

TEACHER'S AIDE

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Abstract - Until today, most lecturers in universities are found still using the conventional methods of taking students' attendance either by calling out the student names or by passing around an attendance sheet for students to sign confirming their presence. In addition to the time-consuming issue, such method is also at higher risk of having students cheating about their attendance, especially in a large classroom. Therefore, a method of taking attendance by employing an application running on the Android platform is proposed. This application, once installed can be used to download the students list from a designated web server. Using the conventional method, the attendance will be marked in the app. The updated attendance list is then uploaded to an online database and can also be saved as a file to be transferred to a PC later on. This system will help to eliminate the current problems, while also promoting a paperless environment at the same time. Since this application can be deployed on lecturers own existing Android devices, no additional hardware cost is required. In addition to marking attendance and saving it onto the server, TEACHER'S AIDE application provides multiple additional features like generating defaulters list directly from the data stored on the server, viewing personalized time-table of each individual teacher, syllabus overview of every single subject and allocating marks to every student depending upon their attendance.

Index Terms – android application, attendance system.

1 INTRODUCTION

In most educational institutions, participation of students in learning process is regarded as a vital exercise for allowing knowledge transfer. This signifies the importance of having students to attend the scheduled lectures and classes. Conventional methods for recording student's attendance are still adopted by most colleges. One common method is by having students to manually sign the attendance sheet, which is typically passed around the classroom while a lecturer is giving the lecture. This approach could undoubtedly allow the students to cheat about their attendance, where a student may sign for an absent student. Besides, such attendance sheet could easily be misplaced or lost. A stricter approach specially to prevent students cheating about their attendance is additionally tedious, where a lecturer calls out the individual names from the students list and validate the presence of every single student. Such manual methods of taking students attendance have been proven to be difficult and time consuming. Thus, there is a need for a semi-automated system that would eliminate all of these troubles. This paper gives an overview of how the current attendance marking

methods can be simplified by using the most widely used open source software that is android

2 PROBLEM STATEMENT

Attendance is for keeping records of number of students present in schools, colleges, or in any organization. It is very important strand in maintaining discipline among employees in an organization and imparting quality education in schools, colleges, and if someone drifts from required standards proper action can be taken. Various methods of taking attendance are RFID cards, biometric identifiers like fingerprint, face recognition, palm print, hand geometry, iris recognition etc. But conventional method looks better as it is cheaper and more reliable as observer is human being itself. The proposed system involves utilization of an android application in the front end. This application will be present in a tablet or smartphone used by the faculty. The faculty can log into the app using their username and password. The faculty then has the ability to mark the attendance of the students, by selecting the class name and subject. The faculty member would just deselect the

students that are absent and submit the attendance. The system will save the attendance in a temporary cache. The attendance will be synced to the server once a network connection is established. The system will be able to generate a monthly as well as cumulative defaulter list.

The application will provide the following additional features:

- Personalized time table
- Subject Wise Syllabus
- Defaulter list generation
- Marks Allocation

This application, which is being developed for the teachers, would lead to a reduction in the amount of paperwork that the faculty performs.

3 RELEVANCE OF THE PROJECT

The places where this project can be used are:

1. **Colleges:** This application will be used in colleges by the faculty members to keep a track of the student attendance as well as use various other functionalities present within the application.
2. **Coaching Classes:** Coaching institutes can use this application for maintaining presence records of the students as well as the various other parties working there.
3. **Schools:** School teachers can use this application for the same attendance purpose.

4 SCOPE

The main scope of this project is to verify the regulation of attendance for the institution. The interface is to link the android application with the database, manage the attendance of students.

1. This system was developed for reducing the workload of the teachers.

2. Users of this system are administrator, professors of engineering colleges.

3. Administrators can update, add or delete students and professor's data, view attendance record.

4. Analyze student absences each semester according to the percentage absences from regulation of attendance.

5. View syllabus of each subject depending upon the faculty.

6. Individual time-table viewing for each faculty member

5 EXISTING ATTENDANCE SYSTEMS AND THEIR RESPECTIVE LIMITATIONS.

Attendance systems have been implemented in various fashions over the past few years. With the development in recent technologies a wide range of ideas have been used to implement and enhance the traditional way of marking attendance. Some of the methodologies used are the Bluetooth based attendance system, iris based attendance system, NFC based attendance system, face recognition based attendance system, and fingerprint based attendance system and many more. Out of the various systems the recently implemented systems have been explained below.

Face recognition based attendance system.

Working: In face recognition attendance system each and every student is provided with attendance by using the facial scanning process. In this system the student wanting to mark his/her attendance needs to stand in front of a facial recognition device that is being set up. The device then scans the student's facial features and depending upon if the match is found or not the attendance is marked. Attendance Management System (AMS) can be made into smarter way by using face recognition technique, where we use a CCTV camera to be fixed at the entry point of a classroom, which automatically captures the

image of the person and checks the observed image with the face database using android enhanced smart phone. It is typically used for two purposes. Firstly marking attendance for student by comparing the face images produced recently and secondly, recognition of human who are strange to the environment i.e. an unauthorized person.

Limitations:

- Time consuming
- Costly to implement
- Not highly effective.

Fingerprint based attendance system

Working: Fingerprint based attendance system is a type of an attendance system where individual fingerprints are scanned, recorded and matched to provide appropriate attendance to a particular student. Students wanting to mark their attendance need to place their recorded finger (image of the finger stored within the database) on to the fingerprint sensing device. The device then scans the finger and matches the scanned image with the images in the database in order to provide attendance.

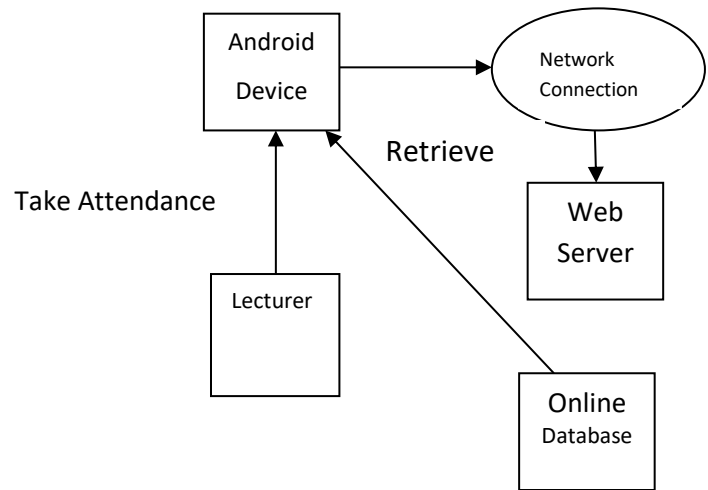
Limitations:

- Time consuming since students will have to wait in a line to mark attendance.
- Increased hardware requirement.
- Costly.

6 PROPOSED SYSTEM

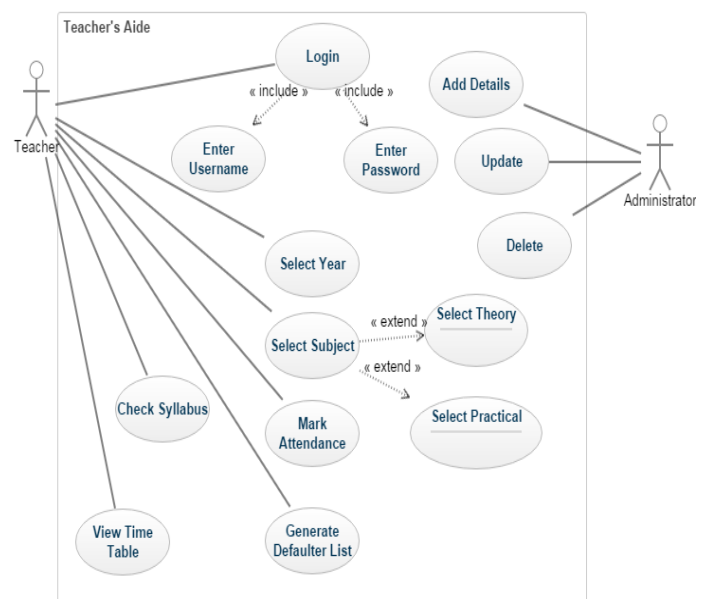
The figure below represents the overall system architecture of the Teacher's Aide application. The following are the different components of the system:

1. Web Server.
2. Database.
3. Android Application.



The lecturer would need to log into the android application. The lecturer then can mark attendance, view syllabus or view the personalized timetable from within the app. Generation of defaulter list and marks allocation would be performed by the administrator using the web application.

7 USE CASE DIAGRAM



8 SYSTEM REQUIREMENTS

- WAMP Server
- PHP 5+
- Android Marshmallow or above

9 CONCLUSION

Teacher's Aide is an application focused to reduce the workload of teachers in colleges. This app will automate the attendance related work performed by the teachers which takes a huge chunk of their time. Along with that, the app will contain the teacher's personal time-table.

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REFERENCES

- [1] Newman-Ford, L.E., Fitzgibbon, K., Llyod, S. & Thomas, S.L., "A Large-Scale Investigation into the Relationship between Attendance and Attainment: A Study Using an Innovative, Electronic Attendance Monitoring System", *Studies in Higher Education*, 33(6), pp. 699-717, 2008
- [2] Marr, Liz & Lancaster, Guy, "Attendance System", *Learning and Teaching in Action*, 4 (1), pp. 21-26, 2005
- [3] Mazza, R. & Dimitrova, V., "Visualising student tracking data to support instructors in web-based distance education", *Proceedings of the 13th*

International World Wide Web Conference on Alternate Track Papers & Posters Press, pp.154-161, New York: USA, 2004

- [4] Mehmet Kizildag, Erden Basar, Murude Celikag, Emine Atasoylu and Sayedali Mousavi, "An Automated Attendance Monitoring and Registration System for EMU's SPIKE Seminar Series", *Proceedings in Academia.edu*.
- [5] RESEARCH NOTE, AUTOMATING TIME AND ATTENDANCE: LOW HANGING ROI, *Proceeding in Nucleus Research*, January 2008.
- [6] S. K. Jain, U. Joshi, and B. K. Sharma, "Attendance Management System," *Masters Project Report, Rajasthan Technical University, Ko*