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Student E-Bridge

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Abstract: ***The main aim of this application is to reduce the communication gap between teachers and students. In the current scenario when classes are being online this application will play a very important role in reducing the crucial communication between the teachers and their students. The educational institution will have full control over the application, Admin will maintain the entire administration like Authorization, Authentication, permissions, History tracking, and troubleshooting, etc. The teacher can access all their student profile and go through her/his Time table as their daily activities. Students will get the notification when their queries get answered on their mobile in the notification tab. The Student will access all information (Subjects, Faculty, and Schedule) and maintain a good relationship with the faculty and his/her classmates as well. He/she can send or receive any kind of information (Clarification, Queries, Notice) by using the Notification tab. Different groups can be made in which selected candidates can be added and information and updates can be added in the groups. All the data will be secured in the cloud storage which would be controlled by the admin.***
Keywords: app development, cloud storage, Teacher-student doubts clarification, notification and information passing online.

I. INTRODUCTION

Application is an Android application that mainly helps to enhance communication between teachers and students. The application consists of modules Admin, Teacher, and Student where they can access and operate the application from their respective ends. The institution will provide an admin to control the whole system. The admin will maintain the administration of the system. The teacher will be able to access the information about the subjects which are allotted to Him/her. The student will be able to access the information of their respective year and demand to maintain a good relationship with faculty and his/her classmates as well. He/she can send or receive any kind of information (Clarification, Queries).

All the quires asked by a student will be visible to all other students so they can also see the answers from the faculties. Making different groups for different clubs and class will make easy to communicate.

II. PROBLEM STATEMENT

In the current scenario when every student is attending classes online via different video meeting apps, the interaction and doubt solving sessions have become very difficult between student and faculty. Which are affecting student studies. Even before the pandemic situation, there was a communication gap between the student and faculties as their interaction after school/college hours become almost nill. Students face problems in solving their doubts while studying in homes and have to wait for the next day to get it clear by teachers.

III. LITERATURE SURVEY

There is some communication application available but there interface are no built specific interaction between students and teacher and they even are not controlled by educational institutions. Most educational institutions do not have a personalized communication channel with their students after college hours they have to depend on others applications available in the market. The big disadvantage of those applications is that it is not controlled and maintains by institutions and is not made for a specific purpose or with the interface to have a doubt clearing and communication between a teacher and students. Even notifications related to college and future events are updated to students using the third-party application.

IV. RELATED WORK

A. Android Based Student- Faculty Document Sharing System. [1]

This app will be used by students, lecturers, HOD, and parents. It can be used by schools/colleges to maintain the records of all students secure with the institution. App deals with all of the student details, academic related reports, department details, placement details, and other resource-related details too. This proposed project will be implemented in applications such as online study material, notices, results and attendance, timetable, and all department records using Android applications.

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V. PROPOSED METHODOLOGY

In this Android project, we are proposing a replacement sort of technology to urge communication between Teacher and Student. Here the scholars receive notifications if there's any important information available for them. They can post queries/doubts from their account which will be visible for everyone on the application. Faculty can post answers for that doubt in text, the student gets notification of it and it would be available for other students to see the answers of the doubt. Different groups can be formed by teachers and clubs president in which particular students related to groups and be added and be communicated about future events and updates. As institutions all full control of the application they can control the user and add or delete users at any time. The institution can make updates according to their need in the application.

A. All data will be stored with institutions
B. Personalized interface.
C. Students can clear their doubts anytime.
D. No need to depend on any third-party apps
E. All data are secure as cloud storage is used to store data

VI. SYSTEM ARCHITECTURE

The design may be a solution, the way to approach the creation of a replacement system. This is composed of several steps. It provides the understanding and procedural details necessary for implementing the system recommended within the feasibility study. Designing goes through logical and physical stages of development, logical design reviews this physical system, prepare input and output specification, details of an implementation plan, and prepare a logical design walkthrough[2]. The database tables are designed by analyzing functions involved in the system and the format of the fields is also designed. The fields within the database tables should define their role within the system. Then within the input and output screen design, the planning should be made user-friendly. The menu should be precise and compact.[3]

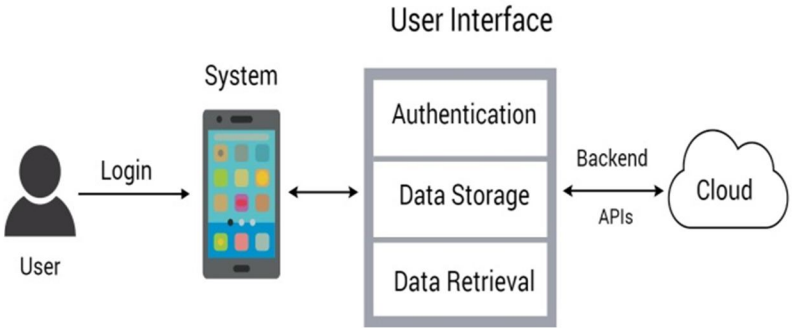

Fig1: Application system architecture

VII. MODULES

A. Admin

Admin will log in and add the students, faculty, and subjects.
He/she will provide a default password to the users and the users can change it.
Admin has full control over data and can add and remove stored data at any time.

B. Faculty

Faculty will log in and respond to the queries posted by the students in the form of text, image, or video for effective interaction.
They can form different groups and add students to them and then pass notifications and important information there.

C. Student

The students will post the queries and view answers after the faculty response.
And can respond in groups and get notifications if added to groups and can participate in the communication.

D. Post Queries

The students will post their doubts or queries.

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E. View Queries

Faculty view queries and responds to the queries according to the subjects they have been allotted to.

F. Answer Queries

Faculty answers the Queries in the form of text, image, or video.

VIII. TECHNOLOGY USED IN PROJECT

A. Android

Android is a mobile operating system based on a modified version of the Linux kernel and other open-source software [4]. Android is developed by a consortium of developers known as the Open Handset Alliance and commercially sponsored by Google. it is free software, i.e. anyone can develop an app for it. More than 72.2% of people use android OS-based devices.

B. Android Studio

Android Studio is an IDE for developing Android apps, which is used to create this project also. It provides the fastest tools for building an app on every type of Androids device. We also get integrated firebase support with it which is cloud storage backed by Google. Firebase is used in the project for cloud data storage.

C. Cloud Storage

Rapid data growth and therefore the got to keep it safer and longer would require organizations to integrate how they manage and use their data, from creation to finish of life. Now there's a chance to store all our data on the internet. Fig.2. Cloud storage offers an outsized pool of storage was available to be used, with three significant attributes: access via Web services APIs on a non-persistent network connection, immediate availability of very large quantities of storage, and pay for what you use.[5]

Advantages of Cloud storage

1) Not to invest any capital on storage devices.
2) ·Allowing others to access your data will result in a collaborative working style rather than individual work.
3) Fast and easy storing and retrieving the data.
4) The stored file can be remotely accessed from anywhere.

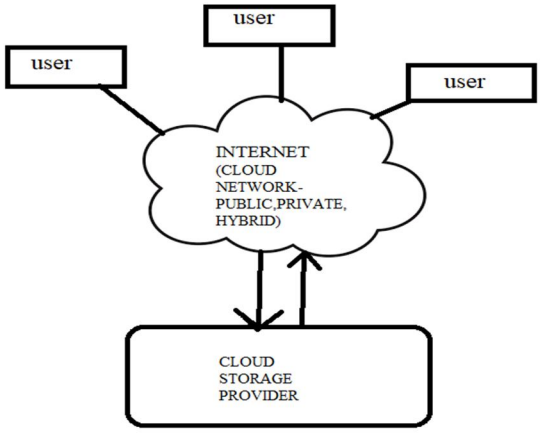

Figure.2. cloud storage model

D. Firebase

For this project, firebase cloud storage is used it is easy to use and provides much functionality which helps developers to create high productivity app. Firebase storage is a standalone solution for uploading user-generated content like text, images, and videos for mobile devices, as well as the web. Firebase is very easy to use and integrate with the project. Firebase Authentication provides backend services, easy-to-use SDKs, and ready-made UI libraries to authenticate users to your app. Other features provided by firebase are real-time database, hosting, cloud storage, etc.

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IX. RESULT

The application will have a login page through which the user can log in them. The final system will result in a real-time communication application that provides the students to communicate to faculties and clarify all doubts regarding studies with ease. The home page of the application contains the previous messages if anybody has posted any queries, so other students can also see that. They can access the task provided to them and can complete them according to their schedules.

X. CONCLUSION

This app makes use of a cloud where data can be stored and retrieved when necessary. This requires less mobile memory as we store our information in the cloud this application helps the students to interact with faculty or to clarify their doubts easily through mobile.

XI. ACKNOWLEDGEMENT

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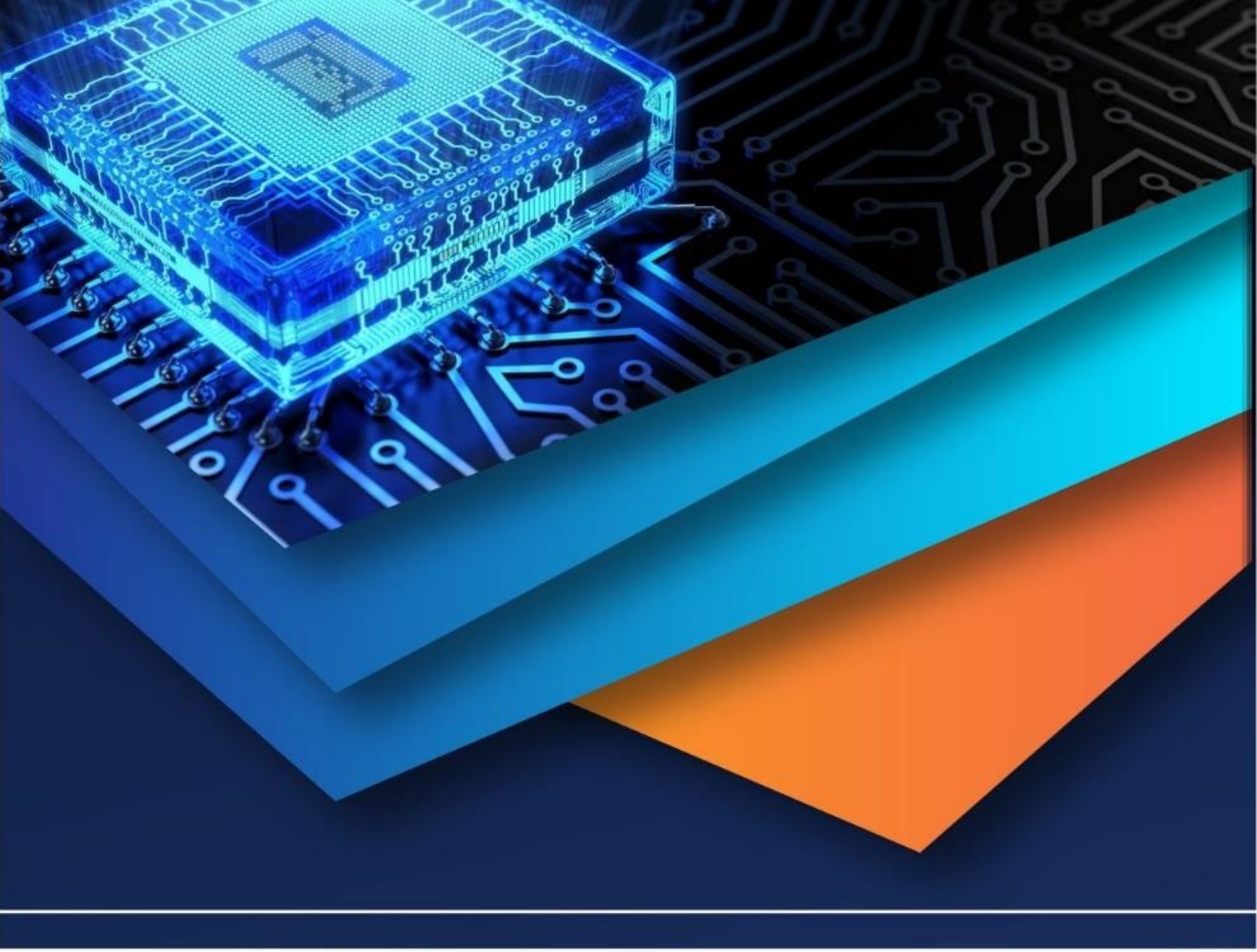

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