Project Explanation: Educational Collaboration Tool

Overview

The Educational Collaboration Tool is a digital platform designed to enhance communication, coordination, and resource sharing in an academic setting. The platform connects **students, teachers, and administrators**, enabling efficient management of academic tasks, schedules, and communication to support learning and teaching.

Core Objectives

1. **Streamlined Communication**:
   a. Facilitate messaging and notifications between students, teachers, and administrators.
2. **Task Management**:
   a. Allow teachers to assign and manage academic tasks (e.g., assignments, quizzes).
   b. Enable students to submit tasks and view feedback.
3. **Resource Sharing**:
   a. Provide a centralized space for sharing study materials, schedules, and announcements.
4. **Progress Tracking**:
   a. Help students track their academic progress and attendance.
5. **Role-Based Access**:
   a. Ensure functionalities are accessible based on user roles.

Key System Roles and Responsibilities

1. **Students**:
   a. View and submit assignments.
   b. Access course materials and schedules.
   c. Communicate with teachers and administrators.
   d. Track progress and attendance.
2. **Teachers**:
   a. Create and manage assignments.
   b. Upload and share learning materials.
   c. Communicate with students and administrators.

d. Provide feedback and grades.
3. **Administrators**:
   a. Manage user roles and permissions.
   b. Publish schedules and announcements.
   c. Oversee the platform's maintenance and resolve queries.

System Features (Use Cases)

1. **Authentication & Role Management**:
   a. Users log in with credentials, with access granted based on their role.
2. **Assignment Management**:
   a. Teachers create and assign tasks.
   b. Students submit tasks and view feedback.
3. **Resource Sharing**:
   a. Teachers and administrators upload course materials and announcements.
   b. Students access shared resources.
4. **Communication System**:
   a. Enable secure messaging between students, teachers, and administrators.
5. **Progress Tracking**:
   a. Students view grades, attendance, and feedback.
   b. Teachers input grades and attendance data.
6. **Scheduling**:
   a. Administrators upload class schedules and exam timetables.
   b. Students and teachers view schedules.
7. **Notification System**:
   a. Alerts for new assignments, grades, or schedule changes.

Guidance for Creating Diagrams

Use Case Diagram

Illustrate interactions between system users and functionalities. Example:

- **Actors**:
  - Students, Teachers, Administrators
- **Use Cases**:
  - Login
  - Assign/Submit Assignments

- o Upload/View Materials
  - o View Schedule
  - o Communicate
  - o Track Progress

Define entities, attributes, and relationships. Example:

- **Entities**:
  - o `User` (Attributes: userID, role, name, contactInfo)
  - o `Assignment` (Attributes: assignmentID, title, description, dueDate, status)
  - o `Resource` (Attributes: resourceID, title, type, uploadedBy)
  - o `Grade` (Attributes: gradeID, studentID, assignmentID, score)
  - o `Schedule` (Attributes: scheduleID, date, event, participants)
- **Relationships**:
  - o `User` to `Assignment` (1-to-many, depending on role)
  - o `User` to `Grade` (1-to-1, only for students)
  - o `User` to `Schedule` (many-to-many)

Flow of Use Case Development

1. **Understand Stakeholder Interactions**:
   a. How each user interacts with the platform.
   b. Example: Teachers assign homework → Students submit assignments → Teachers provide feedback.
2. **Define Functionalities**:
   a. For each stakeholder, identify key tasks they need to perform.
   b. Example: Administrators upload schedules; Students view them.
3. **Create Diagrams**:
   a. Use Case Diagram: Show how users interact with system features.
   b. Class Diagram: Define the database structure and relationships.

Scenario Example for Clarity

- **Student Workflow**:
  - o Log in to the system.
  - o View a newly assigned task.

- Access learning resources for the task.
- Submit the task and await feedback.
- View grades and comments from the teacher.

- **Teacher Workflow**:
    - Log in to the system.
    - Create and assign a task to students.
    - Upload study materials.
    - Review submitted tasks.
    - Provide grades and feedback.