MINI PROJECT

(2021-22)

“CHAT UP”

Project Report

Institute of Engineering & Technology

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Declaration

I/we hereby declare that the work which is being presented in the Bachelor of Technology. Project **'Chat Up'**, in partial fulfillment of the requirements for the award of the ***Bachelor of Technology*** in Computer Science and Engineering and submitted to the Department of Computer Engineering and Applications of GLA University, Mathura, is an authentic record of my/our own work carried under the supervision of **Mr. Mandeep Singh, Technical Trainer, Dept. of CEA,GLA University.**

The contents of this project report, in full or in parts, have not been submitted to any other Institute or University for the award of any degree.

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Certificate

This is to certify that the project entitled "**CHAT UP**", carried out in Mini Project – I , is a bonafide work by **Naman Pathak**, **Jitendra** and **Yug Mittal** and is submitted in partial fulfillment of the requirements for the award of the degree Bachelor of Technology (Computer Science & Engineering).

Signature of Supervisor:

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Date:

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Acknowledgement

Presenting the ascribed project paper report in this very simple and official form, we would like to place my deep gratitude to **GLA University** for providing us the instructor **Mr. Mandeep Singh**, **Technical trainer**.

He has been helping us since Day 1 in this project. He provided us with the roadmap, the basic guidelines explaining on how to work on the project. He has been conducting regular meeting to check the progress of the project and providing us with the resources related to the project. Without his help, we wouldn't have been able to complete this project.

And at last but not the least we would like to thank our dear parents for helping us to grab this opportunity to get trained and also my colleagues who helped me find resources during the training.

Thanking You

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Abstract

Communication is means for people to exchange messages. It has started since the beginning of human creation. Distance communication began as early as 1800 century with the introduction of television, telegraph and then telephony. Interesting enough, telephone communication is stands out as the fastest growing technology, from fixed line to mobile wireless, from voice call to data transfer. The emergence of computer network and telecommunication technologies bears the same objective that is to allow people to communicate.

Chatting may refers to the transmission of data over the internet that offers a real-time transmission of data from sender to receiver. Communication is essential for achieving managerial and organizational effectiveness, employees will not be able to aware of what their co-workers are doing, will not have any idea about what their goal are, and will not be able to assess their performance. In absence of channels of communication, supervisors will not be able to give instruction to their subordinates and management will not receive the information it requires to develop plans and take decision.

Chatting is a method of using the technology to bring people and ideas together despite of the geographical barriers. The technology has been available for years but the acceptance it was quit recent. Our project is an example of an android chat. It is made up of application, the client application which runs on the user mobile. To start the chatting our Client should get connect to the server, where they can do group and private chatting.

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CHAPTER-1

INTRODUCTION

1.1 CONTEXT

This Web Application "**CHAT UP**" has been submitted in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Computer Science Engineering at **GLA University, Mathura** supervised by **Mr. Mandeep Singh**. This project has been completed approximately two months and has been executed in modules, meetings have been organized to check the progress of the work and for instructions and guidelines.

1.2 MOTIVATION

After recent updation in privacy policies of Indian Government, there are many problems being face by people. So, after looking all these cases, we decided to work on the own Chat application named "CHAT UP", so that people can chat freely without of any problem of security. Recently Government of India has been strict regarding Western Social Media Giants and the Privacy of our Citizens I was inspired to make this chat application as Our Country didn't have any competition in this sector, Recently Hike Messaging was also shut down so we needed a trust worthy Application which can keep Indian Audience in mind like keeping privacy our top concern and features exclusive to them

1.3 OBJECTIVE

The main objective of the Project on Online Chat Application is to manage the details of Online Chat, Chat Application, Chat History, Chat profile, Users. It manages all the information about Online Chat, Smilies chat, Users, Online Chat. The project is totally built at administrative end and thus only the administrator is guaranteed the access. The purpose of the project is to build an application program to reduce the manual work for managing the Online Chat, Chat Application, Smilies chat, Chat History. It tracks all the details about the Chat History, Chat profile, Users.

1.4 EXISTING SYSTEM

Earlier there was no mode of online communication between users. In big or small organizations communication between users posed a challenge. There was a requirement to record these communications and store the data for further evaluation. The idea is to automate the existing Simple Chat Room system and make the users to utilize the software so that their valuable information is stored digitally and can be retrieve for further management purposes. There was no online method of communicating to different users. There were many different interfaces available in the market but this method of using windows sockets to communicate between nodes would be fast and reliable.

1.5 SOURCES

The source of our project (including all the project work, documentations and presentations) will isavailable at the following link :

https://github.com/yugmittal28/ChatUp

CHAPTER -2

SOFTWARE REQUIREMENT ANALYSIS

2.1 IMPORTANCE OF SOCIAL CONNECTION

Human beings are inherently social creatures. As far back as we can trace, humans have traveled, hunted, and thrived in social groups and for good reason. Humans who were separated from their tribe often suffered severe consequences. Social groups provide us with an important part of our identity, and more than that, they teach us a set of skills that help us to live our lives. Feeling socially connected, especially in an increasingly isolated world, is more important than ever. The benefits of social connectedness shouldn't be overlooked.

Improve your quality of life: If you've ever moved away from your social "home base" then you have a good idea of just how much social connections shape your everyday life and well-being. One study showed that social connection is a greater determinant to health than obesity, smoking, and high blood pressure. And social connection doesn't necessarily mean physically being present with people in a literal sense, but someone's subjective experience of feeling understood and connected to others. One scale that experts use to determine a person's subjective level of loneliness is the UCLA Loneliness Scale.

Boost your mental health: Friendships offer a number of mental health benefits, such as increased feelings of belonging, purpose, increased levels of happiness, reduced levels of stress, improved self-worth and confidence. A study conducted at a free health clinic in Buffalo, New York found that respondents with insufficient perceived social support were the most likely to suffer from mental health disorders like anxiety and depression.

Help you live longer: Research has shown that social connections not only impact your mental health, but your physical health as well. A review of 148 studies (308,849 participants) indicated that the individuals with stronger social relationships had a 50% increased likelihood of survival. This remained true across a number of factors, including age, sex, initial health status, and cause of death.

2.2 PROBLEM STATEMENT

Chat rooms have become a popular way to support a forum for n-way conversation or discussion among a set of people with interest in a common topic. Chat applications range from simple, text-based ones to entire virtual worlds with exotic graphics. In this project you are required to implement a simple text-based chat client/server application.

Email, newsgroup and messaging applications provide means for communication among people but these are one-way mechanisms and they do not provide an easy way to carry on a real-time conversation or discussion with people involved. Chat room extends the one-way messaging concept to accommodate multi-way communication among a set of people.

2.3 HARDWARE AND SOFTWARE REQUIREMENTS

Hardware Requirement

Processor	: intel i3 (min)
Operating System	: Windows 10/ Mac OS/ linux
RAM	: 4GB and above
Hardware Devices	: Desktops, Tablets, Mobiles
Hard Disk	: 4GB and above

Software Requirement

Technology implemented	: Android development
Language Used	: Java, XML
Database	: Firebase Database
Web Browser	: All Existing Browser

2.4 MODULES AND FUNCTIONALITIES

- **Login Page:** This page is for those users who have already registered themselves on the app and have a username and a password. There is also a way on this page for the new users to register themselves which will take them to the registration page.

- **Registration Page**: This is page is solely designed for the new users of the app who are willing to register themselves. This page takes input of the various details of the user and stores it in the database, later helping the user to login into the account with credentials they have provided.

- **Forget Password Page:** This page comes into picture when one of the user forgets the login credentials. In this case this page asks for the email-id with which the user has already registered. The app will check if there is any entry in its database with the id and if there a mail will be sent to the same id for recovering the credentials and notification will be given to the user.

- **Dashboard Page:** This is the page displayed for every user after entering the app successfully. It contains the search bar where the user can search the book according to the wish as well as some of the books are suggested with the genres recently searched or the most popular one.

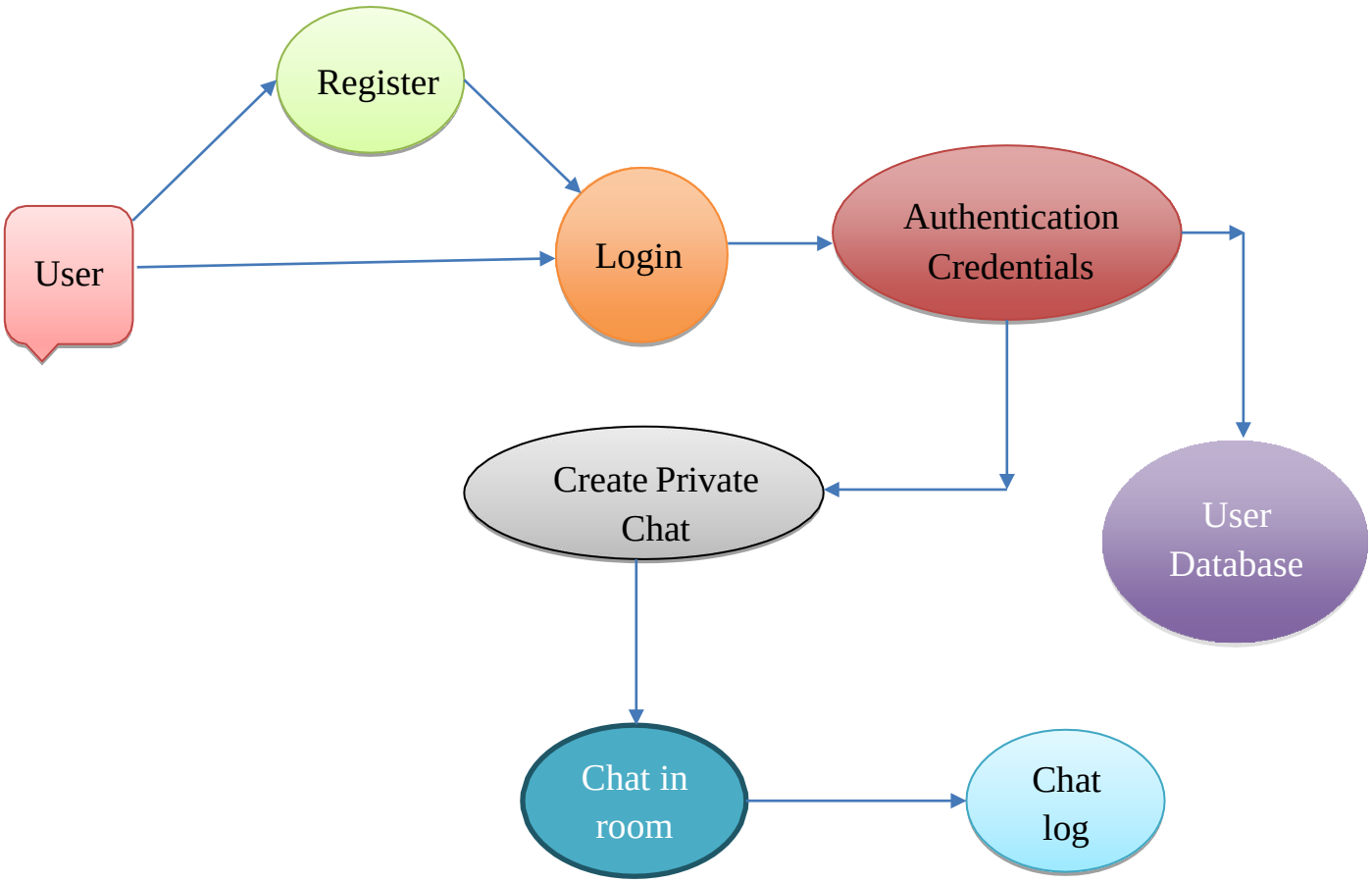
- **Profile:** This page will contain all the user details that the user entered while creating the account on the app. The user can update and make changes to all this information as desired.

- **Logout page**: Then is this last panel for the users to sign out from the account. As soon as the users sign out they are brought back to the login page.

CHAPTER- 3

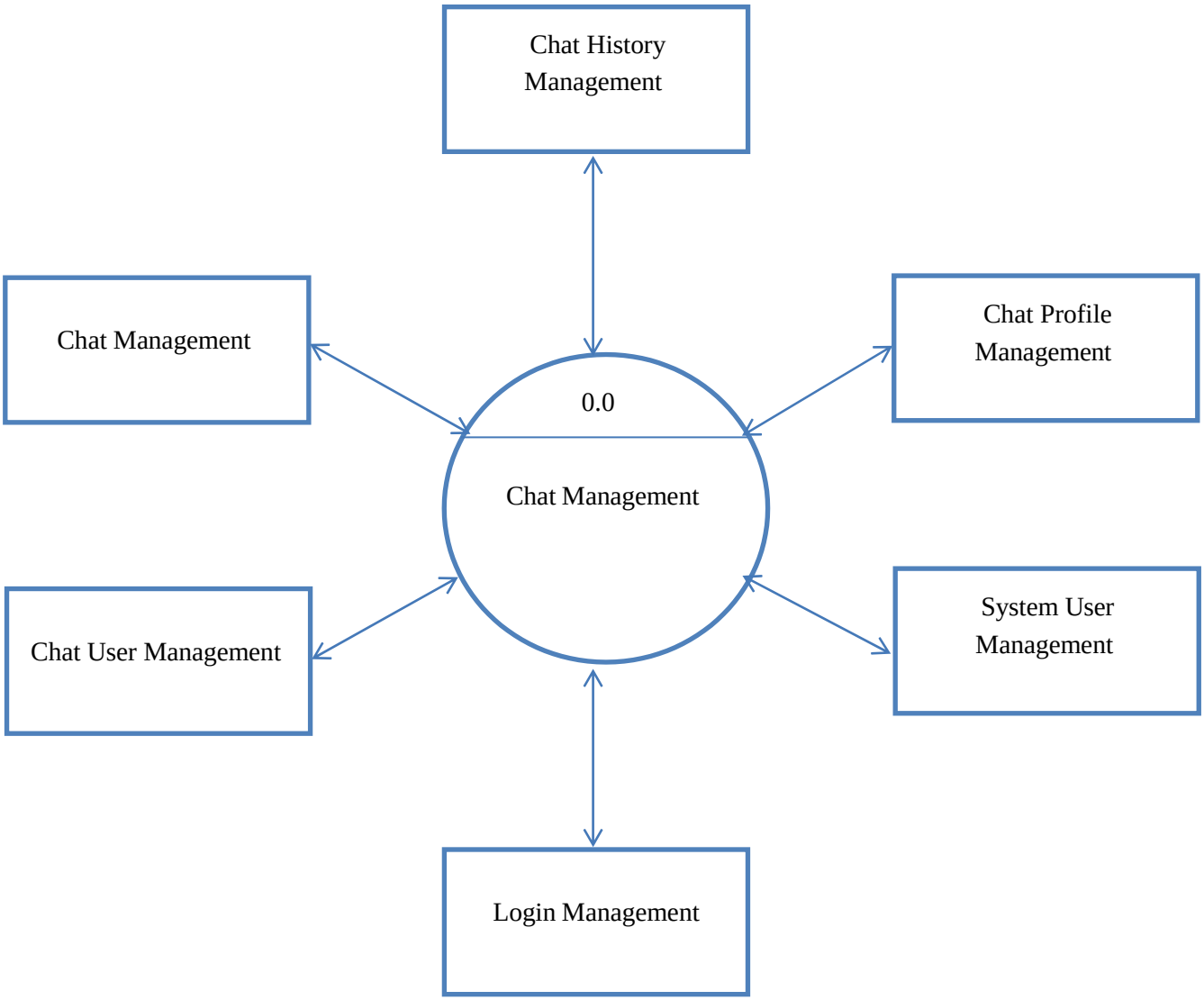
SOFTWARE DESIGN

3.1 USE-CASE DIAGRAM

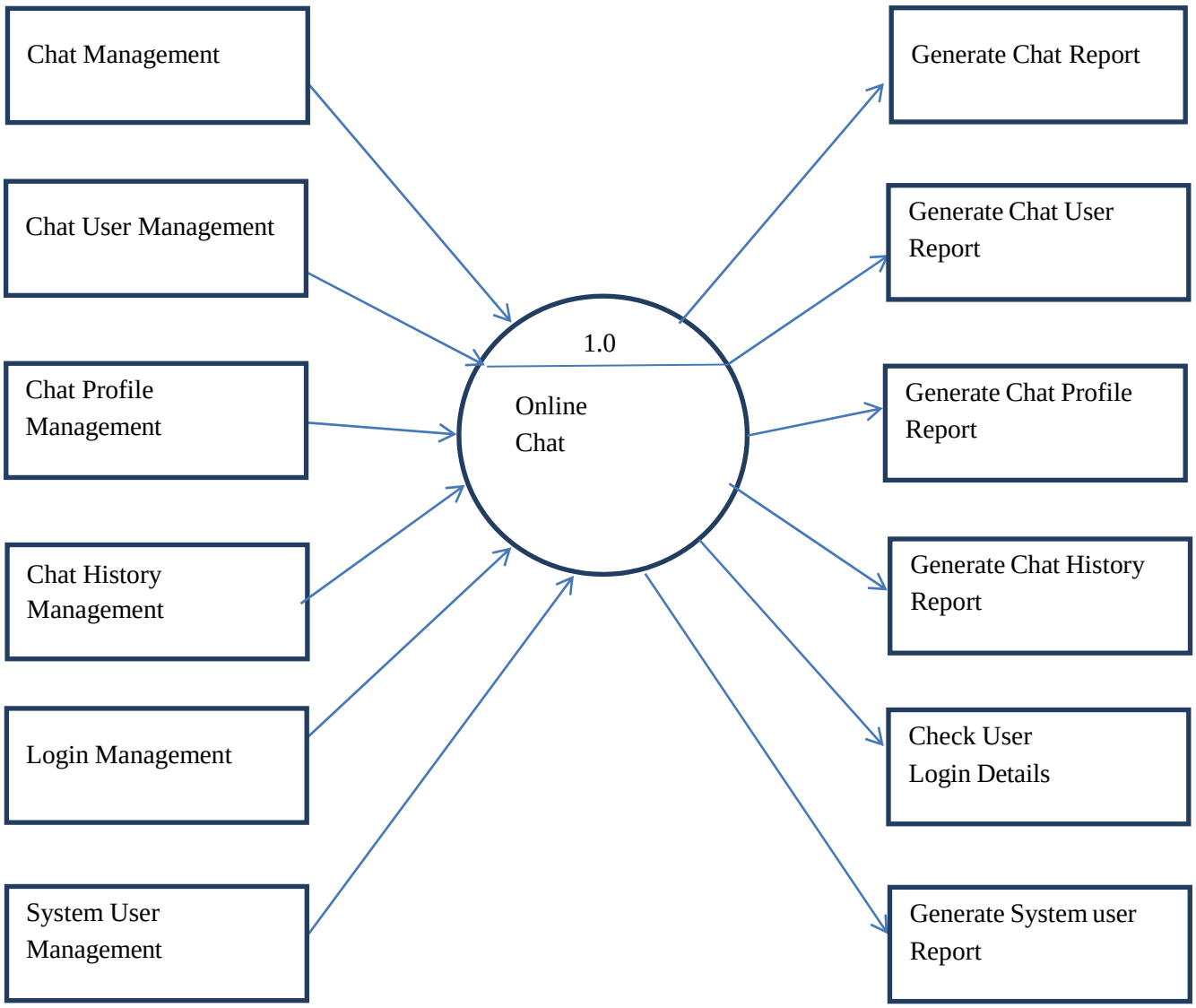


3.2 Flow Diagram

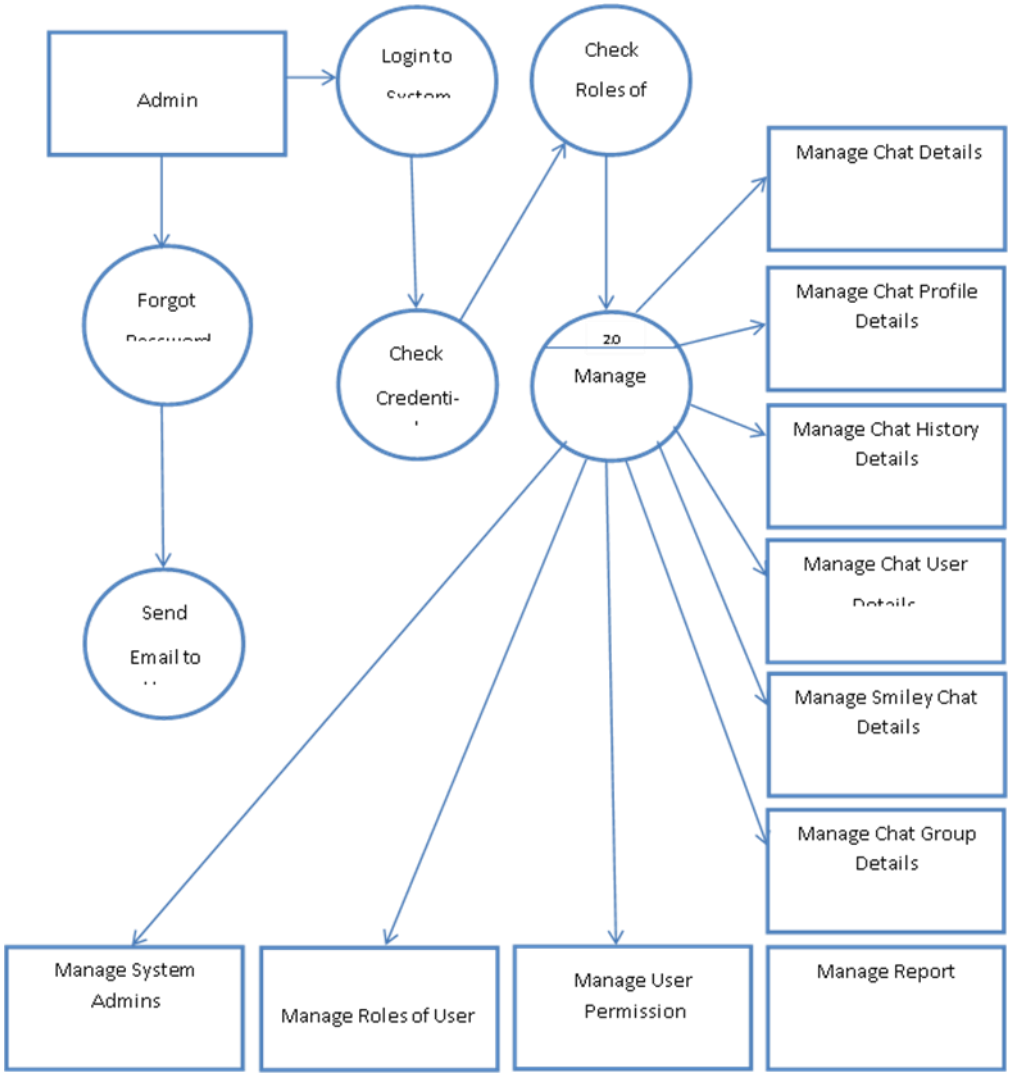
a) Zero level DFD



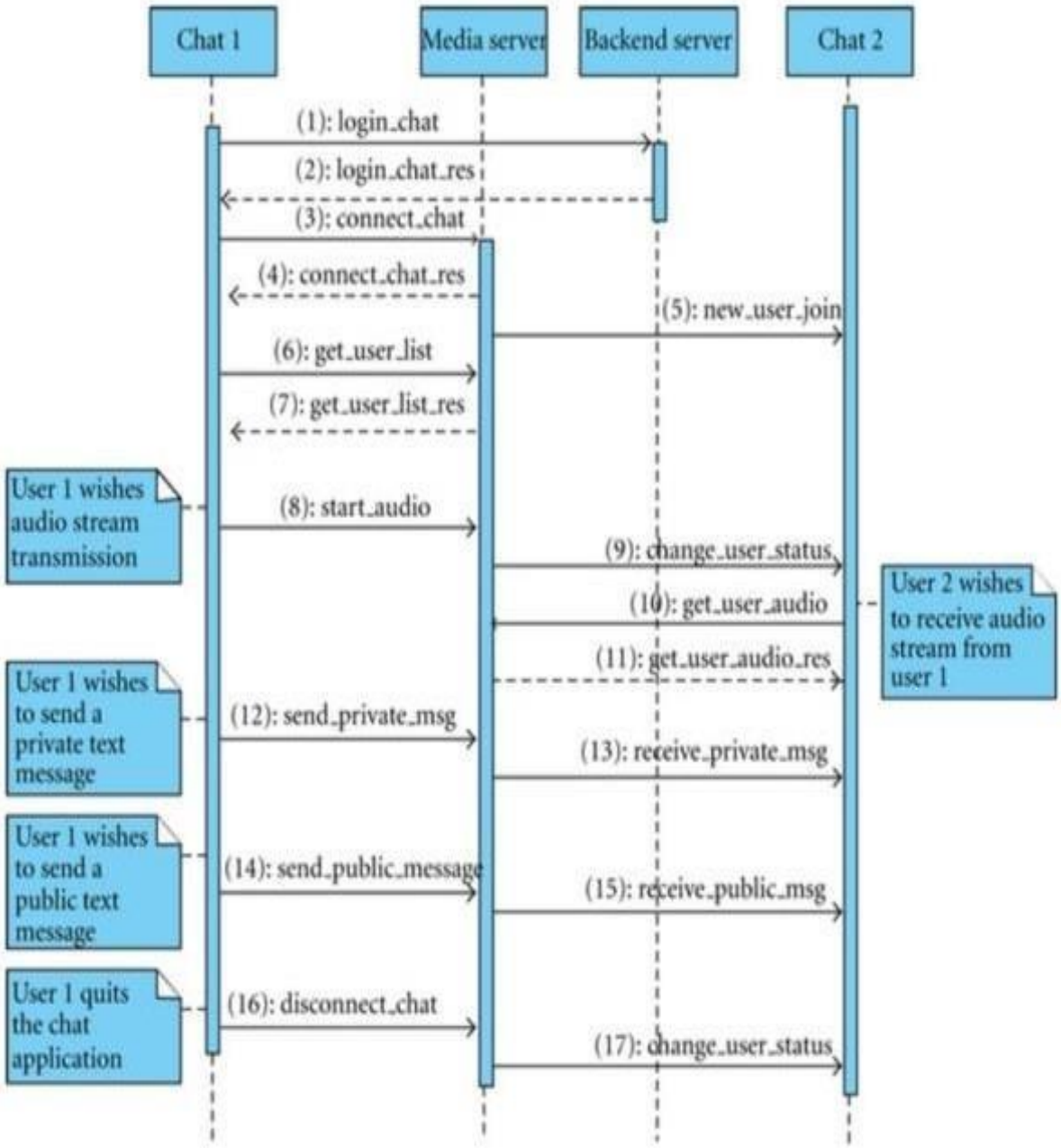
b) First level DFD



c) Second level DFD



3.3 SEQUENCE DIAGRAM



CHAPTER-4

TECHNOLOGY USED

4.1 Android

Android is a linux-based operating system designed primarily for touch screen devices such as smart phone tablets and computers. Released in 2008, is now owned by Google. So android is a operating system like Windows, Ubuntu and Mac OS and a lot number of devices use Android these days like mobile phones, watches, laptop and television. So we also created an android application “Chat up”, a chatting app. Play Store is a market place for all the Android Apps. So we need to know what basically an android app is. An Android app is software running on a Android Platform. So this can be concluded that like all the software it is a combination of Backend and Frontend. Backend to design the logical parts of the app, for the functionality whereas Front End to develop the User Interface. And to implement the various parts of the android app, we require a number of tools and technologies which will come into picture

4.2 Firebase

Firebase is a Backend-as-a-Service that started as a YC11 startupand grew up into a next-generation app-development platform on Google Cloud Platform. Firebase frees developers to focus crafting fantastic user experiences. You don’t need to manage servers. You don’t need to write APIs. Firebase is your server, your API and your datastore, all written so generically that you can modify it to suit most needs. Yeah, you’ll occasionally need to use other bits of the Google Cloud for your advanced applications. Firebase can’t be everything to everybody. But it gets pretty close. Real-time data is the way of the future. Nothing compares to it. Most databases require you to make HTTP calls to get and sync your data. Most databases give you data only when you ask for it. When you connect your app to Firebase, you’re not connecting through normal HTTP. You’re connecting through a Web-Socket. Web-Sockets are much, much faster than HTTP. You don’t have to make individual Web-Socket calls, because one socket connection is plenty. All of your data syncs automagically through that single Web-Socket as fast as your client’s network can carry it.

4.3 Programming Languages Used

Tools used to build the Android App are:-

- **Android Studio**: Android Studio is an environment that help us create and edit Android applications. It is the official IDE for Android App Development. It has intelliJ's powerful code editor and developer tools and various features that enhance productivity while developing apps.

- **Software Development Kit (SDK)**: Android Studio requires a collection of libraries and data therefore SDK is mandatory.

- **XML:** XML is the extensible Markup Language. It is the met language which allows users to define their own customized markup language especially in order to display documents on Internet. It is the language that contains tags that store information. And the tags can be used to present data on the screen.

CHAPTER -5

IMPLEMENTATION AND USER INTERFACE

Creating an app concept design with screen sketches, functional flow diagrams, and ER diagrams is the best way to communicate your vision to the full stack developer. Making the concept clear to the developer is probably the most important factor in full stack development. Yet it is one of the most common problems or obstacles in a full stack development outsourcing project.

No matter what the marketing and profit goals are or if you are outsourcing an app for your personal use, you need to fully design and document the app concept if you expect a programmer to make your vision a reality. Developers are not mind readers and even descriptions given during conversations can be very fleeting or interpreted differently. Fully documenting your concept, therefore, leaves little to chance.

The two most important things to do are:

- make a comprehensive description of how the application works and what it does (functionality), and
- create a comprehensive description of what the user sees and does (look and feel).

5.1 Implementation of the Chat up:

Implementation of Chat up is taken place in various phases. Firstly we build the login page interface then make 3 fragment of each Chat,User,Profile and the make various layout for the supporting features And finally we parse the firebase to get the data in the required format and then display the result.

5.1.1 Step to be followed to develop the app:

1. We create login phase which comprises of various phases that are mentioned below:

   - Login Page: allows user to login into the app if the user is existing one
   - Register Page: If the user is new to our app then firstly he/she have to register themselves on the app.
   - Forgot Password: allows user to reset the password if it forget the previous password.
   - For authenticating the user, we have used firebase authentication.

2. .Creating fragment for each of the Chat, User, Profile are:

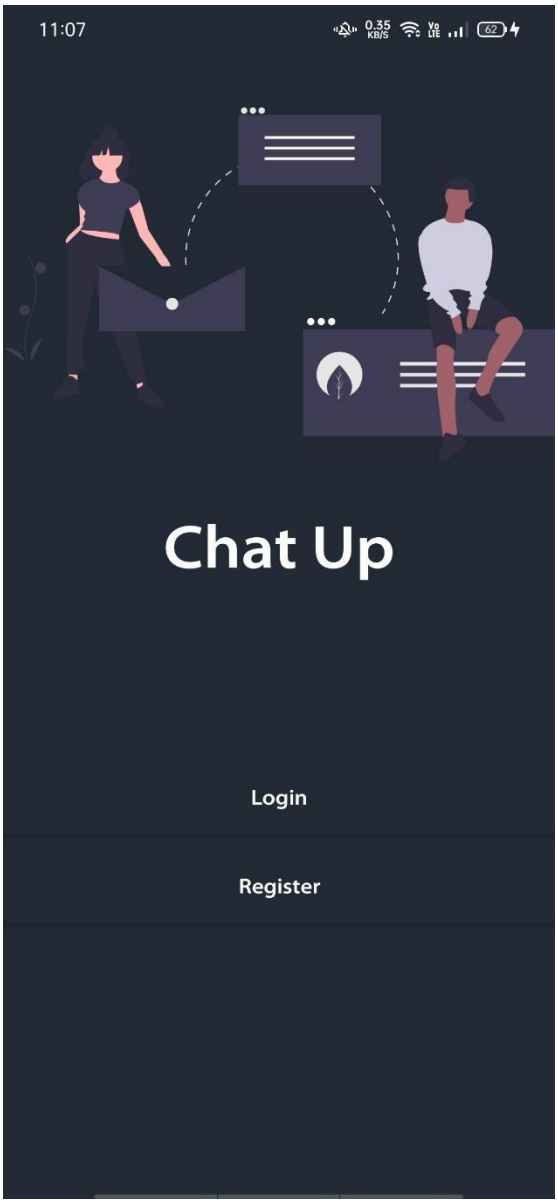
- Chats: Display the current chat users and there messages.
- Users: we create the list of the users that are using this app and can search the user also.
- Profile: we can add photo, edit the user name and bio of user.
- Log-Out

5.1 Implementation of the CHAT UP:

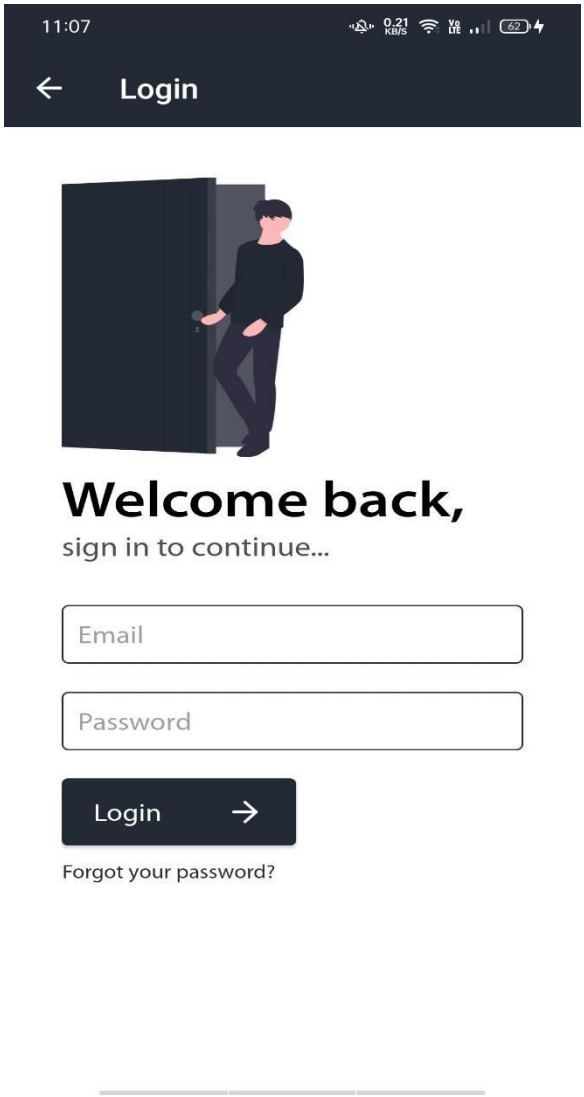
Implementation of **CHAT UP** is taken place in various phases.

5.2 User Interface

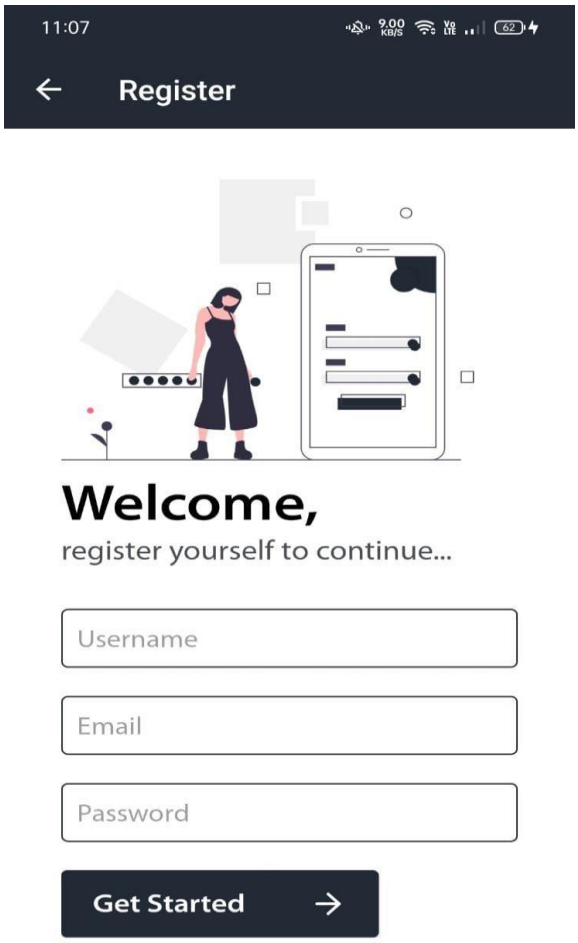
a) Front Page



b) Login Page


11:07
Login
Welcome back,
sign in to continue...
Email
Password
Login
Forgot your password?

c) Register Page



CHAPTER - 6

TESTING

Software Testing is evaluation of the software against requirements gathered from users and system specifications. Testing is conducted at the phase level in software development life cycle or at module level in program code. Software testing comprises of Validation and Verification.

- **Unit Testing**

While coding, the programmer performs some tests on that unit of program to know if it is error free. Testing is performed under white-box testing approach. Unit testing helps developers decide that individual units of the program are working as per requirement and are error free.

- **Integration Testing**

Even if the units of software are working fine individually, there is a need to find out if the units if integrated together would also work without errors. For example, argument passes and data updating etc.

- **System Testing**

The software is compiled as product and then it is tested. Thiscan be accomplished using one or more of the following tests:

- **Functionality testing**

Tests all functionalities of the software against the requirement.

- **Performance testing**

This test proves how efficient the software is. It tests the effectiveness and average time taken by the software to do desired task. Performance testing is done by means of load testing and stress testing where the software is put under high user and data load under various environment conditions.

On all types of testing (that we have performed above) are performing well on our chat application i.e. ***CHAT UP***

CHAPTER -7

CONCLUSION

This project presents a conception to develop an accommodation for the intranet users, this accommodation will be deployed on the intranet server of any organization that sanctions smart phone and tablet users to send and receive messages within an organization at free of cost. This Communication does not require to interact with mobile accommodation provider or no desideratum to take any data plan. Internet connectivity is withal not required. So this way it reduces the cost of communication and increases the communication between sundry contrivances which gives compatibility with the Personal Computers with the avail of Blue stacks which provides an interface between the utilize and the personal computers or tablets to provide an efficient communication by incrementing its performance. It can be downloaded free of cost, so it is economical additionally

REFERENCES

1.) https://developer.android.com/docs

2.) https://firebase.google.com/docs/

3.) https://www.simplifiedcoding.net/

4.) https://stackoverflow.com/

5.) https://www.slideshare.net/

6.) https://code.tutsplus.com/tutorials/how-to-create-an-android-chat-app-using-firebase--cms-27397