

# Student Information Management System(SIMS)

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**Abstract**— In this project, student details are maintained. The personal details of student are stored in a separate table. The personal details includes Name, Age, Gender, Contact details, Department, Year, Section etc. This then is stored in a separate table in a database. Then other table which contains the academic details of the students. This is proposed for the use of staffs in colleges for maintaining the records of students with ease. So, the table contains academic details of all students. The academic details of whole class will be stored. The marks of students are obtained from the staff for the respective student in a table form. The staff logs in with userid and password. Then for entering the academic marks staff has to give the respective Class, Section and Batch (Year) and then a secret key to get logged in. Then respective students name, roll number and the subjects will be retrieved in that table and text boxes are given to enter the marks. Then on submitting the academic marks get stored. Then reports are generated based on the academic marks for that particular class. Then chart is generated for the class by observing the overall performance of the students. The academic details includes the Cycle-Test1, Cycle-Test2, Cycle-Test3, Model exam, University results. In university results the credit points are given based on that the results are stored. Chart is generated in classwise, departmentwise and batchwise. The bar chart will give the overall percentage of respective class in a simple way. Bar chart is used to represent the details in a easy way of understanding. The academic details are consolidated and presented in the chart.

## I. INTRODUCTION

The design and implementation of a comprehensive student information system and user interface is to replace the current paper records. College Staff are able to directly access all aspects of a student's academic progress through a secure, online interface embedded in the college's website. The system utilizes user authentication, displaying only information necessary for an individual's duties. Additionally, each sub-system has authentication allowing authorized users to create or update information in that subsystem. All data is thoroughly reviewed and validated on the server before actual record alteration occurs. In addition to a staff user interface, the system plans for student user interface, allowing users to access information and submit requests online thus reducing processing time. All data is stored securely on SQL servers managed by the college administrator and ensures highest possible level of security. The system features a complex logging system to track all users access and ensure conformity to data access guidelines and is expected to increase the efficiency of the college's record management thereby decreasing the work hours needed to access and deliver student records to users.

This system provides a simple interface for the maintenance of student information. It can be used by educational institutes or colleges to maintain the records of students easily. Achieving this objective is difficult using a manual system as the

information is scattered, can be redundant and collecting relevant information may be very time consuming. All these problems are solved using online student information management system. The paper focuses on presenting information in an easy and intelligible manner which provides facilities like online registration and profile creation of student's thus reducing paper work and automating the record generation process in an educational institution. The chart is also presented for easy view of students academic details.

### A. PURPOSE

The purpose is to design a college website which contains up to date information of the college. That should improve efficiency of college record management.

### B. OBJECTIVES

- To maintain the information of students (Attendance, personal and academics)
- To generate the reports in various ways.
- To made retrieval of data easier.

## II. SYSTEM DESIGN

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. UML DIAGRAM

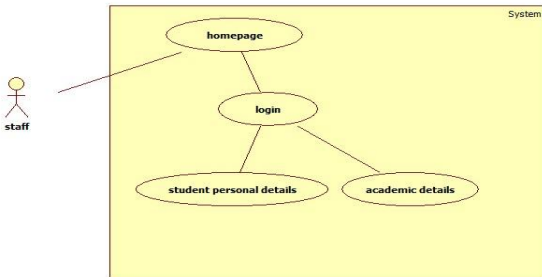
The **Unified Modeling Language (UML)** is a general-purpose, developmental, modelling language in the field of software engineering, that is intended to provide a standard way to visualize the design of a system. UML was originally motivated by the desire to standardize the disparate notational systems and approaches to software design. UML offers a way to visualize a system's architectural blueprints in a diagram including elements such as:

- any activities (jobs).
- individual components of the system and how they can interact with other software components.
- how the system will run.

- how entities interact with others (components and interfaces).
- external user interface.

Although originally intended for object-oriented design documentation, UML has been extended to a larger set of design documentation. Movement of data through the different transformations or processes in the system are shown in Data Flow Diagram in fig 1.

Fig 1:



This paper mainly focuses on the managing the information of the students related information, exam results of the college which is maintained by the college staffs through various levels of controlling. The function of the staff who can enter the details of the students will be explained in detail in the flow graph in fig 2.

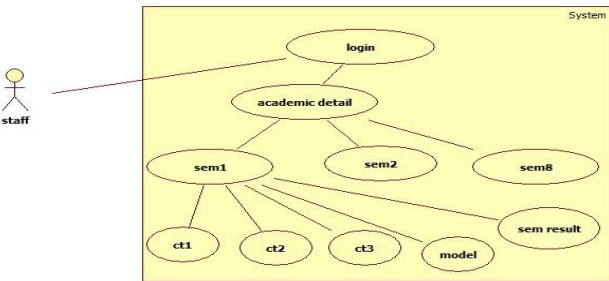


Fig 2

In fig 3, view of the academic details can be implemented through charts in classwise and departmentwise for easy understanding.

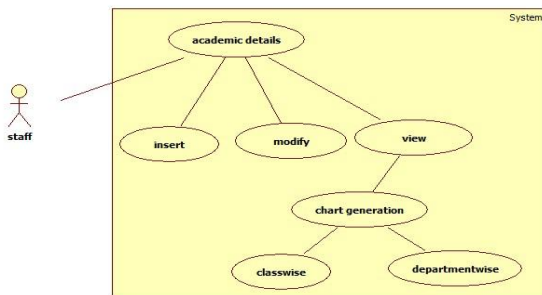


Fig 3

## B. REQUIREMENT ANALYSIS

The basic requirements for the design of the SIMS are

- Every user should have their own identity.
- Login facility.
- User can update his/her personal information.
- can view the results in classwise and departmentwise in form of chart.
- Faculty can update any of the information.

## C. REQUIREMENTS

Hardware Requirements :

RAM :1GB or more  
Hard disk :5GB or more

Software Requirements :

OS :Windows  
Front End :PHP  
Back End :MySQL

## F. DATABASE DESIGN PROCESS

It is fair to say that database play a critical role in almost all areas where computers are used, including business, electronic commerce, engineering, medicine, law, education, and library science. A database is collection of a related data. A database has the following implicit properties:

- A database represents some aspect of the realworld, sometimes called the mini-world or the Universe Of Discourse (UOD) changes to the mini world are reflected in the database. A database is a logically coherent collection of data with some inherent meaning.
- A random assortment of data cannot correctly be referred to as a database.
- A database is designed, built, and populated with data for a specific purpose. It is an intended group of users and some preconceived application which these users are interested

**Database Management System (DBMS)** is a collection of programs that enables users to create and maintain a database. DBMS is a general –purpose software system that facilitates the process of defining, constructing, manipulating, and sharing database among various users and applications. Defining a database involves the specifying the data types, structures, and constraints of the data to be stored in the database. The database definition or descriptive information is also stored in the database in the form of dictionary; it is called Meta data constructing the database is the process of storing the data on the storage medium that is controlled by the DBMS.

**Manipulating** a database includes functions such as querying the database to retrieve specific data, updating the database to reflect in the mini-world, and generating reports from the data.

Sharing a database allows a multiple users and programs to access the database simultaneously.

**Application program** accesses the database by sending queries or request for data to the DBMS . A query typically causes some data to be retrieved; a transaction may cause some data to be read and some data to be written into the database.

### III. TECHNOLOGIES USED

**HTML:** HTML is a hypertext markup language which is in reality a backbone of any website. Every website can't be structured without the knowledge of html. If we make our web page only with the help of html, than we can't add many of the effective features in a web page, for making a web page more effective we use various platforms such as CSS. So here we are using this language to make our web pages more effective as well as efficient. And to make our web pages dynamic we are using Java script.

**CSS:** CSS Stands for "Cascading Style Sheet." Cascading style sheets are used to format the layout of Web pages. They can be used to define text styles, table sizes, and other aspects of Web pages that previously could only be defined in a page's HTML. The basic purpose of CSS is to separate the content of a web document (written in any markup language) from its presentation (that is written using Cascading Style Sheets). There are lots of benefits that one can extract through CSS like improved content accessibility, better flexibility and moreover, CSS gives a level of control over various presentation characteristics of the document. It also helps in reducing the complexity and helps in saving overall presentation time. CSS gives the option of selecting various style schemes and rules according to the requirements and it also allows the same HTML document to be presented in more than one varying style.

**JAVA SCRIPT:** JavaScript is considered to be one of the most famous scripting languages of all time. JavaScript, by definition, is a Scripting Language of the World Wide Web. The main usage of JavaScript is to add various Web functionalities, Web form validations, browser detections, creation of cookies and so on. JavaScript is one of the most popular scripting languages and that is why it is supported by almost all web browsers available today like Firefox, We used the browser Opera or Internet Explorer. JavaScript is considered to be one of the most powerful scripting languages in use today. It is often used for the development of client-side web development. JavaScript is used to make web pages more interactive and dynamic. JavaScript is a light weight programming language and it is embedded directly into the HTML code. JavaScript, as the name suggests, was influenced by many languages, especially Java.

**PHP:** Precisely, PHP is a very powerful server-side scripting language for developing dynamic web applications. Using

PHP, one can build interactive and dynamic websites with ease. PHP script can be embedded straight into the heart of html code. PHP is compatible with various web servers like Apache and the Microsoft's IIS as well. All the PHP scripts are executed on the server and it supports various databases like MySQL, Oracle, Solid, Generic ODBC etc; however, it is mostly used with MySQL.

**SQL:** SQL stands for Structured Query Language. SQL lets us access and manipulate databases. SQL is an ANSI (American National Standards Institute) standard. SQL can execute queries against a database ,retrieve data from a database, insert records in a database, update records in a database, delete records from a database, create new databases , create new tables in a database , create stored procedures in a database,create views in a database, set permissions on tables, procedures, and views.

### IV. RESULTS

**Home Page:** The system starts with home page where the registered staff can enter user name and password to be able to access the system. Fig. 4 shows homepage which includes login form.



Fig 4

**Login Form:** The staff can enter the details of student by logging in with username and password.This is sshown in fig 5.

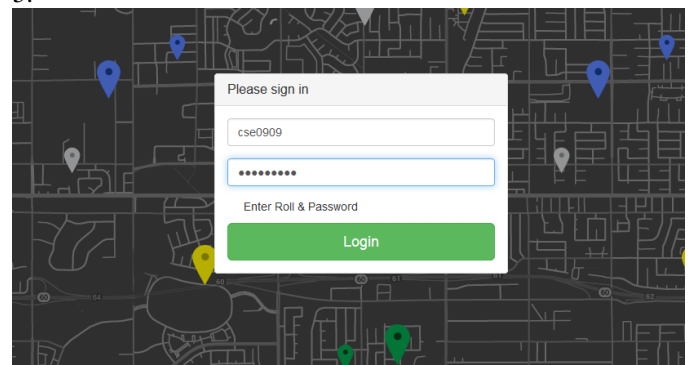


Fig 5

**Entry tab:** This students' details entry tab where the students details and academic details are stored. Click on GO button to start the process. This is shown in fig 6

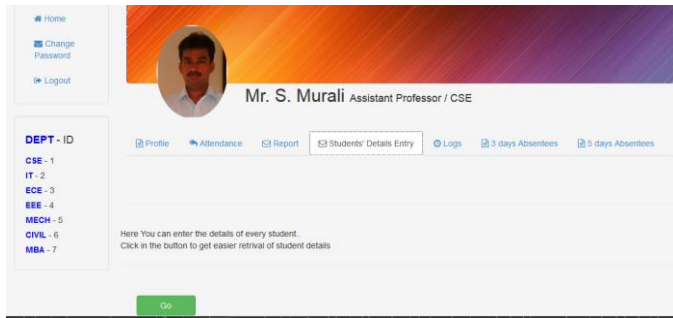


Fig 6

**Student entry form:** This shows the page where staff can include the details of student in include tab (shown in fig 7). Once submitted the details get stored in database (shown in fig 8).

Fig 7

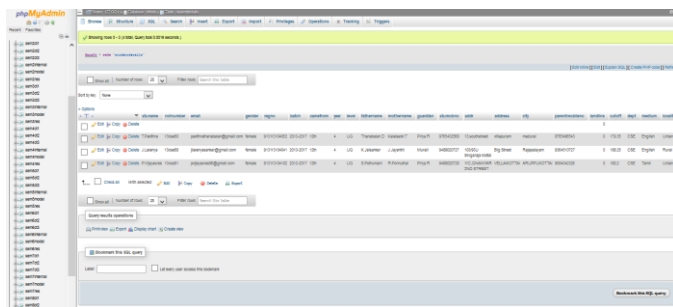


Fig 8

**Chart generation:** Once after entering the details chart can be generated for departmentwise (shown in fig 9) and classwise (shown in fig 10).

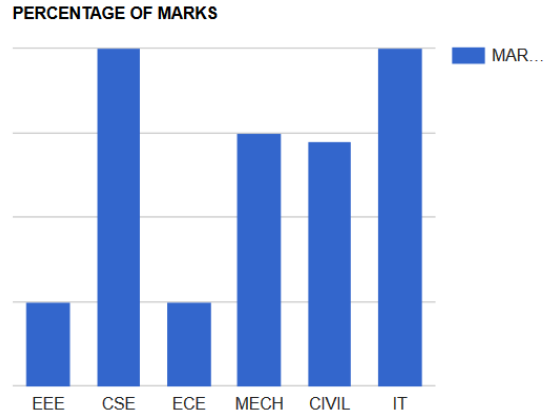


Fig 9

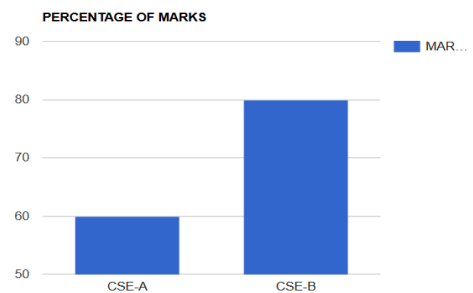


Fig 10

## V. CONCLUSION

This paper assists in automating the existing manual system. This is a paperless work. It can be monitored and controlled remotely. It reduces the man power required. It provides accurate information always. Malpractice can be reduced. All years together gathered information can be saved and can be accessed at any time. The data which is stored in the repository helps in taking intelligent decisions by the management. So it is better to have a Web Based Information Management system. All the stakeholders, faculty and management can get the required information without delay. This system is essential in the colleges/hostels and universities.

## VI. FUTURE WORK

- In future, students can also be able to upload or download notes
- A few more minor tweaks here and there for making the website more visually appealing and will have statistics, tracking and analytics.
- The whole project will be available as Android app for more ease of use and mobility.

## VII. REFERENCES

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