Implementation of Mobile Application based Student Attendance Information Management System using Android

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ABSTRACT

In this paper titled Implementation of Mobile based Student Attendance information system using Android has been built to eliminate the time and effort wasted in taking attendances in schools and colleges. It greatly reduces the amount of paper resources needed in attendance data management. This is an android mobile application. It is built to be implemented for schools and colleges so that teachers can take student attendance on their phones. In addition to the time-consuming conventional method of taking attendance also involves the 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 in this paper. This application, once installed can be used

by lecturers and the attendance percentage of particular students will be send by email to the concern student.

I. INTRODUCTION

Implementation of Mobile based Student Attendance system using Android is software developed for daily evaluation of students in their continuous assessment record and their performance in accordance with the principles of the institution. It is facilitated to access the performance and information of attendance of a particular Student in a particular semester of study. The information is sorted by the teachers, instructors and advisors, as provided by the student for a particular day throughout a complete semester. This system will also enable the evaluation of student's regular presence in various lectures which will determine the eligibility of the student to appear for a semester examination.

This paper is based on concepts and methodologies that we devised during our initial study and visualization of the paper. We have planned our paper keeping in mind the Object Oriented Concepts that can be applied to the paper.Thepaper is strongly supported by Javathe most popular and successful object oriented programming language. For the database connectivity we are using SQL database.

The objectives of developing this paper based on identifying the problem statements. The purposes are listed asbelow:

To store, access and manage student attendance data for every lecture and lab classes.

To automatically calculate number of absentees

and the percentage of present students based on subjects with respective lecture and labclasses.

This paper enables us to send attendance percentage of the student to their respective email.

II. EXISTING SYSTEM

In the present system, the work of taking attendance requires a lot of paper work. The whole work is stored in register and at the end of the class reports are generated. We are not interested in generating report in the middle of a class or as per the requirement because it takes more time in calculation.At the end of each semester the students who donot have minimum percentage of attendance toget the information.

III. PROPOSED SYSTEM

Implementation of Mobile based Student Attendance system using Android is proposed to help or reduce lecturer's work. This system facilitates to access or manage the attendance information of all the classes. Student by default is assumed to be present as number of present will be higher than the absentees for most of the attendance report. After that, lecturer is allowed to change or modify absentee's attendance data. The system will automatically count the number of absents and the percentage of present for all the students based on the no. of classes. Hence, this system provides a tedious work in maintaining attendance records besides saving time to analyze every attendance list and assuring the calculation made is error-free. The app can also be used to send the attendance percentage of students to their mail id.

IV Related works

GautamShanbhaget.et al.[1] this paper proposed an attendance marking and calculation system which is implemented on Android mobile application integrating biometric scanner that communicates with the database and verification can be achieved.

Shraddha S. Chawhanet.,et al.,[2] In this paper aims in implementing software that will help lecturers to take the attendance of students using mobile/Smartphone.

A.Parvathy et.al[3] This paper proposed the overview of interfacing RFID with cloud
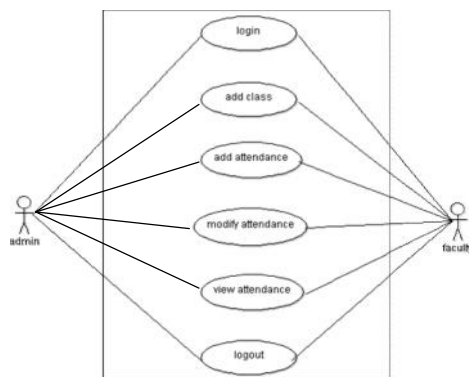
computing for updating students' attendance and updating it into the parents' corner and faculty mails.

V. ORGANIZATION OF THIS PAPER

This paper consists of the following section as follows, section I gives on introduction, section II provides related works, section III shows the system architecture, section IV gives implementation and section V gives conclusion.

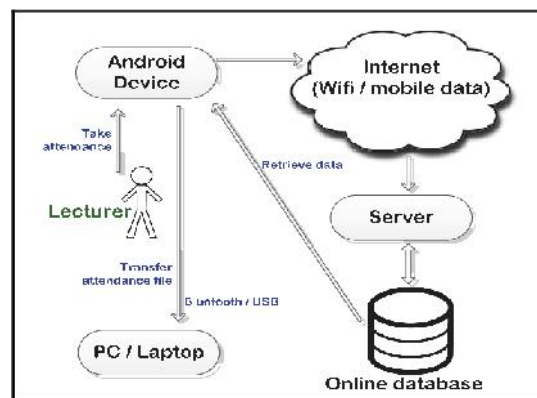**VI. SYSTEM ARCHITECTURE**

Figure 1   System architectural diagram

VII. UML DIAGRAMS

UML stands for Unified Modeling Language. UML is a standardized general-purpose modeling language in the field of object-oriented software engineering.

VIII. USE CASE DIAGRAM:

A use case diagram in the Unified Modeling Language (UML) is a type of behavioral diagram defined by and created from a Use-case analysis. Its purpose is to present a graphical overview of the functionality provided by a system in terms of actors, their goals (represented as use cases), and any dependencies between those use cases. The main purpose of a use case diagram is to show what system functions are performed for which actor. Roles of the actors in the system can be depicted.

IX. DATA FLOW DIAGRAM

The data flow diagram (DFD) is one of the most important modeling tools. It is used to model the system components.Thesecomponentsof the system process shows the data used by the process and how an external entityinteracts with the system and how well the information flows in the system. In this paper, we exhibit the data flow diagram which shows the entire working of the system.
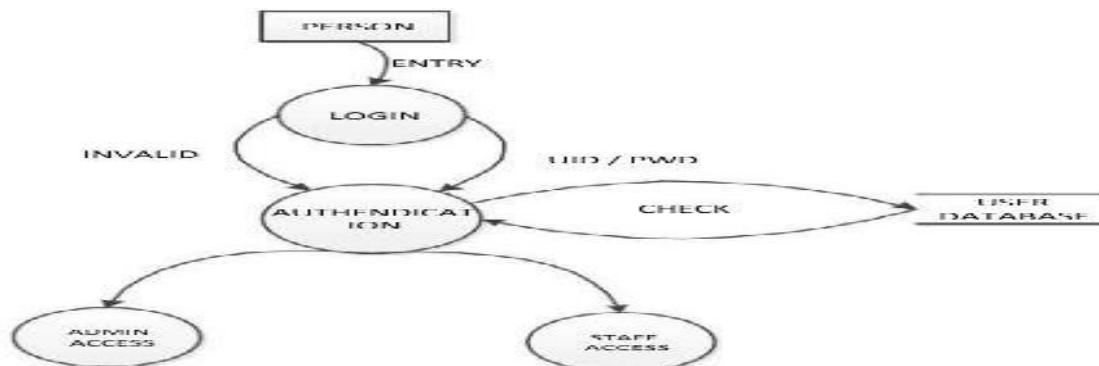
Fig 3: This figure shows the interaction Between user and the system

X. IMPLEMENTATION

Implementation is the stage of the paper when the theoretical design is converted into a working system. Thus it can be considered to be the most critical stage in achieving a successful new system and in giving the user the confidence that the new system will work and be effective.

The implementation stage involves careful planning, investigation of the existing system and it's constrains on implementation, designing of methods to achieve changeover and evaluation of changeover methods.

A. MODULES

This paper consists of the following three modules for the implementation

- ➢ Loginmodule
- ➢ Attendancemodule
- ➢ Calculationmodule

Login:

This module helps authenticate the validity and eligibility of the lecturer before he or she can use the system. The Lecturer or teacher is required to login using username and password. If either username or password is typed wrongly, the system will prompt out an error message.

A correct combination of username and password is needed in order to get access to the system. This is important to protect the confidentiality of the attendance data and to prevent unauthorized users from using, accessing and manipulating thesystem.
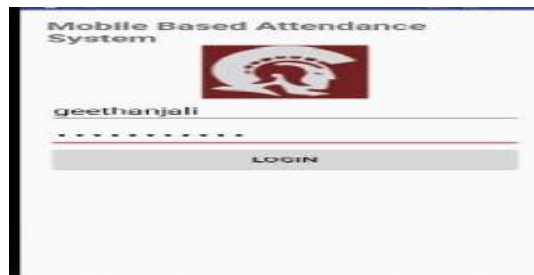

Fig 4: This figure shows user login

Fig 5: Marking absent for students

Attendance Module:

This module allows lecturers to manage and alter the attendance data efficiently.The system will prompt for date of attendance before a new attendance data is successfully completed. This module by default assigns all the students to be present as the number of students who are present will be more than absent thenlecturers can manipulate and change the absentees' attendance status to absent. Absenteeism with notice or absenteeism with medicalcertificate based on the reason given can be incorporated in the system.
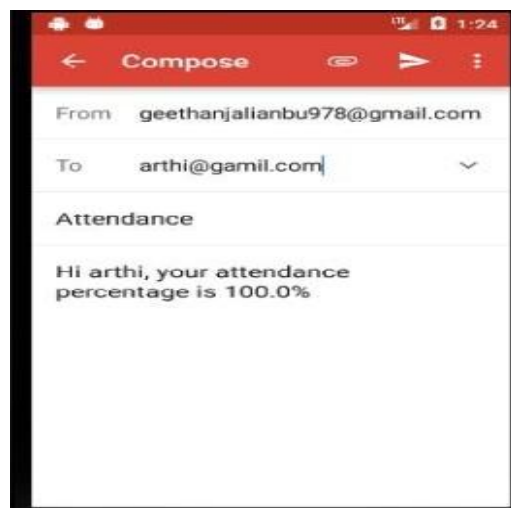

Fig 6: Attendance calculation.

Calculation Module:

This module provides lecturers with accurate value about the consistency of students attending the class session. This module by default will add up the number of attendance once new attendance information is added. From the attendance data, the attendance status will be grouped and categorized accordingly. After that, the calculation process does the job of totaling up the absent status of the absentees andconverts the number of present status into percentage, based on subject. Hence, lecturersare able to view and read the calculated value without counting itmanually. This following shows the attendance report generation.

XI. Conclusion

To conclude, This Attendance Management System is developed in meeting the objectives of the faculty members and method of taking attendance by employing an application running on the Android platform is proposed in this paper. The system has reached a steady state where all bugs have been eliminated. The system is operated at a high level of efficiency and all the teachers and users associated with the system understand its usage. The system solves the problem asit was intended to solve as requirement specification.This system will help to eliminate the current problem of promoting a paperless environment. Since this application can be deployed on lecturers' own existing Android devices, no additional hardware cost isrequired for them.

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