E-LEARNING PORTAL

Project report submitted in the partial fulfilment of the requirement for the award of the degree of B.Tech in
Computer Science and Engineering

BY

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CERTIFICATE

This is to certify that the project report entitled E-LEARNING PORTAL being submitted by

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In partial fulfilment for the award of the Degree of Bachelor of Technology in Computer Science and Engineering to Graphic Era Deemed to be University is a record of bonafide work carried out under my guidance and supervision.

The results embodied in this project report have not been submitted to any other University or Institute for the award of any Degree or Diploma.

Guide Name- Mr Sanjeev Kukreti

Designation- Assistant Professor　　　　Head of the Department

ACKNOWLEDGEMENT

It is my proud privilege to express my gratitude to the entire management of **Graphic Era Deemed to be University** and the faculties of the institute to provide me with the opportunity to avail the excellent facilities and infrastructure. The acknowledgement and values inculcated have proved to be of immense help at a very start of my career.

I would like to express my sincere thanks to my project guide Mr Sanjeev Kukreti from Graphic Era Deemed to be University whose help, stimulating suggestions and encouragement helped me in completing this project timely and in writing this report.

ABSTRACT

E-Learning fulfils the thirst of knowledge and offers online content that can be delivered for the learner at anywhere, anytime and any age through a wide range of E- learning solution while compared with traditional learning system. It also provides the rapid access to specific knowledge and information. With the rapid growth of voluminous information sources and the time constraint the learning methodology has changed. Learners obtain knowledge through E-learning management systems rather than manually teaching and learning.

The subsequent chapters includes all the information one would need to understand this piece of work.

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CHAPTER 1

1. Introduction

1.1 Project Overview

This project aimed at developing an E-learning portal to deliver online education and empower innovative learning by making it effective and efficient.

This project is useful for the various institutions looking to facilitate online teaching as a mode of education.

1.2 Project Purpose

During the pandemic world is facing different challenges in different fields. One of the most affected field is education, various institutions i.e., schools and colleges are facing difficulty in imparting quality education due to lockdowns and other restrictions.

To overcome above challenges in education we decided to create our own E-learning portal to facilitate smooth teaching-learning process widely and efficiently.

1.3 Scope

This project is based on educational institute system where this portal gives maximum services that is used by system admin, teachers and students. This project reflects the cost effectiveness that technology can bring in educational system as well as improving and increasing the reach and range of students living in pandemic hit and far flung areas. This project also gives insights to teachers about adapting to changes in way of teaching.

CHAPTER 2

2. Review of Literature

Due to the rapid growth of internet technology and impact of pandemic all across the globe, universities around the world are investing heavily in e-learning systems to support their traditional teaching and to improve their students' learning experience and performance. However, the success of an E-learning system depends on the understanding of certain antecedent factors that influence the students' acceptance and usage of such E-learning systems.

2.1 SQL Background

SQL often referred to as Structured Query Language, is a database computer language designed for managing data in relational database management systems. The scope of SQL includes query, data insert, delete, update, schema creation and modification, and data access control.

The SQL language is sub-divided into several language elements, including

- Clauses- They are components of statements and queries.
- Expressions- They can produce either scalar values or tables consisting of columns and rows of data.
- Predicates- They are used to limit the effects of statements and queries, or to change program flow.
- Queries- They retrieve the data based on specific criteria. This is the most important element of SQL.
- Statements- They may have a persistent effect on schemas and data, or which may control transactions or program flow.

For this project we focus on creating tables for different roles i.e., Admin, Teacher, Student similarly we created tables for courses, discussion, attendance, etc.

The most common operation in SQL is the query which is performed with the declarative SELECT statement. SELECT retrieves data from one or more tables. Standard SELECT statements have no persistent effects on the database. Some nonstandard implementations of SELECT can have persistent effects, such as the SELECT INTO syntax that exists in some databases. Query allows the user to describe desired data, leaving the database management system responsible for planning, optimizing and performing the physical operations necessary to produce that result. A query includes a list of columns to be included in the result following the SELECT keyword. An asterisk can also be used to specify that the query should return all columns of the table. The optional keywords and clauses for SELECT statement in SQL include-

- The FROM clause which indicates the table from which data is to be retrieved.

- The WHERE clause includes comparison predicate, which restricts the rows returned by the query.

- The GROUP BY clause is used to project rows having common values into a smaller set of rows.

- The HAVING clause includes a predicate used to filter rows resulting from the GROUP BY clause.

- The ORDER BY clause identifies which columns are used to sort the resulting data, and in which direction they should be stored. Without ORDER BY clause, the order of rows returned by an SQL is undefined.

2.2 Oracle

The Oracle Database is an object-relational database management system (ORDBMS). The Oracle RDBMS stores data logically in the form of table-spaces and segments, such as Data Segments, Index Segments, etc. Segments, in turn, comprise one or more extents. Extents are comprised of groups of contiguous data blocks.

Data blocks create the basic units of data storage. Oracle database management tracks its computer storage with the help of information stored in the SYSTEM table-space. The SYSTEM table-space contains the data dictionary and often indexes and clusters. A data dictionary consists of a special collection of tables that contains information about all user-objects in the database.

Each Oracle instance uses a system Global Area or SGA – a shared memory area – to store its data and control information. Oracle instance allocates itself an SGA when it starts and de-allocated it at shut-down time. The information in the SGA consists of the following elements, each of which has a fixed size, established at instance start-up

I. The redo log buffer- It stores redo entries—a log of changes made to the database. The instance writes redo log buffers to the redo log as quickly and efficiently as possible. The redo log aids in instance recovery in the event of a system failure.

II. The shared pool- This area of the SGA stores shared-memory structures such as shared SQL areas in the library cache and internal information in the data dictionary. An insufficient amount of memory allocated to the shared pool can cause performance degradation.

2.3 System Design

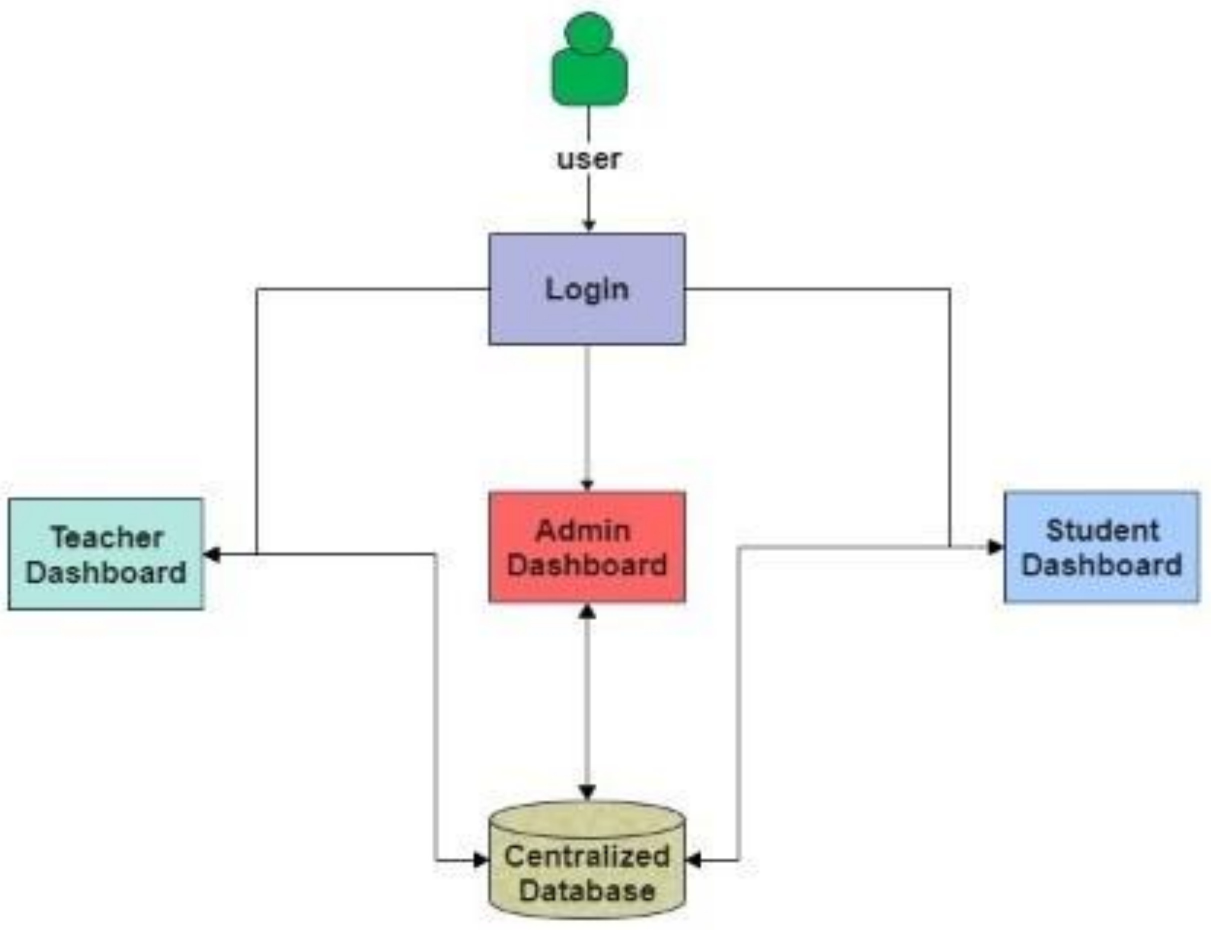


Figure 2.1 System Design

CHAPTER 3

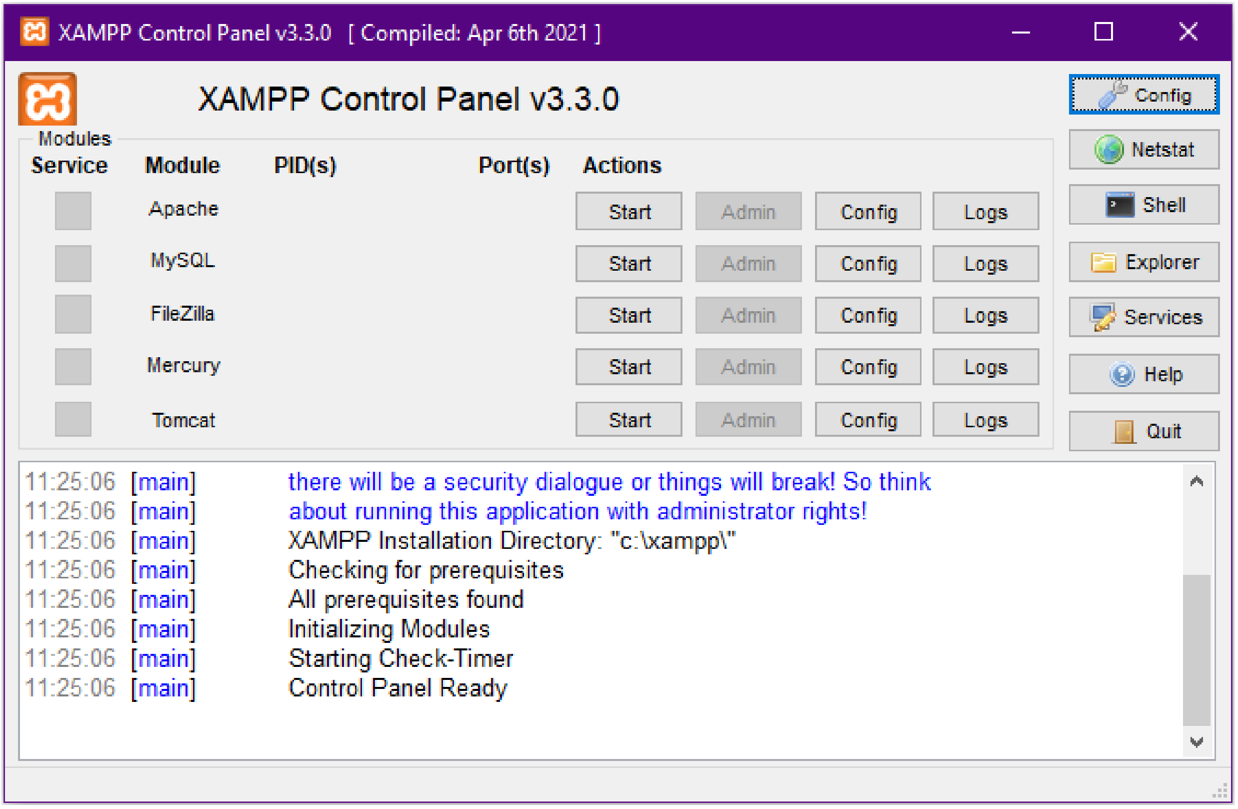
3. Software Requirement

3.1 Software Requirement XAMPP Server

XAMPP is an open source software developed by Apache friends. XAMPP software package contains Apache distributions for Apache server, Maria DB, PHP, and PERL.
And it is basically a local host or a local server. This local server works on your own desktop or laptop computer.

The use of XAMPP is to test the clients or your website before uploading it to the remote web server. This XAMPP server software gives you the suitable environment for testing MYSQL, PHP, Apache and Perl projects on the local computer.
The full form of XAMPP is X stands for Cross-platform, (A) Apache server, (M) MariaDB, (P) PHP and (P) Perl. The Cross-platform usually means that it can run on any computer with any operating system.

Next MariaDB is the most famous database server and it is developed by MYSQL team. PHP usually provides a space for web development. PHP is a server-side scripting language. And the last Perl is a programming language and is used to develop a web application. The XAMPP installation process is very simple and fast. Once XAMPP is installed on your local computer it acts as a local server or localhost. You can test the websites before uploading it to the remote web server. This XAMPP server software gives you a suitable environment for testing MYSQL, PHP, Apache and Perl applications on a local computer.



```
11:25:06  [main]         there will be a security dialogue or things will break! So think
11:25:06  [main]         about running this application with administrator rights!
11:25:06  [main]         XAMPP Installation Directory: "c:\xampp\"
11:25:06  [main]         Checking for prerequisites
11:25:06  [main]         All prerequisites found
11:25:06  [main]         Initializing Modules
11:25:06  [main]         Starting Check-Timer
11:25:06  [main]         Control Panel Ready
```

Figure 3.1 XAMPP Server home screen

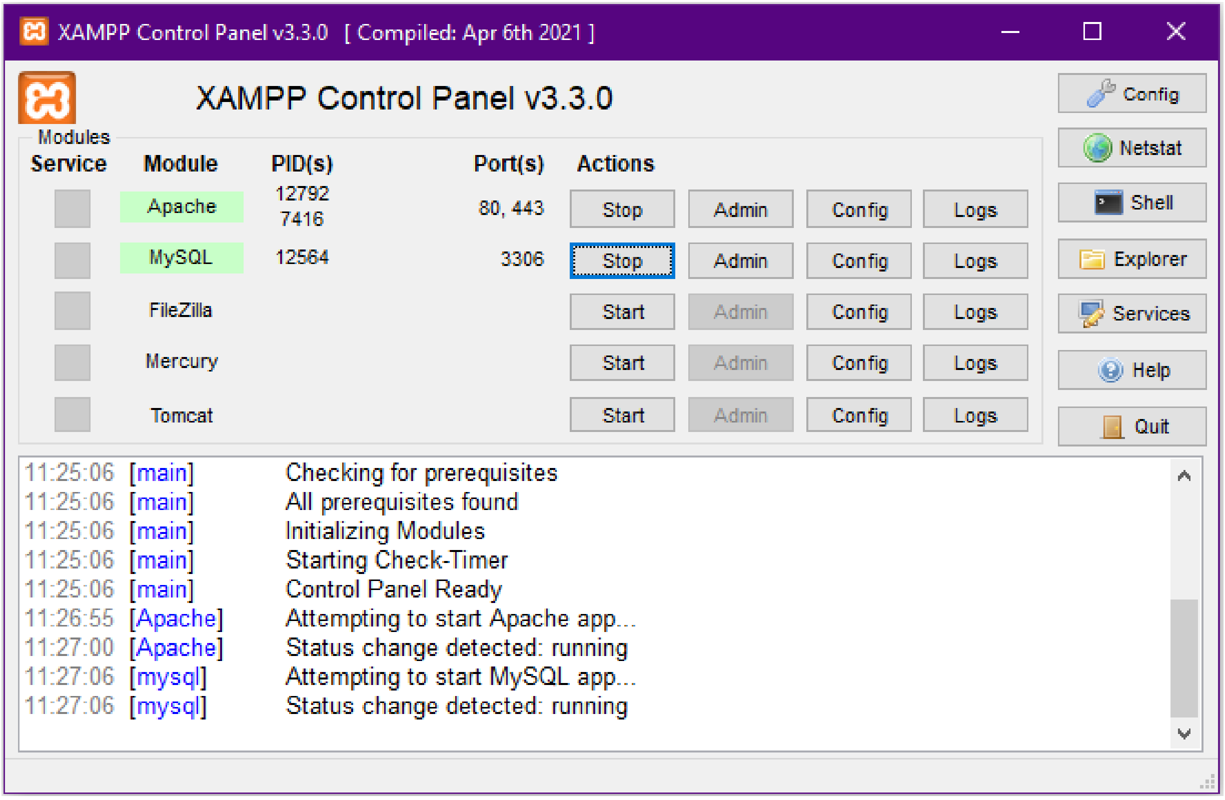
3.3 Software Components of XAMPP

- **Apache-** server is an open source free software which is initially developed by a group of software developers and now it is maintained by Apache software foundation. Apache HTTP is a remote server (computer) if someone request files, images or documents using their browser they will serve those files to clients using HTTP servers. Mainly hosting companies use this application to create a VPS server and shared hosting for their clients.

- **MYSQL-** is an open source software. It is actually a relational database management system (RDBMS). This SQL stands for Structured Query Language. It is the most popular and best RDBMS used for developing a variety of web-based software applications. With the help of MYSQL, it is possible to organize the information, manage, retrieve and update the data whenever you wish to do.

- **PHP-** The full form of PHP is Hypertext Pre-processor. It is a server-side scripting language that helps you to create dynamic websites. This language is mainly used to build web-based software applications. It is an open source software and works fine with MYSQL. What actually happens is, the PHP code will be executed on the server and at the browser side its HTML code will be displayed.

- **Perl-** is usually said to be the general purpose programming language. This Perl language is Interpreted and highly dynamic. Actually, this language is used for web development, GUI development, system administration, etc. Perl is capable of working with HTML, XML and other mark-up languages.


XAMPP Control Panel v3.3.0 [Compiled: Apr 6th 2021]
XAMPP Control Panel v3.3.0
Modules
Config
Netstat
Shell
Explorer
Services
Help
Quit

Service	Module	PID(s)	Port(s)	Actions			
	Apache	12792 7416	80, 443	Stop	Admin	Config	Logs
	MySQL	12564	3306	Stop	Admin	Config	Logs
	FileZilla			Start	Admin	Config	Logs
	Mercury			Start	Admin	Config	Logs
	Tomcat			Start	Admin	Config	Logs

```
11:25:06  [main]      Checking for prerequisites
11:25:06  [main]      All prerequisites found
11:25:06  [main]      Initializing Modules
11:25:06  [main]      Starting Check-Timer
11:25:06  [main]      Control Panel Ready
11:26:55  [Apache]    Attempting to start Apache app...
11:27:00  [Apache]    Status change detected: running
11:27:06  [mysql]     Attempting to start MySQL app...
11:27:06  [mysql]     Status change detected: running
```

Figure 3.2 XAMPP Server start panel

CHAPTER 4

4 Software Design

4.1 Overview of various roles

Super Admin	Admin	Teacher	Student
Manage Admin	Manage Teacher	Manage Course Material	Access Course Material
Manage Teacher	Manage Student	Manage zoom classes	Access zoom classes
Manage Student	Manage Department	Monitor course attendance	Monitor Course Progress
Manage Department	Manage Courses	Manage Assignments	Submit Assignment
Manage Courses	Monitor Attendance	Course Discussion	Course Discussion
Monitor Attendance			

Table 4.1 Roles and Users in E-Learning Portal

Admin’s detailed attributes

- Manage Teacher- Admin has authority to add new teachers, update, delete and view existing teachers.
- Manage Student- Admin has authority to add new student, update, delete and view existing students.
- Manage department- Admin has authority to add new department, update, delete and view existing departments.
- Manage Course- Admin has authority to add new course, update, delete and view existing courses as well as assign these courses to teachers and students.

- Monitor Attendance- Admin has authority to view attendance of students enrolled in respective courses.

Super Admin's detailed attributes

- All attributes of admin.
- Manage Admin- Super admin has authority to create admin/super admin, update, delete and view existing admins and super admins.

Teacher's detailed attributes

- Manage Course Material- Teacher can add, update and delete study material to assigned courses.
- Manage zoom classes- Teacher can add, update and delete live zoom classes to assigned courses.
- Monitor course attendance- Teacher can view attendance of all the students enrolled in assigned courses.
- Manage Assignments- Teacher can add assignment with course material.

Students' detailed attribute

- Access Course Material- Student can view study material and mark attendance to respective enrolled courses.
- Access zoom classes- Student can join zoom class hosted by teacher.
- Monitor course Progress- Monitor progress of each course enrolled in.
- Submit Assignments- Can view and submit assignments for enrolled courses.

Common attributes

- Profile- All users can view and update their profile accordingly.
- Discussion- Teacher and Students can access discussion forum for each course they are assigned and enrolled in. Admins can access single common discussion forum dedicated to admin's and super admins.
- Online users- All users can view other active users.
- Password recovery and update- All users can update and recover password with the help of OTP sent to their respective E-mails.

4.2 User Registration

The institution will request for the access of the E-learning portal, respectively we will respond with the ID and Password of Super Admin for the requesting institution. Registration of other users are done by the super admin.

4.3 User Login

User will input ID and Password, after querying database if the ID and Password are correct the users are redirected to their respective dashboards depending upon their roles, else error message is displayed.

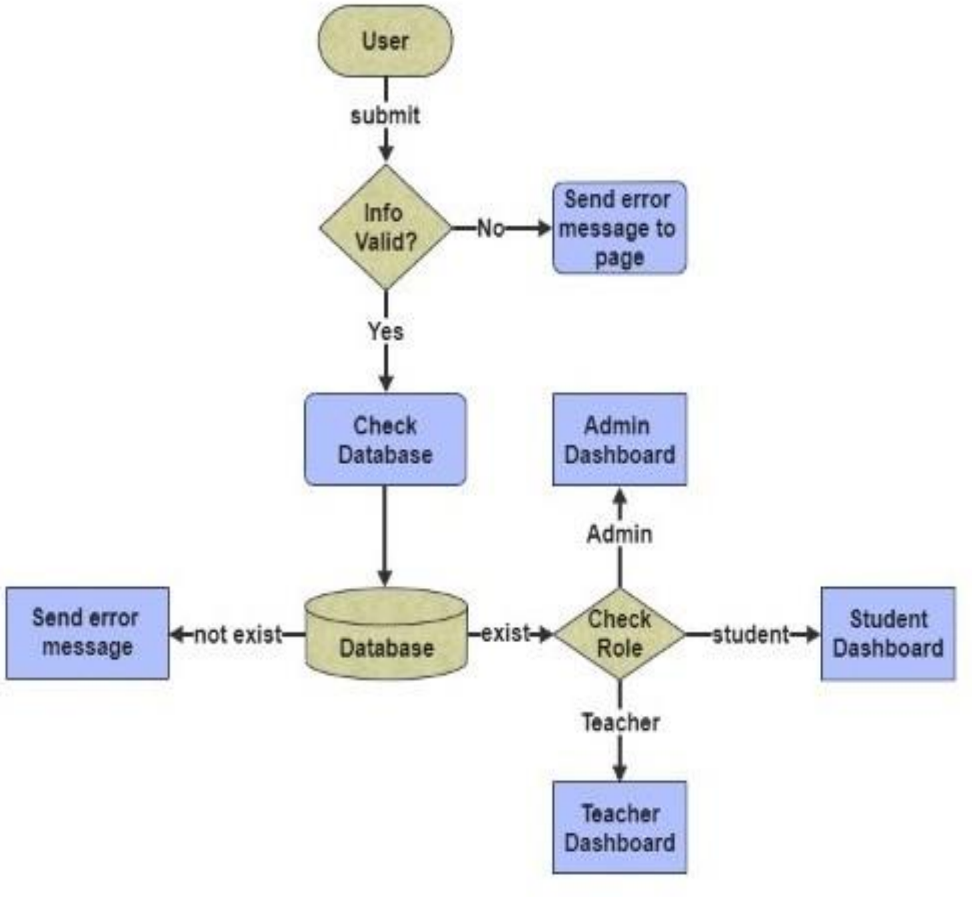


Figure 4.1 User Login Flow Diagram

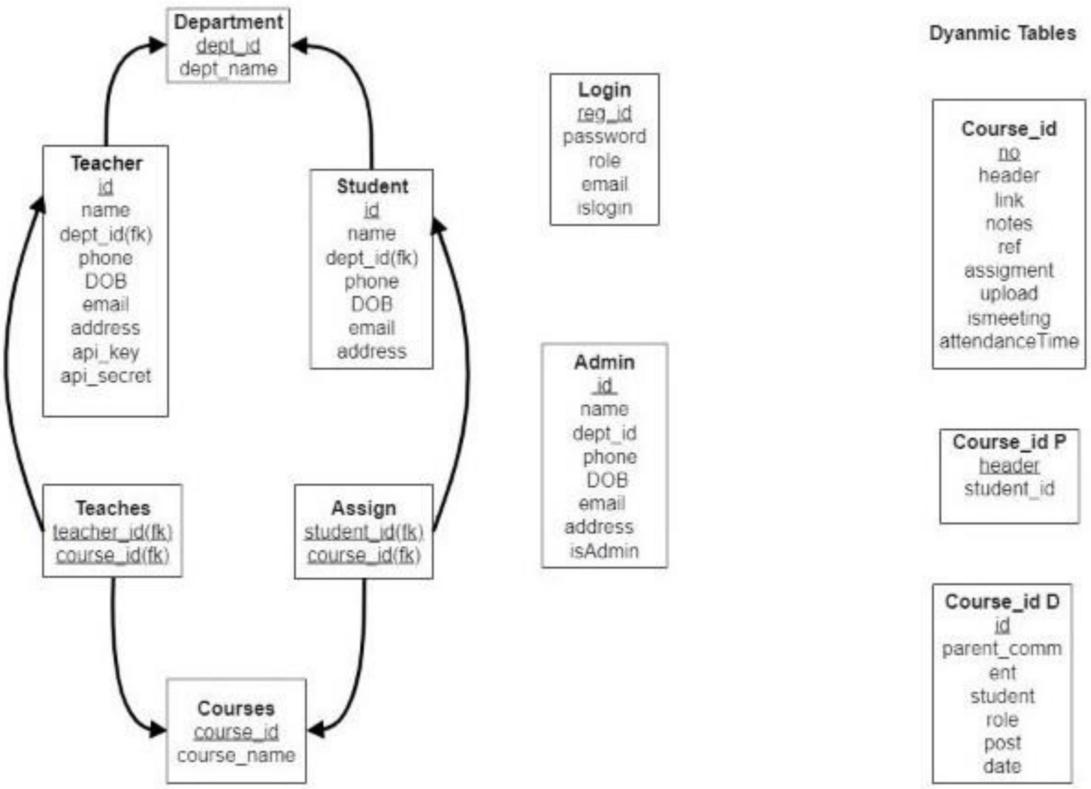


Figure 4.2 E-R Diagram

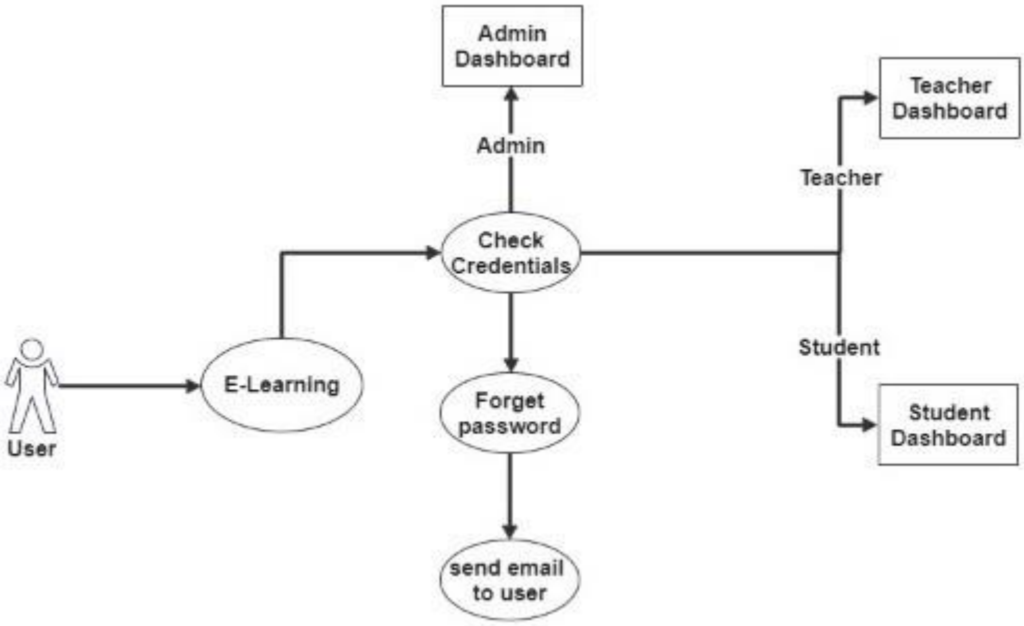


Figure 4.3 Level-0 DFD All users

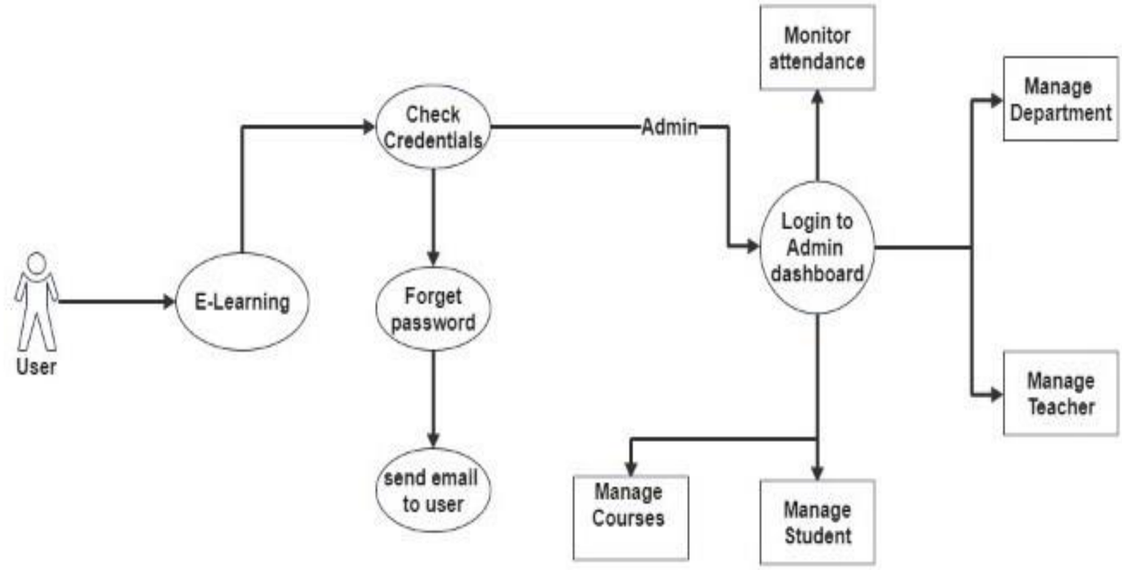


Figure 4.4 Level-1 DFD Admin

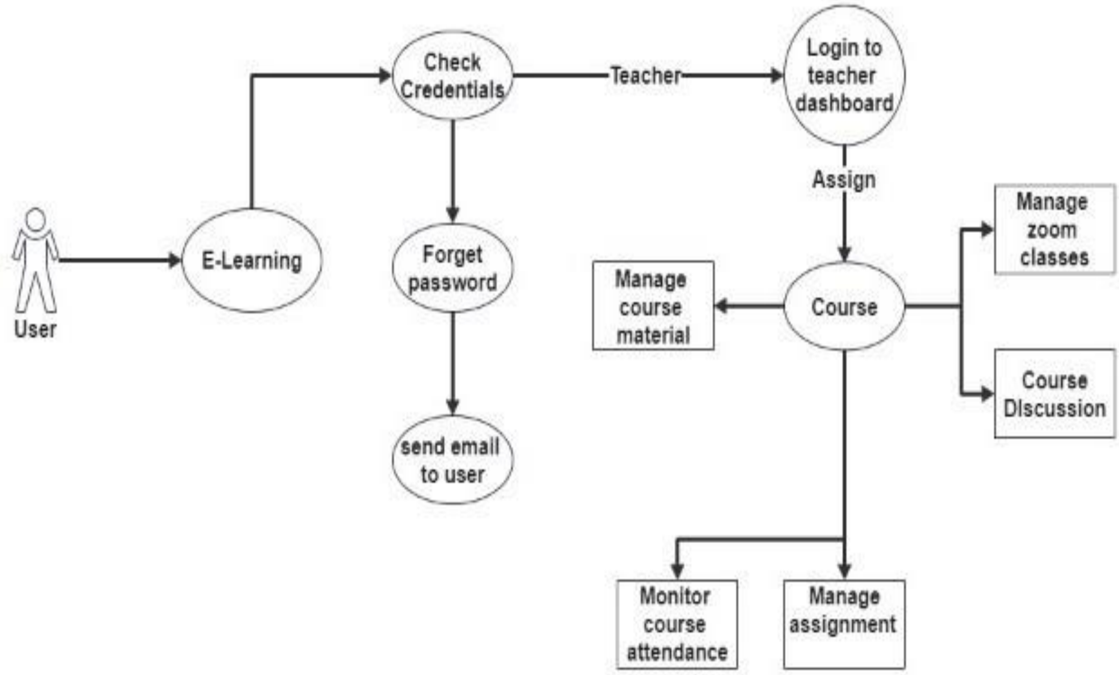


Figure 4.5 Level-1 DFD Teacher

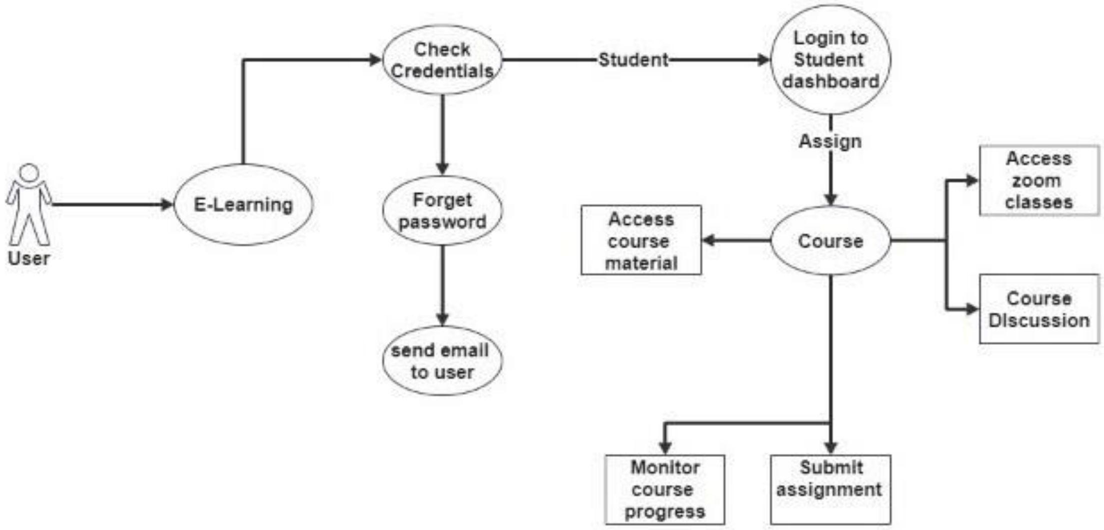


Figure 4.6 Level-1 DFD Student

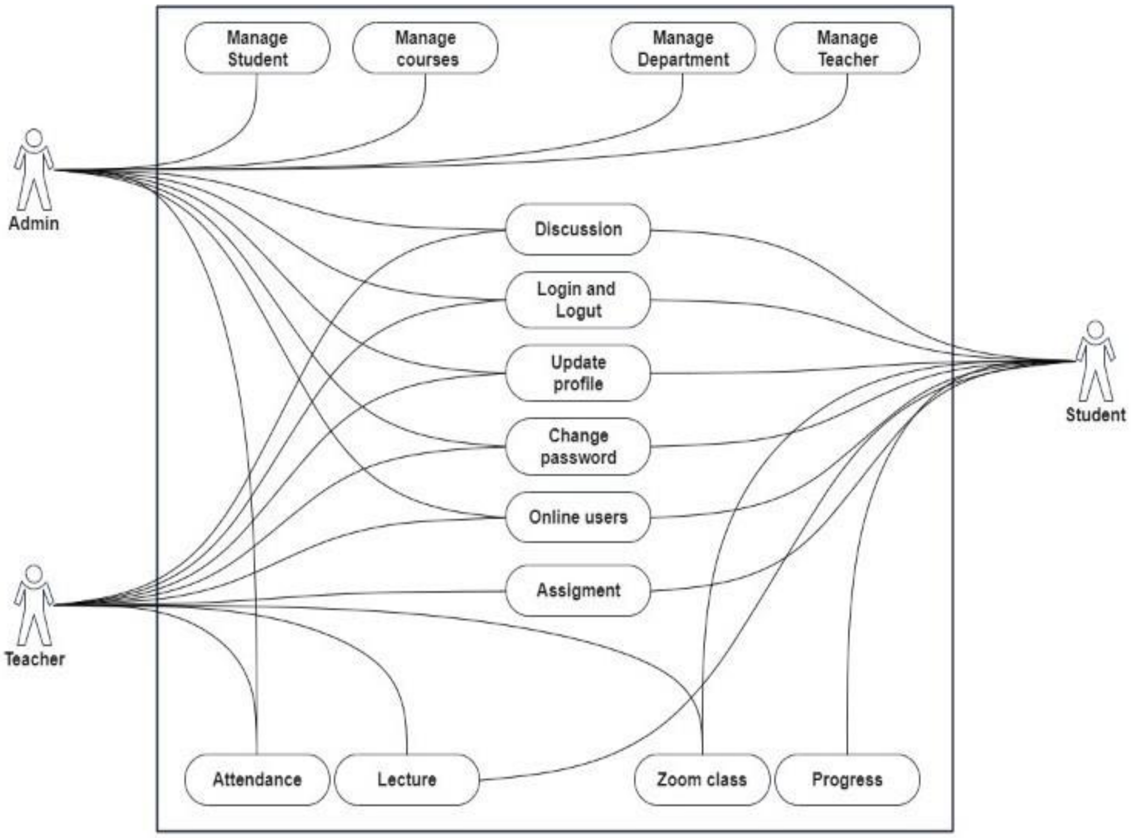


Figure 4.7 Use case Diagram

CHAPTER 5

5. Software and Hardware Requirements

5.1 Software Requirements

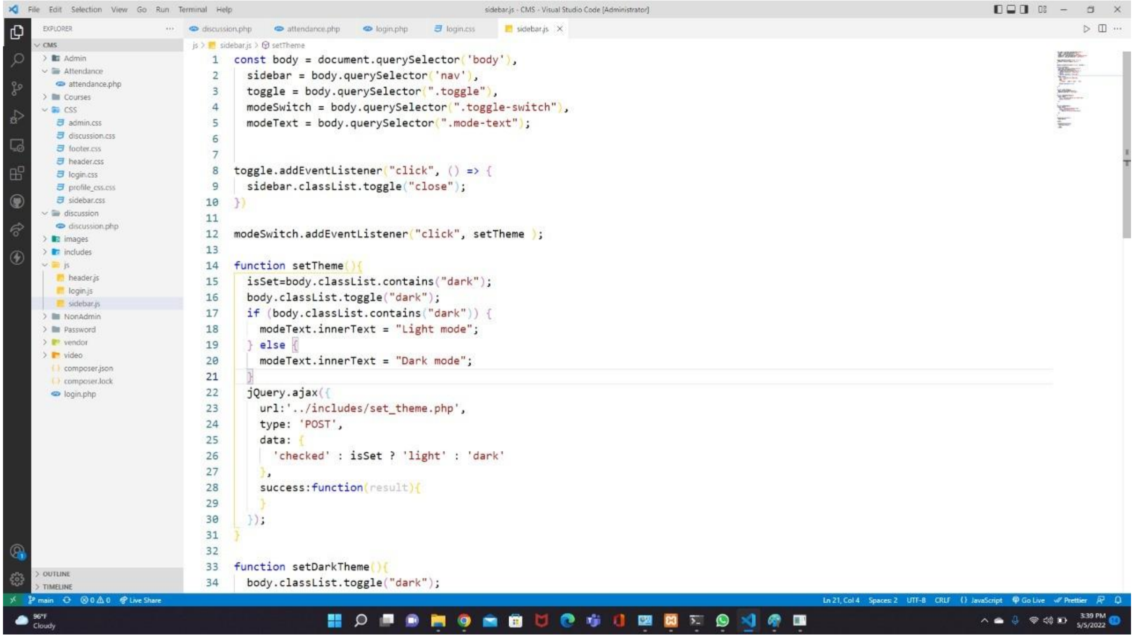
Web browser compatible with JavaScript and HTML5
MS Excel
Google Drive
Zoom API key(s)

5.2 Hardware Requirement

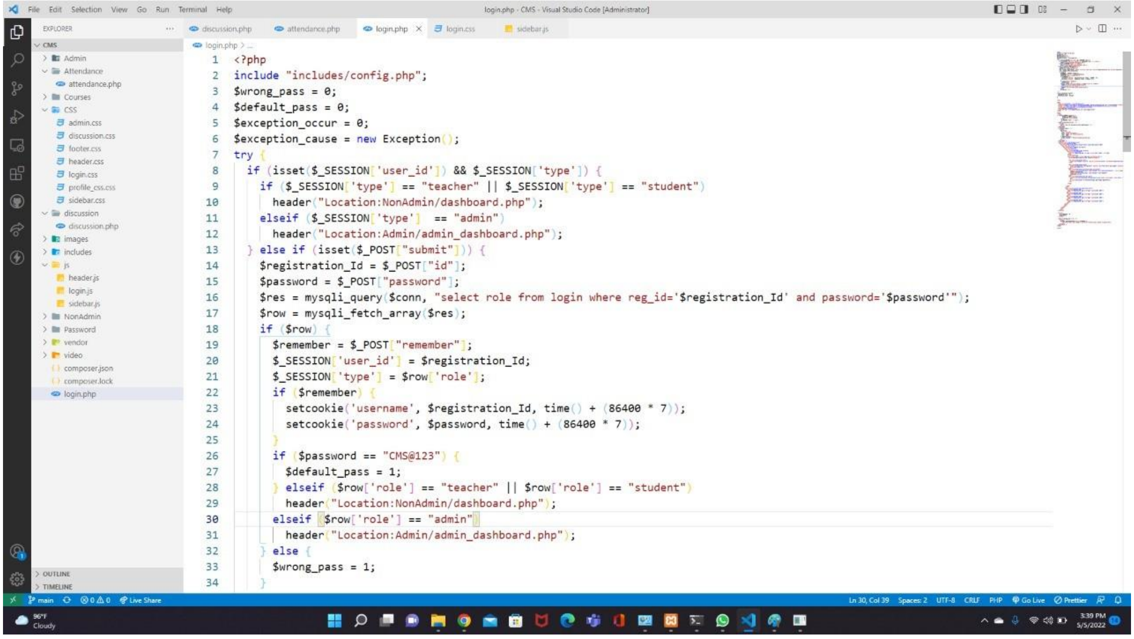
Operating System
Mobile Operating System
2GB RAM and above

CHAPTER 6

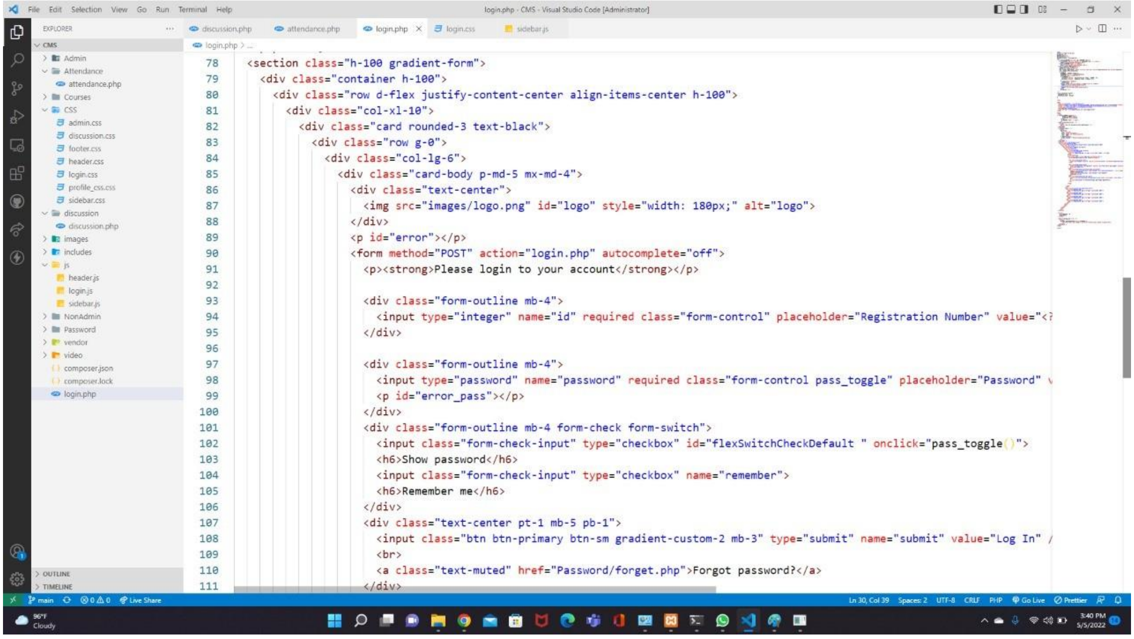
6. Coding Template


sidebar.js - CMS - Visual Studio Code [Administrator]
discussion.php
attendance.php
login.php
login.css
sidebar.js
js > sidebar.js > setTheme

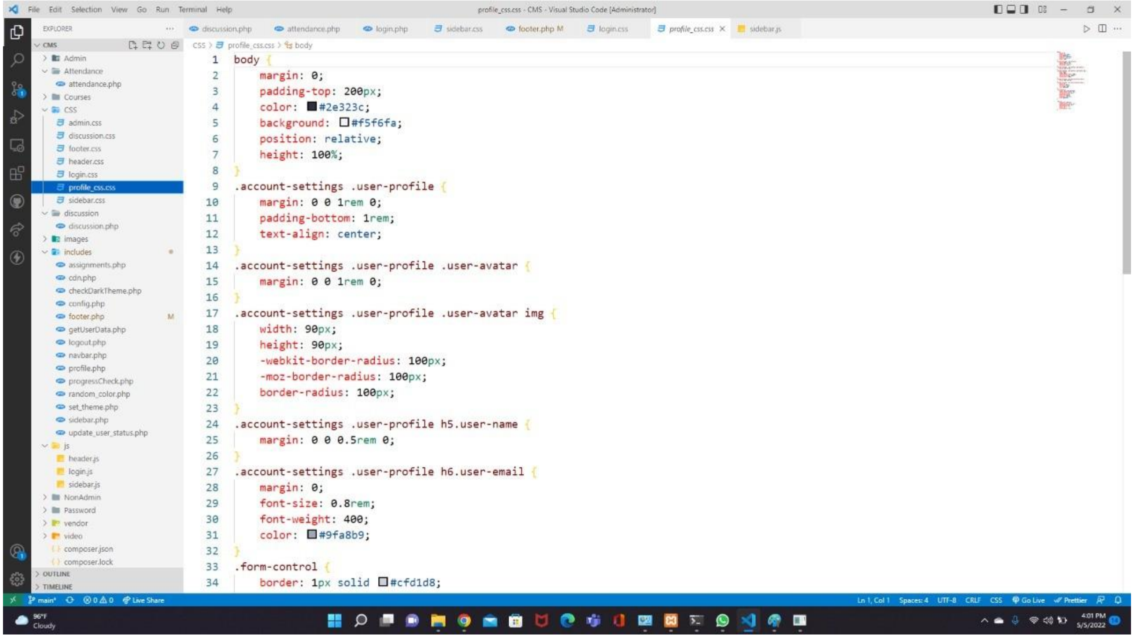
```
const body = document.querySelector('body'),
  sidebar = body.querySelector('nav'),
  toggle = body.querySelector(".toggle"),
  modeSwitch = body.querySelector(".toggle-switch"),
  modeText = body.querySelector(".mode-text");


toggle.addEventListener("click", () => {
  sidebar.classList.toggle("close");
})

modeSwitch.addEventListener("click", setTheme );

function setTheme(){
  isSet=body.classList.contains("dark");
  body.classList.toggle("dark");
  if (body.classList.contains("dark")) {
    modeText.innerText = "Light mode";
  } else {
    modeText.innerText = "Dark mode";
  }
  jQuery.ajax({
    url:'../includes/set_theme.php',
    type: 'POST',
    data: {
      'checked' : isSet ? 'light' : 'dark'
    },
    success:function(result){
    }
  });
}

function setDarkTheme(){
  body.classList.toggle("dark");
```



```
<?php
include "includes/config.php";
$wrong_pass = 0;
$default_pass = 0;
$exception_occur = 0;
$exception_cause = new Exception();
try {
  if (isset($_SESSION['user_id']) && $_SESSION['type']) {
    if ($_SESSION['type'] == "teacher" || $_SESSION['type'] == "student")
      header("Location:NonAdmin/dashboard.php");
    elseif ($_SESSION['type']  == "admin")
      header("Location:Admin/admin_dashboard.php");
  } else if (isset($_POST["submit"])) {
    $registration_Id = $_POST["id"];
    $password = $_POST["password"];
    $res = mysqli_query($conn, "select role from login where reg_id='$registration_Id' and password='$password'");
    $row = mysqli_fetch_array($res);
    if ($row) {
      $remember = $_POST["remember"];
      $_SESSION['user_id'] = $registration_Id;
      $_SESSION['type'] = $row['role'];
      if ($remember) {
        setcookie('username', $registration_Id, time() + (86400 * 7));
        setcookie('password', $password, time() + (86400 * 7));
      }
      if ($password == "CMS@123") {
        $default_pass = 1;
      } elseif ($row['role'] == "teacher" || $row['role'] == "student")
        header("Location:NonAdmin/dashboard.php");
      elseif ($row['role'] == "admin")
        header("Location:Admin/admin_dashboard.php");
    } else {
      $wrong_pass = 1;
    }
```



```
<section class="h-100 gradient-form">
  <div class="container h-100">
    <div class="row d-flex justify-content-center align-items-center h-100">
      <div class="col-xl-10">
        <div class="card rounded-3 text-black">
          <div class="row g-0">
            <div class="col-lg-6">
              <div class="card-body p-md-5 mx-md-4">
                <div class="text-center">
                  <img src="images/logo.png" id="logo" style="width: 180px;" alt="logo">
                </div>
                <p id="error"></p>
                <form method="POST" action="login.php" autocomplete="off">
                  <p><strong>Please login to your account</strong></p>

                  <div class="form-outline mb-4">
                    <input type="integer" name="id" required class="form-control" placeholder="Registration Number" value="<?
                  </div>

                  <div class="form-outline mb-4">
                    <input type="password" name="password" required class="form-control pass_toggle" placeholder="Password" v
                    <p id="error_pass"></p>
                  </div>
                  <div class="form-outline mb-4 form-check form-switch">
                    <input class="form-check-input" type="checkbox" id="flexSwitchCheckDefault " onclick="pass_toggle()">
                    <h6>Show password</h6>
                    <input class="form-check-input" type="checkbox" name="remember">
                    <h6>Remember me</h6>
                  </div>
                  <div class="text-center pt-1 mb-5 pb-1">
                    <input class="btn btn-primary btn-sm gradient-custom-2 mb-3" type="submit" name="submit" value="Log In" /
                    <br>
                    <a class="text-muted" href="Password/forget.php">Forgot password?</a>
                  </div>
```



```
body {
    margin: 0;
    padding-top: 200px;
    color: #2e323c;
    background: #f5f6fa;
    position: relative;
    height: 100%;
}
.account-settings .user-profile {
    margin: 0 0 1rem 0;
    padding-bottom: 1rem;
    text-align: center;
}
.account-settings .user-profile .user-avatar {
    margin: 0 0 1rem 0;
}
.account-settings .user-profile .user-avatar img {
    width: 90px;
    height: 90px;
    -webkit-border-radius: 100px;
    -moz-border-radius: 100px;
    border-radius: 100px;
}
.account-settings .user-profile h5.user-name {
    margin: 0 0 0.5rem 0;
}
.account-settings .user-profile h6.user-email {
    margin: 0;
    font-size: 0.8rem;
    font-weight: 400;
    color: #9fa8b9;
}
.form-control {
    border: 1px solid #cfd1d8;
```

6.1 Database and Tables

We require a centralised database initially having eight tables that i.e., admin, teacher, student, teaches, assign, courses, login, department.

It also consists of some dynamically created tables i.e., course_name, course_name_discussion and course_progress table.

We established the connection between the webpage and the database using php.

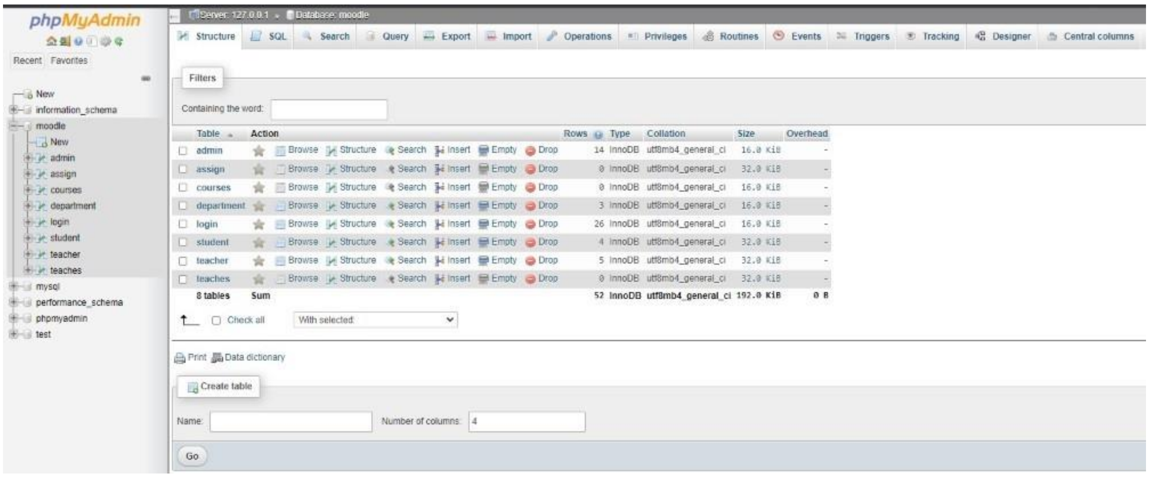


Table	Action	Rows	Type	Collation	Size	Overhead
admin	Browse Structure Search Insert Empty Drop	14	InnoDB	utf8mb4_general_ci	16.0 KiB	-
assign	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	32.0 KiB	-
courses	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
department	Browse Structure Search Insert Empty Drop	3	InnoDB	utf8mb4_general_ci	16.0 KiB	-
login	Browse Structure Search Insert Empty Drop	26	InnoDB	utf8mb4_general_ci	16.0 KiB	-
student	Browse Structure Search Insert Empty Drop	4	InnoDB	utf8mb4_general_ci	32.0 KiB	-
teacher	Browse Structure Search Insert Empty Drop	5	InnoDB	utf8mb4_general_ci	32.0 KiB	-
teaches	Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	32.0 KiB	-
8 tables	Sum	52	InnoDB	utf8mb4_general_ci	192.0 KiB	0 B

Figure 6.1 Database Structure

Query for **admin** table-

```
CREATE TABLE `admin` (
  `id` varchar(10) NOT NULL,
  `name` varchar(60) NOT NULL,
  `dept_id` varchar(20) NOT NULL,
  `phone` varchar(10) NOT NULL,
  `DOB` varchar(10) NOT NULL,
  `email` varchar(50) NOT NULL,
  `address` varchar(100) NOT NULL,
  `isAdmin` tinyint(1) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;
```

Indexes for table **`admin`**

```
ALTER TABLE  `admin`
  ADD PRIMARY KEY (`id`);
```

Query for **teacher** table-

```
CREATE TABLE `teacher` (
  `id` varchar(10) NOT NULL,
  `name` varchar(60) NOT NULL,
  `dept_id` varchar(10) DEFAULT NULL,
  `phone` varchar(10) NOT NULL,
  `DOB` varchar(10) NOT NULL,
  `email` varchar(50) NOT NULL,
  `address` varchar(100) NOT NULL,
  `api_key` varchar(300) NOT NULL,
  `api_secret` varchar(300) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;
```

Indexes for table `**teacher**`

```
ALTER TABLE `teacher`
ADD PRIMARY KEY (`id`),
  ADD KEY `dept_fk_f` (`dept_id`);
```

Constraints for table `**teacher**`

```
ALTER TABLE `teacher`
  ADD CONSTRAINT `dept_fk_f` FOREIGN KEY (`dept_id`) REFERENCES `department` (`dept_id`) ON DELETE SET NULL ON UPDATE SET NULL;
```

Query for **student** table-

```
CREATE TABLE `student` (
  `id` varchar(10) NOT NULL,
  `name` varchar(70) NOT NULL,
  `dept_id` varchar(10) DEFAULT NULL,
  `phone` varchar(10) NOT NULL,
  `DOB` varchar(10) NOT NULL,
  `email` varchar(50) NOT NULL,
  `address` varchar(100) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;
```

Indexes for table `**student**`

```
ALTER TABLE `student`
ADD PRIMARY KEY (`id`),
  ADD KEY `dept_fk` (`dept_id`);
```

Constraints for table `**student**`

```
ALTER TABLE `student`
  ADD CONSTRAINT `dept_fk` FOREIGN KEY (`dept_id`) REFERENCES
`department` (`dept_id`) ON DELETE SET NULL ON UPDATE SET NULL;
```

Query for **courses** table-

```
CREATE TABLE `courses` (
  `course_id` varchar(10) NOT NULL,
  `course_name` varchar(100) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;
```

Indexes for table `**courses**`

```
ALTER TABLE `courses`
  ADD PRIMARY KEY (`course_id`);
```

Query for **department** table-

```
CREATE TABLE `department` (
  `dept_id` varchar(10) NOT NULL,
  `dept_name` varchar(50) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;
```

Indexes for table **`department`**

```
ALTER TABLE `department`
  ADD PRIMARY KEY (`dept_id`);
```

Query for **teaches** table-

```
CREATE TABLE `teaches` (
  `course_id` varchar(10) NOT NULL,
  `teacher_id` varchar(10) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;
```

Indexes for table **`teaches`**

```
ALTER TABLE `teaches`
  ADD PRIMARY KEY (`course_id`,`teacher_id`),
  ADD KEY `teaches_faculty` (`teacher_id`);
```

Constraints for table **`teaches`**

```
ALTER TABLE `teaches`
  ADD CONSTRAINT `teaches_course` FOREIGN KEY (`course_id`) REFERENCES `courses` (`course_id`) ON DELETE CASCADE ON UPDATE CASCADE,
  ADD CONSTRAINT `teaches_faculty` FOREIGN KEY (`teacher_id`) REFERENCES `teacher` (`id`) ON DELETE CASCADE ON UPDATE CASCADE;
```

Query for **assign** table-

```
CREATE TABLE `assign` (
  `course_id` varchar(10) NOT NULL,
  `student_id` varchar(10) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;
```

Indexes for table **`assign`**

```
ALTER TABLE `assign`
  ADD PRIMARY KEY (`course_id`,`student_id`),
  ADD KEY `assign_student` (`student_id`);
```

Constraints for table **`assign`**

```
ALTER TABLE `assign`
  ADD CONSTRAINT `assign_course` FOREIGN KEY (`course_id`) REFERENCES `courses` (`course_id`) ON DELETE CASCADE ON UPDATE CASCADE,
  ADD CONSTRAINT `assign_student` FOREIGN KEY (`student_id`) REFERENCES `student` (`id`) ON DELETE CASCADE ON UPDATE CASCADE;
```

Query for **login** table-

```
CREATE TABLE `login` (
  `reg_id` varchar(10) NOT NULL,
  `password` varchar(100) NOT NULL,
  `role` varchar(10) NOT NULL,
  `email` varchar(50) NOT NULL,
  `islogin` bigint(20) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;
```

Indexes for table **`login`**

```
ALTER TABLE `login`
  ADD PRIMARY KEY (`reg_id`);
```

CHAPTER 7

7. Testing

Testing for Database is done at certain levels, testing before loading the file to ensure that correct data is being populated in the system, Testing of base and stage layer of tables where the transformation of data to information is checked .Testing is done via SQL queries to match the consistency of data.

7.1 Unit testing

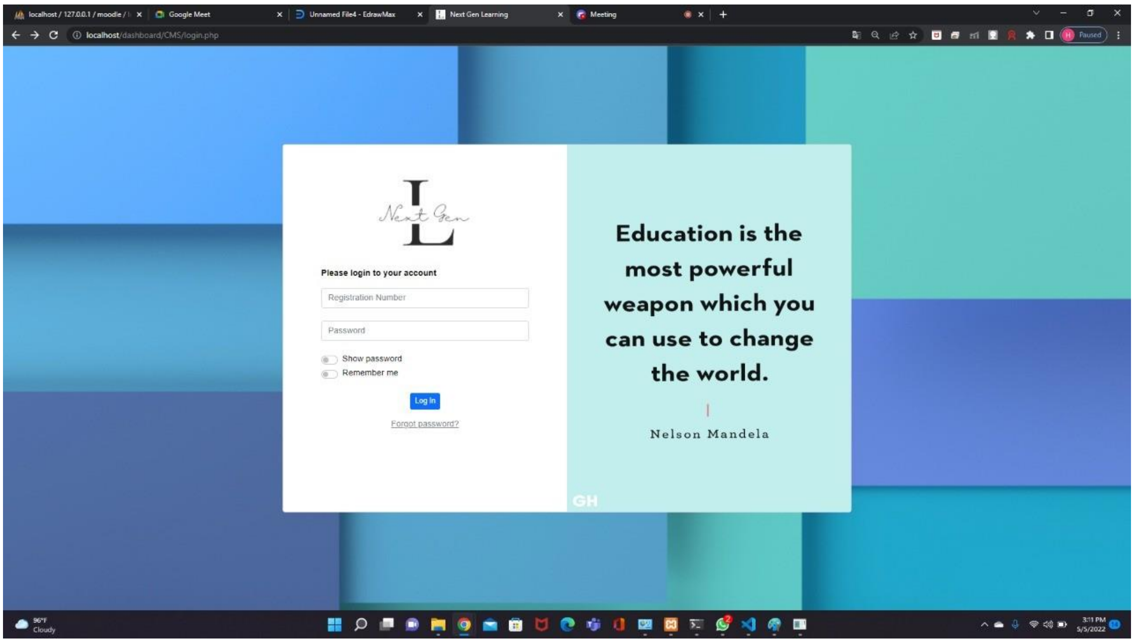
- Functionality of the entire module and forms.
- Validation for user input.
- Testing the module with all the possible test data.

7.2 System testing

- Functionality of the entire system as a whole.
- User Interface of the entire system.
- Testing the dependent modules with all the possible test data.
- Verification and Validation testing.

CHAPTER 8

8. Output Screens



Please login to your account

Registration Number

Password

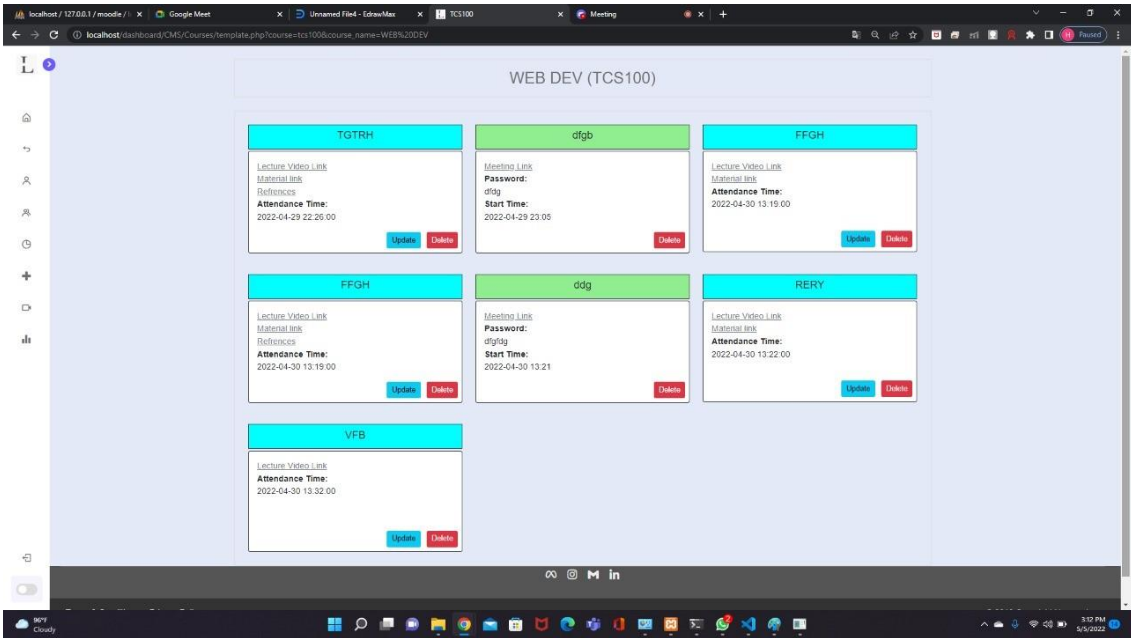
Show password

Remember me

Forgot password?

Education is the most powerful weapon which you can use to change the world.

Nelson Mandela


localhost/dashboard/CMS/Courses/template.php?course=tcs100&course_name=WEB%20DEV
TCS100
Update
Delete

WEB DEV (TCS100)

TGTRH
Lecture Video Link
Material link
Refrences
Attendance Time:
2022-04-29 22:26:00

dfgb
Meeting Link
Password:
dfdg
Start Time:
2022-04-29 23:05

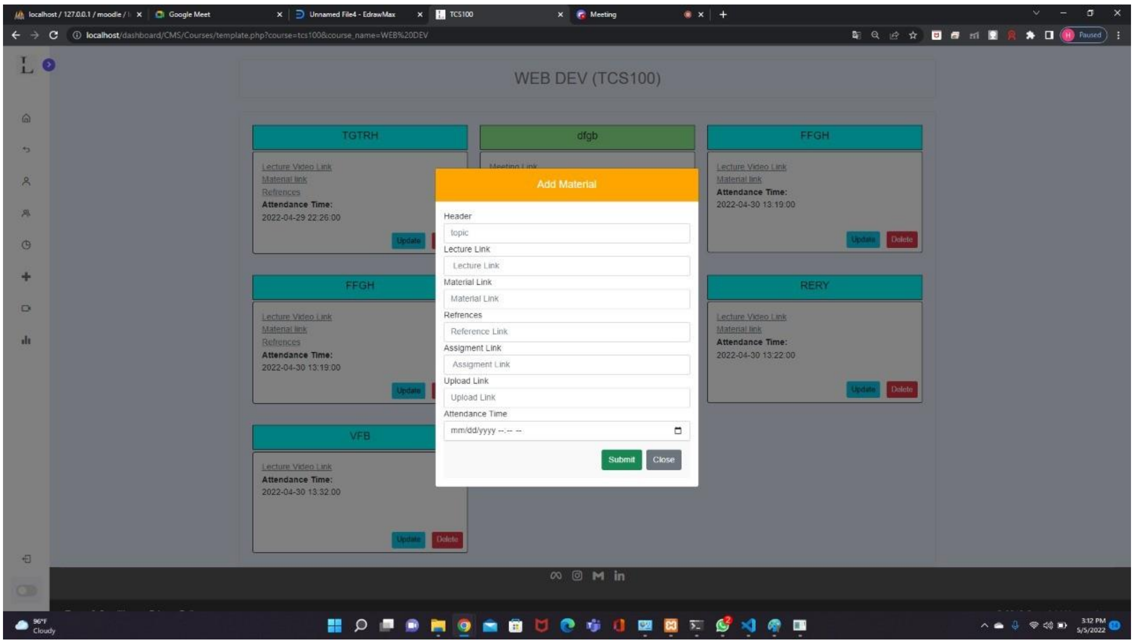
FFGH
Lecture Video Link
Material link
Attendance Time:
2022-04-30 13:19:00

FFGH
Lecture Video Link
Material link
Refrences
Attendance Time:
2022-04-30 13:19:00

ddg
Meeting Link
Password:
dfgfdg
Start Time:
2022-04-30 13:21

RERY
Lecture Video Link
Material link
Attendance Time:
2022-04-30 13:22:00

VFB
Lecture Video Link
Attendance Time:
2022-04-30 13:32:00


localhost / 127.0.0.1 / moodle /
Google Meet
Unnamed File4 - EdrawMax
TCS100
Meeting
localhost/dashboard/CMS/Courses/template.php?course=tcs100&course_name=WEB%20DEV
Paused
96°F
Cloudy
3:12 PM
5/5/2022

WEB DEV (TCS100)

TGTRH

Lecture Video Link
Material link
Refrences
Attendance Time:
2022-04-29 22:26:00

Update

dfgb

Meeting Link

FFGH

Lecture Video Link
Material link
Attendance Time:
2022-04-30 13:19:00

Update Delete

FFGH

Lecture Video Link
Material link
Refrences
Attendance Time:
2022-04-30 13:19:00

Update

RERY

Lecture Video Link
Material link
Attendance Time:
2022-04-30 13:22:00

Update Delete

VFB

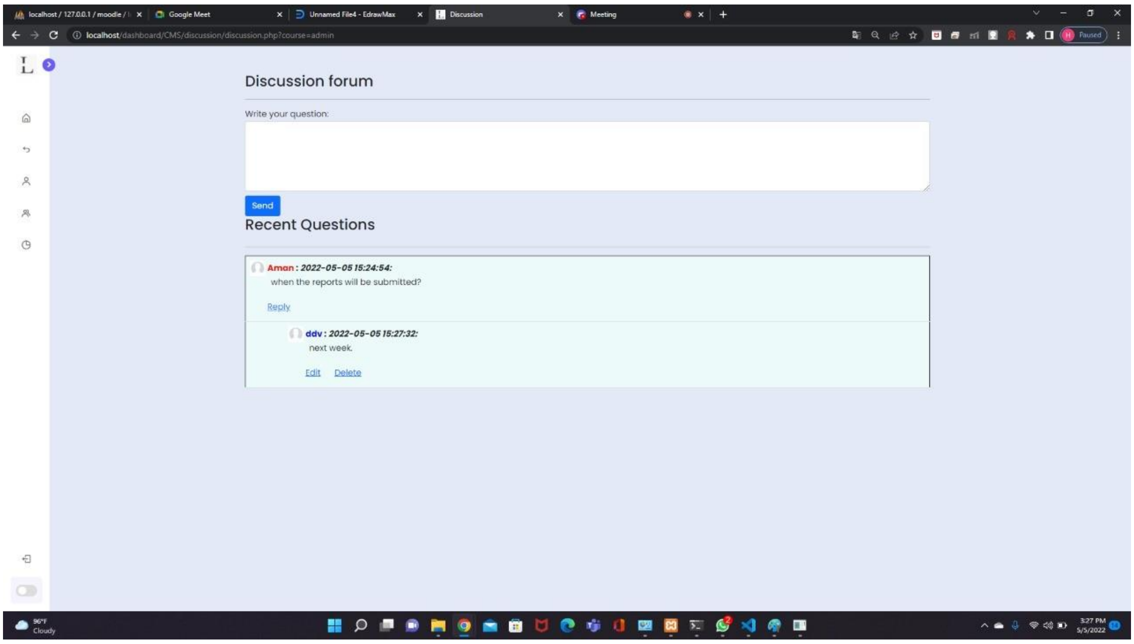
Lecture Video Link
Attendance Time:
2022-04-30 13:32:00

Update Delete

Add Material

Header
topic
Lecture Link
Lecture Link
Material Link
Material Link
Refrences
Reference Link
Assigment Link
Assigment Link
Upload Link
Upload Link
Attendance Time
mm/dd/yyyy --:-- --

Submit Close


localhost / 127.0.0.1 / moodle /
Google Meet
Unnamed File4 - EdrawMax
Discussion
Meeting
localhost/dashboard/CMS/discussion/discussion.php?course=admin
Paused
96°F
Cloudy
3:27 PM
5/5/2022

Discussion forum

Write your question:

Send

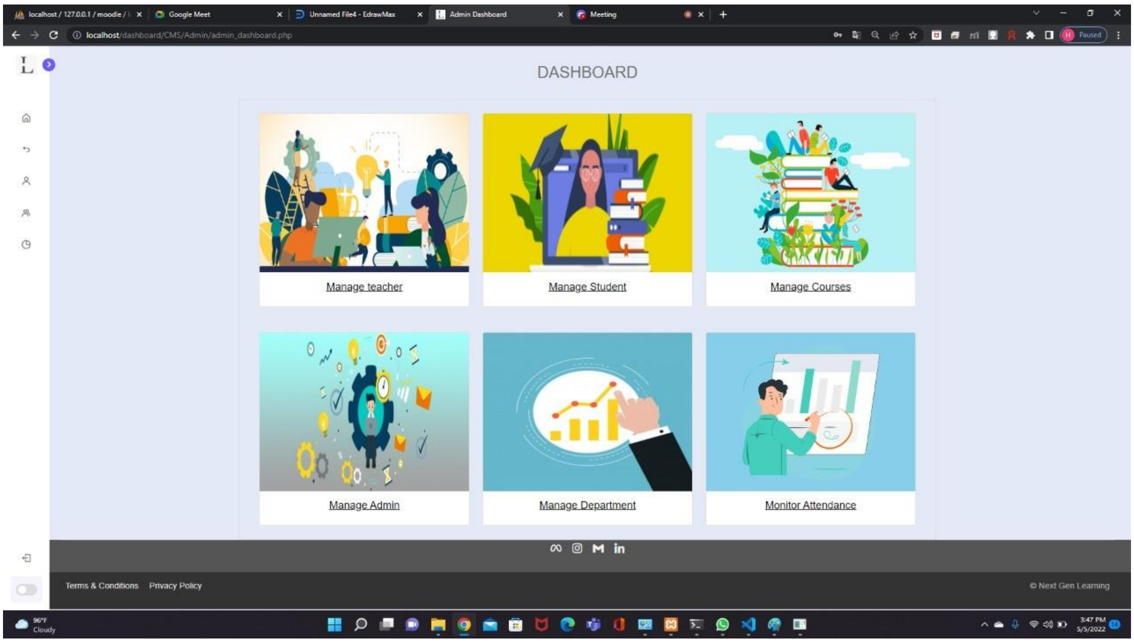
Recent Questions

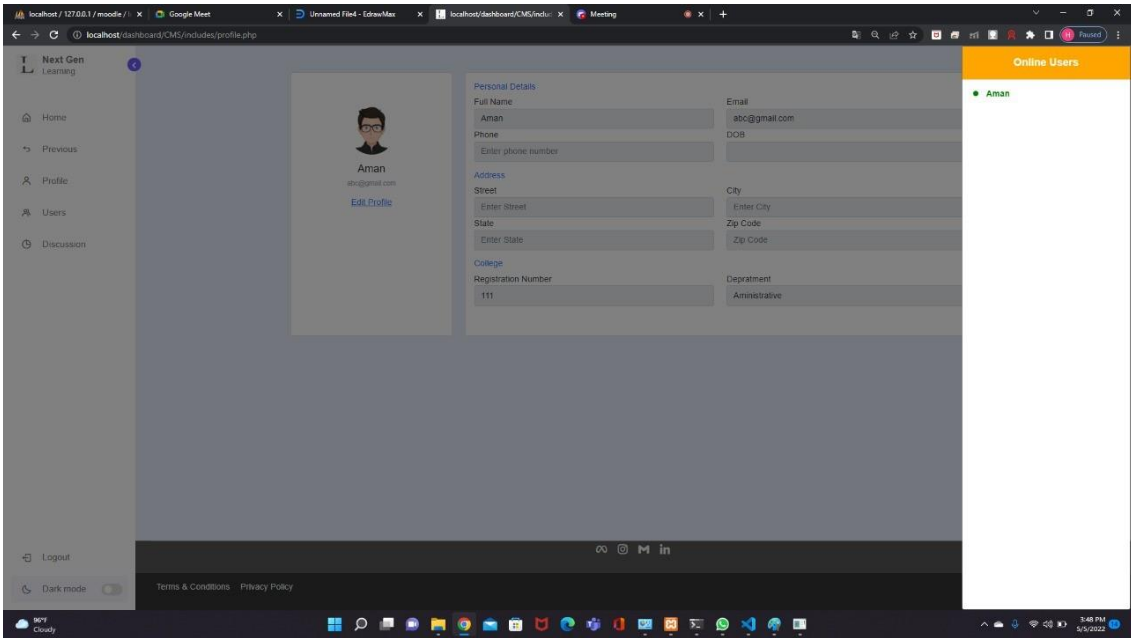
Aman : ***2022-05-05 15:24:54:***
when the reports will be submitted?

Reply

ddv : ***2022-05-05 15:27:32:***
next week.

Edit Delete





Personal Details

Full Name: Aman

Email: abc@gmail.com

Phone: Enter phone number

DOB:

Address

Street: Enter Street

City: Enter City

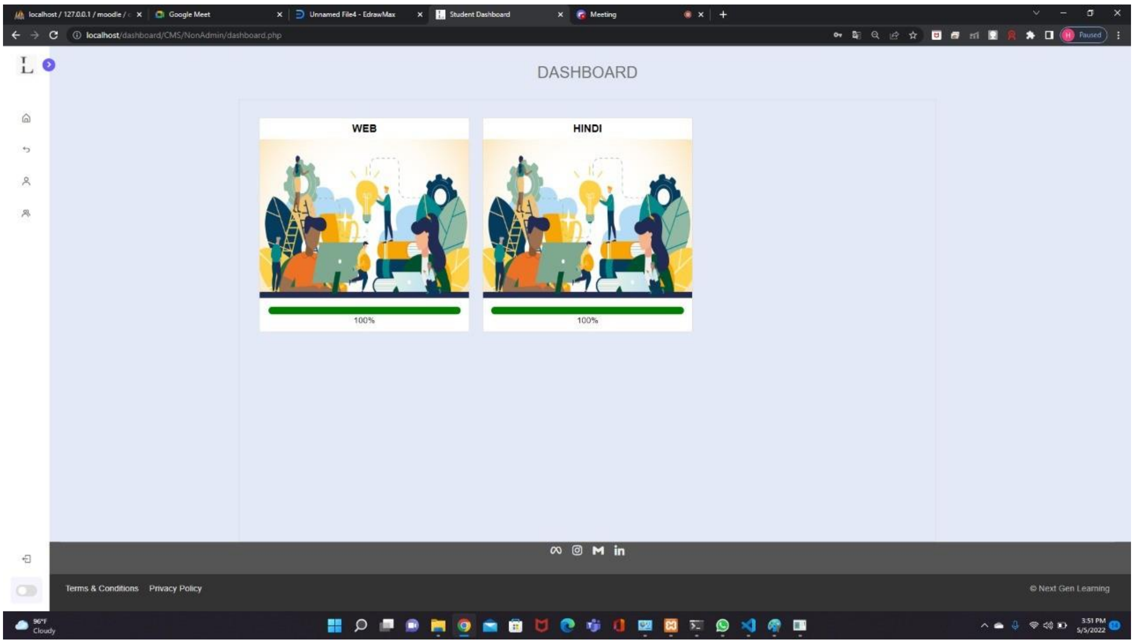
State: Enter State

Zip Code: Zip Code

College

Registration Number: 111

Depratment: Aministrative



localhost/dashboard/CMS/NonAdmin/dashboard.php

DASHBOARD

WEB

100%

HINDI

100%

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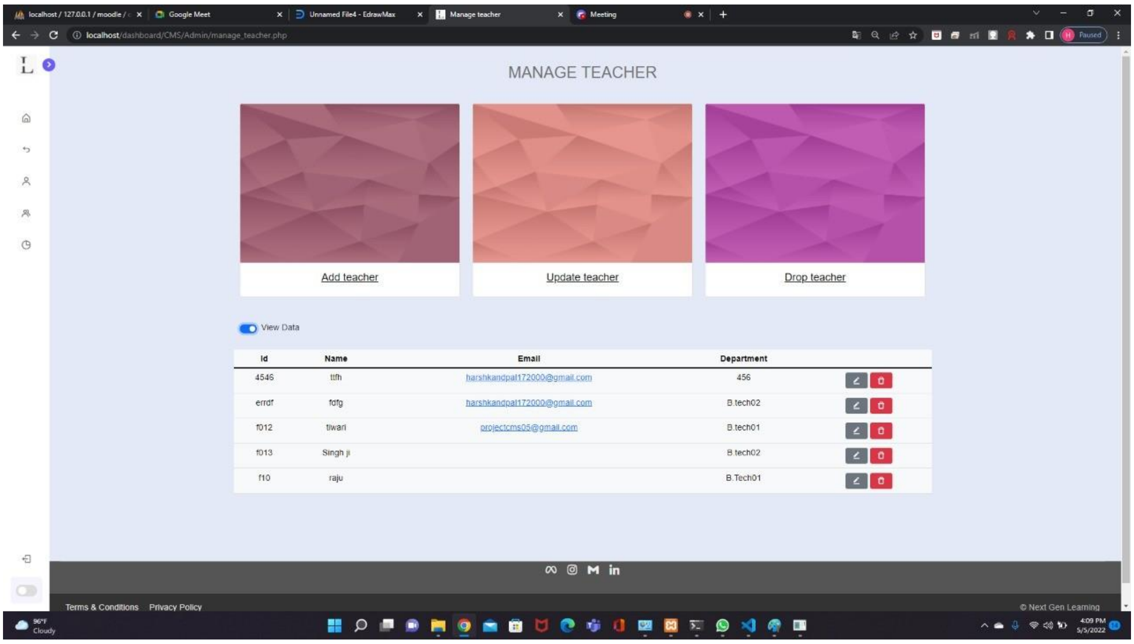
© Next Gen Learning



localhost/dashboard/CMS/Admin/manage_teacher.php

MANAGE TEACHER

Add teacher

Update teacher

Drop teacher

View Data

Id	Name	Email	Department	
4546	ttfh	harshkandpal172000@gmail.com	456	
errdf	fdfg	harshkandpal172000@gmail.com	B.tech02	
f012	tiwari	projectcms05@gmail.com	B.tech01	
f013	Singh ji		B.tech02	
f10	raju		B.Tech01	

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CHAPTER 9

9. Conclusion

Online learning is beneficial to the students, tutors and the institution offering these courses. I would therefore recommend that online learning be implemented on all learning institutions and research on how to improve this learning process should be carried out.

E-Learning brings with its new dimensions in education. This project have a smart way to learning, provides user friendly environment anywhere and anytime.

Opening up broader education options 24/7 accessibility makes scheduling easy and allows greater number of people to attend classes living in far flung areas.

With the evolving technologies, it is high time for institution to accept e-learning as another pillar of providing education.

CHAPTER 10

10. Further enhancements/Recommendations

E learning has rapidly evolved from a thing of the future to a practical approach towards education. It will continue to be an extremely useful classroom teaching tool as well as self-study platform.

In this project we have tried to cover all the aspects to create a complete e-learning platform. But as we know, there is always a scope of improvement and enhancement:

- We can host the platform on online servers to make it accessible online.
- Create the master and slave database structure to reduce the overload of the database queries.
- Implement the backup mechanism for taking backup of codebase and database on regular basis on different servers.
- We can add some more feature i.e., proctored online exams, face detection based login and etc.

We have left all the options open so that if there is any other future requirement in the system by the user for the enhancement of the system then it is possible to implement them.

CHAPTER 11

References/Bibliography

- www.w3schools.com
- YouTube tutorials
- https://getbootstrap.com/docs/5.0/getting-started/introduction/
- https://www.php.net/manual/en/
- https://www.javascript.com/learn/
- https://www.w3schools.com/mySQl/default.asp