Attendance Registry System [ARS]

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Abstract:- **Most educational institutions administrators are concerned about student irregular attendance. Truancies can affect student overall academic performance. The conventional method of taking attendance on paper is very time consuming and insecure, hence inefficient. Therefore, computer based attendance registry system is required to assist the faculty and the lecturer to take attendance, but some prerequisites has to be done before start using the program. The system has been built using the web-based applications and cloud to cater the recording and reporting of the students' attendances The system can be easily accessed by the lecturers via the web and most importantly, the reports can be generated .**
The aim of this project is to design a cloud based attendance monitoring system by which attendance would be taken online and fed into cloud.
The data analysis and its graphical representation would provide a clear idea to the institution about the students by which the necessary steps can be taken to take some decisions pertaining to institutions.
Thus the institution and parents can know the details pertaining to the attendance of the students instantly.

1.INTRODUCTION

A Student Attendance Registry System is a web application being developed to provide a reliable, secure, and efficient method of recording student attendance. It also includes the development of an on-line student absence notice form with document management and appropriate workflow for approval and updating of attendance record. This system will also help in evaluating attendance eligibility criteria of a student. The purpose of developing attendance management system is to computerized the tradition way of taking attendance. Another purpose for developing this software is to generate the report automatically at the end of the session or in the between of the session.

1.1 SYSTEM OVERVIEW

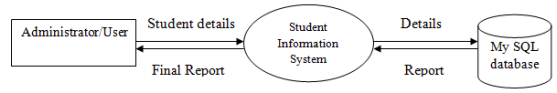
The proposed system a generic application design to automate and enhance the manual work of recording and reporting in real-time, the Time and Attendance System in Educational institutes. A Log is maintained in the Database, which contains timely information of the Tag's Enter/ Exit .From the log maintained, total Stay- In time of the Student in the class is calculated, if the time is equal to required time (criterion fixed by the University Administration), he/ she is marked "Present" else marked "Absent" in the Database[1]. In addition to this attendance, 'Faculty Attendance' is also marked in the Database. The Unauthorized/ Unregistered entry of Student/ Faculty/ Administrator is alsochecked. Student's Attendance weight-age is also calculated in order to confirm their eligibility to sit in exam. The whole data compiled after marking Attendance can be used to deduce different information i.e. depicting behaviours of Students etc from the Records and also reducing the burden of taking attendance , maintaining them and making a report on it by our lecturer's

1.2SYSTEM DESIGN

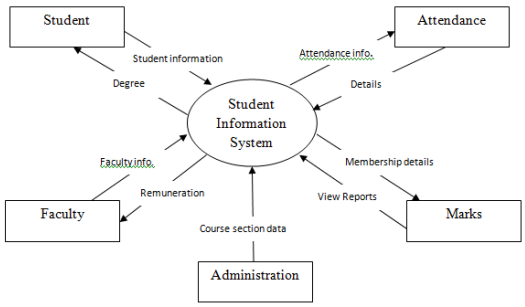
The web-based student attendance system using latest technology promotes automatic recording of student attendance, developed especially for the university. In drawing the system design, a number of web-based methods and works have been seen and referred. This deals with data flow diagram, detailed flow graph, requirement analysis, and the design process of the front and back end design of the student information management system

A. DATA FLOW DIAGRAMA Data Flow Diagram (DFD) is a graphical representation of the "flow" of Student Registry System. A data flow diagram can also be used for the visualization of Data Processing.DFD shows the interaction between the system and outside entities. This context-level DFD is then "exploded" to show more detail of the system being modelled. A DFD represents flow of data through a system. Data flow diagrams are commonly used during problem analysis. It views a system as function that transforms the given input into required output. Movement of data through the different transformations or processes in the system are shown in Data Flow Diagram of Fig. 1.

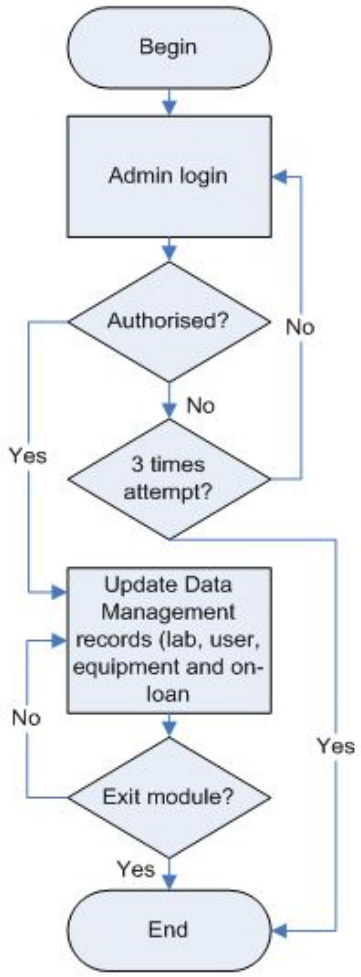
Level 0 DFD :



Level 1 DFD:



This paper mainly focuses on the managing the information of the students, faculty, information, attendance report related information of the college which is maintained by the college administration through various levels of controlling.



2.LITERATURE SURVEY

Presently we use a manual attendance monitoring system in our university. As we all know there are a lot of problems with the manual students attendance monitoring system , where some of the problems are :
Payment of an extra attention.
Possibility to misplace attendance sheets.
Difficulty of analyzing
Difficulty to collect attendance from a large number of students.
Organizations where manual attendance recordings are done have to spend a lot of time, cost and effort for recording , maintaining and utilizing the time and the attendance data of students.
Identifying existing techniques used in present attendance monitoring systems.

- Situations and conditions where those systems are possible to be placed.

Requirement analysis

- Identify user requirements.
- Identify the limitations of the systems which already exists.

Academic attendance register is a very important and compulsory tool in the process of learning; it helps lecturers track students individually and measure their interest.

Academic attendance is indeed one of the key factors that determine students'
Performance (Durden& Ellis, 1995). Even though there is no causal relationship
between students' high attendance andgood academic performance; but there is a positive correlation between them; in general students with good or excellent academic performance have high attendance rate

Attendance Management System basically has two main modules for proper functioning space for new batch. Any entry of new faculty.
First module is the admin which has the right to create the entry,Any entry of new faculty, Updating in subject if necessary, and sending notice.
Second module is handled by the user which can be a faculty or an operator. User has a right of making daily attendance, generating report. Attendance can be taken by the faculty when he logs in through his id for the subjects which he handles.

3.SCOPE AND IMPORTANCE OF WORK

Disadvantages of present working system

• Not User Friendly: The existing system is not user friendly because the retrieval of data is very slow and data is not maintained efficiently.

• Difficulty in report generating: We require more calculations to generate the report so it is generated at

the end of the session. And the student not get a single chance to improve their attendance

• Manual control: All calculations to generate report is done manually so there is greater chance of errors.

• Lots of paperwork: Existing system requires lot of paper work. Loss of even a single register/record led to difficult situation because all the papers are needed to generate the reports.
• Time consuming: Every work is done manually so we cannot generate report in the middle of the session or as per the requirement because it is very time consuming.

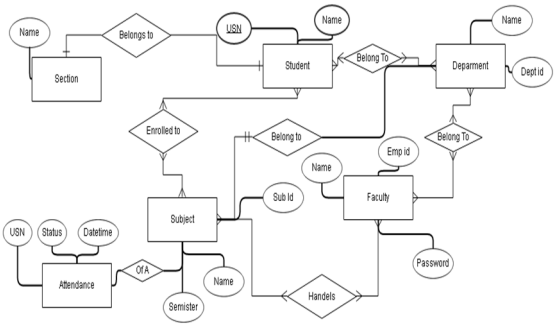
Characteristics of proposed system
• User Friendly:- The proposed system is user friendly because the retrieval and storing of data is fast and data is maintained efficiently. Moreover the graphical user interface is provided in the proposed system, which provides user to deal with the system very easily.

• 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. User can give the notice to the students so he/she become regular.

• Very less paper work: The proposed system requires very less paper work. All the data is feted into the computer immediately and reports can be generated through computers. Moreover work become very easy because there is no need to keep data on papers.

• Computer operator control: Computer operator control will be there so no chance of errors. Moreover storing and retrieving of information is easy. So work can be done speedily and in time.

4.ERDIAGRAM OF ARS



5.TECHNOLOGIES USED

Client side:
***1)*Jquery**-It is an open source java script Library that simplifies the interaction between html and javascript.Its built with simple syntax.

2)Twitterbootstrap frame work-It uses html5 and css3 to design the GUI.

Server side:
***1)*Node.js-**open source ,cross platform, Server-side technology and its also used for network applications.It is single threaded , Non-blocking which is also very fast compared to java.
***2)*Express js-**is a minimal and flexible node.js webapplication framework that provides a robust set of features for web and mobile application

Database:
1)MYSQL-It is a relational database which is used to store and retrieve the student data.

IDE:
***1)*Eclipse-**it is an ide .It contains a base work space and an extensible plug-in system for customising the environment. In our currenct project we use **Node eclipse**

Cloud
Cloud computing relies on sharing of resources to achieve coherence in our project the attecndance is taken and fed into the cloud which can be accessed by the management faculty students of the institution .The cloud being used in our project is **IBM Blumix**

6.CONCLUSION

The student attendance registry system is being developed to provide a reliable,secure and efficient method of recording student attendance ,it also includes development of an online student absence notice form and also updating attendance record.
This web application is developed using Node.js,it fully meets the objectives of the system which it has been developed. The system over comes the problem of taking attendance manually and thus reduces a lot of paper work and it saves a lot of time.
The data analytics feature provides a clear analysis of the student data through which we can also generate reports according to the requirements.
The entire application is fed into the cloud and thus helps the management, principal, faculty etc to access the attendance information easily.

7.REFERENCES

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