INTERVIEW TEST

QUESTION:

IMAGINE YOU ARE TASKED WITH DEVELOPING A LEARNING MANAGEMENT SYSTEM (LMS) USING LARAVEL FRAMEWORK ALONG WITH PHP, HTML, CSS, JAVASCRIPT, NODE.JS, AND JQUERY. THE SYSTEM SHOULD CONSIST OF THREE ADMINISTRATIVE SECTIONS AND A MEETING FEATURE. WHEN A STUDENT JOINS A SESSION, A NOTIFICATION SHOULD BE SENT TO BOTH THE STUDENT AND THE TEACHER. ADDITIONALLY, THE TEACHER SHOULD HAVE THE OPTION TO INITIATE A 1:1 SESSION USING EXTERNAL PLATFORMS SUCH AS GOOGLE MEET OR ZOOM. AFTER THE SESSION, HOMEWORK ASSIGNMENTS SHOULD BE AVAILABLE ON THE LMS PLATFORM, POTENTIALLY INTEGRATED WITH MEETING TOOLS.

PLEASE OUTLINE THE STRUCTURE AND MAIN FUNCTIONALITIES OF THE PROJECT, INCLUDING THE TECHNOLOGIES YOU WOULD USE AND ANY ADDITIONAL CONSIDERATIONS FOR IMPLEMENTATION.

INTERVIEW TEST

PROJECT STRUCTURE AND FUNCTIONALITIES:

1. **LARAVEL FRAMEWORK:**
   - UTILIZE LARAVEL FOR BACKEND DEVELOPMENT, ROUTING, AUTHENTICATION, AND DATABASE MANAGEMENT.
   - IMPLEMENT MVC ARCHITECTURE FOR BETTER ORGANIZATION AND SEPARATION OF CONCERNS.

2. **PHP, HTML, CSS, JAVASCRIPT:**
   - USE PHP FOR SERVER-SIDE SCRIPTING TO HANDLE BACKEND LOGIC AND DATABASE INTERACTIONS.
   - DEVELOP HTML TEMPLATES FOR FRONTEND STRUCTURE AND LAYOUT.
   - STYLE THE APPLICATION USING CSS FOR A VISUALLY APPEALING USER INTERFACE.
   - ENHANCE USER EXPERIENCE AND INTERACTIVITY USING JAVASCRIPT FOR CLIENT-SIDE SCRIPTING.

3. **NODE.JS AND JQUERY:**
   - INTEGRATE NODE.JS FOR REAL-TIME COMMUNICATION AND HANDLING ASYNCHRONOUS TASKS.
   - UTILIZE JQUERY FOR SIMPLIFYING DOM MANIPULATION AND AJAX REQUESTS.

4. **ADMINISTRATIVE SECTIONS:**
   - IMPLEMENT THREE ADMINISTRATIVE SECTIONS:
     - USER MANAGEMENT: ADMINS CAN MANAGE STUDENT AND TEACHER ACCOUNTS, INCLUDING REGISTRATION, AUTHENTICATION, AND PROFILE MANAGEMENT.
     - COURSE MANAGEMENT: ADMINS CAN CREATE, EDIT, AND DELETE COURSES, AS WELL AS MANAGE COURSE MATERIALS AND ASSIGNMENTS.
     - MEETING MANAGEMENT: ADMINS CAN SCHEDULE AND MANAGE MEETINGS, VIEW ATTENDANCE, AND SEND NOTIFICATIONS.

4. MEETING FEATURE:
- INTEGRATE MEETING FUNCTIONALITY USING EXTERNAL PLATFORMS SUCH AS GOOGLE MEET OR ZOOM.
- ALLOW TEACHERS TO INITIATE 1:1 SESSIONS WITH STUDENTS, EITHER WITHIN THE LMS OR THROUGH EXTERNAL PLATFORMS.
- IMPLEMENT NOTIFICATIONS FOR BOTH STUDENTS AND TEACHERS WHEN A SESSION IS ABOUT TO START OR WHEN A STUDENT JOINS A SESSION.

5. HOMEWORK ASSIGNMENTS:
- PROVIDE A HOMEWORK ASSIGNMENT FEATURE WHERE TEACHERS CAN CREATE, ASSIGN, AND GRADE HOMEWORK TASKS.
- INTEGRATE WITH THE MEETING TOOL TO SEAMLESSLY TRANSITION FROM SESSIONS TO HOMEWORK ASSIGNMENTS.
- ALLOW STUDENTS TO ACCESS AND SUBMIT HOMEWORK ASSIGNMENTS THROUGH THE LMS PLATFORM.