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STUDENT DATABASE MAINTENANCE AND MANAGEMENT

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ABSTRACT

In this report we are going to see how we can develop a database created for students specifically which can be used for office purposes and broadcasted where ever Its required . A database is a organized collection of information, or data which is typically stored in an electronic component in a operating system.

A simple data base can be developed in a beginner friendly software like SQL based on python Queries . Later it can be displayed in any web portal with the help of HTML or Java script. There are many departments in an educational institute therefore developing a common interface for the student information would be very helpful .

1.INTRODUCTION

What is a student database maintenance and management system ?

A student database management system automates the manual process of maintaining performance records and allows users to access relevant information online at any time and from any location. The student web portal has a login page, and once the user enters their login information, their home page, which displays important notifications and college events like upcoming workshops or fests, deadlines for paying semester fees, places to register for exams, changes to exam schedules, etc., appears. In order to improve his performance in the upcoming semester, the student can check his attendance, semester grades, and midterm results for each semester. In the event of a mistake, the faculty may also quickly modify the marks, eliminating the need for the administration to wait for faculty approval before acting on the complaint. The list of tools and the list of tests carried out in the labs are also mentioned in the labs module. Information regarding the availability of the books and journals is provided in the library section. The admin module enables admin to modify the academic and personal information for professors and students.

II . OVERVIEW OF THE SYSTEM

1.Student Management

Create student profiles with a limitless number of unique categories and fields, such as demographic information, enrollment, attendance, schedule, and more, and exchange academic records with professors and administrators.

2. Student Details

This collects data about the students based upon their register number , name and gender along with their current course in the educational institution . It basically stores their general information.

3.Attendance

Enables teachers to record students' attendance in class and provide administrators attendance reports.

streamline the recording of attendance, and modernize the system so that SMS, email, and message notifications are manually sent to parents.

4.Grade

Enables students to periodically review their academic achievement, improve their work, and raise their CGPA.

5.Result

Displays each semester's results, including the grades earned and the marks earned in mid sectional exams.

6.Admin Module

The admin module gives the administrator the ability to continuously update data on every aspect of the student, faculty, attendance, examinations, etc.

STATEMENT PROBLEM

In the current system, all work is done manually on paper. Register books are used in the current method to keep track of attendance. The mid-sectional exam results and the semester grades are kept in the papers. The student does not always have access to his or her academic records, and looking up marks in such sets of papers takes time. The following are some drawbacks of the current operating system:

- Papers, files, and registers make it difficult to save data. It takes time to retrieve any data, like as marks or attendance.
- The potential for data loss or other errors.
- It is not possible to regularly update new statistics, such as attendance for the current month or mid1, mid2, or mid2.
- A larger workforce working on student information management.

OBJECTIVE OF THE MODEL

- The replacement of papers by an automated student database management system.
- Having access to a college online portal should offer all data and update data periodically, improving transparency.
- The web portal ought to make evaluating data take less time.
- Deploying and managing data will only require one system operator, which reduces the need for office staff.

SOFTWARE DEVELOPMENT

REQUIREMENTS:

Functional requirements:

A) Student Admission

B)Attendance Management

C)Grade Management

Non-Functional Requirements:

a) Security

b)Performance

c)User friendly

d) Maintainability

Requirements for Students

1) To correctly handle his or her data on personal and academic achievement

2) To quickly evaluate his or her performance in any past midterm or semester test

3) To monitor and enhance his or her attendance

4) To review the schedule

5) To access his or her academic records from any location and at any moment through the internet.

Faculty Requirements:

1) assessing and updating students' grades

2) correcting errors in attendance

3) correcting errors in grades

4) updating students' personal and professional information.

Administrator Requirement:

1) To design an intuitive user interface that is simple to understand.

2) To maintain consistent system performance.

3) To protect the portal with security to prevent external intervention

4) To make the portal easier to maintain

5) The portal's ability to be integrated with any future feature that will interfere with the portal essential framework and structure.

System Requirements:

System Development Software Tools:

MySQL database for securing data information.

JavaScript and HTML are used to create web portal system.

System Hardware Development Tools:

Microprocessor: Intel(R) Core(TM)i5-6200U CPU @ 2.3 GHz

RAM: 8 GB of RAM

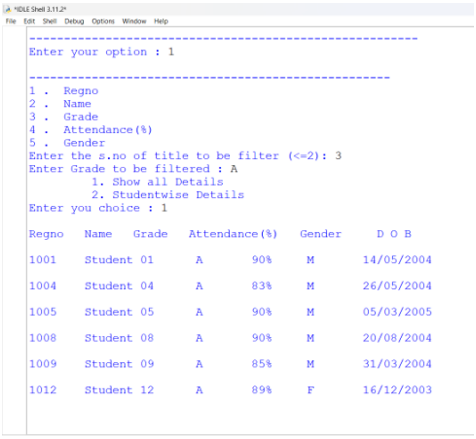
Hard Disk: 1 terabytes (TB) on installation drive

Operating Systems: Windows 10 Pro 64 bits Operating System for developing this system.

DESIGN:

DATABASE DESIGN:

The database design involves creating of options where each deals a particular set of information or function .The database used in the making of this student web portal is oracle MySql4.1.3. There are a total of 9 options , two for picking a specific students detail based upon name or registration number , three options in where you can filter the record of students based upon attendance , grade and gender . A option to enter a new record into the database , edit an already existing record and one to delete an existing record . A final option to display all the records stored in the database .



```
------------------------------------------------------------
Enter your option : 1

------------------------------------------------------
1 .  Regno
2 .  Name
3 .  Grade
4 .  Attendance(%)
5 .  Gender
Enter the s.no of title to be filter (<=2): 3
Enter Grade to be filtered : A
        1. Show all Details
        2. Studentwise Details
Enter you choice : 1

Regno   Name    Grade   Attendance(%)   Gender     D O B

1001    Student 01      A       90%     M       14/05/2004

1004    Student 04      A       83%     M       26/05/2004

1005    Student 05      A       90%     M       05/03/2005

1008    Student 08      A       90%     M       20/08/2004

1009    Student 09      A       85%     M       31/03/2004

1012    Student 12      A       89%     F       16/12/2003
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WEB PORTAL:

The web portal is designed with the help of java script . For creating web pages, JavaScript is employed as the programming language. The behavioral execution of the web page content is provided by the java scripts. Each module's functionality is described in javascript on the website. The html program's script> tag contains the whole javascript file.

Function and interaction of codes at time of execution of the database:

1) The values from the database will be assigned to the previously constructed java bean

file, allowing it to transport the data whenever called.

2)The output program will include actual attendance data and information about the output display page design in the java servlet page, also referred to as a jsp file in short. When a user acts, the web portal's ip address communicates with the server and displays the output, which is stored in the jsp file.

SAMEPLE VIEW OF THE WEB PORTAL INTERFACE AND DISPLAY :

MAINTENANCE:

The regular evaluation of the web application in a real-world user environment is part of the maintenance phase. The real issue only surfaces after the web portal has been deployed in a real user environment, hence these flaws need to be addressed right away. The issue typically arises because of the various software versions and combinations used, such as when we use an older version of Java for SQL Developer or an older version of the database, such as 10g or 11g, and we develop the web application using either a 64-bit or 32-bit operating system, or Windows XP, 7, or 10. These result in errors during the web application's execution time. These result in errors during the web application's execution time. The maintenance tasks come in two varieties: adaptive maintenance, which tests the software on the most recent operating system versions or on various devices. The other is corrective maintenance, which involves routine inspections before bugs manifest.

CONCLUSION:

The site was created with the very basic goal of retaining student data in mind. The portal's programming was done with clear and straightforward codes .The usage of software that is very user-friendly, such as Oracle 12c Database and SQL Developer, to access the database . The portal can operate on an intranet because it has an embedded local server running Apache Tomcat 8.0 with server port 8015 and connector port 8020. The portal utilizes the following to improve its appearance and usability .JavaScript was used to program online pages, and Hypertext Markup Language (HTML) was used to create web pages. Users of the portal can effectively and efficiently access, manage, and update their data.It enables the creation of a central location that may be immediately shared by numerous users and simply amended. Users can login from anywhere with an internet connection and a basic web browser thanks to a web-based front end, which eliminates the need for them to understand and directly use a database. It also offers the option of running queries to gather data for different surveys. It is a perfect application for such a system given the volume of people who view and alter student data within the department.

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