

## **The Easy Counseling App**

In this Document ,we are going to give you a brief idea on our collaborative personal project on which we had been working on from the past six months which is an app which we have collectively named as easy counselling.

The students that worked on this app were

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### **What does this app do:**

This app is basically designed for the people who are going through depression, anxiety, loneliness, stress, and all other problems that are really sensitive to speak of.

It acts as a medium of communication between a student and a counselor.

In conclusion, it is basically an app that is used for the sole reason of virtual counseling and providing a sort of friend or an ear to lend so that people going through these problems are made sure they're not alone.

The target audience of this app are the shy children who are too ashamed to approach counseling due to the stereotypical stigma from society which adds up to their mental health issues.

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## **How did we get this idea?**

Being former first-year students ourselves we first hand have the experience of how difficult it is to blend inside the general community and how insecure we all are at the start.

Being in college and staying with new faces is a really big change for us and some of us cope with it but some cannot.

Getting to know such friends who are unable to cope up with the cosmic/enormous stress of assignments and exams, new environments, and separation from parents is the sole idea behind this app.

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## **Getting to the technical aspects of the app**

Now going to the technical aspects\_of our app

And this topic was the most asked upon topic in our presentations as firebase is relatively a newer technology

Firebase is a Backend Service provided by Google for developers, very similar to Amazon Web Service.

which makes sure everything is secure as possible.

Firstly, what is a backend? Backend is what handles the network side of the app, authentication, real time chats. It is in short the code which contains the database.

Firebase is a platform through which we can develop secure network connected apps

Hence we do not have to build a server, which makes everything much simpler.

We do not have to worry about the connectivity, reliability or the high initial costs of setting up a server.

Firebase powers the core security features of authentication and also the realtime database which drives our chat service.

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So we are building 2 separate apps, one for Students and one for Counsellor

As we can see in the flow chart, both apps have slightly different feature sets.

## Authentication - Powered by Firebase



Only VIT Students can use this app

As per suggestions from a few counsellors, we will add motivational content to the student side of the app with the intention of adding more features in the future, especially to the student facing app.

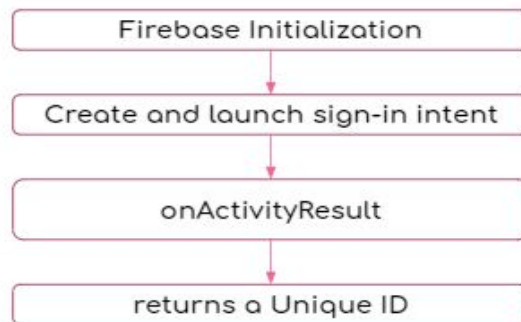
This split also helps us in reducing file size, and helps us in making things more modular and maintainable.

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## Authentication

Now I will talk about how we go about registering users and signing in and talk about the different options that we had considered.

### Authentication - Technical Details



Initially we wanted to implement an anonymous sign in system, but the major drawback is that anyone can message and seek help from the counsellors, even non VIT students who find this application on the Store. In an anonymous system, the users can easily misuse the freedom to send troll messages or even overload our backend system to disrupt it.

The second option considered was using the registration number of the students, but we would require huge amounts of data from the IT cell which would require permission and hence this option was discarded.

After considerate discussions and brainstorming, we decided to implement a system which relies on the VIT email address of the student.

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Our app checks the email address for the presence of the domain vitstudent.ac.in or vit.ac.in, and then we send a verification mail. After successful verification, we register the user.

This method makes it easy to differentiate VIT students without depending on a huge database which would require permission from higher authorities and also add complexity to the code.  
**ONLY VIT STUDENTS CAN USE THIS APP.**

For the counsellor side of things, since we are working with a significantly lower amount of users.

We will check the exact email address against the entries in our database. Counsellors will also use their VIT email address to register and sign into the app.

Behind the scenes, the Firebase authentication returns us a unique user ID for every user which is used to implement a secure chat service.

## Firebase apps are serverless!



As per the current model, only the student's name is visible to the counsellor side, protecting their privacy.

The student can decide if he wants to use an anonymous name or use their real name.

We can change this based on feedback we receive and mould as it is required by the counselling department.

Creating a functional chat service was our first milestone. This was by far the most difficult aspect of our service.

We had to make a chat service that was simple to use, update in real time, and any extra features that we want to add in the future can easily be implemented.

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After registering an account, the user will verify his email. This means that they cannot create spam emails. Then, the user fills out the form(which was provided to us by the very helpful Counselling Department), he can request for a counsellor.

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A counsellor is then assigned to him/her in the next 5 minutes. This process is completely automatic and requires no human input. Currently, our chat system assigns the student to the counsellor with the least cases. Once this is completed, the 2 parties can chat at ease.

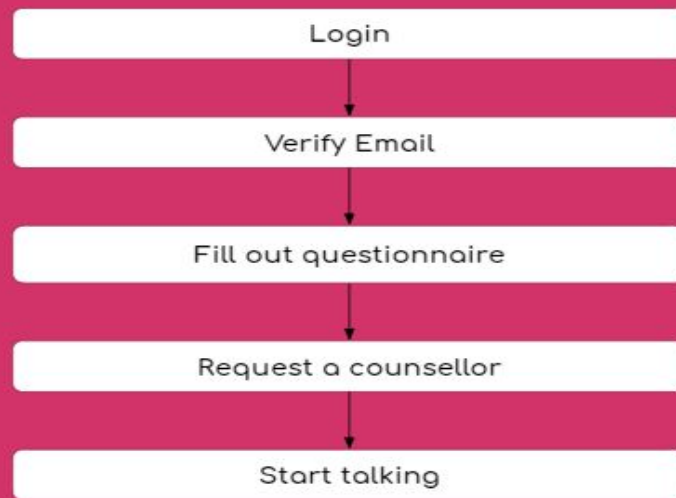
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Our next hurdle was to ensure that the chats were encrypted. What this means is that the chats can only be read by the student and the counsellor.

Each chat is uniquely encrypted which is the same method that WhatsApp uses.

This means that there is no master key that someone can acquire which can make them read all the messages

# App Flow



it looks in the app which is perfectly normal.

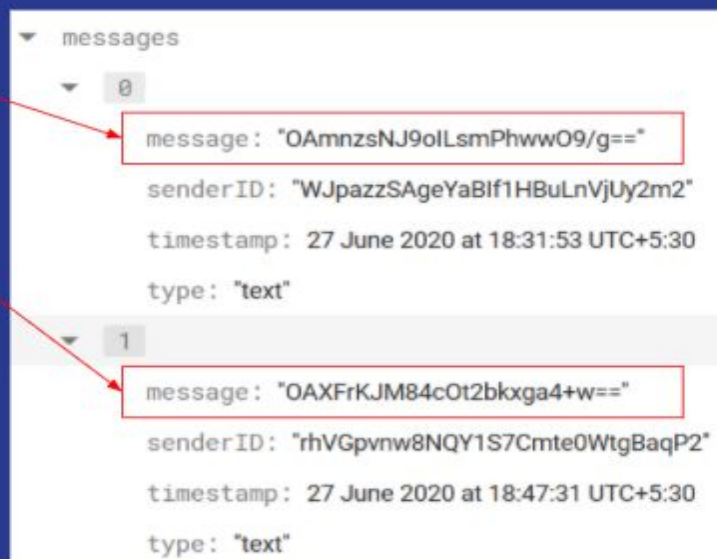
What you see below is what it looks like in the database which is obviously not readable.

This means that anyone with access to the database cannot read the messages. This way the chats remain 100% confidential.

## App



## Database



After the completion of our chats service which took a long time to make sure it is secure, safe and reliable, we now move on to the current development plan.

Our first priority is to enhance the user interface, making it more intuitive to use. We can also start working on the general design of the app.

Secondly, we are working to add chat features such as a search in conversation and also support for document sharing.

We also plan on adding fingerprint unlock, and face unlock feature for supported phones soon.

Apart from this we are working hard to add a feedback page and also adding motivational content with your help.

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### **Pricing?**

We really cannot estimate the pricing right now without having a representative subset of users and also the total number of active users. The app could run free of cost, but if we get a surge of users then the cost could scale up. We can only provide you with a hard figure range after we test the app with a representative subset and also get an estimated number of active users we expect to get in the future.

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### **Passwords?**

Handled by firebase itself, we do not have to worry about passwords or user credentials getting stolen.

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### **How are counsellors registered?**



The current plan is that counsellors will register themselves using their VIT email address. We are planning to add profile picture functionality. We will inform

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Thank you so much for your consideration  
We hope to hear back soon.

Regard  
The happy club