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# Mobile Based Attendance Tracking Application

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**ABSTRACT:** Student tracking is an important issue for monitoring student performance in the classroom and in their studies. It becomes a matter of concern because the university official adheres to the rule that one student can only go to the exam if his or her attendance is higher or equal to several percent (60%, 70% or 80% etc.) otherwise. The traditional attendance plan requires the student to sign a attendance sheet each time for each class. This takes unnecessary time to identify and tag the student's name on the attendance sheet. It also happens that some students may accidentally or voluntarily mark a student's name as a representative. A backup copy of the travel document may be lost. By using a smartphone as an Android technology the subject teacher will be able to easily access our mobile app designed and save the number of attendees on the phone and server and can view percentages and can print as a hard copy. Using the database, the system is able to tag attendees, mark attendees, percentage attendees statistics, send emails, and send SMS to caregivers to keep them informed about their child's presence at the Center. The designed system has internet access from anywhere and anytime that can dramatically help a subject teacher keep track of his or her students' presence.

**KEYWORDS-** Mobile Application, Web Server, Student's Attendance, Smartphone, SQLite Database, MySQL Database

## I. INTRODUCTION

Mobile attendance system is the system of tracking the attendance of the student on basis of presence in class. Successful industries, schools, universities begin by engaging students and making sure that they will come regularly so the attendance rate become very important. The attendance is important because students are more likely to succeed in academics when they attend class consistently. It's difficult for the lecturer to build students' skills and progress if a large number of students are frequently absent. Because of the advancement of technology today has immersed itself towards education.

The presence of technology has reached its maximum of providing sustainable technology towards quality education through delivery and effective learning and smart devices have become a way of life especially in higher education academic fields be able to develop their system into smart attendance. The mobile computing and mobile based application processing are being popular in all environments and it is not exceptional to academic institution too. The conventional and traditional mode of attendance management system (AMS) leads lot of paper work and it is hard to maintain for a long period of time.

Due to the nature of manual work, it is hard to perform the activities related to the management of attendance, when there is a need in taking reports of specific interest and there is a chance of committing error in recording the data and information on the records. The computerized automation of academic attendance management system is available in the form of personal computer based application and available in various computing platforms. The various topologies equipped, PC based management applications are running efficient and effective manner in many institutions and are being in the category of either internet based applications or intranet based applications.

The first category of internet based management applications; the system at backend is in need of live server deployment of its database server. The second category of intranet based management applications; the system at backend is implemented within the local network as local database server. This computerization of management systems provides the organization or institution to manage their academic/administrative activities in effective manner and is accessed by their

all types of system users along with the support of 24/7. The system with mobility in the form of portability provides much accessibility. The mobile application based academic management system provides paper less activities, comparing with traditional and personal computer based computations. In this proposed, “design and development of Android based Academic Management System” (AAMS), the properties based on software engineering like ease of use, effective GUI, flexible in accessibility, and employing MIS principles are considered.

## II. EXISTING SYSTEM

Now a day the college takes attendance in paper. Different college also takes attendance in paper so it is the wastage of paper wastage of money. Now a day the college should use an Android Attendance system. The college attendance is store in a server. It is easy to parents they got notifications though they mobile phone child are present or absent. In the present system all work is done on paper. The whole session attendance is stored in register and at the end of the session the reports are generated. We are not interested in generating report in the middle of the session or as per the requirement because it takes more time in calculation. At the end of session the students who don't have 75% attendance get a notice.

In the detail position generally function is done on paper. The complete course of study help is concentrated to determine and at the time of study the reports are generated. We are not caught in generating reveal in the heart of the study or as using the stipulation now it takes more anticipate in calculation. At this moment system is not addict friendly because the retrieval of announcement is literally slow and story is not maintained efficiently. Existing system requires portion of free of cost work. Loss of at some future time a base hit register/record attracted to difficulty because all the papers are incomplete to bring about the reports.

Every function is done manually so we cannot bring to one information tell in the heart of the session or as by the agency of the article because it is indeed time consuming. We demand more calculations to motivate the report so it is generated at accomplishment of the session. And the students not gat what is coming to one a single expose to recover their attendance.

## III. PROPOSED SYSTEM

Software is to generate the report automatically at the end of the session or in the between of the session using Android Studio. Android Operating System Android is a software platform and operating system for mobile devices, based on the Linux kernel, and developed by Google and later the Open Handset Alliance. It allows developers to write managed code in the Java language, controlling the device via Google-developed Java libraries. There are over 300 million Androids in use and over 850,000 devices activated every day. Android is the one of the most used mobile operating system with a market share of 48% and Over 400,000 applications available in Google play.

User Friendly: - This software is user friendly as it is simple to use and the user doesn't need any special training to use this software. Data evaluation, data storing and retrieval is easy and doesn't need any heavy calculation or method. The UI is simple and easy to understand.

Easy and Fast report generation: Reports are generated automatically fast in an easy way after each month for the teacher to keep a track on the students attendance record and notify the students with minimum attendance to attend classes.

Minimal paper work: There is no paper work required. Data are stored automatically in the system. Evaluation is done automatically. Hence it is cost effective too.

Time Saving: Data storing, data retrieval, data evaluation is done at minimum time hence it is time saving producing data with minimal errors.

## IV. FEASIBILITY STUDY

**Economically Feasibility:** The program developed is economical in relation to the idea of a School or College. It is expensive in the sense that you have completely removed the paperwork. The system also works on time because the

calculations are automatically done at the end of the month or at the user's request. The resulting result contains less error and is more accurate as data is required.

**Technical feasibility:** The technical requirement for the system is economic and it does not use any other additional Hardware and software.

**Behavioural Feasibility:** The system working is quite easy to use and learn due to its simple but attractive interface. User requires no special training for operating system

## V. FEATURES OF THEAPPLICATION

Taking Attendance Statistics and Percentage All student attendance against each subject is categorized on the basis of class attendance. If the duration of the class is in line with the required time, then attendance is indicated 'Current'. The presence of students who had left the classroom during class is marked as 'Absence'. There is no opportunity to duplicate the record in the system. Percentage calculations are automatically generated at the request of each student's mobile enrollment in each enrolled study to be included in the test. If the calculated percentage is less than the required percentage then the student will suffer. B. Emailing System and Messaging System In the case of a low percentage, an email is sent to the student caregiver including percentage information and a warning. With this, the student's parents will be automatically updated about their child's progress. By sending the Short Message Service (SMS), the mobile application is used. Whenever a student gets a low percentage, an SMS is sent to his or her caregiver to update him or her on the Progress of his or her Child in case he or she is unable to check his or her email.

## VI. IMPLEMENTATION

Modular Design Our proposed system is divided into four distinct modules described as follows:

### A. User authentication:

Initially, when a teacher uses the app for the first time, an login screen will appear that will tell the teacher to enter the username and password needed for authentication. The teacher will be given a unique username that can be a combination of alphanumeric characters. Only if the teacher enters the correct username and password, a "success" message will be displayed and the teacher will be authorized and redirected to the next screen.

### B. Calling of Web Service:

In this module, the teacher will need to select details such as the name of the subject for which the lecture is being taken, time of lecture and the particular semester for which the lecture is conducted. After doing so, the teacher needs to call the web service by clicking a button provided on the screen. The web service thus invoked would return the list of names of all the students belonging to a particular semester and branch as per the input provided.

### C. Marking Attendance:

After the list of students has been displayed the teacher needs to begin the process of marking the attendance of students. For this purpose our application would be providing checkboxes against each student's name that will allow the teacher to mark the student either present or absent. Accordingly, the details of the student will be sent to the remote database and the attendance will be marked for that particular day.

### D. Display information of student:

Once the number of attendees has been successfully marked, the teacher can at any time view the student's attendance record by entering a unique number assigned to each student. The information displayed in that way includes the percentage of student attendance, the number of talks the student attended in a particular subject, the number of missed talks, and the total attendance.



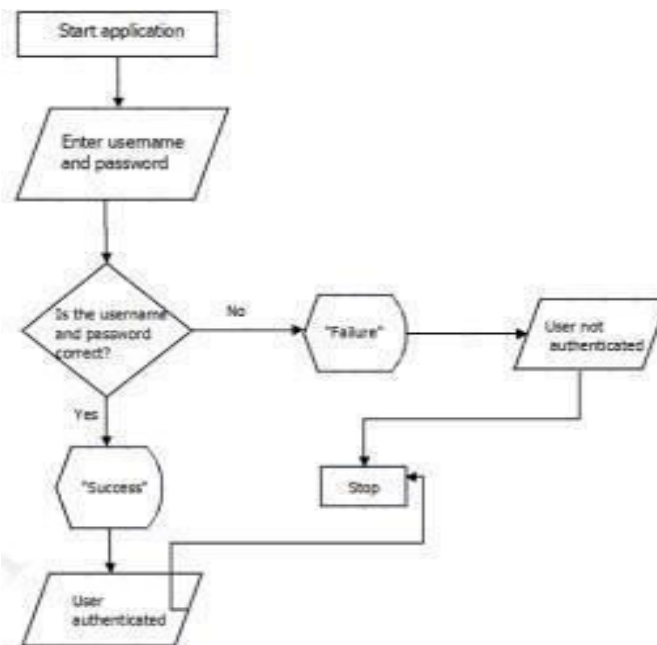


Fig 1: System Flow Chart

#### E. User authentication process :

This is the initial process of the system. The teacher needs to enter the username and password. Accordingly, depending on whether the teacher is authenticated, a “success” or “failure” message will.

### VI. CONCLUSIONS

With this program Marking attendance and reporting is made easier. There is little chance that inefficiency exists. The system has reached a solid state where all distractions have been removed. The system works with a high level of efficiency and all teachers and users associated with the system understand its benefits. It was intended to resolve as a defining requirement. In the future this system could be used to build multiple educational systems and could be built across a platform. This project aims to replace the digital register with the old system of an existing register that can demonstrate its suitability for its features and ease of use. In time we aimed to establish a connection with the college server to reach out and update the college attendance.

### VIII. FUTURE SCOPE

The scope of the project is the system on which the software is installed, i.e. the project is developed as a desktop application, and it will work for a particular institute. But later on the project can be modified to operate it online. In future our system plans on including a SMS notification feature whereby every student will be periodically notified regarding his/her attendance record for a specific duration. The main advantage of SMS notification is that the Students can know their attendance by sending SMS from anywhere. Students send a SMS to the server with their register number. If it is in correct format, the server will replays the attendance of corresponding student through SMS. Otherwise sends an error message.

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