CorporateAR- A Social Media Application

Project Report

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In fulfillment for the course of

Human Computer Interaction (CSE4015)

School of Computer Science and Engineering

DECLARATION

I hereby declare that the project entitled "CorporateAR- A Social Media Application" submitted by us to the School of Computer Science and Engineering, VIT University, Vellore in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Computer Science and Engineering is a record of bonafide work carried out by us under the supervision of Prof. Arun Kumar S. I further declare that the work reported in this project has not been submitted and will not be submitted, either in part or in full, for the award of any other degree or diploma of this institute or of any other institute or university.

Utkarsh Sharma - 16BCE0226

Pratyush Sarangi – 16BEI0022

CERTIFICATE

The project report entitled "CorporateAR- A Social Media Application" is prepared by Utkarsh Sharma (Registration No: 16BCE0226) and Pratyush Sarangi (Registration No.: 16BEI0022). It has been found satisfactory in terms of scope, quality and presentation as partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Computer Science and Engineering in VIT University, India.

Prof. Arun Kumar S

ACKNOLEDGEMENT

I would like to express my gratitude to all those who have helped me in the successful completion of this project. Without their support, I would not have been able to achieve the goal of the project successfully.

I would like to take this opportunity to thank our guide, Prof. Arun Kumar S, for his constant support, guidance and mentorship without whom it would have been really difficult to complete the project on time.

Furthermore, I would also like to acknowledge with much appreciation, the important role of Dr. Santhi V., Head of the Department, SCOPE, whose contribution in encouragement helped me plan better.

I would like to thank our Dean, Dr. Saravanan R., who provided me with the facilities required and conducive conditions for the project.

Finally, I would like to express my sincere gratitude to VIT University, which provided me with a platform to hone my skills.

Abstract

In the paper "Social Networking in Smartphone through a prototype implementation using Android", we are going to introduce and develop a system which brings users across various corners together, and lets them connect, share media, host video calls and chat. The system is entirely based on Android O.S; Instant messaging service will be available for users through which a user can send and receive messages from one device to another. The main objective of developing a social network application is to provide an easy accessibility and communication for users in a secure network. Thereby our aim is to provide them a room through which they can easily be in touch with their friends. This paper gives some basic concepts about Instant Messaging System and connecting to people via a video call hosted by the new emerging technology, AGORA.

INTRODUCTION

Today, mobile is beyond a device that was merely used for talking to someone like in the past. It is a PC in pocket. A tablet or Smartphone installed with Android OS can be geared up with a variety of applications to provide a global connectivity. Smartphone's installed with Android OS just require an app to get connected with any social-networking services. They were designed to enhance flexibility, usability, and functionality of the communication system. In an instant messaging architecture, when a server process is running an user can send messages to other user's using web server on some unique port. According to Wikipedia pages, Android architecture consists of Linux kernels, libraries and APIs written in C and inbuilt java compatible libraries for developers and an inbuilt server, a free type of software and open source license, aspect that makes it very attractive among developers. Thus we are going to use this Android architecture to develop social networking application.

The Smartphone's are the major resources of the present system for speedy and smart activities. So we are going to develop a system which allows an user to chat, share data, media and documents.

a. Instant Messaging: Transferring of messages from one device to the other instantly.
b. Sharing: Sharing of documents and media.
c. Hosting Video Conefernces
d. Sending Invites.

SYSTEM ARCHITECTURE

In this client server architecture through which user interact with other user's through web server using the REST, SOAP and JSON web services which is shown in Figure 2.1. Client sends XML data using HTTP POST method with HTTP- REQUEST to the server in Figure 2.2 ,but before reaching the server this XML data will be converted to JSON format which is nothing but the KEY-VALUE pair and server receives the request using php GET method .After getting request, The server side script runs and checks for the data with the given request and if it exists, then it responses back using POST method and it converts JSON format to XML format at client side and with this HTTP-RESPONSE client get data using HTTP GET method.

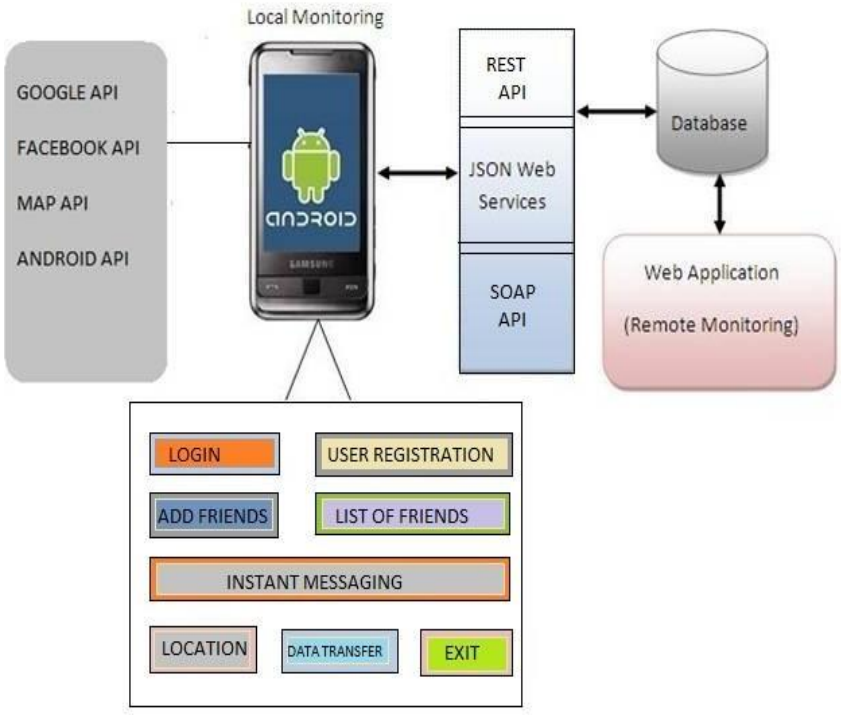


Figure 2.1 System Architecture

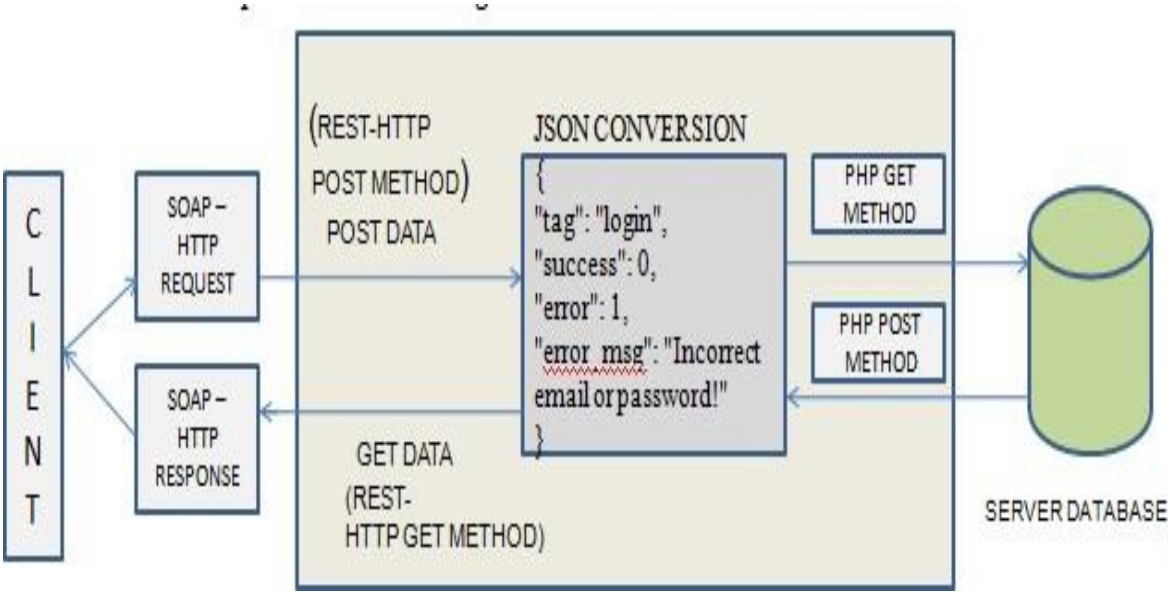
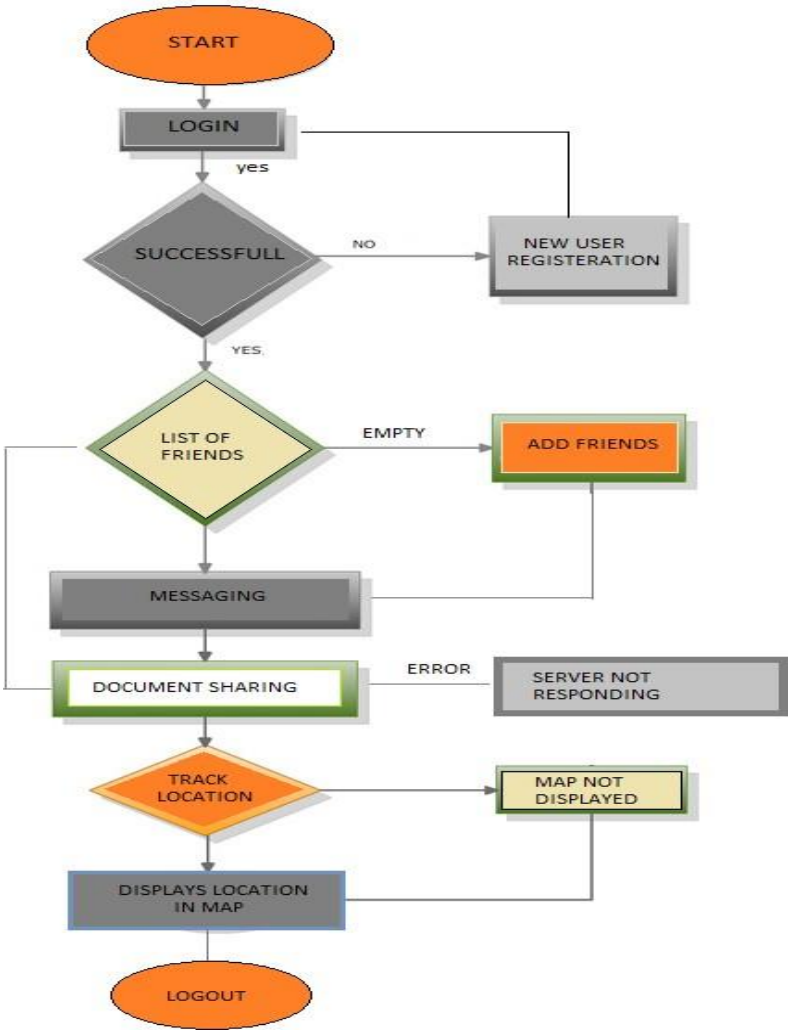


Figure 2.2 Client-Server Model



TECHNOLOGIES USED:

Google map api:

To access the Google Maps servers you have to add a GOOGLE Maps API key to your application which will be available on Google developer's account. The key is free, you can use it with any of your applications that call the Maps API, and it supports an unlimited number of users. You can obtain a Map API key from the Google API's Console by providing your application's signing certificate and its package name. Add the key to AndroidManifest.xml file in your application.

Facebook api:

Facebook provides an API key that enable Facebook members to log onto third-party applications, mobile devices with their Facebook identity. For authenticating it uses OAuth2.0 authentication method for logging into facebook account. Beside the regular registration using the user-id our application users are able to login with their Facebook account

Rest:

To develop client-server network applications REST architecture will be used. REST represents REpresentational State Transfer. REST is easy to implement as compared to other architectures like SOAP, CORBA etc., it works on HTTP protocol and support most commonly used HTTP methods (GET, POST, PUT and DELETE)

GET To fetch a resource

POST To create a new resource

PUT To update existing resource

DELETE To delete a resource

***Soap**:*

Simple Object Access Protocol is a way of transferring data between two applications by using the World Wide Web's Hypertext Transfer Protocol and its Extensible Markup Language as information exchange mechanism. HTTP and XML provide an easy way of communication with each network. SOAP encodes an HTTP header and XML file so that a program in one device can call a program in another device and pass the information. It alsoexplains the mechanism of http-request and response.

Agora:

The Agora SDK allows you to effortlessly integrate call functionality into your app or website. From documentation to integration, the Agora API is straightforward and built on simplicity.

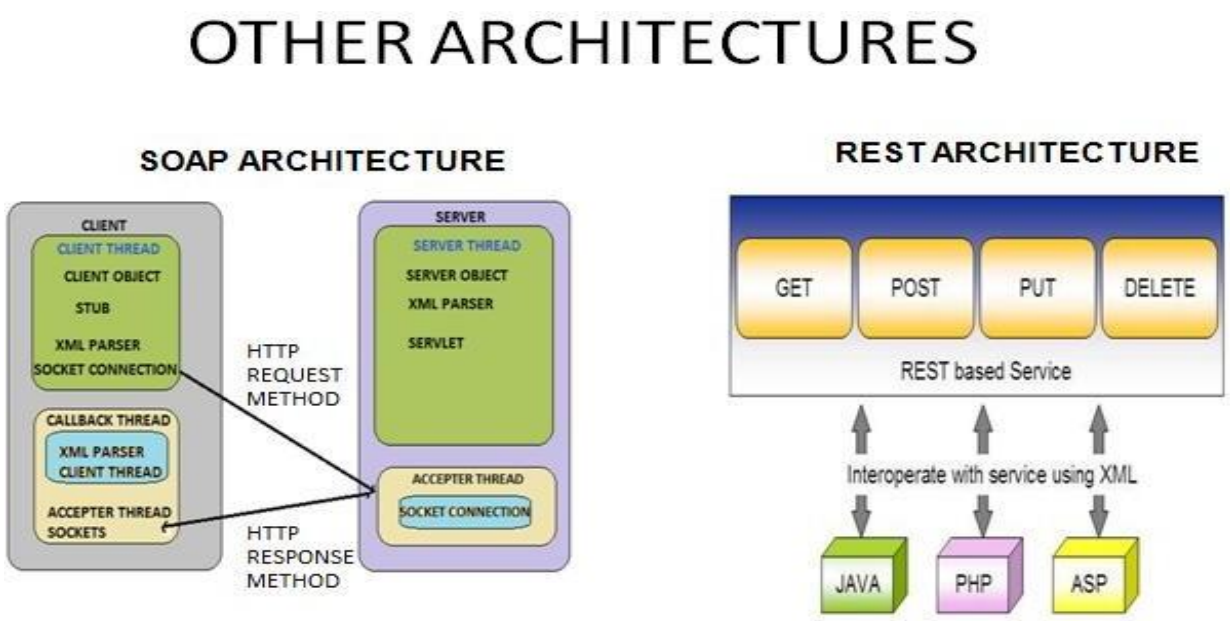
Slang Labs:

Slang is a Voice to Action platform, which can be used to quickly add a multi-lingual voice interface to any mobile app. The voice interface will allow end-users to interact with the app via voice, as well as with touch.

Slang will take care of all the work required to add a voice interface including a customizable UI, voice capture/processing, translation, NLU and finally calling into the actions registered by the client. App developers only need to focus on their app specific actions, while Slang takes care of the rest.

Dialogue Flow:

Dialogflow is a Google-owned developer of human–computer interaction technologies based on natural language conversations. The company is best known for creating the Assistant, a virtual buddy for Android, iOS, and Windows Phone smartphones that performs tasks and answers users' question in a natural language.



MODULES

Login:

Users will login into their account with registered user id and password. If not they can use their facebook account to login into application.

Registration:

For new users there will a registration process in which user has to create a new user id, password and enter his/her email id. After registration process user can go to login page to login.

Adding of friends:

*S*uccessful logged in users can add friends by entering their user name and send them request to add them.

List of friends:

With the approval of friend request, the user name will be added to the list of members.

Instant messaging:

Users can send message to their friends when they are in online and even when they are in offline. Private chat and group chat will also be available for registered users.

Document sharing:

It allows the user's to share media and documents among friends like .doc files, .pdf, .txt files etc and media files.

Authentication:

Users login id details will be mailed to their mail id from server. It authenticates and restricts the user to transfer files of large size.

Chatbots:

Slang is a Voice to Action platform, which can be used to quickly add a multi-lingual voice interface to any mobile app. The voice interface will allow end-users to interact with the app via voice, as well as with touch.

Dialogflow is a Google-owned developer of human–computer interaction technologies based on natural language conversations. The company is best known for creating the Assistant, a virtual buddy for Android, iOS, and Windows Phone smartphones that performs tasks and answers users' question in a natural language.

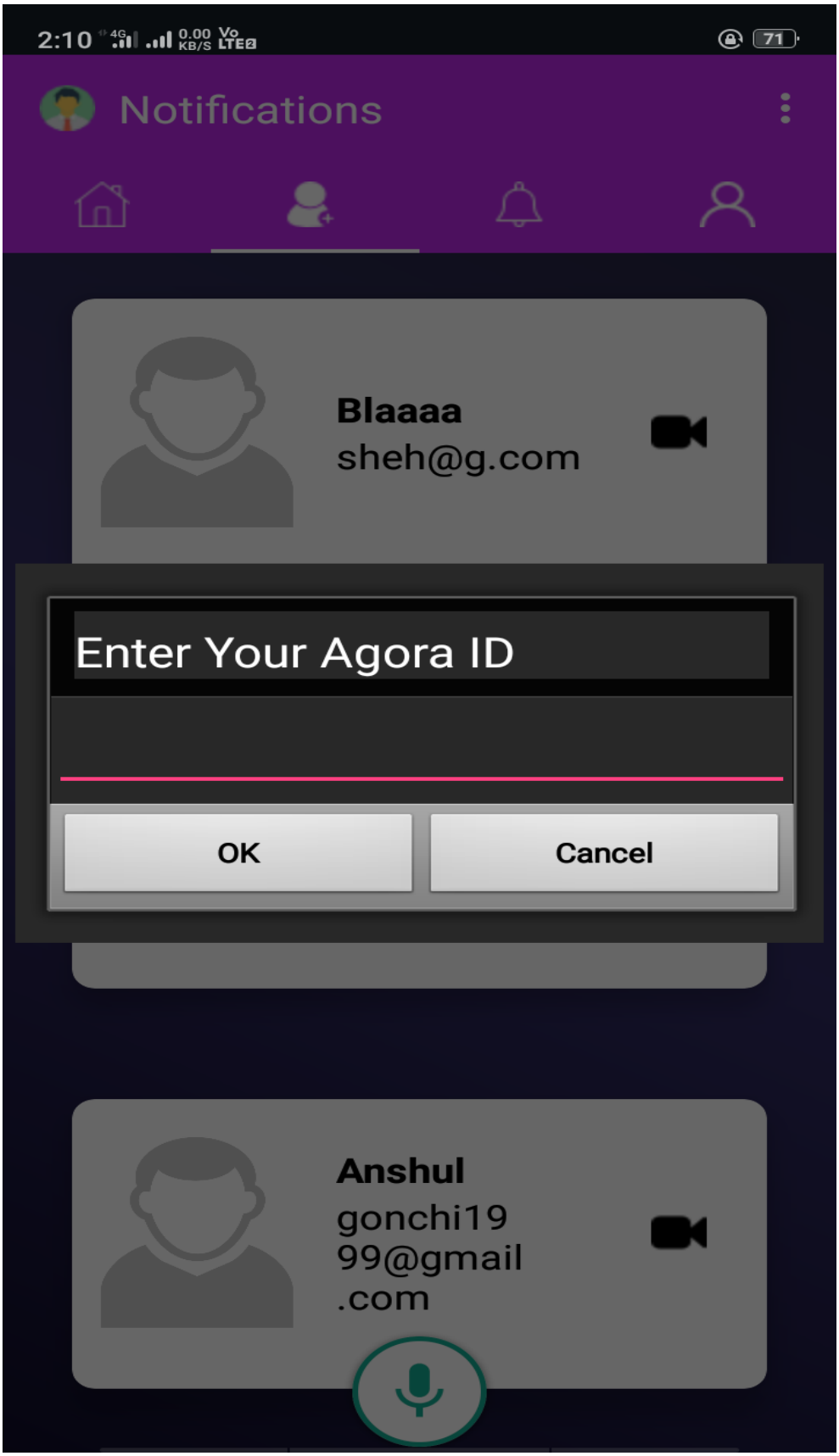
Logout:

Users can logout from the application.

IMPLEMENTATION

This section provides information on the software preferences and protocols used on the implementation of Social Networking system on an android development environment. The hardware platform chosen was Android SDK 2.2 ,ANDROID SDK 3.0,ANDROID SDK 4.0 and ANDROID SDK because applications developed on a lower target are compatible on higher devices too. To develop this Social Networking application we are using JAVA programming as client side and PHP on server side.For using inbuilt Android APIs and other packages we are using Eclipse for application development. At the initial stage of development of the application, a webserver was used for the testing of the authentication, login, registration and instant messaging aspect of the android messaging application.

For implementing web services in our project we are using JAX-WS(JAVA API for XML). JAX-WS is a widespread open source platform, which is an XML encoded protocol. JSON[14] (JavaScript Object Notation) was used to transport the messages from client to server via HTTP by converting XML data to JSON format which is nothing but KEY-VALUE pair. In order to work on mobile devices, Micro edition of Java was used and Android SDK (Software Development Kit) was installed and run the application from an AVD (Android Virtual Device). For testing the application a device having Wifi and GPS enabled on it, is used.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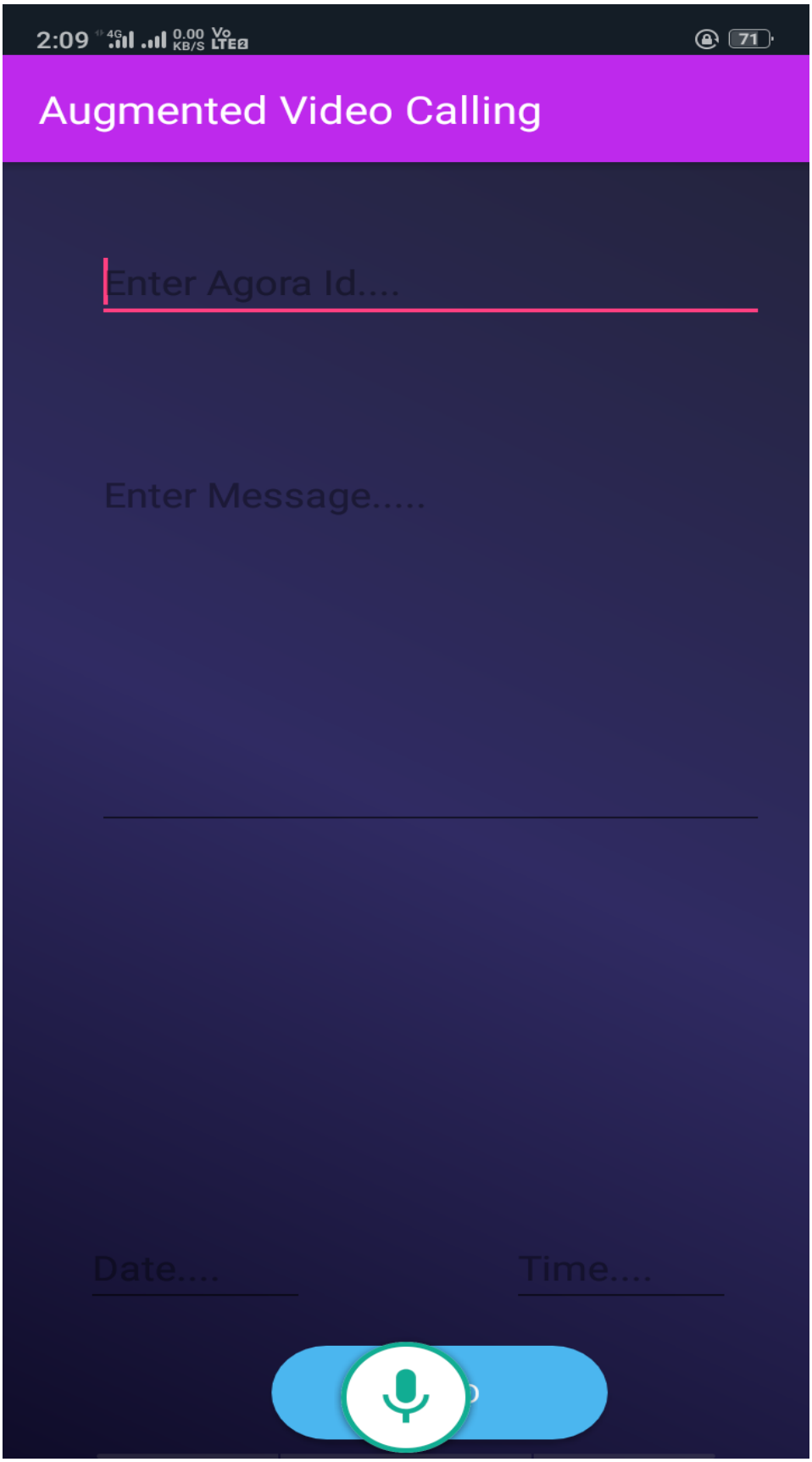
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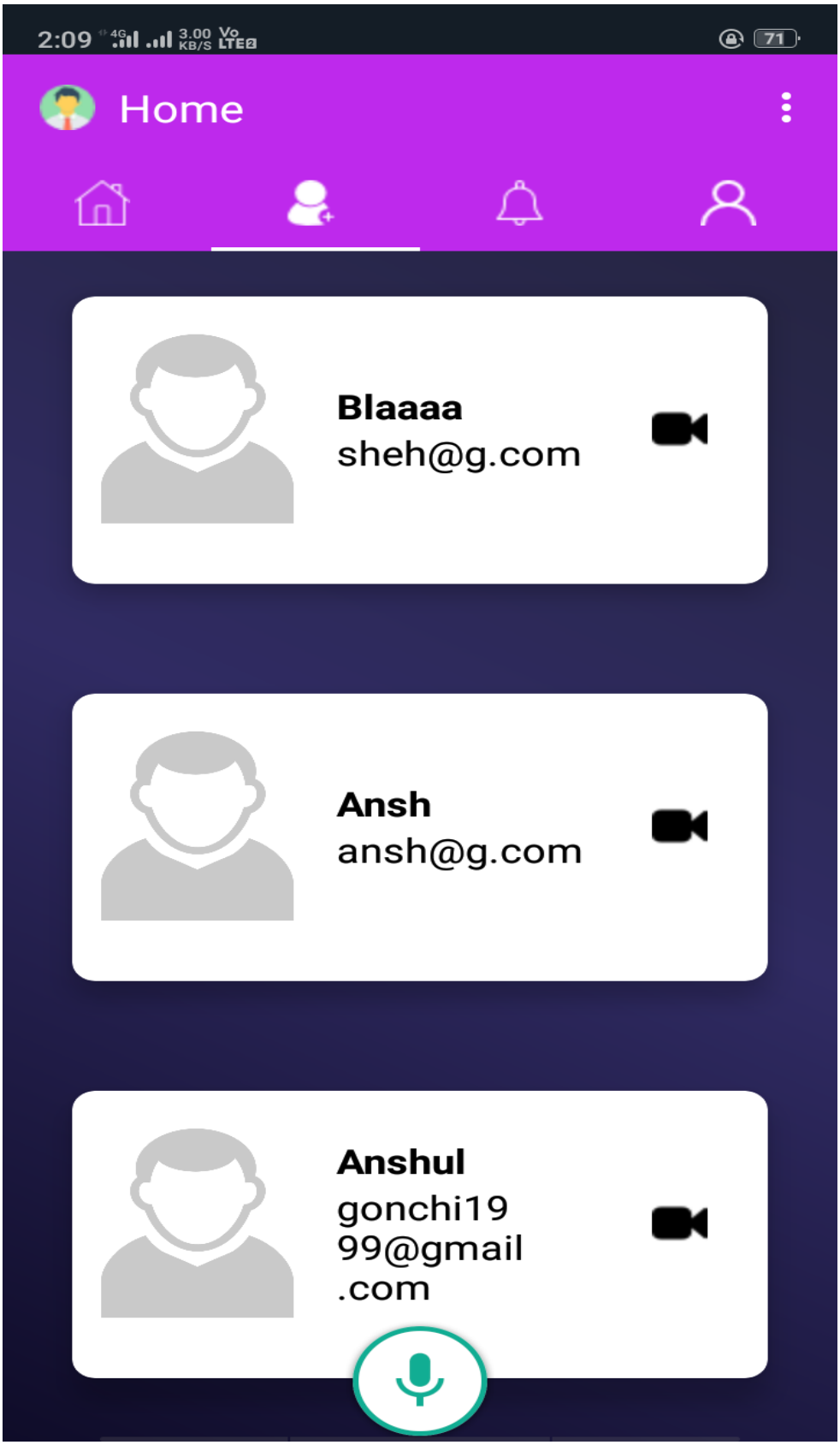
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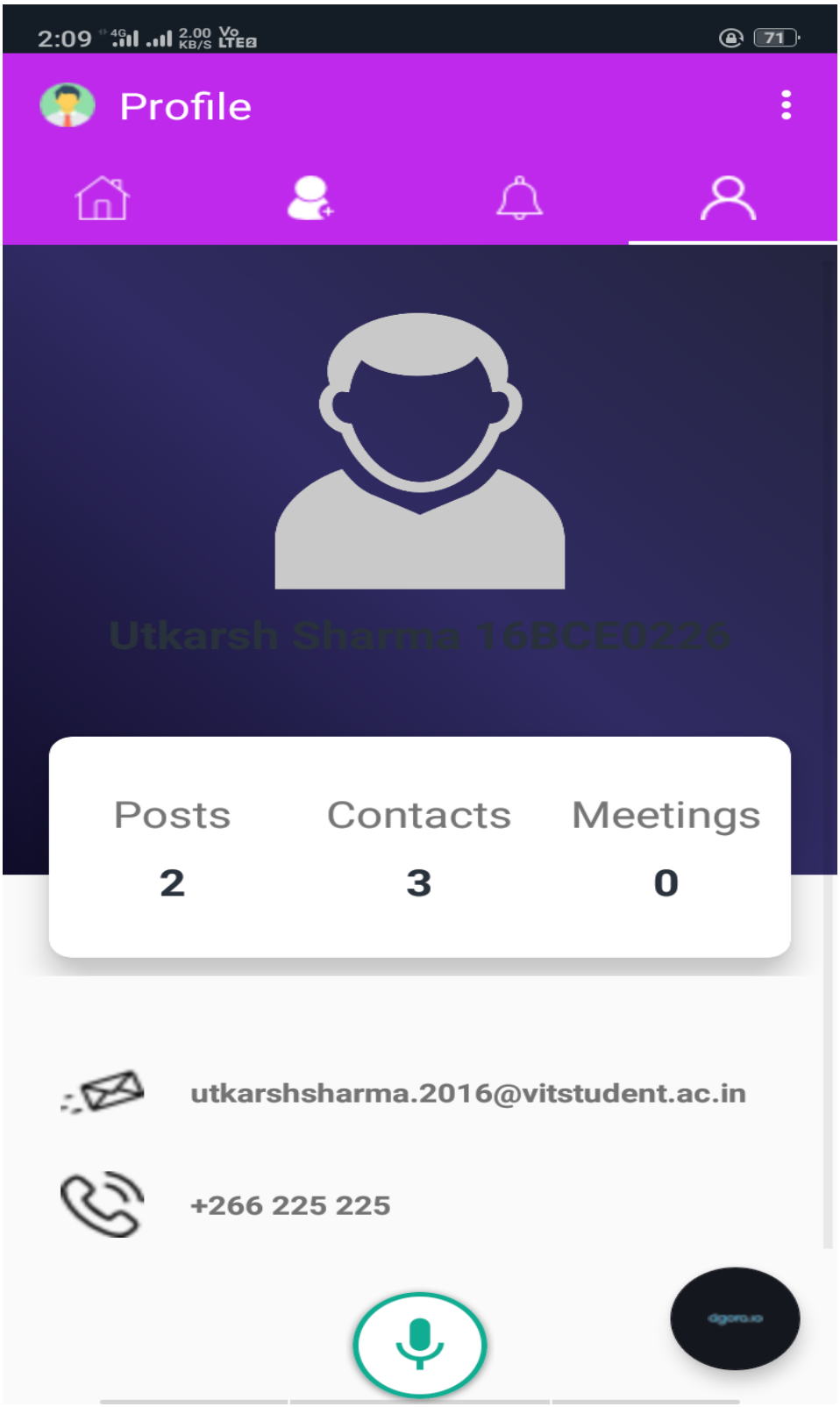
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Profile
Utkarsh Sharma 16BCE0226
Posts
2
Contacts
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Meetings
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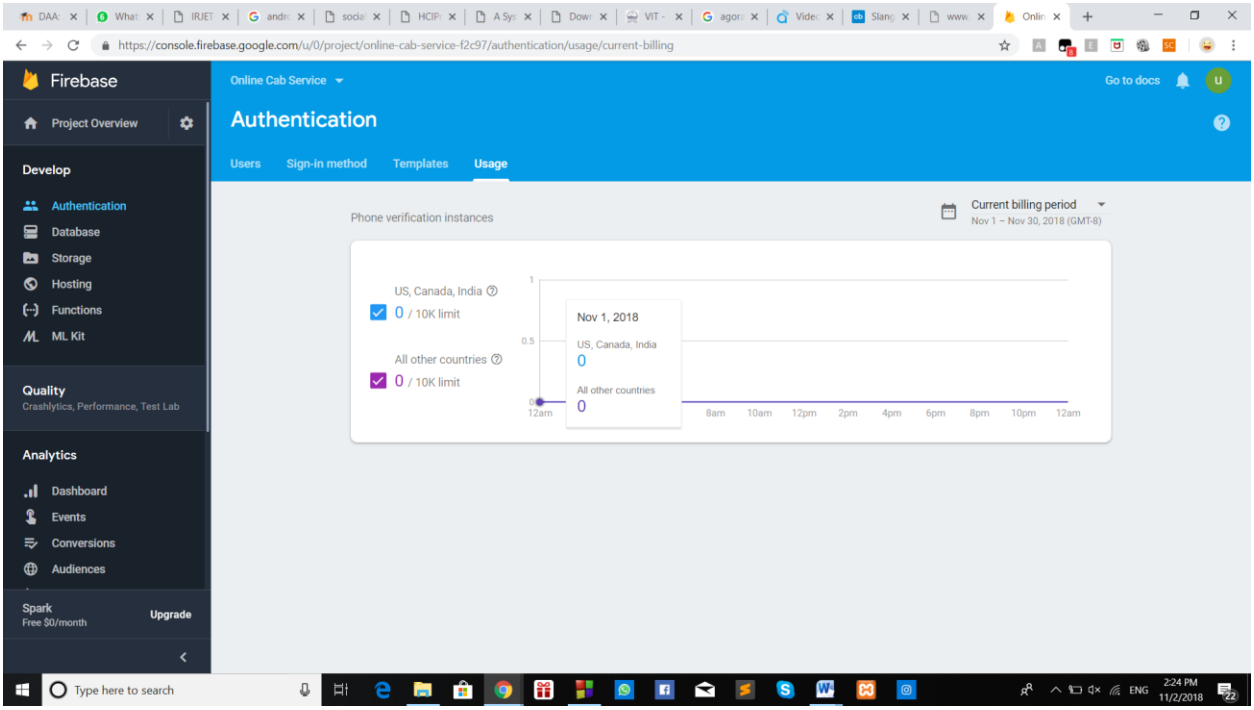
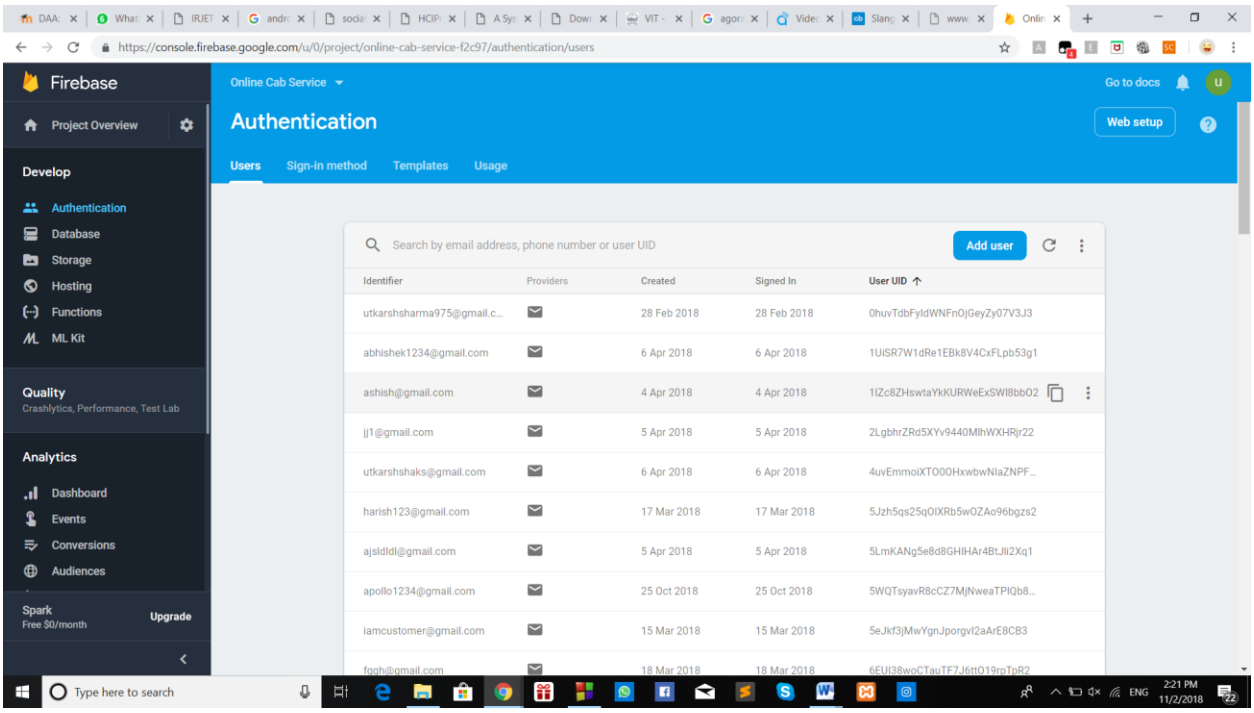
utkarshsharma.2016@vitstudent.ac.in
+266 225 225

BACKEND

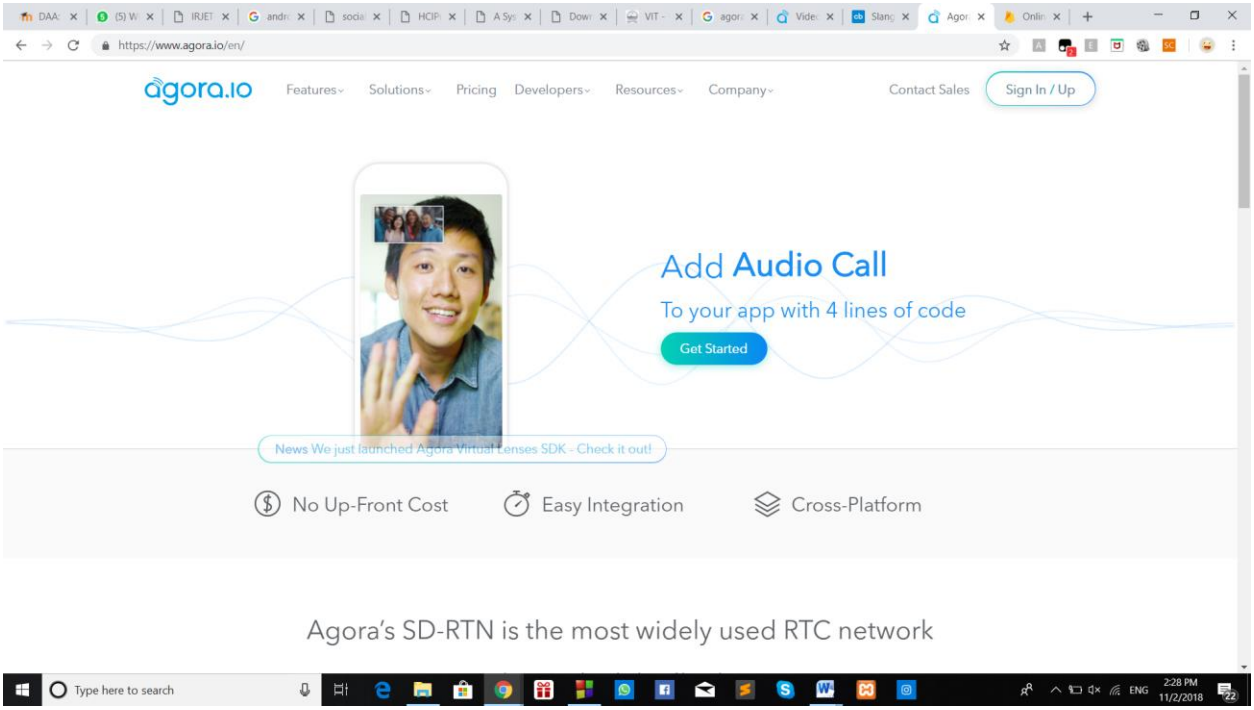
Backend of the mobile application is powered by firebase.

Following are the screenshots of the database that we have created.





AGORA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Solutions
Pricing
Developers
Resources
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Contact Sales
Sign In / Up
Add Audio Call
To your app with 4 lines of code
Get Started
News We just launched Agora Virtual Lenses SDK - Check it out!
No Up-Front Cost
Easy Integration
Cross-Platform
Agora's SD-RTN is the most widely used RTC network
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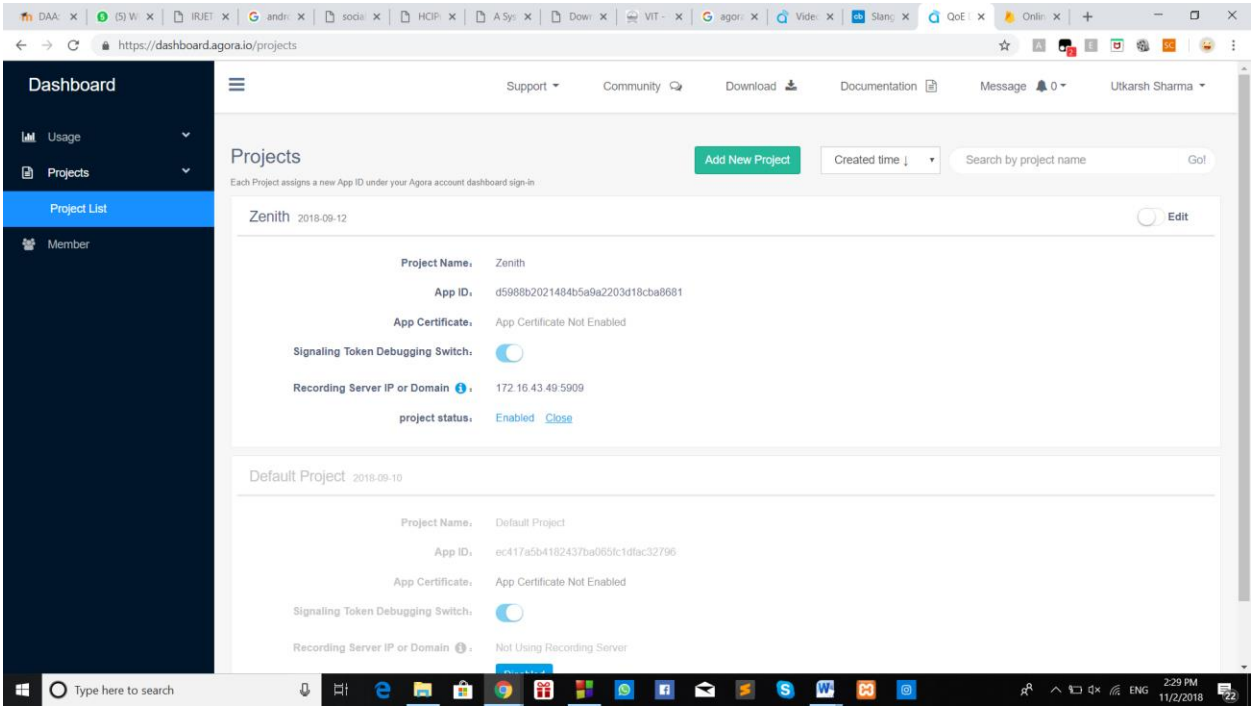
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Member
Support
Community
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Documentation
Message
Utkarsh Sharma
Projects
Each Project assigns a new App ID under your Agora account dashboard sign-in
Add New Project
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Go!
Zenith 2018-09-12
Edit
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App Certificate: App Certificate Not Enabled
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CONCLUSION

Our project is an application development on Android platform. It is classified into three main phases i.e. Instant Messaging, Document Sharing and hosting video conferencing which is a client server architecture using Json, Rest and Soap Technologies. The document/ media/ files sharing work as the user sends a document to their friends and the files get uploaded to the server and the other end user get a link automatically generated by the server and the user will be able to view the document through downloading it.

This application uses Google Map API and get's the user tagged along the map through his footprints and lets the user's friend view the real time updated foot prints of the user's friend.

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