



Project Report

CSE 3200: System Development Project Messenger System

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signature

Acknowledgment

With the blessings and limitless mercy of Almighty, we are able to do this. We express our heartiest gratitude to Almighty Allah for this.

A word of special thanks must go to our highly esteemed teacher and this project's supervisor, **AL-Mahmud** Sir, assistant professor, Department of Computer Science & Engineering, KUET, for his excellent advices and right directions without which our project may not have reached a state it is in now.

Any constructive comments, suggestions, criticism from teachers as well as seniors will be highly appreciated and gratefully acknowledged.

With Regards

Refat Ahmed

And

Shakir Ahmed

Abstract

The sole objective of this project is to provide a convenient social communication. Those criteria are fulfilled by the help of Android Studio and an android smartphone. It's a complete project on real time file sharing and message sharing and spreading friendship via our android app.

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1. Introduction:

Messaging app (Social messaging or chat application) are apps and platforms that enable messaging ,many of which started around social networking platforms but many of which have now developed into broad platforms enabling status update , profile picture update ,conversational commerce .

Messaging apps are the most widely used smartphone apps with in 2018 over 1.3 billion monthly users.so we can certainly say that, people always want to communicate with each other and try to express their feeling via online . That's Why we planned to build such kind of android app which is highly demanded in our current situation. Besides, In our country we often face some political issue or some other ICT rules and restrictions. The government sometimes blocks Facebook or any other social communication app to stop any kind of propaganda .There may be many other issues . In this type of situation general people face lots of problems communicating with each other. In this type of situation we can easily use our “ Friendschat ” app to create a secure and personal conversation with a group of people.

In all of these messaging app some provide only messaging but, which we need most is the security of our conversation.so that no one can access or modify our message.

In our messaging app we used Firebase which is a mobile and web application Development platform developed by Firebase, Inc in 2011. It provides real time database, firebase storages, cloud messaging , online hosting, AB testing etc.

Firebase also provide client side encrypted messaging which ensures the whole security of our android app.

2. Objectives:

Our target is to provide

- a. Realtime communication.
- b. Security of our conversation (Encryption).
- c. File sharing (Jpg, png etc).
- d. Status Updating and Profile Picture updating.
- e. Staring communication without any complications (like phone number or email verification).
- f. Realtime Database updating.

3. System Overview:

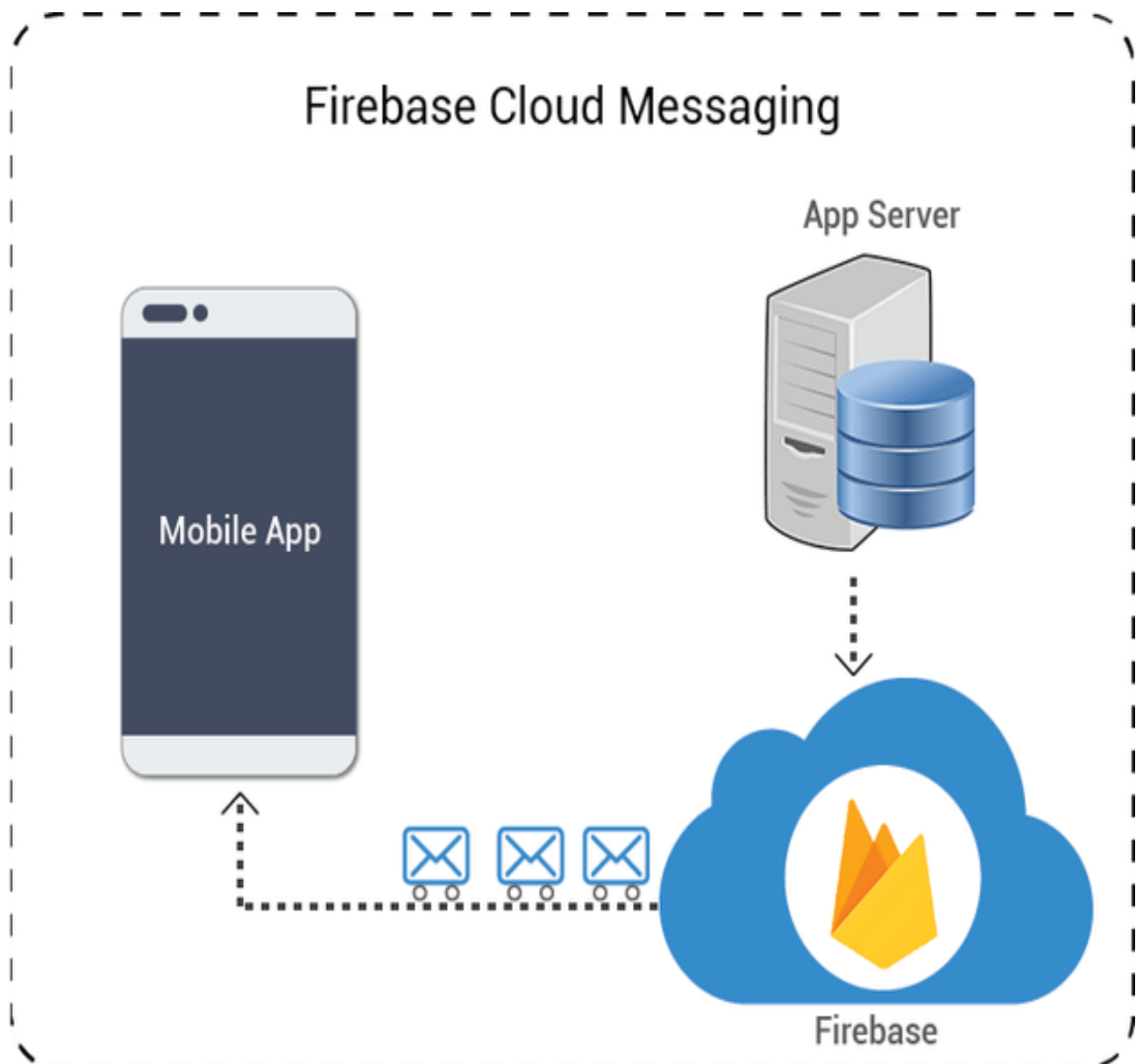


Fig: Functional Block Diagram of "Friendschat".

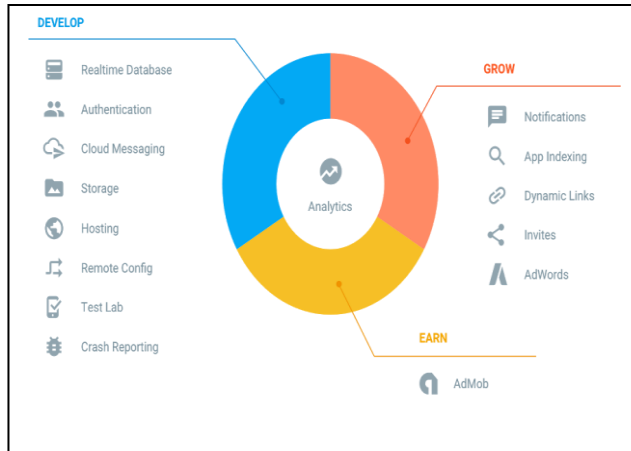


Fig: Firebase Functions.

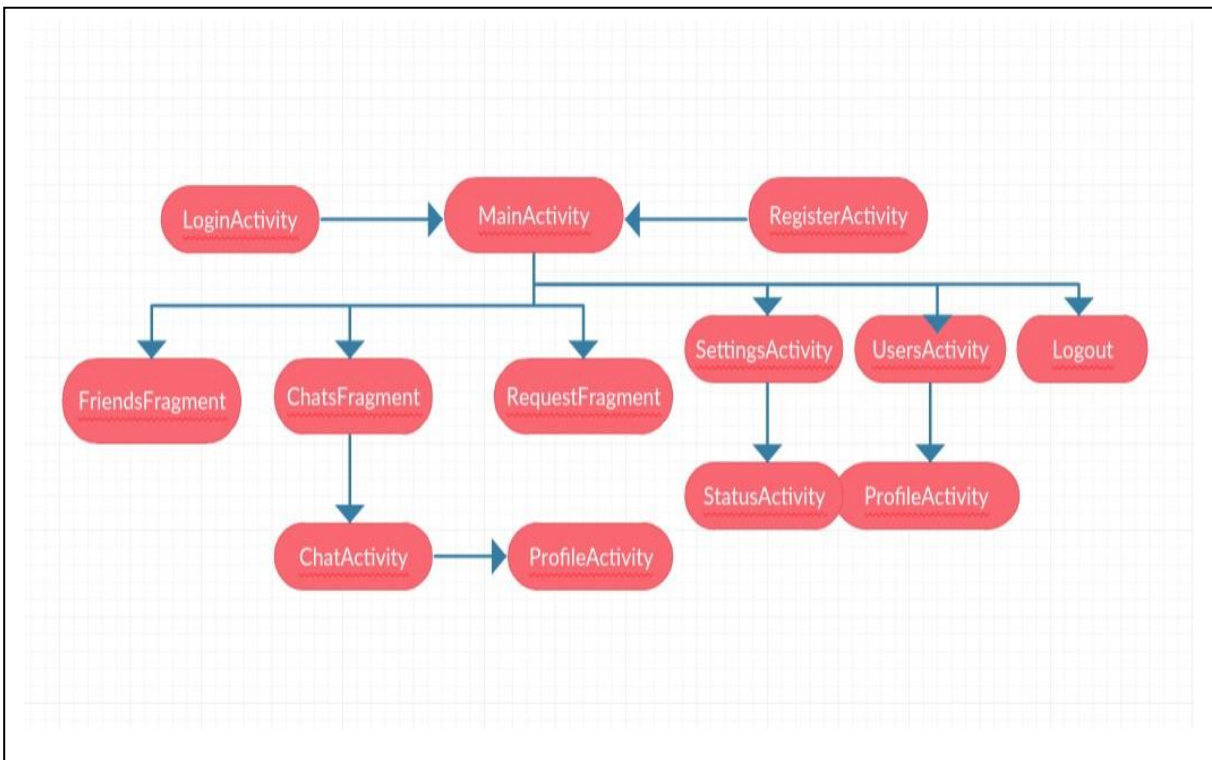


Fig: All Activity inter relations

4. Project Features:

- a. Firebase user registration.
- b. User login, logout.
- c. Chat Fragment ,Friends Fragment ,Request Fragment
- d. Realtime Database Updating
- e. Status and profile picture updating
- f. Realtime messaging.
- g. Media file sharing
- h. Presence system.
- i. Push Notification.

5. A brief Discussion on how our app works:

- a. Firebase user registration: In our app anyone can register using email address but firebase has others features like registration using phone number.
- b. User Login, logout: Any registered person can log into our app and start their conversation and finally they can be logged out if they want to. If user logged in from a device it does not requires log in every time.

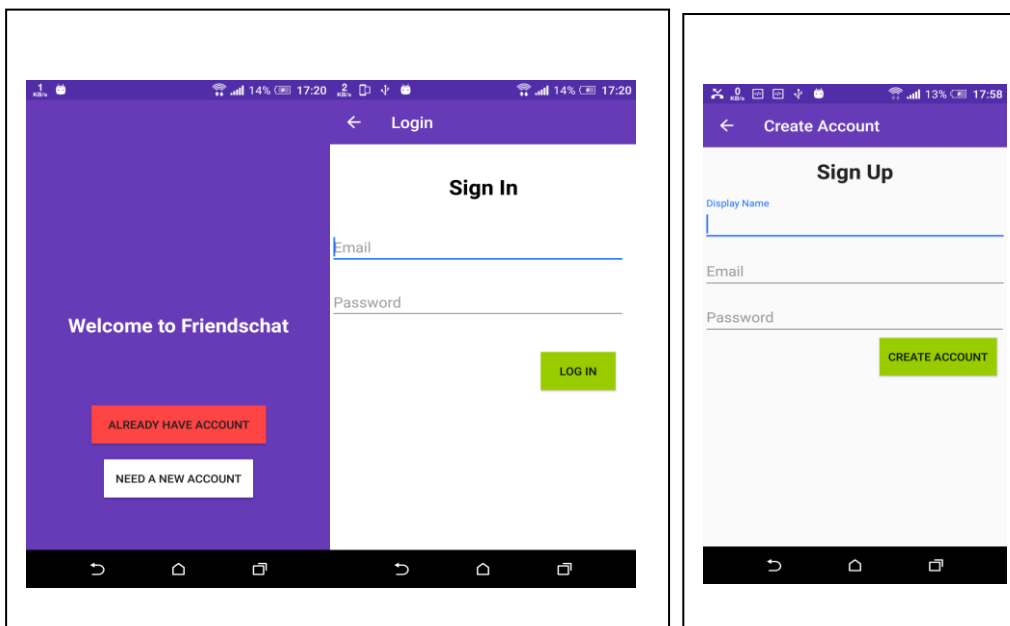


Fig: Start Activity, Registration Activity, Login activity.

- c. Status and profile picture updating: Our app provides a default status and profile picture but the user can change it and he can also crop the picture before updating.

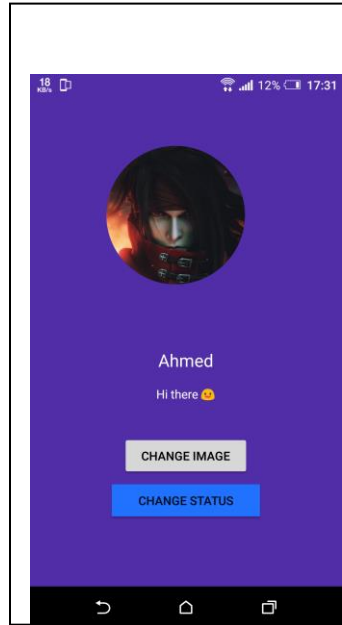


Fig: User ProfileActivity

- d. Fragments: In our app we have three different types of fragments (chat fragments, friends fragments, request fragments) based on user friendly use.
- e. Media file sharing: User can share media file through firebase storage. And the receiver can retrieve the media files when he/she is online.

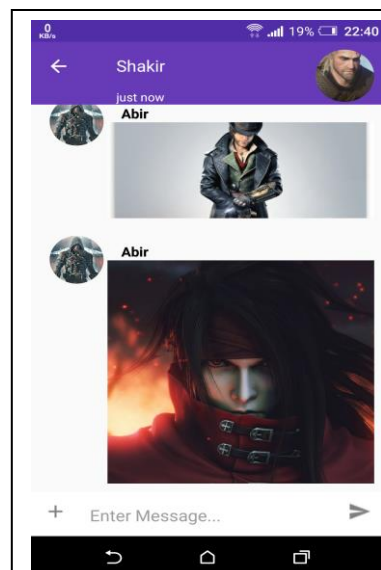


Fig: Media file shearing

f. Presence system: User can see if their friends are online or not. They can also see when his friend was online last.

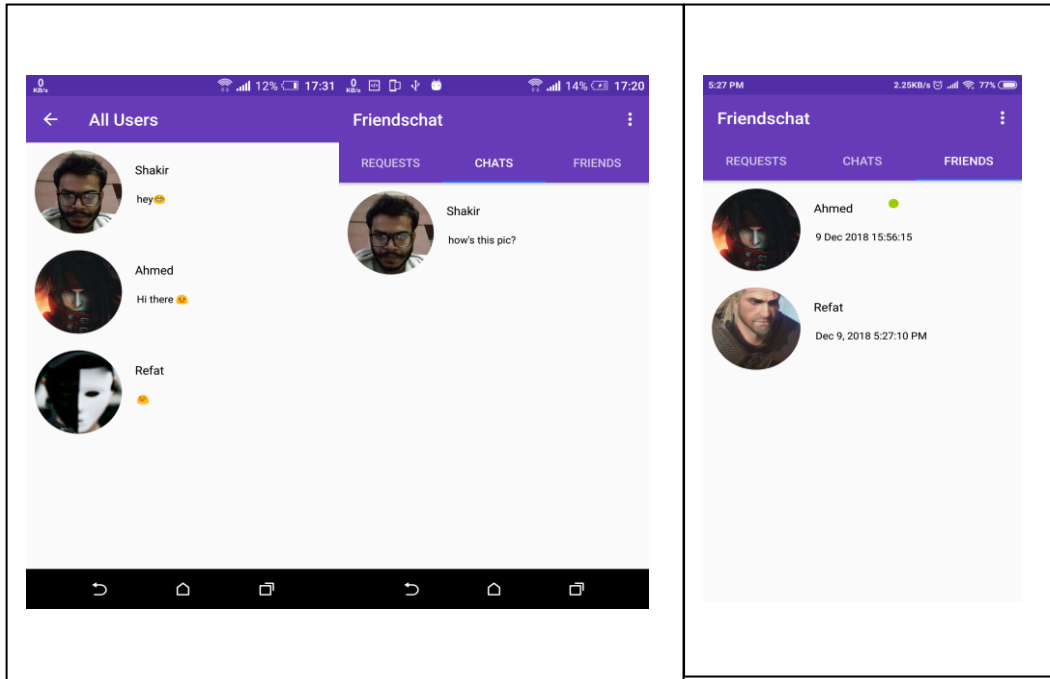


Fig: UserActivity, chatfragment, friendsfragment with presence system

6. Limitations:

- Firestore storage (Limited).
- Response time delay.
- It takes more time to load message and media files.
- Valid Email verification
- User searching option (not available).
- Username, email unchangeable.
- User cannot delete his/her account.

7. Future Improvement:

- a. Storage can be increased.
- b. Larger file sending will be available later.
- c. User (own) server creation.
- d. Realtime location sharing.
- e. Will be uploaded on google app store.
- f. User friendly and beautiful UI.

8. Conclusion:

- “Friendschat” is a complete project on improving social communication.
- We will improve our app according to the needs of the students of KUET.
- This app will be fully personalized app if we can achieve our Future improvement.
- This app can also help in academic purpose as we have file shearing feature.

9. References:

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