



SMART ATTENDANCE MONITORING SYSTEM USING WIFI AND MAC ADDRESS

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ABSTRACT

Attendance monitoring system is the most important thing for measuring the performance of the student. Over the past years the attendance is taken by the pen and paper in the time view sheet or distributes the paper to get the sign from the students and mark the attendance. It takes so much time and consumes man power to make the attendance for the students and also it consumes large number of paper. The stored details in the register are very hard to manage the records. Here we introduce the attendance management system using the Smartphone with the help of WiFi and the MAC address, the smartphone is connected to the router or the modem in the classroom. When the student gets into the class he will connect to the specific router to give the attendance. All the data are stored in the database and send to the Staffs and the Principle for the presence of the student in the classroom.

1. INTRODUCTION

The attendance monitoring system is play a the most important vital role in the school, college, workplace or anywhere in the management environment for providing the people for making the attendance percentage and calculate the percent and absent. In old days the attendance is capture by the saying names of the students in the classroom or making a signature in the signature paper or register for making the attendance, it takes so much time for making the attendance in the classroom with the large number of students are there and also it takes the human work for providing the logs for each and

every hour of the day, month and year. There are so many attendance monitoring systems are available in the market like biometrics, fingerprint scanner, iris scanner but these are all make the very high cost for providing and maintain the database for all the students. Here we are using the android smartphone with help of the WiFi and face recognition technique for making the attendance for the students, the attendance is capture for every hour and it stores in the database for providing the attendance and making report of the student.

2. LITERATURE SURVEY

Attendance Management System is used to develop for student attendance in schools, colleges and institutes. It helps to manage the attendance details of a particular student in a particular class. Using the application software development is view knowledge as this project progresses.

In olden days generally, the attendance is taken by using the pen and paper to sign the attendance register or timesheet, or the staff needs to spell out the student's names to get the attendance of the student to get the presence. By using the smartphone, it saves more time and consumes less energy and also helps to reduce the wastage of the paper

RFID based Participation Framework utilizes RFID peruse to get the understudy data through understudy lattice card. In the wake of getting the understudy data, it will send it to the PC in that class or lab. From that point forward, the person in control (educator, staff, and understudy) must associate with the PC utilizing

Bluetooth to make his/her see the understudy specialist in that class. An exploration on Close Field Correspondence based frameworks for participation stamping has been done, yet there were sure constraints in it. There are a few deficiencies in this framework. The participation checking process is tedious and dreary. To evade intermediary of understudy, manual head check additionally requires to be performed. To defeat the above inadequacies, joining capable highlights of android OS and wifi would be extremely useful.

In the current framework the designers or scientists are build up the idea that is made for just the android application which runs just on the android cell phone however in the proposed framework will take a shot at any working framework with the assistance of Wireless association.

3. PROPOSED SYSTEM

For the manual attendance taking problem, the best solution is provided by in this the proposed system. The system concept is made with the smartphone WiFi and MAC address to the database for making the attendance for the students and also gives the study materials via server. First the students mobile and their details are stored in the data server. And all the details are stored in the database with the help of WiFi modem or router for each classroom. This proposed system has limited range of the WiFi signals like in the classroom. If the student enters the class room then only he receives the signal from the router or WiFi modem after the student in the signal range and connect the WiFi with the help of the specific router and login with the particulars details that are previously stored in the database server. The student must be connected in the WiFi modem for making the attendance this saves the time for the staffs and students for taking the attendance by giving the timesheet or signature register or else saying the names of the students one by one. If the student leaves the class room the signal gets lost and the data stored to the system and mark absent. All the details are stored in the database server and this data can be view by the staffs and the principle.

4. IMPLEMENTATION

This proposed system will work on the any smartphonesystem like android, iOS, windows and blackberry with the help of WiFi.

4.1 Modules

There are several modules are given to explain the system and the working procedure of the system how it will work.

4.1.1 Student WiFi

In this module the student has to connect the modem or router in the class room using the Smartphone WiFi for making the attendance for that particular student, the attendance is only marked when the mobile is connected to the modem or router in the classroom. The connection is established between the router and the database server with the help of particular MAC address. In the meanwhile, the student connects the class WiFi the local time is captured and stored in the database. The student name and details will be stored in the database server with the help of student Smartphone MAC address all student details are stored in the data base with the MAC address. The students' needs to connect the WiFi for every hour of the class.

4.1.2 Router or WiFi modem

WiFi modem or router is used to provide the WiFi signal for the student to connect the smartphone in the class room, the modem or WiFi router is placed in the class room and the student are connect the modem with their smartphones for providing the attendance. The modem is connected to the database server the modem sends the student mobile MAC address for the reference for the database. With the help of the MAC address. The Media Access Control (MAC) address is a unique 12-character identifier (e.g. 00:00:00:00:00:0X) for a specific piece of hardware, like the network adapter located in WiFi devices. If you are using Optimum.net to register a WiFi device, you'll need to know the device's MAC address. The MAC address is provided for the e very smartphone when it connects to the internet with the router it sends the MAC address to the database and search for the student details and makes the attendance for the student. Here our idea is, the WiFi connected in the student smartphone is automatically disconnect after the hour of the class gets over or the given set of time period to disconnect the device form the router. This is used to help the student presence in the class room. If he fails to connect

after the disconnection of the WiFi connection then the MAC address for the student will be marked in the database. And the disconnected student details will store in the different database for the reference and the stored data will send to the respected staffs who handle the hour.

4.1.3 Database server

The data base server developed with the SQL database server for storing the student's information with the primary key as MAC address for the student's smartphone with the help of the WiFi connected with the router or modem. The data like the student name, roll number, department, semester and year are stored with the MAC address of the student mobile in the database server.

The database is also having the subjects and the staff details, when the staff enters the classroom

and the students are connect the mobile with the classroom and give attendance for that hour after the completion of the student's attendance in the database it will send a copy of the student's details to the staff mobile. The staff has a different database to access the details of the students.

All the data are stored in the database server for the future reference and the stored data will be used to check the students' performance and analysis the student presence of the class room.

4.1.4 SOFTWARE REQUIRMENTS

Operating System: Windows and Android

Software: Wifi

Database: SQL

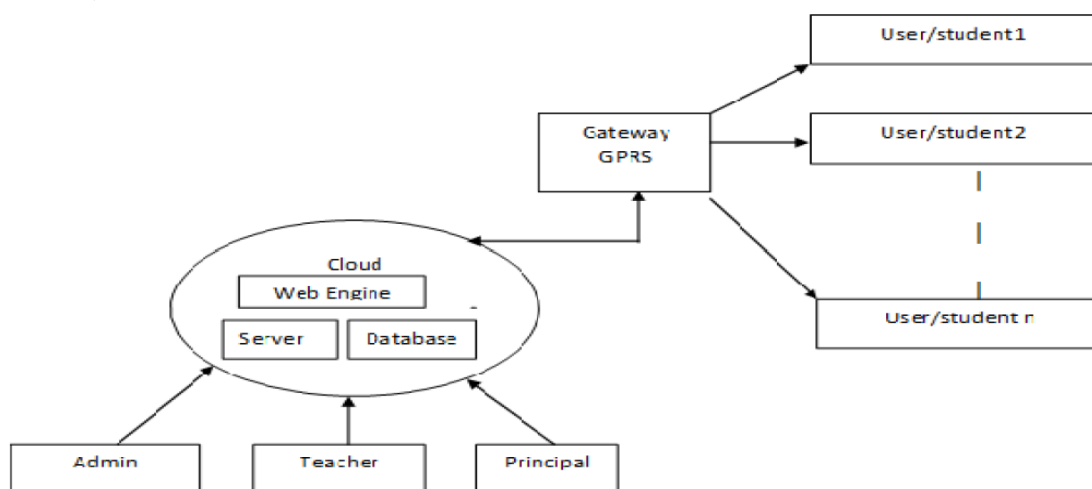


Fig: System Architecture

CONCLUSION

Nowadays the students bring mobile phones to the college as their part of the life. So, we can implement this technique for maintain the attendance using the smartphone Wifi with the help of MAC address. This proposed technique is used to change the system for maintaining the student's attendance and also saves the time and man power. The stored data can be viewed easily for future usage.

REFERENCES

[1] Kassim, Murizah, et al. "Web-based student attendance system using RFID technology." *Control and System Graduate*

Research Colloquium (ICSGRC), 2012 IEEE. IEEE, 2012.

[2] Sultana, S., Enayet, A., & Mouri, I. J. (2015). A SMART, LOCATION BASED TIME AND ATTENDANCE TRACKING SYSTEM USING ANDROID APPLICATION. *International Journal of Computer Science, Engineering and Information Technology (IJCEIT)*, 5(1), 1-5.

[3] Shanbhag, Gautam, et al. "Mobile Based Attendance Marking System using Android and Biometrics." *IJIRST-International Journal for Innovative Research in Science & Technology* 1.1 (2014): 87-90.