**Online Learning Platform**

Submitted by: Pallavi.S

BU21CSEN0400243

**Problem statement:** Create a platform where instructors can upload courses, and students can

enrol in and complete courses with progress tracking.

To solve the problem statement of creating a platform where instructors can upload courses, and students can enroll and complete courses with progress tracking, you can break the solution into multiple components. Here's a step-by-step approach to guide the design and implementation:

**1. System Requirements**

* **User Types:**
  + Instructors: Can create profiles, upload courses (videos, quizzes, reading materials), and track student progress.
  + Students: Can create accounts, browse and enroll in courses, track their course completion progress, and earn certificates.
  + Admin: Manages the platform, handles user management, and oversees content moderation.
* **Features:**
  + Course Upload (for Instructors)
  + Course Enrollment (for Students)

**2. Database Design**

* **Tables:**
  + users: Stores user information (id, name, email, password, role: student/instructor).
  + courses: Stores course details (id, title, description, instructor\_id, duration).
  + enrollments: Tracks which students are enrolled in which courses (student\_id, course\_id, progress, completion\_status).
  + modules: Stores individual course modules (module\_id, course\_id, module\_title, content).
  + progress: Stores student progress (student\_id, module\_id, completion\_percentage).
  + ).

**3. Backend Development**

* **Technology Stack:**
  + **Server-Side**: Node.js, Python (Flask/Django), or Ruby on Rails.
  + **Database**: MySQL/PostgreSQL or MongoDB for storing course data, user info, progress tracking.
  + **API Design**: RESTful or GraphQL for creating endpoints to manage course content, enrollments, and user interactions.
* **Core API Endpoints:**
  + POST /login: User authentication.
  + POST /register: User registration.
  + POST /courses: Instructor uploads a course.
  + GET /courses: Students browse and search courses.

**4. Frontend Development**

* **Technology Stack:**
  + **Frontend Framework**: React.js
  + **Styling**: CSS, Bootstrap, Material UI for a responsive design.
  + **Progress Tracker**: Use progress bars to display course completion.

**6. Testing and Deployment**

* **Testing:**
  + Unit tests for API endpoints (using Jest, Mocha).
  + Integration tests for user flows like course enrollment, progress tracking, and completion.
* **Deployment:**
  + Use cloud platforms like AWS, Azure, or Heroku.
  + Implement CI/CD pipelines using Jenkins, GitLab, or GitHub Actions.

**Creating files :**

online-learning-platform/

│

├── index.html # Home page

├── courses.html # Courses page

├── about.html # About page

├── contact.html # Contact page

├── style.css # Stylesheet for the website

└── script.js # JavaScript for the website

Index.html:

<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="UTF-8">

    <meta name="viewport" content="width=device-width, initial-scale=1.0">

    <meta http-equiv="X-UA-Compatible" content="ie=edge">

    <title>Home - Online Learning Platform</title>

    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0-alpha1/dist/css/bootstrap.min.css" rel="stylesheet">

    <link rel="stylesheet" href="css/styles.css"> <!-- Link to custom styles -->

</head>

<body>

    <!-- Responsive Navigation Bar -->

    <nav class="navbar navbar-expand-lg navbar-dark bg-primary">

        <div class="container-fluid">

            <a class="navbar-brand" href="index.html">Learning Platform</a>

            <button class="navbar-toggler" type="button" data-bs-toggle="collapse" data-bs-target="#navbarNav" aria-controls="navbarNav" aria-expanded="false" aria-label="Toggle navigation">

                <span class="navbar-toggler-icon"></span>

            </button>

            <div class="collapse navbar-collapse" id="navbarNav">

                <ul class="navbar-nav ms-auto">

                    <li class="nav-item">

                        <a class="nav-link active" href="index.html">Home</a>

                    </li>

                    <li class="nav-item">

                        <a class="nav-link" href="courses.html">Courses</a>

                    </li>

                    <li class="nav-item">

                        <a class="nav-link" href="about.html">About</a>

                    </li>

                    <li class="nav-item">

                        <a class="nav-link" href="contact.html">Contact</a>

                    </li>

                </ul>

            </div>

        </div>

    </nav>

    <!-- Home Page Content -->

    <div class="container mt-5 text-center">

        <h1>Welcome to Our Online Learning Platform</h1>

        <p>Explore a variety of courses and expand your knowledge. Join us in your learning journey!</p>

        <!-- Photo Section -->

        <img src="https://img.freepik.com/premium-vector/concept-e-learning-online-education-home-3d-realistic-vector-illustration\_365941-564.jpg?w=740" alt="Online Learning" class="img-fluid mb-4" style="max-width: 600px; border-radius: 10px;">

        <div class="row">

            <div class="col-md-6 text-start">

                <h2>Login to Your Profile</h2>

                <form id="login-form" class="mt-4">

                    <div class="mb-3">

                        <label for="username" class="form-label">Username</label>

                        <input type="text" class="form-control" id="username" required>

                    </div>

                    <div class="mb-3">

                        <label for="password" class="form-label">Password</label>

                        <input type="password" class="form-control" id="password" required>

                    </div>

                    <button type="submit" class="btn btn-primary">Login</button>

                </form>

    <!-- Footer -->

    <footer class="bg-primary text-white text-center py-3 mt-5">

        <p>&copy; 2024 Online Learning Platform</p>

    </footer>

    <!-- Bootstrap JS -->

    <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0-alpha1/dist/js/bootstrap.bundle.min.js"></script>

    <script src="script.js"></script> <!-- Link to custom script -->

</body>

</html>

<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="UTF-8">

    <meta name="viewport" content="width=device-width, initial-scale=1.0">

    <meta http-equiv="X-UA-Compatible" content="ie=edge">

    <title>Home - Online Learning Platform</title>

    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0-alpha1/dist/css/bootstrap.min.css" rel="stylesheet">

    <link rel="stylesheet" href="css/styles.css"> <!-- Link to custom styles -->

</head>

<body>

    <!-- Responsive Navigation Bar -->

    <nav class="navbar navbar-expand-lg navbar-dark bg-primary">

        <div class="container-fluid">

            <a class="navbar-brand" href="index.html">Learning Platform</a>

            <button class="navbar-toggler" type="button" data-bs-toggle="collapse" data-bs-target="#navbarNav" aria-controls="navbarNav" aria-expanded="false" aria-label="Toggle navigation">

                <span class="navbar-toggler-icon"></span>

            </button>

            <div class="collapse navbar-collapse" id="navbarNav">

                <ul class="navbar-nav ms-auto">

                    <li class="nav-item">

                        <a class="nav-link active" href="index.html">Home</a>

                    </li>

                    <li class="nav-item">

                        <a class="nav-link" href="courses.html">Courses</a>

                    </li>

                    <li class="nav-item">

                        <a class="nav-link" href="about.html">About</a>

                    </li>

                    <li class="nav-item">

                        <a class="nav-link" href="contact.html">Contact</a>

                    </li>

                </ul>

            </div>

        </div>

    </nav>

    <!-- Home Page Content -->

    <div class="container mt-5 text-center">

        <h1>Welcome to Our Online Learning Platform</h1>

        <p>Explore a variety of courses and expand your knowledge. Join us in your learning journey!</p>

        <!-- Photo Section -->

        <img src="https://img.freepik.com/premium-vector/concept-e-learning-online-education-home-3d-realistic-vector-illustration\_365941-564.jpg?w=740" alt="Online Learning" class="img-fluid mb-4" style="max-width: 600px; border-radius: 10px;">

        <div class="row">

            <div class="col-md-6 text-start">

                <h2>Login to Your Profile</h2>

                <form id="login-form" class="mt-4">

                    <div class="mb-3">

                        <label for="username" class="form-label">Username</label>

                        <input type="text" class="form-control" id="username" required>

                    </div>

                    <div class="mb-3">

                        <label for="password" class="form-label">Password</label>

                        <input type="password" class="form-control" id="password" required>

                    </div>

                    <button type="submit" class="btn btn-primary">Login</button>

                </form>

    <!-- Footer -->

    <footer class="bg-primary text-white text-center py-3 mt-5">

        <p>&copy; 2024 Online Learning Platform</p>

    </footer>

    <!-- Bootstrap JS -->

    <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0-alpha1/dist/js/bootstrap.bundle.min.js"></script>

    <script src="script.js"></script> <!-- Link to custom script -->

</body>

</html>

About.html: <!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="UTF-8">

    <meta name="viewport" content="width=device-width, initial-scale=1.0">

    <meta http-equiv="X-UA-Compatible" content="ie=edge">

    <title>About Us - Online Learning Platform</title>

    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0-alpha1/dist/css/bootstrap.min.css" rel="stylesheet">

    <link rel="stylesheet" href="css/styles.css"> <!-- Link to custom styles -->

    <style>

        .stat-card {

            background-color: #f8f9fa; /\* Light background for stats \*/

            text-align: center;

            padding: 20px;

            border-radius: 10px;

            margin: 10px 0;

        }

        .faculty-img {

            width: 100%;

            height: auto;

            border-radius: 10px; /\* Rounded corners for faculty images \*/

        }

    </style>

</head>

<body>

    <!-- Responsive Navigation Bar -->

    <nav class="navbar navbar-expand-lg navbar-dark bg-primary">

        <div class="container-fluid">

            <a class="navbar-brand" href="index.html">Learning Platform</a>

            <button class="navbar-toggler" type="button" data-bs-toggle="collapse" data-bs-target="#navbarNav" aria-controls="navbarNav" aria-expanded="false" aria-label="Toggle navigation">

                <span class="navbar-toggler-icon"></span>

            </button>

            <div class="collapse navbar-collapse" id="navbarNav">

                <ul class="navbar-nav ms-auto">

                    <li class="nav-item">

                        <a class="nav-link" href="index.html">Home</a>

                    </li>

                    <li class="nav-item">

                        <a class="nav-link" href="courses.html">Courses</a>

                    </li>

                    <li class="nav-item">

                        <a class="nav-link active" href="about.html">About</a>

                    </li>

                    <li class="nav-item">

                        <a class="nav-link" href="contact.html">Contact</a>

                    </li>

                </ul>

            </div>

        </div>

    </nav>

    <!-- About Us Page Content -->

    <div class="container mt-5">

        <h1>About Us</h1>

        <p class="lead">We Provide the Best Learning Experience</p>

        <p>Learning experience is the spectrum of activities, interactions and environments through which students acquire knowledge, skills and attitudes. Learning experiences integrate both traditional educational components such as lectures with contemporary interactions including games and using AI in education.</p>

        <div class="row mt-4">

            <div class="col-md-4">

                <div class="stat-card">

                    <h2>99+</h2>

                    <p>Courses</p>

                </div>

            </div>

            <div class="col-md-4">

                <div class="stat-card">

                    <h2>15+</h2>

                    <p>Awards</p>

                </div>

            </div>

            <div class="col-md-4">

                <div class="stat-card">

                    <h2>769+</h2>

                    <p>Students</p>

                </div>

            </div>

        </div>

        <h2 class="mt-5">Top Faculties</h2>

        <div class="row">

            <div class="col-md-4">

                <img src="https://static.vecteezy.com/system/resources/thumbnails/034/581/472/small\_2x/ai-generated-cute-little-girl-in-school-uniform-with-yellow-background-back-to-school-concept-photo.jpg" class="faculty-img" alt="Faculty 1">

                <h5>Dr. John Doe</h4>

                <p>Expert in Digital Marketing and Business Strategy</p>

            </div>

            <div class="col-md-4">

                <img src="https://img.freepik.com/premium-photo/cartoon-woman-with-glasses-book-her-hands-upset-female-teacher\_912356-1864.jpg" class="faculty-img" alt="Faculty 2">

                <h5>Prof. Jane Smith</h5>

                <p>Specialist in Artificial Intelligence and Machine Learning</p>

            </div>

            <div class="col-md-4">

                <img src="https://png.pngtree.com/png-vector/20240216/ourlarge/pngtree-3d-cute-cartoon-male-teacher-character-on-transparent-background-png-image\_11743051.png" class="faculty-img" alt="Faculty 3">

                <h5>Mr. Mike Johnson</h5>

                <p>Experienced Graphic Designer and Educator</p>

            </div>

        </div>

    </div>

    <!-- Footer -->

    <footer class="bg-primary text-white text-center py-3 mt-5">

        <p>&copy; 2024 Online Learning Platform</p>

    </footer>

    <!-- Bootstrap JS -->

    <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0-alpha1/dist/js/bootstrap.bundle.min.js"></script>

    <script src="script.js"></script> <!-- Link to custom script -->

</body>

</html>

Contact.html:

<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="UTF-8">

    <meta name="viewport" content="width=device-width, initial-scale=1.0">

    <meta http-equiv="X-UA-Compatible" content="ie=edge">

    <title>Contact Us - Online Learning Platform</title>

    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0-alpha1/dist/css/bootstrap.min.css" rel="stylesheet">

    <link rel="stylesheet" href="css/styles.css"> <!-- Link to custom styles -->

    <style>

        .contact-section {

            text-align: center;

            margin: 20px 0;

        }

        .contact-icon {

            font-size: 50px;

            color: #007bff;

        }

        .contact-option {

            display: flex;

            align-items: center;

            margin-bottom: 20px;

        }

        .contact-option img {

            width: 70px;

            height: 70px;

            margin-right: 15px;

            border-radius: 10px;

        }

        .contact-option h4 {

            margin: 0;

            font-size: 1.2em;

        }

        .contact-option p {

            margin: 0;

            font-size: 1em;

        }

        .form-section {

            margin-top: 20px;

            padding: 15px;

            border: 1px solid #007bff;

            border-radius: 5px;

            background-color: #f8f9fa;

        }

    </style>

</head>

<body>

    <!-- Responsive Navigation Bar -->

    <nav class="navbar navbar-expand-lg navbar-dark bg-primary">

        <div class="container-fluid">

            <a class="navbar-brand" href="index.html">Learning Platform</a>

            <button class="navbar-toggler" type="button" data-bs-toggle="collapse" data-bs-target="#navbarNav" aria-controls="navbarNav" aria-expanded="false" aria-label="Toggle navigation">

                <span class="navbar-toggler-icon"></span>

            </button>

            <div class="collapse navbar-collapse" id="navbarNav">

                <ul class="navbar-nav ms-auto">

                    <li class="nav-item">

                        <a class="nav-link" href="index.html">Home</a>

                    </li>

                    <li class="nav-item">

                        <a class="nav-link" href="courses.html">Courses</a>

                    </li>

                    <li class="nav-item">

                        <a class="nav-link" href="about.html">About</a>

                    </li>

                    <li class="nav-item">

                        <a class="nav-link active" href="contact.html">Contact</a>

                    </li>

                </ul>

            </div>

        </div>

    </nav>

    <!-- Contact Us Page Content -->

    <div class="container mt-5">

        <h1>Contact Us</h1>

        <p class="lead">We’re here to help you. Reach out to us using the options below.</p>

        <div class="row contact-section">

            <div class="col-md-4">

                <div class="contact-option">

                    <img src="https://previews.123rf.com/images/cosmaa/cosmaa1805/cosmaa180500008/100550611-cartoon-vector-illustration-of-envelope-icon-with-unread-message-hand-drawn-funny-concept.jpg" alt="Send a Message">

                    <div>

                        <h4><i class="bi bi-envelope-fill contact-icon"></i> Send a Message</h4>

                        <p>Reach out to us via email for any inquiries or support.</p>

                    </div>

                </div>

                <div class="form-section">

                    <form id="message-form">

                        <div class="mb-3">

                            <label for="messageName" class="form-label">Your Name</label>

                            <input type="text" class="form-control" id="messageName" required>

                        </div>

                        <div class="mb-3">

                            <label for="messageEmail" class="form-label">Your Email</label>

                            <input type="email" class="form-control" id="messageEmail" required>

                        </div>

                        <div class="mb-3">

                            <label for="messageContent" class="form-label">Your Message</label>

                            <textarea class="form-control" id="messageContent" rows="4" required></textarea>

                        </div>

                        <button type="submit" class="btn btn-primary">Send Message</button>

                    </form>

                </div>

            </div>

            <div class="col-md-4">

                <div class="contact-option">

                    <img src="https://img.freepik.com/free-vector/flat-people-asking-questions-illustration\_23-2148910850.jpg" alt="Ask Questions">

                    <div>

                        <h4><i class="bi bi-question-circle-fill contact-icon"></i> Ask Questions</h4>

                        <p>Got questions? We're here to answer all your queries.</p>

                    </div>

                </div>

                <div class="form-section">

                    <form id="question-form">

                        <div class="mb-3">

                            <label for="questionName" class="form-label">Your Name</label>

                            <input type="text" class="form-control" id="questionName" required>

                        </div>

                        <div class="mb-3">

                            <label for="questionEmail" class="form-label">Your Email</label>

                            <input type="email" class="form-control" id="questionEmail" required>

                        </div>

                        <div class="mb-3">

                            <label for="questionContent" class="form-label">Your Question</label>

                            <textarea class="form-control" id="questionContent" rows="4" required></textarea>

                        </div>

                        <button type="submit" class="btn btn-primary">Submit Question</button>

                    </form>

                </div>

            </div>

            <div class="col-md-4">

                <div class="contact-option">

                    <img src="https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcQQz1-d8x8FAjOm5FB9-TOeBFd1yI-hSpkB4w&s" alt="Buy Subscription">

                    <div>

                        <h4><i class="bi bi-credit-card-fill contact-icon"></i> Buy Subscription</h4>

                        <p>Subscribe to our platform and gain access to premium courses.</p>

                    </div>

                </div>

                <div class="form-section">

                    <form id="subscription-form">

                        <div class="mb-3">

                            <label for="subscriptionEmail" class="form-label">Your Email</label>

                            <input type="email" class="form-control" id="subscriptionEmail" required>

                        </div>

                        <div class="mb-3">

                            <label for="paymentMethod" class="form-label">Payment Method</label>

                            <select class="form-select" id="paymentMethod" required>

                                <option value="" disabled selected>Select your payment method</option>

                                <option value="credit\_card">Credit Card</option>

                                <option value="paypal">PayPal</option>

                                <option value="bank\_transfer">Bank Transfer</option>

                            </select>

                        </div>

                        <button type="submit" class="btn btn-primary">Subscribe Now</button>

                    </form>

                </div>

            </div>

        </div>

    </div>

    <!-- Footer -->

    <footer class="bg-primary text-white text-center py-3 mt-5">

        <p>&copy; 2024 Online Learning Platform</p>

    </footer>

    <!-- Bootstrap JS and Icons -->

    <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0-alpha1/dist/js/bootstrap.bundle.min.js"></script>

    <script src="https://cdn.jsdelivr.net/npm/bootstrap-icons/font/bootstrap-icons.js"></script>

    <script src="script.js"></script> <!-- Link to custom script -->

</body>

</html>

Style.css:

/\* styles.css \*/

/\* Body styling \*/

body {

    background-color: rgb(0, 129, 172); /\* Light blue color \*/

    color: black; /\* Text color for better contrast \*/

}

/\* Additional styles for container \*/

.container {

    padding: 20px; /\* Add some padding \*/

    border-radius: 20px; /\* Round corners \*/

    background-color: rgb(95, 204, 238); /\* blue background for content area \*/

}

/\* Additional styles for images \*/

.img-fluid {

    margin-bottom: 30px; /\* Add margin below the image \*/

}

Script.js:

// script.js

document.addEventListener('DOMContentLoaded', function () {

    const navbarLinks = document.querySelectorAll('.nav-link');

    // Smooth scrolling for navigation links

    navbarLinks.forEach(link => {

        link.addEventListener('click', function (e) {

            e.preventDefault(); // Prevent default anchor behavior

            const targetId = this.getAttribute('href');

            const targetSection = document.querySelector(targetId);

            if (targetSection) {

                targetSection.scrollIntoView({

                    behavior: 'smooth', // Smooth scroll effect

                    block: 'start' // Scroll to the start of the target section

                });

            }

        });

    });

    // Form validation and submission handling

    const contactForm = document.getElementById('contact-form');

    contactForm.addEventListener('submit', function (event) {

        event.preventDefault(); // Prevent default form submission

        // Validate form fields

        const name = document.getElementById('name').value.trim();

        const email = document.getElementById('email').value.trim();

        const message = document.getElementById('message').value.trim();

        if (!name || !email || !message) {

            alert('Please fill in all fields.');

            return; // Exit if any field is empty

        }

        // Simple email format validation

        const emailPattern = /^[^ ]+@[^ ]+\.[a-z]{2,3}$/;

        if (!email.match(emailPattern)) {

            alert('Please enter a valid email address.');

            return; // Exit if email is invalid

        }

        // For demonstration, show an alert with form values

        alert(Thank you, ${name}! We have received your message: "${message}". We will respond to you at ${email}.);

        // Reset the form after submission

        contactForm.reset();

    });

});

**To connect the front-end forms to a back-end server, you will typically use a combination of HTML forms, JavaScript (often with a framework like Fetch API or Axios), and a server-side language like Node.js, Python, PHP, etc. Below is an example setup using Node.js with Express.js for handling form submissions from contact page.**

1. Set Up Your Backend Server with Node.js and Express

Step 1: Initialize Your Node.js Project

First, create a new directory for your project and initialize a Node.js application:

mkdir learning-platform-backend

cd learning-platform-backend

npm init -y

Step 2: Install Express

Install Express.js and a body-parser to parse incoming requests:

npm install express body-parser cors

Step 3: Create Your Server File

Create a file named server.js in your project directory and add the following code:

Java script

const express = require('express');

const bodyParser = require('body-parser');

const cors = require('cors');

const app = express();

const PORT = 3000;

// Middleware

app.use(cors());

app.use(bodyParser.json());

app.use(bodyParser.urlencoded({ extended: true }));

// Route for sending a message

app.post('/send-message', (req, res) => {

const { name, email, message } = req.body;

console.log(Message from ${name} (${email}): ${message});

res.json({ status: 'success', message: 'Message sent successfully!' });

});

// Route for asking questions

app.post('/ask-question', (req, res) => {

const { name, email, question } = req.body;

console.log(Question from ${name} (${email}): ${question});

res.json({ status: 'success', message: 'Question submitted successfully!' });

});

// Route for buying subscription

app.post('/subscribe', (req, res) => {

const { email, paymentMethod } = req.body;

console.log(Subscription request from ${email} with payment method: ${paymentMethod});

res.json({ status: 'success', message: 'Subscription request submitted successfully!' });

});

// Start server

app.listen(PORT, () => {

console.log(Server is running on http://localhost:${PORT});

});

Step 4: Run Your Server

Start your server with the following command:

node server.js

Your server should now be running on http://localhost:3000.

2. Update Frontend Code

Now, modify contact.html to send requests to the back-end server using the Fetch API.

Html.

<!-- Add this script at the bottom of your contact.html file before the closing body tag -->

<script>

document.getElementById('message-form').addEventListener('submit', function(event) {

event.preventDefault(); // Prevent the default form submission

const name = document.getElementById('messageName').value;

const email = document.getElementById('messageEmail').value;

const message = document.getElementById('messageContent').value;

fetch('http://localhost:3000/send-message', {

method: 'POST',

headers: {

'Content-Type': 'application/json'

},

body: JSON.stringify({ name, email, message })

})

.then(response => response.json())

.then(data => alert(data.message))

.catch(error => console.error('Error:', error));

});

document.getElementById('question-form').addEventListener('submit', function(event) {

event.preventDefault();

const name = document.getElementById('questionName').value;

const email = document.getElementById('questionEmail').value;

const question = document.getElementById('questionContent').value;

fetch('http://localhost:3000/ask-question', {

method: 'POST',

headers: {

'Content-Type': 'application/json'

},

body: JSON.stringify({ name, email, question })

})

.then(response => response.json())

.then(data => alert(data.message))

.catch(error => console.error('Error:', error));

});

document.getElementById('subscription-form').addEventListener('submit', function(event) {

event.preventDefault();

const email = document.getElementById('subscriptionEmail').value;

const paymentMethod = document.getElementById('paymentMethod').value;

fetch('http://localhost:3000/subscribe', {

method: 'POST',

headers: {

'Content-Type': 'application/json'

},

body: JSON.stringify({ email, paymentMethod })

})

.then(response => response.json())

.then(data => alert(data.message))

.catch(error => console.error('Error:', error));

});

</script>

3. Explanation

Node.js & Express Setup:

The server listens for POST requests on three different endpoints: /send-message, /ask-question, and /subscribe.

When a request is received, it logs the data to the console and sends a response back to the client.

Frontend Updates:

Each form's submission is captured using an event listener that prevents the default action.

A fetch request is made to the corresponding back-end endpoint, sending the form data in JSON format.

The response is handled to display a success message to the user.

Conclusion

This output In conclusion, building an online learning platform involves designing user-friendly interfaces, developing interactive frontend elements with HTML, CSS, and JavaScript, and implementing backend functionalities for course management and user authentication. The platform should focus on intuitive navigation, engaging content, and seamless user interactions. By integrating these components, you can create a robust and scalable environment that facilitates effective online learning experiences for students and instructors .You can expand these components with additional functionalities, error handling, and front-end enhancements as needed.