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ABSTRACT

Nowadays we came across many apps like WhatsApp, Hike, Messenger but in all these apps even after registering into those apps using phone number or email id, we have to add him in our account by sending him friend request or by adding his number to chat with him which is somewhat time taking process but we tend to develop a messaging app where if you register into that app then you can chat with anyone who is registered to that app. Using this app our time is saved and the implementation also becomes easy.

1. Introduction:

1.1. Problem Definition:

“Consider a family and there are plenty of members in that family then if the family want to chat among themselves they have to add them in their account by either sending them friend request and waiting until they accept our friend request or by adding their mobile number.”

In order to do all these, the user needs to spend a lot of time surfing the net for searching their user id, sending friend request and waiting until they accept our friend request and then chat. An approach that would actually reduce some of the works among those would be a boon to all users. We use the Famchat app to solve this problem.

Approach:

Famchat App is the app which allows the family members to chat without even sending friend request or by adding their number in our account. This app saves a lot of time by removing the steps of manually adding the user in our account and sending and accepting the friend request procedure. Here there will be common database for the members who are registered to this app. Therefore, anyone who is registered into this app can chat with any of his family members who are registered into this app.

1.2. Domain:

Project Domain: Android

Practically the scope of this project is only up to 15GB storage and 10,000 users can be logged in per month.

1.3. Applications of the Project:

- 1) It can be used as an excellent chatting tool in family.
- 2) It can be used in research institutes where scientists will save time by using this app.
- 3) It can be used by job recruiters and persons applying for job by not using phone number so that there will be privacy.

1.4. SRS:

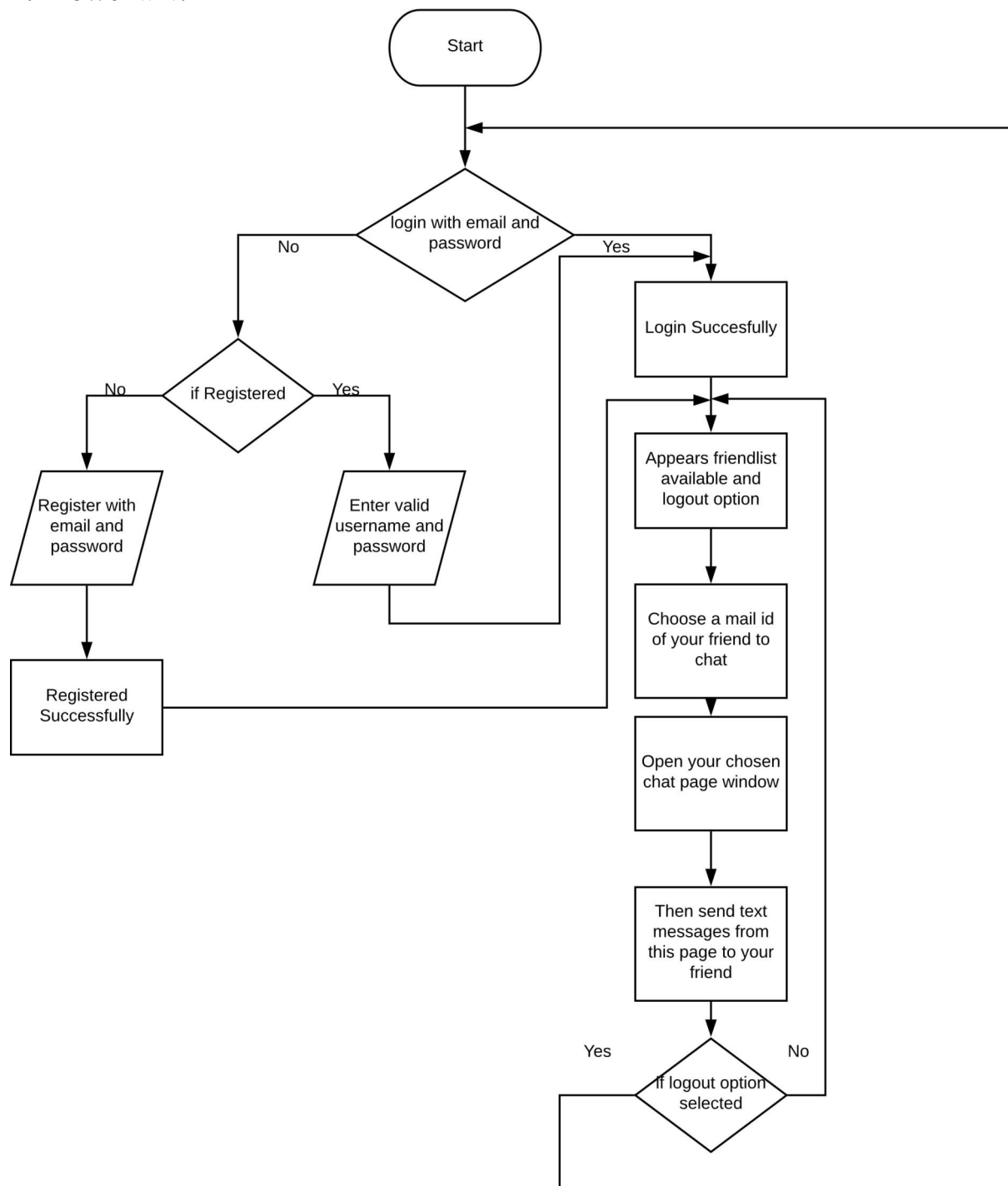
i)Software Requirements:

- 1) Programming Language – JAVA, JDK 9.0.1
- 2) Tool – Android Studio 3.0
- 3) OS – Windows 10
- 4) Backend Server – Firebase Cloud Server

ii)Hardware Requirements:

- 1) RAM – minimum 4GB
- 2) Processor – minimum i3
- 3) Hard disk – 500 GB minimum

2. Flowchart:



It mainly focuses on four modules and they are:

- Login module
- Register module
- User listing module
- Chat Module

Login module:

This module contains two textboxes and two buttons and here when you open the app for the first time after downloading this page will be opened. Here you need to click on the bottom most button to register if you have not yet registered and if you have already registered by any means then you just need to type your valid email id and password to login to your account. Here when you type the required details and click login button then this app will fetch your details in firebase server and it will redirect you to user listing module if your authentication details are matched in the database and if they are not match it will display a message denoting that your details are not added to the database.

Register module:

This module consists two text boxes and one register button. Here when you are new to this app then you need to come to this module for registering into this app which will let you to chat with other people who are already registered into this app. After typing all the valid details like email and password you need to click register button which will add you into the firebase database.

User listing Module:

This module consists of recycler view which displays all the registered users in a sequential manner and menu bar which consists of logout option which will let you to sign out from this app.

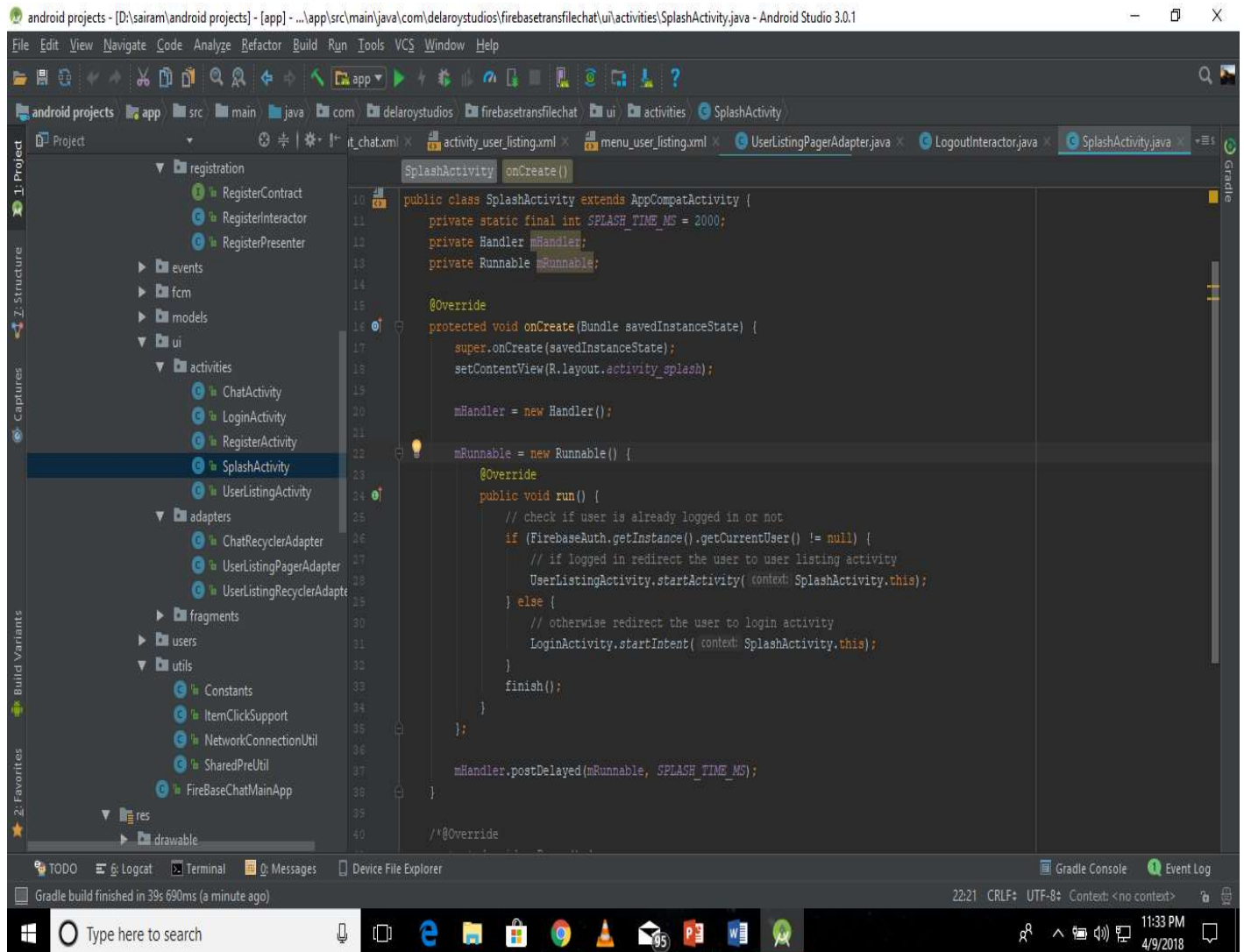
Here when this module is opened all the registered users will be displayed and by clicking any user's email id you will be redirected to Chat Module which will let you to chat with that person.

Chat Module:

This module consists of a text box and empty space which displays your chat and the text box allows you to type a message which you want to send to your chosen friend.

3. Implementation:(Coding)

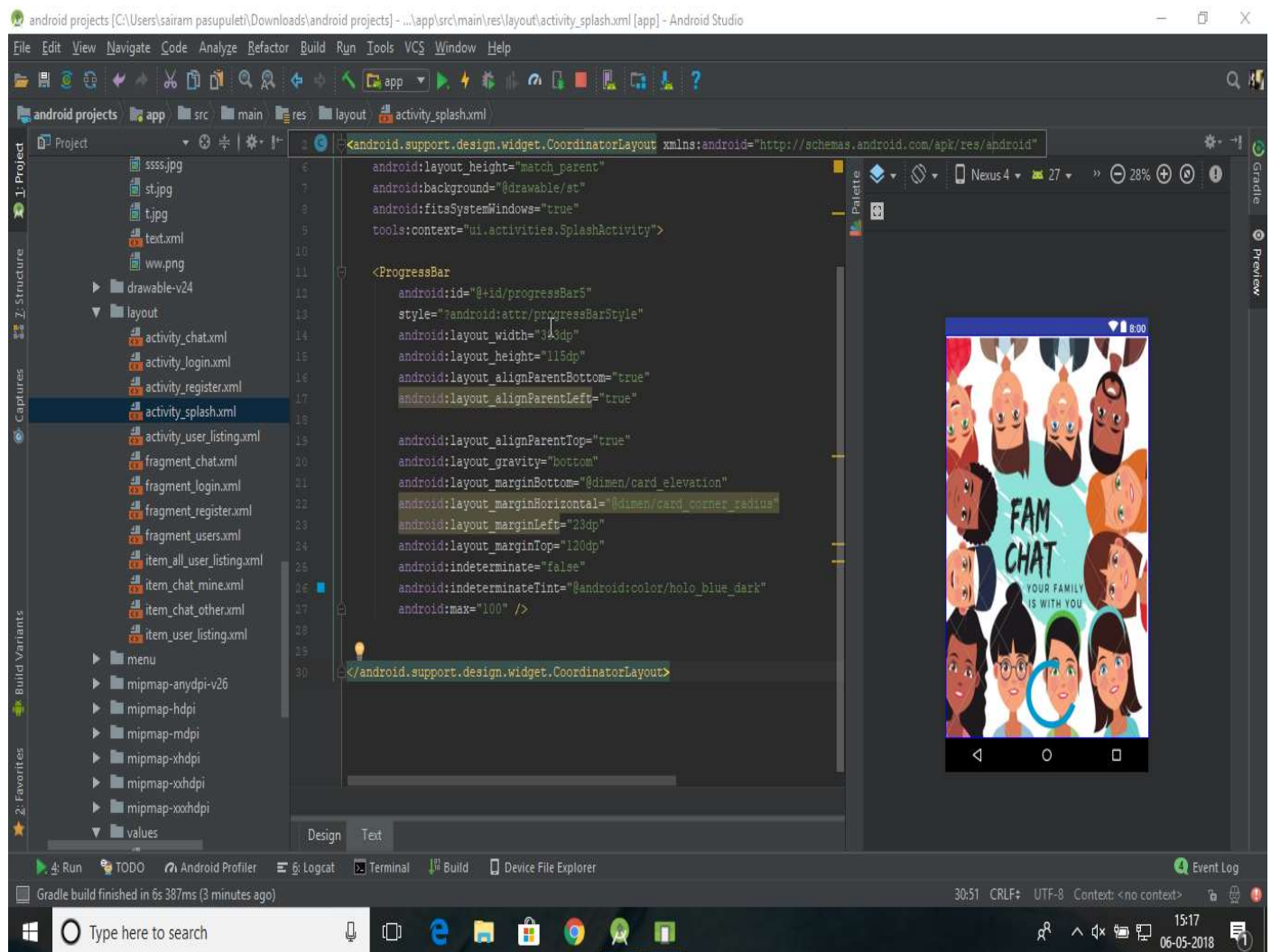
Splash Activity:



Description:

When you open the app, this window pops up for 2 secs and redirect to Login Activity.

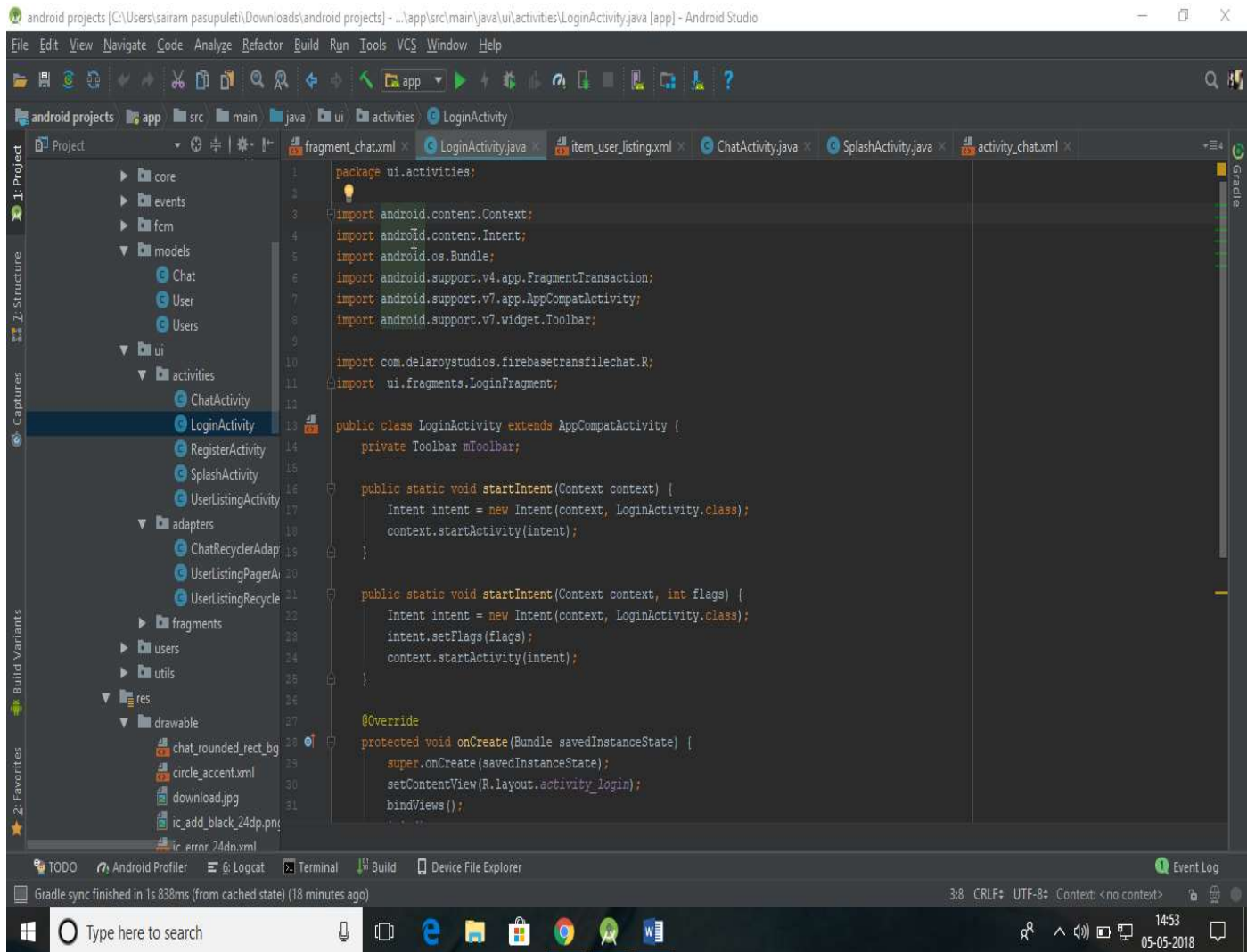
Activity_splash:



Description:

Activity_splash is a xml file which shows the GUI of splash Activity in which it displays the app name and loader.

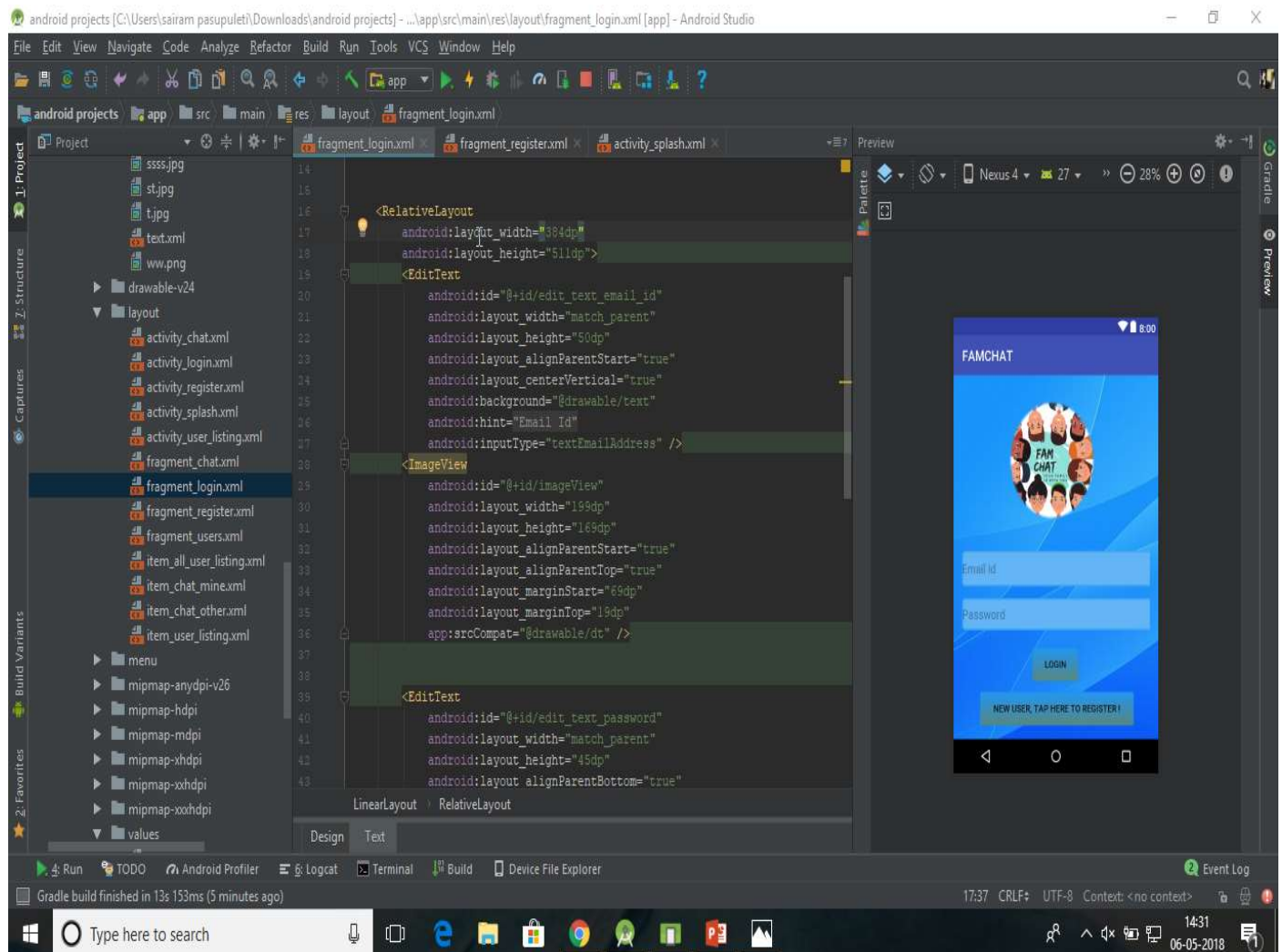
Login Activity:



Description:

It contains two text fields to enter email and password of the user. By clicking Login Button if the user is already registered it will redirect to a window where registered users are visible otherwise a message is displayed in which it tells us to enter a valid username and password. Then to register into this app the user has to click “NEW USER TAP HERE TO REGISTER” button which will redirect to register activity.

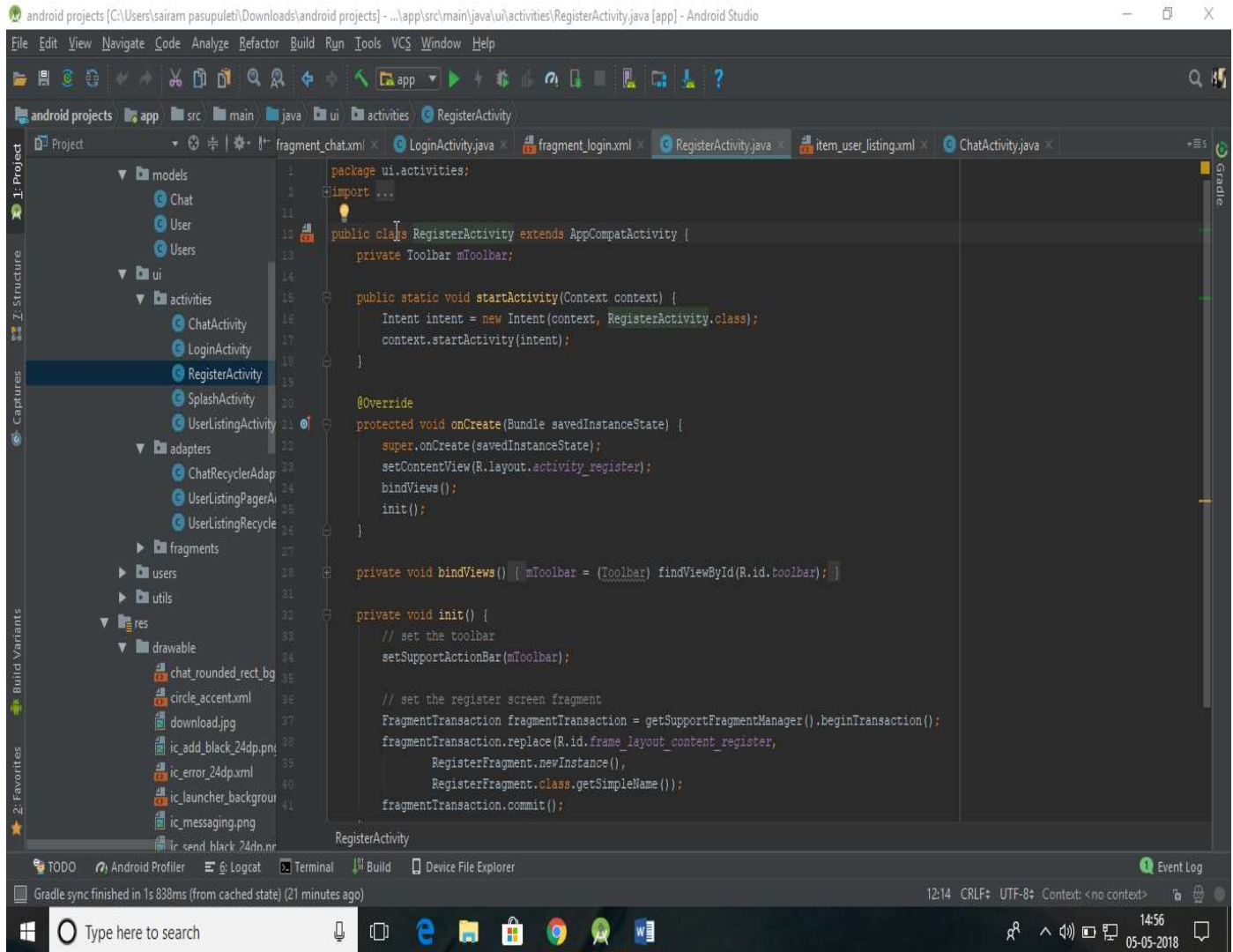
Fragment_login:



Description:

Fragment_login is a xml file which shows the GUI of Login Activity in which it displays two text boxes and two buttons.

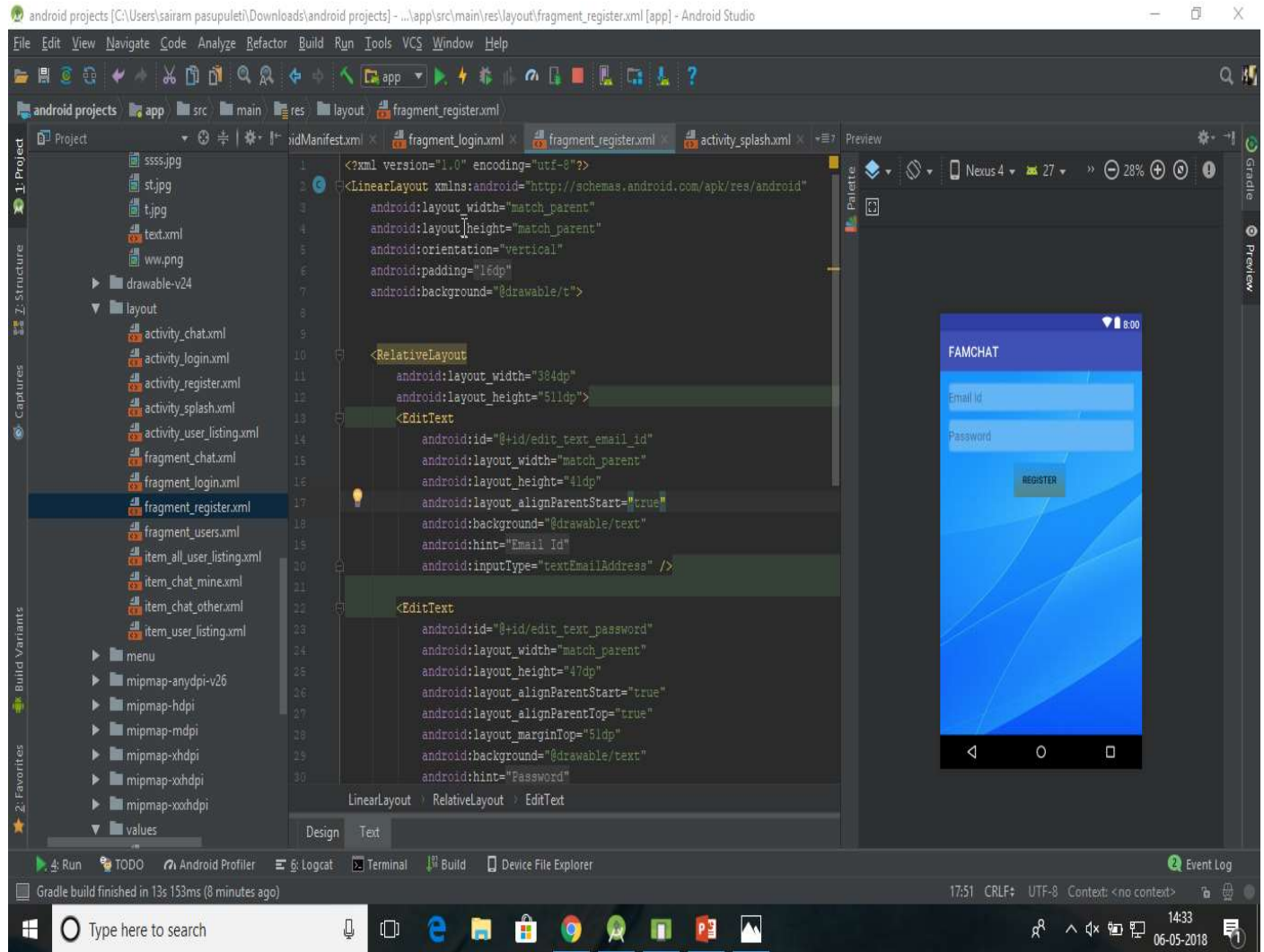
Register Activity:



Description:

It shows two text fields to enter a valid email and password. By clicking Register Button it will add the user to the firebase database then it will redirect to a window where registered users are visible.

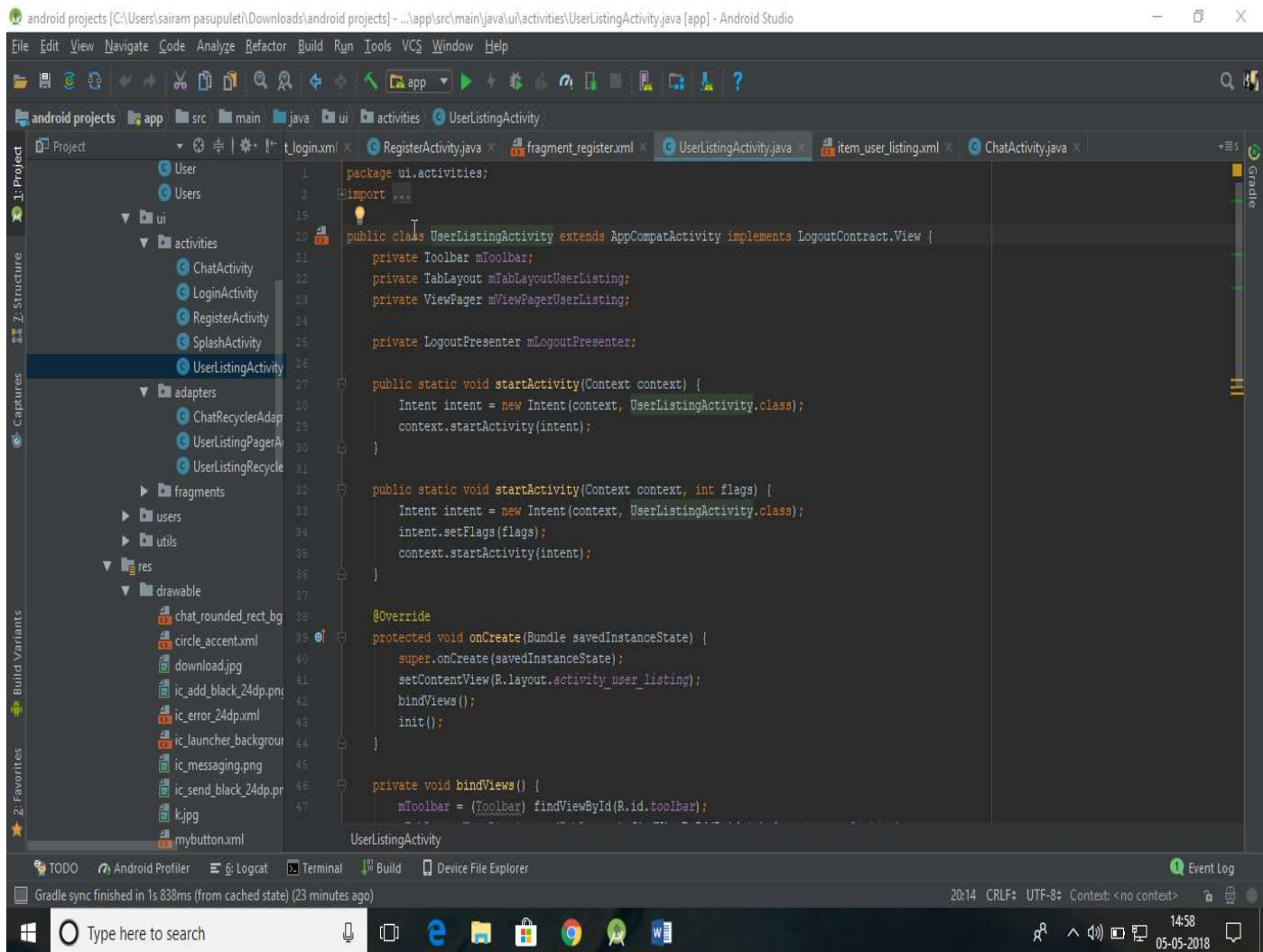
Fragment_register:



Description:

Fragment_Register is a xml file which shows the GUI of Register Activity in which it displays two text boxes and one Button.

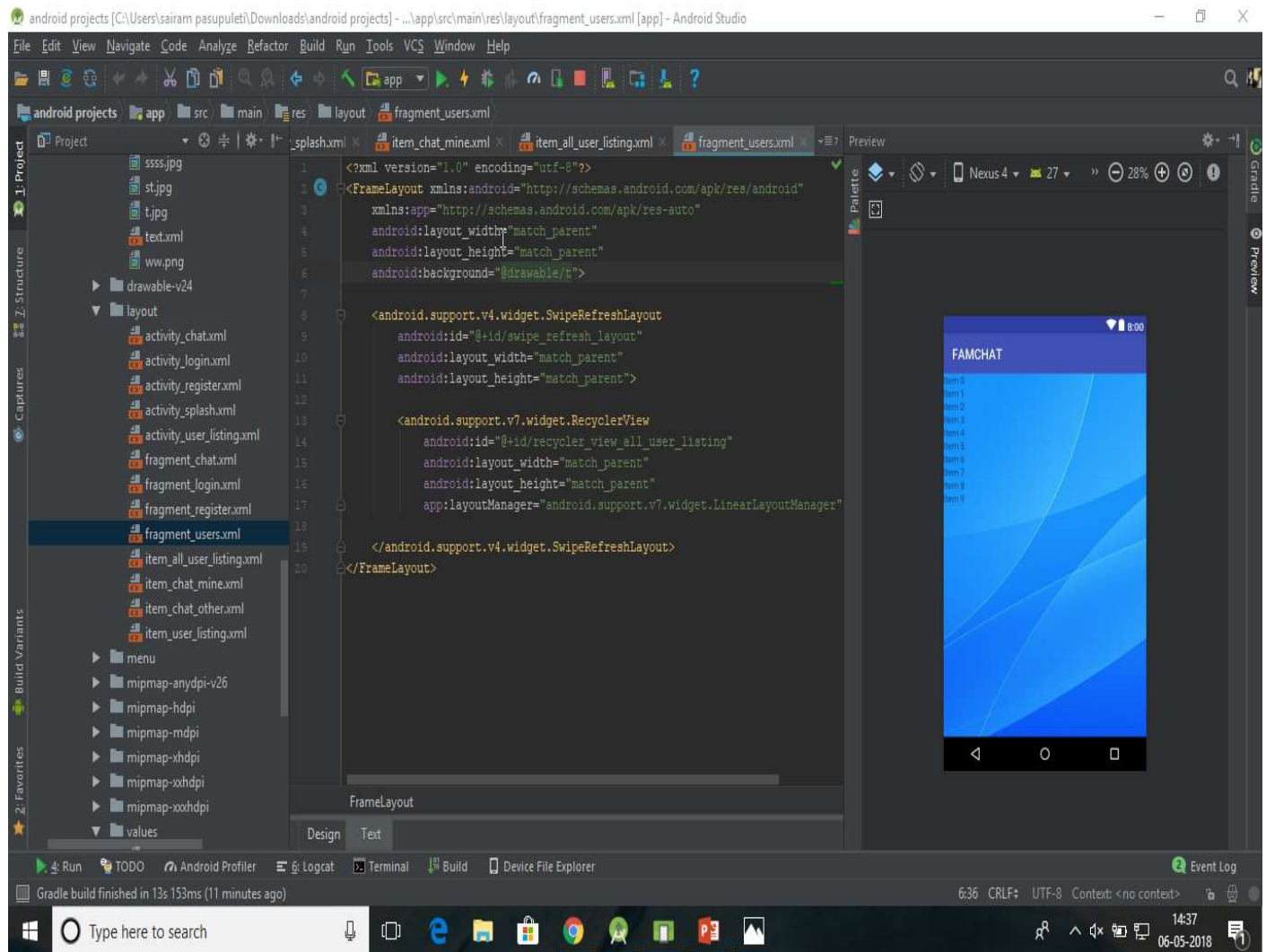
User Listing Activity:



Description:

It shows the registered users and logout option. By clicking the user's email with whom you want to chat it redirects to a window where you can chat with that user and when we click logout option it redirects to Login Activity.

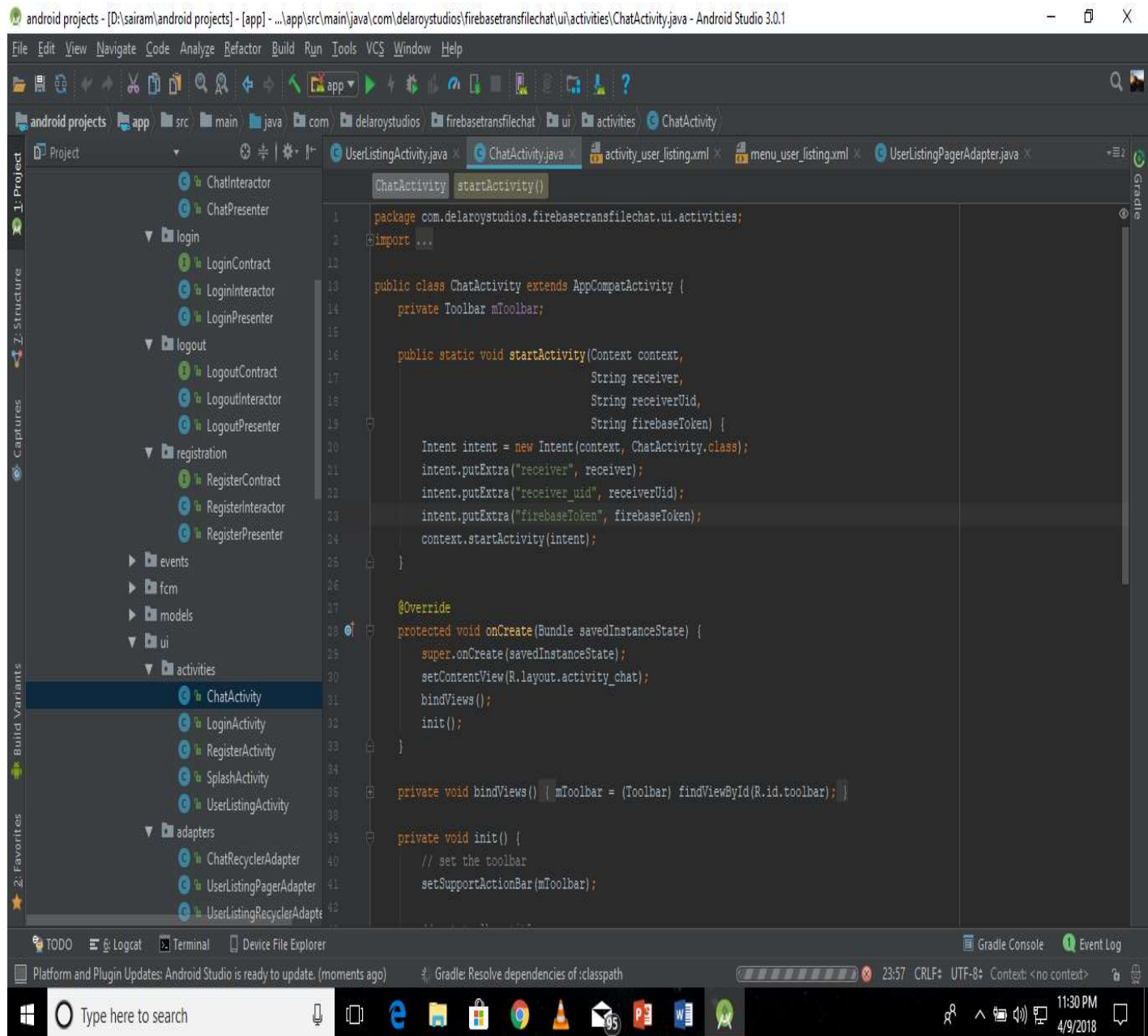
Fragment_users:



Description:

Fragment_users is a xml file which shows the GUI of User Listing Activity in which it displays the registered users and logout option.

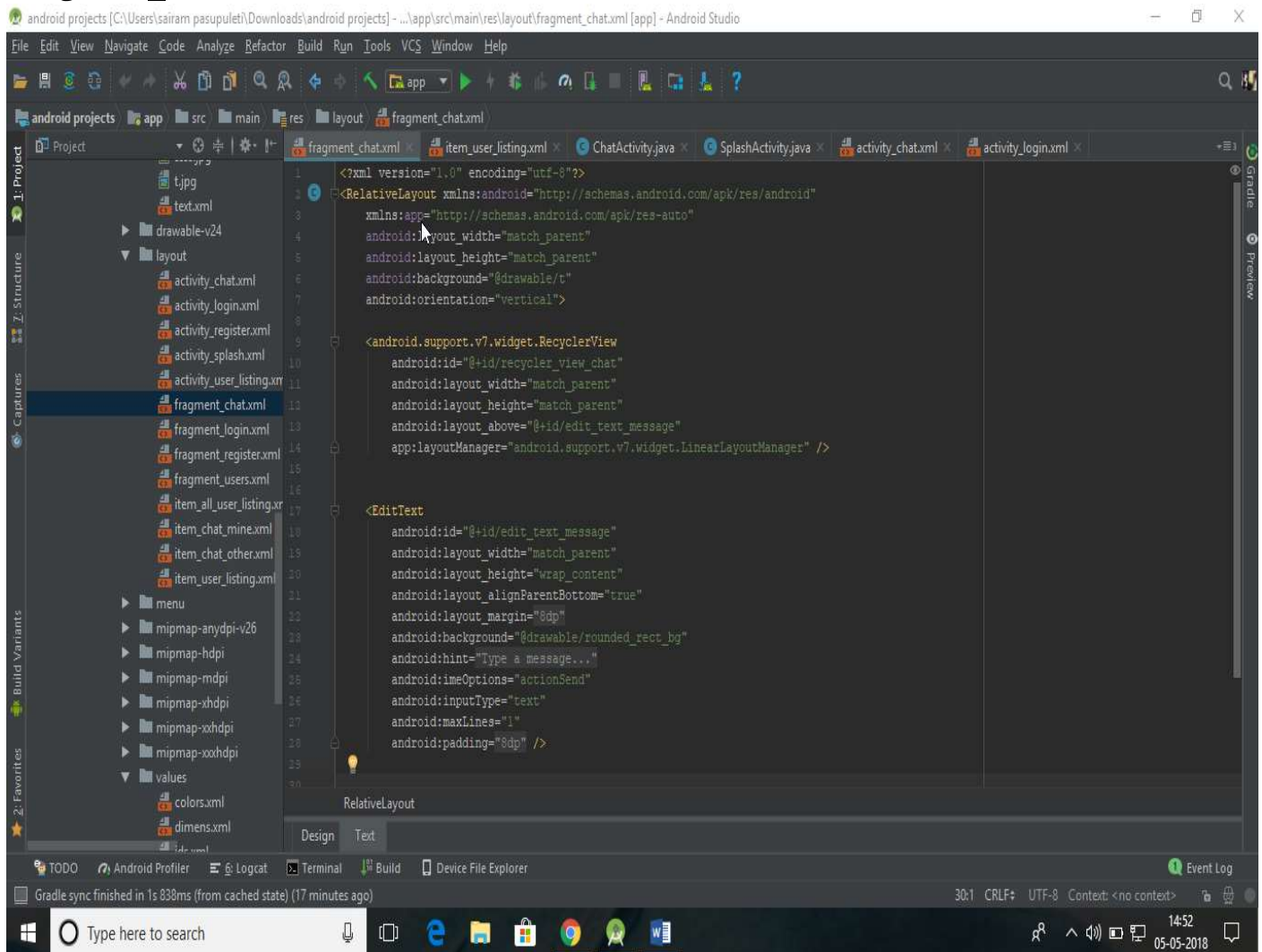
Chat Activity:



Description:

It shows a text box in which we can enter the message that you want to send to your chosen user. If the message is sent then it displays a toast of “message sent” and when the receiver receives the message it displays a toast of “message received”.

Fragment_chat:



Description:

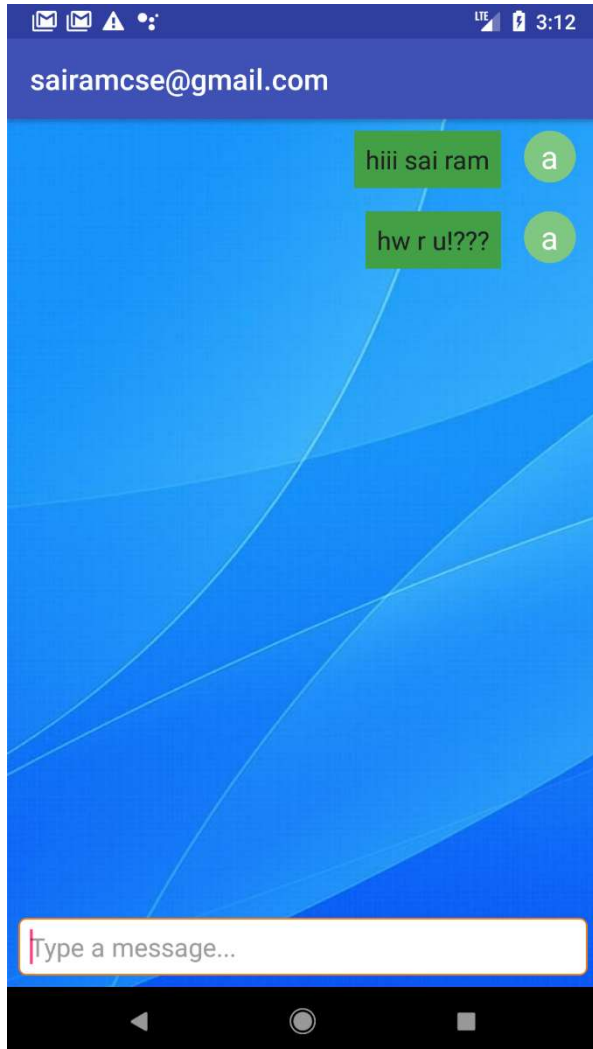
Fragment_chat is a xml file which shows the GUI of Chat Activity in which it displays a text box in which you can enter the message. When the sender sends the message, it displays the message on the right and the message received by the receiver is displayed on the left.

Test Cases:

Inputs and outputs:

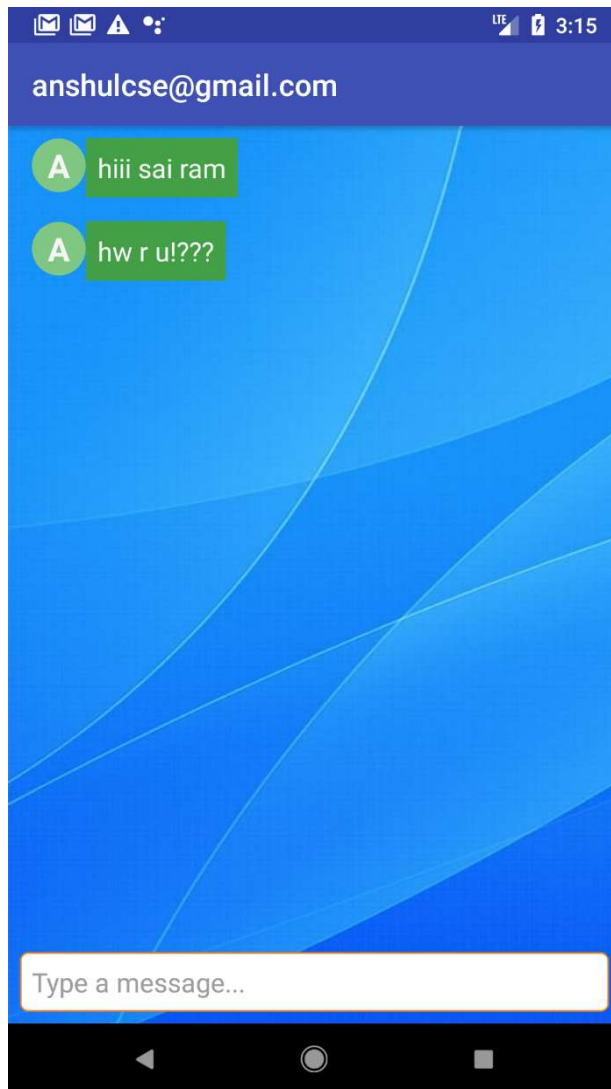
1)Input 1:

Status: Anshul sent message to Sai Ram



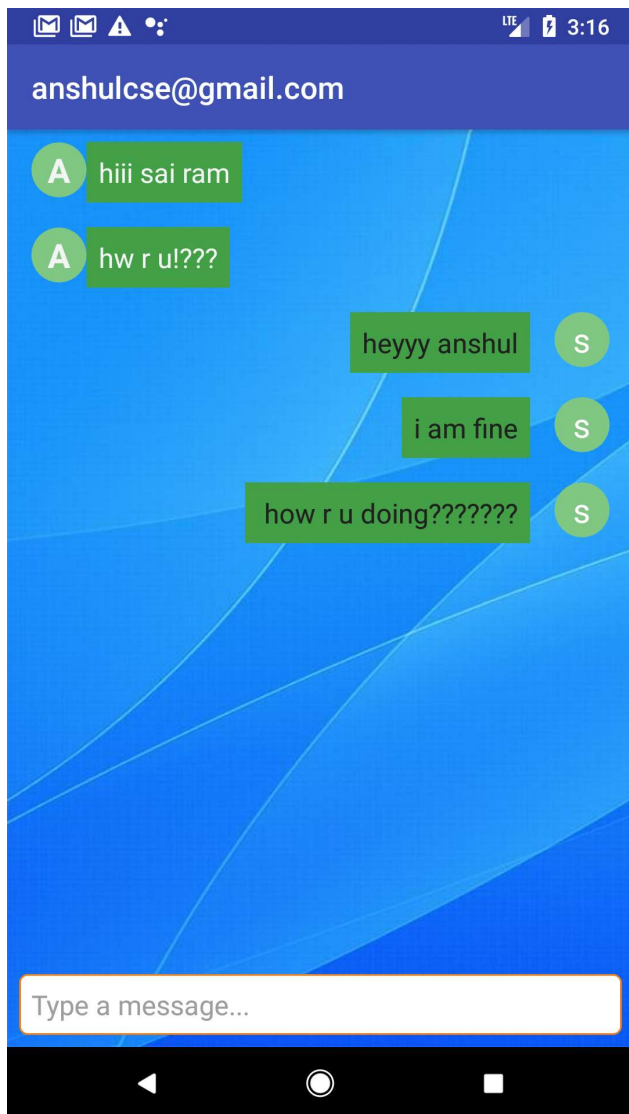
Output 1:

Status: Sai Ram received message from Anshul



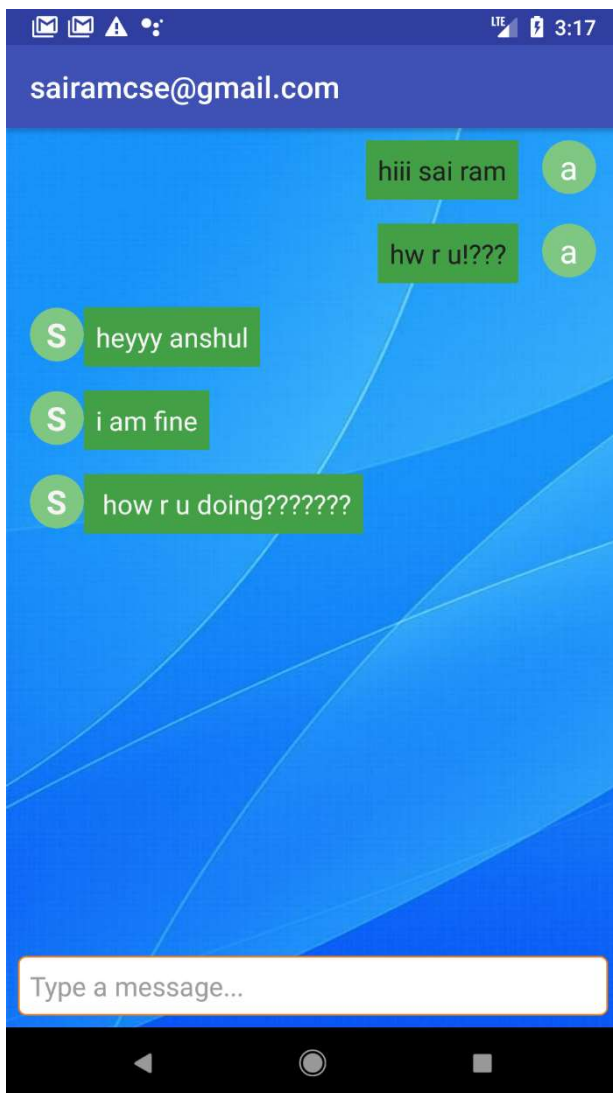
Input 2:

Status: Sai Ram Replied to Anshul by sending a message



Output 2:

Status: anshul received message from Sai Ram

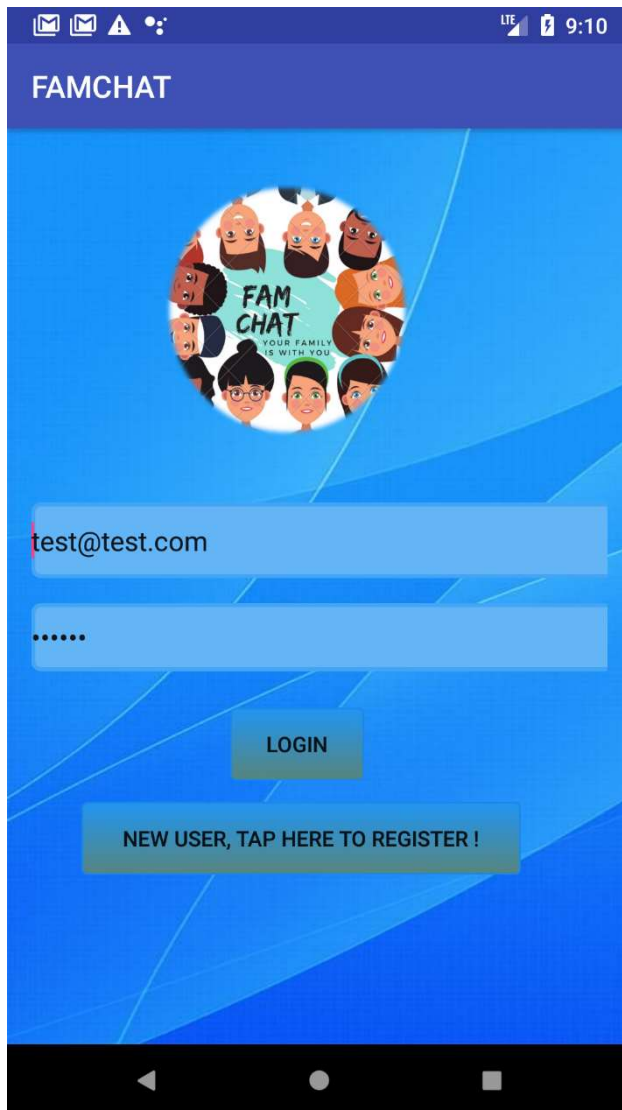


4. User Interface Screenshots

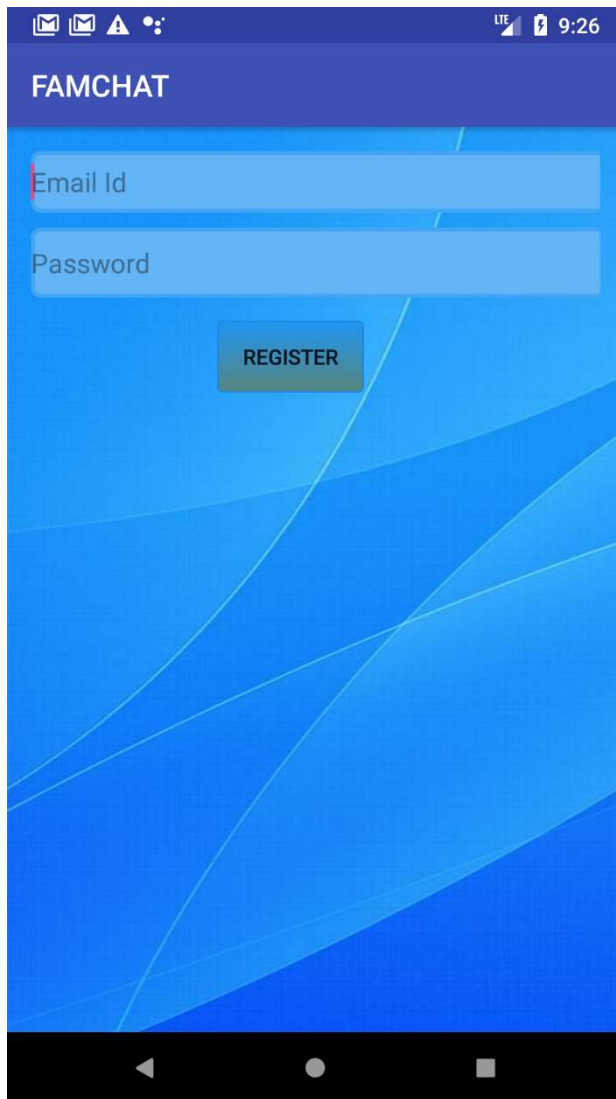
Splash Activity:



Login Activity:



Register Activity



The screenshot shows a mobile application interface for a registration activity. At the top, there is a dark blue header bar with the text "FAMCHAT" in white. Below the header, there are two light blue input fields. The first field is labeled "Email Id" and the second field is labeled "Password". Below these fields is a green button with the text "REGISTER" in white. The background of the screen is a blue gradient with abstract white lines. At the bottom, there is a black navigation bar with three white icons: a triangle, a circle, and a square. The status bar at the very top shows various icons including signal strength, battery, and time (9:26).

Top status bar: LTE, 9:26

Header: FAMCHAT

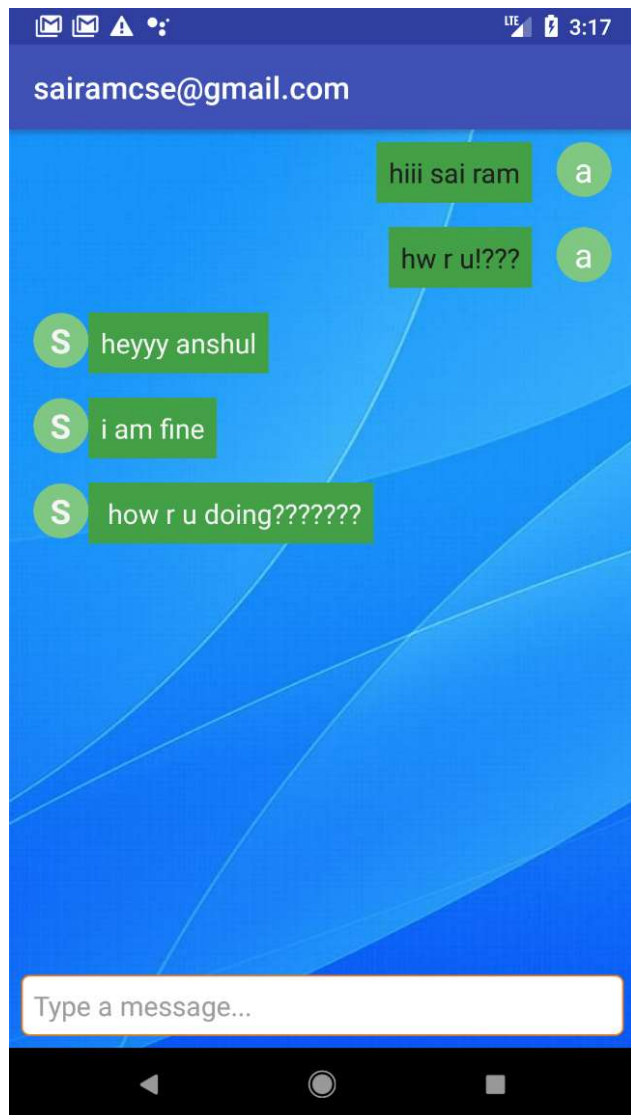
Input fields: Email Id, Password

Button: REGISTER

User Listing Activity:



Chat Activity:



Future Enhancements:

Till now we have just developed this app for chatting with other people by sending text messages. In future, we tend to enhance this app by making it to send images, videos and files and we further intend to develop this app to transfer even large size files, images, videos.

Bibliography:

References:

- 1) <https://firebase.google.com/docs/reference/android/packages>
- 2) <https://developer.android.com/reference/classes.html>
- 3) https://developer.android.com/reference/android/support/classes.html#letter_A
- 4) <https://stackoverflow.com/>