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VIDEO CONFERENCING APPLICATION

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Abstract:

The purpose of making a video conferencing application is to provide better understanding of the views and ideas between two and more people. Long distance communication with audio and video is very easy for understanding the views and ideas. This video conferencing application will provide all the necessary features which are required to have better communication and exchange of ideas like screen recording, sharing a YouTube video, unlimited private room, inviting some third person, live chat room, mute audio and disable video all features are provided only in one application. Users can simply log in or Users can create an account on this application and get started with video calling and conferencing. In this application users will get a private meeting password for each time. This application can only accessed through android smartphones not for ios and any other devices. The required hardware and software are available and easy to work with. This Application can used During this time of social isolation and remote learning, these video conferencing applications are lifesavers. Many companies, schools and colleges make use of this application for meetings, work from home, teaching sharing documents like taking online sessions etc to maintain a connection with their students and guide their learning from a distance. The aim for this video conferencing application is to provide a user friendly platform where users can communicate with each other and have better communication and also schools and colleges can guide their students from a long distance.

Index Terms - Screen Recording , Chat Room, Video, Audio, Social isolation, Remote learning, Online secession

I. INTRODUCTION

The technology for video conferencing has come a long way since the days of jerky video feeds and static audio. A high-quality online video meeting provides an environment that will feel like you are actually sitting down across from other participants in the same room and gives you that face-to-face contact needed to build trust and relationships. In the current scenario, where everything has gone online and people are working from home, and also students are learning via online classes conducted by the institutes, faculties with the help of this video conferencing platform. Video conferencing has recently become increasingly popular and disperse in the wake of faster and cheaper internet connections and better technologies. The concept behind video calls is simple: It's as simple as making a phone call, but provides both video and audio. The right video conferencing tool allows you to set up a virtual "room" and provides a number or clickable link users can use to "enter" the room. Once they are in the meeting, you can see them with your screen and webcam, and they can see you. A conference video call is helpful for a meeting because it makes it easier to keep track of who is speaking. video conferencing technologies can be used to share documents and display information on whiteboards.

This project provides the video conferencing platform in which users can communicate with each other with their own private room, companies can use it for project discussion or interviews, schools and colleges can use it for online teaching by sharing virtual whiteboards and also manage records of student all of this can be done in this project with the help of key features such as screen recording, sharing a YouTube video, unlimited private room, inviting some third person, live chat room, mute audio and disable video.

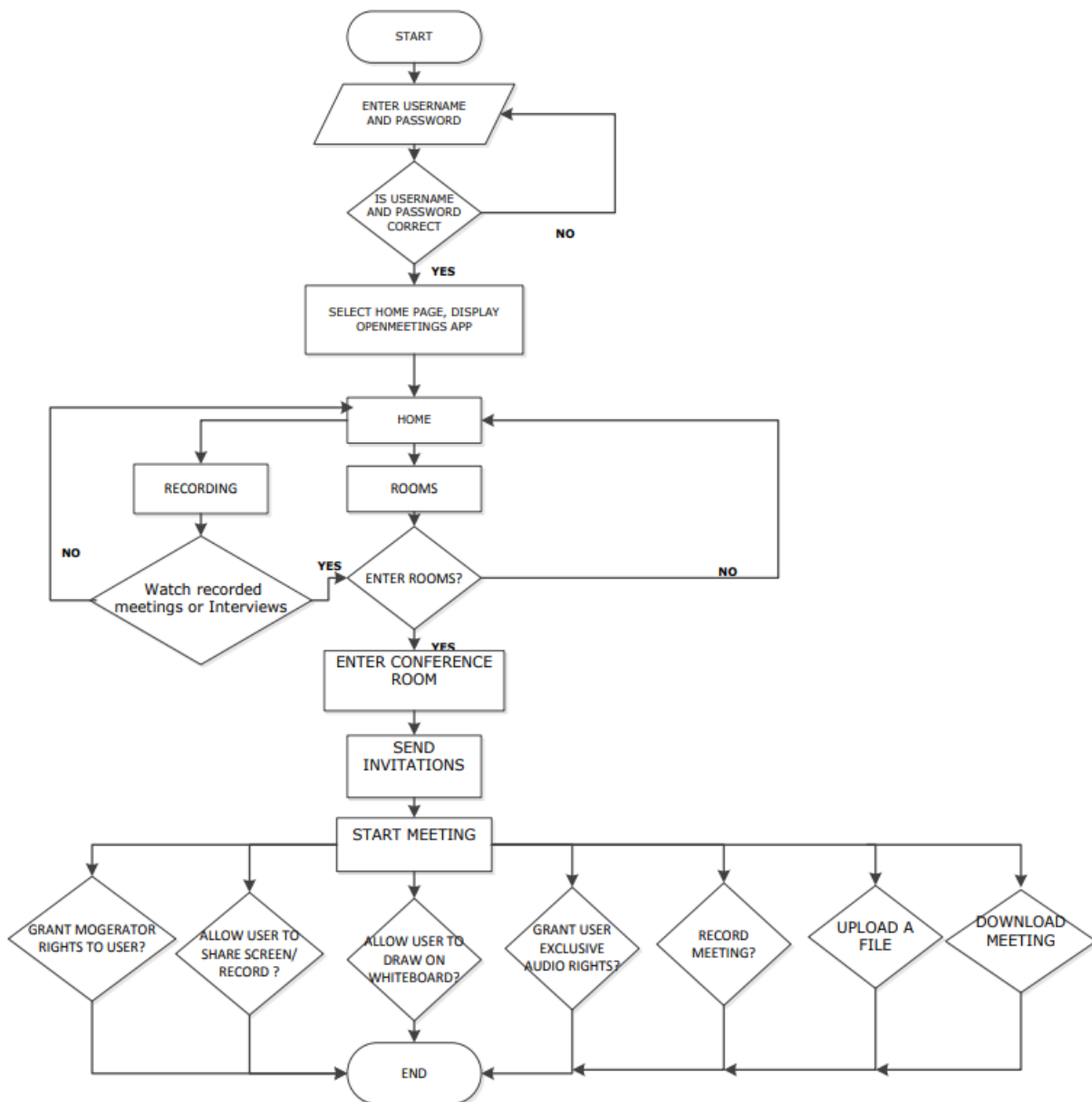
II. EXISTING SYSTEM

The first public use of video communications was the motion video telephone of AT&T at the New York World's Fair in 1964 . It was used in these early days by the business sector, to help save in the time and cost of travel. In first papers [1] This paper discussed that internet access had become primary issues among Universiti Teknologi Malaysia (UTM) students and it causes difficulty in discussion for tasks and assignments. Thus, this proposed P2P audio and video calling application using the local area network of UTM and it does not require any installation of extra plug-ins. The application reduces the students data usage and reduces the cost of performing audio and video calling. The features of the proposed system are provide a real-time audio and calling application for students to interact with each other; and able to let each other chatting with text and transferring files to each other

In second [2] Videoconferencing today is faced with the challenge of limited number of participants per time, and also the need for large and fully equipped conference rooms. The aim of this work is to design and implement a videoconferencing prototype (OpenMeeting) with added functionalities which will solve problems facing the traditional way of conducting meetings.

In final [3] Use of P2P technology in the wide area network to transmit multimedia data, each node can provide resources as severe, so it can improve transmission efficiency. However, in the LAN, multicast data can be simultaneously sent to multiple recipients, so it has more advantages, and can reduce the bandwidth, greatly improving communication speed. Therefore, this paper presents the multicast technology combined with the P2P technology, giving full play to the strengths of both technologies. It can service video conference system better

III. PROPOSED SYSTEM AND IMPLEMENTATION



IV. SYSTEM ARCHITECTURE

In this System user first have to create an account by giving some required information. After successfully creating an account user can login in the application with the help of e-mail and password. Then user will be directed to a secret room code in that user has to put the code so the user can create a virtual room for video conferencing. On the other hand other users have to repeat the same procedure and in the secret room code user has to put the same code as the host user did so that they can connect with other also they can send the invitation link to other user. After connecting, users can now experience more features like chatting, recording a video call, screen sharing, security password, They can go live on youtube etc.

V. FRAME WORK

An application that provides you useful and beneficial features during video chat. The system also allows you to record and live stream your video chat. With primary features like mute, pause, camera change it also allows you the features of screen share. During this hard time of COVID-19, you can share or make discussions live on your mobile phone with great security. This app is made using a high security encryption algorithm that no one can breach your video chat room. Only the user with your private room code can join the video chat. You can maintain a record of your entire video chat history. Apart from this it can also allow you to send text/image/voice messages to your friends.

VI. RESULT AND DISCUSSION

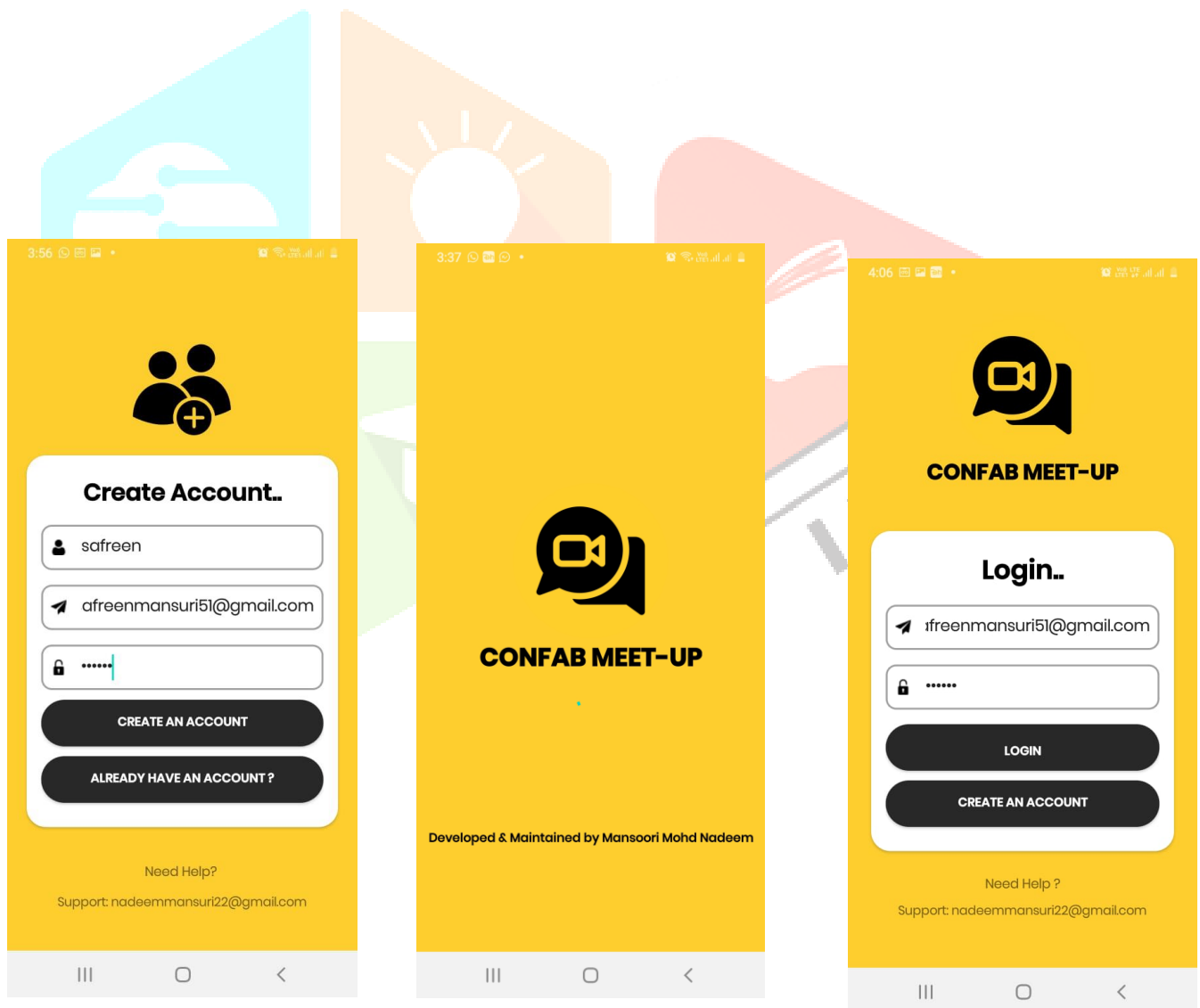


Figure no:1 – Splash screen, Create an account and login screen

Above figure shows the splash screen, create an account and login screen of the application where users can create an account or login into the application.

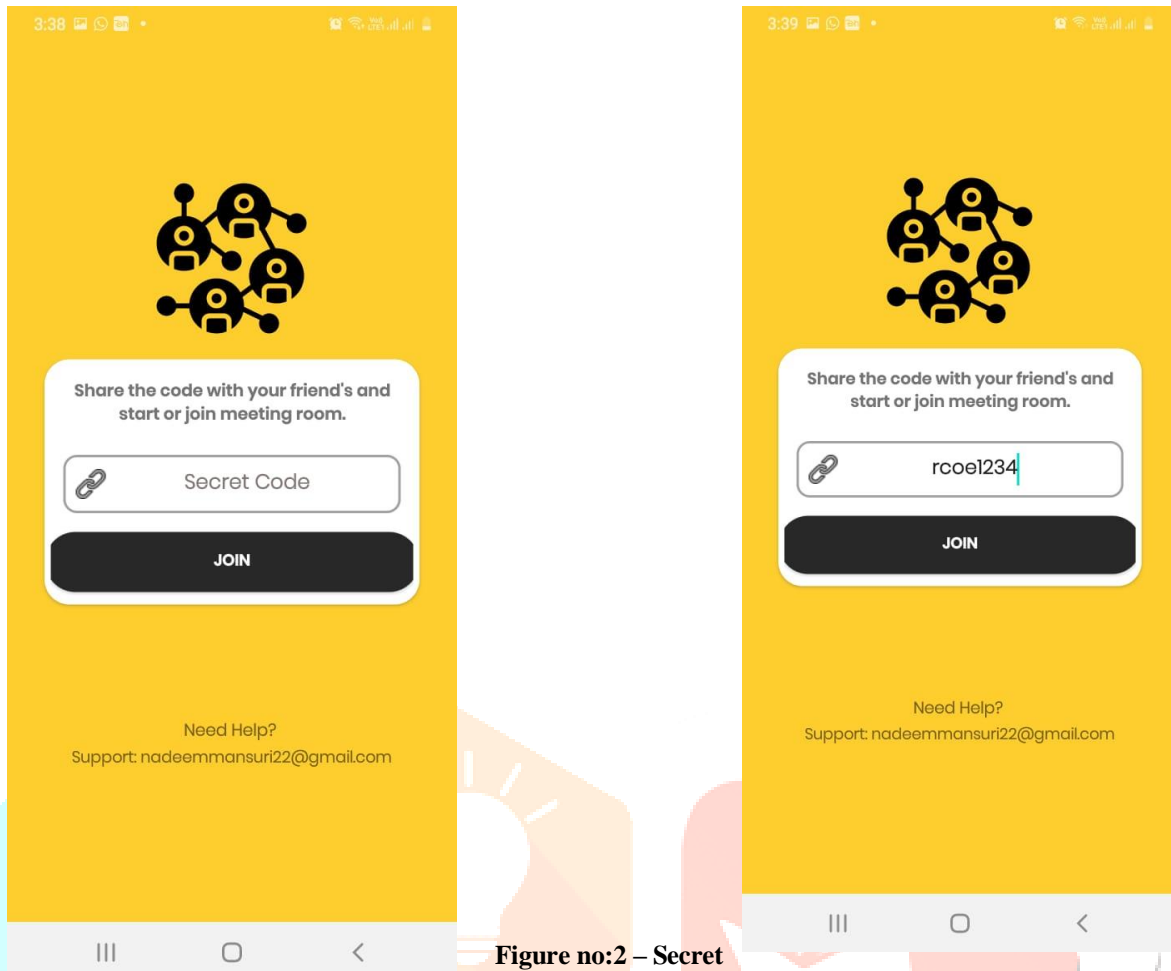


Figure no:2 – Secret

screen

code

Here user have to create a secret code and then click the join button to start or join meeting room.

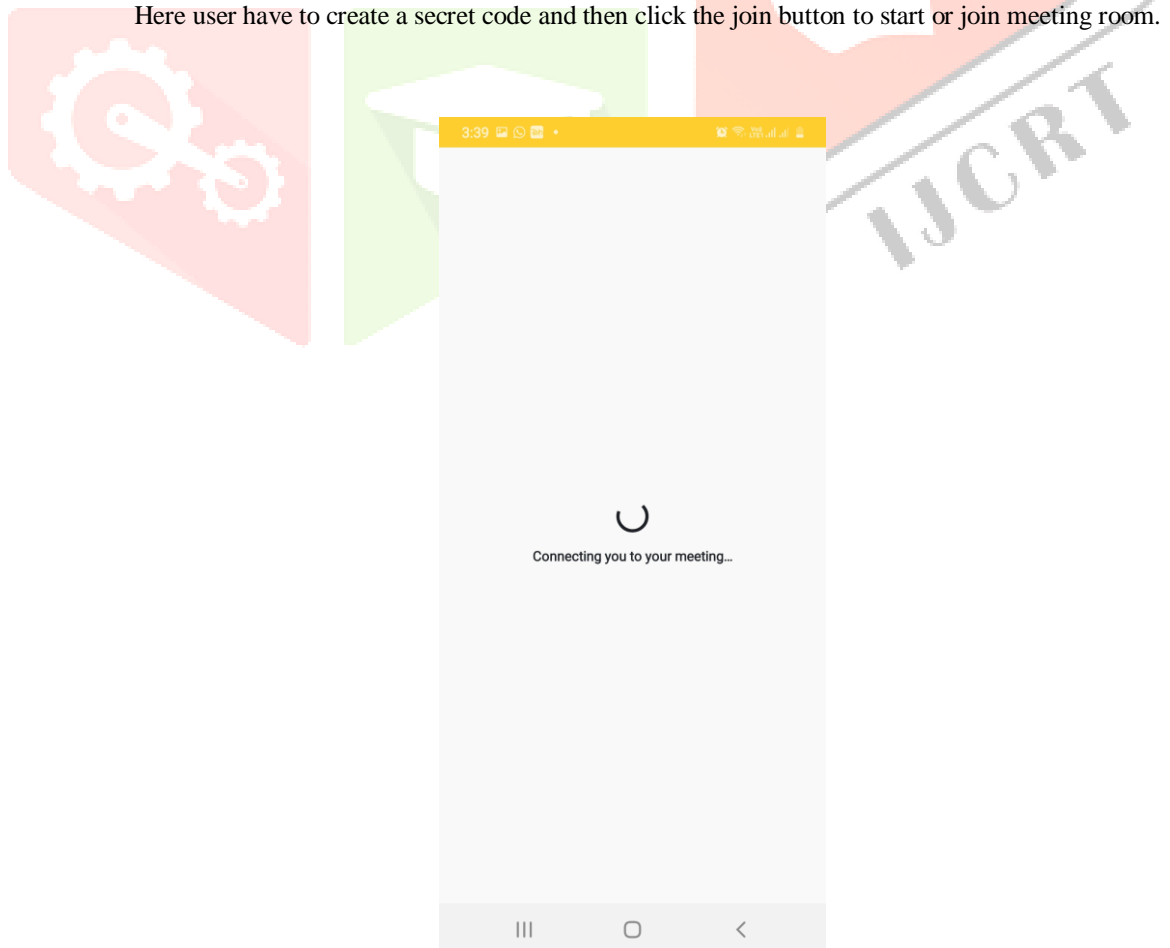




Figure no:3
Connecting you
meeting

to your

After clicking join button meeting get started as u can see inthe above figure shows the outcome of meeting

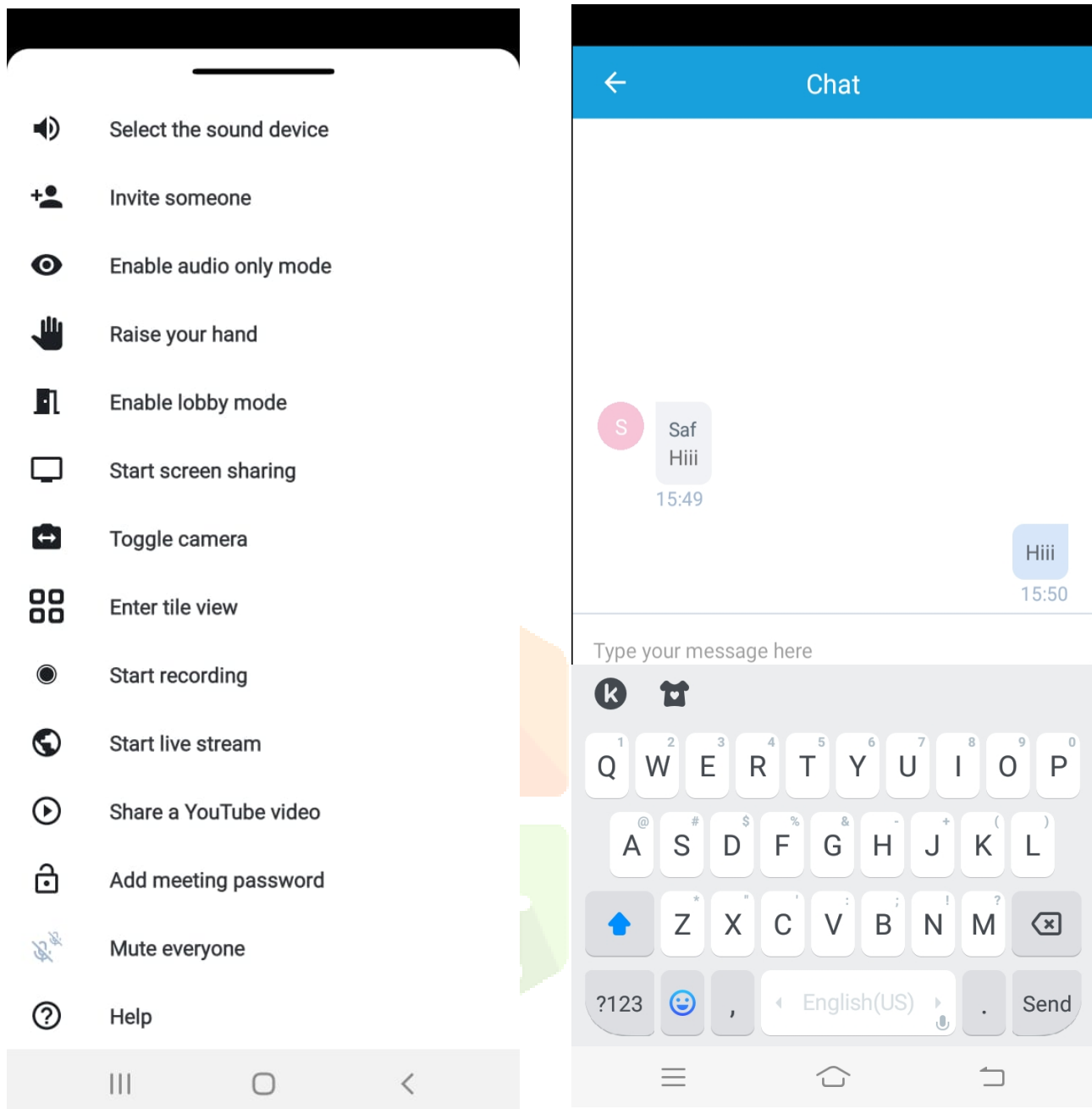


Figure no:4 – Necessary features.

The above figure shows the necessary features of the application and a chat box where user are chatting with each other.

VII. Future scope

The project design can be upgraded in future by adding more features in the application or can try to make the audio and video quality much better with changes in softwares and technologies.

VIII. Conclusion

The impact of video conferencing on education is very much on the rise, and it helps save time, money, and energy. It also provides an invaluable tool for students, teachers, and parents to better communicate and collaborate with each other. The video conferencing system using android studio technology was created and approved. In this research we used the firebase authentication, firebase fire store for database and for video call Sdk integration we use a jitsi Sdk. This app is easy to use and easy to install Sdk. The video conference system is designed as an app based to be used for only android operating systems. The aim of this research is to reduce the effort and difficulty of mobility to communicate and to create a video conference that supports the characteristics of voice calls, video calls, share files, share desktop, record in different format, YouTube live streaming, unlimited private rooms for users, 75 member can join the meeting at the time without any interruption while whatsapp is provided only 8 members in video calls, front and back camera support, watch movies together, These goals have been achieved

The system is not perfect, perfection is not something humans can accomplish but we as developers did our best to provide all the features we need to ease communication, health care, education and all other fields meeting in our country

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