

## Android Based Instant Messaging Application Using Firebase

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Riverbed structure and sediment density are important and basic information in research river sedimentation problems. As the sedimentation management has become an important challenge in river and reservoir operations, modern geophysical equipment such as sub-bottom profiler, side-scanning sonar and multi-beam sounding are playing more and more important roles. A lots of geophysical methods have been applied to study science and engineering problems in flood control, river ecology, engineering safety and etc.

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**Abstract** - Now a days the communication way is changing day by day. We can see that e-communication is adopted by everyone by the change of time, so keeping this in mind the author is going to develop a instant messaging app which includes all the aspect that are required for a good messaging app. This app is an android messenger application. It allows its users to send text messages, share images using camera or gallery and share their location with their friends. Users register with their phone number and Email id and their friends are made using their contact list.

**Keywords**- Android, Automation Testing Tools, Automated testing, Test Automation, Android studio, Web Driver.

### I. INTRODUCTION

This is the era of technology we are living in. We are introduced with new technology day by day and all of them are making our life easier day by day. In this new era of technology the way of communication has also been change like we are communicating with each other using internet, so there are many ways already available in the world of internet for communication. Now the whole idea to make communication easy and secure we are here to develop a chatting app. The main objective of the project is to develop a Secure Chat Application. As a result, the product will be developed in terms of extensibility, portability and maintainability and tested in order to meet all requirements that are authenticate, integrity. This app will be fully Indian based development and will be encouraging the mission “Aatmanirbhar Bharat”. We hope to deliver the best quality product as an app that will be full safe and secure for the communication and will be meeting all your expectations. The motive behind

the app is to make communication easy and safe. Privacy will be our first priority. We hope to deliver such a product that will be putting an absolute mark on its user's expectations.

## **II. LITERATURE REVIEW**

While developing any software product first of all we have to recognise all the basic requirements of the users. It was our first step to developing the app that we have to know what the users actually want and what are their requirements, so basically software development start with the idea of the user requirements. After that the designing phase start, while keeping all requirements in mind the design has been created. Now the programmers has to implement that design into code. For that there is the proposed method called SDLC. That describes how the development of any S/W product has to be created. It includes all the aspects of developing the software. It helps the programmers to do their job in fruitful manner. It helps them to work in a structured way. Basically SDLC gives us the way of international standard way of developing any software in IT Industry. It gives the way to companies that they should perform their development action in a standard and structured way.

Key point:

The whole process while developing any software product includes many steps, by following them we can develop a standard software product. Basically there are six steps which has been included in developing any software product according to SDLC (Software development life cycle) as given below:

- Planning phase.
- Analysis phase.
- Design phase.
- Development phase.
- Testing Phase.
- Implementation & Maintenance phase.

## **III. CHALLENGES**

Some of the challenges that we faced are given below-

- Huge amount of data is processed every day, so the system built must be fast enough to respond in time.
- App may crash due to mismatch or updated version of different type.
- Hardware failure was one of the problem which we faced. There was too much of hardware requirements also, so it was also a challenge for developing the app.

A few ways to tackle the challenges-

- The system which is being used must be fast enough to detect the anomaly instantly.
- For, protecting the privacy of the users, the dimensionality of the data can be reduced.
- We can take a more trustworthy source, for double verification for users to verify the account login.

## **SYSTEM TOOLS AND REQUIREMENTS**

### **Required Tools:**

There are many required tools while developing this software as given below-

- Android Studio
- Firebase Authentication
- Firebase Realtime Database
- Firebase Storage

Firebase Invite

### **System Requirements:**

**Processor:** Windows workstation with Intel/AMD x86 or x64 processor equivalent  
(Virtual Machines fully supported)

**Memory:** 1 GB Minimum, 2 GB recommended

**Disk space:** 500MB

**Operating System:** Windows 10

Windows 8 (32/64 - bit)

Windows 7 (32/64 - bit)

Windows Server 2016

Windows Server 2012 (R1/R2)

Windows Server 2008 (R1/R2)

### **Web Browsers:**

Internet Explorer 8.0 - 11.0

Mozilla Firefox

Google Chrome

Apple Safari

Microsoft Edge

Opera

## **IV. SDLC METHODOLOGY**

The Systems Development Life Cycle (SDLC):

A Software Development Life Cycle (SDLC) system is just like a cycle which passes the following stages like:

1. Planning phase.
2. Analysis phase.
3. Design phase.
4. Development phase.

5. Testing Phase.

6. Implementation & Maintenance phase.

**The planning phase:**

It is the cycle is to comprehend for what reason should the framework should be assembled and decide its necessities. It likewise incorporates a plausibility concentrate from the alternate points of view and the specialized and financial, and attainability angles.

**The analysis phase:**

This stage incorporates exercises such decide and investigation issues, and in any event, anticipating potential issues that may emerge in future with respect the framework. The expectations/results of this stage will drive how the framework will be constructed and guide the designers works. The fundamental prerequisites for this task can be concluded by the necessities of the clients. Admittance to the task should be shielded from unapproved clients. In this way, any endeavour to get to the venture should experience some login cycle.

**The design phase:**

It is the most innovative and testing period of framework improvement. It manages changing over contribution to yield. It contains yield configuration, input configuration, record and preparing plan.

**The development phase:**

The advancement stage includes composing the source code dependent on the necessary usefulness following the coding norms, code streamlining, and so on It takes its essential contribution from the plan components portrayed in the product configuration stage.

**The Testing Phase:**

After the planning and creating stages, the application is tried for any sensible blemishes and usefulness, everything being equal. The undertaking is likewise tried to guarantee that all strategies and modules planned and created are working appropriately, alongside the route joins gave in all the UIs, at long last, the task is tried to guarantee that all the prerequisites recorded during the necessity investigation stage are being satisfied.

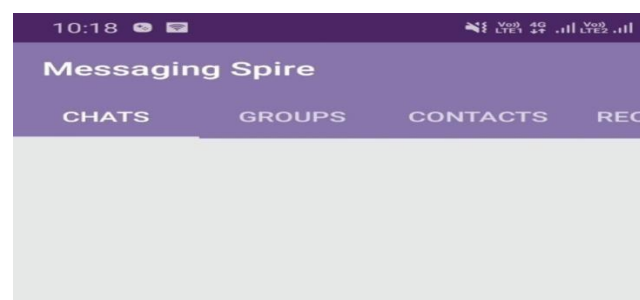
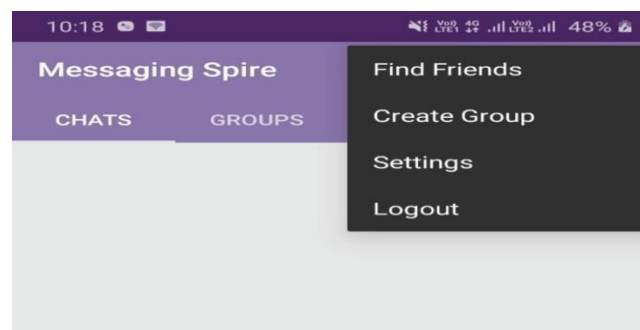
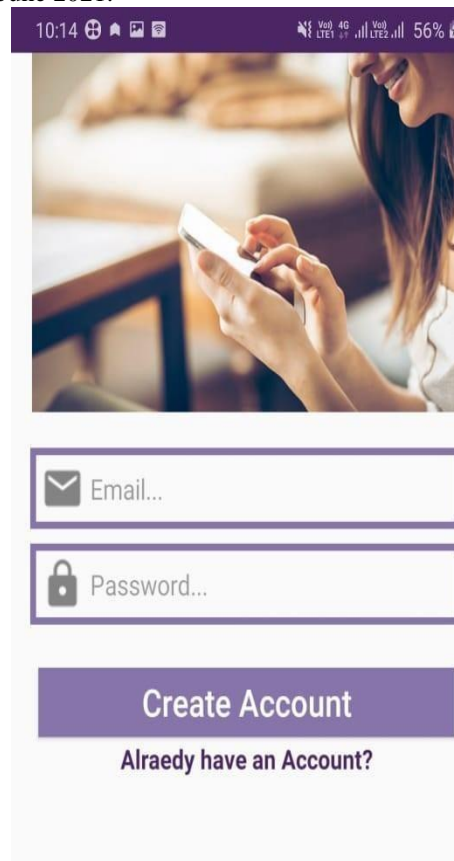
**The Implementation and Maintenance Phase:**

At long last, the task Is Executed in a dispersed climate, where it is utilized by clients signed in from various PC hubs on an organization. The venture is kept up from that point if any solicitations for changes are sent by the clients.

## V. WORK PLAN AND WORK PLAN LAYOUT

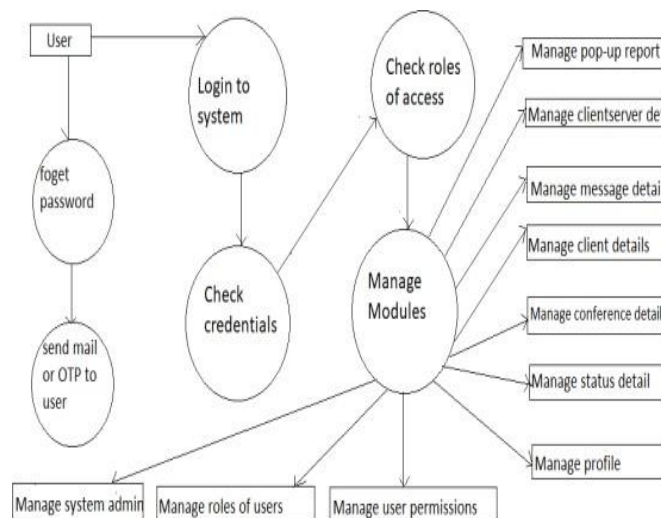
- You just have to copy the code and paste it into android studio.
- Now in the code, you have to enter your account username and password.
- After that, you have to Enter the username of the person whose posts you want to like.
- After that Run the code.
- Give time to code to like the posts and the terminal will display the number of posts liked by the bot.

1. Here are some screenshots given to better understand the process and functionality.





2. Flow diagram: Here we are providing the flow diagram for our application, so it will be helpful to understand the architecture of application developed.



## VI. REFERENCE

- Title of episode Android Application development
- Title of program /broadcast Android Application development
- Name of broadcast Program Programming Android fanatic and teacher
- Day, month and year of broadcast 17- 03-2016
- <https://www.udemy.com/course/learn-androidapplication-development-y/learn/lecture/7810222?start=0#overview>
- <https://www.javatpoint.com/android-tutorial>

- [https://www.tutorialspoint.com/android/android\\_studio.htm](https://www.tutorialspoint.com/android/android_studio.htm) Online Course