

MOBILE PHONE ATTENDANCE SYSTEM VS RFID AND BAR CODE SYSTEM

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ABSTRACT

Student attendance tracking is one of the main problems that our administration is taking. With these tracking there is many ways by which a student or a teacher can track his or her student's attendance and can update the student. Which helps the student to know that his if his attendance is low then he could get in trouble and as well as the teacher can also keep it's track record. Now as we can see we are going in a world where the use of E-learning is taking place, due to which the government is also telling to make the teachings online so that it becomes a little more convenient for the teachers as well as for the students.

With this system the teachers can take attendance of the students online. Sometimes due to teachers mistake the hardcopy gets lost and because of which it could create a problem for the teacher so this system helps the teacher as well as the student to keep its track record. Sometimes some student may or may not willingly mark himself present if also he is absent because of this the subject teacher can take the attendance in his/her android mobile and can upload it in the server or in his/her mobile.

INTRODUCTION

Student attendance tracking is one of the main problems that our administration is taking. With these tracking there is many ways by which a student or a teacher can track his or her student's attendance and can update the student. Which helps the student to know that his if his attendance is low then he could get in trouble and as well as the teacher can also keep it's track record. Now as we can see we are going in a world where the use of E-learning is taking place, due to which the government is also telling to make the teachings online so that it becomes a little more convenient for the teachers as well as for the students.

Student attendance administration is a critical content of the administration of school/college/university students. The traditional scenario of tracking student attendance in the classroom is done by obligating the students to physically mark the attendance sheet that goes around the classroom while a course teacher is delivering the speech.

The NFC-based applications rearrange different human everyday exercises by just touching a thing settled or coordinated with NFC tag. For example, Smart Touch

is one of the early NFC ventures that spotlights on NFC innovation which was composed by VTT Technical Research Centre Finland; applications in different zones were produced under this venture, for example, mobile compensation and ticketing, savvy publication, attendance framework for schools, home utilize, family unit get to control and security, blood glucose meter, and so forth. In, a robotized attendance administration framework was executed both in electronic and portable stage utilizing stationary grid AR 400 RFID reader with four circulatory polarized antennae and Symbol MC9000-G hand held RFID reader separately. But the system is highly expensive. Soewito et al. proposed an attendance system using finger print and GPS technology through smartphone. The system is time-consuming as it used finger print technology. The system is able to collect data but can't generate .pdf or .xlsx file. Noor et al. developed a system for the students attendance automation. In this system, each students have a ID assigning a barcode which is read by the smartphone application. In this system, one students can carry the ID of the others which will mislead the attendance system.

SMARTPHONE VS RFID AND BAR CODE SYSTEM

a) The smartphone can control only by course teacher and teacher can retake or modify the attendance which is not possible in RFID and bar coding.

b) The smartphone is cost effective and faster where the price of RFID reader or bar code reader is much higher. In this system, there is no extra cost for buying RFID card or bar code reader.

c) In RFID or bar coding system one student must carry his/her RFID card or bar code card which is difficult to do always, even one student carry another's card

d) Reading from RFID or bar coding is time-consuming and sometimes it needs an operator to operate but in Smartphone requires minimum time and no need an extra operator to operate.

e) Endeavoring to peruse a few tags at any given moment may bring about flag impact and eventually to data misfortune in RFID system, our system is free from this type of problem. f) Assembling of tags is not yet 100% disappointment free today; around

20–30% of tags utilized as a part of early RFID pilots have been faulty.

g) In bar coding system there arise some problems like as optical observable pathway checking, constrained perceptibility, confined traceability, unequipped for item level tracking, work concentrated, defenseless to ecological destruction, inclined to human blunder.

HIGH LEVEL SYSTEM DESIGN

The Smartphone-based Student Attendance System using mobile application improves automated recording of student attendance in school/college/university. With a specific end goal to framework plan, various Smartphone-based strategies and systems have been implemented. Related research on the framework improvement and testing were additionally studied to give direction in assessing the system while taking the reasonable approach in planning the proposed

framework. Our proposed framework comprises of three fundamental modules namely the Mobile application, Database module and Web server module. Those modules are integrated together to get the desired result. Every module conveys its own capacities and unique elements. The system block diagram is outlined in Fig. 2, where principle parts are depicted. A. Mobile Application The mobile application provides all the facilities of the system of Smartphone-based Student Attendance. The application provides a user interface which communicates with the course teacher and helps to take attendance. Then it can be saved in phone SQLite database as well as in MySQL database simultaneously. The MySQL database is placed in web server which ensures the remote store of attendance. By using this application user can calculate percentage automatically, print

details of the attendance, send SMS, and send an email. B. Database and Web Server A database is characterized as a composed gathering of data. Our database is utilized to particularly store the data gathered by the mobile application. In addition to more features to the clients, our online framework can operate the recorded student attendance record by inquiring the database. This incorporates computerized operation, for example, condensing a specific student attendance by figuring the attendance rate for a unique course. The web server provides the facility of MySQL database. The server is the remote store of attendance record. Only the mobile application can communicate with the web server. The application can update the MySQL database and can retrieve data from web server. If the loss of data occurs user can restore from web server

MySQL database. An instructor may alter details of a student yet a student is not permitted to do any alteration to their information.

FEATURES OF THE APPLICATION

A. Taking Attendance and Percentage Calculations Every student attendance against each course is set apart on the premise of stay in the class. If stay time in the class ties with the required time, then attendance is denoted as 'Present'. The attendance of students who were out of class during a class hour is marked as 'Absence'. There is no chance of duplication record in the system. The percentage calculations are performed automatically by mobile application for every student in each registered courses in order to check his/her performance to attend in the examination. If the calculated percentage is less than the required percentage then the student will be suffered.

B. Emailing System and Messaging System In the case of low percentage, an e-mail is sent to student's guardian including the percentage details as well as a warning.

By this, the students' parents will be automatically updated about his /her child's progress. For sending Short Message Service (SMS), the mobile application is used. Whenever the student acquires a low percentage, an SMS is sent to his/her guardian to update them about their Child's Progress in case they are not able to check their email.

EXISTING SYSTEM

We have studied and visited the different websites and the literatures. As per the literature review, the various organizations and individuals have tried to overcome the problems in the traditional attendance system. Some of them are listed below:

2.1 E – Beat E - Beat is an electronic beat constable's night patrolling attendance system to avoid manual recording of time & attendance and to save the time by sign-in / sign-off at different beat points while patrolling. XIPHAS has developed the Electronic Beat. It has features such as Compact, Light-weight, Pocket size, tamper proof. But it has a limitations regarding system specification. It is operable in fixed temp range i.e. 0 to 70° C. Very small memory storage as small as

64kb.it uses the Infra Red Serial port for data communication which is outdated.

2.2 Mobile Phone Based Attendance System in J2ME This project is based on J2ME technology. Professor enters the attendance to the mobile using keypad. It is a manual process. After saving the absentees or presenters in to the mobile, teacher can edit the attendance list in the mobile. And this attendance details can send to a computer using GPRS. It was developed considering the requirements of that time and has a very little future scope. The system has a limited bounds. It lags behind a lot as when compared to modern day technology such as Windows, Android, iphone .it also a platform dependent and version specific. It does not support the GPS technology to reduce the fake attendance.

PROPOSED SYSTEM

Regarding the above literature research and taking in to consideration its drawbacks and limitations, we proposed the „Mobile Phone Based Attendance System in android“. In this proposed system we are going to develop an android application which will eliminate all the

drawbacks of the existing system, which consist of the following dynamic features:

- Time saving as attendance can be taken just by checking the list of students
 - No needs to maintain several separate records and manual calculations.
 - 24x7 availability of information.
 - More secured than traditional attendance system.
 - A step towards the futuristic e-schools
- FUTURE SCOPE**
- As soon as the students log in the application in the class, they will be available for the attendance. The lecturer will then submit the attendance using the availability of the students those who are logged in.
 - SMS module can be implemented which will inform students about low attendance and various events.

TECHNICAL IMPLEMENTATION

In view of the framework diagram demonstrated before, the system execution was accomplished.

A. Mobile Application The system employs in Android API level 19. The application is implemented in eclipse android ADT bundle as IDE. The system used the internal SQLite database as phone database and www.golapmilonkuet.byethost16.com as web server database. The server holds MySQL database.

B. MySQL Database and SQLite Database The Smartphone-based Student Attendance System is precisely associated with MySQL database. In our database, there are four principle tables developed to store the recorded data. A table called the attendance table is utilized to store all clients' taken attendance data with date and other information. These data collected by the application is putting away the data onto the database. The teacher table is another table in the database that is utilized to record the teacher's subtle elements that incorporate their profile data, for example, name, ID, address, email, telephone number and so on. Courses data, for

example, the course code, planned class scene, begin and end time class is stacked into the course info table. The student data table holds the details information of all the students. In the interim, the investigated student's attendance data is recorded in the Attendance database. An arrangement of precharacterized SQL inquiries are built into regular capacities permitting simple information additions, refresh and recoveries for both phone and web server is gathering reason.

C. Graphical User Interface (GUI) A course teacher is permitted to enter the application user interface by signing in to the framework through a login page by providing his/her required information. This kind of validation is vital with a specific end goal to counteract access by intruders' [9]. The course teacher has full access to the system. The course teacher can moderate and change the data in the framework

SYSTEM TESTING AND RESULTS

To guarantee the framework exactness and fruitfulness, framework testing has been done over the framework condition that incorporates the client-side application, server-side application, and mobile

application. The mobile application was tested by inserting sample teacher information, course information, and student information and then checked the operation of check attendance, modify attendance, print attendance, send SMS to the students or to their guardians, and send Email to the students or to their guardians. In overall, our goal to improve a model of a Smartphone-based Student Attendance System was effective. The login menu of Smartphone-based Student Attendance System ensures the access the application system. The client login verification procedure was effectively tested, which keeps an interloper's entrance into restricted access of the application. Anyone without ID and password can't the framework. At the point when a client is effectively signed in, the client gets the entrance to the primary page that shows a menu containing an arrangement of features provided to the client. Smartphone based Student Attendance System Take Attendance page contains a list of the roll and corresponding attendance. Only the course teacher can take attendance.

CONCLUSION

Smartphone-based Student Attendance System will significantly develop the conventional procedure of student attendance framework in a university/college/school surroundings. Smartphone-based Student Attendance System is a computerized information accumulation technology, which leads to more precise data entry. The stored student attendance data are framed and investigate inevitably without any loss of data, compared to a traditional recording method. A course teacher can easily monitor the attendance of students which may develop the excellence of instruction because the fewer time required to collect and process data. Implementing the system in educational environment helps the user to identify attendance, proxy attendance, calculate percentage etc. SMS and Email messages are sent via the system automatically to inform parents so that they can get notified about their child's progress in the institution.