DBMS project report

Computer Science And Engineering (CMR Technical Campus)

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

Jnana Sangama, Belgaum-590018

A Database Management System Mini Project Report
on

"STUDENT DATABASE MANAGEMENT SYSTEM"

Submitted in Partial fulfillment of the Requirements for the V Semester of the Degree of

Bachelor of Engineering
In
Computer Science & Engineering

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CERTIFICATE

This is to certify that the Database Management System Project work entitled **"Student Database Management System"** has been carried out by **Rajesh G Hebbar(1CR19CS407)** and **Veeresh B V(1CR18CS179)** bonafide students of CMR Institute of Technology in partial fulfillment for the award of **Bachelor of Engineering** in **Computer Science and Engineering** of the Visvesvaraya Technological University, Belgaum during the year **2020-2021**. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. This DBMS Project Report has been approved as it satisfies the academic requirements in respect of project work prescribed for the said degree.

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Signature of Guide	**Signature of HOD**
Mrs.Anjali Gupta **Assistant Professor** **Dept. of CSE, CMRIT**	**Dr. Prem Kumar Ramesh** **Professor, Head** **Dept. of CSE, CMRIT**

External Viva

Name of the examiners — Signature with date

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ABSTRACT

An organized and systematic office solution is essential for all universities and organizations. There are many departments of administration for the maintenance of college information and student databases in any institution. All these departments provide various records regarding students. Most of these track records need to maintain information about the students. This information could be the general details like student name, address, performance, attendance etc or specific information related to departments like collection of data.All the modules in college administration are interdependent. They are maintained manually. So they need to be automated and centralized as, Information from one module will be needed by other modules.For example when a student needs his course completion certificate it needs to check many details about the student like his name, reg number, year of study, exams he attended and many other details. So it needs to contact all the modules that are the office, department and examination and result of students.With that in mind, we overhauled the existing Student Database Management System and made necessary improvements to streamline the processes. Administrators using the system will find that the process of recording and retrieving students' information and managing their classes, including marking of attendance, is now a breeze. In general, this project aims to enhance efficiency and at the same time maintain information accurateness.

ACKNOWLEDGE

It gives us a great sense of pleasure to present the report of the B.E Project undertaken during 5th Semester . We owe a special debt of gratitude to Mr. Prem Kumar, Department of Computer Science & Engineering, CMR Institute Of Technology, Bangaluru, for his constant support and guidance throughout the course of our work. His sincerity, thoroughness and perseverance have been a constant source of inspiration for us. It is only his cognizant efforts that our endeavors have seen light of day. We also take the opportunity to acknowledge the contribution of Mrs . Anjali Gupta of Department of Computer Science & Engineering, CMR Institute Of Technology, Bangaluru, for her full support and assistance during the development of the project. We also do not like to miss the opportunity to acknowledge the contribution of all faculty members of the department for their kind assistance and cooperation during the development of our project. And at last but not the least, we acknowledge our friends for their contribution in the completion of the project.

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INTRODUCTION

The objective of Student Database Management System is to allow the administrator of any organization to edit and find out the personal details of a student and allows the student to keep up to date his profile .It'll also facilitate keeping all the records of students, such as their id, name, mailing address, phone number, DOB etc. So that all the information about a student will be available in seconds. Overall, it'll make Student Information an easier job for the administrator and the student of any organization. The main purpose of this project is to illustrate the requirements of the project Student Database Management System and is intended to help any organization to maintain and manage personal data.

It is a comprehensive project developed from the ground up to fully fills the needs of colleges as they guide their students. This education edge integrated information management system connects daily operations in the college environment with respect to maintaining student data . This reduces data error and ensures that information is always up-to-date throughout the college.

It provides a single source of data repository for streamlining your business processes and for all reporting purposes. It has a simple user interface and is intuitive. This ensures that the users spend less time in learning the system and hence, increase their productivity. Efficient security features provide data privacy and hence; increase their productivity.

Chapter 2

SYSTEM REQUIREMENTS

To demonstrate and work with this project there few hardware and software requirements that are to be satisfied To work with any storage system we need a database installed into our system and as this project is made as an stand alone application any frontend tool can be used to design and develop it .The major Hardware and Software requirements are listed below.

2.1 Hardware requirements

- Any modern updated Operating System (preferably 64-bit architecture)
- Minimum of 4 GB Ram
- The Disk space mainly depends on the size of data we will be dealing with ,but minimum of 1GB is sufficient

2.2 Software requirements

- Xampp Installed
- VSCode
- HTML plugins
- Notepad++

Chapter 3

DESIGN

The overall design objective is to provide an efficient, modular design that will reduce the system's complexity, facilitate change and result in an easy implementation. This will be accomplished by designing a strong cohesion system with minimal coupling.The purpose of the design phase is to develop a clear understanding of what the developer wants people to gain from the project.The database application system may be divided into two kinds: one is data-centric and the other is process-centric. The former takes the data provided as the goal, and the data acquisition, the database construction and maintenance as the key point. Although the latter also includes these, the emphasis is the service data, that is carrying on inquiry, statistics, report output and so on. In this article the student information management database application system is mainly process-centric.

Following the functional requirement of the student information management database application system, the overall structure of the application system could be indicated with the hierarchy chart, from the top to down: Layer 1 is the system layer, Layer 2 is the function layer, Layer 3 for operation layer. Figure 3.1 is the overall structure of the student information management database application system.

Entity-Relationship Diagram:

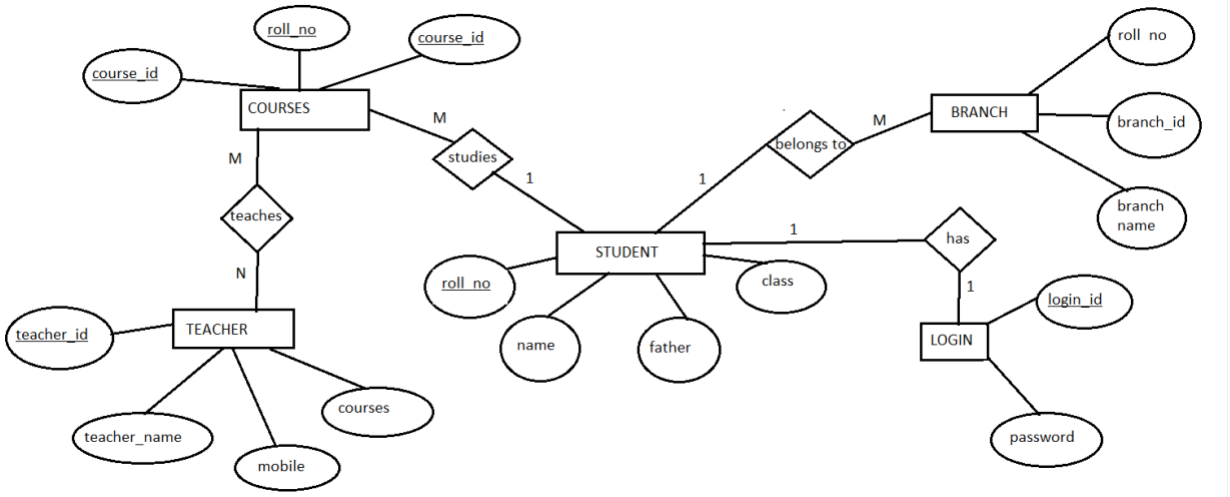

Figure 3.1

Schema Diagram:

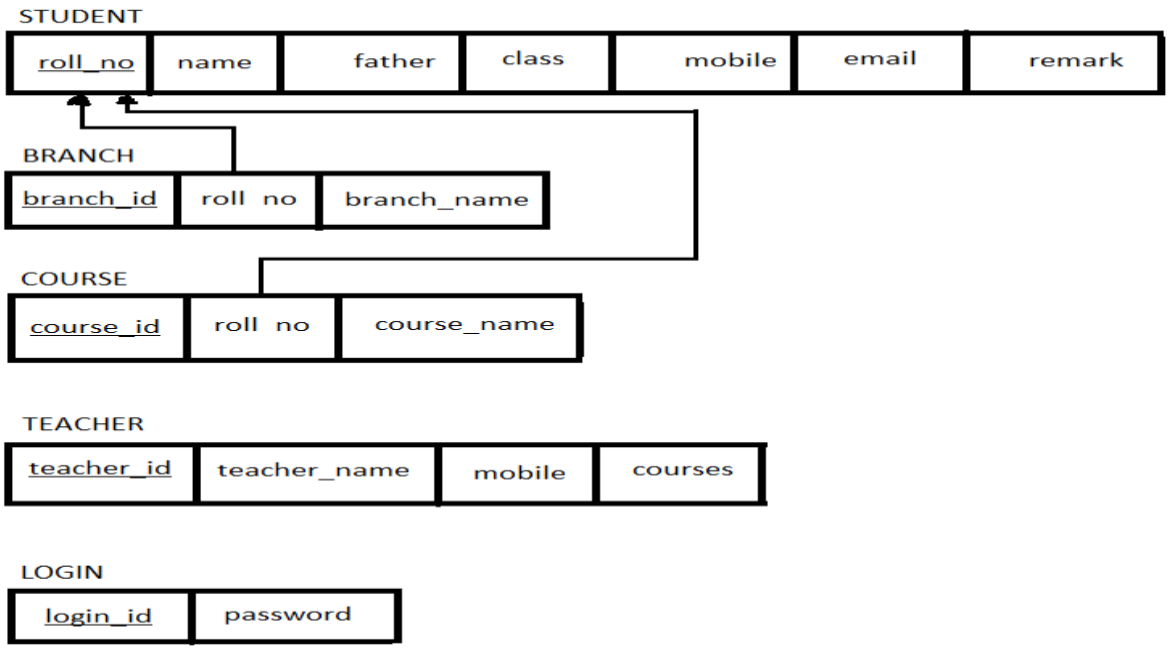

Figure 3.2

Chapter 4

IMPLEMENTATION

Student Database Systems contain information about important people, places and things within the organization or in the environment surrounding it. Information is data that have been designed into a form that is meaningful and useful to human beings. Data, in contrast, are streams of raw facts representing events occurring in organizations or the physical environment before they have been organized into a form that people can understand and use.

Implementing Designed Database is critical for all operations. A good database does not allow any form of anomalies and stores only relevant information in an ordered manner. If a database has anomalies, it is a_ecting the e_ciency and data integrity. For example, delete anomaly arises upon the deletion of a row which also forces other useful data to be lost. As such, the tables need to be normalized. Only this kind of Database provides a result unambiguously.

As this is a complete web based system, there are two techniques - Frontend & Backend. Frontend means the design of the website or the designing interface of the web application. Programming languages coming under Frontend: - HTML, CSS & Java Script. Backend means server side programming; it communicates the client interface with the database and the logic control. Programming languages coming under Backend: - PHP, JavaScript, etc. Also Bootstrap and CSS are used for design purposes.

```
--
-- Table structure for table `students`
--

CREATE TABLE `students` (
  `s_no` int(11) NOT NULL,
  `roll_no` int(11) NOT NULL,
  `name` varchar(100) NOT NULL,
  `father_name` varchar(100) NOT NULL,
  `class` int(11) NOT NULL,
  `mobile` varchar(25) NOT NULL,
  `email` varchar(100) NOT NULL,
  `password` varchar(100) NOT NULL,
  `remark` varchar(250) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;
```

Figure 4.1

```
<!DOCTYPE html>
<html>
<head>
        <title>Admin Dashboard</title>
        <link rel="stylesheet" type="text/css" href="bootstrap-4.4.1/css/bootstrap.min.css">
        <script type="text/javascript" src="bootstrap-4.4.1/js/juqery_latest.js"></script>
        <script type="text/javascript" src="bootstrap-4.4.1/js/bootstrap.min.js"></script>
        <style type="text/css">
                #header{
                        height: 10%;
                        width: 100%;
                        top: 2%;
                        background-color: black;
                        position: fixed;
                        color: white;
                }
                #left_side{
                        height: 75%;
                        width: 15%;
                        top: 10%;
                        position: fixed;
                }
                #right_side{
                        height: 75%;
                        width: 80%;
                        background-color: whitesmoke;
                        position: fixed;
                        left: 17%;
                        top: 21%;
                        color: red;
                        border: solid 1px black;
                }
                #top_span{
                        top: 15%;
                        width: 80%;
                        left: 17%;
                        position: fixed;
                }
                #td{
                        border: 1px solid black;
                        padding-left: 2px;
                        text-align: left;
```

Figure 4.2

Chapter 5

DISCUSSION AND SCREENSHOTS

This project mainly focuses on the management of students in educational institutions .There are mainly advantages of using this kind of application like it reduces the manual work of entering the data ,saves cost and time ,improves efficiency and gives accuracy and the data gets updated in a timely manner.

The Existing system is a computerized system but which is maintained at individual databases i.e in excels sheets, it's a time delay process. And maintaining all the records in Excel sheets is difficult. If they want any record, they have to search all the records. It doesn't provide multiple user accessibility and also doesn't have different user privileges. It is a completely automated system in handling the student database. This system provides centralized database maintenance This system provides easy access to the particular student account or his/her complete details This system provides students to easily navigate through the application for more information in a most secure manner .The Proposed system is a computerized system but which is maintained at centralized databases i.e. in automated forms it's a very fast process. And maintaining all the records in an online systems database which makes it very easy to access and retrieve data from the database. If they want any record they can easily search all the records. It provides multiple user accessibility and also has different user privileges. So the system is accessible for all the employees of the organization.

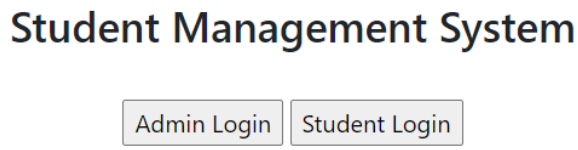

Figure 5.1

The Figure 5.1 is the main login page for the application

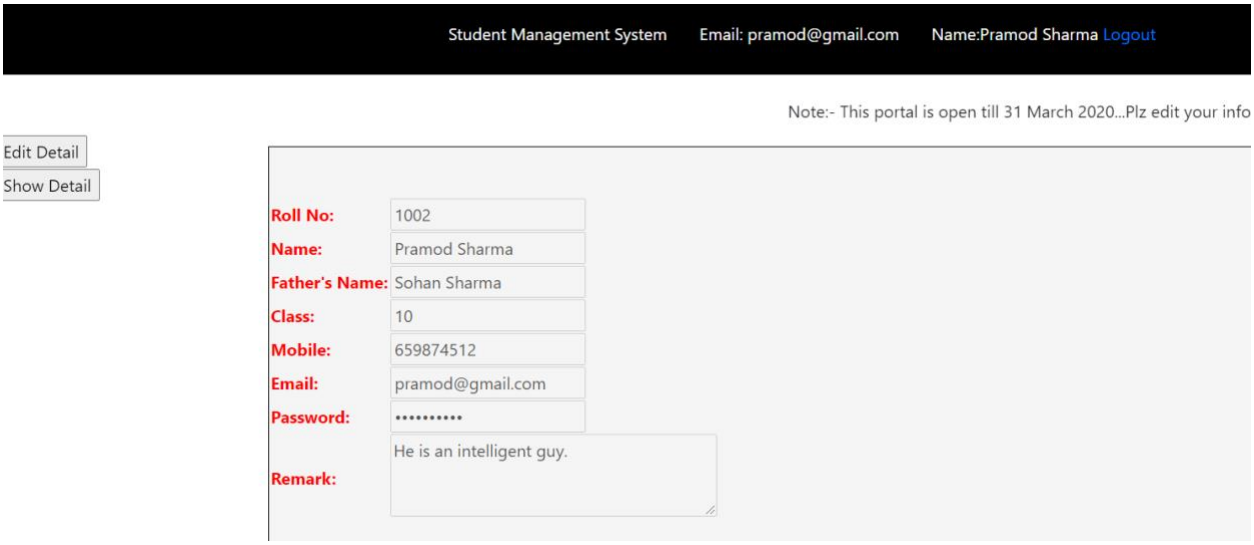

Figure 5.2

This is the user interface for the student login, which contains basic details of the students

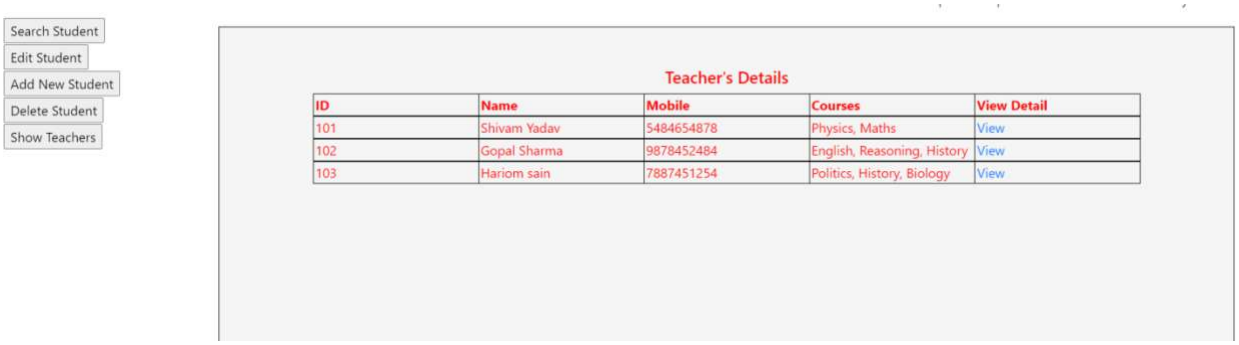

Figure 5.3

The figure 5.3 shows the teachers details in the admin mode

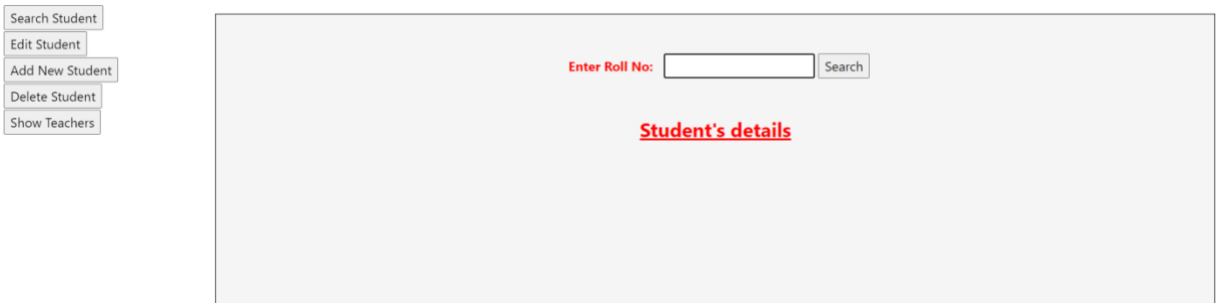

Figure 5.4

The above figure shows student details for the entered roll number.

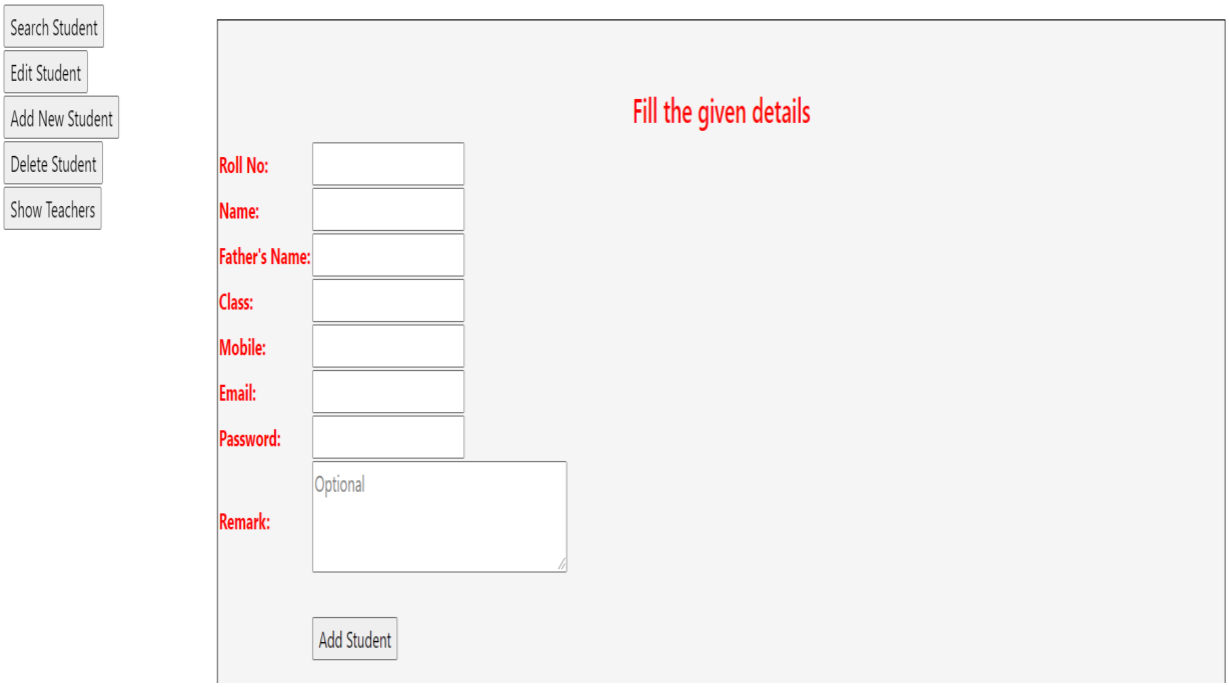

Figure 5.5

The above figure shows the interface through which the admin can add the details of the new student into the database system.

Chapter 6

CONCLUSION AND FUTURE SCOPE

Conclusions Simplicity is never simple. As we have seen in this project, the process of creating a user-friendly and straightforward platform that facilitates the administrator's job is one filled with complexity. From understanding user requirements to system design and system prototype and normalization, every step requires in-depth understanding and commitment towards achieving the objectives of the project. Although the student database management module is not fully integrated to the system and used in real time, the system prototype demonstrates easy navigation and data is stored in a systematic way. Overall, **efficiency has improved and work processes simplified**. Although all the objectives have been met, the system still has room for improvement. The system is robust and flexible enough for future upgrade using advanced technology and devices .It was a wonderful and learning experience for us while working on this project. This software is very easy to use so all educational institutes can use this frequently so; we can hope that our software will be very popular and get sponsors to develop in future.

The project has a **very vast scope in future**. The project can be implemented on intranet in future. Project can be updated in near future as and when requirement for the same arises, as it is very flexible in terms of expansion. With the proposed software of database Space Manager ready and fully functional the client is now able to manage and hence run the entire work in a much better, accurate and error free manner. The following are the future scope for the project:

- Discontinuation of particular students eliminates potential attendance.
- Bar code Reader based attendance system
- Individual Attendance system with photo using Student login
- This application can also be extended with all sized display devices
- Potential security system can be implemented

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