

## IMS COMMUNE: A BETTER CONNECTIVITY

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### ABSTRACT

*Abstract-* Today in most of the colleges and Universities do have very less interaction among the students and faculties due to obvious reason, this communication gap fails to create a better productive environment across the campus. Also, the attendance system in the colleges are still done manually using pen and paper which takes huge amount of effort as well as precious time since the attendance is still needed to digitalize later. So, we've proposed an android application which consists of two modules one is community and second is OTP based attendance system in order to resolve the stated problems.

*Keyword-* User Authentication, Attendance System, Community, Android Platform, Application, OTP (One Time Password).

### 1. INTRODUCTION

The conventional way for taking the attendance is always been the pen & paper-based method where the teacher calls out the name of student to mark their attendance where sometimes proxy attendance is also marked. After that the teacher have to update the attendance on the college database. The process is time taking as well as highly error prone.

On the other hand, there is no solution/platform in the colleges for the students to interact with each other for any information related discussions this leads to the communication gap and fails to create a better productive environment across the campus.

The System proposed by us provide full software-based approach for attendance system<sup>[1]</sup> and will have a community where students can interact with each other and faculty directly without any hesitation and difficulty. The system uses android application which can easily be installed on a mobile device. It uses OTP entered by the student's login for verification and marking attendance connected to local host and for community user have to login in the app to distinguish themselves.

### 2. PROBLEM STATEMENT

The Aim of this project is to connect each and every member of the college on same platform, by developing a platform where every student and faculty can connect with each other to create a healthy and productive environment among the students and faculties, seniors and juniors. There will be two modules for distinct functionalities like Attendance, Community. The main aim is to ease the campus resources reachability and to develop a friendly relationship between Seniors, Juniors and teachers. This will also be helpful for taking attendance through OTP system to avoid proxy, to create discussion on community section to get resolved with any query.

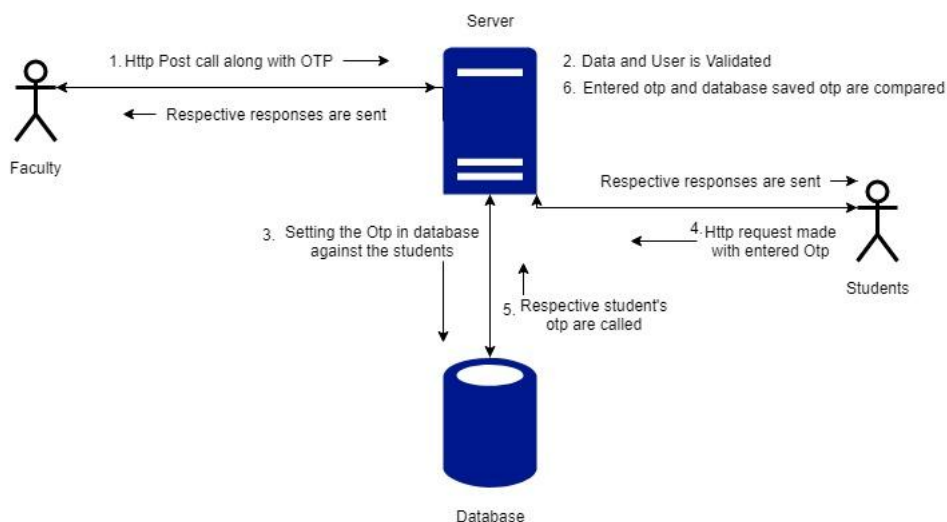
The platform is developing in two parts, one is the front end which will have the Android Application along with a dedicated backend creating a system which will help everyone to get connected with each other and can explore various features provided within the Application.

The backend will be linked with the college database and gather the details from there only and any new resource can be updated there directly.

### 3. PROPOSED SYSTEM

There is an Android application for both student and teacher where they have to signup themselves as a student or as a teacher. Students have to register themselves with their student ID provided to them by the college and teachers have to register themselves with their respective work email ID. This will connect both of them with the college database where the attendance is recorded. Unless the user is logged in into the application, they will not be accessing any of the features or services provided by the application. This is done to avoid the misuse of the community platform to spread any kind of hate or negative thought in the college premises while being anonymous, this community platform will be treated as the formal interaction or information sharing across the entire campus.

The pre-requisite of the system is that the student and teacher both have to be connected with the local college network through Wi-Fi routers so that no one can mark the attendance without being physically present in the college. The attendance process starts when the teacher generates the OTP and then the student need to enter the OTP within certain time frame from the generation of OTP to the marking of attendance successfully, this attendance record will be saved to the application's database after completion of this process the result gets generated to faculty's frontend, if any discrepancy is found then faculty can update the record using his/her app now if the record gets approved by the faculty then after it gets transferred to the colleges ERP attendance database using the API connection between the application and the college's official ERP.



**Figure 1.** DFD of Attendance system

In community, the student's name and teacher's name are differentiated by using a special symbol in front of the teacher's name so that the person reading the comment or questions can know who is asking or replying. The community will also be used as formal means to circulate any message or notice across the college about any upcoming event and functions.

#### A. Network Architecture

It is a client-server model. The student and teacher's applications are the client here and the department system acts as a server. Client-server model provides high processing and large disk storage. Client does not share information, but rather request that information from the server. Client-server architecture also provides central security to the whole system. The client and server communicate with each other using messages.

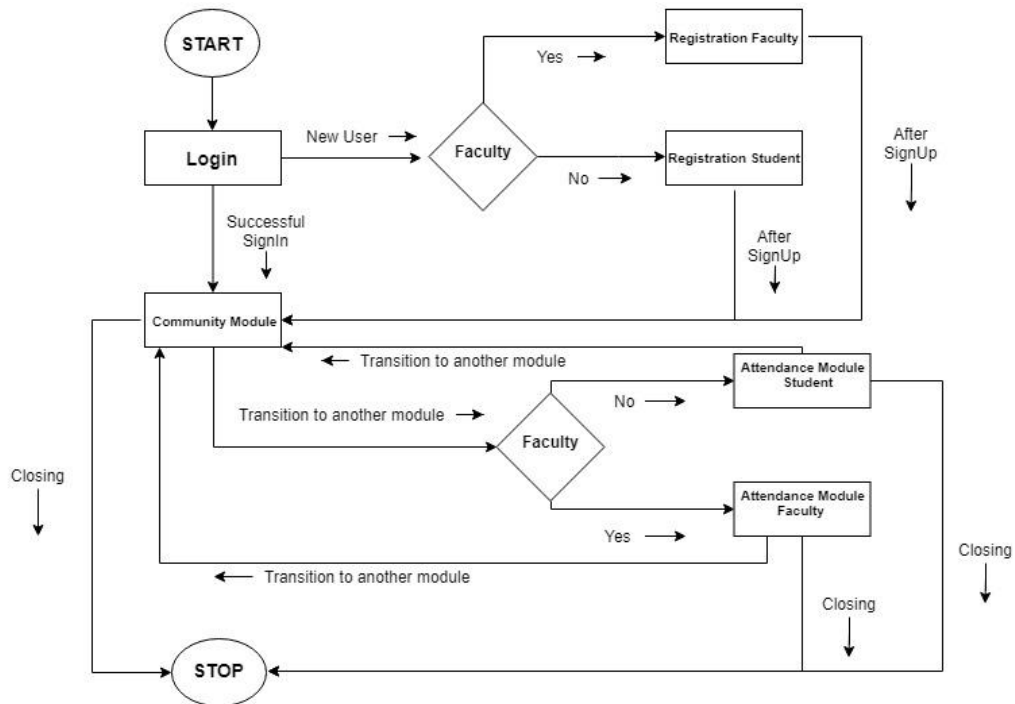
### B. Database Platform

The database can be defined as the organized collection of data. Database management system (DBMS) is used for managing and organizing the data. MongoDB is used to create the database which is a NoSQL database server.

### C. Software Requirements

The student and teacher's application are design to have compatibility with the APIs. Android holds the 85% market share of the smartphones. Android has revolutionized the way of creating and consuming information [2] [3].

- Android 8.0, 8.1
- Android 7.0, 7.1
- Android 6.0, 6.1
- Android 5.0,5.1



**Figure 2.** Proposed System

## 4. CONCLUSION

The system will help in creating a healthy and strong bonding among the faculties and students. The communication gap between the student-teacher, Senior-Junior will also decrease, any person will have multiple opinions for the same topic or doubt he/she is dealing with and now they will have multiple options to go for. Also increases the efficiency and productivity of lecture's timing and helps in reducing the wastage of time while taking attendance and saves teachers extra time in which they are uploading the attendance of every student manually to the portal. Less chance of false attendance is also there. Eventually it will help faculty to analyse and reach out each and every student.

## 5. FUTURE SCOPE

The system can be further improved by developing applications that can run on various mobile OS, such as iOS. Add college Alumni to the community network for better industry exposure for the students. Implement quiz section also to take quiz of students. For attendance module add MAC address registration of the student's devices so no person can mark attendance of two students from a single device.

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