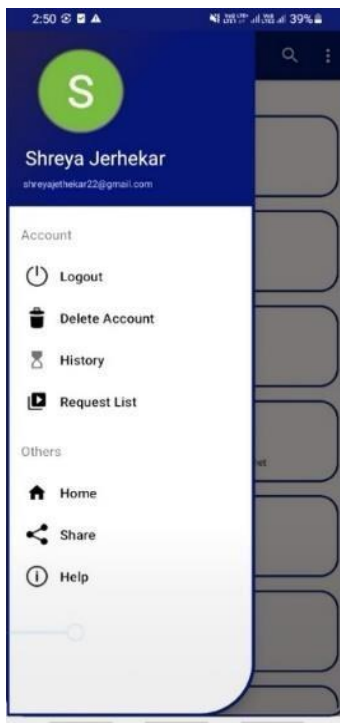## 7.1 Application Snapshot:-
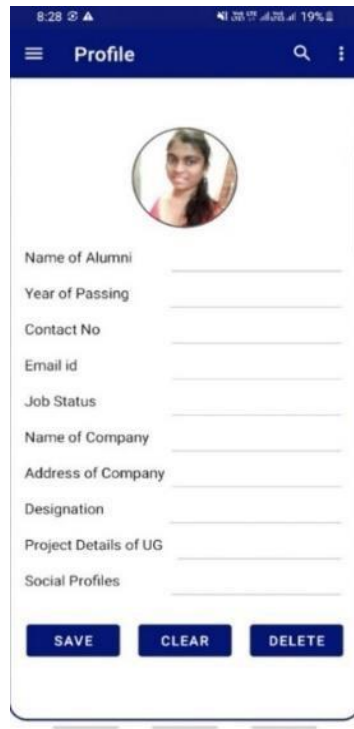

(a)

(b)

(c)

(d)

(e)

(f)

(g)

(h)
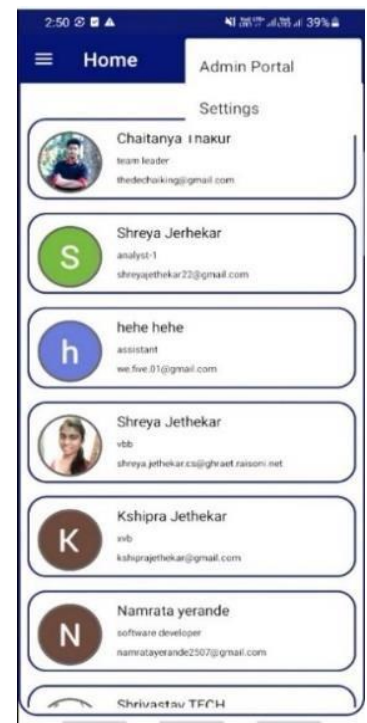
(i)

(j)

(k)

(l)

Fig 7.1 App snapshots

8. Future Scope

   With the knowledge We have gained by developing this **application**, We are confident that in the **future** we can   make the **application** more effectively by adding this services. Extending this **application** by providing Authorisation service.

Our application was designed and tested successfully, and it has a lovely design.

This application will be enhanced by the addition of an Authorization service.

8.1 Contact alumni officer

It would be very useful if the members of the alumni app which are former students of College could directly contact the alumni officer through the app. The system that was implemented does not offer this functionality. However it is easy to find the e-mail address of the alumni officer because it will be placed on the home page of the online community. The contact alumni officer functionality could be easily implemented using java.

8.2 Submit CV

It would be very useful if the former students would be able to directly submit their CV using the alumni app. This could be found very useful because of the fact that College cooperates with many different companies. The CV's would be stored on the server where some companies would be able to access them if they are looking for a new employ. This means that another type of user should be added to the system. As mentioned above, the alumni of College offers many benefits and services to the former graduated students.

8.3 Discussion forum

A very useful functionality from which the alumni members could benefit would be if the app had a forum where any discussion could be opened that is related to a person's field of study. Many universities around the world have a forum on their alumni portals. The forum could also be used to ask some question.

8.4 Setting personal information private or public

Some people would not like the idea that their information could be seen by everybody that is a member of the alumni web site. That is why it would be useful to be able to set some information, such as the contact details as private or public. This could be done very easy with the use of radio buttons.

9. REFERENCES

- "Centralized Alumni Management System (CAMS) - A Prototype Proposal" (April 2019)

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- "Development of Intelligent Alumni Management System for Universities" (June 2021)
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- Development of Intelligent Alumni Managemnt System for Universities(2021)

- Authors:- Nayyar Ahmed Khan, Ahmed Masih Uddin Siddiqi, Mohammad Ahmad

- Alumni Management System using php & MySQL(2020)

- Authors:- Nikita A. Khurana, Sophal P. Sing

10. ANNEXURE

G H RAISONI INSTITUTE OF ENGINEERING & TECHNOLOGY, NAGPUR

An Autonomous Institute Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
Accredited by NBA & NAAC with A+ grade

"Techkrunch- A National Level Technical Fest"
Presents
TECHNOTHON'22
21, 22, 23, April 2022

Certificate Of Appreciation

This certificate is awarded to

ISHIKA CHAKRABORTY

from GHRIET College for Participation & securing —
position in Project Competition Event/Competition conducted
on 23-04-2022 organized by Department of Computer Science & Engineering.

Ms. Priyanka Gonnade
Co-ordinator

Dr. Sonali Ridhorkar
HOD, CSE

Dr. Vivek Kapur
Director, GHRIET

RAISONI
GROUP OF INSTITUTIONS

G H RAISONI INSTITUTE OF ENGINEERING & TECHNOLOGY, NAGPUR

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"Techkrunch- A National Level Technical Fest"
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TECHNOTHON'22
21, 22, 23, April 2022

Certificate Of Appreciation

This certificate is awarded to

CHAITANYA THAKUR

from GHRIET College for Participation & securing —
position in Project Competition Event/Competition conducted
on 23-04-2022 organized by Department of Computer Science & Engineering.

Ms. Priyanka Gonnade
Co-ordinator

Dr. Sonali Ridhorkar
HOD, CSE

Dr. Vivek Kapur
Director, GHRIET

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GROUP OF INSTITUTIONS

24

G H RAISONI INSTITUTE OF ENGINEERING & TECHNOLOGY, NAGPUR

An Autonomous Institute Affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
Accrediated by NBA & NAAC with A+ grade

"Techkrunch- A National Level Technical Fest"
Presents

TECHNOTHON'22
21, 22, 23, April 2022

Certificate Of Appreciation

This certificate is awarded to

Paras Shrawaney

from _GHRIET_ College for Participation & securing _—_

position in _Project Competition_ Event/Competition conducted

on _23-04-2022_ organized by Department of Computer Science & Engineering.

Ms. Priyanka Gonnade
Co-ordinator

Dr. Sonali Ridhorkar
HOD, CSE

Dr. Vivek Kapur
Director, GHRIET