# **Socio-Formal Interactive Educational Platform (SIEP)**

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**ABSTRACT**

*The world has been making tremendous technological growth for the last few decades, but most educational institutions in India use the ancient paperwork methods to do most of the work.*

*Currently students have no access to Teachers outside the institutions. For even small things like checking the marks of the previous tests, the students have to physically reach out to teachers and for various other purposes like checking the attendance student have to physically reach out to various teachers for respective subject as we currently don’t have a centralized attendance system where overall attendance can be seen moreover online copies of notes are currently shared using apps like WhatsApp which ends up making a mess and it becomes extremely difficult to find those files or notes when needed the most and furthermore any other special activity/event organized in the institute remains confined to the mess of those WhatsApp group chat and no more than that which means the alerts for the activities are not properly received to the students and hence leading to the less participants in the activities and concluding to lowering the moral of activity organizers.*

***Keywords:*** *Organizational Vision, Latest Activity Updates, Subject-wise Channels,*

*Profile View, Social Interacting and doubt clearing Channel.*

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1. **INTRODUCTION**

The world has been making exponential technological growth in recent times, but most educational institutions in India use the ancient paperwork methods to do most of the work.

Students have no access to Teachers outside the institutions. For even trivial things like checking the marks of the previous test, the students have to physically reach out to teachers.

The online copies of notes are currently shared using apps like WhatsApp which ends up making a mess and it becomes extremely difficult to find those files when needed the most.

**So, we propose a Social Media Type platform implemented in a formal manner providing ease of access to students and help them learn interactively by allowing them to reach out to teachers, seniors and juniors alike : SIEP**

SIEP provides different channels for different subjects where anyone in the channel can share notes of that particular subject. The channels could also be made Class or Section wise which will help the teacher maintain Attendance and Marks of the students.

There would be sub-channels where anyone could discuss their doubts with every teacher related to that subject.

To make this app into a social platform there would be a news feed on the home page of posts which could be made by anyone. Information and photos about various events going on in the institute could be posted there.

1. **METHODOLOGY**

Distinction of several Android based Messaging Social and Educational Applications are to be done in this paper on the basis of accuracy metric, Security which is Built-in, and privacy features as large amounts of data are being transmitted over the internet when people make use of these kind of Applications. The project originated from two popular application that are “LinkedIn” and “Telegram”, Telegram is a freeware, multi-platform, cloud-based instant messaging (IM) software. The service may also provide us end-to-end encrypted video calling, VoIP, file sharing and several other features. It was launched for iOS on 14 August 2013 and Android in October 2013. The servers of Telegram are distributed worldwide to decrease data load with five data centers in different regions, while the operational center is based in Dubai in the United Arab Emirates. Various client apps are available for desktop and mobile platforms including official apps for Android, iOS, Windows, macOS and Linux (although registration requires a valid mobile number). There are also two official Telegram web twin apps – WebK and WebZ – and numerous unofficial clients that make use of Telegram's protocol. All of Telegram's official components are open source, with the exception of the server which is closed-sourced and proprietary. While LinkedIn is an American business and employment-oriented online service that operates via websites and mobile apps. Launched on May 5, 2003, the platform is mainly used for professional networking, and allows job seekers to post their CVs and employers to post jobs. As of 2015, most of the company's revenue came from selling access to information about its members to recruiters and sales professionals. Since December 2016, it has been a wholly owned subsidiary of Microsoft. As of February 2021, LinkedIn had 740 million registered members from 150 countries.

1. **Related Works**

Messaging Apps like Telegram and LinkedIn are well known and very popular cross platform Messaging services. The key feature of both of these is Privacy, and to ensure this it employs end-to-end encryption which stops those outside a two-way conversation be it a company, hackers, or someone unauthorized from seeing what data has been sent.

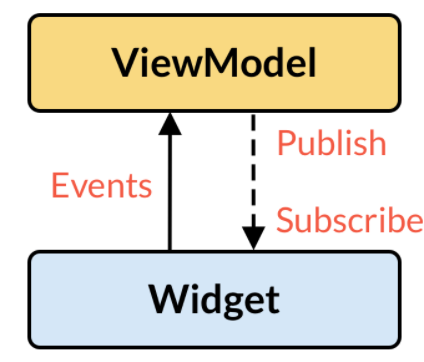
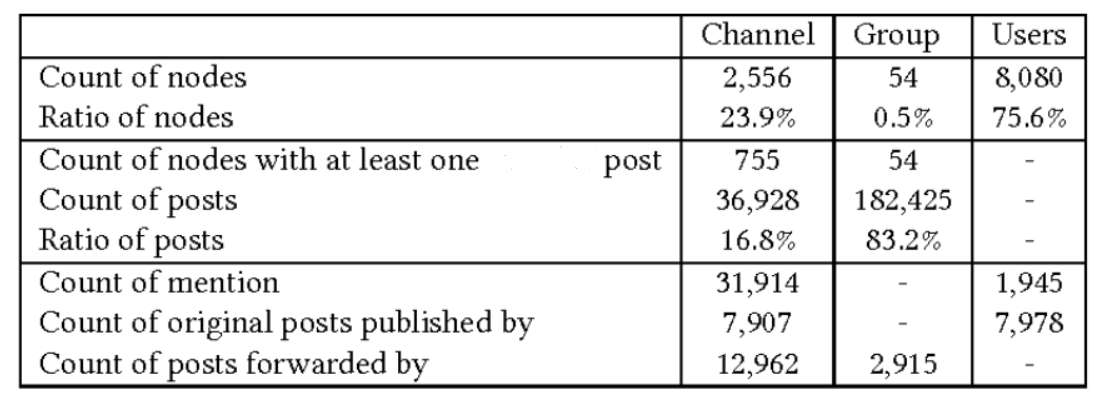
1. Telegram : Telegram is a cross-platform multi platform Instant Messaging service founded by “Pavel Durov” a Russian entrepreneur for iOS in August 2013. Telegram is not a just another Messaging app. Although, It’s core functionalities like messaging other Telegram users, create group chats, calls, and send files and stickers. is same as most other messaging apps. Telegram uses encryption in calls and it’s “Secret chat” which doesn’t means it is more secure and private than WhatsApp. Both services uses two factor authentication. According to the FAQ page of Telegram, It is said that the company is funded by the Founder and

CEO “Pavel Durov” and not through data sharing, collection and advertisements. In other words Telegram provides the Internet privacy as protecting your personal data from Third party access such as marketers, advertisers etc. Telegram offers excellent features like Self-destruct timers, Global message deletion, Large file size limit. Telegram is designed as a light app, reliable and fast. Telegram also provides bots which is an automatic answering account that can respond to specific text command by answering with preformatted text.

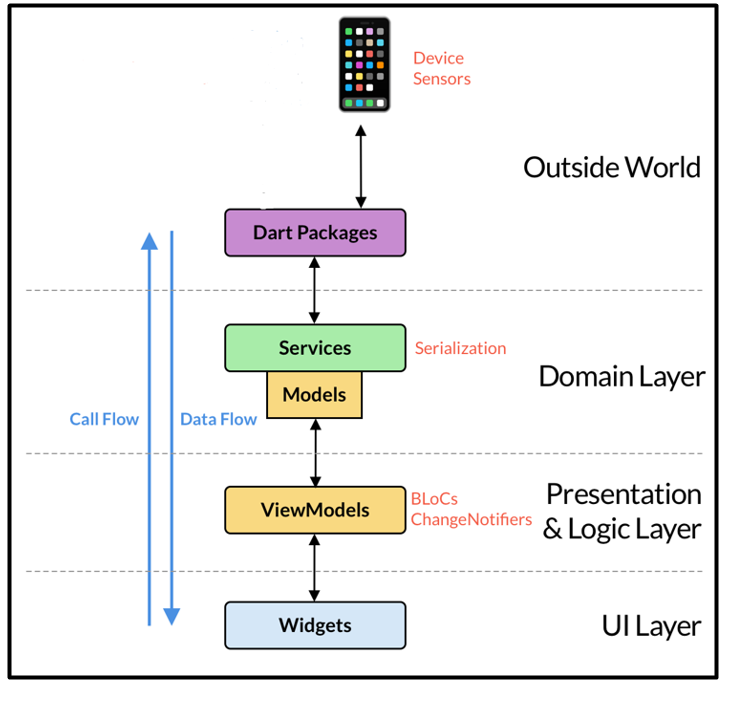
2. LinkedIn : LinkedIn is an American business and employment-oriented online service that operates via websites and mobile apps. Launched on May 5, 2003, the platform is mainly used for professional networking, and allows job seekers to post their CVs and employers to post jobs. As of 2015, most of the company's revenue came from selling access to information about its members to recruiters and sales professionals. Since December 2016, it has been a wholly owned subsidiary of Microsoft. As of February 2021, LinkedIn had 740 million registered members from 150 countries.

LinkedIn allows members (both workers and employers) to create profiles and "connect" to each other in an online social network which may represent real-world professional relationships. Members can invite anyone (whether an existing member or not) to become a "connection".

1. **RESULTS**



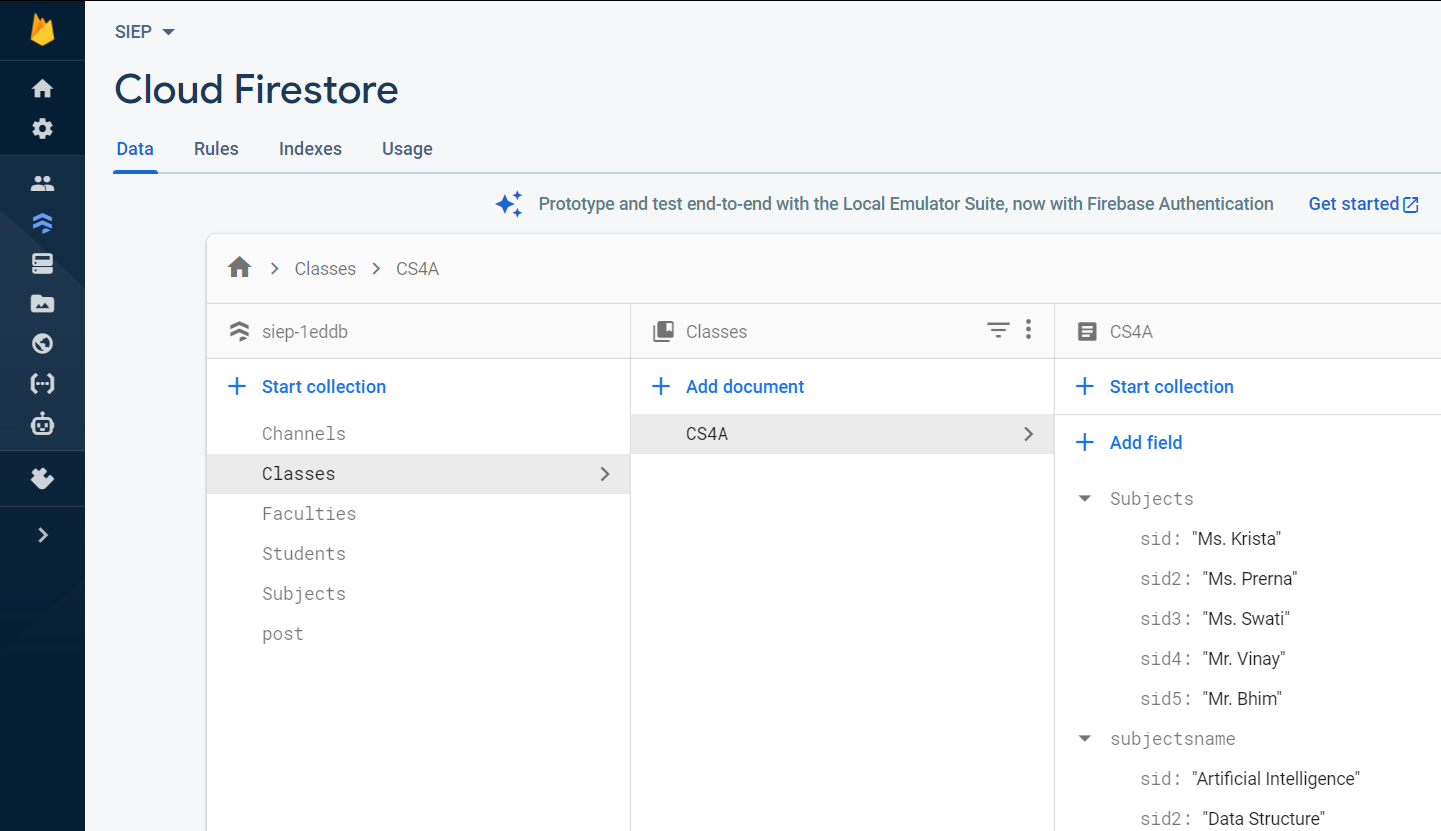
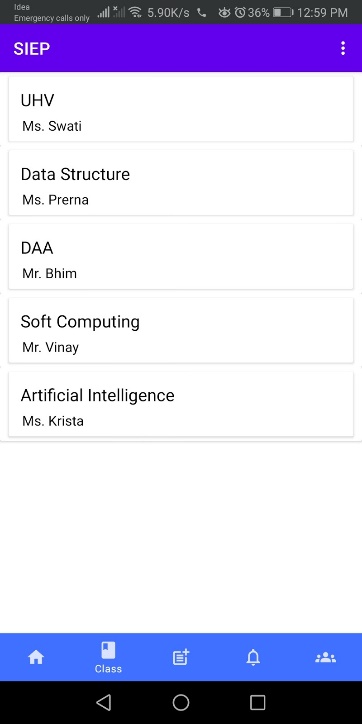
The Flow Chart below describes the development process that include all the phases in the software development life cycle. This chart illustrates very well how the project is carried out and how the development was managed. After the program is completed, the program still needs future maintenance to form it available and stable to execute. The program are going to be tested after a particular period of time and debug each of the function and possible bugs, whenever a possible bug is detected; the program may need to be refined to fix the bugs for better design. Meanwhile, there will be updates, enhancements and more add on to the database to increase the database capacity. This project’s main focus is on privacy: messages shared between users should be encrypted to maintain privacy; Robustness: In case users device crashes, a backup of their chat history must be stored on remote database servers to enable recoverability and performance application must be light weighted.



1. **DISCUSSION**

As this project provides a platform to initiate a real-time chat. On the server side it ensures the reliable infra-management services for chat within the app. This application or messaging system aims to provide a platform for two individual users separated by a certain geographical distance to communicate with each other, through the Internet with the help of various Firebase tools. In firebase you don’t need to write the server side code. Data in the Firebase real-time database is always stored as key-value pairs. FirebaseUI uses a very class named FirebaseListAdapter, which dramatically reduces the effort required to display a ListView using data which present in the Firebase real-time database. It will be used to fetch and display all the Chat Message objects that are present in the database of firebase. The minimum requirements for this Android App are: • Android 4.0 (API level 14) or higher • Java 7 or higher • Gradle version 3.4.0 or higher It is very simple to implement the chat, firstly a user logs in and sees a list of channels then he can select or creates a channel, and sends a message to the channel while receiving messages from other users and communicators within the channel. In this project, Two types of channels are present: open and group. Open channel is a public channel and anyone can participate in and chat with others. And the group channel is a private channel that users can join as new members through invitation only, and has numerous distinctive properties and features compared to an open channel. There are a variety of group channel subtypes such as a public group channel working like an open channel as shown below.



We have also intended the like/ dislike feature which indicates whether a post has been liked or disliked by the number of individuals(students/ faculties) works in a similar way as LinkedIn. The server stores the timestamp of the message last delivered. The timestamp is then recorded per user and per channel. When a message is delivered to an online group channel. The project is very useful and because of the flexible nature of the Firebase tools, the application is a step forward in the right direction in the context of Instant Messaging. On completion of this system, we are left with a fully functional Instant messaging application capable of sending messages in real-time and images/ docs were also being transferred. The Firebase services are important in the sense that those tools made the development of this applications a lot more efficient and lot faster compared to building a traditional server-side database using a scripting language. The application is user-friendly and intuitive, so using it is not a difficult task. No program has a perfect design without any flaws, it is same here in this project. Even though the program includes the primary functions implemented and working properly, there are still many things that can be done to improve its performance.

**REFERENCES**

[1] Bill Philips, Chris Stewart, Kristin Marsicano. Android Programming: The Big Nerd Ranch Guide. 3rd Edition. Arizona: Big Nerd Ranch; 2017. [2] Kumar, S., et al. Embedded end-to-end wireless security with ECDH key exchange. in Circuits and Systems, 2003 IEEE 46th Midwest Symposium on. 2003: IEEE. [3] Dashtinejad, P., Security System for Mobile Messaging Applications. 2015 [4] Cortjens, D., Spruyt, A. & Wieringa., W. F. C., n.d. "WhatsApp Database Encryption Project, s.l.: s.n. [5] Thakur, N., 2013. Forensic Analysis of WhatsApp on Android Smartphones.. Master’s thesis, University of New Orleans, , Volume 1706. [6] Barghuthi, N. A. & Said., H., 2013. Social Networks IM Forensics: Encryption Analysis.. Journal of Communications, 8(11)