EDTECH ASSIGNMENT TRACKER

Part A: System Design (Written)

1. Core Entities & Relationships

Entity Descriptions:

Entity Fields

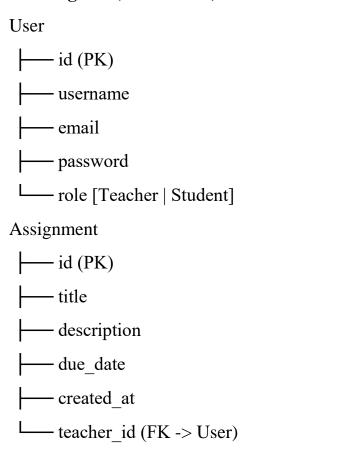
User: id, username, email, password, role (Student/Teacher)

Assignment: id, title, description, due_date, created_at, teacher (FK to User)

Submission: id, assignment (FK), student (FK to User), file/url, submitted_at

- One teacher can create many assignments
- One assignment can have many submissions (from students)
- One student can submit only one submission per assignment

ER Diagram (Text-Based)



Submission

├── id (PK)
├── assignment_id (FK -> Assignment)
├── student_id (FK -> User)
├── file url / uploaded file

L—submitted_at

2. API Endpoints

Authentication (JWT-based)

Endpoint Method Description

/api/register/ POST Register student/teacher

/api/login/ POST Login and get JWT token

Assignment APIs (Teacher Only)

<u>Endpoint</u>	Method	<u>Description</u>
/api/assignments/	POST	Create new assignment
/api/assignments/	GET	List all assignments
/api/assignments/ <id>/</id>	GET	View assignment detail
/api/assignments/ <id>/submissions/assignment</id>	GET	View submissions for an

Submission APIs (Student Only)

<u>Endpoint</u>	Method	<u>Description</u>
/api/assignments/ <id>/submit/</id>	POST	Submit assignment file/URL
/api/my-submissions/	GET	View student's own submissions

Suggestions for Scaling the System

<u>Area</u> <u>Suggestions</u>

Database Use PostgreSQL for production

Caching Cache frequent queries with Redis

Pagination Add pagination for assignments/submissions