Use Case Document: **Academic Collaboration Platform**

**Domain:** Education Technology (EdTech)

**Use Case Name:** Student - Teacher Academic Collaboration

**Use Case Description:** The use case describes the process by which teachers and students interact on an academic platform that serves as a central hub for communication, learning, content sharing, question and answer sessions, personal assessments, and performance analytics. Students can access content anytime, submit questions, and view personalized feedback from teachers.

**Use Case Goal:** To enhance academic collaboration by enabling students to access materials and engage with teachers, while empowering teachers to monitor progress, share content, and deliver personalized feedback.

**Actors:**

1. Teacher

2. Student

**Pre-Conditions:**

* Actor must be registered and logged in.
* User role must be identified and permissions must be configured correctly.
* A stable internet connection is necessary to interact with the web app.

**Post-Conditions:**

* Teachers can upload course materials, receive and respond to student queries, keep track of students progress and provide targeted feedback.
* Students can access materials, post and view question and answers, view their grades and receives personalised feedback.

**Main Flow :**

**Teacher:**

1. **Login:** The teacher  logs in using their credentials. Systems redirects teachers into the dashboard.
2. **Dashboard Displayed:** Teachers dashboard includes courses they manage, upload tools, question and answer panel with student queries and student analytics report.
3. **Upload course materials:** Teacher selects a course and uploads respective materials like videos , lecture slides and readings.
4. **Question and Answer Interaction:**Teacher viewsqueries posted by students and responds by answers or supporting materials.
5. **Analytics and Reporting:** Teacher opens analytics of a student that includes material access stats, scores and participations in question and answer sessions.
6. **Personal Assessment****:** Teacher provides individual feedback and grades for students improvement.
7. **Logout**:Teacher logs out to end the session securely.

**Student :**

1. **Login:** Student logs in using their credentials. Students redirected to dashboard.
2. **Dashboard Displayed:** Students view enrolled courses, uploaded course materials and assessment feedback.
3. **Access Course Materials:** Student views/downloads the uploaded course material. The system logs student access for analytics.
4. **Question and Answer Interaction:** Students post questions to clarify doubts and views responses.
5. **Personal Progress Tracking:** Student can view numbers/percentage of videos seen, courses accessed.
6. **View Personal Assessment****:** Student can receives individual grades, feedback or suggestions for improvement.
7. **Logout:** Student logs out to end the session securely.

**Alternative Flows:**

* **Invalid Login Credentials:** If the user enters incorrect username or password.
* **Unauthorized Access Attempt****:** When student tries to access teacher-only features like material uploads.
* **Uploading Unsupported File Type****:** When teacher tries to upload a unsupported file type.
* **No course materials:** Student opens a course where no materials have been uploaded yet.
* **Required Field Missing:** When user leaves required fields blank the system doesn’t allow to continue the action.

**Exception Handling:**

* **Network Issues:** If a network issue occurs during any operation, the system should display an appropriate message to the user and allow them to retry the operation once the connection is restored.
* **Database Connectivity Issues:** If the system is unable to connect to the database, displays a clear error message to the user.

**Possible Test Cases:**

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| --- | --- | --- | --- |
| **Test Case ID** | **Description** | **Input Data** | **Expected Outcome** |
| TP01 | Login with valid credentials | Correct email & password | Redirects into dashboard |
| TP02 | Login with invalid credentials | Wrong email or password | Error message displayed; Invalid credentials |
| TP03 | Upload valid course material | Videos or documents | File successfully uploaded |
| TP04 | Upload invalid file format | Input invalid/unsupported file type | Error ; unsupported file format |
| TP05 | Student accesses uploaded material | Student clicks file | File opens correctly |
| TP06 | Student posts a question | Student provides text | Question seen in Q&A section |
| TP07 | Student submits empty question | No text | Error ; enter your question |
| TP08 | Teacher responds to a question | Enters reply text | Reply seen in Q&A section |
| TP09 | Course with no materials | Clicks Course that has no uploads yet | No materials available |
| TP10 | Network failure during file upload | Internet is disconnected during file upload | Error; Upload failed, Try again. |
| TP11 | Teacher provides assessment feedback | Enters grade and comments | |  | | --- | | Feedback can be viewed by students | |
| TP12 | Repeated login failure | Wrong password entered 3 times | Optional lockout or warning message |
| TP13 | Database connectivity error | DB is down during login/upload | Error; Service unavailable, Try later |

**Expected Outcome:**

* Students and teachers can collaborate effectively using a centralized platform.
* Course materials are able to be uploaded and accessed.
* Teachers can view analytics and provide feedback to students.
* Users can participate in Q&A sessions.
* User friendly platform.

**Workflow diagram**

