

Examine the Requirements Document:

This education site helps students enroll in courses, recognize each course's doctors, and be informed of their GPA. It also helps doctors to get their schedule, and to give each student his/her rate in each course. And of course, it helps the site admin open courses to allow students to enroll or close them.

Site Features:

For Students:

- Enrollment: Students can enroll in courses offered by the institution.
- Course Information: Access information about each course, including details about the instructors (doctors) and course curriculum.
- GPA Tracking: Monitor their Grade Point Average (GPA) for each enrolled course.

For Doctors (Instructors):

- Schedule Management: Access their teaching schedules and course assignments.
- Grade Submission: Provide grades for students enrolled in their courses.

For Administrators:

- Course Management: Open or close courses to allow or restrict student enrollment.
- User Management: Manage user accounts and permissions within the system.

This platform aims to enhance the educational experience by providing a centralized hub for communication, course management, and academic tracking.

Functional Requirements:

1. User Authentication and Authorization:
 - Users should be able to register and login to the site.
 - Different roles should have different permissions (e.g., students, doctors, admins).
2. Course Enrollment:
 - Students should be able to browse available courses and enroll in them.
 - Admins should be able to open or close courses for enrollment.
3. Course Information:
 - Students should be able to view detailed information about each course, including course name, description, instructors (doctors), and schedule.
 - Doctors should be able to view their teaching schedule.
4. Grading System:
 - Doctors should be able to assign grades to students for each course.
 - Students should be able to view their grades and GPA.
5. Profile Management:
 - Users should be able to update their profile information, including contact details and preferences.

Non-functional Requirements:

1. Security:
 - The system should ensure secure user authentication and protect sensitive data.
 - Access control mechanisms should be in place to prevent unauthorized access to certain features.
2. Performance:
 - The system should be able to handle a large number of concurrent users without significant performance degradation.
 - Pages should load quickly, and actions should be processed promptly.
3. Reliability:
 - The system should be available 24/7 with minimal downtime for maintenance.
 - Data integrity should be maintained, and backups should be regularly performed.
4. Usability:
 - The user interface should be intuitive and easy to navigate for users of all technical levels.
 - Accessibility features should be implemented to ensure usability for users with disabilities.
5. Scalability:
 - The system should be scalable to accommodate future growth, both in terms of user base and features.
 - It should be able to handle increasing amounts of data without sacrificing performance.
6. Compatibility:
 - The system should be compatible with a wide range of devices and browsers to ensure a consistent user experience.
 - It should adhere to web standards and best practices for cross-browser compatibility.
7. Regulatory Compliance:
 - The system should comply with relevant data protection regulations (e.g., GDPR, HIPAA) depending on the nature of the data being handled.
 - It should also comply with educational standards and regulations in the relevant jurisdiction.

The MicroService in the project :

1- front in container

2 backend in container

Identify the Classes: (Extract Nouns)

Create classes only for the nouns and noun phrases that have significance in our system:

- This education site helps students enroll in courses, recognize each course's doctors, and be informed of their GPA, the ability to manage their accounts, get course resources, and show their grades.
- It also helps doctors to get their schedule, and to give each student his/her grades in each course, the ability to update their accounts, the ability to accept or reject course requests, show the number of assigned courses, add resources, or delete them, see their salary, calculate, and see percentage of grades.
- And of course, it helps the site admin open courses to allow students to enroll or close them, manage accounts, manage grades, assign courses to doctors, view grades, and view doctor rates.

Nouns and noun phrases

Student	GPA	Grades	Salary
Doctor	Account	Schedule	Admin
Course	Resources	Course Requests	Rates

Classes:

1. **User**
2. Student
3. Doctor
4. Course
5. GPA
6. CourseRequests
7. Admin

8. Rates

Identify Class Attributes: (Extract Descriptive Words and Phrases)

For each such word and phrase, we find that plays a significant role in the ATM system, we create an attribute and assign it to one or more of the classes:

- This education site helps [students](#) enroll in [courses](#), recognize each [course's](#) [doctors](#), and be informed of their [GPA](#), the ability to manage their [accounts](#), get course resources, and show their grades.
- It also helps [doctors](#) to get their schedule, and to give each [student](#) his/her grades in each [course](#), the ability to update their [accounts](#), the ability to accept or reject [course requests](#), show the number of assigned [courses](#), add resources, or delete them, see their salary, calculate, and see percentage of grades.
- And of course, it helps the site [admin](#) open [courses](#) to allow [students](#) to enroll or close them, manage [accounts](#), manage [grades](#), assign [courses](#) to [doctors](#), view [grades](#), and view doctor [rates](#).

Classes	Descriptive Words and Phrases
User	
Student	
Doctor	
Course	
GPA	
CourseRequests	
Admin	
Rates	

Attributes:

1. Grades
2. Resources
3. Salary
4. Schedule

