



MANIPAL INSTITUTE OF TECHNOLOGY
MANIPAL
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Mini Project Report
of
Database Systems Lab (CSE 2262)

**Web based system to store grade information
for students.**

**SUBMITTED
BY**

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

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CERTIFICATE

This is to certify that the project titled **Web based system to store grade information for students** is a record of the Bonafide work done by **Avi Singh 210962034 Ishaan Nagal 210962058** submitted in partial fulfilment of the requirements for the award of the Degree of Bachelor of Technology (B.Tech.) in **COMPUTER SCIENCE & ENGINEERING** of Manipal Institute of Technology, Manipal, Karnataka, (A Constituent Institute of Manipal Academy of Higher Education), during the academic year 2022-2023.

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Abstract:

The aim of this project is to design and develop a web-based system for storing and managing grade information. The system will be designed to provide a user-friendly interface for teachers and administrators to input, manage, and track student grades, assignments, and assessments. The system will be developed using a combination of front-end and back-end technologies, including HTML, CSS, JavaScript, and MySQL. The front-end will provide a clean and intuitive interface for users to interact with the system, while the back end will handle data storage and retrieval, user authentication, and security features.

Chapter –1 INTRODUCTION

As education continues to evolve and become more digital, the need for efficient and effective management of student data has become increasingly important. Tracking and managing student grades and assessments is a critical aspect of any educational institution.

In response to this need, we propose the development of a web-based system for storing and managing grade information. This system will provide a centralized platform for teachers and administrators to input, manage, and track student grades, assignments, and assessments.

The system will be designed to be user-friendly and accessible to all relevant parties, with role-based access control to ensure that only authorized users can access sensitive student information. It will also be designed to be secure, with data encryption and user authentication to protect student privacy.

This web-based system will streamline the process of managing and storing student grade information, reducing the risk of errors, and making it easier for teachers and administrators to track student progress and identify areas where additional support may be needed. This system will help educational institutions to better support their students and ensure their success.

CHAPTER 2: PROBLEM STATEMENT & OBJECTIVES

PROBLEM STATEMENT: Traditional methods of managing student grades and assessments using paper-based systems or basic spreadsheets can be inefficient, time-consuming, and prone to errors. These methods can also be difficult to scale as educational institutions grow and student populations increase. In addition, these methods often lack the security and privacy measures necessary to protect sensitive student information.

Objectives:

- Provide a centralized platform for teachers and administrators to input, manage, and track student grades, assignments, and assessments.
- Streamline the process of managing and storing student grade information, reducing the risk of errors, and making it easier for teachers and administrators to track student progress and identify areas where additional support may be needed.
- Provide a user-friendly interface that is accessible to all relevant parties, including teachers, administrators, and students.
- Allow for the creation of diverse types of assignments and assessments, with the ability to input and store student scores for each.
- Provide real-time data analysis and reporting capabilities to help teachers and administrators identify trends and patterns in student performance.

CHAPTER 3: METHODOLOGY

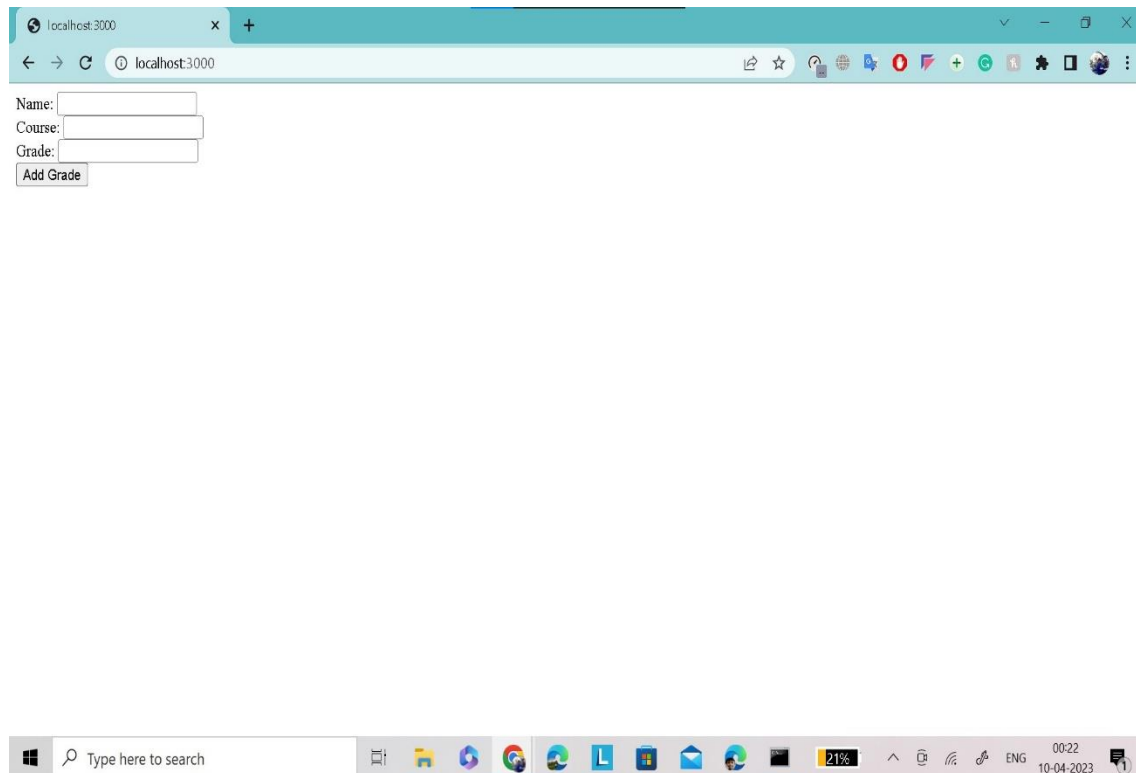
- ➔ **System Design:** Based on the requirements, the project team will develop a system design that outlines the system architecture, user interface, and functionality. This will include the selection of appropriate technologies and programming languages to be used in the development process.
- ➔ **System Development:** In this phase, the project team will begin the actual development of the system, using agile methodologies to ensure that the system is developed incrementally and can be tested and evaluated throughout the development process.
- ➔ **System Testing:** Once the system has been developed, it will be subjected to extensive testing to ensure that it meets the requirements and functions as intended. This will include testing for usability, performance, security, and functionality.
- ➔ **Deployment:** Once the system has been fully tested and validated, it will be deployed to the production environment, where it will be made available to its users.
- ➔ **Maintenance and Support:** After the system is deployed, the project team will continue to provide ongoing maintenance and support to ensure it remains functional and up to date. This will include monitoring the system for any issues or bugs and providing user support and training.

CHAPTER 4: RESULTS & SNAPSHOTS

The execution of the web page resulted in :-

- Easy access to real-time grade and attendance data for teachers, administrators.
- Efficient tracking and management of student performance data, including grades, assignments, and assessments.
- Better data analytics and reporting capabilities to identify trends and areas for improvement.

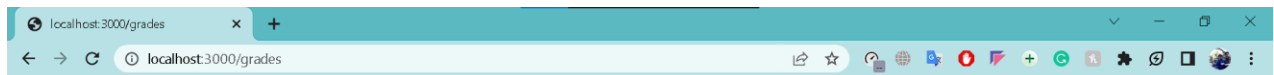
WEBPAGE



DATABASE

```
MySQL localhost:33060+ ssl SQL > use college
Default schema set to `college`.
Fetching global names, object names from `college` for auto-completion... Press ^C to stop.
MySQL localhost:33060+ ssl college SQL > show tables
-> ;
+-----+
| Tables_in_college |
+-----+
| students           |
+-----+
1 row in set (0.0022 sec)
MySQL localhost:33060+ ssl college SQL > 
```

AFTER THE ADDITION OF THE GRADE.



Grades:

- AVI SINGH - CSE 409 - A+

[Add another grade](#)

UPDATED IN THE DATABASE.

```
MySQL localhost:33060+ ssl college SQL > SELECT * FROM STUDENTS
-> ;
+-----+-----+-----+
| name   | course | grade |
+-----+-----+-----+
| AVI SINGH | CSE 409 | A+    |
+-----+-----+-----+
1 row in set (0.0010 sec)
MySQL localhost:33060+ ssl college SQL > _
```

DATABASE CREATION

```
CREATE DATABASE college;
USE college;
```

```
CREATE TABLE students (
  id INT AUTO_INCREMENT PRIMARY KEY,
  name VARCHAR(255) NOT NULL,
  course VARCHAR(255) NOT NULL,
  grade FLOAT NOT NULL
);
```

```
C:\WINDOWS\System32\cmd.exe - node app.js
Microsoft Windows [Version 10.0.19045.2788]
(c) Microsoft Corporation. All rights reserved.

D:\web>node app.js
Server is running on port 3000
Connected to MySQL
```

Javascript code for the website

```
1  const express = require('express');
2  const mysql = require('mysql2');
3  const bodyParser = require('body-parser');
4
5  const app = express();
6  app.use(bodyParser.urlencoded({ extended: true }));
7
8  const connection = mysql.createConnection({
9    host: 'localhost',
10   user: 'root',
11   password: '*****',
12   database: 'college'
13 });
14
15 connection.connect((err) => {
16   if (err) throw err;
17   console.log('Connected to MySQL');
18 });
19
20 app.get('/', (req, res) => {
21   res.send(`
22     <form method="POST" action="/add">
23       Name: <input type="text" name="name" /><br />
24       Course: <input type="text" name="course" /><br />
25       Grade: <input type="text" name="grade" /><br />
26       <button type="submit">Add Grade</button>
27     </form>
28   `);
29 });
30
31 app.post('/add', (req, res) => {
32   const { name, course, grade } = req.body;
33   const query = 'INSERT INTO students (name, course, grade) VALUES (?, ?, ?)';
34   connection.query(query, [name, course, grade], (err) => {
35     if (err) throw err;
36     res.redirect('/grades');
37   });
38 });
39
40 app.get('/grades', (req, res) => {
41
42   const query = 'SELECT * FROM students';
43   connection.query(query, (err, results) => {
44     if (err) throw err;
45     let html = '<h1>Grades:</h1><ul>';
46     results.forEach((student) => {
47       html += `<li>${student.name} - ${student.course} - ${student.grade}</li>`;
48     });
49     html += '</ul><a href="/">Add another grade</a>';
50     res.send(html);
51   });
52
53   app.listen(3000, () => {
54     console.log('Server is running on port 3000');
55   });
56 }
```

CHAPTER 5: CONCLUSION

In conclusion, a web-based system to store grade information can be an effective tool for schools and educational institutions to manage and store student performance data in a secure and centralized manner. Such a system can provide administrators, teachers, and parents with easy access to real-time information on student progress and performance, allowing for improved communication, collaboration, and decisionmaking. The system can also include features such as user authentication, grade book management, attendance tracking, assignment and test management, reporting, and analytics. Successful implementation of a web-based system to store grade information can result in improved efficiency, accuracy, and outcomes for students, teachers, and educational institutions. However, it is important to consider the security and privacy implications of storing sensitive student information in such a system and implement appropriate measures to protect it.

CHATER 6: LIMITATIONS & FUTURE WORK

Limitations:

A web-based system to store grade information, like any other technology, may have certain limitations that should be considered. Some possible limitations of such a system include:

- Technical limitations: The system may have technical limitations that prevent it from scaling to meet the needs of larger institutions or handling a large volume of data. It may also be limited by the hardware and software used to build and host it.
- User adoption: A web-based system to store grade information may face resistance from users who are not familiar with the technology or who prefer traditional paper-based methods of recording and tracking student performance data.
- Data quality: The system is only as good as the data that is entered into it. If teachers or administrators enter inaccurate or incomplete data, it can lead to incorrect reports and analytics.
- Privacy concerns: Storing sensitive student information in a webbased system raises privacy concerns, and the system should be designed with appropriate security measures to protect student data.

Future Work:

There are several potential areas for future work in a web-based system to store grade information, including:

- Integrating with other educational software: The system can be designed to integrate with other educational software, such as learning management systems, to provide a more comprehensive view of student performance.
- Adding more analytics and reporting capabilities: The system can be enhanced to provide more in-depth analytics and reporting capabilities, allowing teachers and administrators to identify areas of concern more easily.
- Enhancing user experience: The system can be improved to provide a more user-friendly interface and streamline the data entry process, making it easier for teachers and administrators to use.
- Providing access to students: The system can be expanded to allow students to access their own performance data, which can help them take ownership of their learning and set goals for improvement.
- Incorporating machine learning: The system can be enhanced with machine learning algorithms to provide more accurate predictions and recommendations for student performance and areas of improvement.

CHAPTER 7: REFERENCES

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