

## Project 2: Enhanced Learning Management System (LMS)

**Objective:** Develop an LMS with multiple roles, including instructors, students, and sponsors.

### Roles:

- **Admin:** Oversee platform operations.
- **Instructor:** Manage courses and assessments.
- **Student:** Enroll in courses and complete assessments.
- **Sponsor:** Fund students and track their progress.

### Features Included:

1. **DB Design:**
  - Design a schema on your own with your research.
2. **CRUD:**
  - Make CRUD operations based on database design.
3. **Proper Comments:**
  - Ensure all code includes clear explanations and documentation.
4. **Data Filtering and Searching:**
  - Students can search for courses by name, instructor, or difficulty level.
  - Sponsors can filter students by status or progress.
5. **Data Pagination:**
  - Paginate course lists, student records, and sponsorship details.
6. **Authentication:**
  - Role-based authentication using Django Groups.
7. **Analytics:**
  - Admin dashboard: Display metrics like total users, active courses, and student enrollments.
  - Sponsor dashboard: Show sponsorship impact, student progress, and fund utilization.
8. **Emailing:**
  - Notify students about course deadlines and assessment results.
  - Notify sponsors about progress reports.
9. **Notification:**
  - Alerts for instructors on course completion rates and student engagement.
  - Notifications for students about new assignments and due dates.
10. **Payment (Optional):**
  - Allow sponsors to fund courses or students via payment gateways.
11. **Deployed (Optional):**
  - Host the application on free source.
12. **Testing and Documentation:**
  - Provide detailed API tests and user/developer documentation.