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TomoChat: Privacy Focused App

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Abstract: *In Today's Day and age a messenger app is a necessity, as humans we are social animals and have only survived with the help of one another. Tomo in TomoChat means friends. TomoChat is a new messenger app with a spin, it is privacy focused and open source. What does that mean for the user? It means that the user's data is not being farmed and sold to the highest bidder, your conversations are not being read by government agencies, and you are not being targeted with ads. In addition, it means that the app is not being developed by a large corporation, but by a team of developers who are passionate about privacy and security. TomoChat uses the Google Firebase as its server. Firebase is a cloud service that provides a real-time database, user authentication, and static hosting for web apps. TomoChat chose Firebase because it provides a scalable infrastructure for TomoChat to grow.*

I. INTRODUCTION

In this day and age, we are constantly bombarded with news of privacy breaches and data theft. It seems like every day there is a new story of some major corporation being hacked and user data being leaked. This has made many people very wary of using online services, and rightfully so. The Chats have backdoors for the Government and the companies themselves to snoop on users. They also sell our data to advertisers. We believe that people should have a right to privacy, and that includes their conversations. That's why we created TomoChat, an open source chat app that is privacy focused. We believe that people should be able to communicate freely without having to worry about their conversations being eavesdropped on. An open source chat app would be better because it is not controlled by one company. Another great feature of TomoChat is that you can run your own server. This means that you are not reliant on a centralized server that could be compromised. Instead, your chat messages are stored locally on your own device, or on a server that you control. This makes TomoChat much more secure, as there is no central point of failure. Not only the servers can be customized but the app itself, people can fork the code and make their own "TomoChat" version. This way everyone can have the features they want and need. Its themes

and plugins support also makes it very customizable. TomoChat's source code is based on Flutter which is constantly evolving and offers great performance. TomoChat is an open source chat app that allows users to communicate with each other in real time. The app is based on the Flutter framework, which makes it multi-platform. This makes the app very upgradeable, allowing users to always have the latest features and bug fixes. TomoChat's source code is very easy for beginners to understand and fork. The app is also very intuitive and easy to use. Students or Freelancers can modify the code and add features as they want. TomoChat is a great chat app for those who value privacy and security. The app is very easy to use and offers a lot of features. The fact that it is open source makes it even better, as it allows users to contribute to the development of the app. App can be used by: Students or Freelancers who want to add features as they want, People who value privacy and security, beginners to understand and fork the code or people who want a fast, responsive unbloated chat app

TomoChat is the best chat app for people who value their privacy. With its privacy focused features and ability to run your own server, you can be sure that your conversations are safe from prying eyes.

A. Related Work

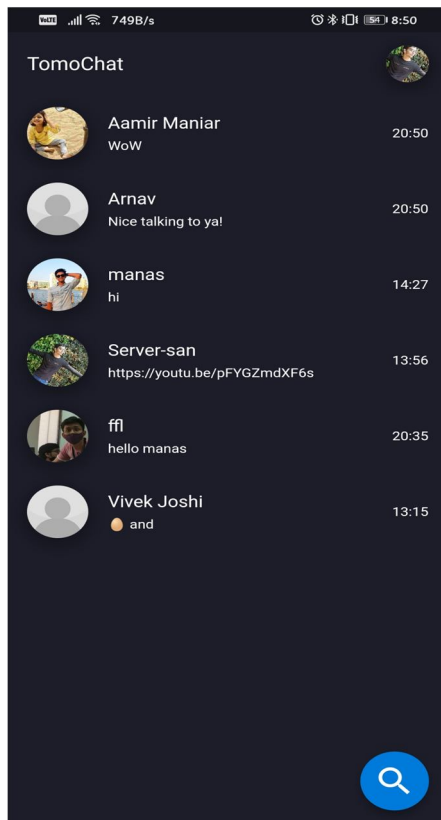
There are many big instant chat apps on the market that offer many a features and functionality and these software all come with a catch like open backdoors for government or selling data to advertisers, bad ports for non-mobile devices, bloated low adoption rates but TomoChat has an ace up it's sleeve which its unrivaled privacy features, its native multiplatform support and it's open source nature. We just want to make a chat app that we would use, feel comfortable to use and share that with other people like us.

Benefits over conventional methods :-

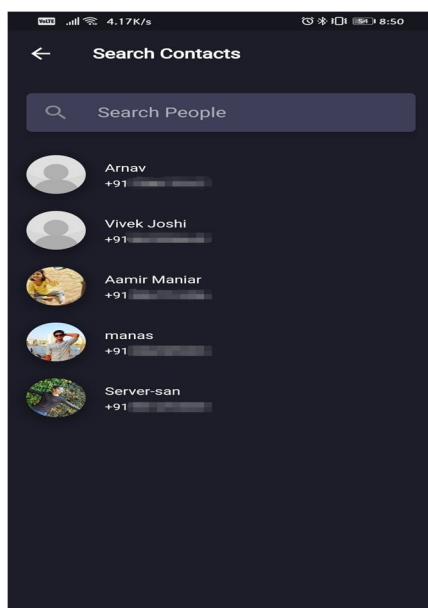
- 1) Privacy First
- 2) Open Source and Customisable
- 3) Multiplatform
- 4) Light-weight

B. TomoChat UI:

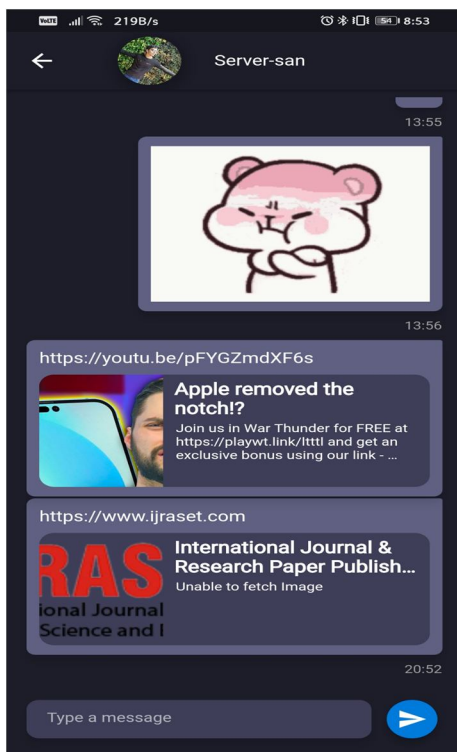
- 1) **Main Home Page:** This is the main screen once the user is logged in and it shows all the recent chats of the user with the user option on the top right corner and the button at the bottom right corner is the search button that takes to the page where all the contacts are located tapping on any of the contacts will open the chat of that person or group.



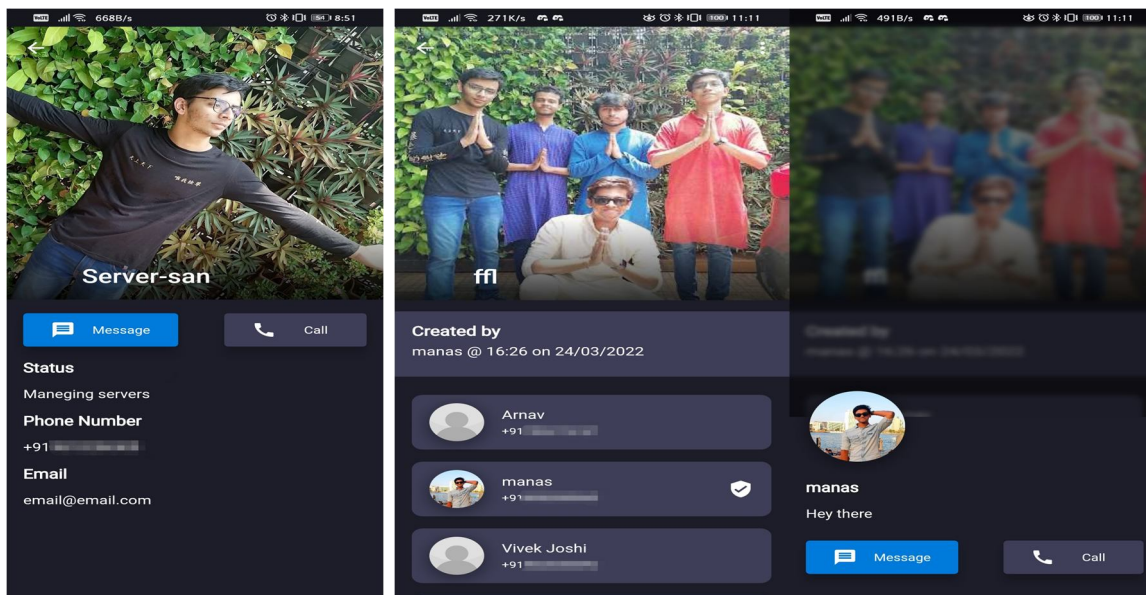
- 2) **The Contact Page:** Shows all the contacts stored and on the current server the app is connected to. Clicking the user opens a direct message to that user or holding it will enable multi-select and a button pops up at the bottom right hand side with a plus icon if tapped will open the create group page.



- 3) *Chat Page:* This is the chat page where you can send messages to the group or personal chat. The message stream automatically detects media links and displays them whether it be gifs, pngs, jpegs etc. It also detects websites and displays their previews as in the picture provided. Clicking the profile picture on the top of the screen will take the user to the profile of the user or the group.



- 4) *Profile Page:* Profile page shows the details of the user in the Personal Message or a Group Message. The call button dials the number of the user on the default phone app the profile page shows all the details of the user i.e. Status, Phone Number, Email and their Display Name. The profile picture is clickable and it opens the image into an image viewer. If the profile is of a group it shows the list of all the users in the group and if you click one of the users it will show the profile of the user and a quick button to message and call the user selected. If the current user is an admin you can remove / add / user, make / remove admin.





C. Changing Your Server

If the user wishes to use their own private server for all the data TomoChat stores all its data on your own firebase static server and it automatically manages it. All the CRUD operations are handled by the code backend. The user just needs to create their own server and change the google-services.json file of their own server and build the app. It is that simple. Now the data in the built app automatically stores its own data on the firebase server created. YOUR DATA YOUR OWNERSHIP!

D. Customizing the U

It is very simple to customize your app. Just download the source code from <https://github.com/kabironline/TomoChat> and then set up a flutter project with anyone with a basic understanding of flutter can easily customize the UI and the color theme.

II. CONCLUSION

In this paper we gave a short brief knowledge about our project and our vision as to what we wished to achieve. We discussed the benefits offered by our solution over the conventional methods of PDF conversion. PDF is a very important part of our day to day life and so is its conversion and transfer, this paper sheds some light on the features made available to the user by this app which makes the life of the user easier while handling pdfs. The problems faced by students and professionals alike would be solved .



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