# Student Companion (Stu-Com)

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*Abstract*— **Student Companion is an android application which is helpful for students as well as the colleges. In the present existing system all the activities are done manually. It is very costly and time consuming. In our proposed system, students can utilize it to do various operations and even view results using the Android phones. The data will be stored in the firebase database. The faculty can login into their college account through the app itself and update the academic details and attendance. In this system, students have easy access for viewing the marks, provided their authentications are correct and they are not permitted to change/update the marks. Any new notice for a specific semester are going to be uploaded by faculty member through application notifying to several semester students. Students can also share their tips and tricks with other students via chat interface. Student's attendance is also monitored by the application.**

**Keyword: Android Studio, Firebase, Java-Xml**

## I. INTRODUCTION

Stu-Com is an Android application that helps the users to know more about our college and campus. This system is to provide comprehensive student information system and user interface is to replace the current paper records. College faculty uploads attendance details, results and college notifications through a secure, online interface using android devices. All data is completely reviewed and validated on the server before actual record alteration occurs. The main aim of the project is to give the users a simple to use application that helps them understand and know more about our college and the campus. Changes in Student Companion (Stu-Com) allow college to utilize databases and applications thus, making the accessing of records centralized. One of the major changes that came about is the online-based applications. These applications are upgrades or improvisation to the traditional- transaction processing systems. Thus, most universities switch to the online system because of its efficiency to acquire, process, store and retrieve information from the Internet. It would be a great help to the faculty, and students in updating, retrieving and generating student data. The developed android application will be used by teachers, students, and the administrator who maintains the system. The students can use the application to enter their personal and educational details, post their queries regarding a particular subject on the respective discussion forum and for viewing notices broadcasted by the teachers/admin. Also, the students will be informed about the attendance percentage periodically through the application. The administrator has the authority of modifying the students details, adding or deleting teachers as and when they get admitted to the college or leave the college. Thus, this application will automate the manual student information maintenance process in colleges.

## II EXISTING SYSTEM

The system which are used currently has some drawbacks which needs to be improved for better performance. The system by which the feedback is taken is not good enough. The views of each and every students are not expressed through these systems. As the technology is developed day by day we need to use the current technology so we can get an efficient result in adequate time. In case of attendance management in the present system all work is done on paper. The whole session attendance of all students are stored in the register and at the end of the session the reports are generated. At the end of the session the students who don't have 75% attendance will get a notice. This is a very time consuming process. In the existing system the result are viewed on the notice board. It requires lot of paperwork and is time consuming, Students need to search for timetable of the class and important notifications some times don't reach the students.

## III PROPOSED SYSTEM

Only the notifications which are relevant to a particular user will be delivered to the user. As the technology is developing day by day we need to use the current technology so we can get an efficient result in adequate time. For attendance, the present system is completely based on paper. The attendance is stored in register that is paper and at the end of the session the reports are generated. We are not interested to generate report in the middle of the session or as per the requirement because it takes more time to calculate. At the end of each session the students who don't have 75% attendance get a notice. This is a very time consuming process. In the current system students result are viewed through notice board. Colleges cannot provide urgent notifications to students in case of emergency but this application can. The objective of the new system is to automate the current procedure of managing and controlling the information about the student details and to reduce the hard work of managing paper documents for every announcement and notices being made by faculty. The proposed system keeps the information on a central server while allowing users to access that information from their

own Smartphone through the installed android application. There will be an optimized database called firebase on the server and an improved user interface on each client machine i.e. on the Stu-Com app installed on the users Smartphone. The developed application can be used by students, teachers, and the admin. The information and notification can be easily retrieved on the application. The application provides live notification for the students as well as other people who uses it. To overcome the drawbacks in the existing system, the proposed system has been evolved. This project aims to reduce the paper work and saving time to generate student information and even a handy application for students. The system is provided with the best user interface.

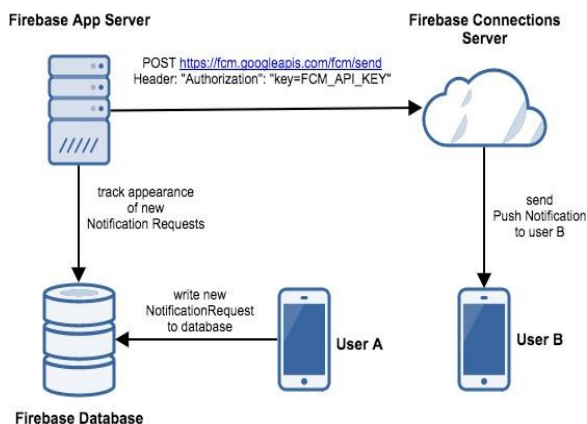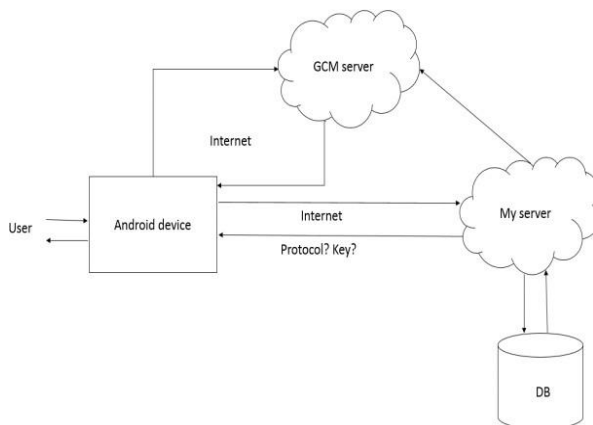## IV. PROPOSED SYSTEM ARCHITECTURE



Fig 1 Notification



Fig 2 database

## V. ADVANTAGE OF PROPOSED SYSTEM

The application will simplify and speed up the result preparation and student management process. It also includes the advertisement of the college thus satisfying the marketing criteria to showcase its facilities to the HSC and diploma students so that new students can know more about the institute. It will overcome the limitations of the web-based system as our proposed system is developed on Android OS. As the current system is infrastructure less it does not require any sophisticated

training for the user of the system. This project will cater facilities to all the existing versions of android devices. Students can view the noticeboard contents directly on the app. Even it provides timetable facilities, Students can also apply for leave which is in a google form.

## VI. KEY CAPABILITIES

**Realtime** - Instead of the typical HTTP request, the Firebase Realtime Database(by Google inc) uses data synchronization every time data is changed, any connected device receives that updated contents within seconds. It Provides collaborative and immersive experiences without thinking about networking code.

**Offline** - Firebase apps remains responsive even when it is offline because the Firebase Realtime Database SDK persists your data to the internal disk. Once the connection is reestablished, the client device receives any changes it missed, synchronizing it with the current server state.

**Accessible from Client Devices** - The Firebase Realtime Database feature can be accessed directly from a mobile device or web browser; there's no need for an application server it is infrastructure less. Security and data validation are available through the Firebase Realtime Database Security Rules, which can be set as per the requirements expression-based rules that are executed when data is read or written.

## VII SYSTEM SPECIFICATION

*HARDWARE REQUIREMENTS:*

Minimum RAM: 3GB Hard Disk: 40 GB
Processor: Intel Core i3 (1.8ghz and above) Device: Android 6.0 or higher versions Device Ram: 512MB
Device Rom: 4GB

Minimum space to execute: 13MB

*SOFTWARE REQUIREMENTS*

Operating System: Windows 7

Language: Android SDK, Java, XML, Node JS. Database: MySQL, Firebase.
Tools: Android Studio, Plugins.

Debugger: Android Dalvik Debug Monitor service

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## VIII SYSTEM ARCHITECTURE

The overall system design consists of following modules:

**(a)** User Module: In this module we are authenticating the users by providing user name and password. If user name and password is valid then they will be taken to their static screens. When they get matched each other, the system checks their status and transfer the control to respective user- interface.

**(b)** Database Module: The system uses Firebase database because of their simplicity and flexibility. This module stores every single information about students, faculty ,Admin and model their data on specified operations. These operation can be storing student attendance, todo list result data or can be authentication credentials.

**(c)** Staff Module :This module is designed specially for staff, who can use mobile phone to take attendance, upload results of students and upload college notifications. Only after successful authentication the operations are performed. If username and password does not match, he/she can enter in to next static screen.

**(d)** Notification Module: This module allows the faculty to send notification to the students about exam dates and any important assignments.

**(e)** Attendance Module: Attendance of every students can be submitted by the staffs, when the students login with their credentials they can be notified about

**(f)** Assignment and Notes Module: This service is for both staff and students , staff can upload assignments and documents in the section which will reach all the students so that they can utilize.

(i) Exam Remainder Module: This feature is available for the students. They can set remainders for their exams accordingly.

**(j)** Contact Module

• Personal details

• Academic details

**(k)** Notice Board: Notices can be posted by teachers from their respective login and can be viewed on a notice board section of the application with title for a notice associated with it. The notices for a particular class of students will be broadcasted to that class only.

## IX CONCLUSION

The system provides reliability, time efficiency and easy control. Students can also view results, attendance, timetable, todo list, curriculum details, and even apply for leave using this application. Also students can view academic details, notifications anywhere and at anytime. The application will simplify and speed up the result preparation and management process. It provides a high level security and a system that reduces the work and resources required in traditional process which is basically paper works. The proposed system provides the new way of computing and displaying an operations with responsive and attractive user- interface. Thus, on the basis of literature survey and analysis of the existing system, we have come to a conclusion that the proposed system will help to digitize the college system.

OUTPUT:
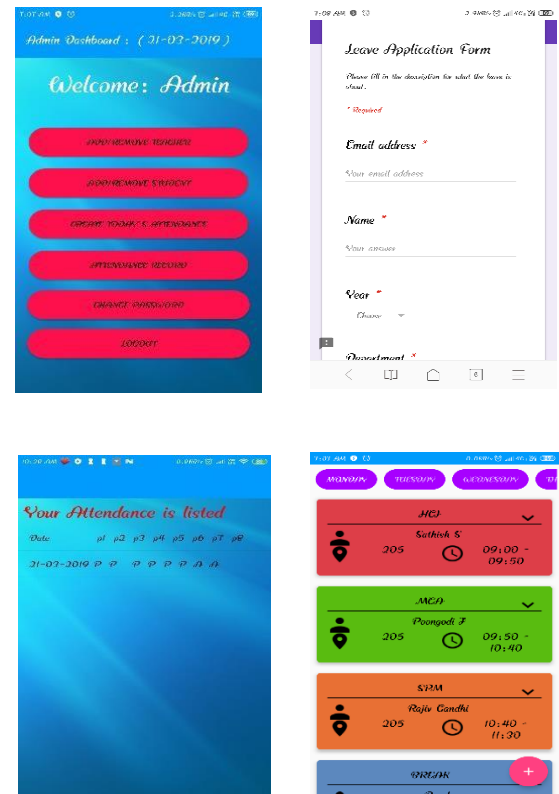


## X. FUTURE SCOPE

The wide approach of studying android operating system may encourage the programmer to develop various applications. This application will give actual information about College to Student who is interesting to be part of our institute. This paper assists in automating the present manual system. This is a paperless work. It can be monitored and controlled remotely. It reduces the man power required. It provides accurate information always. Malpractice can be reduced. All years along gathered data is saved and may be accessed at any time. The data that is hold on within the repository helps in taking intelligent choices by the management.

## XI. REFERENCES

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