

# Project Document

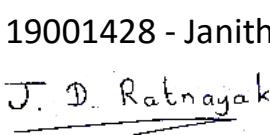
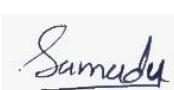


**CS Group 03**

**Group Project I**

**SCS 2202**

## Details of the Project

<b>Supervisor</b>	Dr. Dinuni K. Fernando
> Signature	
<b>Co-Supervisor</b>	Mrs. Hirasha Pooliyadda
> Signature	
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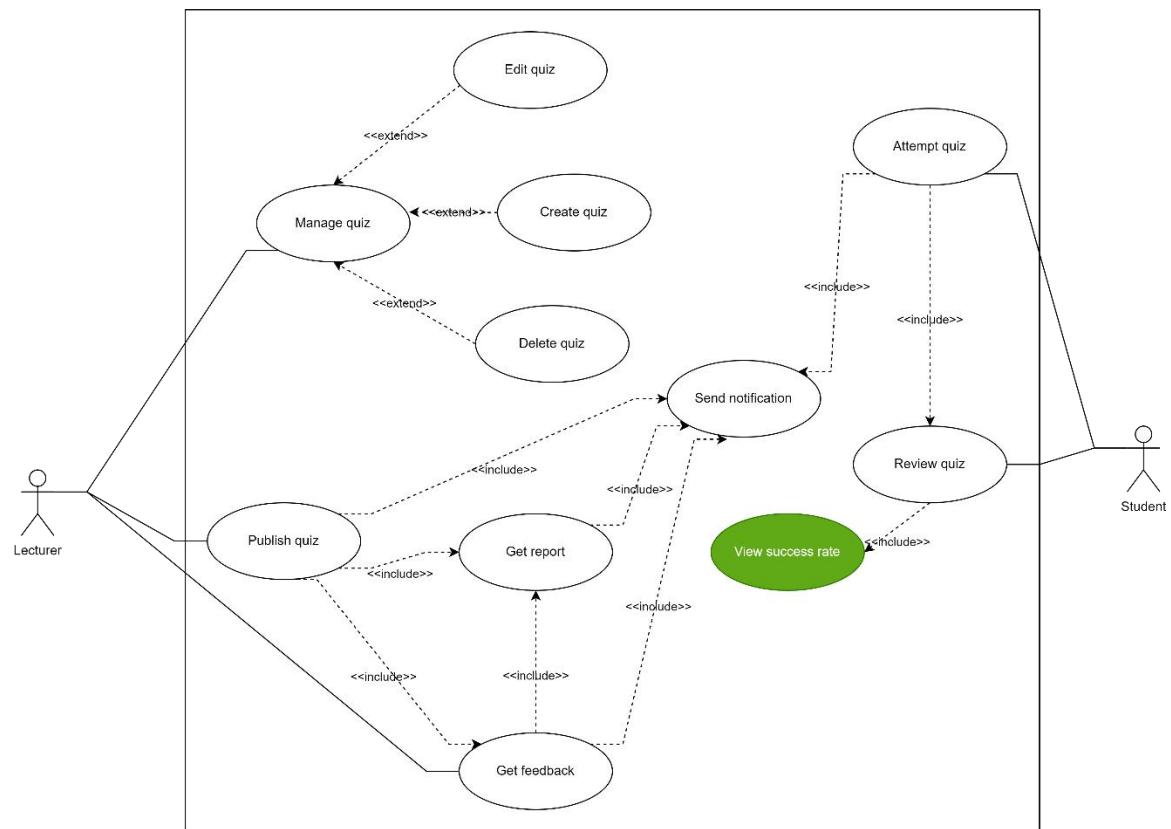
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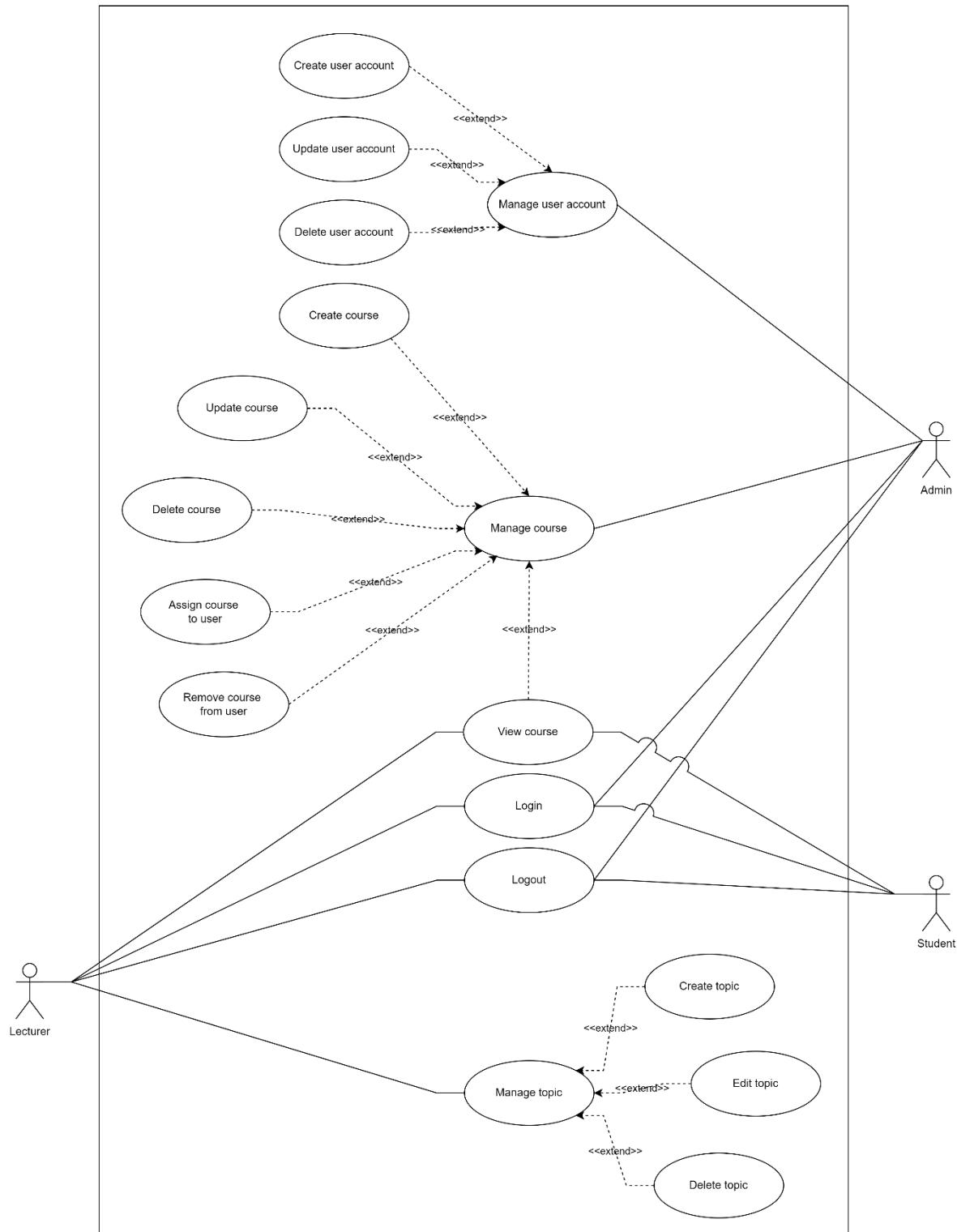
# 1. System Design

## 1. Use Case Diagram

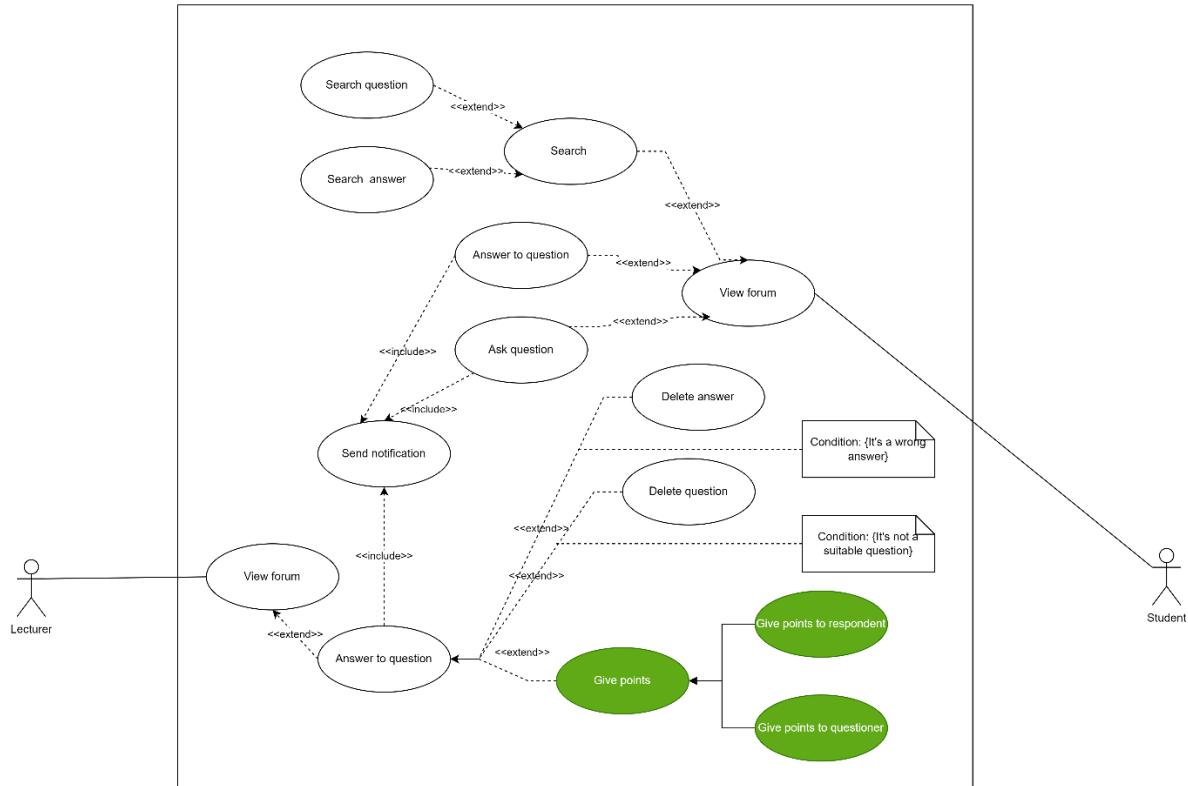
### 1. Quiz Management Process



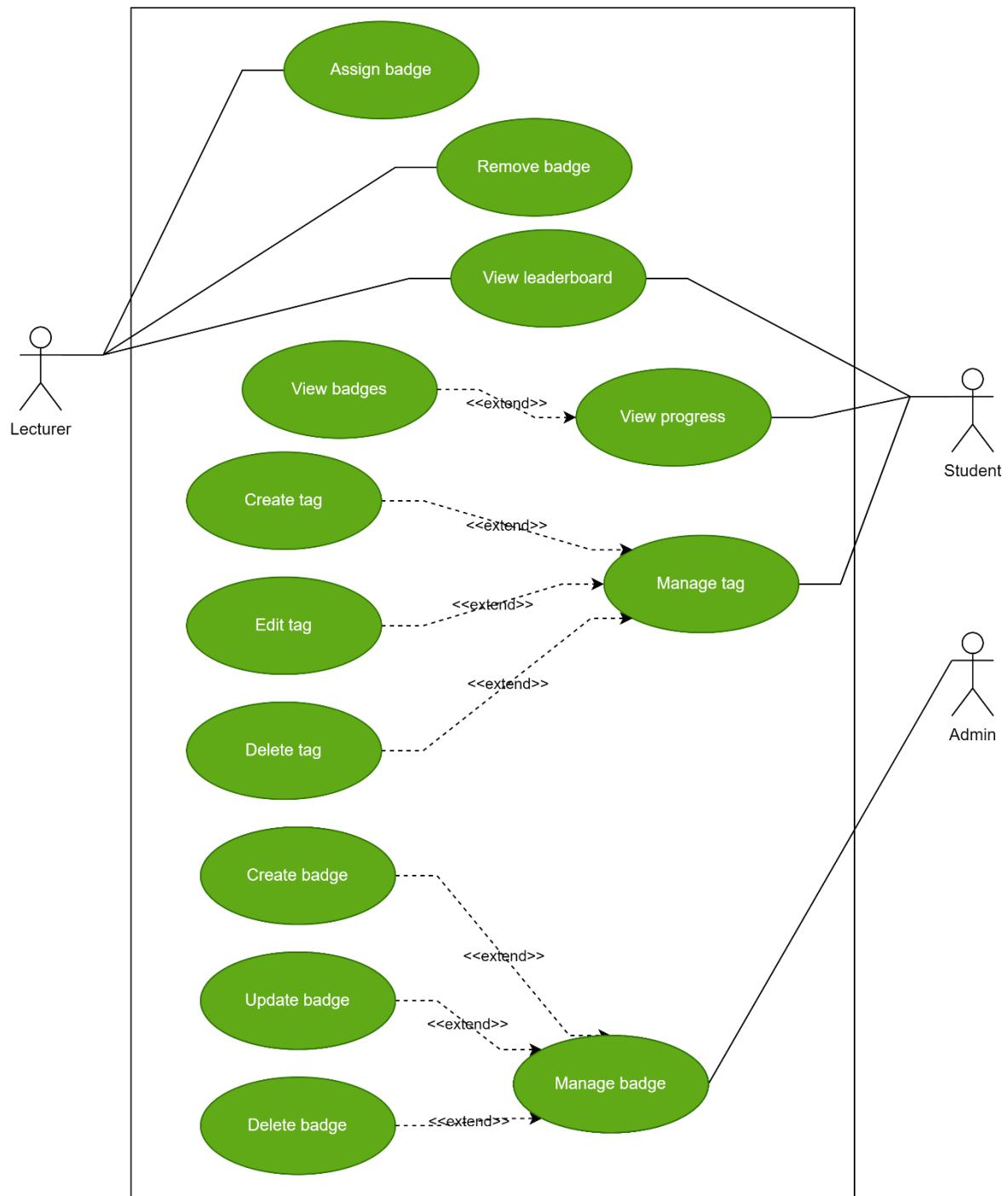
## 2. User & Course Management Process



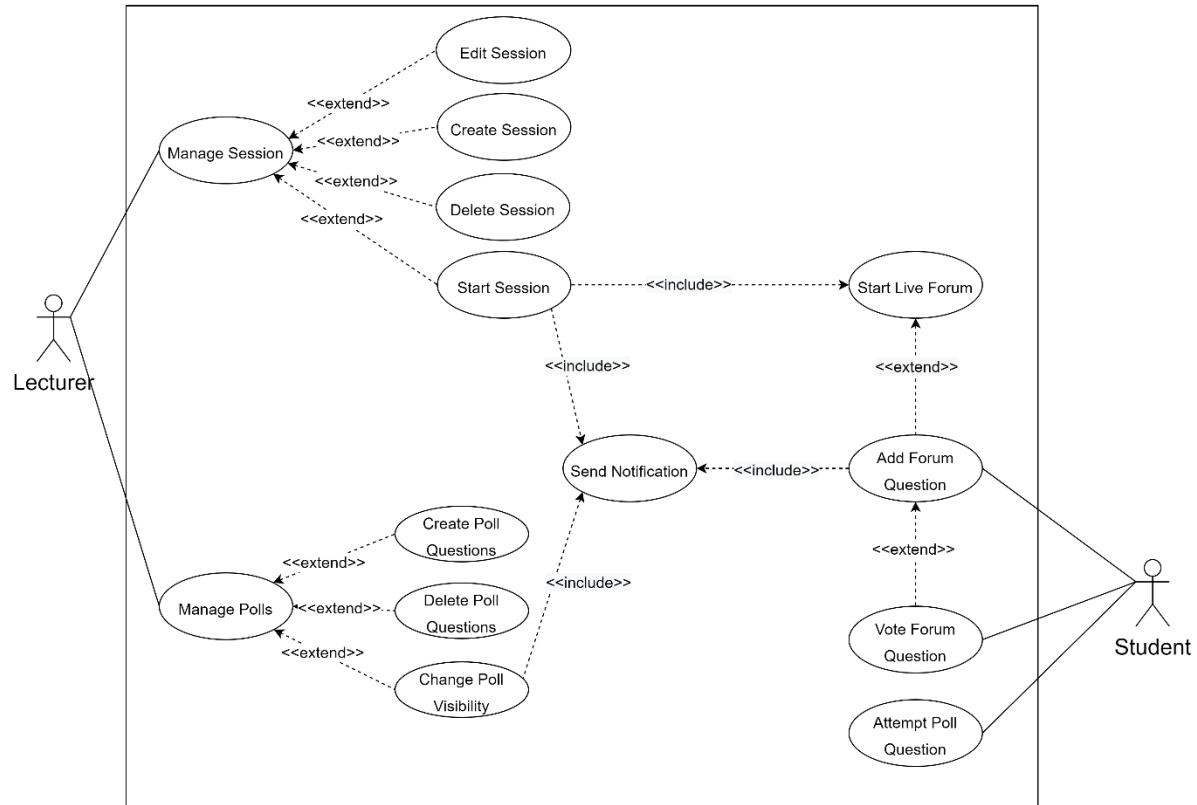
### 3. Forum Management Process



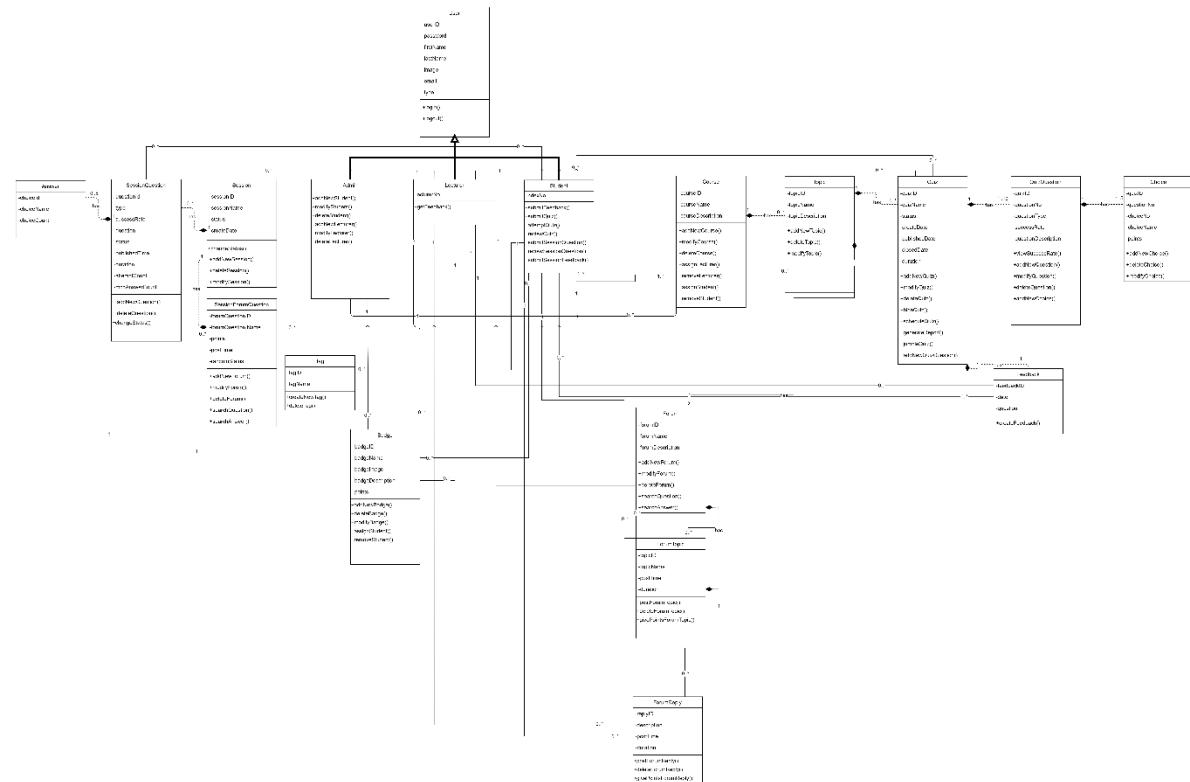
#### 4. Progress & Tag Management Process



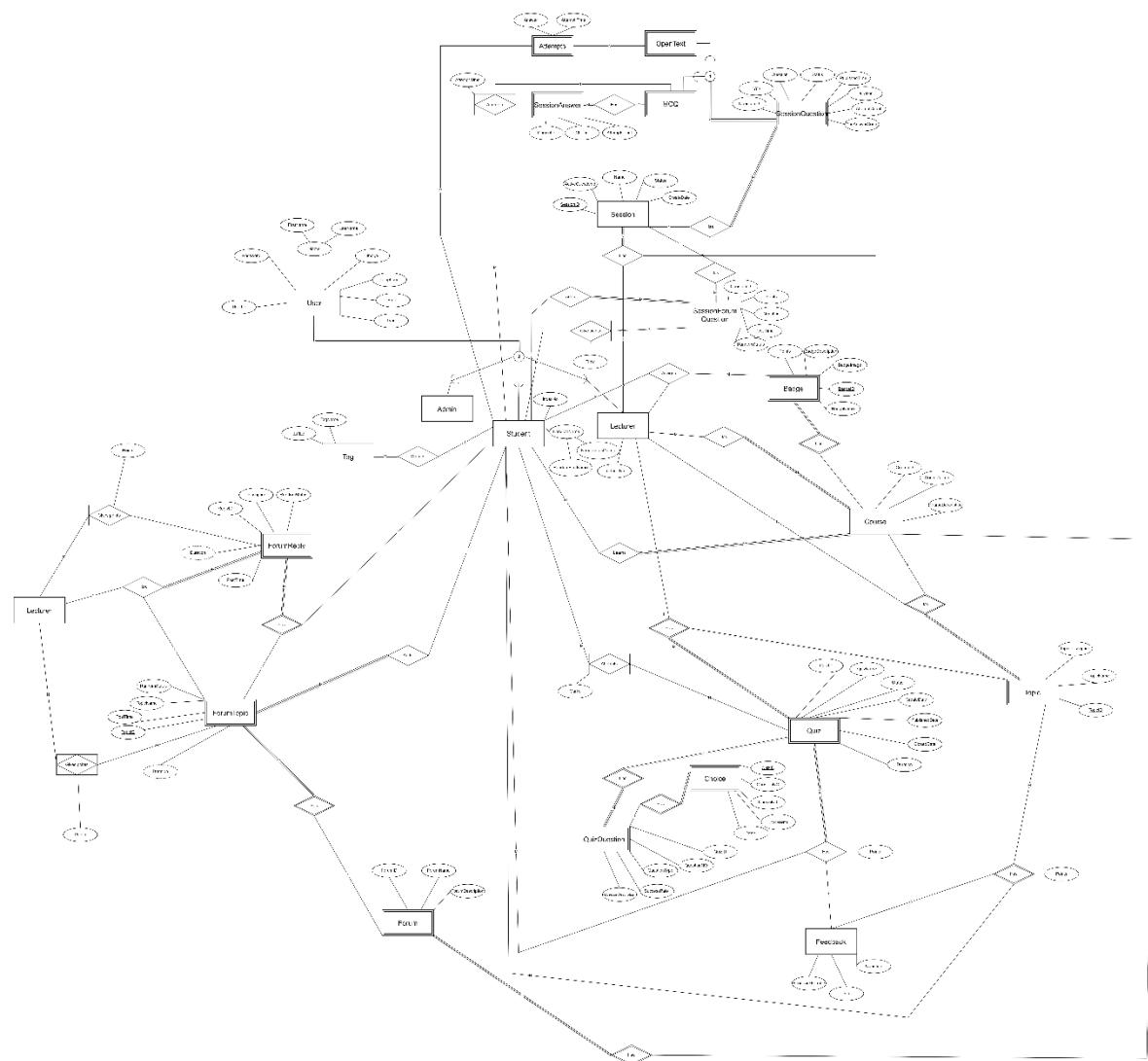
## 5. Session Management Process



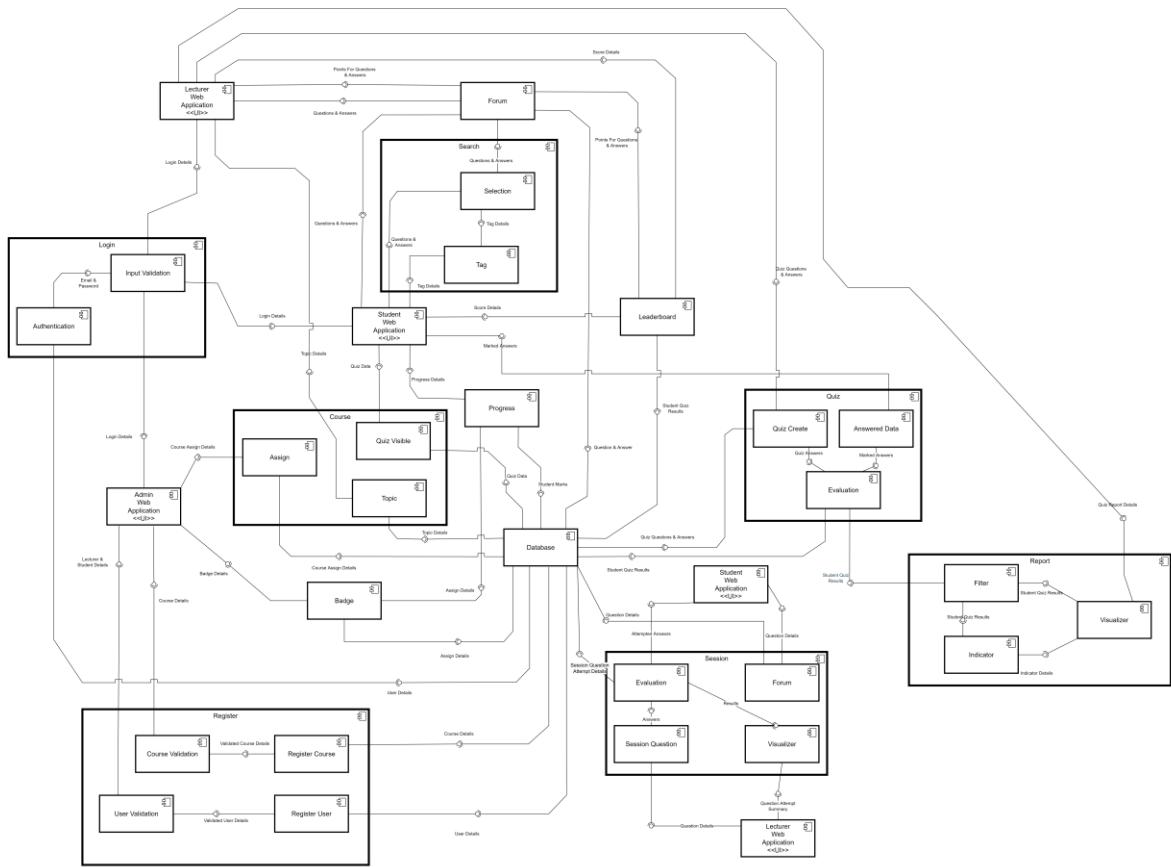
## 2. Class Diagram



## 3. ER Diagram

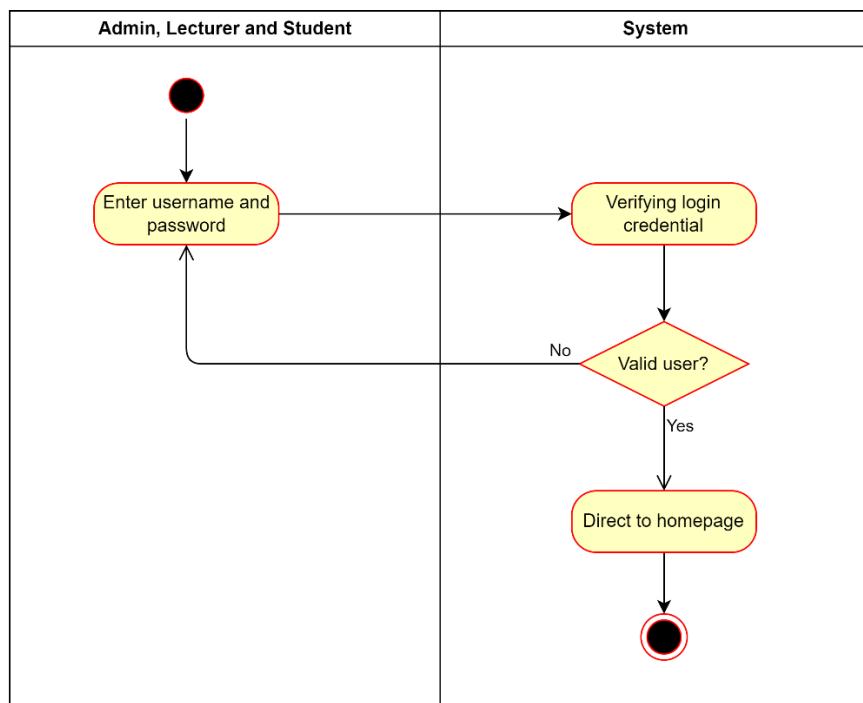


## 4. Component Diagram

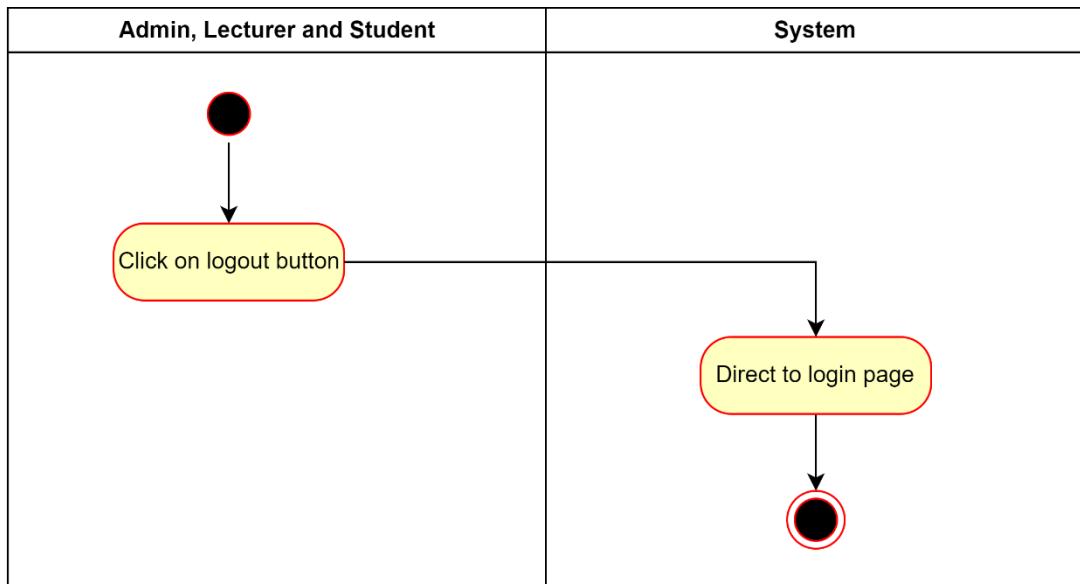


## 5. Activity Diagram

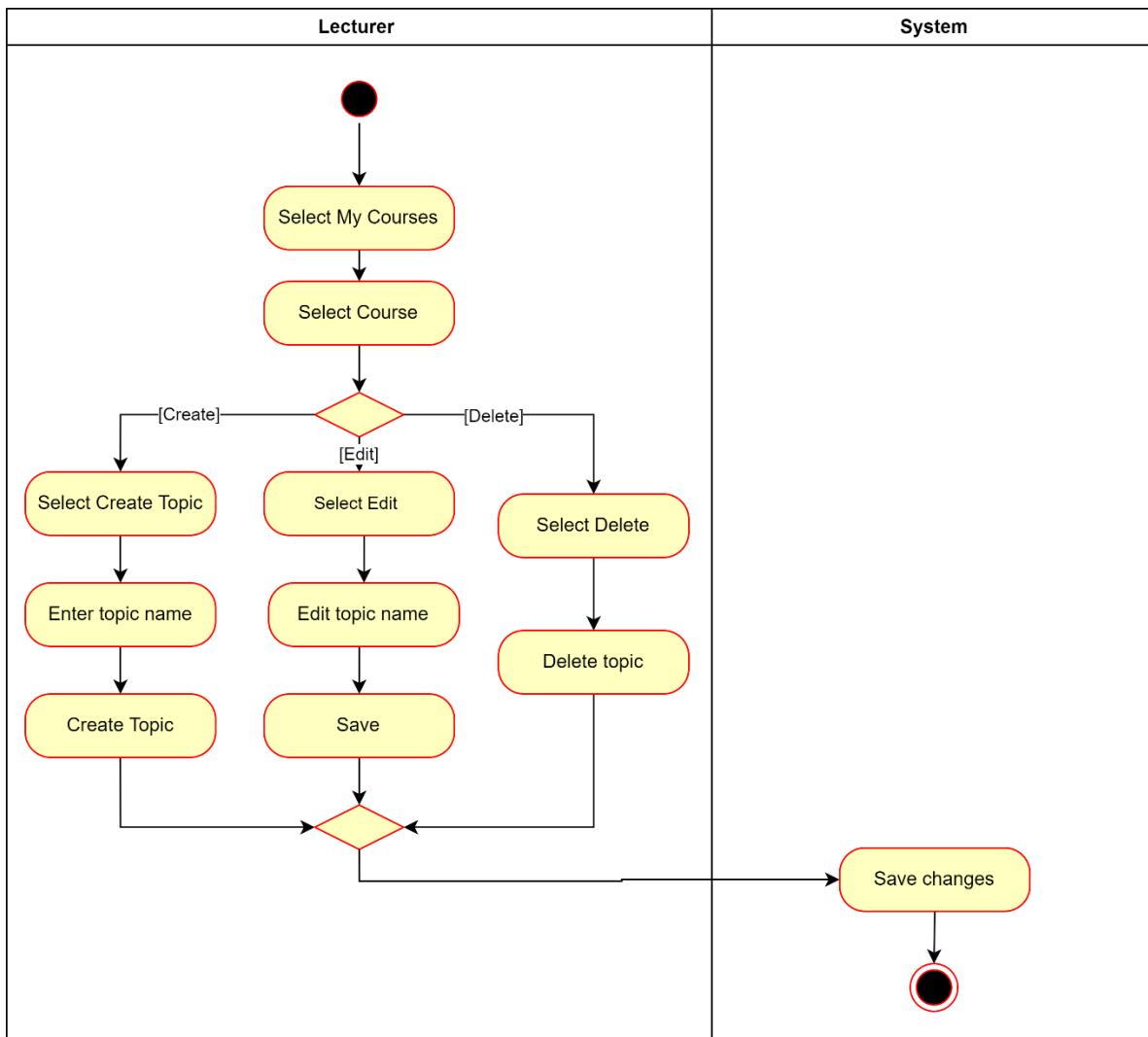
### 1. Login



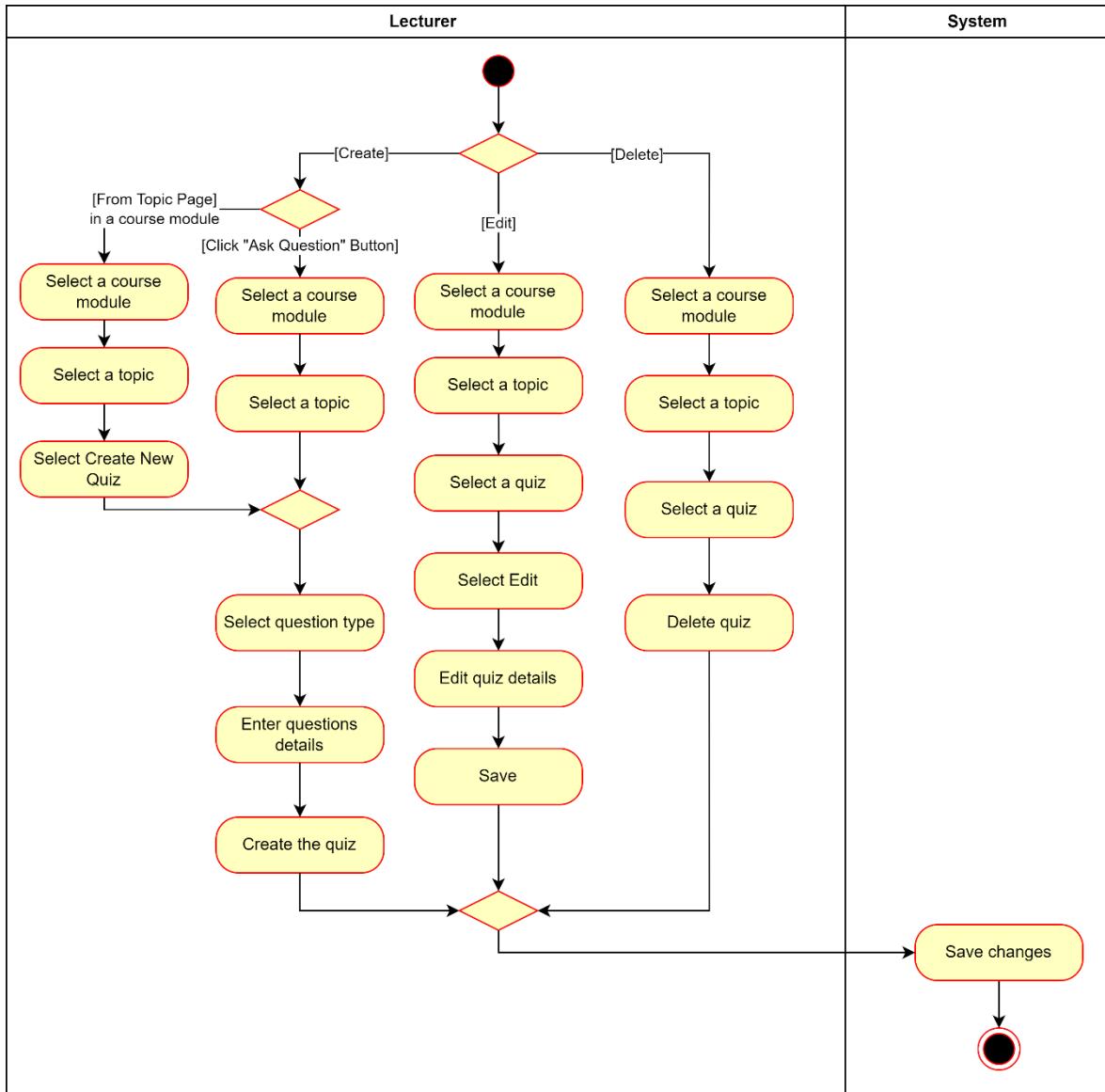
### 2. Logout



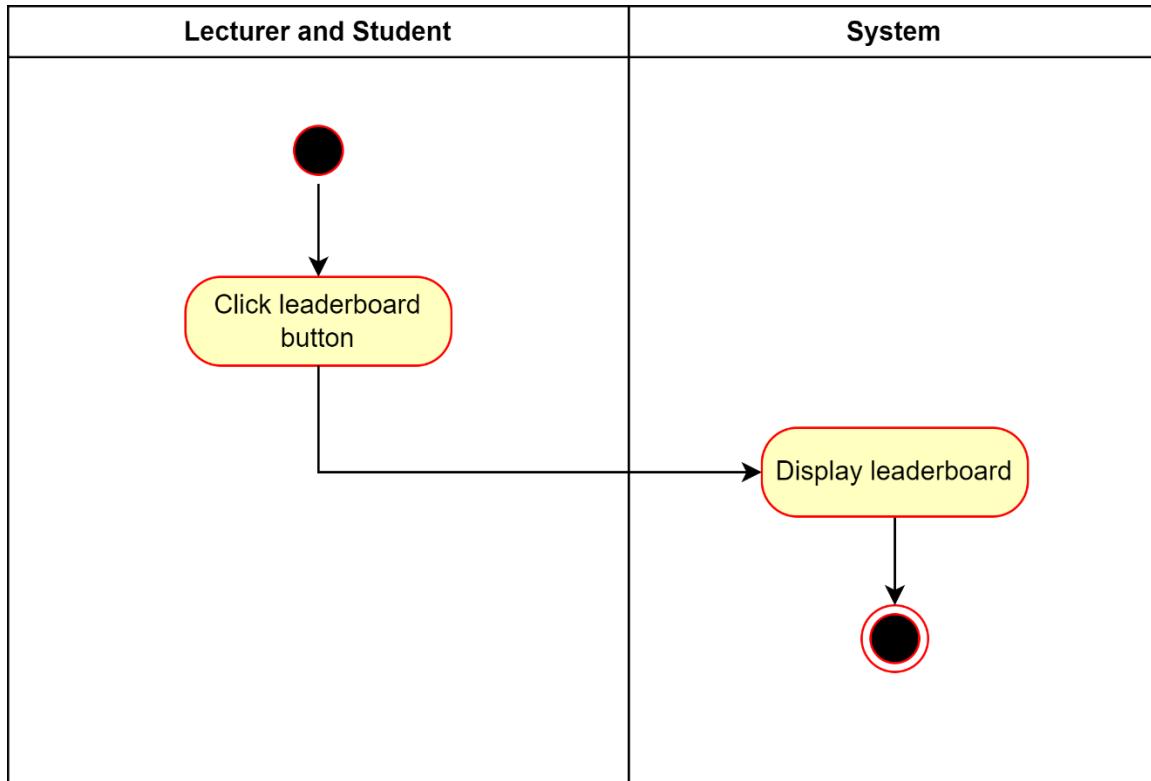
### 3. Manage Topic



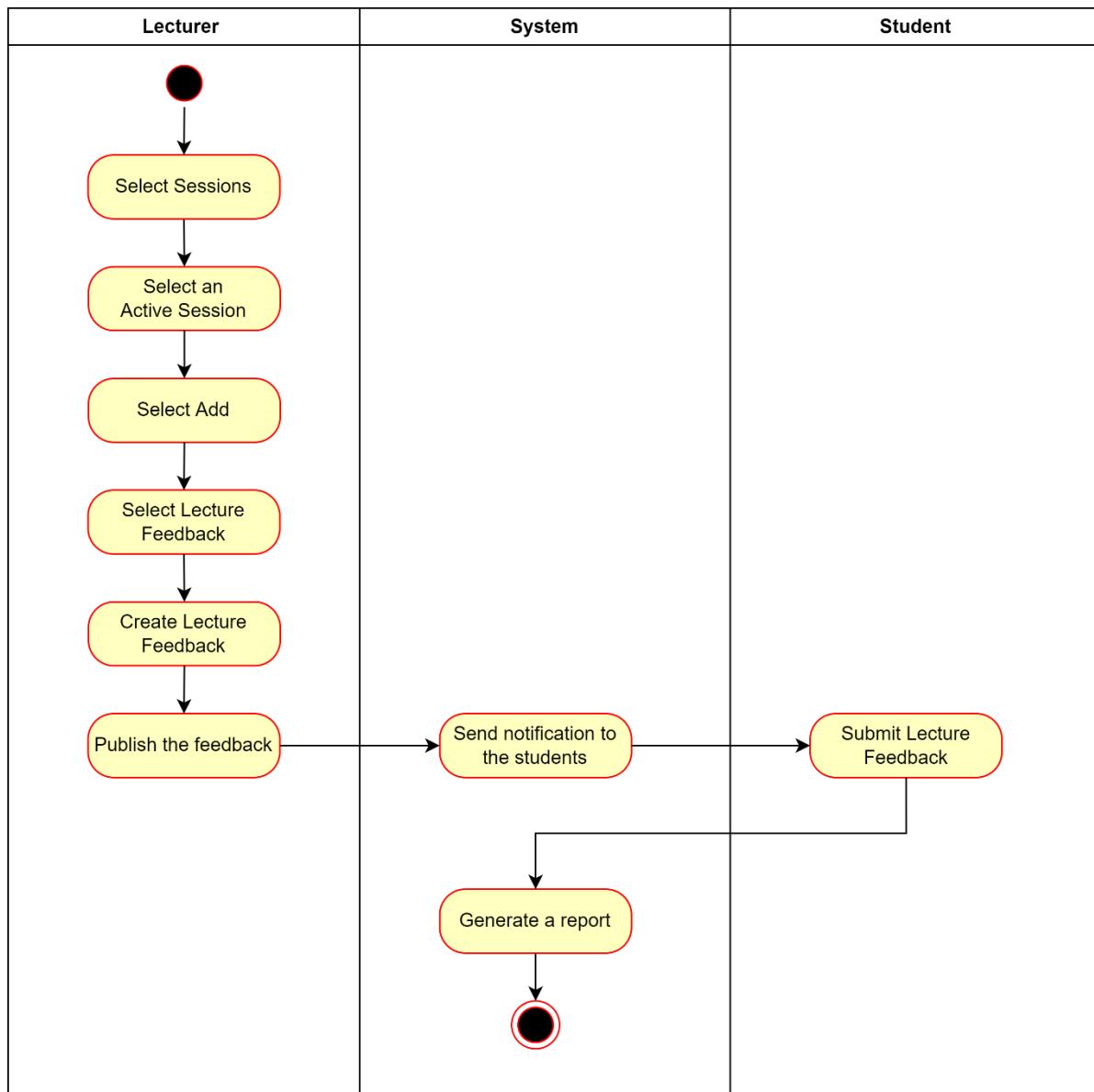
## 4. Manage Quiz



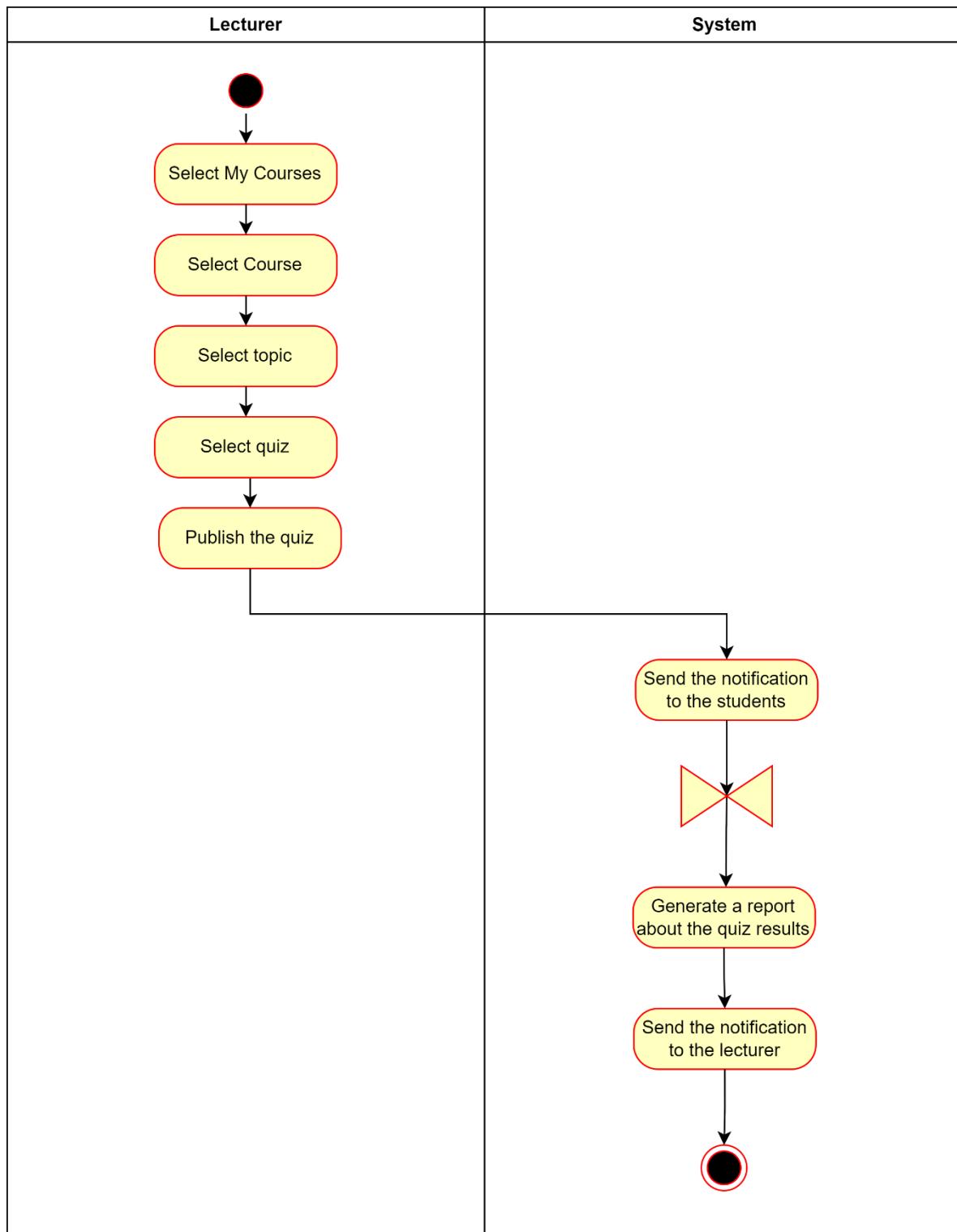
## 5. View Leaderboard



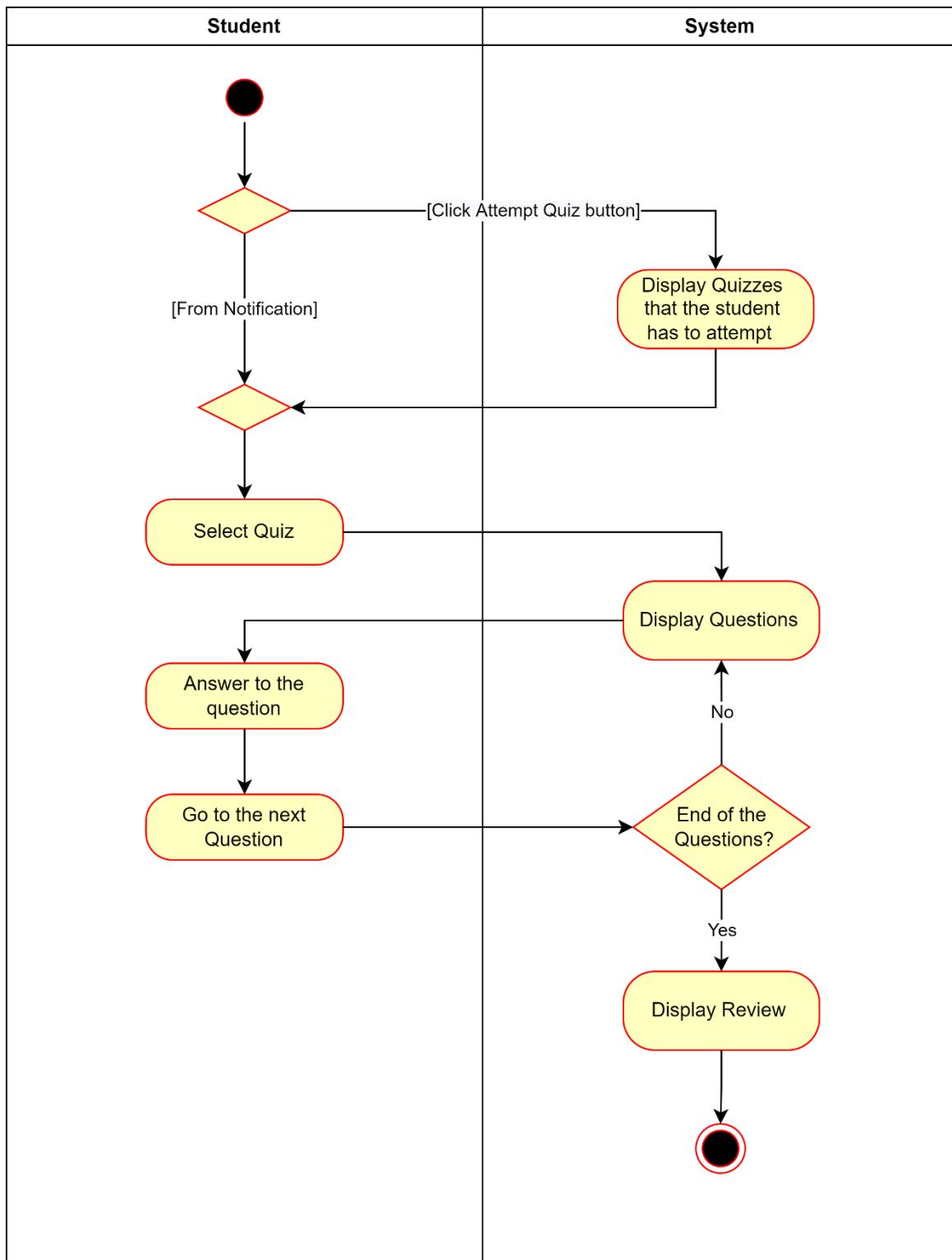
## 6. Get Feedback



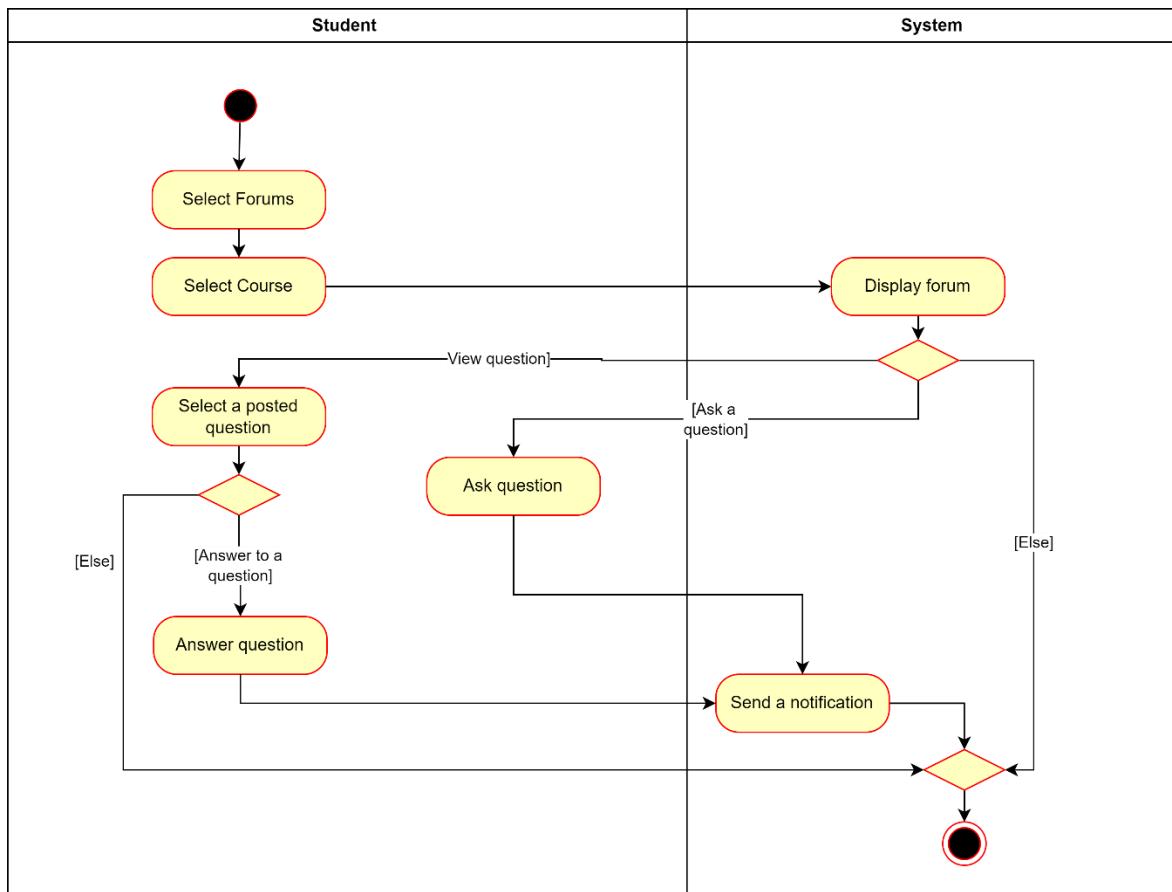
## 7. Publish Quiz



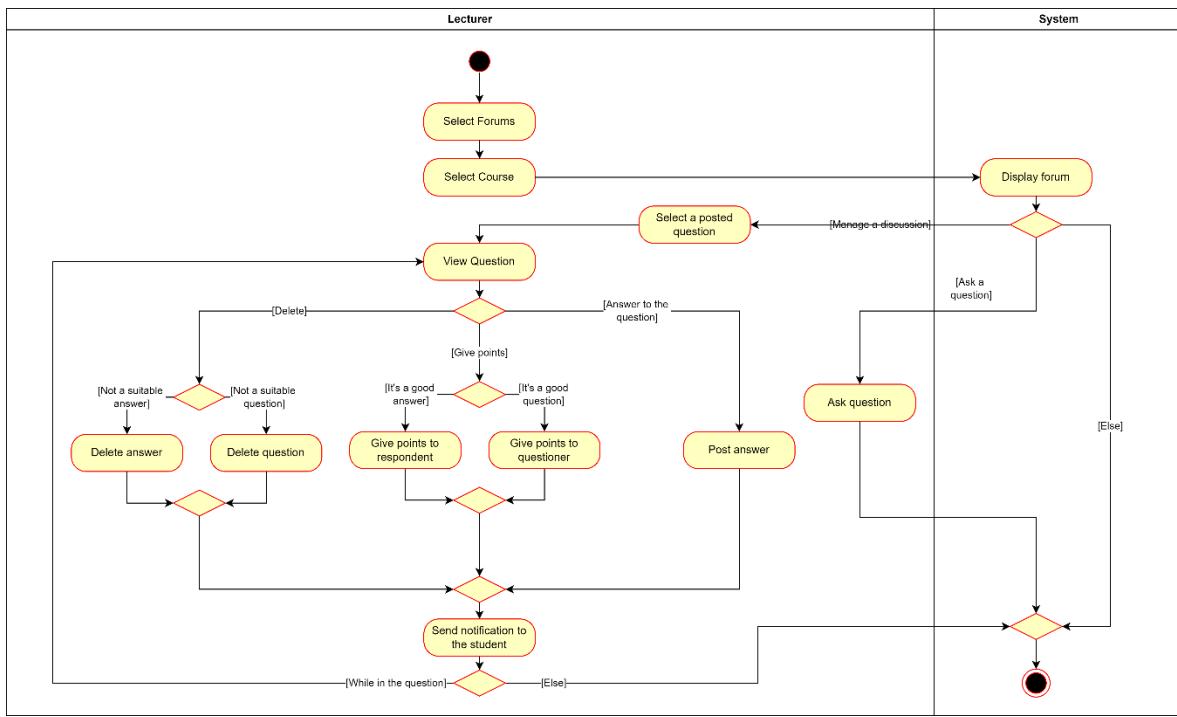
## 8. Attempt Quiz



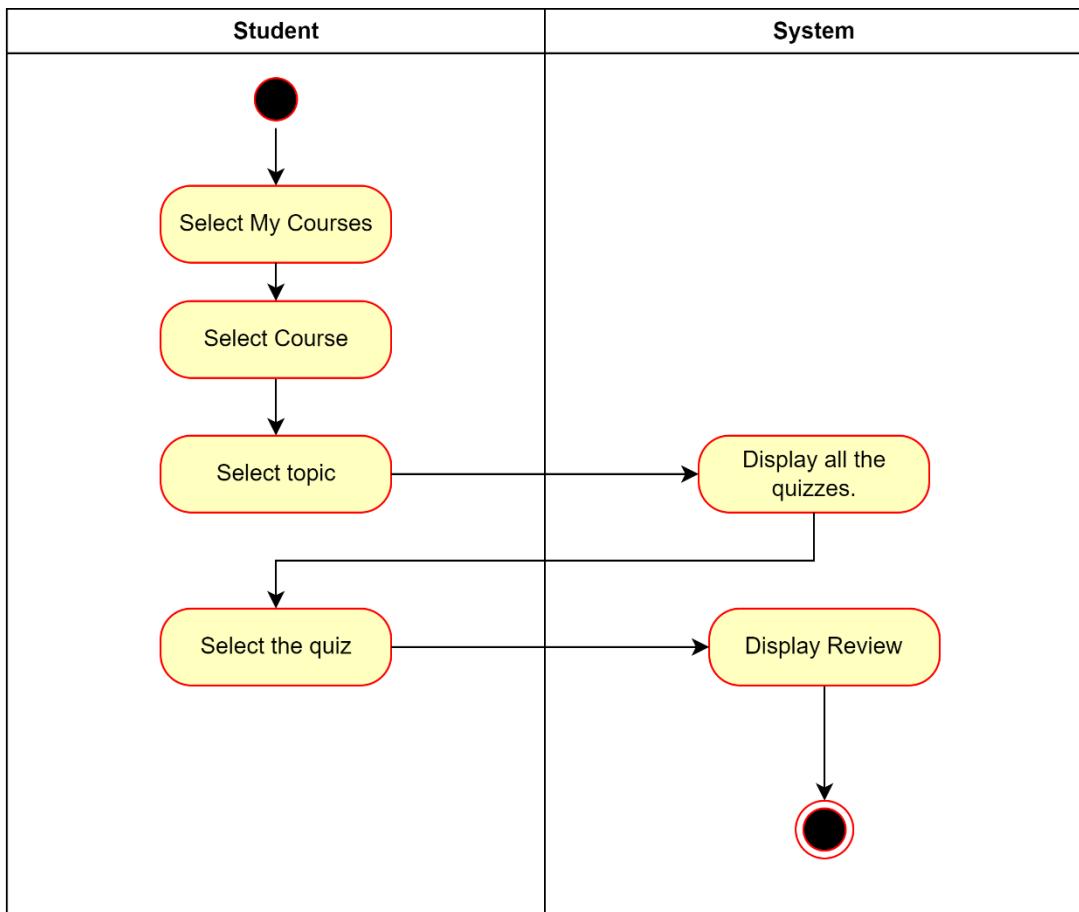
## 9. View Forum (Student)



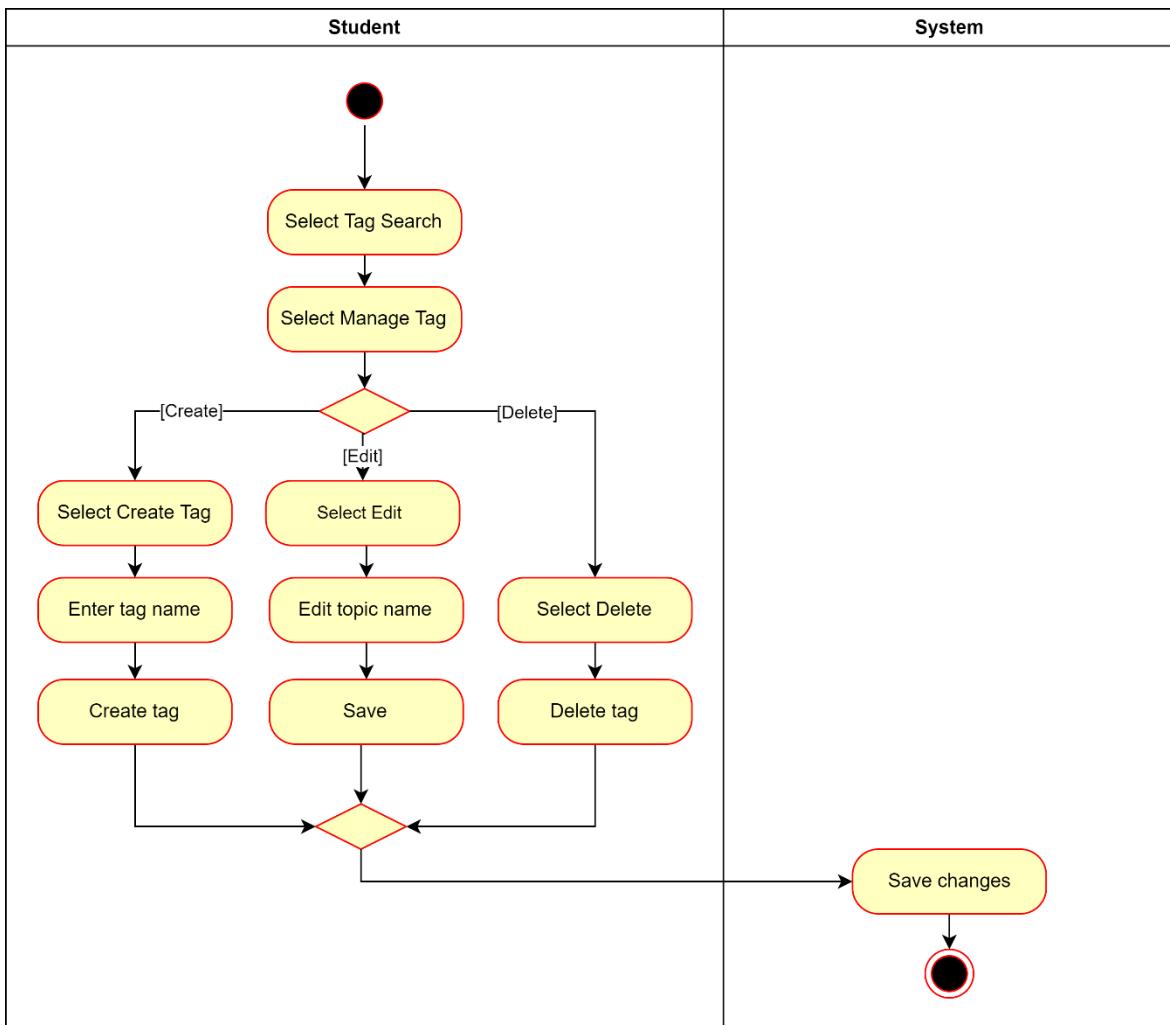
## 10. View Forum (Lecturer)



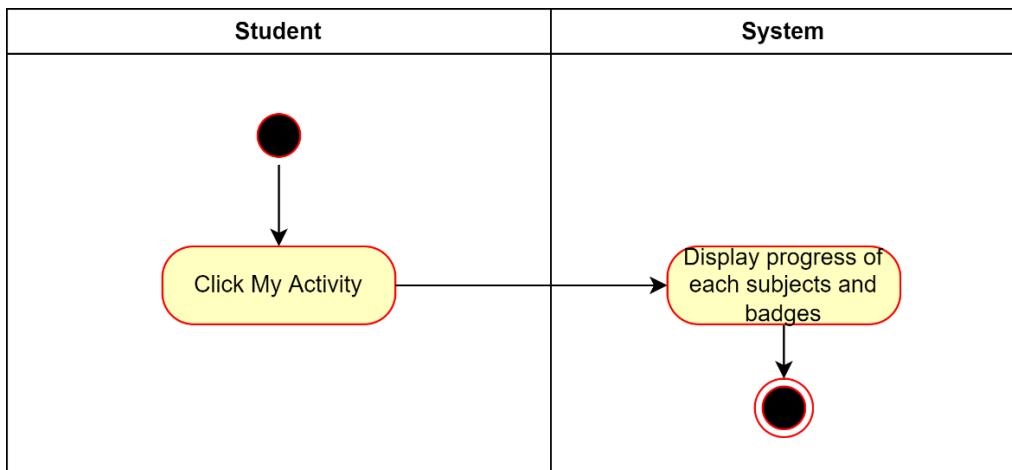
## 11. Review Quiz



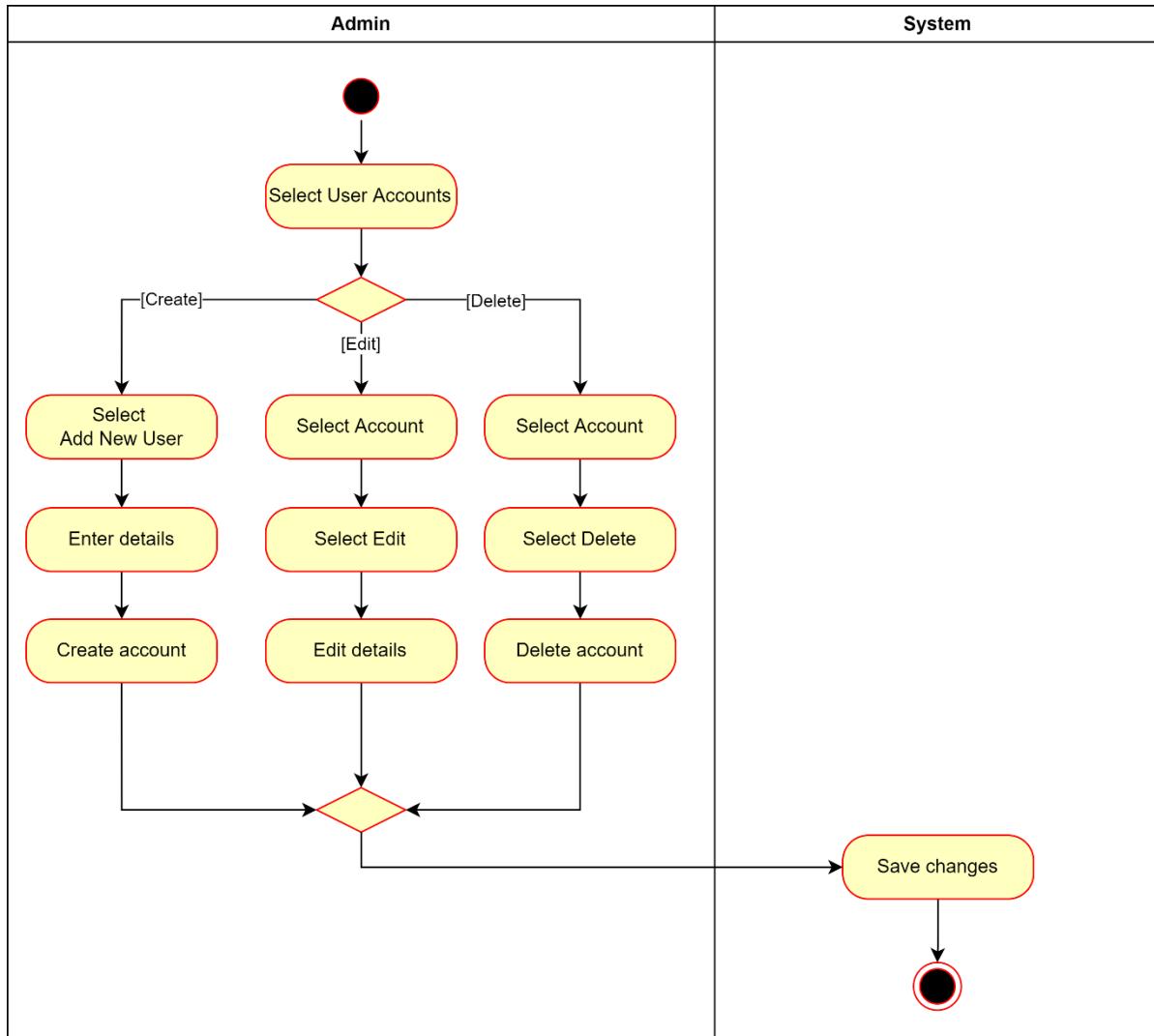
## 12. Manage Tag



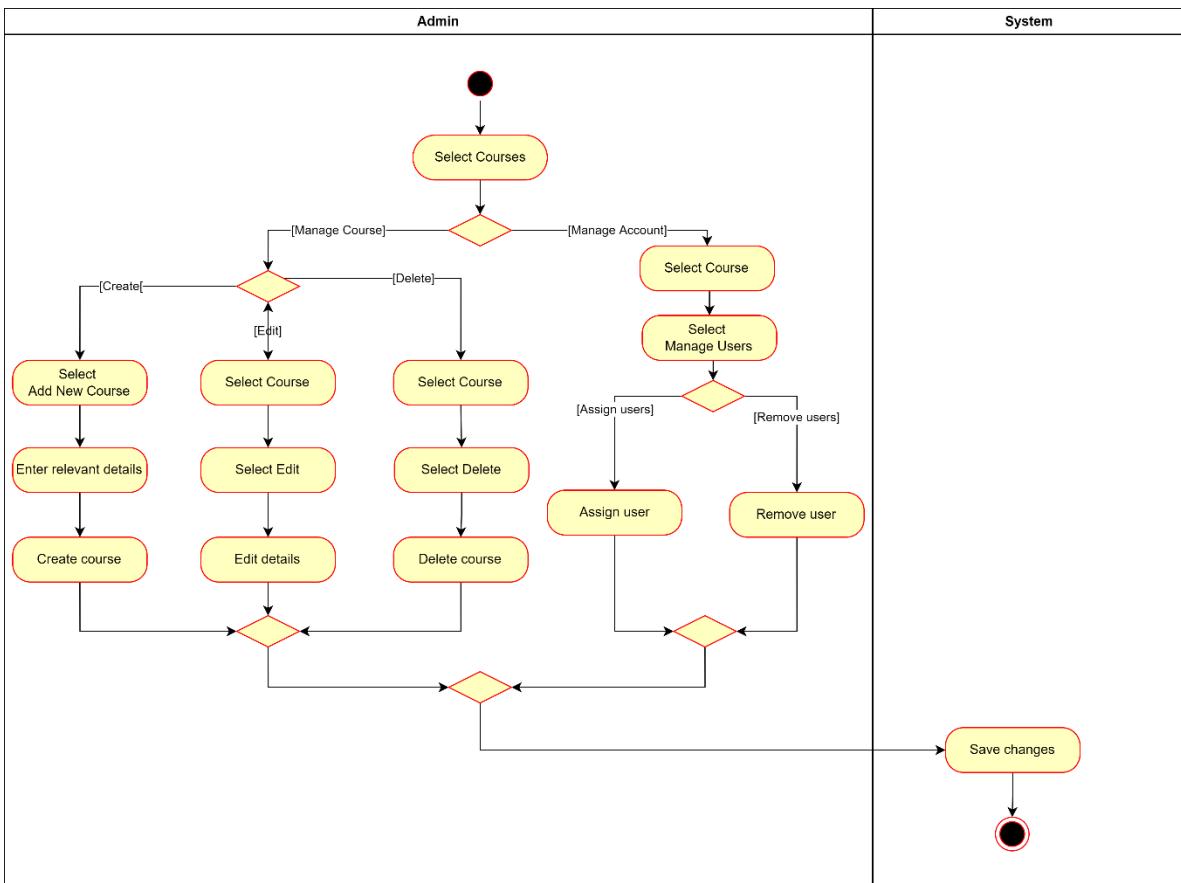
## 13. View Progress



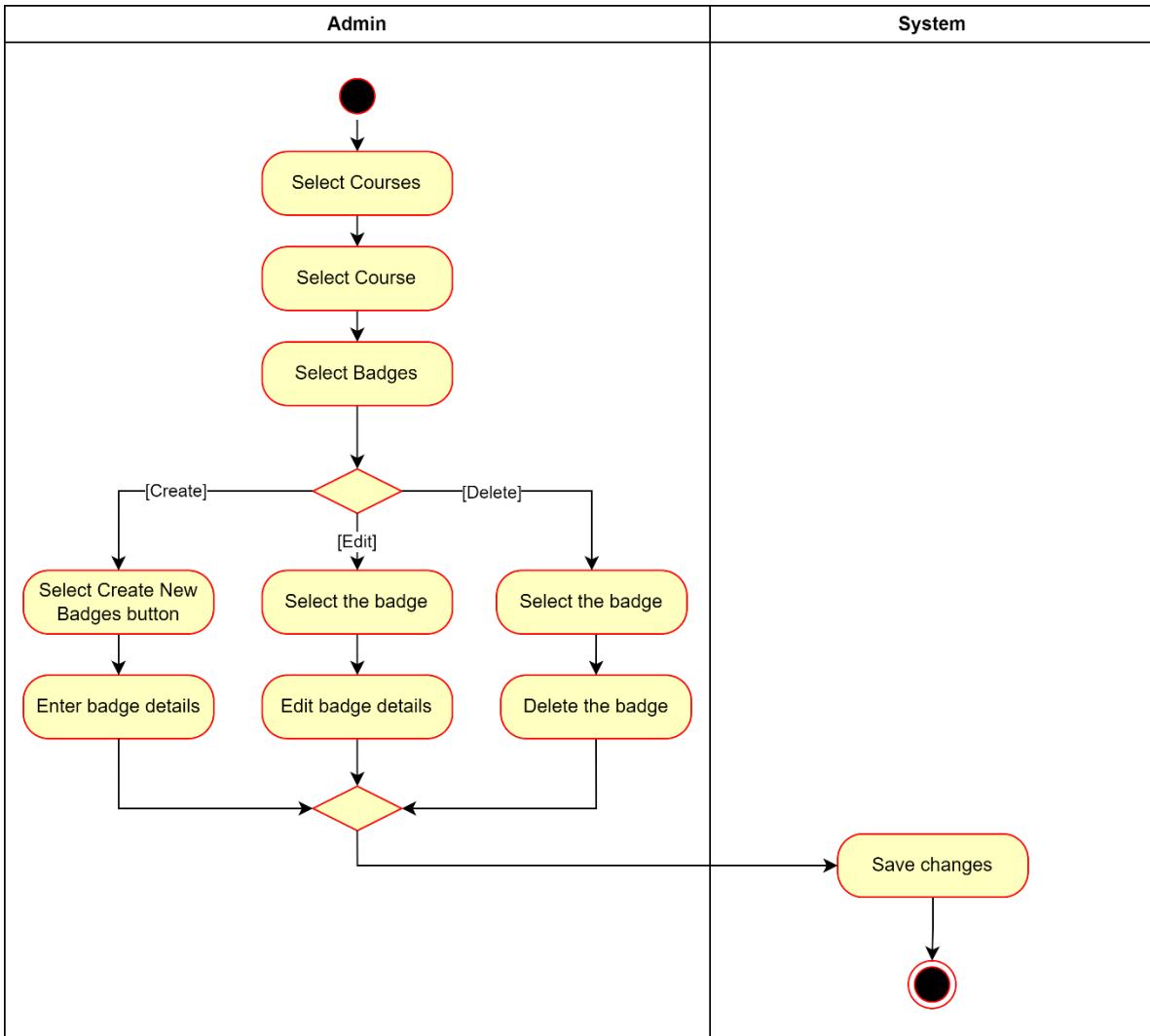
## 14. Manage User Account



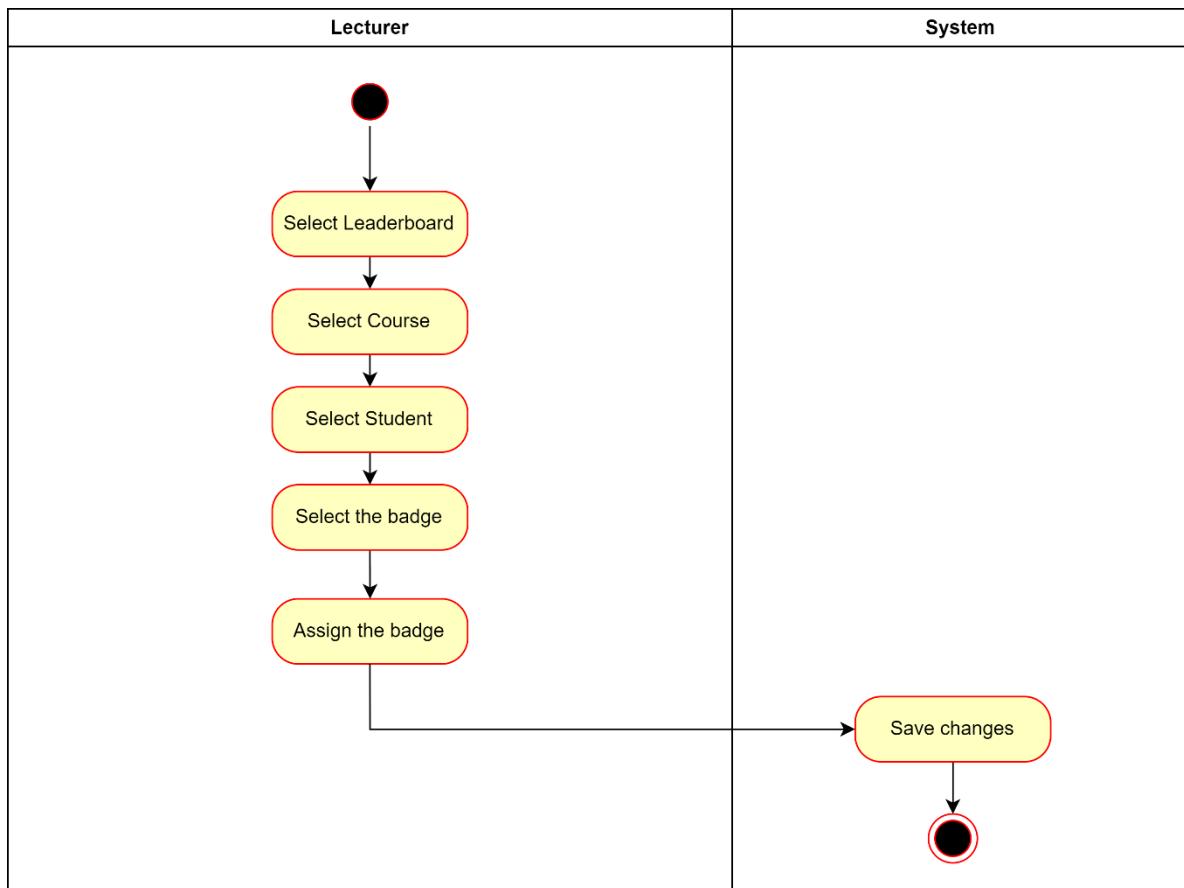
## 15. Manage Course



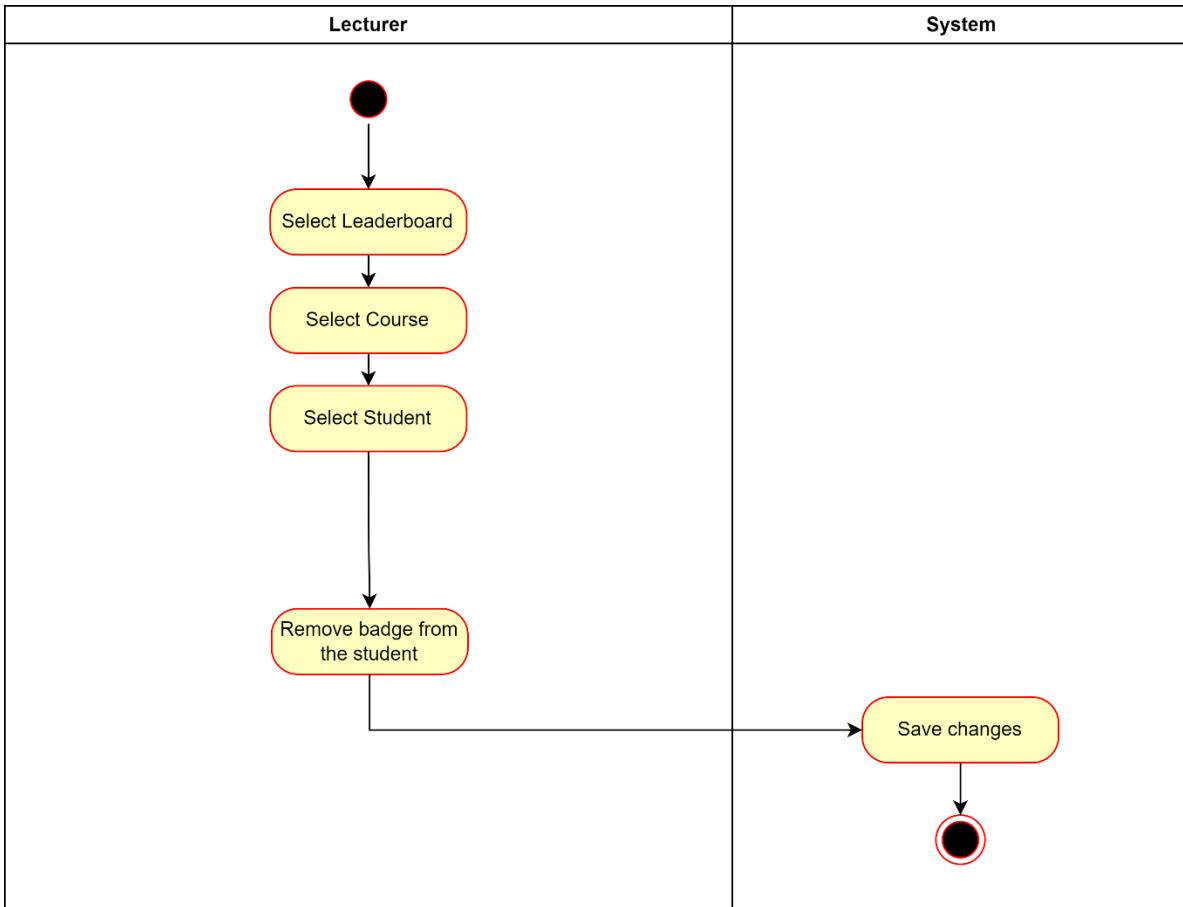
## 16. Manage Badge



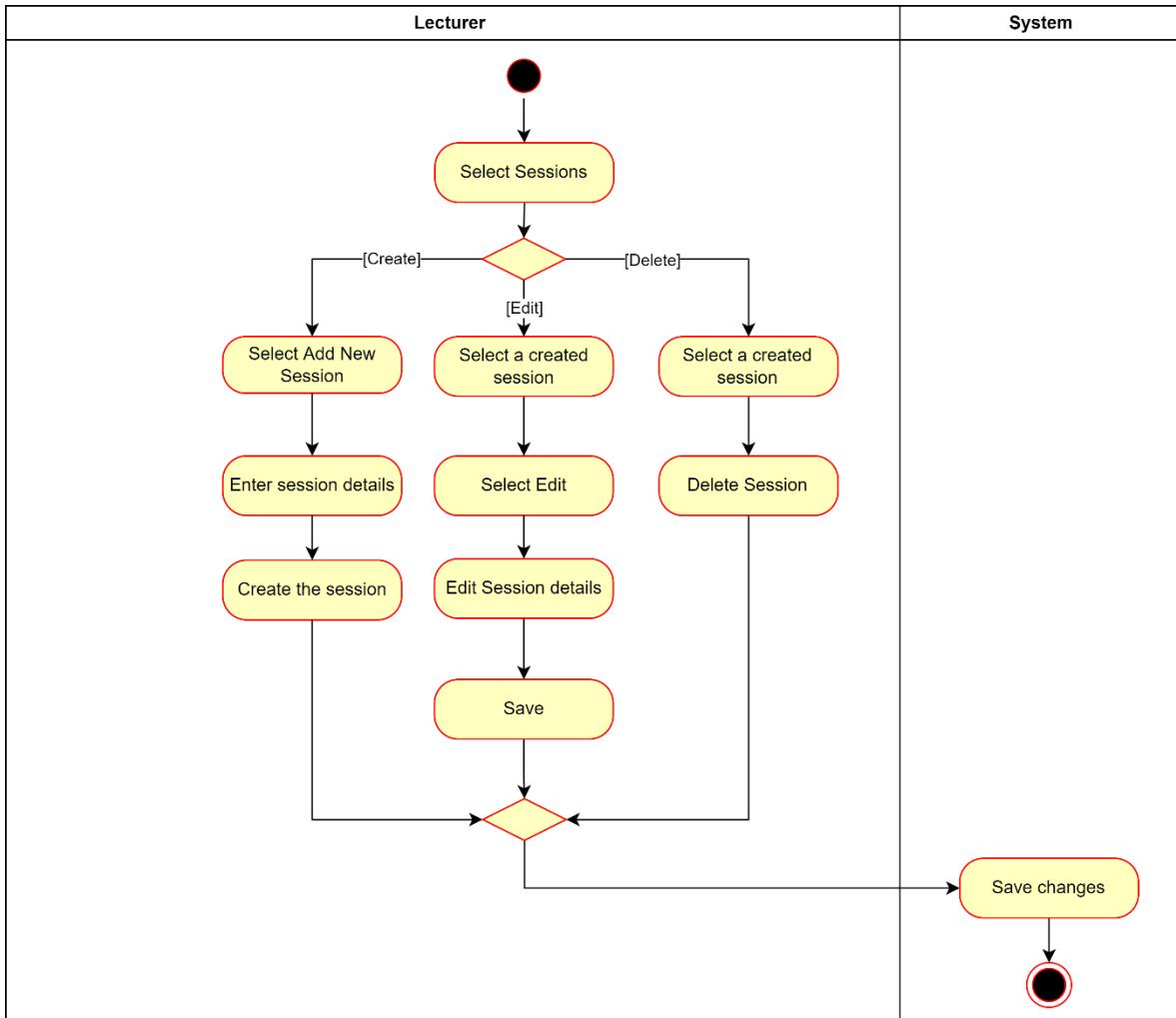
## 17. Assign Badge



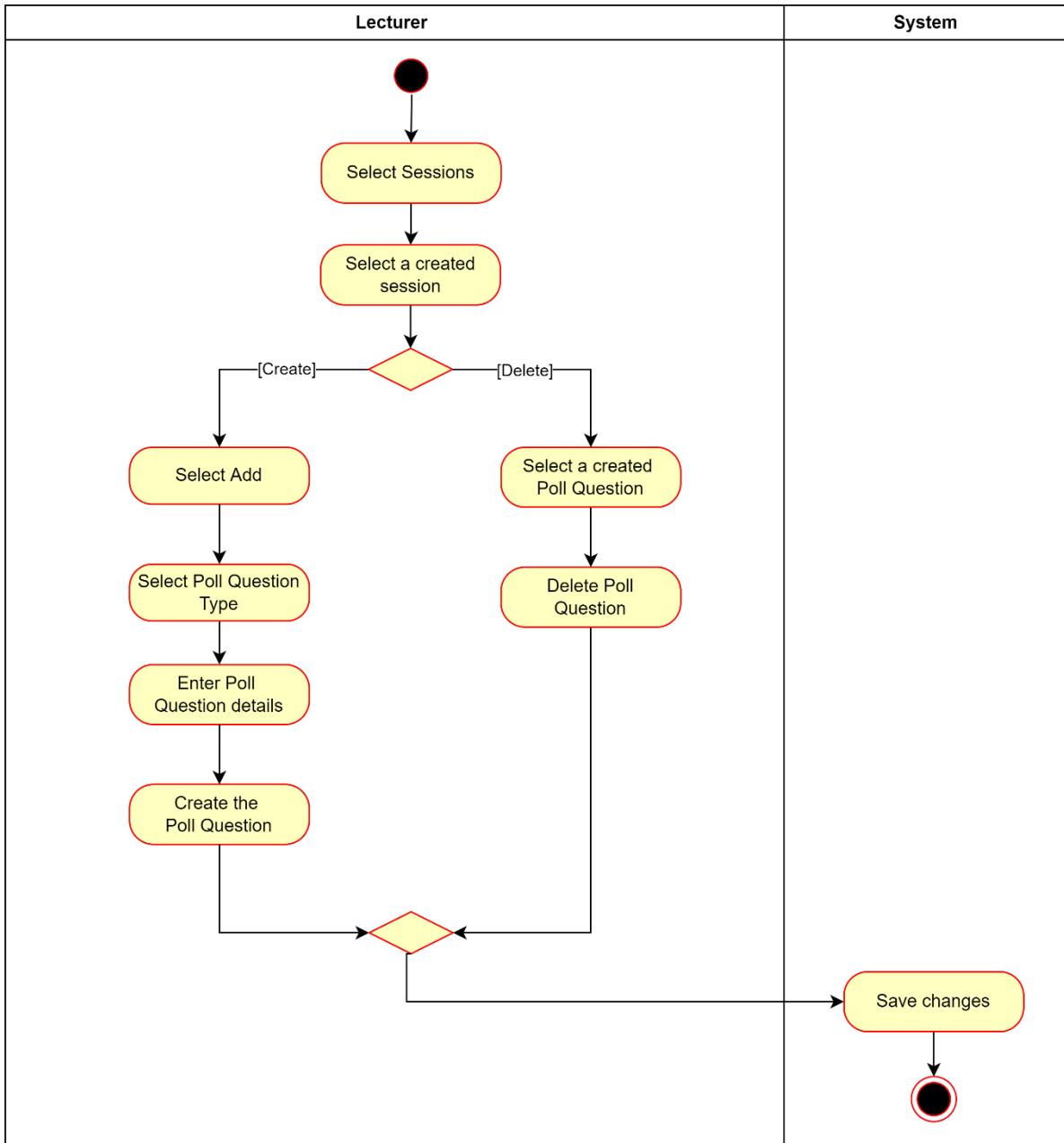
## 18. Remove Badge



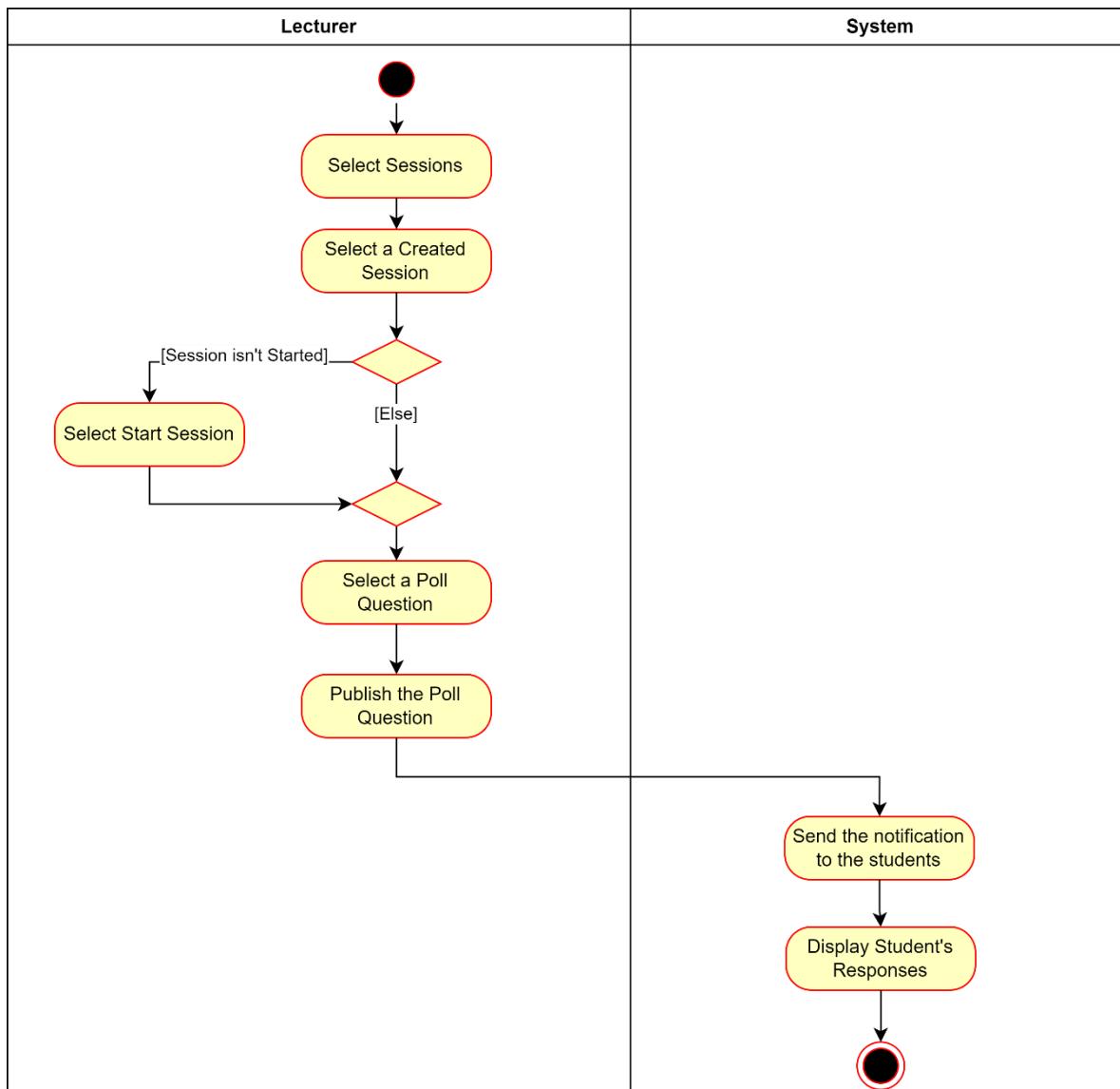
## 19. Manage Session



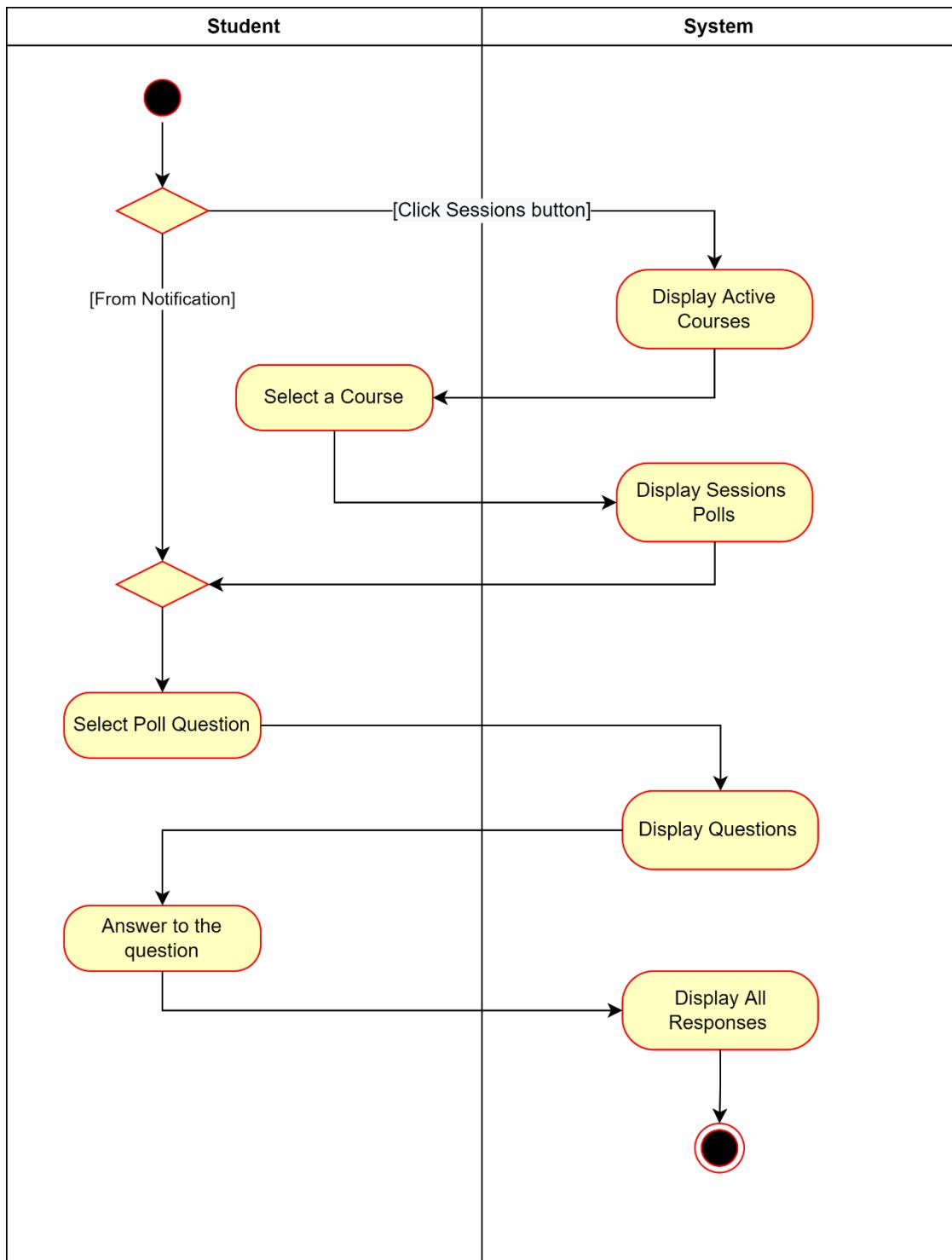
## 20. Manage Session Poll Question



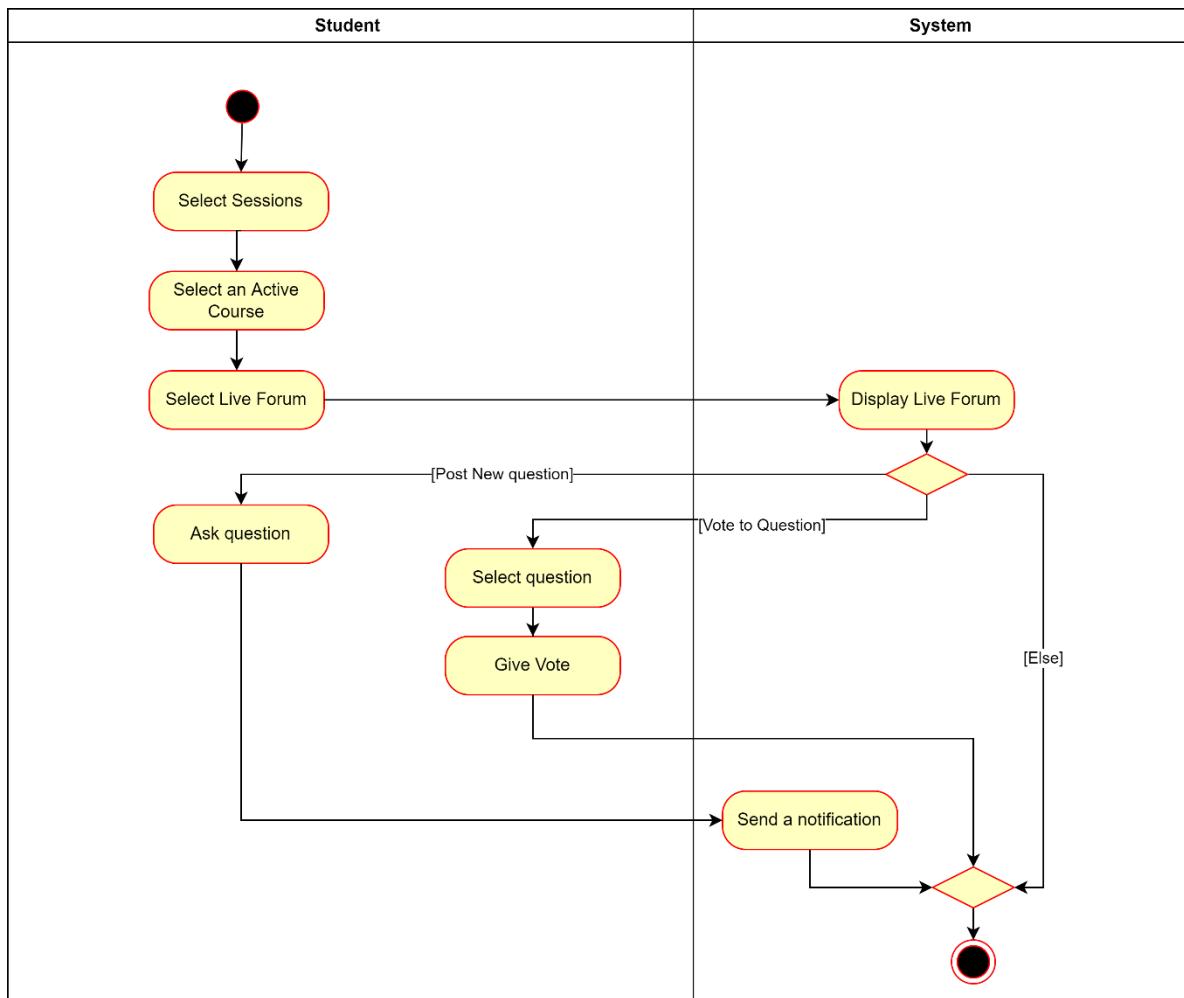
## 21. Publish Session Poll Question



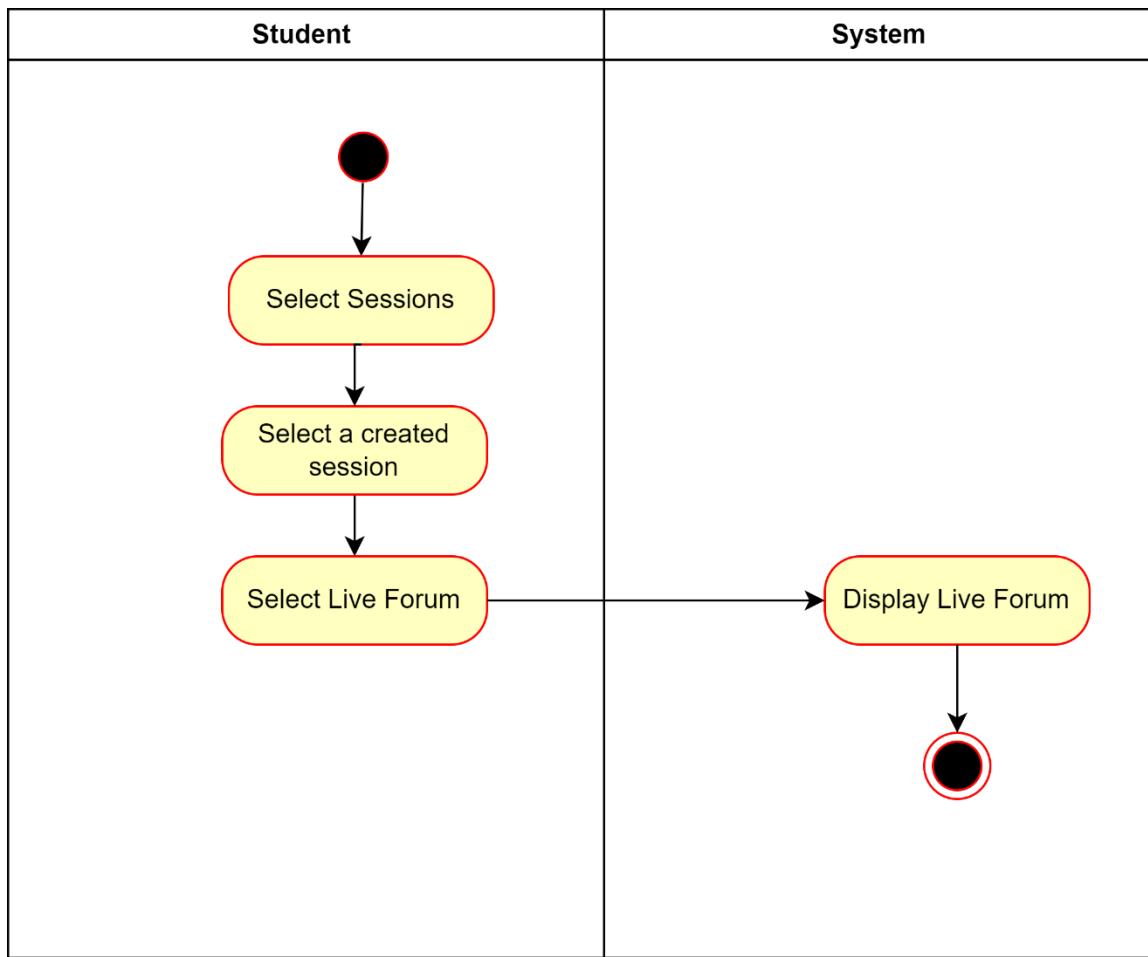
## 22. Attempt Poll Question



## 23. View Session Live Forum (Student)

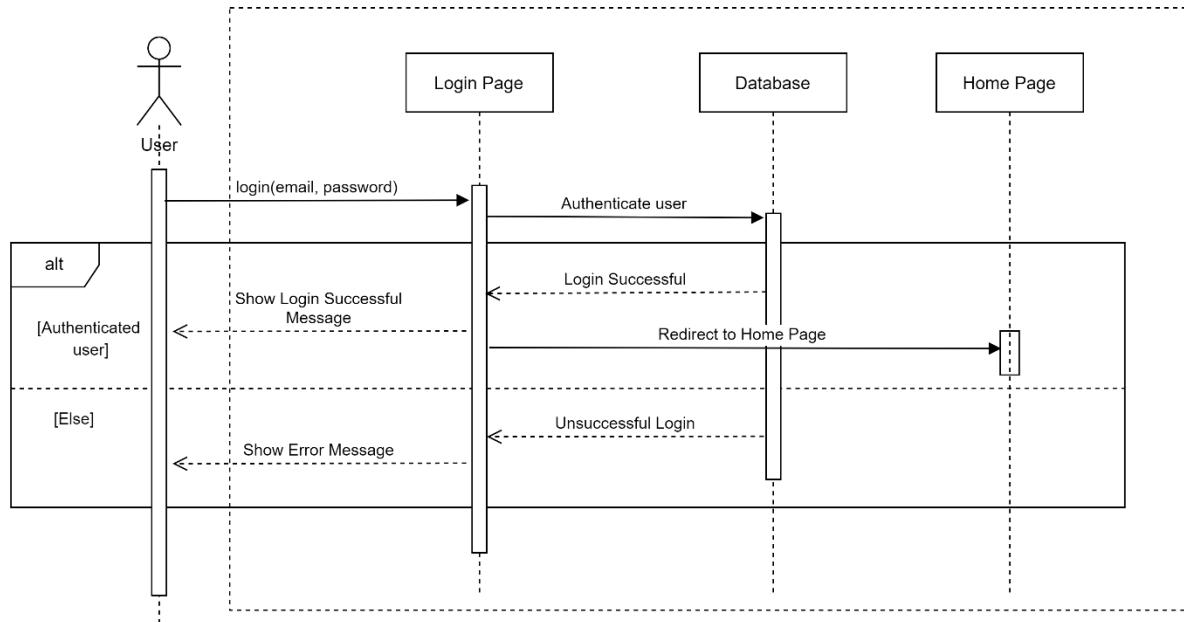


## 24. View Session Live Forum (Lecturer)

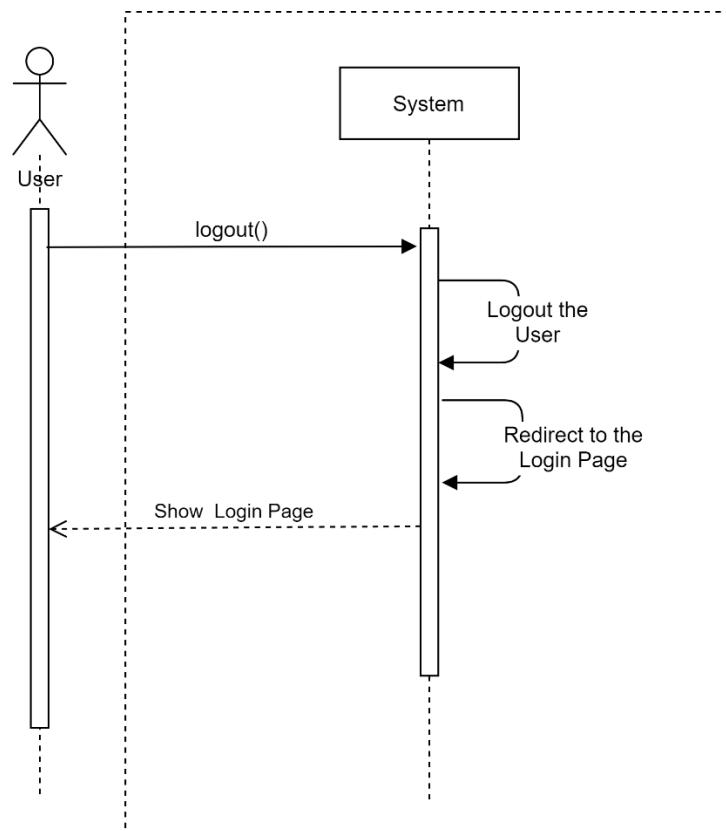


## 6. Sequence Diagram

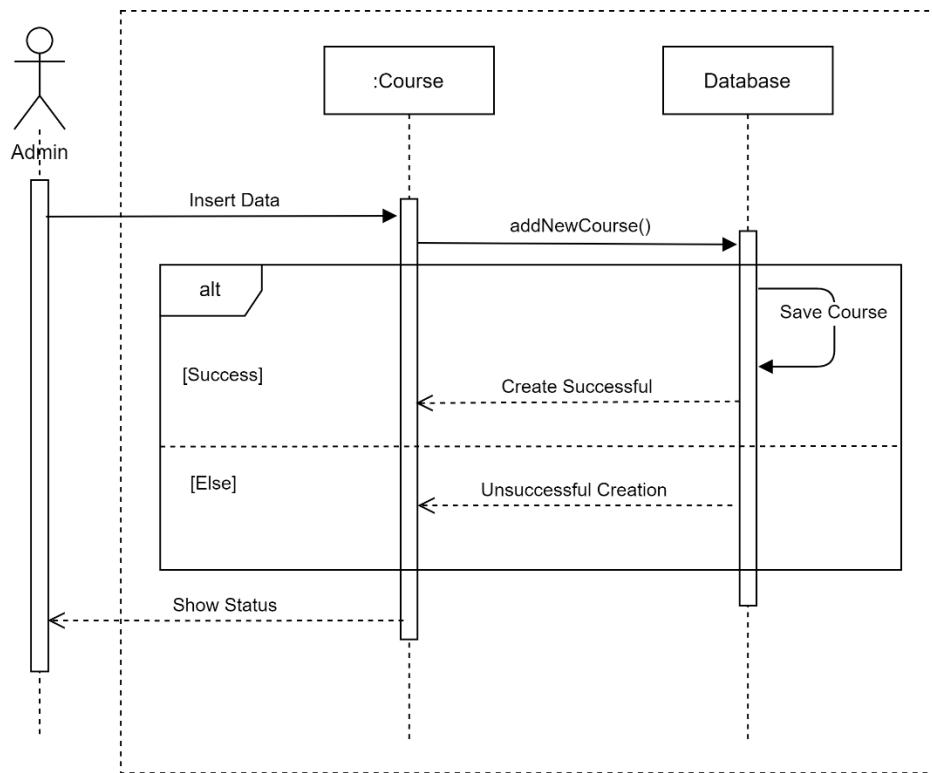
### 1. Login



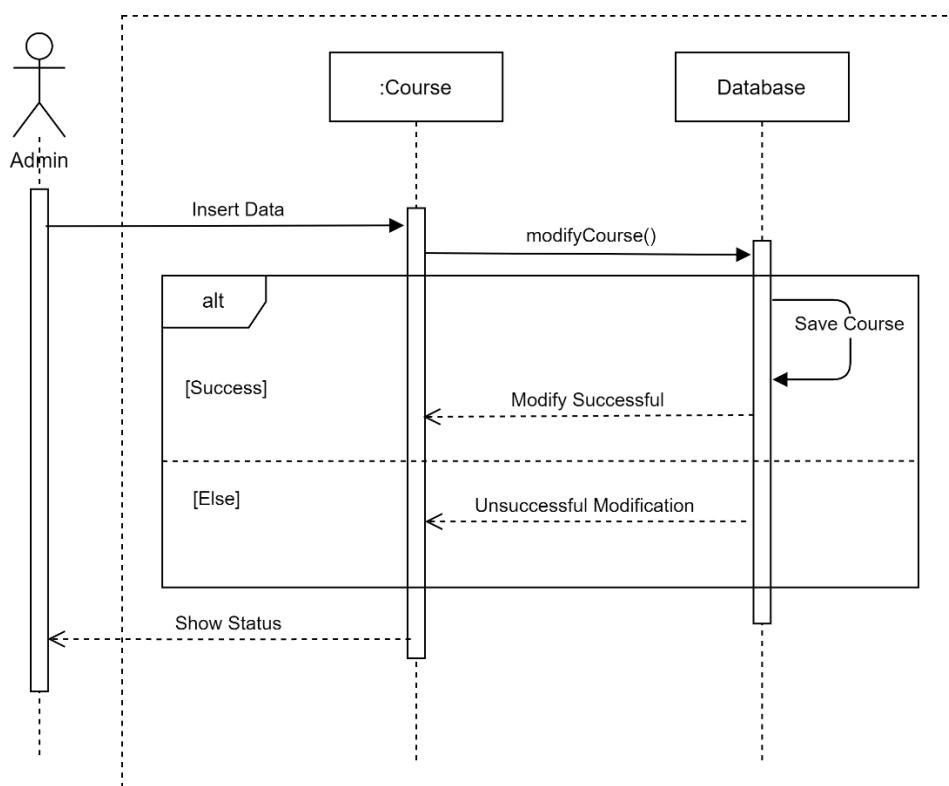
### 2. Logout



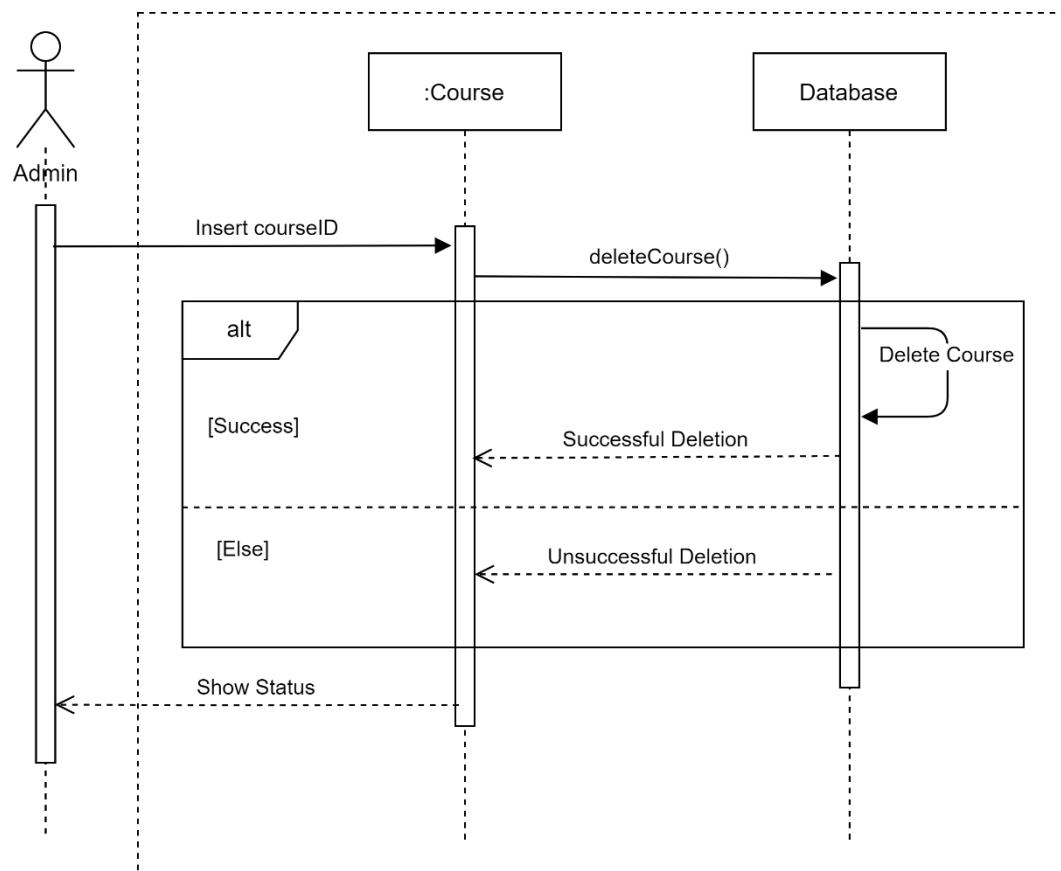
### 3. Create Course



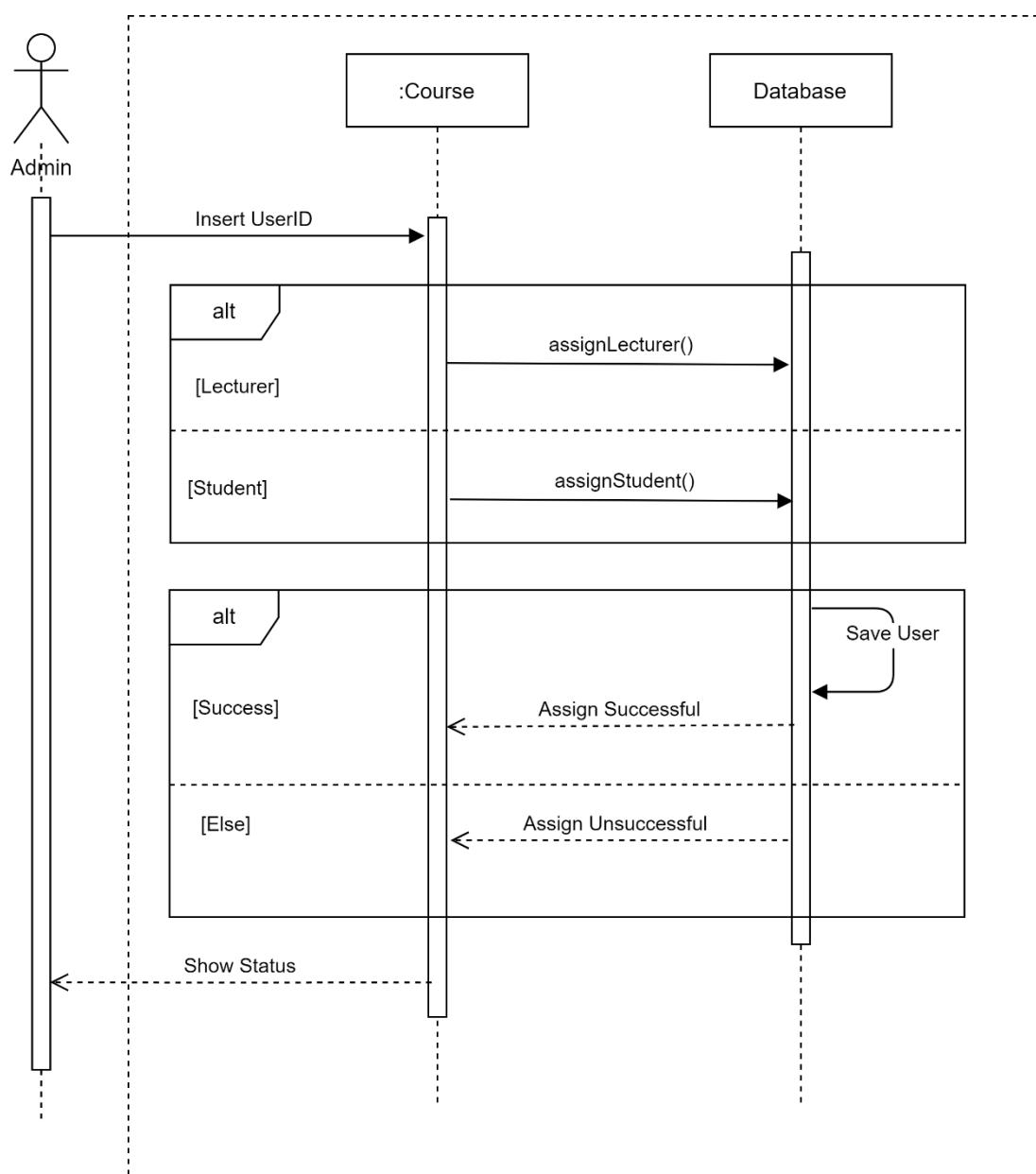
### 4. Modify Course



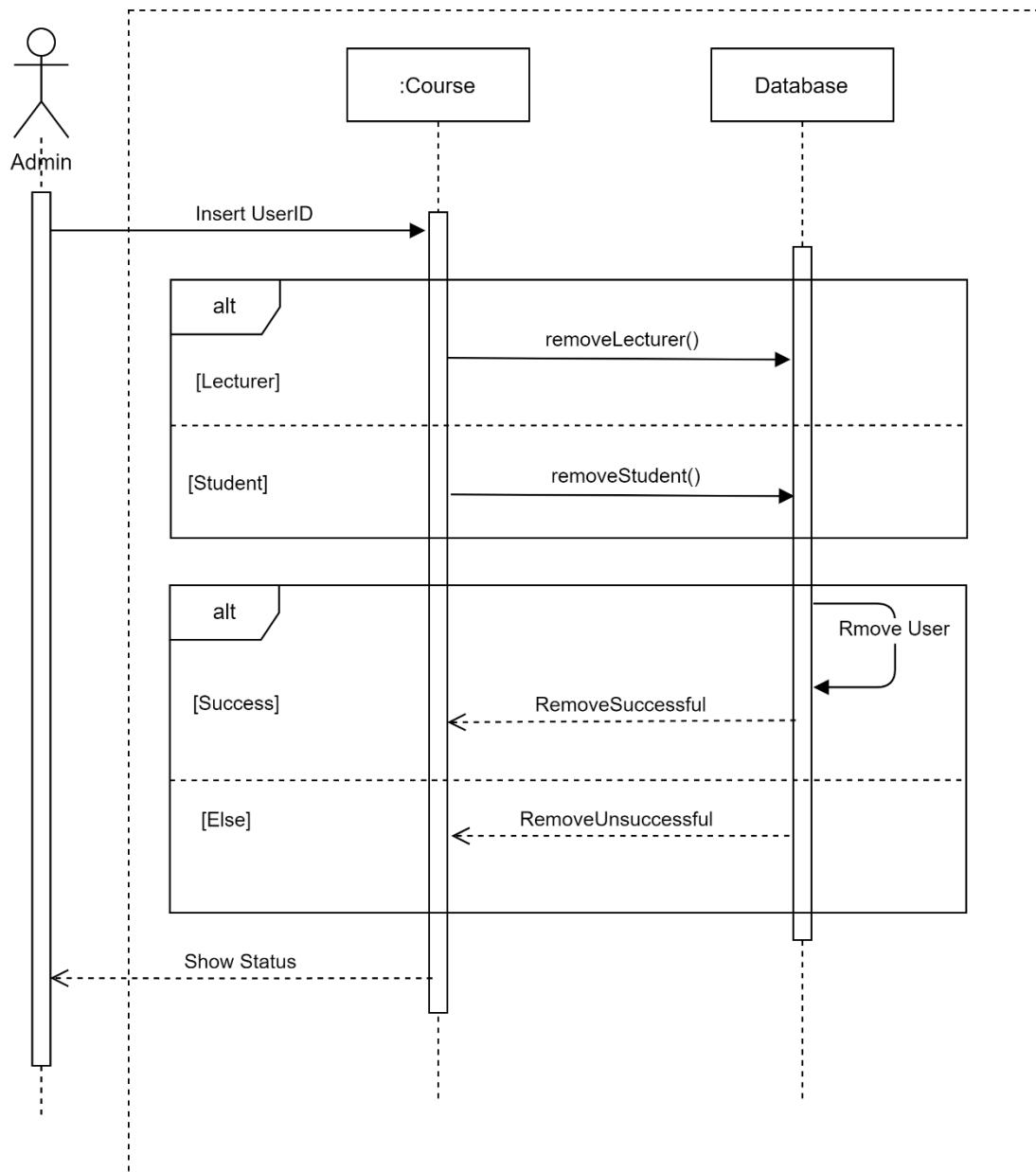
## 5. Delete Course



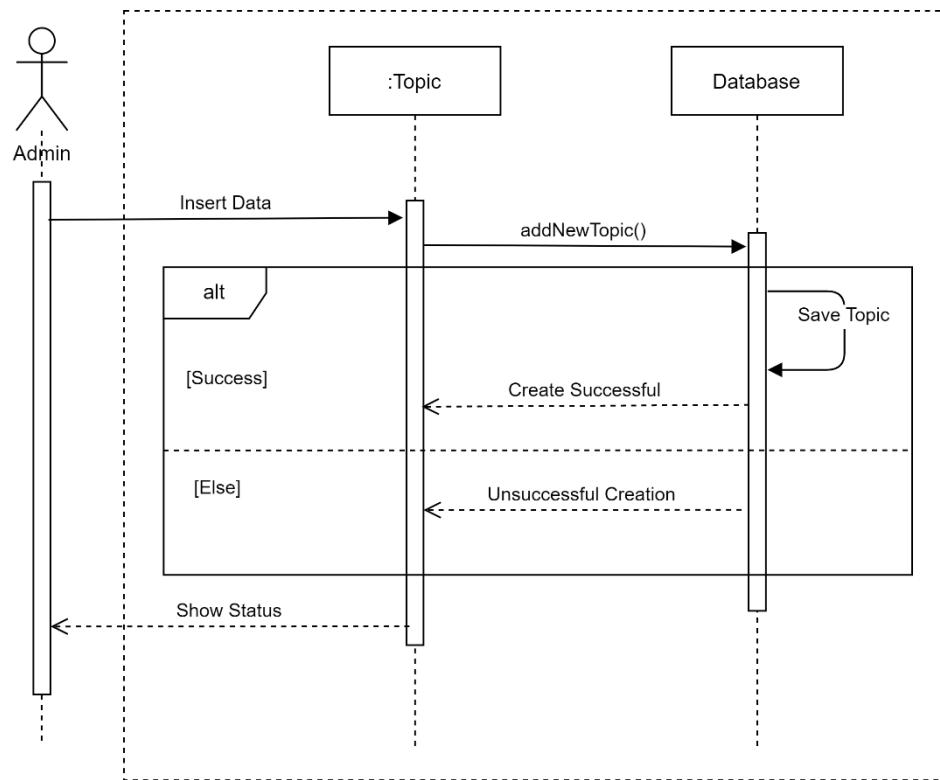
## 6. Course User Assign



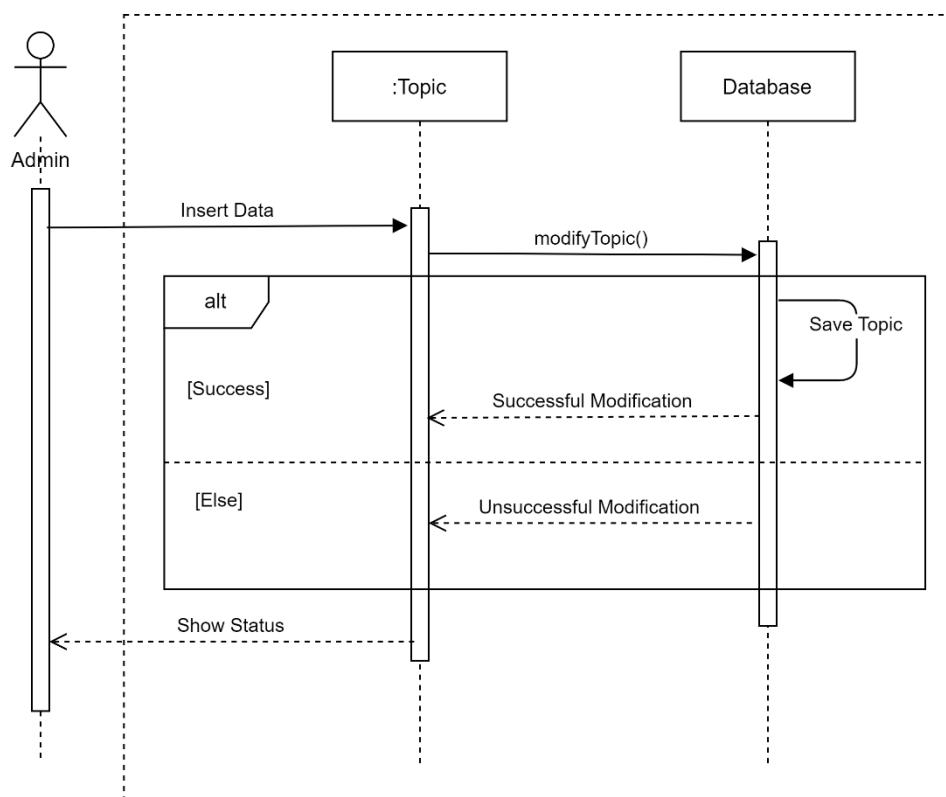
## 7. Course User Remove



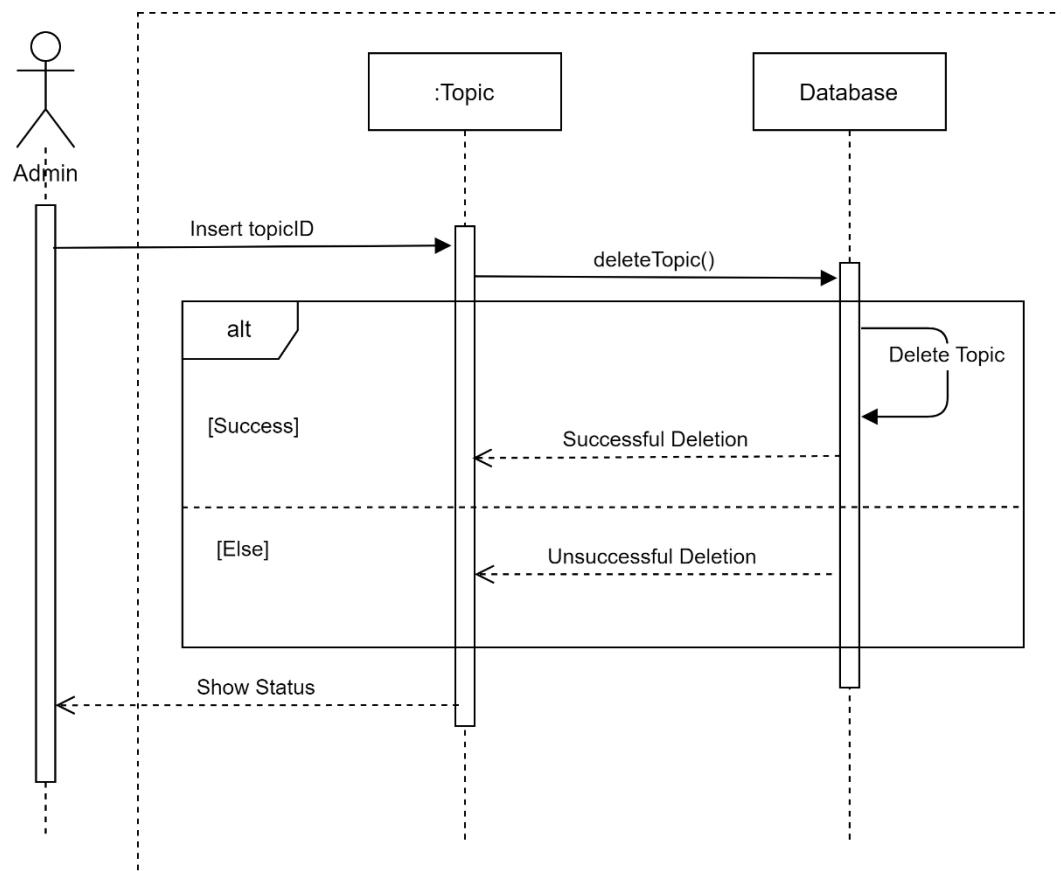
## 8. Create Topic



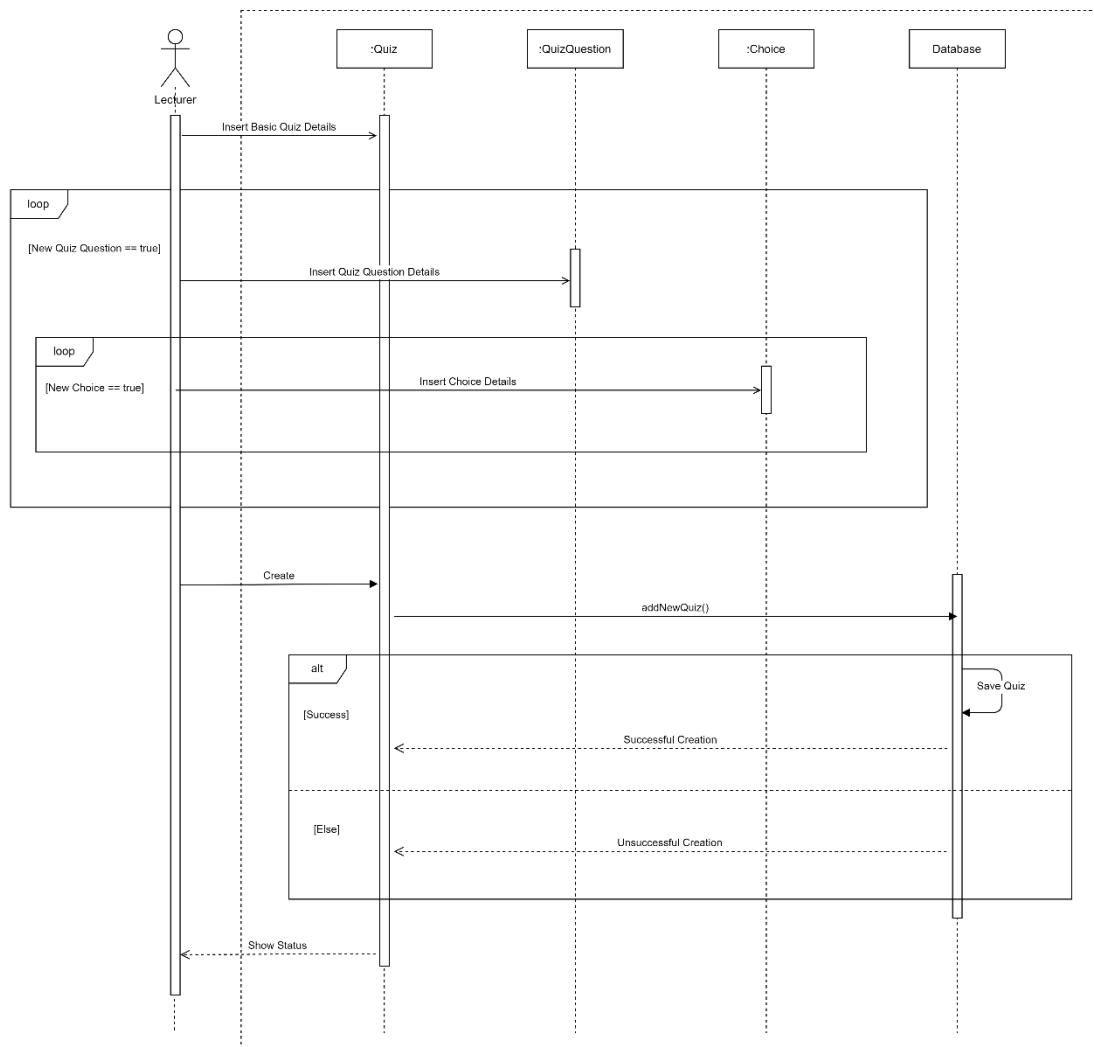
## 9. Modify Topic



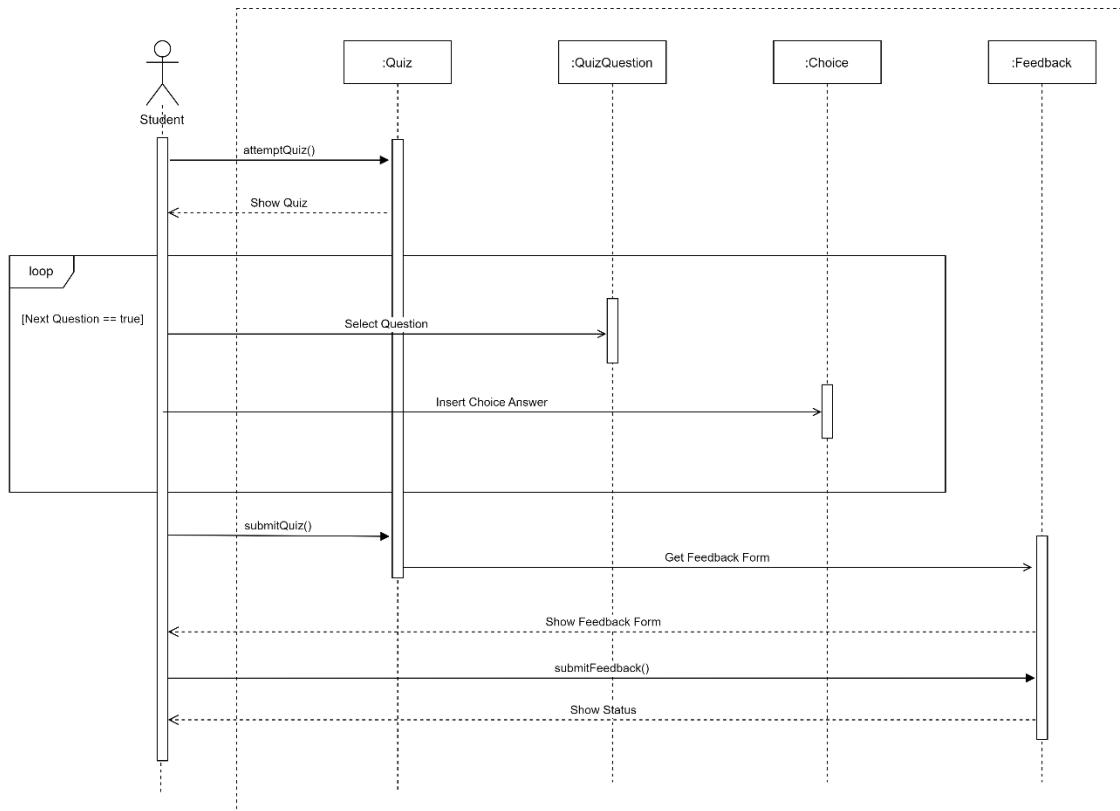
## 10. Delete Topic



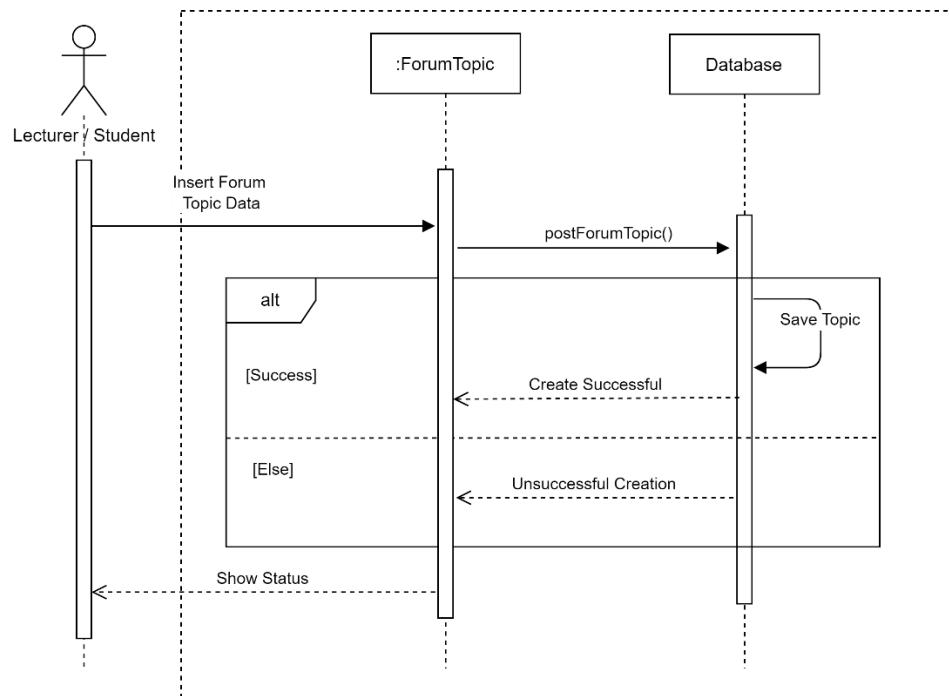
## 11. Create Quiz



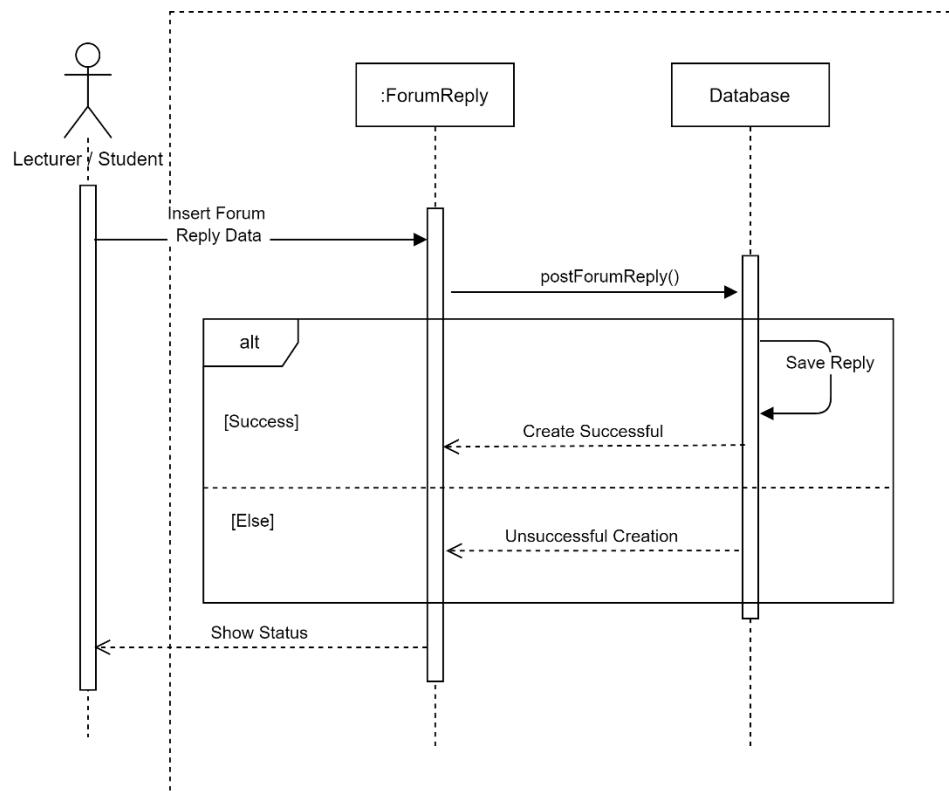
## 12. Attempt Quiz



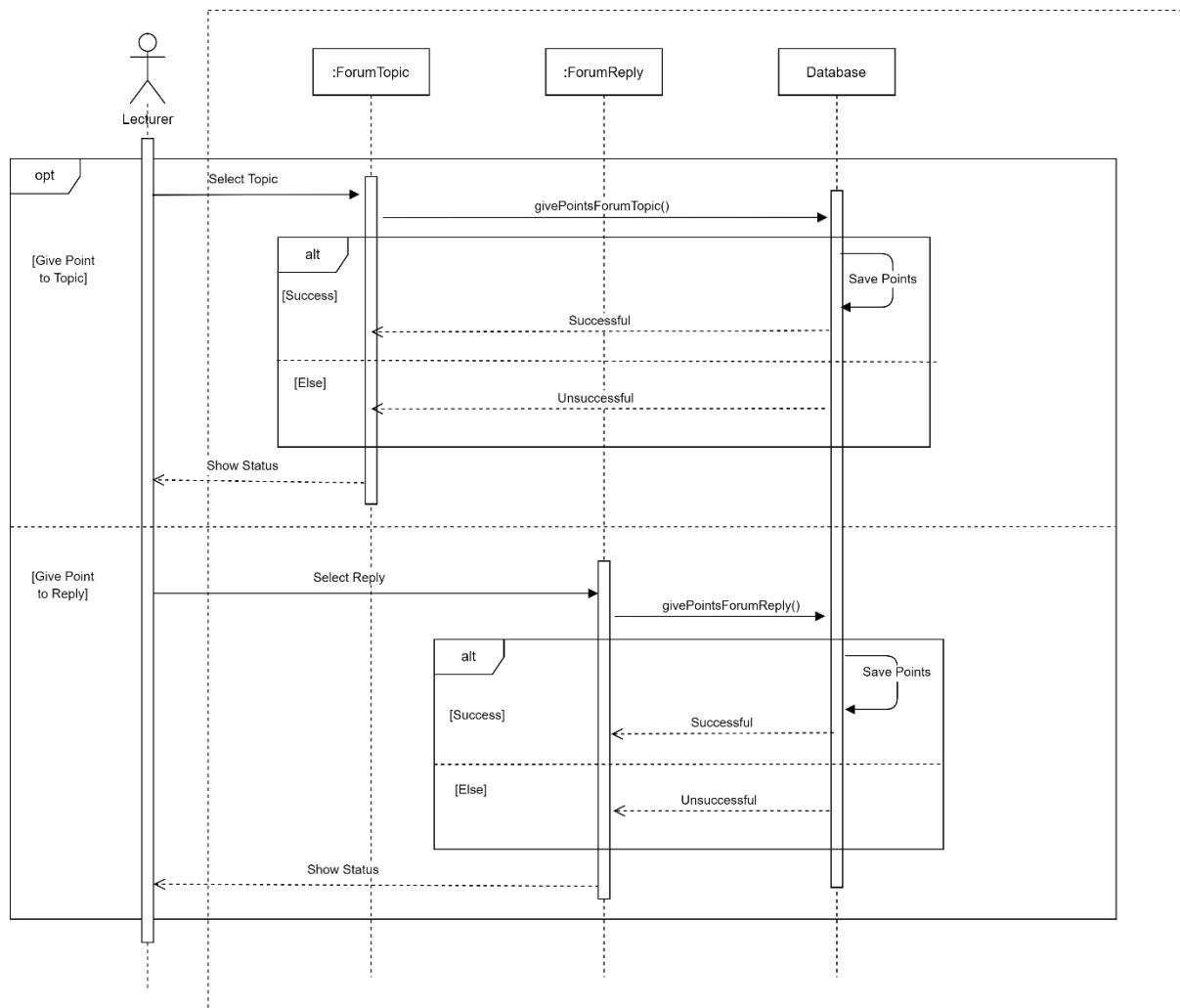
## 13. Post Forum Topic



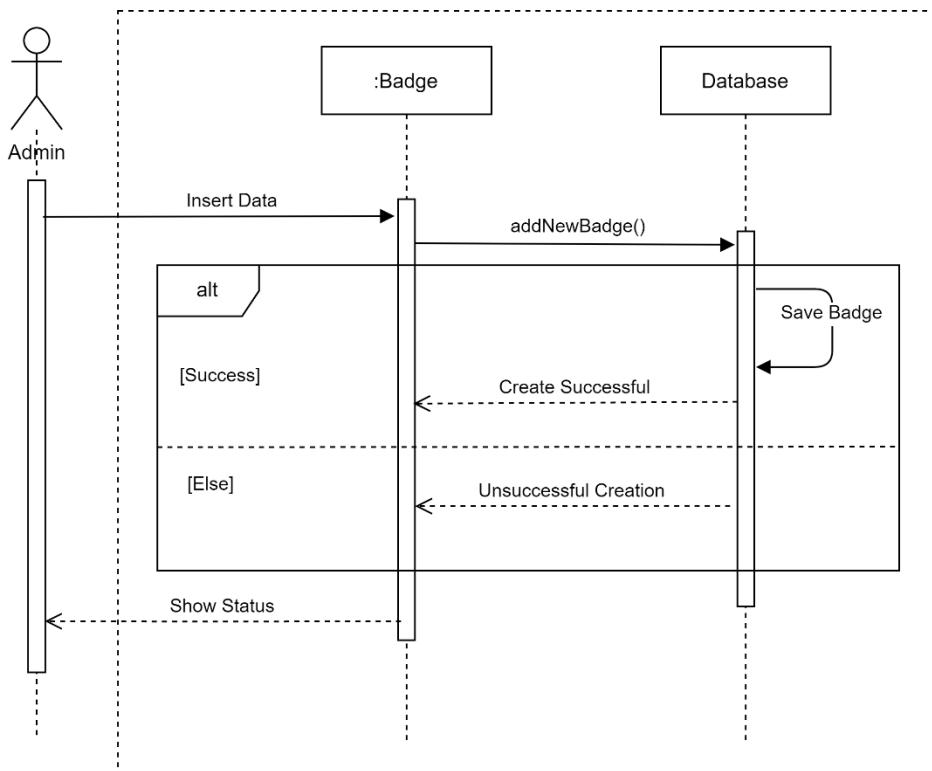
## 14. Post Forum Reply



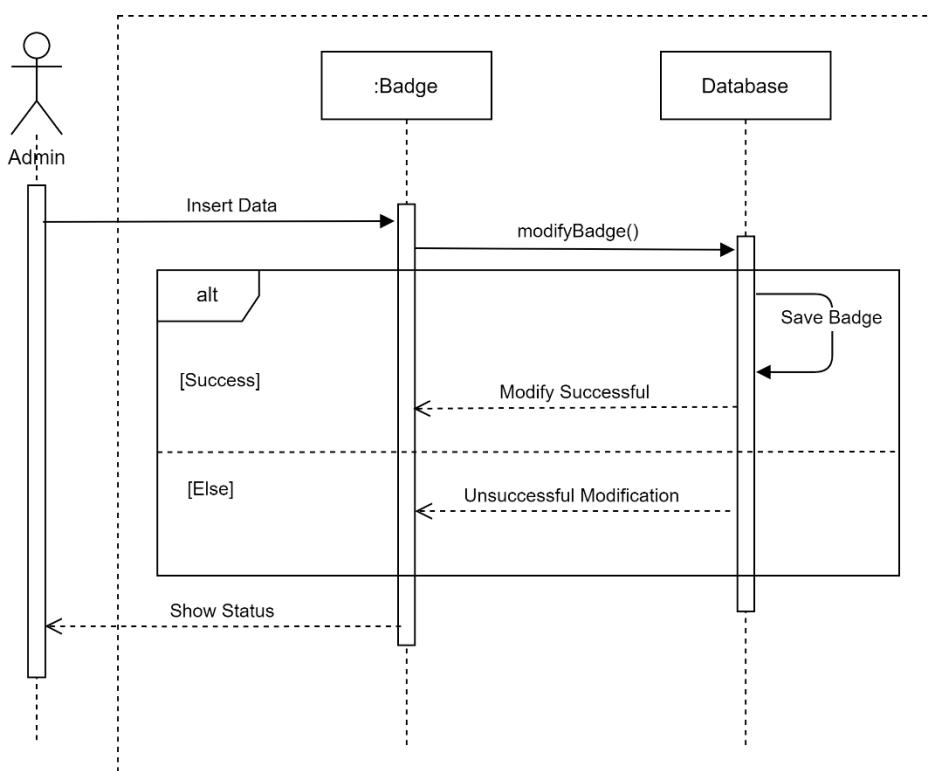
## 15. Give Points



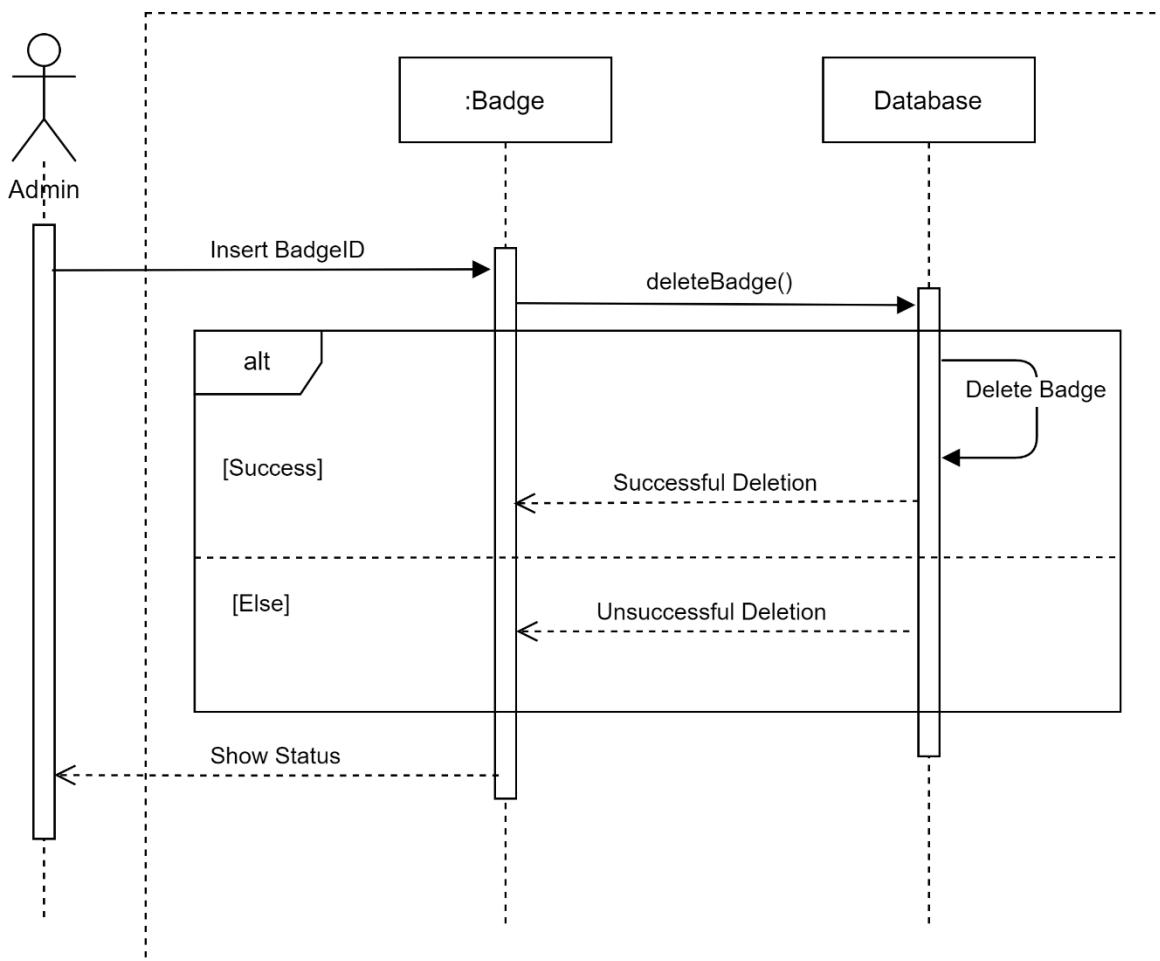
## 16. Create Badge



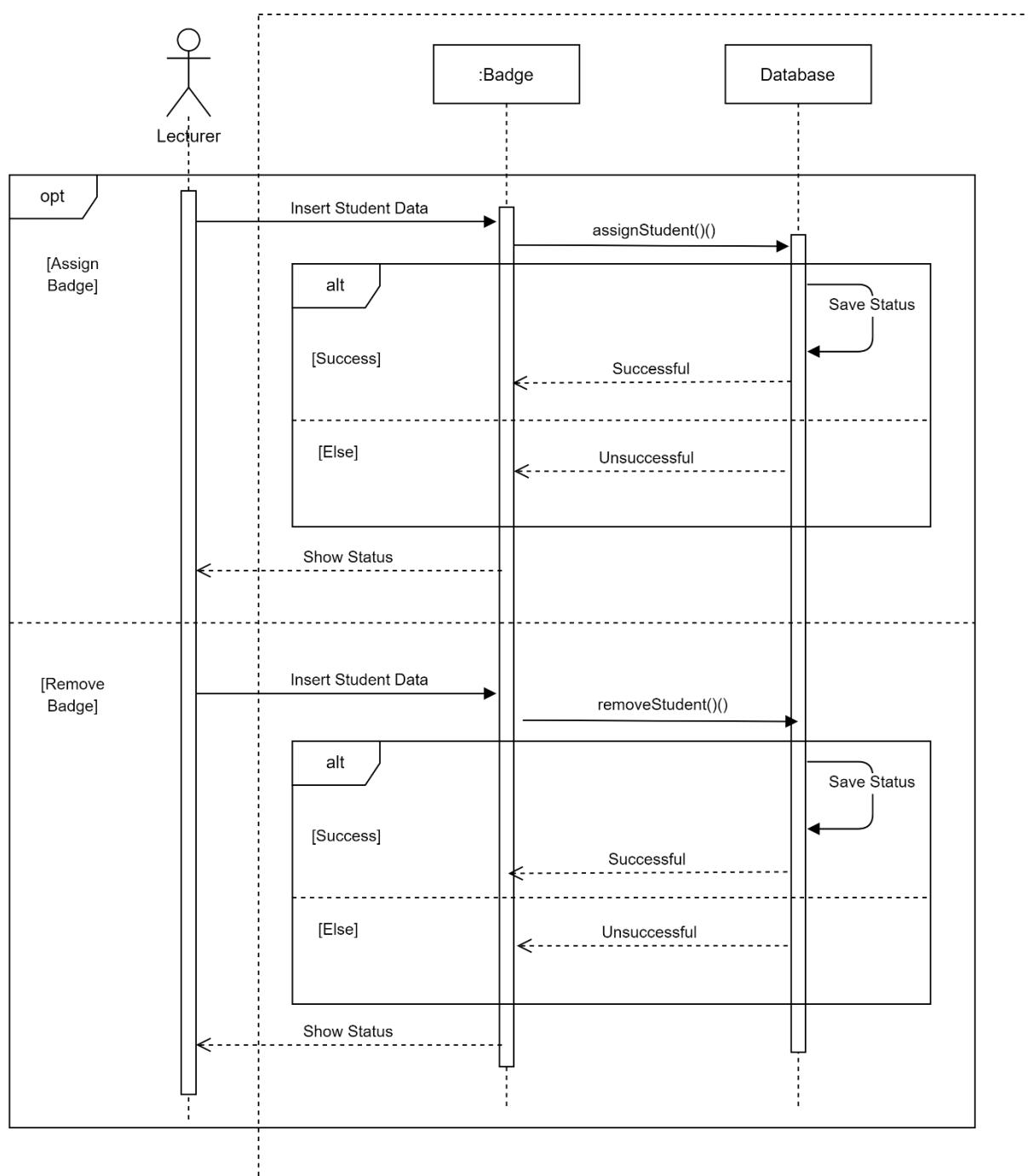
## 17. Modify Badge



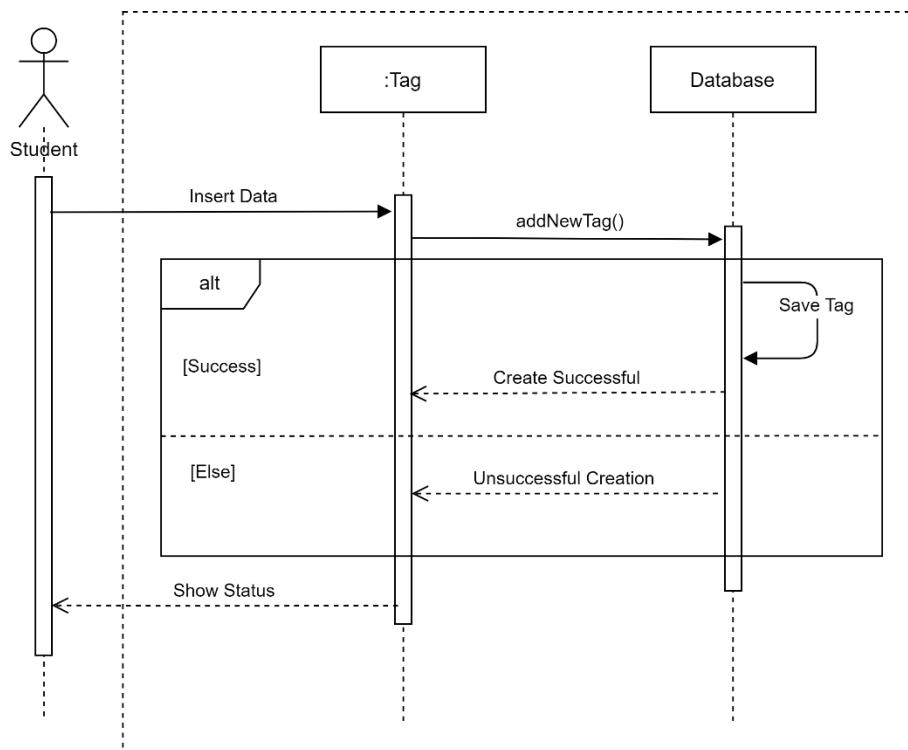
## 18. Delete Badge



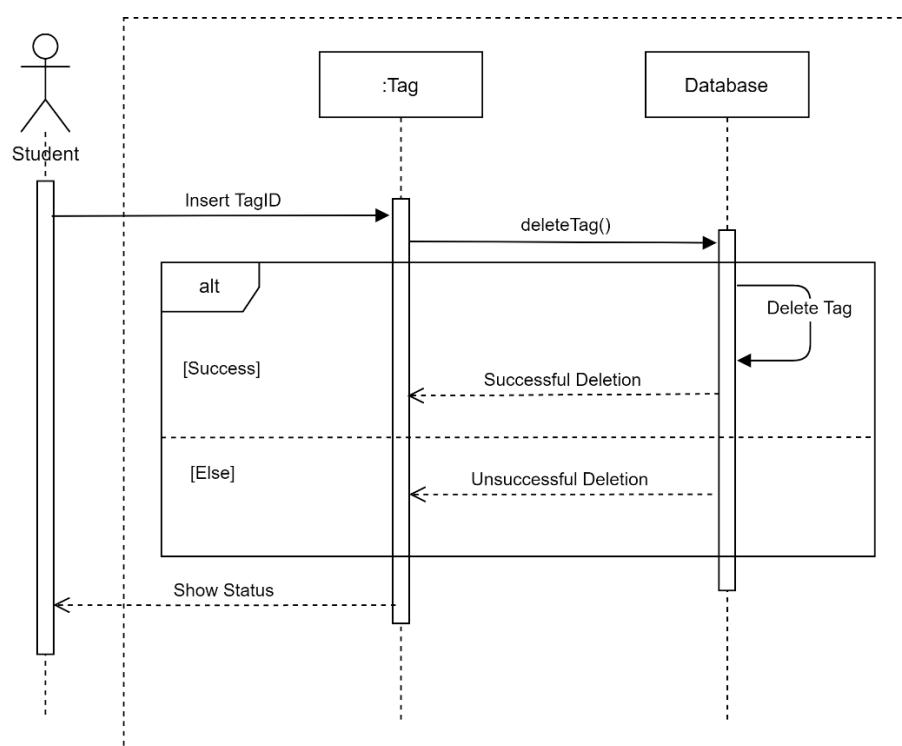
## 19. Assign Badge



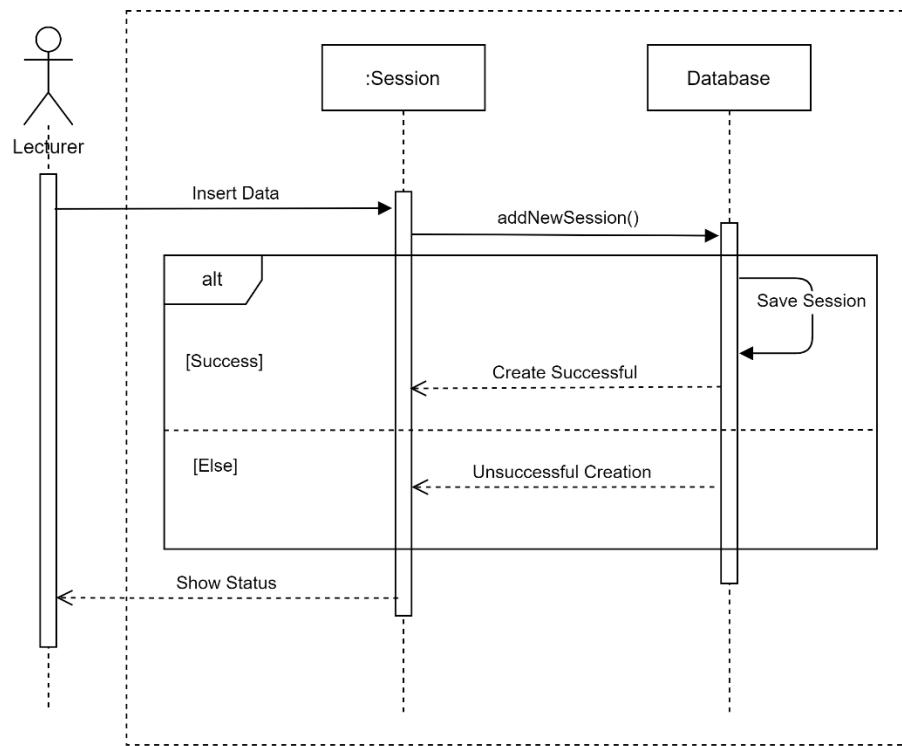
## 20. Create Tag



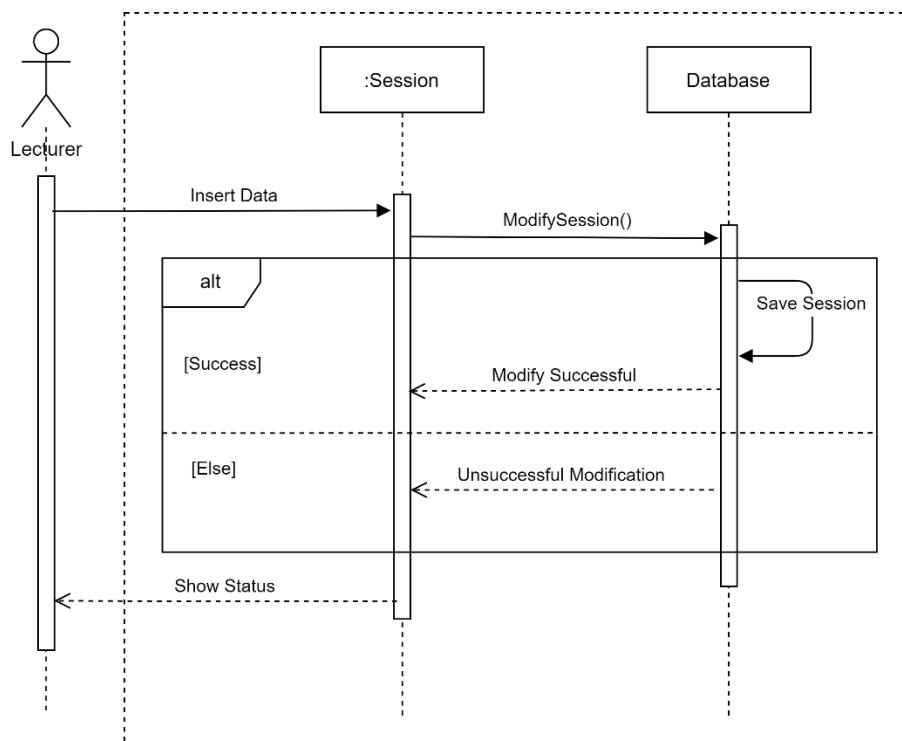
## 21. Delete Tag



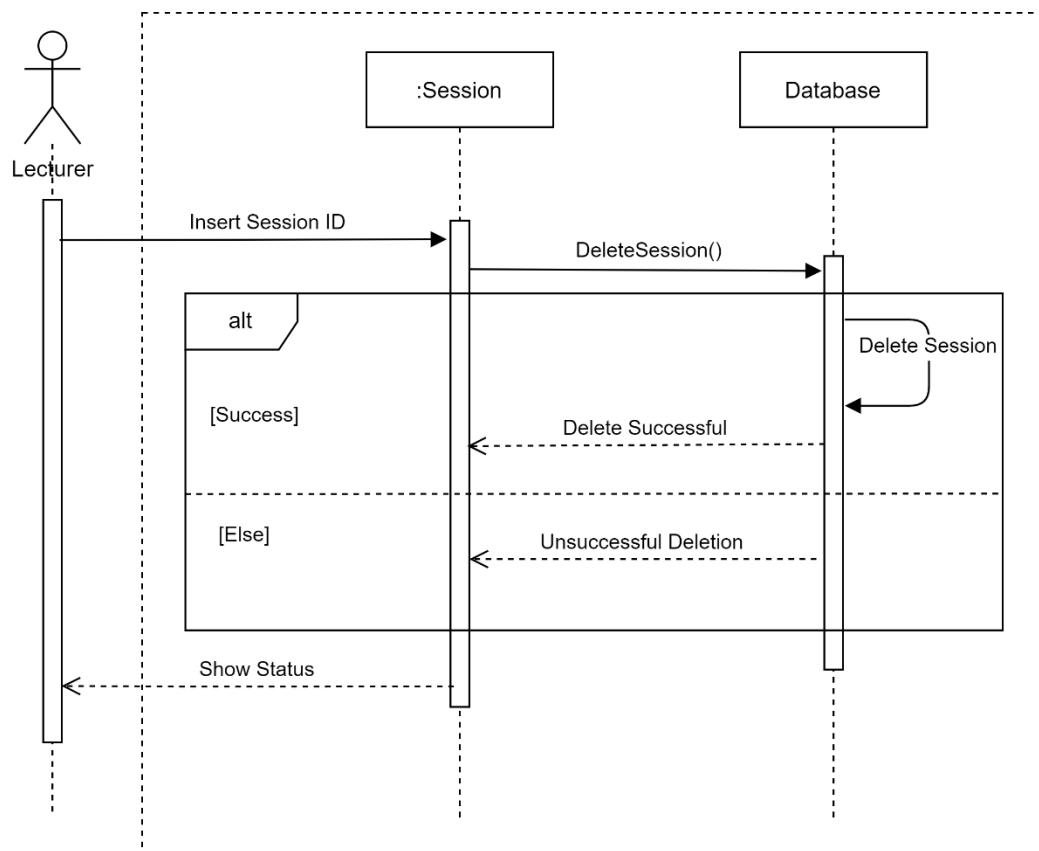
## 22. Create Session



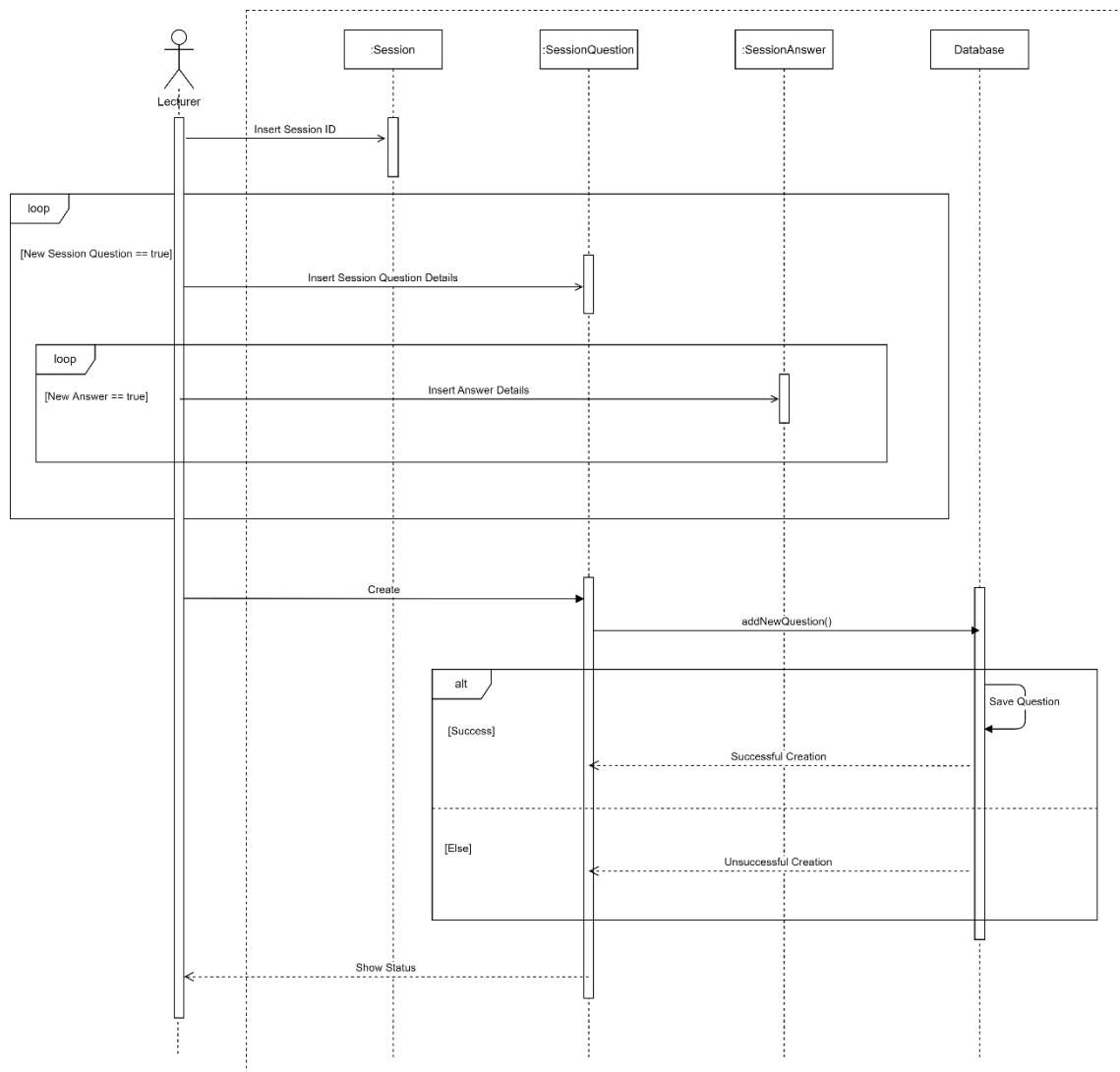
## 23. Modify Session



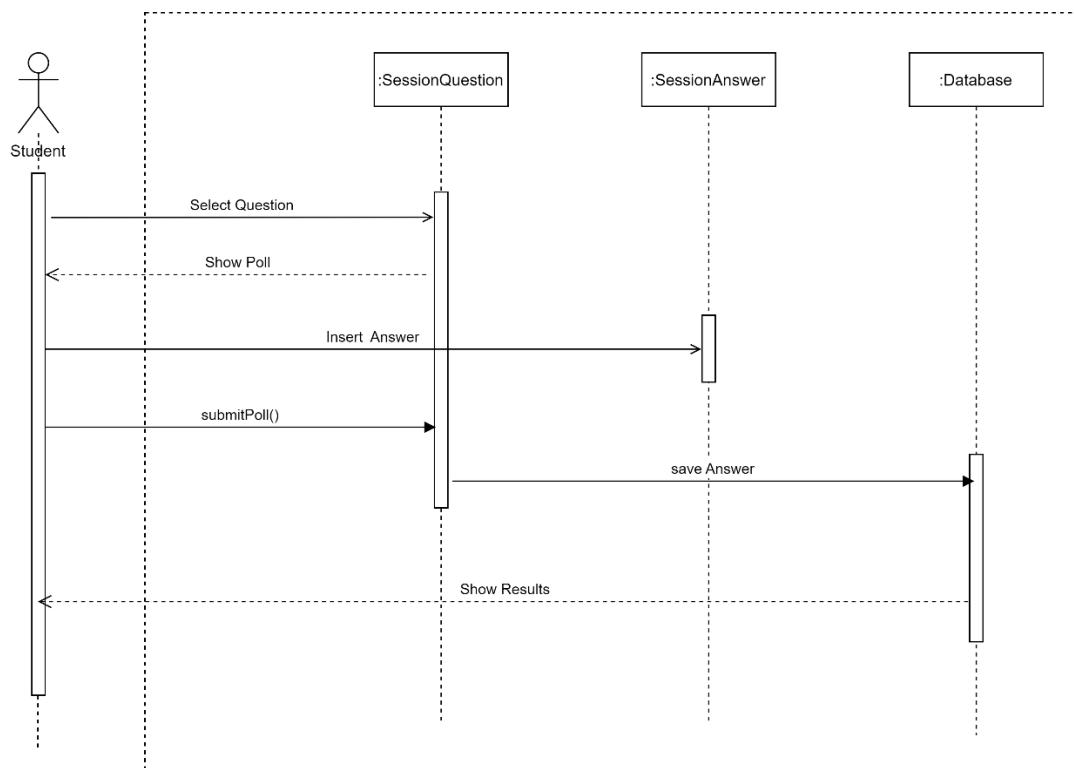
## 24. Delete Session



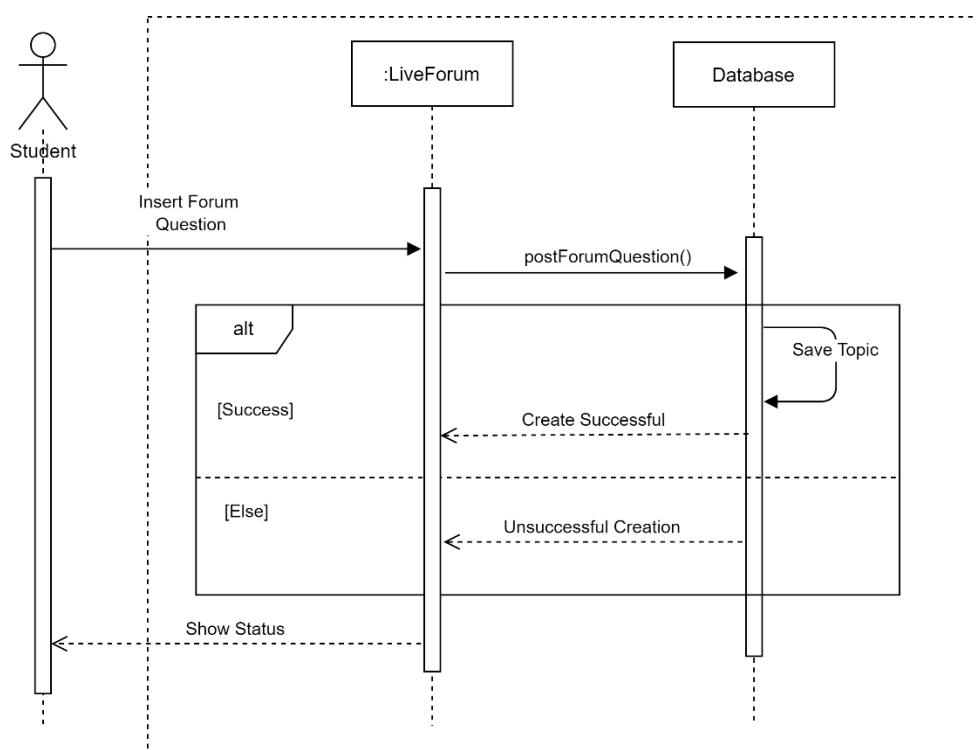
## 25. Create Polls



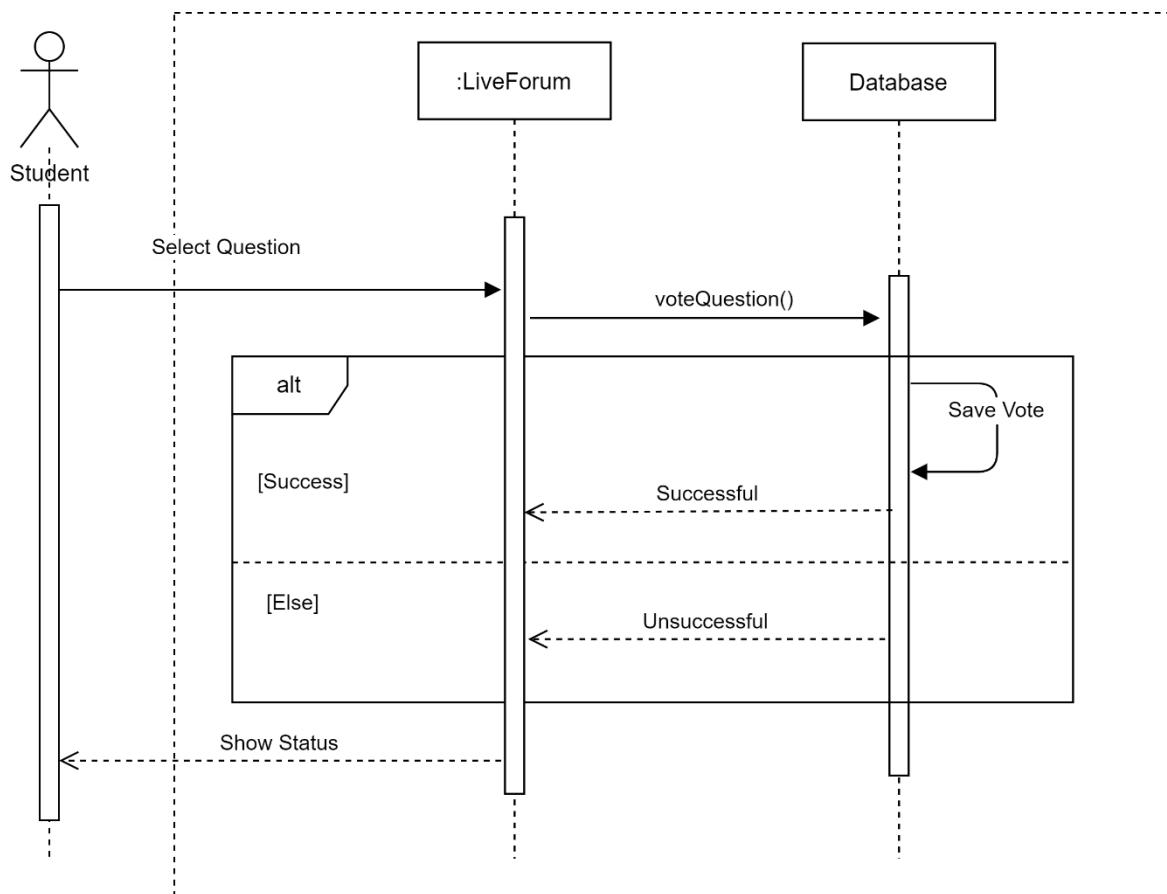
## 26. Attempt Polls



## 27. Add Forum Question

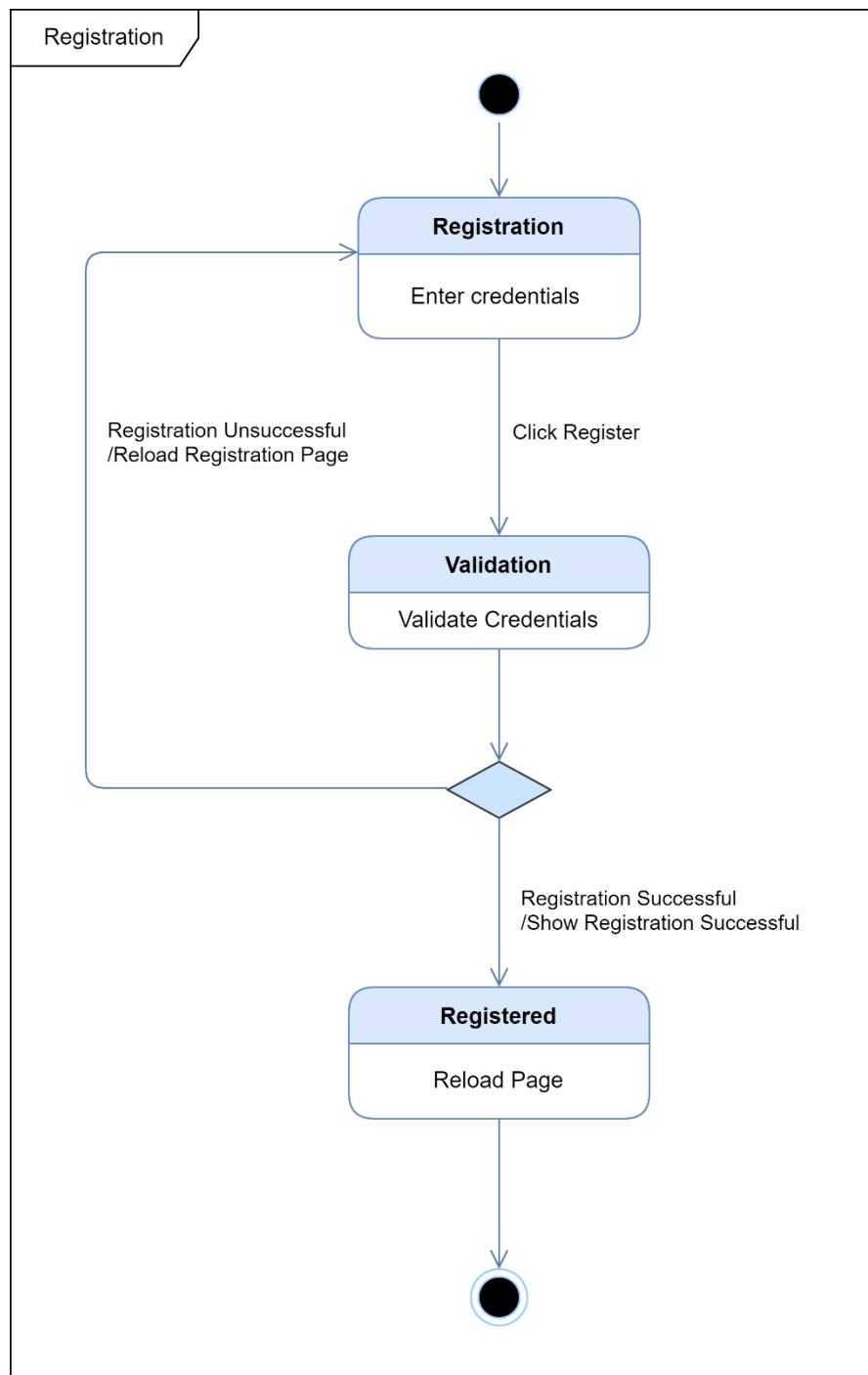


## 28. Add Forum Vote

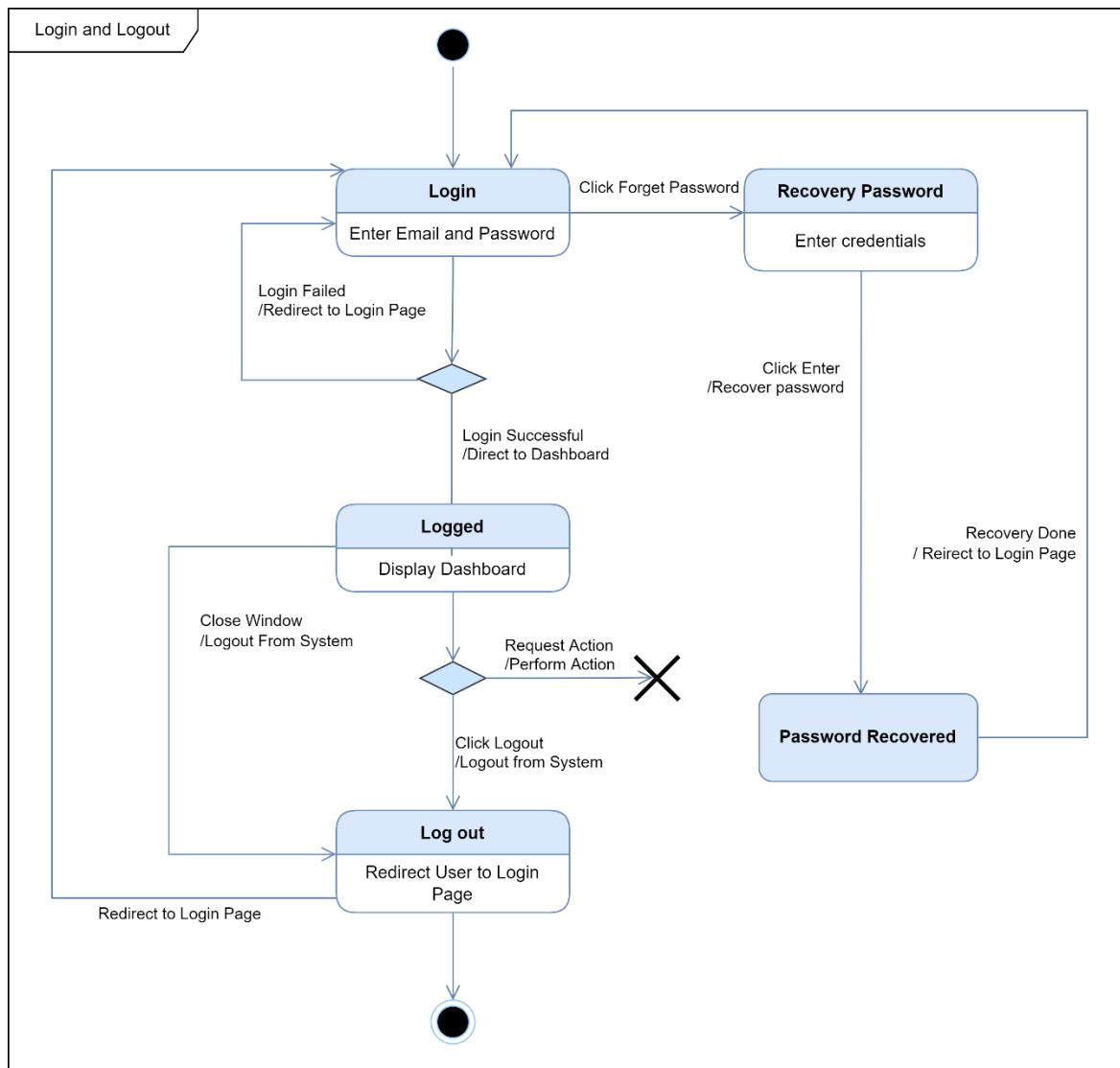


## 7. State Machine Diagram

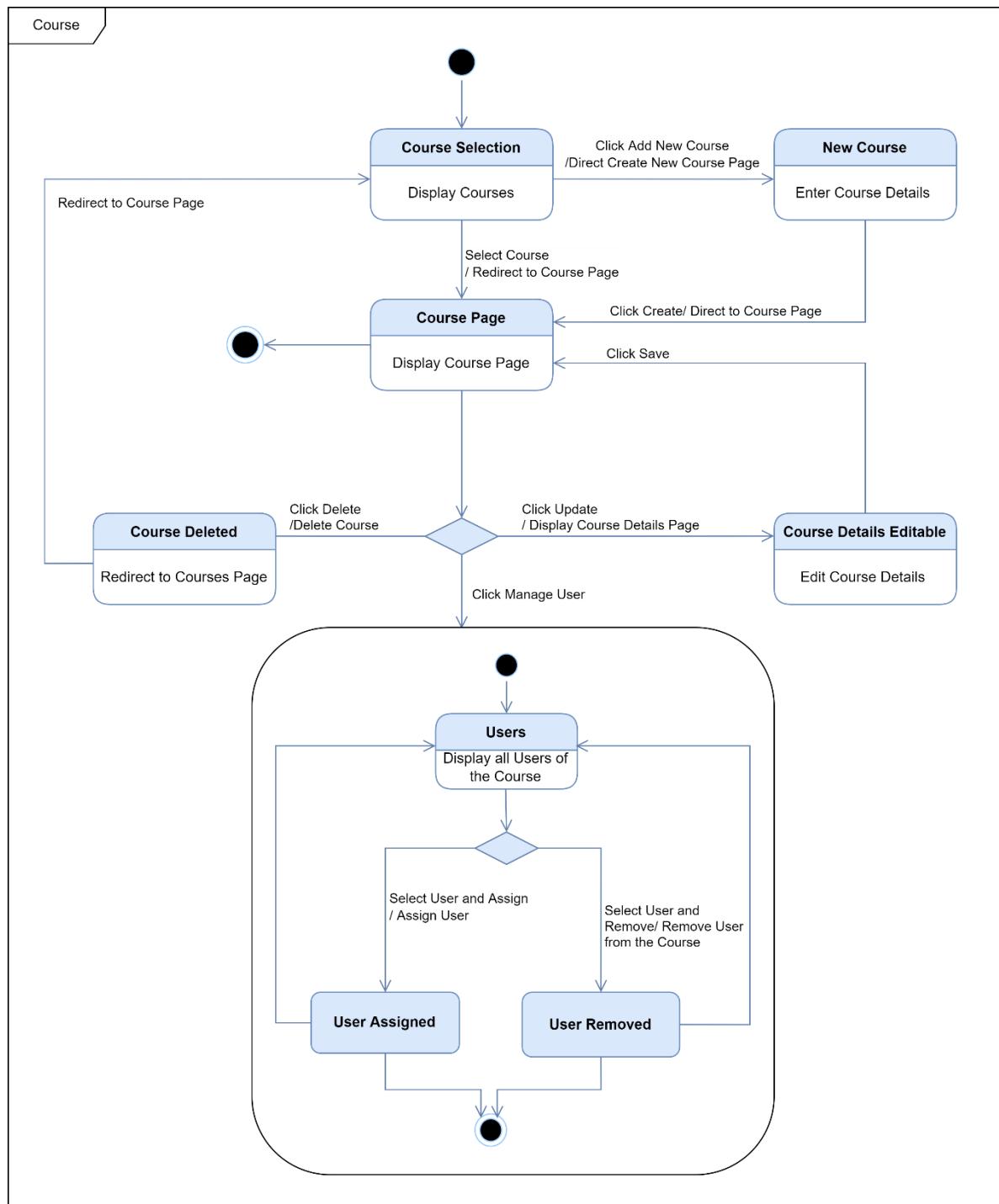
### 1. Registration



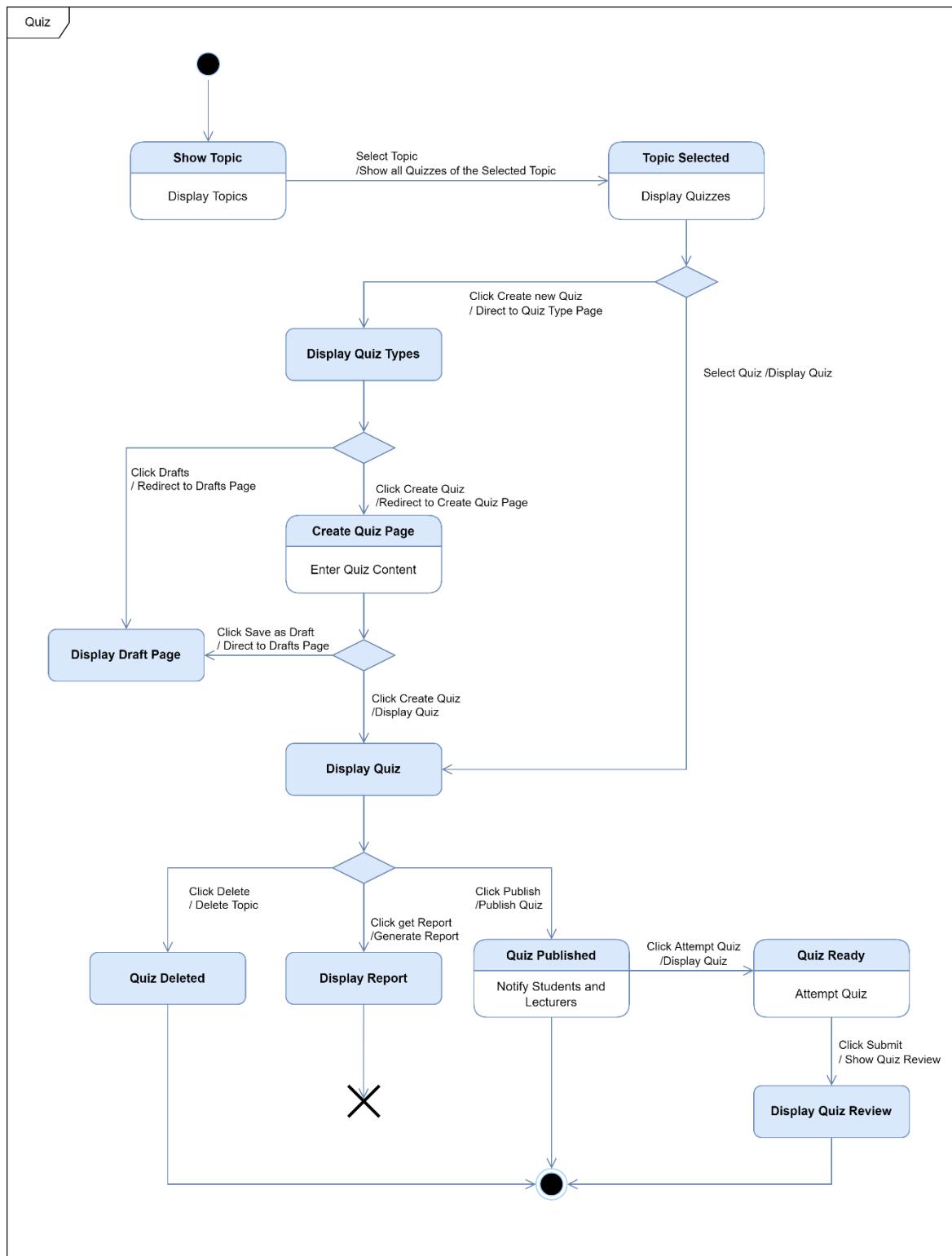
## 2. Login and Logout



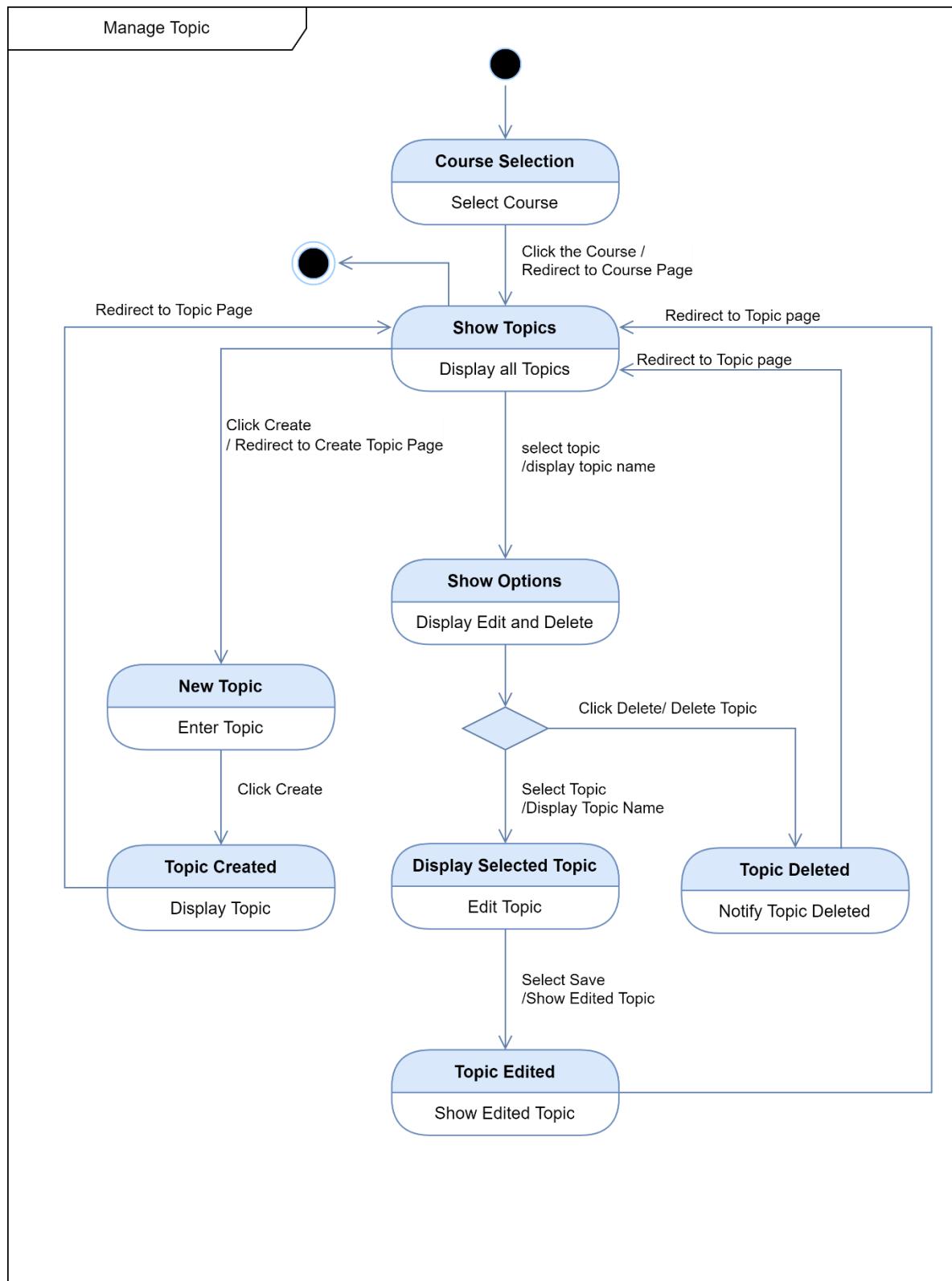
### 3. Course



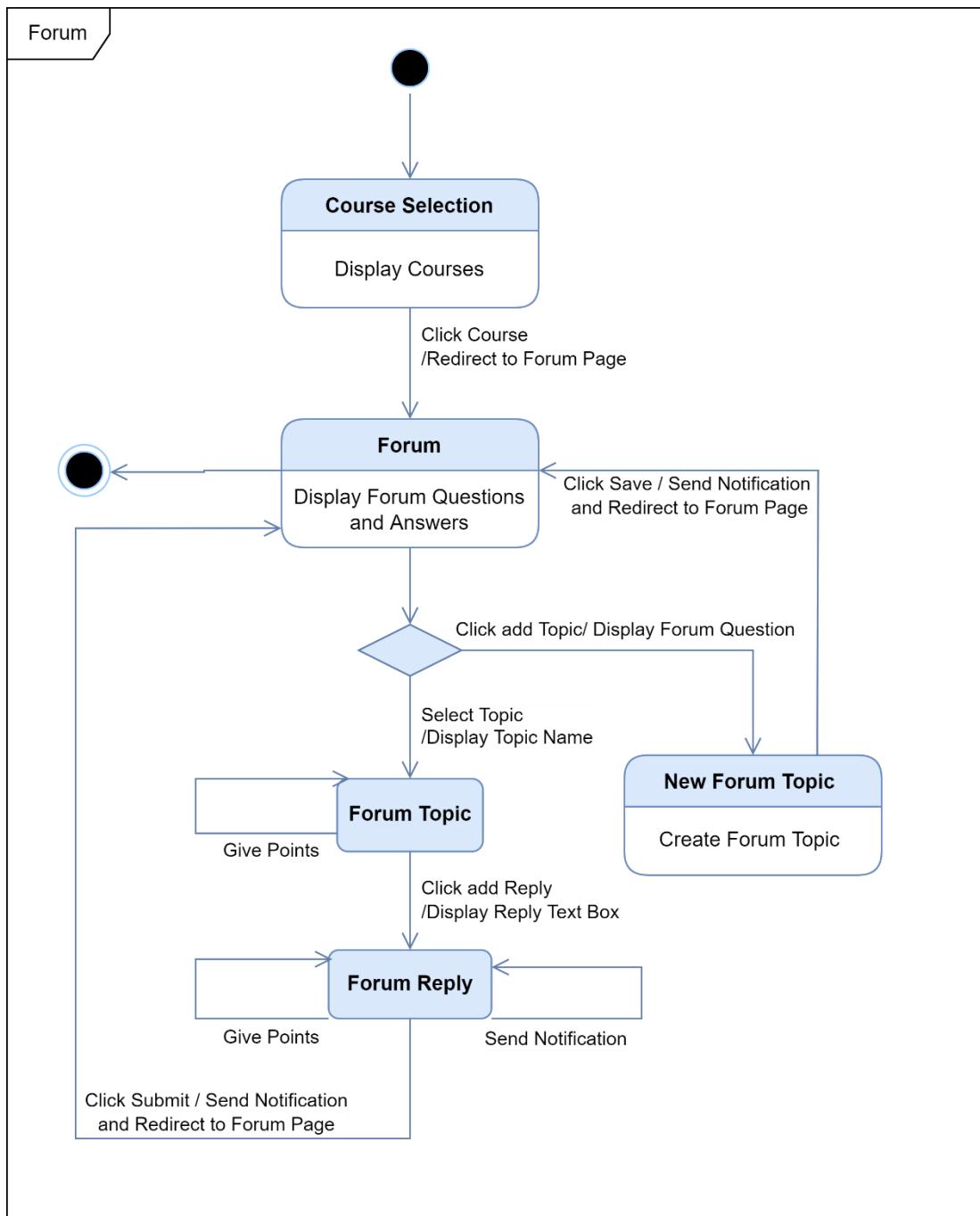
## 4. Quiz



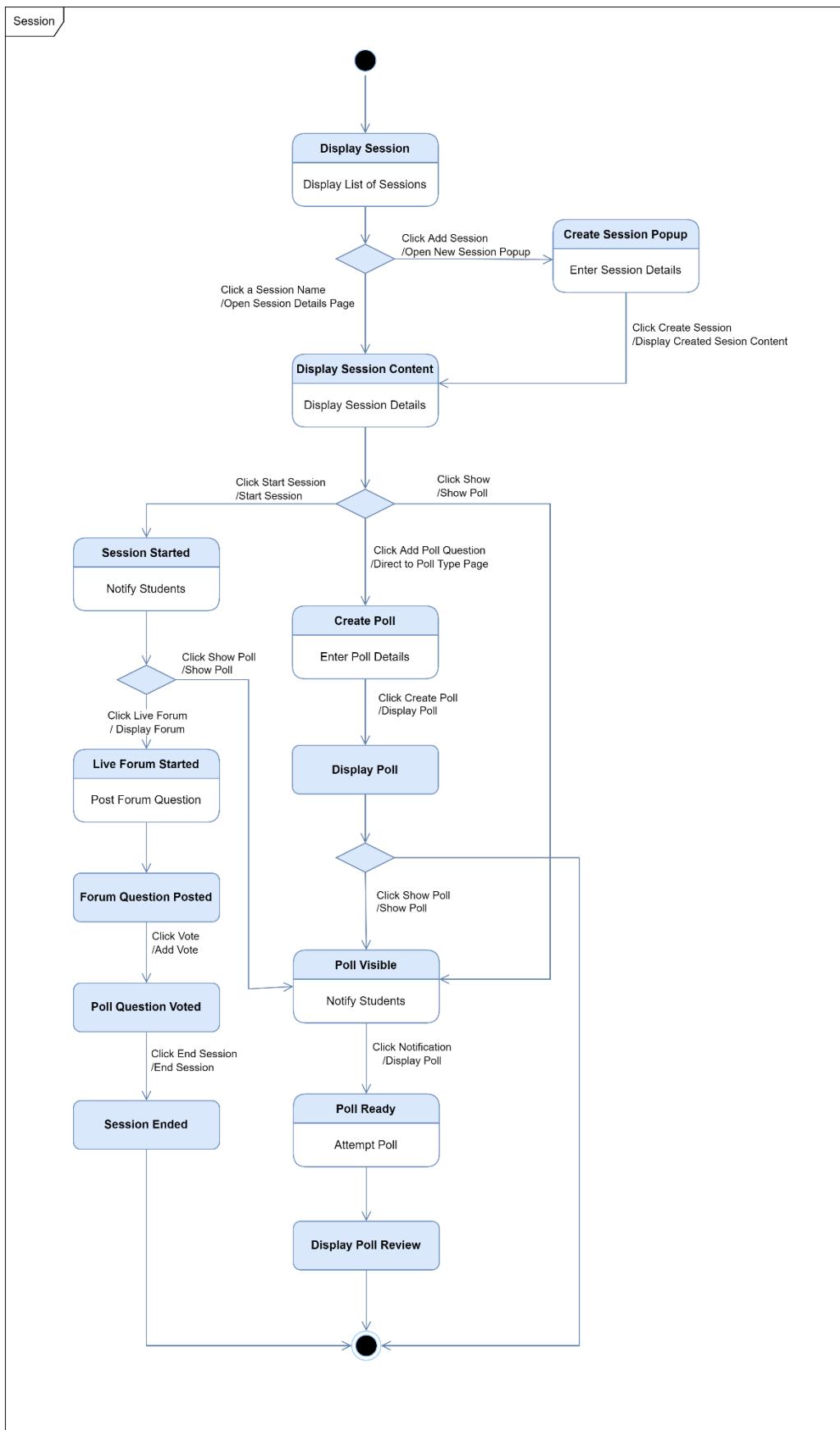
## 5. Topic



## 6. Forum



## 7. Session



### 3. Individual Contribution

**Student ID:** 19000111

**Student Name:** S.C.A.Bandara

**Group ID:** CS 03

**Group Name:** ALec

**Name of the components (Mobile):**

1. Authentication
2. Notification
3. Session
4. Quiz
5. My Courses

**Description of the components (Mobile):**

1. Authentication
  - Login and Logout function of the lecturer and student.
  - Give the facility to student and lecturer to reset password when they login to the system first time.
2. Notification
  - Lecturer and student will be notified when someone ask a question or answer to a question in the forum.
  - When lecturer give points to a question then particular student will be notified.
3. Session
  - Lecturer can activate or disable a session.
  - Lecturer can publish a poll question.
  - Student can attempt and review poll questions.
  - Student can post questions in the session forum.
  - Student can vote to the questions in the session forum.
4. Quiz
  - Lecturer can create, delete and edit quizzes.
  - Lecturer can publish quizzes.
  - Student can attempt quizzes.
5. My Courses

- Lecturer can create, edit and delete topics that are used to manage the course page.
- Lecturer and student can view quizzes in the course.
- Student can view poll questions, published under relevant sessions.

**Student ID:** 19000472

**Student Name:** P.P.Gunaratna

**Group ID:** CS 03

**Group Name:** ALec

**Name of the components (Web):**

1. Authentication
2. User Management
3. Tags
4. Leaderboard
5. Forum
6. Testing

**Description of the components (Web):**

1. Authentication
  - Login and Logout function of the admin, lecturer and student.
  - Give the facility to student and lecturer to reset password when they login to the system first time.
2. User Management
  - Admin can create, delete and edit lecture and student accounts.
  - All users can view student and lecture details.
  - Each user can view and edit their individual profiles.
3. Tags
  - Students can create and delete tags.
  - Filter forum questions considering all the tag names.
  - Filter forum questions according to a tag name.
4. Leaderboard
  - Lecturer and students can view the leaderboard.
5. Forum
  - Lecturer can post questions and answer to the posted questions.
  - Student can post questions and answer to questions using his real or anonymous identity.
  - Lecturer can delete student's question and answers.

## 6. Testing

- Manual and automated testing done on components with test case scenarios in the web application.

**Student ID:** 19001428

**Student Name:** J. D. Ratnayake

**Group ID:** CS 03

**Group Name:** ALec

**Name of the components (Web):**

1. Course Management
2. Review
3. Badge
4. Session
5. Quiz
6. My Courses
7. Forum
8. Notification

**Description of the components (Web):**

1. Course Management
  - Admin can create, delete and edit courses.
  - Admin can view course details.
  - Admin can assign and remove lecturers and students from the course.
2. Review
  - Lecturer can review the quiz results.
3. Badge
  - Admin can create and delete badges according to course modules.
  - Lecturer can award and revoke badges from students.
4. Session
  - Lecturer can create, edit and delete sessions.
  - Lecturer can create and delete poll questions in the sessions.
  - Lecturer can activate or disable a session.
  - Lecturer can publish a poll question.
  - Lecturer can view poll question results.
  - Student can attempt and review poll questions.
  - Student can post questions in the session forum.
  - Student can vote to the questions in the session forum.

## 5. Quiz

- Lecturer can create, delete and edit quizzes.
- Lecturer can publish quizzes.
- Student can attempt quizzes.

## 6. My Courses

- Lecturer can create, edit and delete topics that are used to manage the course page.
- Lecturer and student can view quizzes in the course.
- Lecturer and student can view poll questions, published under relevant sessions.

## 7. Forum

- Lecturer can give points to the questions that are asked by students.

## 8. Notification

- Lecturer and student will be notified when someone ask a question or answer to a question in the forum.
- When lecturer give points to a question then particular student will be notified.

**Student ID:** 19001843

**Student Name:** M.G.G.S.Wathsala

**Group ID:** CS 03

**Group Name:** ALec

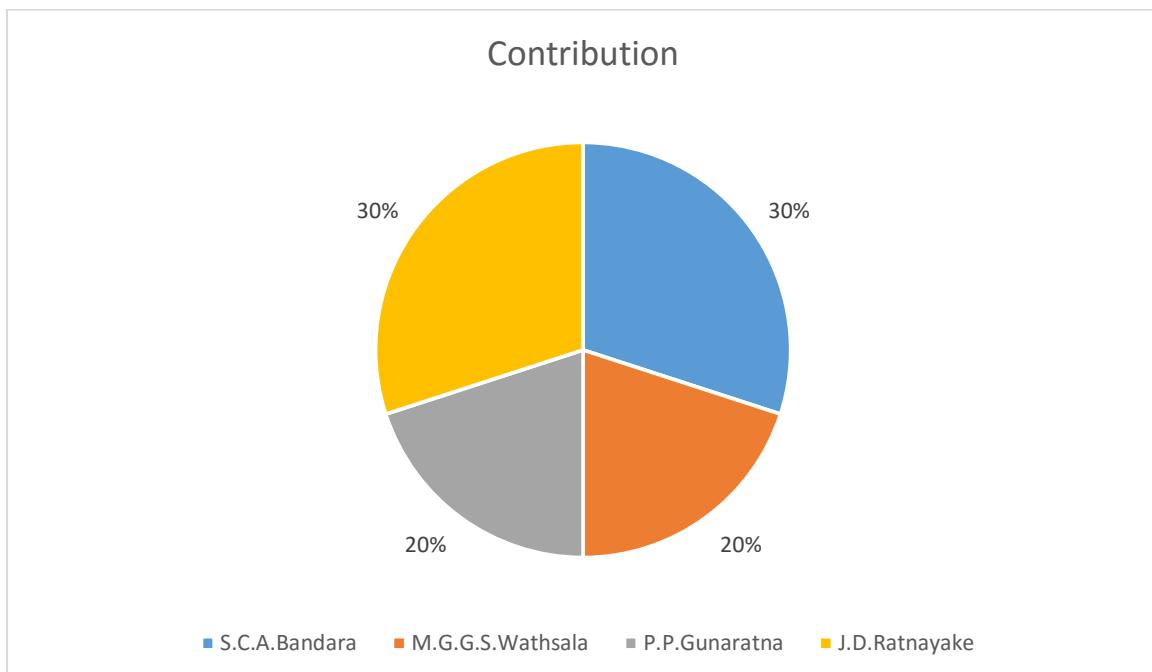
**Name of the components (Mobile):**

1. Forum
2. Tags
3. User Management
4. Testing

**Description of the components (Mobile):**

1. Forum
  - Lecturer can post questions and answer to the posted questions.
  - Student can post questions and answer to questions using his real or anonymous identity.
  - Lecturer can delete student's question and answers.
  - Lecturer can give points to the questions that are asked by students.
2. Tags
  - Students can create and delete tags.
  - Filter forum questions according to a tag name.
3. User Management
  - Each user can view and edit their individual profiles.
4. Testing
  - Manually test components with test case scenarios in the mobile application.

## Percentage of the group



## 4. Testing

Test Scenario		Login to the application				
Pre-Requisite		A valid user account				
Post-Requisite		N/A				
Test Case ID	Test Scenario	Test Steps	Test Data	Expected Results	Actual Results	Test Result (Pass / Fail)
1	Valid email and password	1. Go to the login page 2. Enter email and password 3. Click login	Email: janithadevin@gmail.com  Password: J@nith@99	Login to the application .	Login to the application .	Pass
2	Valid email and incorrect password	1. Go to the login page 2. Enter email and password 3. Click login	Email: janithadevin@gmail.com  Password:	Display the error message	Display the error message	Pass
3	Invalid email and correct password		Email:  Password:	Display the error message	Display the error message	Pass
4	Invalid email and incorrect password	1. Go to the login page 2. Enter email and password 3. Click login	Email:  Password:	Display the error message	Display the error message	Pass

Test Scenario		Forgot password				
Pre-Requisite		A valid user account				
Post-Requisite		N/A				
Test Case ID	Test Scenario	Test Steps	Test Data	Expected Results	Actual Results	Test Result (Pass / Fail)
1	Check with valid Data	1. Run the system 2. Select forgot password	Email: Pansilugunaratne8@gmail.com	User will see a success message.	A success message was displayed.	Pass
2	Check with unregistered email address	3. Enter email address 4. Press send email button	Email: abc@gmail.com	Display error “email does not exist”	Display error “email does not exist”	Pass
3	Press send email button without inserting email	5. Enter OTP 6. Press verify 7. Enter new password twice and submit.	No input	Display error “Email must not be empty”	Display error “Email must not be empty”	Pass

Test Scenario		Register a lecturer or student				
Pre-Requisite		Admin must log into the system				
Post-Requisite		N/A				
Test Case ID	Test Scenario	Test Steps	Test Data	Expected Results	Actual Results	Test Result (Pass / Fail)
1	Enter new data.	1. Select Users 2. Select Add New User 3. Enter data 4. Press	Email: <a href="mailto:dulithalavan@gmail.com">dulithalavan@gmail.com</a>  Registration No: 1900118  First Name: Dulitha  Last Name: Ratnayake	New user is created and his credential will be emailed.  Admin see a success message.	New user is created and his credential will be emailed.  Admin see a success message.	Pass
2	Enter new data but previously used registration no	Add User	Email: <a href="mailto:dulithalavan@gmail.com">dulithalavan@gmail.com</a>  Registration No: 19001428  First Name: Dulitha  Last Name: Ratnayake	Display the error message	Display the error message.	Pass
3	Enter new data but previously used email		Email: <a href="mailto:janithadevin@gmail.com">janithadevin@gmail.com</a>  Registration No: 1900118  First Name: Dulitha  Last Name: Ratnayake	Display the error message.	Display the error message.	Pass

4	Enter new data but previously used registration no and email		Email: <a href="mailto:janithadevin@gmail.com">janithadevin@gmail.com</a>  Registration No: 19001428  First Name: Dulitha  Last Name: Ratnayake	Display the error message	Display the error message	Pass
5.	No data entered.		No input	Display the error message	Display the error message	Pass

Test Scenario		Update user details				
Pre-Requisite		Admin must log into the system				
Post-Requisite		N/A				
Test Case ID	Test Scenario	Test Steps	Test Data	Expected Results	Actual Results	Test Result (Pass / Fail)
1	Check with valid Data	1. Run the system 2. Select user 3. Press edit user 4. Enter details	Email: pansilugunaratna@gmail.com	Admin will see a success message.	A success message was displayed.	Pass
2	Check with an invalid email address		Email: stugmail.com	Display error "must be a valid email address"	Display error "must be a valid email address"	Pass

3	Check with an invalid employ no	5. Press submit	Employ No: 55	Display error “Employee No must have 8 characters only”	Display error “Employee No must have 8 characters only”	Pass
4	Check with an invalid index no		Index No: 190	Display error “Index No must have 8 characters only”	Display error “Index No must have 8 characters only”	Pass
4	Press edit button with empty fields		No input	Display error “must not be empty”	Display error “must not be empty”	Pass

Test Scenario		Add new course				
Pre-Requisite		Admin must log into the system				
Post-Requisite		N/A				
Test Case ID	Test Scenario	Test Steps	Test Data	Expected Results	Actual Results	Test Result (Pass / Fail)
1	Enter new data.	1. Select Course 2. Select Add New Course 3. Enter data	Course Name: System Analysis Year: 1	New course is created. Admin can see a success message.	New course is created. Admin can see a success message.	Pass

5.	No data entered.	4. Press Register	No input	Display the error message	Display the error message	Pass
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Test Scenario		Update course details				
Pre-Requisite		Admin must log into the system				
Post-Requisite		N/A				
Test Case ID	Test Scenario	Test Steps	Test Data	Expected Results	Actual Results	Test Result (Pass / Fail)
1	Check with valid Data	1. Run the system 2. Select course 3. Press edit course	Course Name: System Analysis and Design Year: 1	Admin will see a success message.	A success message was displayed.	Pass
2	Check with an invalid course name	4. Enter details 5. Press edit	Course Name: @mel	Display error “course name must not contain special characters”	Display error “course name must not contain special characters”	Pass
4	Press edit button with empty fields		No input	Display error “must not be empty”	Display error “must not be empty”	Pass

Test Scenario		Create Badge				
Pre-Requisite		Admin must log into the system				
Post-Requisite		N/A				
Test Case ID	Test Scenario	Test Steps	Test Data	Expected Results	Actual Results	Test Result (Pass / Fail)
1	Enter new data.	1. Select Badges 2. Select Add New Badge 3. Enter data 4. Press Create Badge	Course: SCS 2212 – Automata Theory  SCS 1212 – Foundation of Computer Science  Badge Name: Appreciation  Badge Points: 10  Badge Image: pic	New badge is created.  Admin see a success message.	New badge is created.  Admin see a success message.	Pass
2	Enter new data but invalid badge name		Course: SCS 2212 – Automata Theory  SCS 1212 – Foundation of Computer Science  Badge Name: appreciation@10  Badge Points: 10  Badge Image: pic	Display the error message "badge name must contain letters and numbers only"	Display the error message "badge name must contain letters and numbers only"	Pass
3.	No data entered.		No input	Display the error message	Display the error message	Pass

Test Scenario		Create Session				
Pre-Requisite		Lecturer must log into the system				
Post-Requisite		N/A				
Test Case ID	Test Scenario	Test Steps	Test Data	Expected Results	Actual Results	Test Result (Pass / Fail)
1	Enter new data.	1. Select Sessions 2. Select Add New Session 3. Enter data 4. Press Create Session	Course: SCS 2212 – Automata Theory  Session Name: Transducers	New session is created.	New session is created.	Pass
3.	No data entered.		No input	Display the error message	Display the error message	Pass

Test Scenario		Create Poll				
Pre-Requisite		Lecturer must log into the system				
Post-Requisite		N/A				
Test Case ID	Test Scenario	Test Steps	Test Data	Expected Results	Actual Results	Test Result (Pass / Fail)
1	Enter new data.	1. Select Sessions 2. Select Session 3. Select Add	Course: SCS 2212 – Automata Theory  Session Name: Transducers	New session is created.	New session is created.	Pass
2.	No data entered.	4. Select poll type 5. Enter data  4. Press Save Question	No input	Display the error message	Display the error message	Pass

Test Scenario		Add live forum question				
Pre-Requisite		Student must log into the system				
Post-Requisite		N/A				
Test Case ID	Test Scenario	Test Steps	Test Data	Expected Results	Actual Results	Test Result (Pass / Fail)

1	Enter new data.	1. Select Sessions 2. Select Session 3. Select Live Forum 4. Enter data 5. Press Save	Question: What are the conditions for a NFA for its equivalent DFA to be maximal in size? Topic Name: Preliminaries Anonymity: True	New forum question is created.	New forum question is created.	Pass
2.	No data entered.		No input	Display the error message "Question is required"	Display the error message "Question is required"	Pass

Test Scenario		Create Quiz				
Pre-Requisite		Lecturer must log into the system				
Post-Requisite		N/A				
Test Case ID	Test Scenario	Test Steps	Test Data	Expected Results	Actual Results	Test Result (Pass / Fail)
1	Enter new data.	1. Select Ask Question 2. Select Create quiz 4. Enter data	Course: SCS 2212 – Automata Theory  Topic Name: Preliminaries  Quiz name: Quiz 1  Quiz Duration: 00:20:00	New quiz is created.	New quiz is created.	Pass

2.	No data entered.	5. Press Create Quiz	No input	Display the error message	Display the error message	Pass
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Test Scenario		Add forum discussion topic				
Pre-Requisite		Lecturer or Student must log into the system				
Post-Requisite		N/A				
Test Case ID	Test Scenario	Test Steps	Test Data	Expected Results	Actual Results	Test Result (Pass / Fail)
1	Enter new data.	1. Select Forum 2. Select Course 4. Select Add new Topic 5. Enter data 6. Press Create Quiz	Course: SCS 2212 – Automata Theory  Topic Name: Preliminaries  Quiz name: Quiz 1  Quiz Duration: 00:20:00	New discussion topic is created.	New discussion topic is created.	Pass
2.	No data entered.		No input	Display the error message	Display the error message	Pass

Test Scenario		Add Tag				
Pre-Requisite		Student must log into the system				
Post-Requisite		N/A				
Test Case ID	Test Scenario	Test Steps	Test Data	Expected Results	Actual Results	Test Result (Pass / Fail)

1	Enter new tag name.	1. Select Tags 2. Press Add New Tag 3. Enter Tag name	Tag name: DFA	New tag displayed in the tags profile.  Filter and display all discussion forums having the word DFA.	New tag displayed in the tags profile.  Filter and display all discussion forums having the word DFA.	Pass
2.	Enter previously used tag name.		Tag name: DFA	Display the error message “Tag name must be unique”	Display the error message “Tag name must be unique”	Pass
3.	Enter invalid tag name.		Tag name: DFA	Display the error message “Tag name must contain only letters and numbers”	Display the error message “Tag name must contain only letters and numbers”	Pass
4.	No data entered.		No input	Display the error message “Tag name must not be empty”	Display the error message “Tag name must not be empty”	Pass

Test Scenario		Edit Profile				
Pre-Requisite		Lecturer or Student must log into the system				
Post-Requisite		N/A				
Test Case ID	Test Scenario	Test Steps	Test Data	Expected Results	Actual Results	Test Result (Pass / Fail)
1	Enter new data.	1. Press profile name 2. Press Edit 3. Enter details 4. Press Save	First name: Pansilu  Last Name: Gunaratna  Tele No: 0711111223	Save profile details.  Change save button as edit.	Save profile details.  Change save button as edit.	Pass
2.	Enter previously used tele no.		Tele No: 0712234223	Display the error message “Tele No must be unique”	Display the error message “Tele No must be unique”	Pass
3.	Enter invalid tele no.		Tele No: 071xxx	Display the error message	Display the error message	Pass
4.	No data entered.		No input	Display the error message “Tag name must not be empty”	Display the error message “Tag name must not be empty”	Pass