Assessment: Online Learning Platform with Chat GPT Integration

Project Overview: Develop an online learning platform using the MERN stack (MongoDB, Express.js, React.js/ NextJS, Node.js) or PHP. The platform should allow users to register, log in, and enroll in courses. Instructors should be able to create and manage courses, and students should be able to view and enroll in available courses. The platform should integrate with GPT-3 to provide course recommendations and personalized assistance. The application must be hosted on a cloud service and accessible via the Internet.

Assessment Tasks:

1. **Backend Development:**
    - **User Authentication:**
        - Develop RESTful APIs for user registration and login.
        - Implement JWT-based authentication for secure access.
    - **Course Management:**
        - Implement CRUD operations for courses (Create, Read, Update, Delete).
        - Define the course schema with basic details like title, description, instructor, and content.
2. **Frontend Development:**
    - **User Interface:**
        - Design a user-friendly interface using React.js (for MERN stack) or PHP with HTML/CSS.
        - Implement pages for registration, login, and course listing.
    - **Course Enrollment:**
        - Allow students to view available courses and enroll in them.
        - Display the status of their enrollments.
        - Show a successful message once the enrollment is completed.
        - Implement a page for students to see their enrolled courses.

3. **User Authentication and Authorization:**
    - Implement role-based access control (RBAC) to distinguish between students and instructors.
    - Protect routes to ensure that only authenticated users can access certain features.
    -
4. **Chat-GPT Integration:**
    - Integrate GPT-3 API to provide personalized course recommendations based on user input.
    - Implement a feature where students can enter prompts like "I want to be a software engineer, what courses I should follow" and receive a list of recommended courses.
5. **Web Hosting and Deployment:**
    - Host the application on a cloud platform (e.g., AWS, Azure, Heroku).
    - Ensure the application is accessible via the Internet.
6. **Project Documentation:**
    - Write basic documentation explaining the project setup, architecture, API endpoints, and usage.
    - Include setup instructions for local development and deployment.
7. **Version Control:**
    - Use Git for version control.

Features Breakdown:

Student Features:

- **Sign Up and Login:**
  - Students should be able to sign up and log in using their username and password.
- **Course Viewing and Enrollment:**
  - Students should be able to see the list of available courses.
  - Students should see the course details.
  - Students should be able to enroll in a course.
- **Enrolled Courses:**
  - Students should be able to see their list of enrolled courses.
- **Chat-GPT course suggestion**
  - Students should be able to enter prompts like "I want to be a software engineer, what courses I should follow" and receive a list of recommended courses.

Instructor Features:

- **Sign Up and Login:**
  - Instructors should be able to sign up and log in using their username and password.
- **Course Management:**
  - Instructors should be able to add new courses.
  - Instructors should be able to see all their posted courses.
  - Instructors should see the course details and be able to edit them.
  - Instructors should be able to see enrolled students' details for each course in a simple table.

GPT Integration:

- **Course Recommendations:**
  - Design a ChatGPT integration where students can enter prompts to get course recommendations.

NOTE

1. ****Develop the entire backend, as it is the most important component of the project.** (Mandatory)**
2. **Developing the mandatory UIs with simple styling is sufficient, but if you can implement better UIs, that is preferred.**
3. **Please refer to the next document for the ChatGPT API key instructions.**

Important Note: Plagiarism is strictly prohibited. All work must be your own and should not be copied from any source. You may take inspiration or ideas from AI tools, but you are not allowed to copy content directly. Make sure you fully understand what you are doing and submit original work.

Evaluation Criteria:

- **Technical Skills:** Proficiency in MERN stack/PHP, API integration, frontend-backend communication.
- **Problem-Solving:** Ability to design and implement solutions for given tasks.
- **Code Quality:** Adherence to best practices, clean code, and proper documentation.
- **System Design:** Efficient and scalable system architecture.
- **Project Management:** Ability to plan, manage, and deliver the project on time.
- **Communication:** Clarity in documentation and explanation of implemented features.

Deliverables:

1. Source code repository on GitHub.
2. Deployed application accessible via a public URL.
3. Project documentation including setup instructions, API documentation, and system design (Database Structure).
4. Presentation or demo of the project highlighting key features and design choices.

Please complete the project within one week (7 Days). If you have any questions or need further clarification, do not hesitate to contact us. We expect your best effort and highest quality work.