



College Attendance Application

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Abstract: The student attendance management system keeps track of the student's attendance. This system calculates the attendance of the students based on their attendance in class. The staff will have separate usernames and passwords for taking student attendance on a daily basis. The staff handling the particular subject to responsible to make the attendance for all students. Only if the student presents the particular date, the attendance will be calculated. The student attendance report based on monthly and consolidate will be generated. Attendance Management System is software designed to track daily student attendance in schools, colleges, and institutes. The application facilitates the access of attendance information of an individual student in a particular class. The information is sorted by the operators, who are provided by the teachers. This system will also help in evaluating attendance eligibility criteria of a student.

Keywords – Student Attendance, College Student Attendance

INTRODUCTION

Android is a mobile operating system based on a modified version of the Linux kernel and other open source software, designed primarily for touchscreen mobile devices such as smartphones and tablets. Android is developed by a consortium of developers known as the Open Handset Alliance and commercially sponsored by Google. It was unveiled in November 2007, with the first commercial Android device, the HTC Dream, being launched in September 2008. It is free and open-source software; its source code is known as Android Open Source Project (AOSP), which is primarily licensed under the Apache License. However most Android devices ship with additional proprietary software pre-installed, most notably Google Mobile Services (GMS) which includes core apps such as Google Chrome, the digital distribution platform Google Play and associated Google Play Services development platform.

“Attendance Management System” is software developed for maintaining the attendance of the student on the daily basis in the college. Here the staffs, who are handling the subjects, will be responsible to mark the attendance of the students. Each staff will be given with a separate username and password based on the subject they handle. An accurate report based on the student attendance is generated here. This system will also help in evaluating attendance eligibility criteria of a student. Report of the student's attendance on weekly and monthly basis is generated.



LITERATURE REVIEW

In this section, we review a couple of related systems and their different methods in recording students' attendance. An RFID based system is developed to record student's attendance during class hour because of the students enter the category. This technique requires each classroom to be installed with an RFID reader that is connected to a computer. The RFID reader are going to be wont to capture the scholar information through the student's card. To look at the general student attendance, the lecturer may later connect to their phone via Bluetooth to the PC. Another project is additionally using RFID technology. However, this technique requires an RFID reader to be mounted at the central of every classroom. The mounted RFID reader will track all RFID tags within the classroom directly, and an object counter will update the number of scholars within the classroom supported the successfully traced tags. Both systems described earlier have an equivalent limitation, which is the additional hardware cost to put in the RFID devices. Albeit RFID devices became cheaper over the time, one whole RFID system does not just include readers and tags. Computer, cables, network or may be a server could be needed so as to set up the entire infrastructure. The value to set up the system from scratch can easily outweigh the value of the RFID devices utilized in the system. An alternate approach was introduced in, where the system promotes fingerprint based students' attendance audio system with GSM utilization. By using this technique, each student attendance is validated once the student's fingerprint is verified by the reader. Additionally, to the strict attendance verification and recording, the system will send weekly attendance report back to the students' guardians via GSM. In another biometric-based system, presents a foreign iris acknowledgment attendance administration system, which is



planned and actualized using the Daugman's calculation. This technique utilizes the iris acknowledgment for confirmation 2015 IEEE Conference on Systems, Process, and Control (ICSPC 2015), 18 – 20 December 2015, Bandar Sunway, Malaysia 978-1-4673- 7655-6/15/\$31.00 ©2015 IEEE 118 and RF wireless techniques, especially for employee identification. Both of those systems are utilizing biometrics qualities which make them great approach against fake data.

PROPOSED SYSTEM

To overcome the drawbacks of the existing system, the proposed system has been evolved. This project aims to reduce the paperwork and saving time to generate accurate results from the student's attendance. The system provides with the best user interface. The efficient reports can be generated by using this proposed system

Advantages of Proposed System :

- It is trouble-free to use.
- It is a relatively fast approach to enter attendance
- Is highly reliable, approximate result from user
- Best user Interface
- Efficient reports



What makes our System different than the others?

There are many system that have been implemented regarding the Attendance application which displays attendance:

Our system will show the following:-

- Students can check their attendance logs with ID & Password.
- Monthly and Weekly report for attendance logs.
- The attendance is controlled only by Staff and Admin.

SYSTEM DESIGN

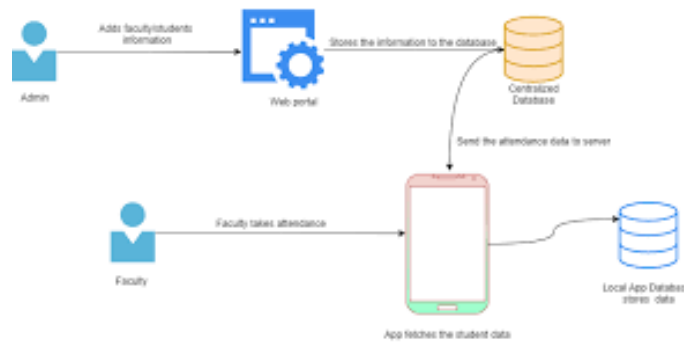
The Android based Attendance Management System is meant supported the client-server framework. By pertaining to the system architectural diagram the system consists of a web server with database and therefore, the Android based application and its hardware part because the client.

1. Software Architecture:

The Android based Attendance Management System is meant supported the client-server framework. By pertaining to the system architectural diagram the system consists of a web server with database and therefore, the Android based application and its hardware part because the client. The online web server is often deployed on a computer, which is connected to the web. To permit public access, the server should be configured with a public IP address. This server is going to be receiving requests from the client Type equation here. Applications that are running on the Android devices, which also require Internet access, especially when downloading list of scholars from the server and when uploading updated attendance records.



Android Attendance Application System Architecture Diagram



2. User Navigation Design:

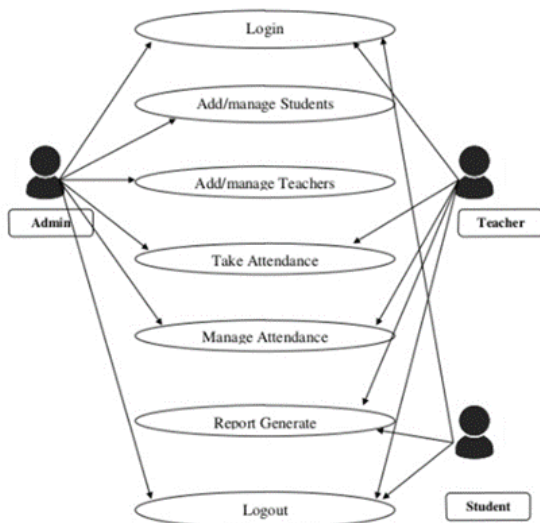
According to the flow chart (refer to Figure 2), the application needs to be installed first on the user’s Android based device. Once launched, the application will take the user to the login page. Upon a successful login authentication, the user is taken to a page to choose their registered teaching course and class (student group) from the drop down list. Once all required inputs are filled in, a list of students’ names for the respective class will be downloaded into the device. Every time a class has been taken the teacher is needed to click on the subsequent student’s name by which the student is marked as present or absent. The android app captures the attendance of the student and then the attendance data is stored in local storage .The app checks for an internet connection then after the connection is available the attendance is uploaded into the remote server. If the internet connection is not available, the data is stored and waited for the internet connection.

3. Hardware Architecture:

The basic requirement to deploy the system is a computer to run the online database server and a device that supports Android 4.1 or higher versions for running the client application. Another optional requirement is a personal computer to retrieve the attendance list file.

SYSTEM IMPLEMENTATION

The development work for this project consists of two parts, which are the development of the online web portal and the Android application itself. For development of the Android application, the design works involve designing the Graphical User Interface (GUI) required for displaying information To create and manage the online database, basic SQL knowledge is needed. The online server application being employed is the Wamp server, which includes MySQL database as one of the components. As for the client-side, SQLite library is used to manage a local database running on the Android device, i.e. used to store the downloaded and updated student list.



Out



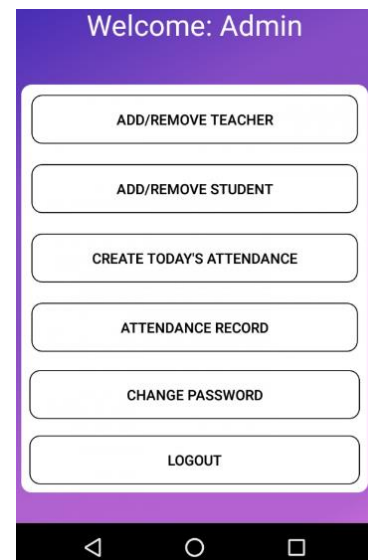
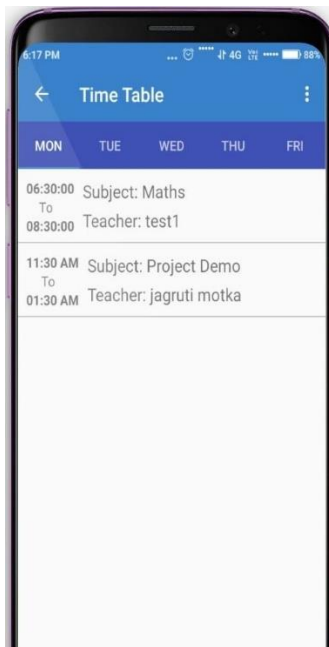
MOBILE APPLICATION FOR STUDENT ATTENDANCE MANAGEMENT :

This section explains the mobile application environment and the mobile application of student attendance system. Figure 1 shows the architecture of mobile application environment. The mobile application for the student attendance management system is developed and deployed in the cloud server. This application is also installed in the mobile devices of the users such as student, staff and parents, faculty members for accessing the student attendance details. The users are divided into two groups namely student and staff. The student user can be either students or parents. The staff user can be the staff members, faculty member, principal, dean, etc. of the educational institution. The student users can view the attendance that are uploaded in the database or cloud server. The staff users can enter, edit, modify and update the attendance of the student through any mobile device.

IMPLEMENTATION DETAILS

This mobile application is developed using Android Studio. The application is implemented with the computer system specification of Windows10 operating system, 4GB RAM and 500GB Hard disk with CPU: Intel(R) Core (TM) i5 – 3470 CPU@ 3.20GHz.

Outputs :



CONCLUSION

This paper presented a mobile application for the student attendance management system. This system is enabled with three login modes namely student, admin and staff. The student login allows the students or parents to view the student mark and attendance. The staff login allows the staff and faculty member to edit, modify, and update. This application is implemented using Android Studio. Besides that, to stop data loss, a web database is going to be used, especially to store the recorded student's attendance. The system was successfully developed by following the client-server framework. An entire design of the system was created first, followed by the particular implementation of the system both on the server, and Android device. The event was finalized with the system testing on the general system.

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