

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

Jnana Sangama, Belagavi – 590018



ACTIVITY BASED MINI PROJECT REPORT ON

Title of the Mini – Project

e-LEARNING MANAGEMENT SYSTEM USING PHP AND MYSQL

Submitted in partial fulfilment of the requirement for the Database
Management Systems Laboratory with Mini Project [21CSL55]

Bachelor of Engineering
In
Department of Information Science and Engineering

Submitted By

USN

1JT21IS010

1JT21IS056

Name

B S SHREESHA

SUDHANVA N KISHORE



DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING
JYOTHY INSTITUTE OF TECHNOLOGY, BENGALURU - 560082

JYOTHY INSTITUTE OF TECHNOLOGY

Thathaguni, Bengaluru – 560082

DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING



CERTIFICATE

Certified that the mini project work entitled “**Learning Management System**” carried out by **B S Shreesha [1JT21IS010]** and **Sudhanva N Kishore [1JT21IS056]** bonafide students of Jyothy Institute of Technology, in partial fulfilment for the award of **Bachelor of Engineering** in **Information Science and Engineering** department of the **Visvesvaraya Technological University, Belagavi** during the year **2023-2024**. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library. The mini project report has been approved as it satisfies the academic requirements in respect of Mini Project work prescribed for the said Degree.

Mrs. Anupama V P

Guide, Asst. Professor
Dept. of ISE

Dr. Divakar Harekal

Professor and HOD
Dept. of ISE

External Viva Examiner

1.

2.

Signature with Date

ACKNOWLEDGEMENT

Firstly, we are very grateful to this esteemed institution “**Jyothy Institute of Technology**” for providing us an opportunity to complete our project.

We express our sincere thanks to our Principal **Dr. Gopalakrishna K** for providing us with adequate facilities to undertake this project

We would like to thank **Dr. Divakar Harekal, Professor and Head** of Information Science and Engineering Department for providing for his valuable support.

We would like to thank our guide **Mrs. Anupama V P Asst. Prof.** for her keen interest and guidance in preparing this project.

Finally, we would thank all our friends who have helped us directly or indirectly in this project.

B S SHREESHA [1JT21IS010]

SUDHANVA N KISHORE [1JT21IS056]

ABSTRACT

E-learning Management Systems (e-LMS) have revolutionized education by providing a comprehensive platform that caters to the diverse needs of administrators, teachers, and students. This study presents a novel e-LMS with distinct functionalities tailored for each user category: Admin, Teacher, and Student.

The Admin interface offers robust administrative capabilities including user management, course creation, and system configuration. Administrators can efficiently oversee user registrations, monitor course enrolments, and ensure smooth operation of the platform.

For educators, the Teacher interface provides tools for course content creation, assignment management, and student assessment. Teachers can design engaging learning materials, facilitate discussions, and evaluate student progress through integrated assessment features.

Students benefit from a user-friendly interface designed for seamless navigation and access to course materials. The Student interface offers features such as course enrolment, content consumption, submission of assignments, and interaction with peers and instructors.

We have used HTML, CSS, JavaScript(JS), Bootstrap for our frontend and the backend is created using PHP and MYSQL.

Overall we have attempted to create the e-LMS that facilitates collaborative learning environments, enhances communication between stakeholders, and streamlines educational processes. Its intuitive design and multifunctional capabilities empower users to engage effectively in online learning, fostering a dynamic and inclusive educational experience.

INDEX

Sl. No	Description	Page No.
1	Chapter 1	
	1. INTRODUCTION	
	1.1 Introduction to DBMS	1
	1.2 Introduction to PHP and MySQL	2
	1.3 Introduction to e-Learning Management System	3
	1.4 Scope of the Work	3
	1.5 Importance of the Work	3
2	Chapter 2	
	2. DESIGN	
	2.1 Working of PHP and MySQL	4
	2.2 Data flow diagram and Attribute List	5
	2.3 Flow Chart	6
3	Chapter 3	
	3. IMPLEMENTATION	
	3.1 Implementation Tools	7
	3.2 Implementation Details	8
4	Chapter 4	
	4. RESULTS AND SNAPSHOTS	
	4.1 Snapshots	
5	Chapter 5	
	5. CONCLUSION	
	5.1 Conclusion	19
	5.2 References	19

CHAPTER 1
INTRODUCTION

CHAPTER 1:

INTRODUCTION

1.1 INTRODUCTION TO DBMS:

Data refers to raw facts, figures, and statistics that are collected and stored for analysis and processing. A database, on the other hand, is a structured collection of data organized in a way that facilitates efficient retrieval, manipulation, and management for various purposes.

A database management system (DBMS) is system software for creating and managing databases. A DBMS makes it possible for end users to create, protect, read, update and delete data in a database. The most prevalent type of data management platform, the DBMS essentially serves as an interface between databases and users or application programs, ensuring that data is consistently organized and remains easily accessible. DBMS provides an environment to store and retrieve the data in convenient and efficient manner.

Key Features of DBMS

- **Data modelling:** A DBMS provides tools for creating and modifying data models, which define the structure and relationships of the data in a database.
- **Data storage and retrieval:** A DBMS is responsible for storing and retrieving data from the database, and can provide various methods for searching and querying the data.
- **Concurrency control:** A DBMS provides mechanisms for controlling concurrent access to the database, to ensure that multiple users can access the data without conflicting with each other.
- **Data integrity and security:** A DBMS provides tools for enforcing data integrity and security constraints, such as constraints on the values of data and access controls that restrict who can access the data.
- **Backup and recovery:** A DBMS provides mechanisms for backing up and recovering the data in the event of a system failure.
- **DBMS can be classified into two types:** Relational Database Management System (RDBMS) and Non-Relational Database Management System (NoSQL or Non-SQL)
- **RDBMS:** Data is organized in the form of tables and each table has a set of rows and columns. The data are related to each other through primary and foreign keys.

- **NoSQL:** Data is organized in the form of key-value pairs, documents, graphs, or column-based. These are designed to handle large-scale, high-performance scenarios.

There are several kinds of DBMS namely:

- **Relational DBMS (RDBMS):** An RDBMS stores data in tables with rows and columns, and uses SQL (Structured Query Language) to manipulate the data.
- **Object-Oriented DBMS (OODBMS):** An OODBMS stores data as objects, which can be manipulated using object-oriented programming languages.
- **NoSQL DBMS:** A NoSQL DBMS stores data in non-relational data structures, such as key-value pairs, document-based models, or graph models.

1.2 INTRODUCTION TO PHP AND MySQL

PHP (Hypertext Preprocessor) is a server-side scripting language renowned for its versatility in web development. Originally designed for creating dynamic web pages, PHP has expanded into a full-fledged programming language capable of handling various tasks beyond web development. Its syntax is similar to C and Perl, making it relatively easy to learn and use.

MySQL is a popular open-source relational database management system (RDBMS) often paired with PHP in web development projects. MySQL offers scalability, reliability, and robust performance, making it an ideal choice for managing structured data. It supports SQL (Structured Query Language), allowing developers to interact with databases efficiently.

Together, PHP and MySQL form a powerful duo known for their role in the LAMP (Linux, Apache, MySQL, PHP/Perl/Python) stack, which powers a significant portion of the internet. PHP enables server-side processing, while MySQL handles data storage and retrieval. This combination facilitates the creation of dynamic and interactive web applications, ranging from simple websites to complex e-commerce platforms and content management systems.

The PHP-MySQL partnership benefits from extensive documentation, a large community of developers, and compatibility with various platforms, making it accessible and versatile for a wide range of projects. Their combined capabilities empower developers to build robust, scalable, and feature-rich web applications efficiently.

1.3 INTRODUCTION TO e-LEARNING MANAGEMENT SYSTEM

In an era characterized by rapid technological advancement and evolving educational methodologies, the e-learning management system (e-LMS) project emerges as a beacon of innovation, poised to reshape the landscape of education. With the transformative power of digital technology at its core, this project endeavours to revolutionize the way administrators, educators, and learners engage with educational content and processes. By harnessing the capabilities of modern web-based platforms, the e-LMS project seeks to transcend the constraints of traditional classroom settings, offering a dynamic and interactive learning environment accessible to learners worldwide.

1.4 SCOPE OF THE WORK

The e-LMS project occupies a position of paramount importance within the educational landscape, serving as a catalyst for transformative change and innovation. By democratizing access to quality education and transcending geographical barriers, the e-LMS project has the potential to foster a more inclusive and equitable learning ecosystem, empowering learners from all walks of life to pursue their educational aspirations. Moreover, by embracing emerging technologies and pedagogical approaches, the e-LMS project embodies the spirit of innovation and adaptability, enabling educational institutions to stay ahead of the curve and remain relevant in an increasingly digital world. Ultimately, the importance of the e-LMS project lies in its capacity to redefine the educational experience, catalyzing a paradigm shift towards more flexible, interactive, and student-centric learning models that empower learners to thrive in the 21st century.

1.5 IMPORTANCE OF THE WORK

LMS (Learning Management Systems) are essential in modern education for their role in centralizing learning resources, fostering collaboration, and enabling personalized learning experiences. By providing a centralized repository for educational content, LMS platforms ensure accessibility to materials anytime, anywhere. They also facilitate communication and collaboration among students and instructors through features like discussion forums and messaging tools. Additionally, LMS platforms offer flexibility to tailor learning experiences to individual needs, maximizing engagement and knowledge retention. Overall, LMS platforms play a crucial role in promoting accessibility, collaboration, and personalized learning, making them indispensable tools in today's educational landscape.

CHAPTER 2
DESIGN

CHAPTER 2

DESIGN

2.1 WORKING OF THE PHP AND MySQL

In the context of the e-learning management system (e-LMS) project described earlier, PHP and MySQL play crucial roles in ensuring the system's functionality and performance.

1. PHP (Hypertext Preprocessor):

- PHP handles server-side scripting, allowing dynamic generation of web pages based on user interactions.
- User authentication and session management are implemented using PHP to ensure secure access to the e-LMS platform.
- PHP scripts facilitate the creation, editing, and deletion of courses, assignments, quizzes, and user accounts within the system.
- It handles the logic for processing assignment submissions, quiz responses, and communication between users (administrators, teachers, and students).
- PHP integrates with MySQL to execute database queries and retrieve data for display on web pages, such as course information, user profiles, and assignment details.

2. MySQL (Relational Database Management System):

- MySQL serves as the backend database system for storing structured data related to the e-LMS project.
- It maintains tables for storing information such as user credentials, course details, assignment submissions, quiz questions, and communication logs.
- MySQL ensures data integrity by enforcing relationships between tables and implementing constraints to prevent inconsistencies.
- PHP interacts with MySQL using SQL queries to perform operations such as inserting new records, updating existing data, and retrieving information for display.
- Triggers in MySQL may be utilized to automate tasks or enforce business rules, such as triggering notifications when assignments are submitted or quizzes are completed.

Together, PHP and MySQL form the backbone of the e-LMS project, enabling seamless interaction between users and the system while ensuring data integrity, security, and performance. PHP handles the frontend logic and user interaction, while MySQL manages the

storage and retrieval of data, providing a robust foundation for administrators, teachers, and students to collaborate and engage in online learning activities.

2.2 DATA FLOW DIAGRAM AND LIST OF ATTRIBUTES

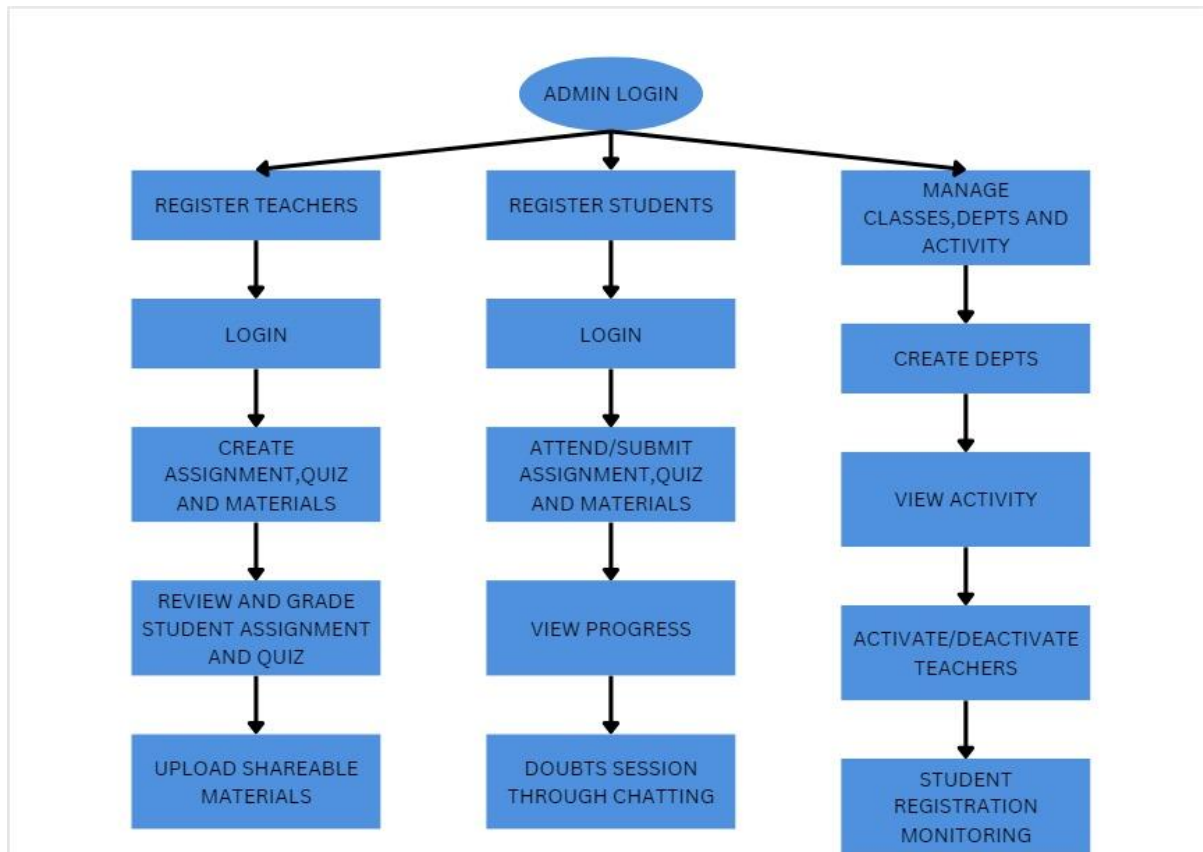


Figure 1: Data Flow Diagram

2.3 FLOW CHART

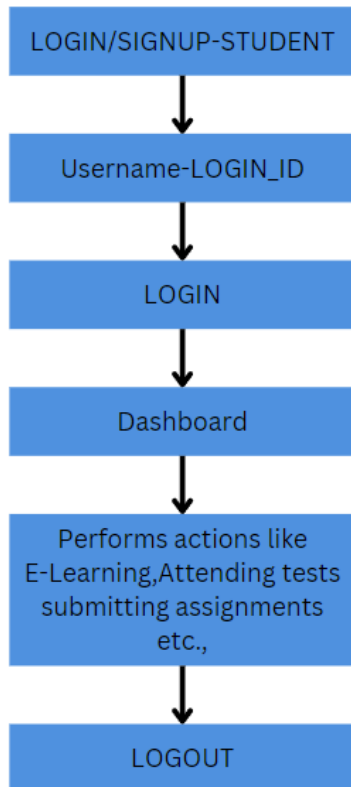


Figure 2: Working flow chart for student

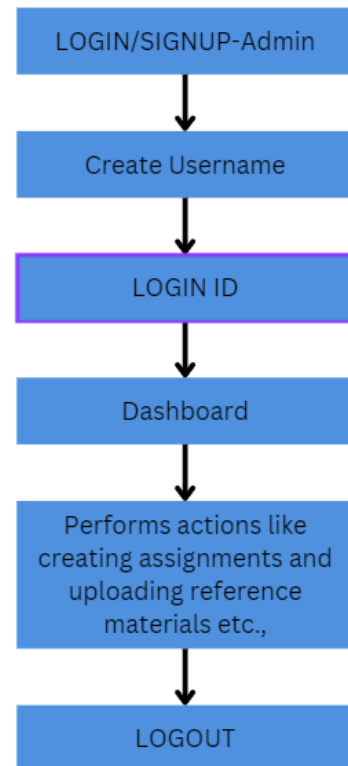


Figure 3: Working flow chart for teacher

CHAPTER 3

IMPLEMENTATION

CHAPTER 3

IMPLEMENTATION

3.1 IMPLEMENTATION TOOLS

1. **PHP (Hypertext Preprocessor):** Server-side scripting language facilitating dynamic content generation and database interaction, pivotal for e-LMS functionality.
2. **MySQL:** Relational database management system efficiently storing and managing structured data essential for course materials, user information, and system interactions.
3. **HTML (Hypertext Markup Language):** Markup language structuring content on web pages, fundamental for presenting course materials, quizzes, and communications in the e-LMS.
4. **CSS (Cascading Style Sheets):** Styling language defining presentation and layout of web pages, ensuring visually appealing and consistent interface design in the e-LMS.
5. **JavaScript:** Programming language empowering interactive elements and dynamic functionalities, enriching user engagement within the e-LMS platform.
6. **Bootstrap:** Front-end framework offering responsive design components and CSS styles, ensuring accessibility and compatibility across devices for enhanced user experience in the e-LMS.
7. **jQuery:** JavaScript library simplifying DOM manipulation and event handling, optimizing development efficiency and enhancing user interaction in the e-LMS interface.
8. **jGrowl:** jQuery plugin providing notifications and alerts, enhancing user experience by delivering real-time feedback and updates within the e-LMS.
9. **Visual Studio Code:** Integrated development environment (IDE) equipped with powerful editing and debugging tools, enhancing productivity and code quality during e-LMS development.

3.2 IMPLEMENTATION DETAILS

The e-learning management system (e-LMS) project operates as a comprehensive platform designed to facilitate efficient management of educational content and foster collaboration between administrators, teachers, and students. Here's an overview of how the project works:

1. User Authentication and Role Assignment:

- Users, including administrators, teachers, and students, must authenticate themselves through the system using login credentials.
- Upon successful authentication, users are assigned specific roles with corresponding permissions and access levels.

2. Dashboard and Navigation:

- Upon login, users are greeted with a personalized dashboard displaying relevant information such as upcoming assignments, course materials, and communication channels.
- Navigation menus and intuitive user interfaces facilitate easy access to various features and functionalities of the e-LMS platform.

3. Course Management:

- Administrators have the capability to create and manage courses within the system, defining course parameters such as title, description, schedule, and enrolled students.
- Teachers can create course materials, assignments, and quizzes within their assigned courses, organizing content to facilitate student learning.

4. Assignment Submission and Grading:

- Students can access assignments posted by teachers, submit their completed work electronically through the platform, and track submission deadlines.
- Teachers review and grade student submissions, providing feedback and scores through the e-LMS interface.

5. Interactive Quizzes:

- Teachers create quizzes with questions relevant to course topics and learning objectives.
- Students participate in quizzes, answering questions and receiving immediate feedback on their performance.

6. Communication and Collaboration:

- The e-LMS platform facilitates communication and collaboration between users through messaging features, discussion forums, and group chats.
- Teachers can engage with students, provide support, and foster discussion on course-related topics.

7. Data Management and Analytics:

- MySQL database stores essential data such as user profiles, course information, assignments, quiz results, and communication logs.
- Administrators and teachers can generate reports and analyse data to assess student performance, track course progress, and identify areas for improvement.

8. Scalability and Adaptability:

- The e-LMS project is designed to be scalable and adaptable to accommodate growth and changes in educational needs.
- Ongoing updates and improvements ensure that the platform remains relevant and effective in meeting the evolving demands of online education.

In essence, the e-LMS project streamlines educational processes, fosters collaboration, and enhances the learning experience for users across various roles. Through its intuitive interface and robust functionality, the platform empowers educators and learners to engage in dynamic and interactive online learning environments.

CHAPTER 4
RESULTS AND SNAPSHOTS

CHAPTER 4

RESULTS AND SNAPSHOTS

INDEX PAGE

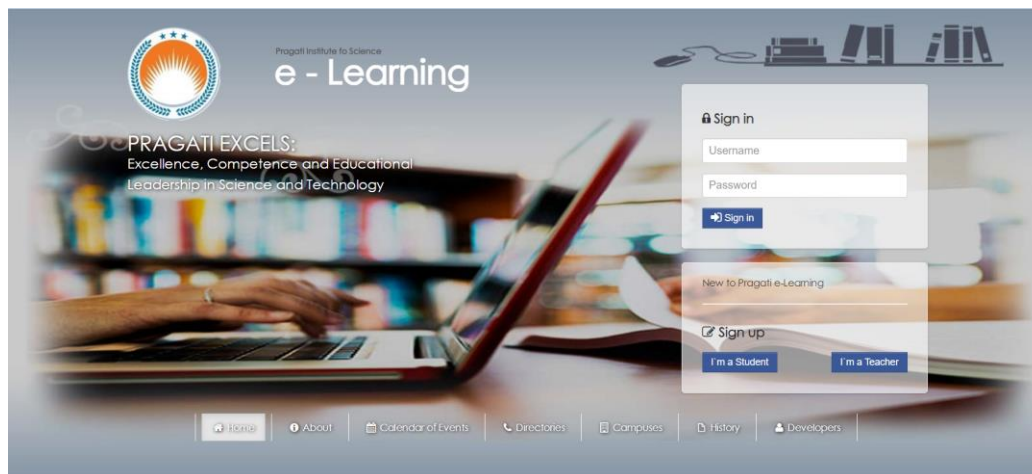


Figure 4: Index Page

ADMIN PANEL

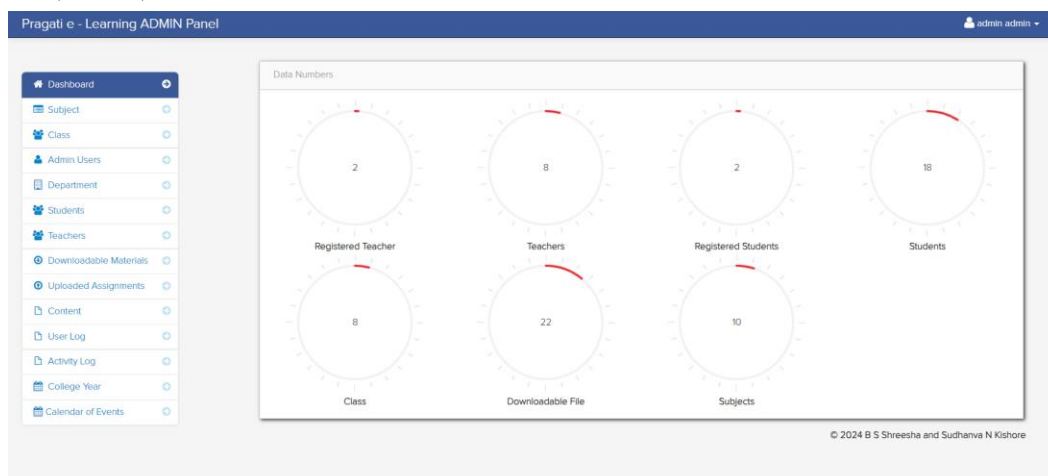


Figure 5: Admin Dashboard

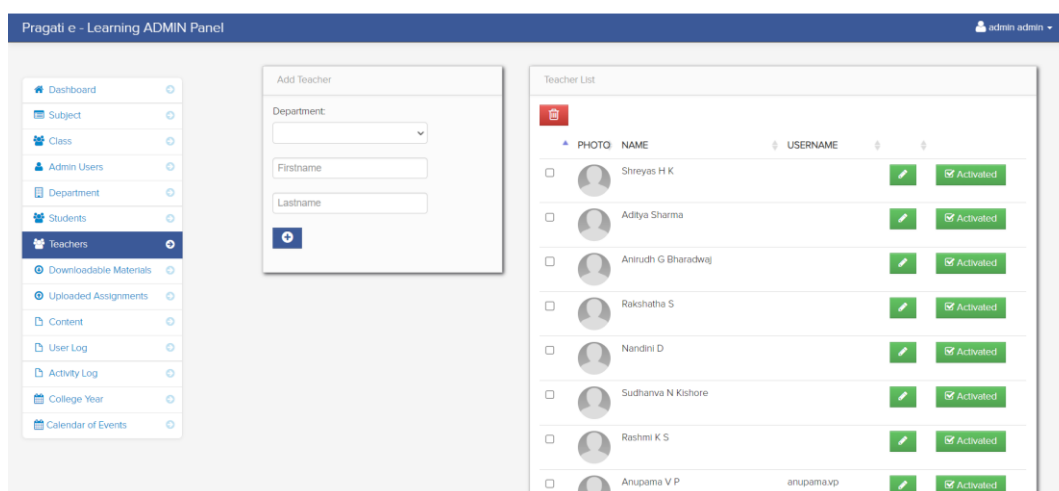


Figure 6: Faculty Control Panel

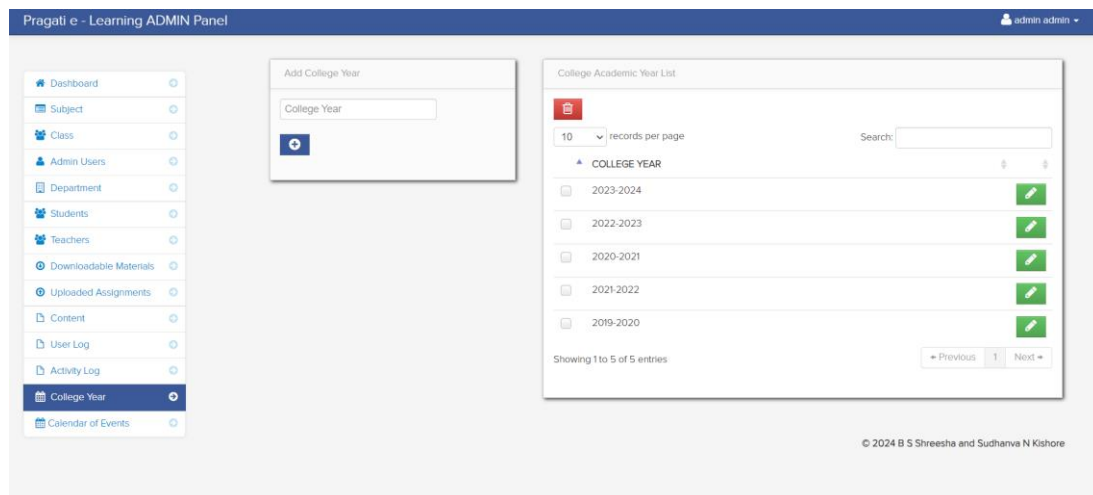


Figure 7: Maintaining College Academic Year

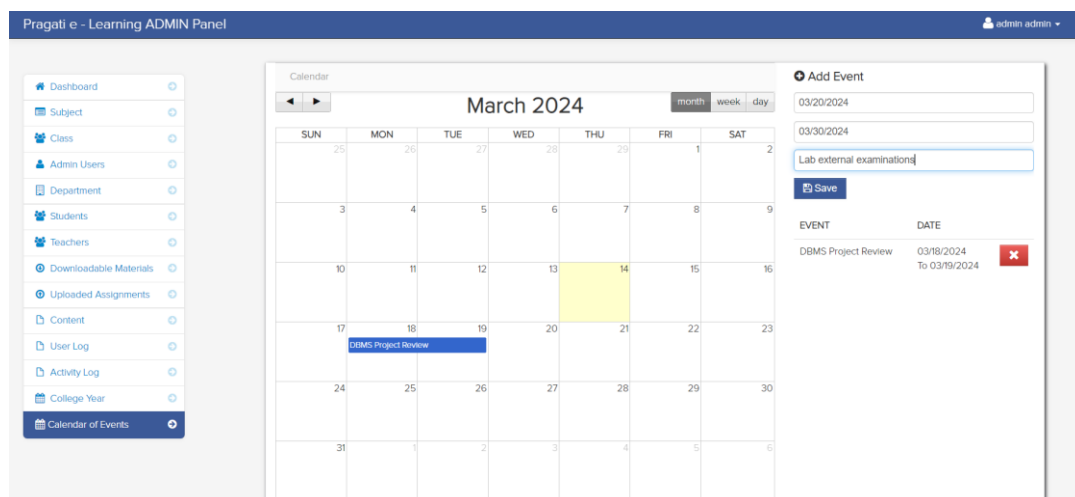


Figure 8: Calendar of Events

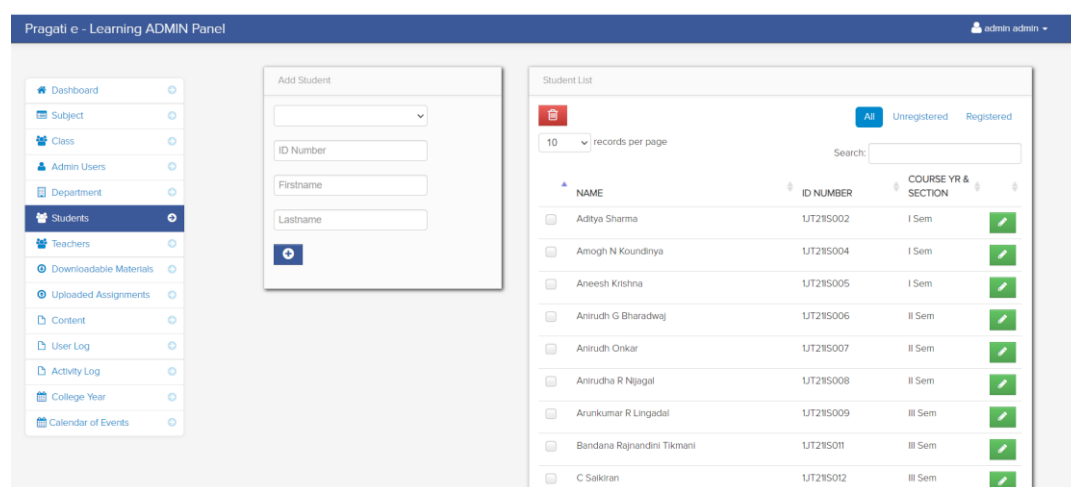


Figure 9: Student Management

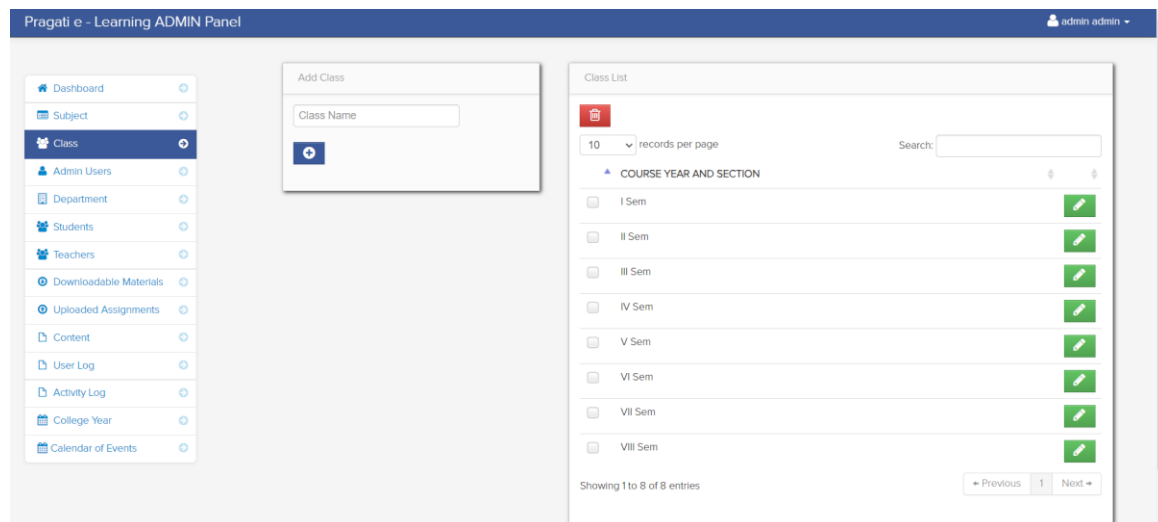


Figure 10: Class and Course Management

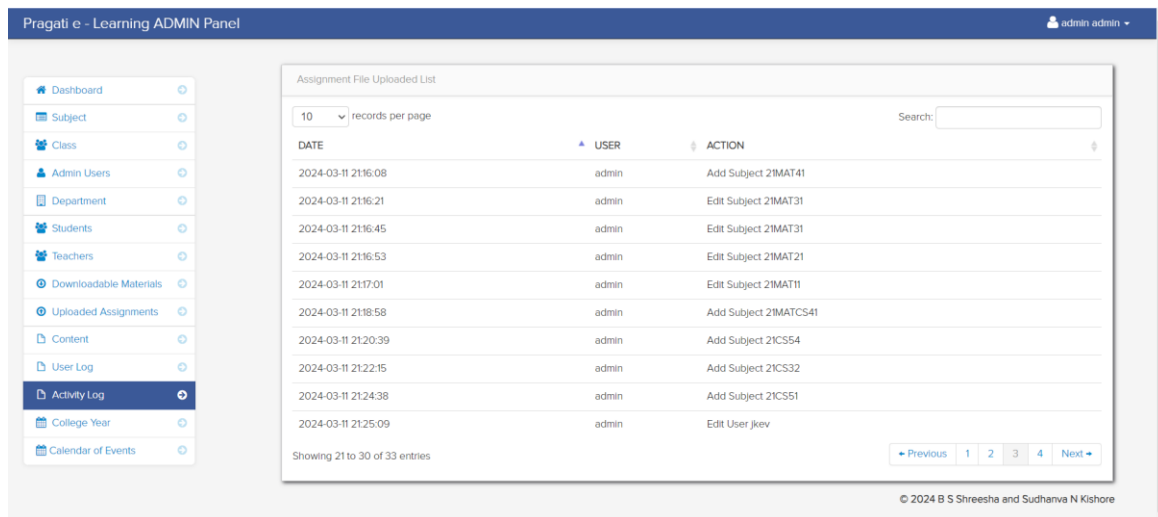


Figure 11: Activity Log

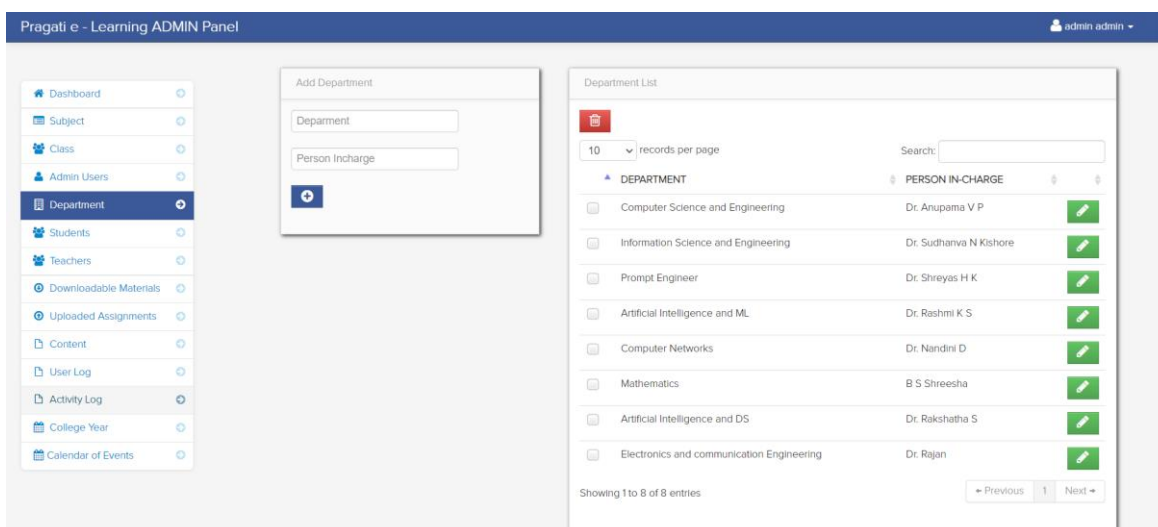


Figure 12: Department Management

FACULTY PANEL



Figure 13: Faculty Dashboard

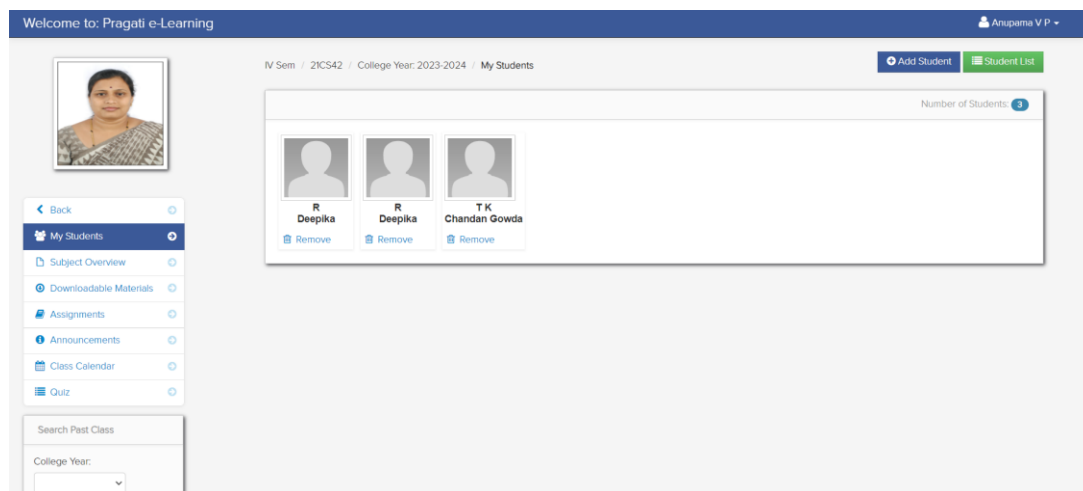


Figure 14: Students Overview

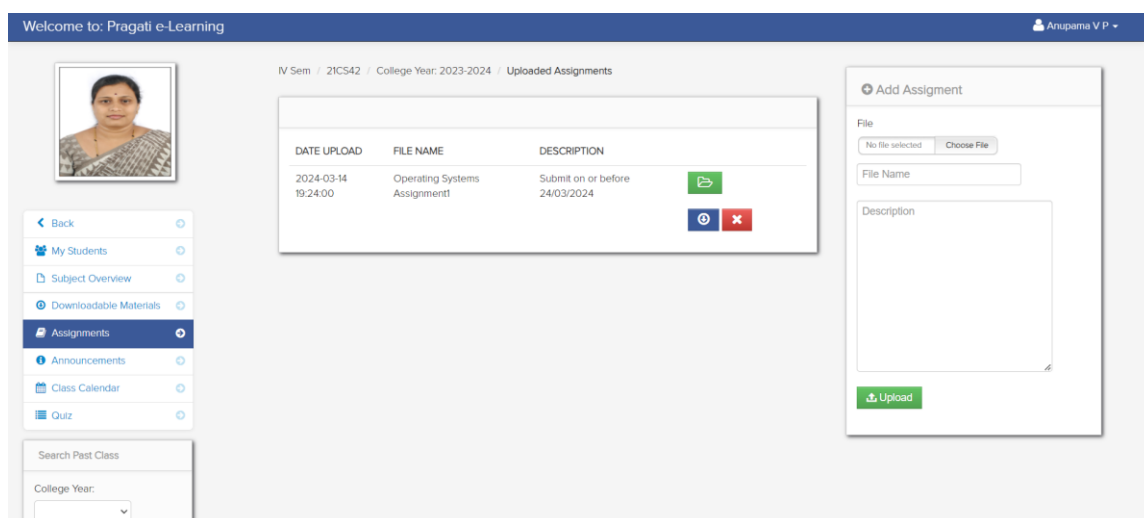


Figure 15: Assignment Upload Panel

Question

What is an operating system?

body p span

Question Type: Multiple Choice

A: interface between the hardware and software ☐

B: collection of programs that manage the computer system ☐

C: system service provider to the application ☐

D: All of the Above ☒

Save

Figure 16: Quiz Creation Panel

Welcome to: Pragati e-Learning

IV Sem / 21CS42 / College Year: 2023-2024 / Uploaded Assignments

Submit Assignment in : Operating Systems Assignment1

DATE UPLOAD	FILE NAME	DESCRIPTION	SUBMITTED BY:
2024-03-14 19:37:49	Operating Systems Assignment1	Deepika R	Deepika R

2024-03-14 19:37:49

2024-03-14 19:37:49

Save

Figure 17: Reviewing and Adding Grades

Welcome to: Pragati e-Learning

IV Sem / 21CS42 / Announcements

OS Presentation is scheduled from 24/03/2024 to 28/03/2024

2024-03-14 19:32:29

Post

Figure 18: Create Announcements

STUDENT PANEL

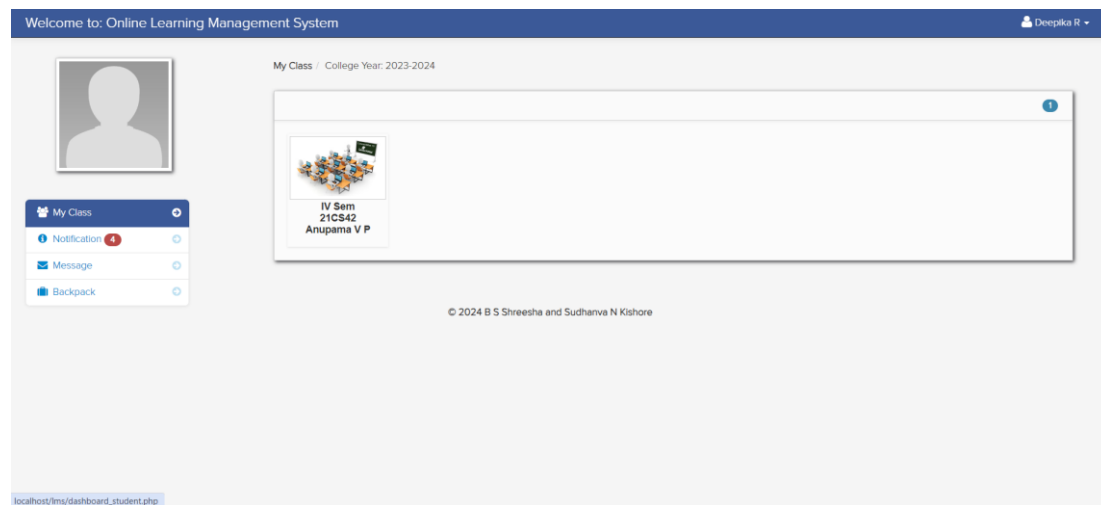


Figure 19: Student Dashboard

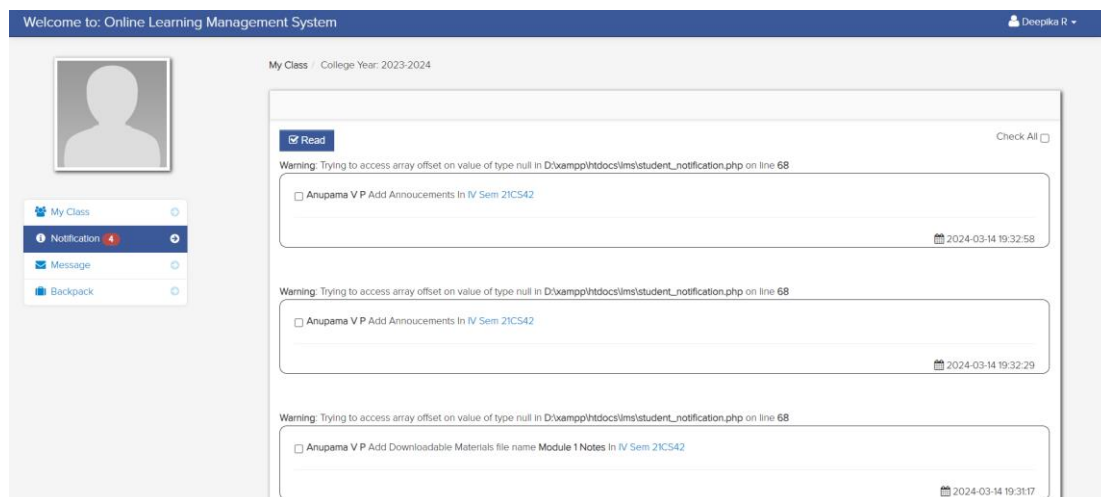


Figure 20: Student Notifications

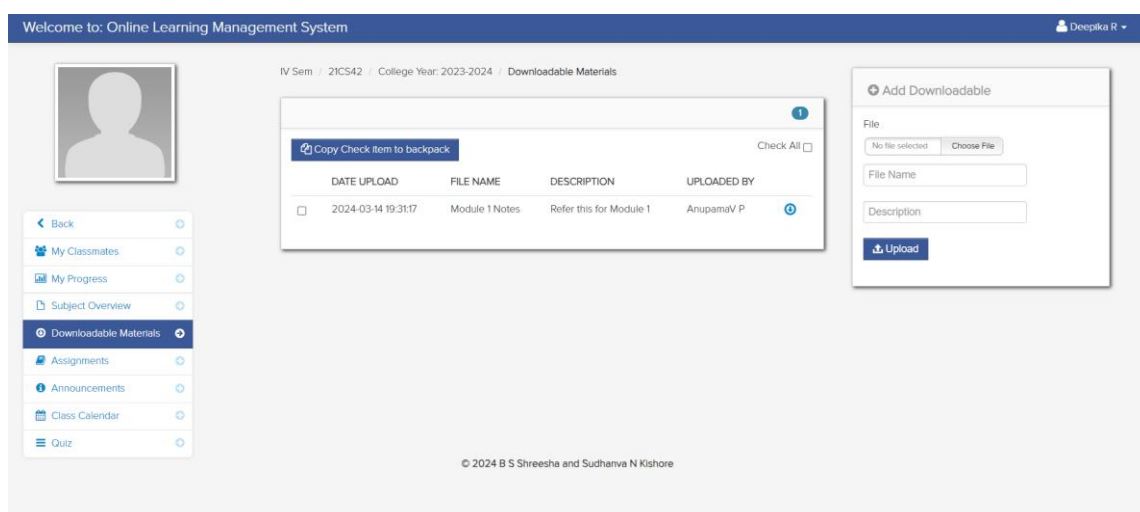



Figure 21: Viewing Materials

Welcome to: Online Learning Management System Deepika R

IV Sem / 21CS42 / College Year: 2023-2024 / Uploaded Assignments



[Back](#)

[My Classmates](#)

[My Progress](#)

[Subject Overview](#)

[Downloadable Materials](#)

[Assignments](#)

[Announcements](#)

[Class Calendar](#)

[Quiz](#)

Submit Assignment in : Operating Systems Assignment1

DATE UPLOAD	FILE NAME	DESCRIPTION	SUBMITTED BY:	GRADE
2024-03-14 19:37:49	Operating Systems Assignment1	Deepika R	Deepika R	

Add Downloadable

File

No file selected [Choose File](#)

File Name

Description


[Upload](#)

© 2024 B S Shreesha and Sudhanva N Kishore

Figure 22: Submission of Assignments

Welcome to: Online Learning Management System Deepika R

IV Sem / 21CS42 / College Year: 2023-2024 / Practice Quiz



[Back](#)

[My Classmates](#)

[My Progress](#)

[Subject Overview](#)

[Downloadable Materials](#)

[Assignments](#)

[Announcements](#)

[Class Calendar](#)

[Quiz](#)

Test Title: OS Quiz 1

Description: Attend this quiz to get 1 mark

Time Remaining:
11 minutes and 20 seconds

#	QUESTION
1	What is OS

☐ A) Interface between the hardware and application programs

☐ B) Collection of programs that manages hardware resources

☐ C) System service provider to the application programs

☐ D) All of the Above


[NEXT QUESTION](#)

[Submit Answer](#)

Figure 23: Attend Quiz

Welcome to: Online Learning Management System Deepika R

IV Sem / 21CS42 / College Year: 2023-2024 / Practice Quiz



[Back](#)

[My Classmates](#)

[My Progress](#)

[Subject Overview](#)

[Downloadable Materials](#)

[Assignments](#)

[Announcements](#)

[Class Calendar](#)

[Quiz](#)


QUIZ TITLE	DESCRIPTION	QUIZ TIME (IN MINUTES)	
OS Quiz 1	Attend this quiz to get 1 mark	12	Already Taken Score 1 out of 1

© 2024 B S Shreesha and Sudhanva N Kishore

Figure 24: Get Results

Welcome to: Online Learning Management System Deepika R

IV Sem / 21CS42 / College Year: 2023-2024 / Progress



Assignment Grade Progress

DATE UPLOAD	ASSIGNMENT	GRADE
2024-03-14 19:24:00	Operating Systems Assignment1	2020

Practice Quiz Progress

QUIZ TITLE	DESCRIPTION	QUIZ TIME (IN MINUTES)	Score
OS Quiz 1	Attend this quiz to get 1 mark	12	Already Taken Score 1 out of 1

- Back
- My Classmates
- My Progress
- Subject Overview
- Downloadable Materials
- Assignments
- Announcements
- Class Calendar
- Quiz

© 2024 B S Shreesha and Sudhanva N Kishore

Figure 25: View Progress

SIGNUP

Pragati Institute for Science
e - Learning

PRAGATI EXCELS:
Excellence, Competence and Educational
Leadership in Science and Technology

Sign up as Student

ID Number

Firstname

Lastname

Class

Password

Re-type Password

☒ Sign in

[Click here to Login](#)

[Home](#) [About](#) [Calendar of Events](#) [Directories](#) [Campuses](#) [History](#) [Developers](#)

Figure 26: Student Signup

Pragati Institute for Science
e - Learning

PRAGATI EXCELS:
Excellence, Competence and Educational
Leadership in Science and Technology

Sign up as Teacher

Firstname

Lastname

Department

Username

Password

Re-type Password

☒ Sign in

[Click here to Login](#)

[Home](#) [About](#) [Calendar of Events](#) [Directories](#) [Campuses](#) [History](#) [Developers](#)

Figure 27: Faculty Signup

CODE SNIPPETS

```

_message_student_student.php
Click here to ask Blackbox to help you code faster |
<div class="span3" id="">
  <div class="row-fluid">
    <!-- block -->
    <div class="block">
      <div class="navbar navbar-inner block-header">
        <div id="" class="muted pull-left"><h4><i class="icon-pencil"></i> Create Message</h4></div>
      </div>
      <div class="block-content collapse in">
        <div class="span12">
          <ul class="nav nav-tabs">
            <li>
              <a href="student_message.php">For Teacher</a>
            </li>
            <li class="active"><a href="student_message_student.php">For Student</a></li>
          </ul>

          <form method="post" id="send_message_student">
            <div class="control-group">
              <label>To:</label>
              <div class="controls">
                <select name="student_id" class="chzn-select required">
                  <option></option>
                <?php
                  $query = mysqli_query($conn,"select * from student order by firstname ASC");
                  while($row = mysqli_fetch_array($query)){
                    ?>
                    <option value="<?php echo $row['student_id']; ?>"><?php echo $row['firstname']; ?> <
                </select>
              </div>
            </div>
          </form>
        </div>
      </div>
    </div>
  </div>

```

Figure 28: Code Snippet 1

```

<script>
$(function() {
  // Easy pie charts
  var calendar = $('#calendar').fullCalendar({
    header: {
      left: 'prev,next',
      center: 'title',
      right: 'month,basicWeek,basicDay'
    },
    droppable: true, // this allows things to be dropped onto the calendar !!!
    drop: function(date, allDay) { // this function is called when something is dropped

      // retrieve the dropped element's stored Event Object
      var originalEventObject = $(this).data('eventObject');

      // we need to copy it, so that multiple events don't have a reference to the same object
      var copiedEventObject = $.extend({}, originalEventObject);

      // assign it the date that was reported
      copiedEventObject.start = date;
      copiedEventObject.allDay = allDay;

      // render the event on the calendar
      // the last 'true' argument determines if the event "sticks" (http://arshaw.com/fullcalendar/docs/event-
      $('#calendar').fullCalendar('renderEvent', copiedEventObject, true);

      // is the "remove after drop" checkbox checked?
      if ($('#drop-remove').is(':checked')) {
        // if so, remove the element from the "Draggable Events" list
        $(this).remove();
      }
    }
  });
}

```

Figure 29: Code Snippet 2

CHAPTER 5
CONCLUSION AND REFERENCES

CHAPTER 5

CONCLUSION

5.1 CONCLUSION

In conclusion, the e-learning management system (e-LMS) project represents a cohesive integration of frontend and backend technologies to create a dynamic and user-centric educational platform. Through the utilization of PHP, MySQL, HTML, CSS, JavaScript, Bootstrap, jQuery, and jGrowl, we have developed a system that empowers administrators, teachers, and students to engage in collaborative learning experiences. The frontend technologies ensure a seamless and intuitive user interface, while the backend technologies facilitate efficient data management and processing. Together, these components form a robust e-LMS solution that enhances accessibility, fosters engagement, and redefines the educational experience for learners in the digital age.

5.2 REFERENCES

EXTERNAL LINKS

https://www.w3schools.com/php/php_mysql_connect.asp

<https://www.youtube.com/watch?v=tHKsZdS8Oug>

<https://www.youtube.com/watch?v=Kt7R3eqL3cQ>