Student Database Management

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Abstract: *The Student Data Management System provides a user-friendly interface for updating student data. It can be used by educational institutions or colleges to easily keep student records. In both universities and colleges, the creation and management of reliable, up-to-date information about a student's academic career is vital. Student information systems deal with a variety of student information, academic reports, college information, batch information, and other resource-related information. It keeps track of a student's information from day one to the end of the course, which can be used for all reporting purposes, such as attendance tracking, progress in the course, completed semesters, years, project or other assignment details, and all of this information will be accessible via a web interface.*

Keywords: HTML, CSS, JavaScript

I. INTRODUCTION

We can see all of the books that have been borrowed from the library and their due dates; this information assists both the user and the library in maintaining a traffic-free environment. We can access the student information and the books they have borrowed through the admin login. The administrator has access to all of the library's books and can add or remove any of them. Maintaining the library's stock is simple for a librarian. We can quickly find out what books are most needed and frequently borrowed so that we can enhance the number of volumes in the library. As a result, by removing the chance of errors in the details, this strategy considerably reduces manual labour and allows for a seamless flow of library activities. The system eliminates the usage of paper work by maintaining all book information electronically. Admin can maintain the system up to date by informing students of new books that have arrived in the system and their availability, eliminating the need for students to visit the library for issuing. The system has well-organized and systematically ordered books in different categories so that users may simply search for and locate books.

1.1 System Overview

There will be a login page and student data registration page. If user is a new user then they have to register else user can login the page and enter. Here when the user ask for a marks and attendance information, the information will be updated. When the Name and Register number of a student is given the entire student details will be displayed. Management information system (MIS) is a branch in industrial engineering and information management is now widely used around the world through database management system, many subroots of MIS are derived and in different departments and organization all around the world. Some among them which are widely used are:- 1) Hospital database management system 2) Restaurant database management system 3) Salary database management system 4) Whole shale database management system Thus this project deals with a concept derived from MIS, it is a unique attempt to aid the management of information of students in a university know as Student Database Management System. Student Management Create student profiles with unlimited custom categories and fields including demographic data, enrollment, attendance, schedule and more, and share academic records with faculties, and administrators.

II. REALATED WORKS

Dalal Nemenqani & et.al., (2021)[1]: In the era of modern digital technology, it is preferable for software to answer the pedagogical needs of the educator and help them achieve their work easily, smoothly, and efficiently. From this ideology arose the concept of developing a software that combines multiple tasks delivered by staff members and Examination, Evaluation and Measurement unit. This software was named SERA (Submission of Exams and Result Analysis) and was implemented in college of medicine, Taif university. Staff members and Examination, Evaluation and Measurement unit members were surveyed for their level of satisfaction.

Claudia Luppertz & et.al., (2020)[2]: To estimate the success of a project it is necessary to collect and analyse data. Depending on the phase after which the evaluation is carried out it gives information about the status of the project or about the perspectives in the future. It proves which measures are successful and worth to continue. The problem is to find out which factors provide useful information and how to interpret and use them. This paper is about the development and effectiveness of a project which supports students in the study entry phase. It was monitored and different measures of evaluation were used. One of them was to observe the written exam results of all bachelor study programs of our university. In the process of interpreting the data, it was discovered that each study program was a little bit different and the challenge was to find a method to suit the requirement of all. This paper discusses this approach, shows what statements can be made and where the limits of this evaluation lies.

S. Tomić & et.al., (2020)[3] S.Tomić & et.al., (2020)[3] : This paper describes a system for automatic multiple-choice pen-and-paper exam generation, which includes evaluation of students' answers and evaluation of the quality of exams and questions. During the design phase examiner defines the number of questions, area for each question, and the number of variations of the exam. In the evaluation phase, the system automatically evaluates the students' answers. In the verification phase, the system uses Classical test theory (CTT) concepts to provide feedback to the examiner highlighting all questions identified as too easy or too difficult for students. When using the KR-20 formula to verify more than 100 exams and 5,000 students, results show that the reliability coefficients are higher than 80% on average, which is considered very high

III. EXISTING SYSTEM

In this case, the database contains all of the students' information. A user can search for student information by logging in with their valid user name and password. In this, all the information of the students are stored in the database . When the user sign in with their correct user name and password then they can search the student details with the name and the register number of that student and all the information of that student will be displayed to the user.

IV. PROPOSED SYSTEM

We create a student database that includes information like branch name, course name, college name, grades, attendance percentage, and so on.A user can search for student information by logging in with their valid user name and password. When someone uses the search bar to look for student information. The user will be able to add and delete the student's details after the specific information is updated with the student's name. Finally, the outcome analysis of the student's grades will be displayed using a static bargraph.

V. METHODOLOGY

The proposed system consists of three modules that work together to build an efficient system
1. Login Module
2. Admin Module
3. Analysis Module

5.1. Login module

The user login and registration pages are managed by this module. This module manages the registration of new users. This module is in charge of ensuring that the user's input data is correct and that all necessary information is provided. This module allows users to log in.
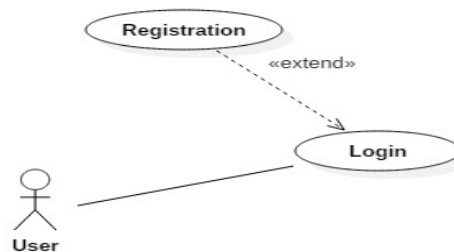

Fig. 1 USE CASE DIAGRAM FOR LOGIN PAGE

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5.2. Admin Module

This module allows users to search for and add students, and we can use the navigation buttons to add or delete students, as well as learn about student data analysis.
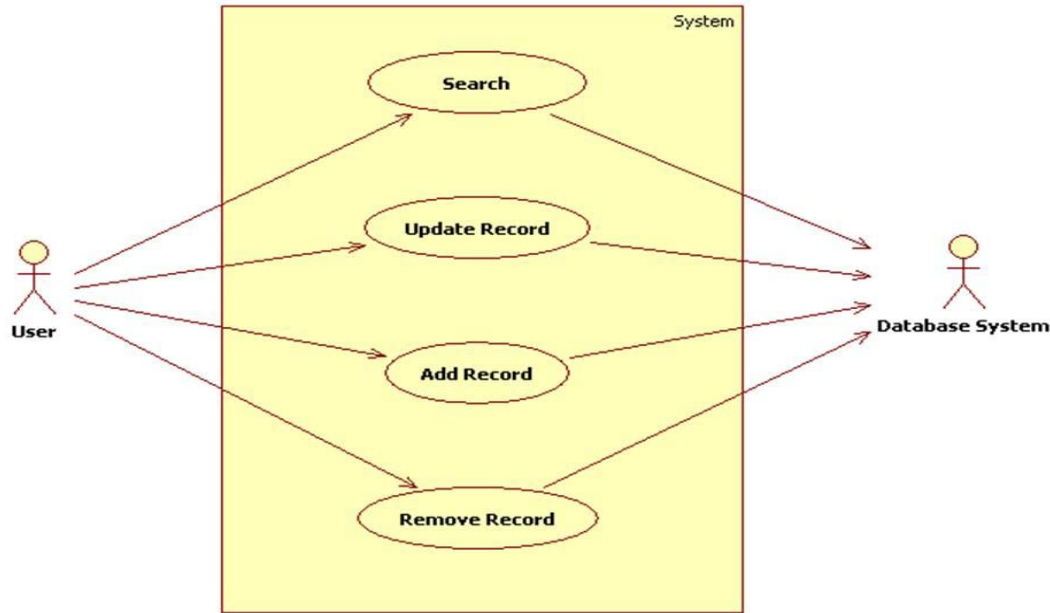

Fig. 2 USE CASE DIAGRAM FOR ADMN MODULE

5.3. Analysis Module

This module gives the administrator access to each student's mark analysis. These components work together to create a user-friendly and efficient website for student database administration.
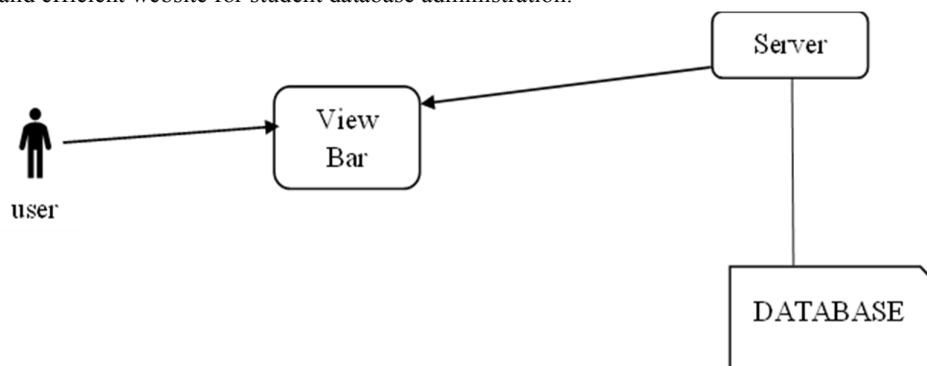

Fig. 3 STRUCTURE FOR BARGARPH ANALYSIS

VI. IMPLEMENTATION

The VS code editor and chrome web browser is used to implement the code. It provides millions of extensions for the developers to make the development process simple and enjoyable.

6.1 HTML

HTML, or Hypertext Markup Language, is a markup language that uses tags to define the structure of a webpage. A hypertext is a piece of text with a hyperlink embedded in it. HyperText is a technique for connecting two or more web pages. A markup language is a computer language for formatting and arranging text documents. It also improves the text's dynamic and interactive aspect.

6.2 CSS

CSS (Cascading Style Sheets) is a simple design language that makes it easier to make web pages presentable. CSS controls the look and feel of a website. CSS can be used to change text colour, font style, paragraph spacing, column scaling and layout, background photos or colours, layout designs, display versions for different devices and screen sizes, and a variety of other effects. If you want to work as a professional web designer, you'll need to know HTML and CSS design. CSS is easy to learn and comprehend, but it allows you a lot of control over the appearance of an HTML document. In addition to markup, CSS is widely utilised.

6.3 JAVASCRIPT

JavaScript is the most widely used programming language in the world, and it is simple to grasp and learn. It is a simple, interpretable language. The fact that JavaScript functions are objects is the single most essential characteristic. Understanding this feature will give you a whole new perspective on the language. Because functions are used to construct a JavaScript programme. JavaScript is known as a Functional Language because of this. Because the JavaScript V8 engine is built in, it was designed primarily as a client-side language that can only operate in a browser. The developer community grew, and the idea of implementing JavaScript not only in browsers but on all platforms became a reality. As a result, Nodejs was born.

6.4 NODE.JS

Node.js is a free and open-source JavaScript server environment. This means that any system that uses node.js will be able to run JavaScript code. Because of its single thread structure, Node.js is best suited for non-blocking, event-driven servers. It can be used to build backend API services and regular websites. Node.js is a runtime environment based on Chrome's V8 engine, rather than a framework or library.

The Node Package Manager (NPM) is the most popular Open-Source Software Registry. It's an important aspect of NodeJS because it has over 800,000 code packages. NPM is used by open source developers to create, install, and manage node packages. The Node Package Manager (NPM) is a large community where developers can find, publish, and develop node packages.

NodeJS must be installed on the system before you can utilise NPM. The command npm install package-name> can be used to install any package using NPM's CLI (Command line client).

If a package.json file does not exist in the current project, the above command creates one and defines the packages that will be installed in future work.
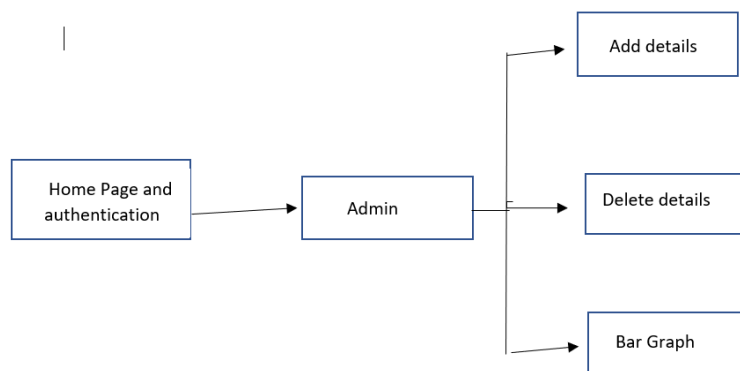

Fig.4: System Architecture Diagram of student database Management

VII. CONCLUSION

The portal was designed for a very basic purpose for maintaining student data like –mid marks, semester grades, CGPA, SGPA, personal data, attendance and faculty data in a dynamic manner. The portal was programmed using simple and livid codes .The use of highly user friendly software like oracle 12c database, SQL developer for accessing the database and eclipse mars 2.0 integrated development environment helps in designing the portal with ease and in desired manner.

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this enables the portal to work on intranet. The portal used the following for enhancing its look and functionality Hypertext markup language(HTML) was used for building web pages, JavaScript's were used for programming web pages and Cascading style sheets(CSS) were used for styling the web page. The portal is provided with an admin login for updating the student and student information time to time. Student data is represented in the form of static graph.

A. Future Scope

The platform can be used to track daily attendance and send an SMS to students and parents. This web application can be converted into a mobile Android app and utilised on smaller devices such as phones, tablets, and notepads. Students' grades are updated on a regular basis. The student's performance is graphed. Students can easily fill out a resume forum system, which will utilise artificial intelligence to send the resume to companies that match the student's requirements and eligibility criteria, making it simple to assess the student's performance.

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