Analyzing the Impact of Interdependent Dimension on Target Attribute

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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. This project is absolutely on the android-based attendance management system. Android based attendance system provides efficient means of determining eligibility criteria for students to meet examination requirements.[1] The core idea of research project is to implement Android based application for attendance management system for advancement of institution and educational system[2]. This system enables student to learn anywhere, anytime and at their own convenience. This system makes students to be active, responsive while learning their academic. Another application that is provided by this system is smart attendance evaluation and report generation. [2] This makes the work even easier for the lecturers. Also there is a separate module for analyzing the results of the test exams of the students. There is a certain criterion to be met for each and every student to appearing for the test exam. The main objective of this paper is to provide an overview on the data mining techniques that have been used to predict students performance. [3] A certain action can be taken on students not fulfilling the criteria. This process basically aims at improving the overall student performance by taking into consideration student attendance and test marks.

Keywords: Android, Attendance Management, Student Performance, Data Mining

I. INTRODUCTION

Nowadays, mobile devices have become a way of life for students especially in higher education. Computers are now replaced by compact smart phones that can be fit into pocket and can be carried anywhere. [2] This system will also help in evaluating attendance eligibility criteria of a student. Since ages, attendance system has remained one of the most important systems for evaluating the working time of students in any college or school. In short, this project is used to mark the number of days present/absent in any academic year of students in a college, school etc. The software system also helps in evaluating the examination eligibility criteria. [3]

The basic idea behind the mining process to analyze the performance is done by taking into consideration each and every sub question and questions present in the question set. There is a detailed analysis of the performance of each and every student associated with the class. Also each sub-question is mapped with its associated lecture information. This information consists of the lecture in which the topic is covered, faculty in charge, date, time, etc. All this information is vital to accurately calculate the performance of the student minutely. A certain action is taken on the individuals not fulfilling the criteria. The action mainly consists of a remedial lecture being conducted on a particular topic in which the students are facing difficulty. This would help in the long run to improve the student performance.

II. SURVEY OF DIFFERENT ATTENDANCE TRACKING SYSTEMS

Following traditional systems are used to mark attendance in the teaching process.
A. Manual Attendance System
It is the conventional method of taking attendance by calling names or signing on paper but it is inefficient due to more chances of malfunctioning and more paper work as well.

B. RFID with Object Counter
Radio Frequency Identification (RFID) based attendance system is one of the solutions to address this problem, but that is time consuming and unsafe. Anyone can carry others card to mark proxy attendance [2].

C. Bluetooth Based Attendance System
In this, attendance is being taken using instructor’s mobile phone. Application software is installed in instructor’s mobile telephone, enables it to query student’s mobile via Bluetooth. It transfers student’s mobile Media Access Control (MAC) addresses to the instructor’s mobile phone and presence of the student can be confirmed. The problem of this proposed system is student’s phone is required for attendance. In case of absent student if his mobile is given to his friend and if kept it in coverage area then also his presence would be marked.

III. PROPOSED SYSTEM
The Proposed System will be Android Application for student record management. It will keep the information on a central server while allowing users to access that information from their own smart phone through the installed android application. There will be an optimized database on the server and an improved user interface on each client machine.
   Attendance will be directly marked on this application by the lecturer during lectures by simply calling roll numbers and that data will be stored in the database. Thus retrieval and storing of data is fast.
   The students will be able to see their attendance by their login id and by this they will come to know about their attendance and whoever is having low attendance will start sitting lectures.

A. Advantages of Proposed System
1) User Friendly
   The proposed system is user friendly because the retrieval and storing of data is fast and data is maintained efficiently. Moreover the graphical user interface is provided in the proposed system, which provides user to deal with the system very easily.
   2) Reports are easily generated
   Reports can be easily generated in the proposed system so user can generate the report as per the requirement (monthly) or in the middle of the session.
   3) Very Less Paper Work
   The proposed system requires very less paper work. All the data is fitted into the computer immediately and reports can be generated through computers. Moreover, work becomes very easy because there is no need to keep data on papers.

IV. Features
A. Basic Working of Attendance System
   The basic working of the proposed system is explained in the figure below. The use of the webservice is to store the data of the system and to access the data when needed. The use of the server will help to generate a report of attendance directly without any paper work or tedious way of approach.

B. Defaulter Notification
   The notification system to be implemented will give the notification on 2 events 1. When student is below the criteria after a certain period of time & 2. Student is absent for the lecture for a certain period continuously. The first notification will be for student users of the system and the second notification is for the faculty that is using it for the attendance purpose.

C. Remedial Lecture & Improvement Session
   Analysis of the attendance with the marks scored in term test can give us an idea of the improvement needed for the particular students in the subject. We are trying to analyze the performance of the students on the basis of their attendance and provide the faculty an idea to conduct the remedial lectures for the students in following manner by implanting a criteria based system for the analysis. [4]
   - Need to repeat the topics for the students with less marks and attendance.
   - Topic need to be repeated in which maximum students scored less.
Fig. 2: The above figure depicts the flow of the application system

Fig. 3: The above figure depicts the flow of the remedial system.

V. CONCLUSION

The proposed system will help the teachers/faculty as it will reduce the tedious job. The attendance using android system will make the process of attendance and report generation faster than the traditional method of paper work. This system will eliminate the proxy attendance in class, loss of the record and will reduce the report generation time.
The remedial system will help the faculty to analyze and take measures for the performance improvement of the students in their respective subject and increase the result of the subject.

VI. FUTURE WORK

In future, this application can be hosted as full-time performance detector for educational institution. This application can also be used an official application by institutions. Also, a new feature such as notice board, chat box can be implemented to make this application a full-time college utility app.

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