STUDENT ATTENDANCE MANAGEMENT SYSTEM

By

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ABSTRACT

Student attendance management system deals with the maintenance of student's attendance details. It generates the attendance of the student on basis of presence in class. It is maintained on the daily basis of their attendance. The staff will be provided with the separate username & password to prepare the student's status. The staff handling the particular subject in responsible to mark the attendance for all students. Only if the student is present on that particular period, then the attendance will be calculated. The students attendance reports on weekly and consolidate basis will be generated.

Keyword: Attendance Management System, Feasibility Study, Login, Report.

INTRODUCTION

Calculation of student attendance by university instructors during each class is a time consuming process especially when classes are big. Some faculty policies require this task to be performed by the instructor in each lecture. In other words, out of the total hours that are assigned to a given course, which is typically forty-five hours per semester, up to eight hours may be lost to perform this process that usually takes around ten minutes per lecture. (Fadi, & Nael, 2014).

"Attendance Management System" is a software developed for maintaining the attendance of the student on the daily basis in the college. Here the staff, who are handling the subjects, will be responsible to mark the attendance of the students. Each staff will be given 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 (Kalaisankaran B., 2013).

Attendance Management System basically has two main modules for proper functioning

- First module is, the admin who has the right to create space for a new batch. Any entry of new faculty, updation in subject if necessary, and sending notice is done by the admin.
- Second module is handled by the user which can be a faculty or an operator. User has a right of making daily attendance and generating reports.

  Attendance can be taken in two ways:
- On the basis of Subject and month.
- On the basis of Class.

1. Related Work

Many researchers studied the field of Student Management Attendance System of different methods and principles to effectively to monitor the attendance of students. In 2012 O. Shoewu, and O.A. Idowu, proposed a system which takes attendance electronically with the help of a finger print device and the records of the attendance are stored in a database. Attendance is marked after student identification (O. Shoewu, & O.A. Idowu,2012).

In 2013, Zhang Yuru, Chen Delong and Tan Liping, designed and implemented a system that checks the attendance system of a class which based on RFID on the basic of characteristics of embedded ARM and RFID technology (Zhang, Chen & Tan ,2013).

In 2014, Akshay A. Kumbhar, Kunal S. Wanjara, Darshit H. Trivedi, Anay U. Khairatkar and Deepak Sharma proposed the development of Attendance Monitoring System (AMS) using android platform. The proposed system provides the solution to lecture attendance problems through the use of AMS that is interfaced to the server. The students and teacher will have to install the respective files developed for their android devices (Akshay, Kunal, Darshit, Anay &

Deepak , 2014).

Adeoye T. Onaolamipo proposed a system that adopted biometric access control techniques, which is designed with extended graphical user interface by using Microsoft visual studio 2010 and integrated with Microsoft fingerprint reader. The student information is stored by MySQL which serves as database located in the user's computer or a server (Adeoye T. Onaolamipo, 2014).

Other attendance solutions are based on a QR code, which is being displayed for students during or at the beginning of each lecture. The students will need to scan the code in order to confirm their attendance (Fadi, & Nael ,2014).

2. System Overview

The proposed system provides a solution to lecture attendance problems by developing a web-based student absence database to facilitate managing student's absence. By using this system, absence of students can be entered by a responsible person or lecturer remotely. Every student can view his/her absence information using a search page that is provided in the site. Also useful reports regarding absences can be generated.

In this site the administrator and lecturer can add the data of absence of students including student's names, lecture schedule, and subject of the lecture.

3. Feasibility Study

This Study begins one of the goals which are defined It starts by generating broad possible solutions, to give an indication of what the new system should look like. This is where creativity and imagination are used. Analysts must think new ways of doing things- generate new ideas. There is no need to go into the detailed system operation yet. The solution should provide enough information to make reasonable estimates about project cost and give users an indication of how the new system would fit into the organization. It is important, not to exert considerable effort at this stage, only to find out that the project is not worthwhile or that there is a need of significant change of the original goal. Feasibility of a new system means ensuring the new system, which is to be implemented, efficiently & affordably, efficiently and affordably.

The main purpose of feasibility study is to consider each and every possible factor associated with the project and determine whether the investment of time and other resources yield desired results (Sanjay, 2014). It also includes determining the investments, manpower and costs incurred on this project

There are various types of feasibility to be determined. They are,

3.1 Economic Feasibility:

The system being developed is economic with respect to School or College's point of view. It is cost effective in the sense that it has eliminated the paper work completely.

The system is also time effective because the calculations are automated and are done at the end of the month or as per the user requirement. The result obtained contains minimum errors and are highly accurate.

3.2 Technical feasibility

The technical requirement of the system is economic since it does not use any other additional Hardware or software.

3.3 Behavioral Feasibility

working with the system and learning to use it is quite easy to use and learn due to its simple but attractive interface. User requires no special training for operating the system.

4. System Requirement

4.1 Software Requirement

- Operating System:-Windows 7 Service Pack2
- PHP programming
- MYSQL database

4.2 Hardware Requirement

- Minimum RAM:-256 MB
- Hard Disk:-40 GB
- Processor:-Intel Pentium 4

5. System Implementation

The system is designed and implemented for managing the attendance of students. Figure 1. shows the Data Flow of System. The structure of the system consists of:

- The home page

- System admin page
- Record attendance page

6. Database Creation

The database of the system has been created using the PHP (WAMP sever) version 5.5.12. With PHP my admin page a new database has been created Which includes five tables. The attendance database has five tables (levels, students, materials, teachers and attendance).

6.1 Levels Table

Table 1 details the structure of levels. The table contains only two fields and they are, class Level code and Class Level Name.

6.2 Teacher Table

This table contains information about faculty members and is shown in Table 2.

6.3 Material Table

This table contains all course materials and their related information. its shown in Table 3.

6.4 Student Table

Here the authors present the structure of the student table, and its shown in Table 4.

6.5 Attendance Table

S. No.	Field Name	Data Type	Description
1	Class Level Code	Number	Unique key for Every Level
2	Class Level Name	Text	Name of Level

Table 1. Levels Table

S. No.	Field Name	Data Type	Description
1	Teacher ID	Number	Unique key for Every Teacher
2	Teacher Name	Text	Name of Teacher
3	Level ID	Number	In which level teacher is teach
4	Password	Number	Store password corresponding to username
5	Active	Number	For history purposes

Table 2. Teacher Table

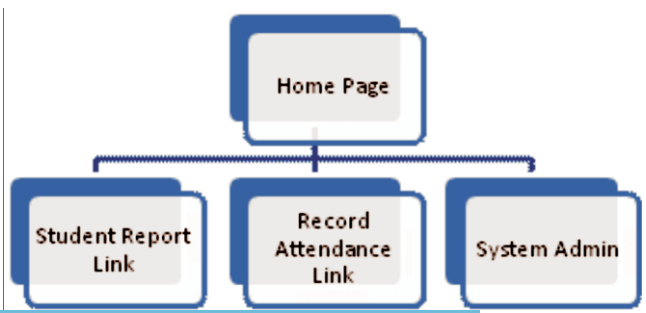

Figure 1. Data Flow of System

The database of the student is kept in this file as shown in Table 5.

7. System Design

The design of the system is performed using text document with WAMPSERVER. It is simple for in creating forms and to save them as a PHP page.

7.1 Home Background Window

The home page provides a link to other system pages. The recording attendance and admin, student link as shown in Figure 2.

7.2 Recording Attendance

Teachers can access, the system through the login window (Figure 3). They need to enter their login information (username and password). This information is provided by admin through the registration process, which saved in Table 2 (teacher table).

After login page, the teacher has to choose a subject

S. No.	Field Name	Data Type	Description
1	Subject ID	Number	Subject code, a unique key
2	Class Level ID	Number	In which level material is studies
3	Teacher ID	Number	Teacher who teaches this course
4	Material Name	Text	Name of Subjects in each semester
5	Unit	Number	Number of units
6	Hours	Number	Number of hours per week

Table 3. Material Table

S. No.	Field Name	Data Type	Description
1	Student ID	Number	This is the roll no of the student
2	level ID	Number	In which level student is studying
3	Student name	Text	This is the name of student
4	Student status	Text	Describe the statues of the student

Table 4. Student Table

S. No.	Field Name	Data Type	Description
1	Teacher ID	Number	Teacher who teacher this course
2	Material ID	Number	Code of the subject
3	Level ID	Number	In which level student is studying
4	Student ID	Number	This is the roll no of the student
5	Date	date	Date of absence

Table 5. Attendance Table

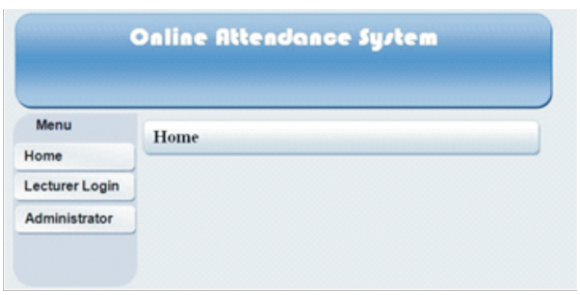

Figure 2. Homepage Window

from the materials list relevant to his/her login information (Figure 4). This information is found in Table 3 (material table).

Next, a list of students for chosen material appears and teacher has to record the as shown in Figure 5.

In the Administrator home page if the teacher chooses reports, then he/she will get the details of student absence. The list can be filtered according to subject, date, class, level, and student name as shown in Figure 6.

7.3 System Administration

This window is dedicated to the system administrator. First the admin needs to login using his/her admin login information (name and password), as shown in Figure 7.

Then, admin can get access to system management, which enables him/her to alter the database

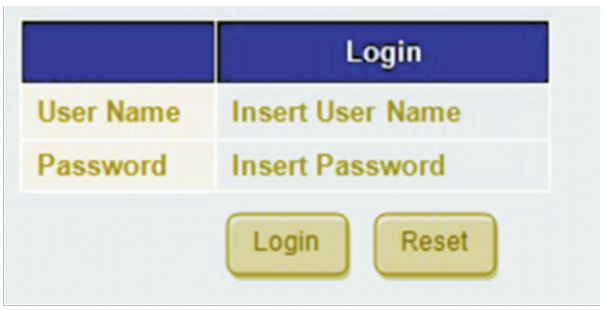

Figure 3. Login Window

Figure 4. Material Selection

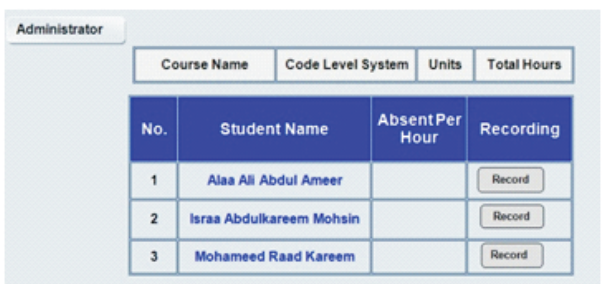

Figure 5. Student Attendance Table

Data maintenance link enables the admin, to update, delete or add data on the teacher table as well on the student and course materials tables (Figure 9,10.11 respectively)

7.4 Report Window

The report link which is similar to the admin window except that the admin can review any course material not limited

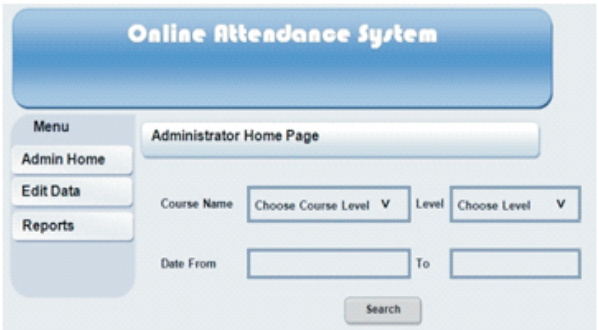

Figure 6. Report of Absence

Figure 7. Admin Login Window

Figure 8. System Management Window

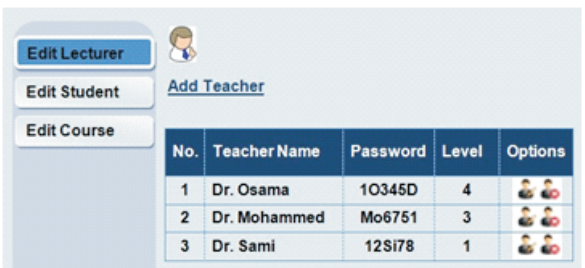

Figure 9. Perpetuate Teacher Table

to certain persons as shown in Figure 12.

7.5 Student Login

Students also can see their absence and the ratio of absence through this link. They need to enter student name and password (code of student) as shown in Figure 13.

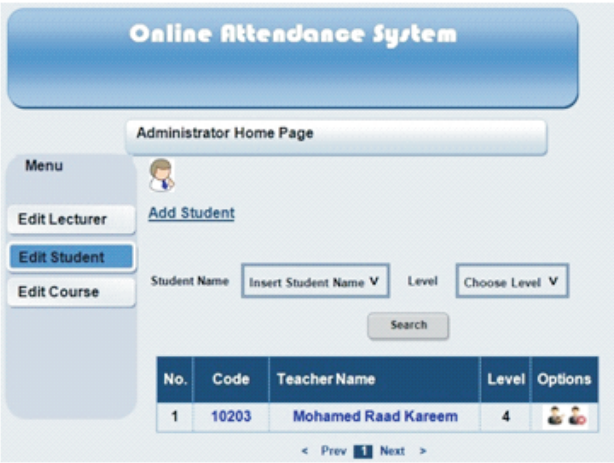

Figure 10. Perpetuate Student Table

Figure 11. Perpetuate Course Material Table

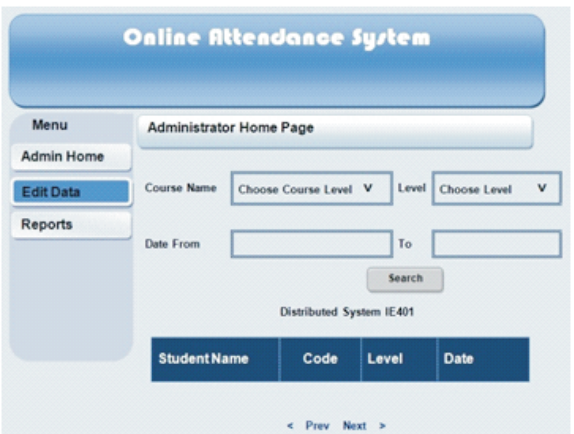

Figure 12. Report Window

When a student has logged in, the Report will appear which includes the student material history, and the details of absenteeism as shown in Figure 14.

Conclusion

The attendance management system has been developed using php. The system is highly resilient; it fully meets the intended objectives and operates at a high level of efficiency. The system solves the problem of delays and inaccuracies in recording absences compared to the manual system. The system has reliability; and a variety of reports can be generated Incorrect data entry can also be edited.

Recommendations

The following suggestions are identified for future work:

- Implementing attendance system as distributed database to be shared with the senior management.
- Issuing letters to the families of those students who exceed the permissible limit of absence and take corrective steps.
- Using web-based system will be beneficial for teachers and admin to browse and search the absence students remotely.

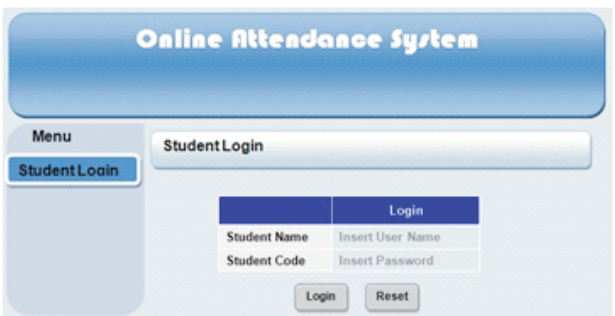

Figure 13. Student Login

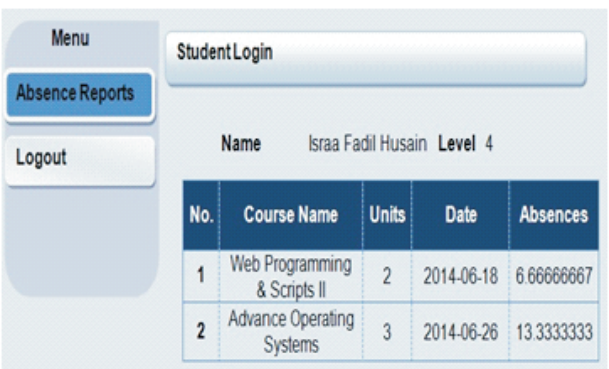

Figure 14. Student Report

- Link system with the student admission system to update student lists automatically.

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