CSC 3506

Requirement Modelling

Section: 1

A3: Requirement Modelling

IIUM Academic Course Repository Management System

Group members: **Foxglove**

1. Khan Nasik Sami	1638153	100%
2. Zian Md Afique Amin	1631005	100%
3. Md Sariful Islam	1626667	100%
4. Saoud Hamidou	1629115	100%

Submitted To: Dr Azlin Nordin

Due: 12/07/2020

Table Of Contents

Scenario Modelling

1. Use case diagram

course repository management system
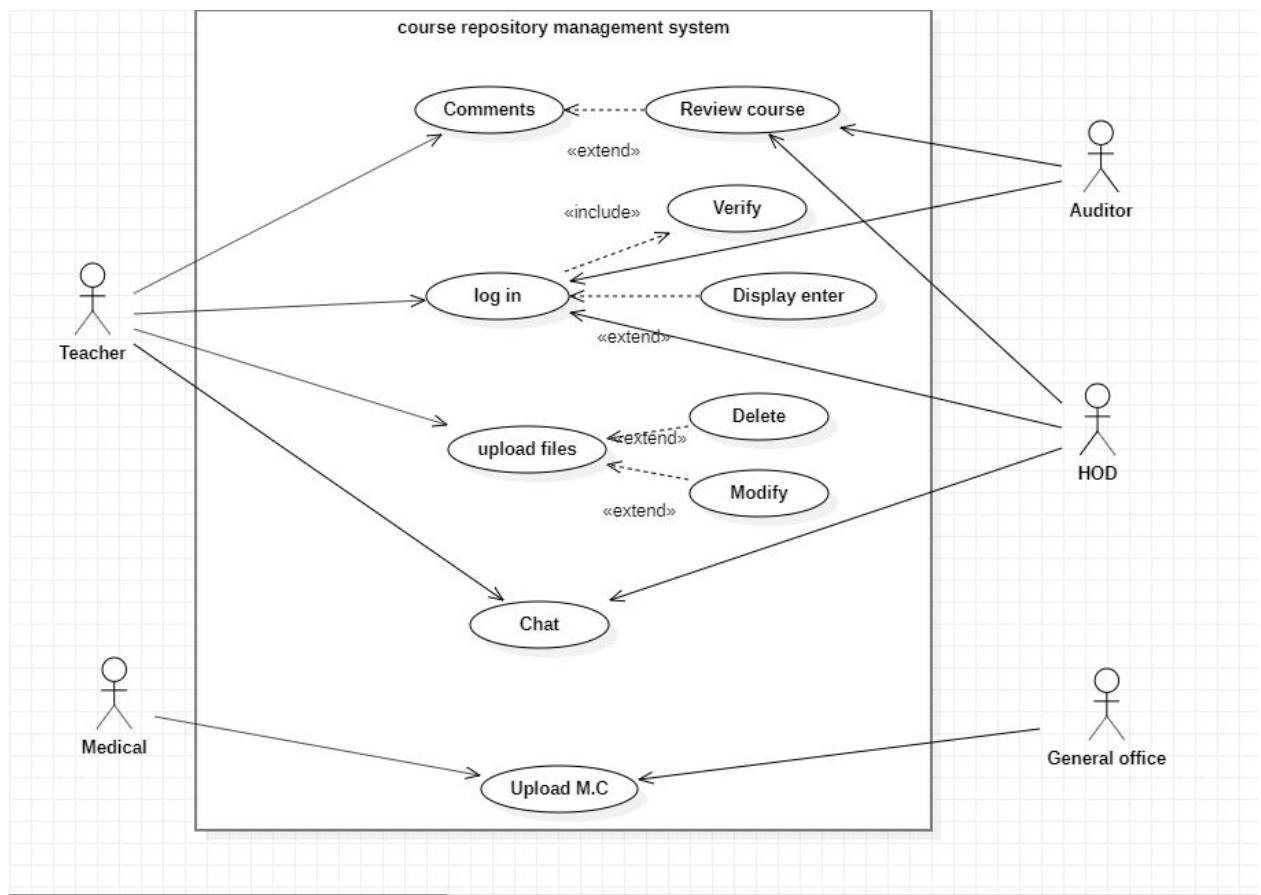
2. Use Case Specification:

Use Case	Description	Source
Reviews	HOD,Auditor,General officer will review the courses and will comment if they want .	Dr Raini (HOD)

	This comment will be notified with the respective teachers .	
Login	Teachers, HOD, Auditors need to log in to the system .	Dr. Azlin(Lecturer)
Upload files	Teachers can upload any files including class materials , time table , assignments and any other materials in the service .	Dr Azlin (Lecturer)
Chat	Teachers, HOD, Auditors can chat with each other privately or publicly .	Observation
Upload M.C	Medical can provide the softcopy of the M.C. General office will get it .	Interview with Dr Raini (Lecturer)

DETAILED USE CASE SPECIFICATION for IIUM Course Repository Management System

No		Section	Explanation
ID	1.1	Identifier	
	1.2	Name	Login
Management	2.1	Author(s)	IIUM Course repository management system
	2.2	Version	1.1
	2.3	Change history	
	2.4	Priority	High
	2.5	Criticality	Critical
Context	3.1	Source(s)	Dr. Azlin(Lecturer)
	3.2	Responsible stakeholders	Teachers, Auditor, HOD
Use Case Definition	4.2	Short description	Teachers, Auditor and HOD have to sign in to get access into the system.
	4.4	Associated goal (s)	
	4.5	Primary actor(s)	Teachers, Auditor, HOD

	4.6	Other actors(s)	
	4.7	Pre-condition	Teachers, Auditors, and HOD accounts must be authorized previously .
	4.9	Post-condition	All information must be pre-recorded.
	4.10	Results	All user can access the system
	4.11	Main scenario	1.Teachers, Auditors and HOD. will insert the username and the password. 2.system will verify the user name and the password .
	4.12	Alternative scenario	The user name is incorrect .Need to check again .
	4.13	Exception scenario	System could not find the username . The account information is wrong.
	4.14	Quality requirements	1e.The user password stored in the system shall be protected against unauthorized access. 2e. When the user changes his/her password, the system shall validate that the new password is at least eight characters long and contains alphanumeric characters.
Relationship	5.1	Goal(s)	Users must be authenticated by the system.

No		Section	Explanation
	5.2	Use cases	If the users use the valid information then the system will go to the next use case - verify or display enter. After successful login users will be able to go to the system .
Miscellaneous	6.1	Supplementary information	User information must be reserved in the system.
	6.2	Open issues	N/A .

DETAILED USE CASE SPECIFICATION for IIUM Course Repository Management System

No		Section	Explanation
ID	1.1	Identifier	
	1.2	Name	Upload files
Management	2.1	Author(s)	IIUM Course repository management system
	2.2	Version	1.1
	2.3	Change history	
	2.4	Priority	High
	2.5	Criticality	Critical

Context	3.1	Source(s)	Dr Azlin (Lecturer)
	3.2	Responsible stakeholders	lecturer
Use Case Definition	4.2	Short description	Teachers will upload any files including class materials , time table , assignments and any other materials in the service .
	4.4	Associated goal (s)	Store all the instruments in the server.
	4.5	Primary actor(s)	Teachers
	4.6	Other actors(s)	N/A
	4.7	Pre-condition	File Should be uploaded in the respective date and time .
	4.9	Post-condition	Don't exit until the upload processing is finished.
	4.10	Results	All the files will be stored in the system
	4.11	Main scenario	1.login the system 2.select the course 3.upload the files
	4.12	Alternative scenario	1a.UserID and password is wrong. Need to check and recover the password.

			2a.Share the file link which is already uploaded in another platform.
	4.13	Exception scenario	If the file is not supported , the file will be rejected.
	4.14	Quality requirements	The students' projects, assignments and other material shall be protected against any unauthorized access.
Relationship	5.1	Goal(s)	All the files will be stored in the system
	5.2	Use cases	These uploaded files will be shown in the be system. Other users will show these files.
Miscellaneous	6.1	Supplementary information	Every user can see the progress of the courses after uploading the files.
	6.2	Open issues	If the lecturer failed to upload the file in time .The system will show the incompleteness of the respective folder.

DETAILED USE CASE SPECIFICATION for IIUM COurse Repository Management System

No		Section	Explanation
ID	1.1	Identifier	

	1.2	Name	Review Course
Management	2.1	Author(s)	IIUM Course repository management system
	2.2	Version	1.1
	2.3	Change history	N/A
	2.4	Priority	Medium
	2.5	Criticality	Critical
Context	3.1	Source(s)	Dr Raini (HOD)
	3.2	Responsible stakeholders	H.O.D, Auditor
Use Case Definition	4.2	Short description	The H.O.D and the auditors will be able to review the files uploaded by the lecturers and they will be able to comment on the materials.
	4.4	Associated goal (s)	The lecturer will be able to get the reviews on the materials which is done by the H.O.D and the auditors.
	4.5	Primary actor(s)	H.O.D, auditor
	4.6	Other actors(s)	N/A
	4.7	Pre-condition	The user must be registered and logged in to the system.

	4.9	Post-condition	System takes the review
	4.10	Results	The H.O.D and the auditors will successfully post their reviews.
	4.11	Main scenario	1. The auditor or the H.O.D logs in to the system. 2. Selects the folder. 3. Selects the item to be reviewed. 4. The review is posted on the materials and the lecturer can see the review.
	4.12	Alternative scenario	1a.UserID and password is wrong. Need to check and recover the password. 2a. The user goes to the desired file but does not review the material.
	4.13	Exception scenario	1e. The user reviews the item but the lecturer is not able to see the comments .
	4.14	Quality requirements	N/A
Relationship	5.1	Goal(s)	The H.O.D and the auditor will be able to review the materials uploaded by the lecturer.
	5.2	Use cases	N/A
Miscellaneous	6.1	Supplementary information	The lecturer will be able to reply to the review for further communication.

	6.2	Open issues	Reviewing error.

DETAILED USE CASE SPECIFICATION for IIUM COurse Repository Management System

No		Section	Explanation
ID	1.1	Identifier	
	1.2	Name	Chat
Management	2.1	Author(s)	IIUM Course repository management system
	2.2	Version	1.1
	2.3	Change history	N/A
	2.4	Priority	Medium
	2.5	Criticality	Critical
Context	3.1	Source(s)	Observation
	3.2	Responsible stakeholders	H.O.D, Auditor, Lecturer, Liaison

Use Case Definition	4.2	Short description	The system should provide an environment to communicate among them privately or publicly.
	4.4	Associated goal (s)	The lecturer and the reviewers can communicate among them with chat features privately and publicly.
	4.5	Primary actor(s)	H.O.D, Auditor, Lecturer, Liaison
	4.6	Other actors(s)	N/A
	4.7	Pre-condition	The user must be registered and logged in to the system
	4.9	Post-condition	System takes the message
	4.10	Results	The user will successfully post there comments
	4.11	Main scenario	1. The auditor or the H.O.D or the lecturer or liaison logs in to the system. 2. Selects the chat option. 3. The message has been sent successfully.
	4.12	Alternative scenario	1a.UserID and password is wrong. Need to check and recover the password. 2a. The user goes to the chat features but does not send any message.
	4.13	Exception scenario	1e. The message has been sent but can not be viewed by others

| No		Section	Explanation
	4.14	Quality requirements	N/a
Relationship	5.1	Goal(s)	Anyone of the user can view their chat (Publicly or Privately.)
	5.2	Use cases	N/A
Miscellaneous	6.1	Supplementary information	The user will be able to reply to the chat for further communication.
	6.2	Open issues	If there is no comments, it will show "Send message"

DETAILED USE CASE SPECIFICATION for IIUM COurse Repository Management System

No		Section	Explanation
ID	1.1	Identifier	RQF_111
	1.2	Name	Upload Mc
Management	2.1	Author(s)	IIUM Course repository management system
	2.2	Version	1.1
	2.3	Change history	N/A

	2.4	Priority	Medium
	2.5	Criticality	Critical
Context	3.1	Source(s)	Interview with Dr Raini (Lecturer)
	3.2	Responsible stakeholders	General Office, Lecturer
Use Case Definition	4.2	Short description	The system shall allow the medical to contact the Kulliyah general office about the MC and timeslip. The general office will update the information after reconfirming with the course lecturer.
	4.4	Associated goal (s)	The system will show the student's medical slip after confirming with the lecturer.
	4.5	Primary actor(s)	General Office, Lecturer
	4.6	Other actors(s)	N/A
	4.7	Pre-condition	The user must be registered and logged in to the system.
	4.9	Post-condition	System has the medical slip.
	4.10	Results	The MC will be stored in the system to view by others
	4.11	Main scenario	1. The lecturer or the General Office logs in to the system. 2. Selects the "Upload MC" option. 3. The file has been uploaded..

	4.12	Alternative scenario	1a.UserID and password is wrong. Need to check and recover the password.
	4.13	Exception scenario	N/A
	4.14	Quality requirements	N/A
Relationship	5.1	Goal(s)	The MC has been stored and viewed by others
	5.2	Use cases	N/A
Miscellaneous	6.1	Supplementary information	The user will be able to view MC and can comment for further communication.
	6.2	Open issues	If there are no files , the system will show "add files".

3. Context diagram

Context diagram
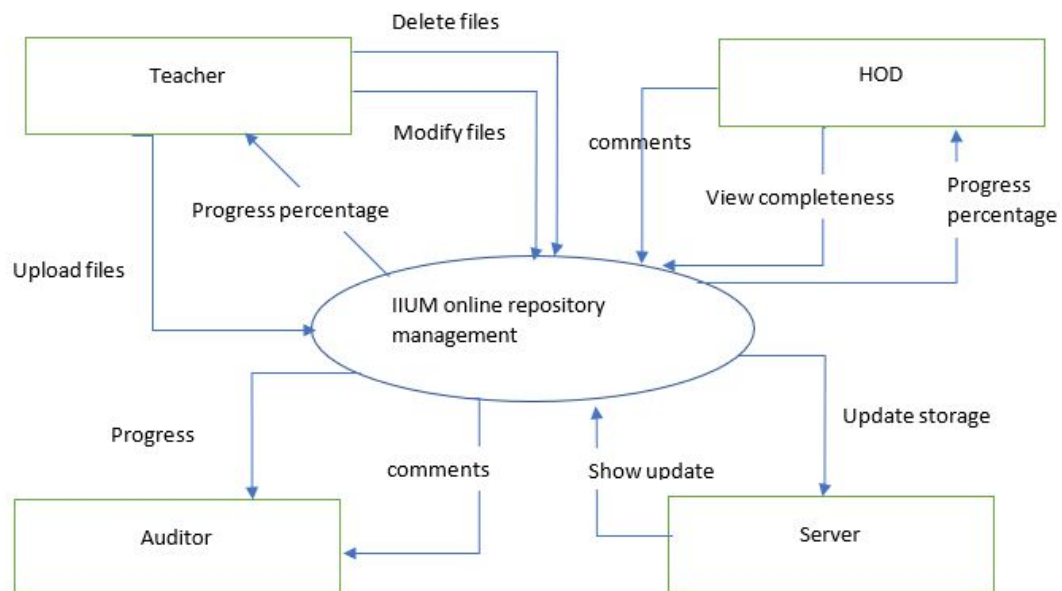
Description:

Teachers will upload any files including class materials , time table , assignments and any other materials in the service .HOD,Auditor,General officer will review the courses and will comment if they want.Teachers, HOD, Auditors need to log in to the system.Teachers, HOD, Auditors can chat with each other privately or publicly . Medical can provide the softcopy of the M.C. General office will get it .

2. Data modelling

 1. Class diagram:
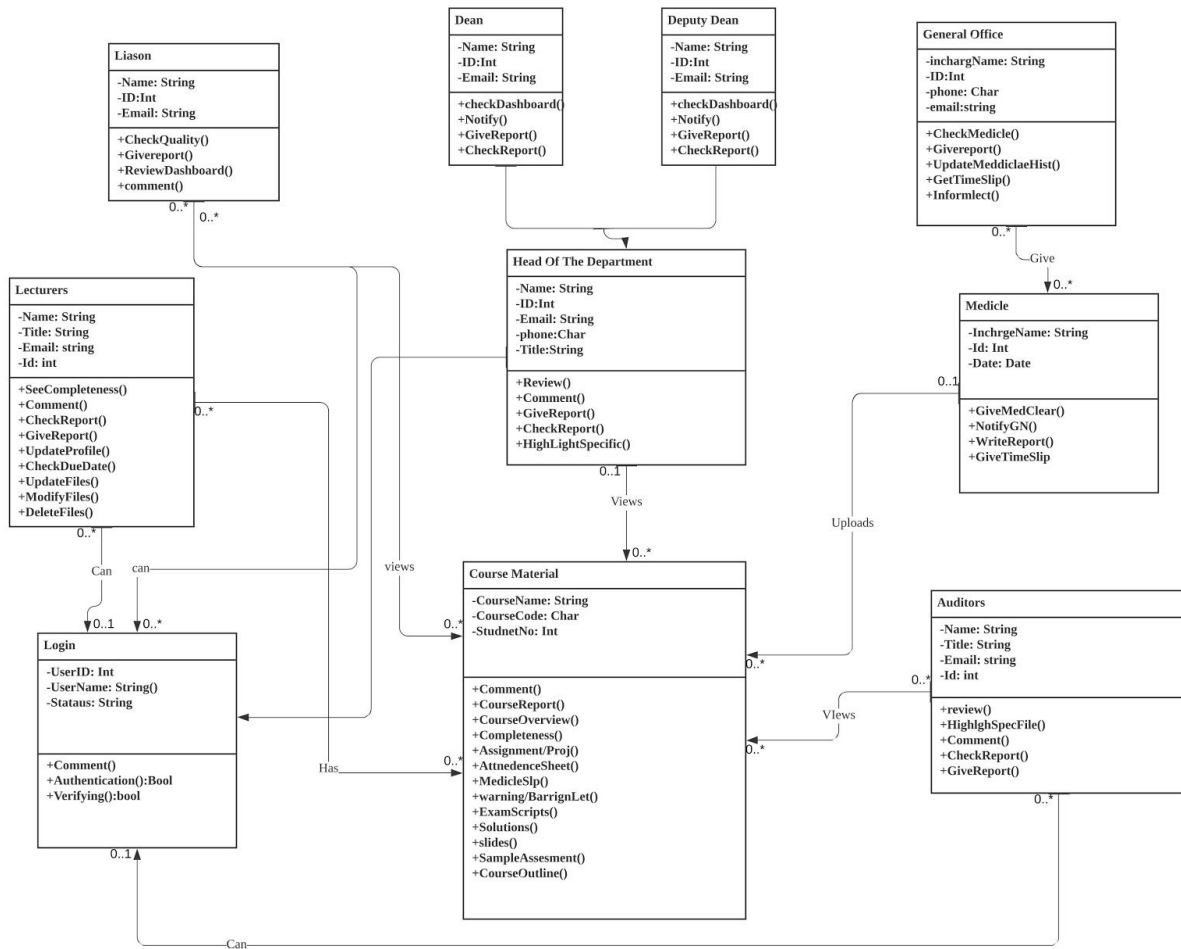
Description:

A class is a blueprint for an object. A class diagram describes the types of objects in the system and the different kinds of relationships which exist among them. It allows analysis and design of the static view of a software application.

For IIUM Course Repository Management System, there are around 9 class diagrams which are the HOD, Lecturers, Login, Course Materials, Audiotors, Medical, General Office Dean , Deputy Dean and the Liason.

The lecturer, liaison, HOD and auditors can login in the system where the lecturer is the only one to upload course materials and the auditor, liaison and the HOd only can view and comment.
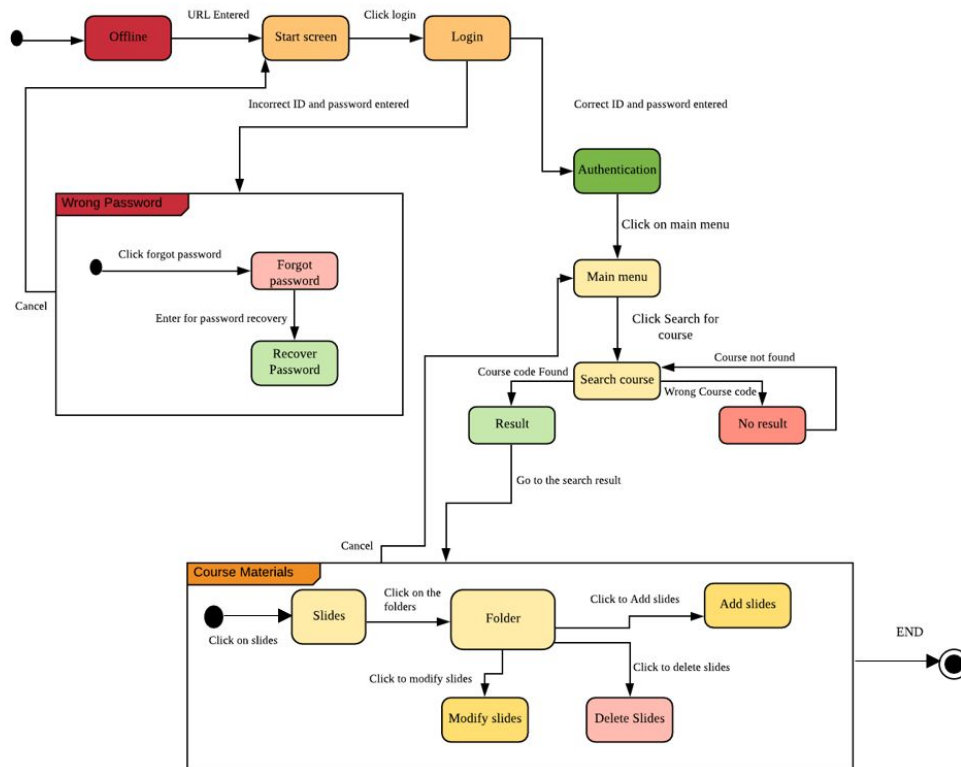
3. Behavioral modelling (optional) ▫

Diagram: Lecturers usage instance

This is an instance of the statechart diagram from the lecturer's perspective. Here we have shown the login procedure for the lecturer and the password recovery functionality if the lecturer forgets his/her password, then the recovery procedure for that. Then from the main menu, the lecturer will be able to search for the desired course by using the course code. If it matches he/she will be able to see the course materials and in this case, we have shown the functionality for adding, removing, and modifying the course slides. If the course is not found then it will take the user back to the search option.
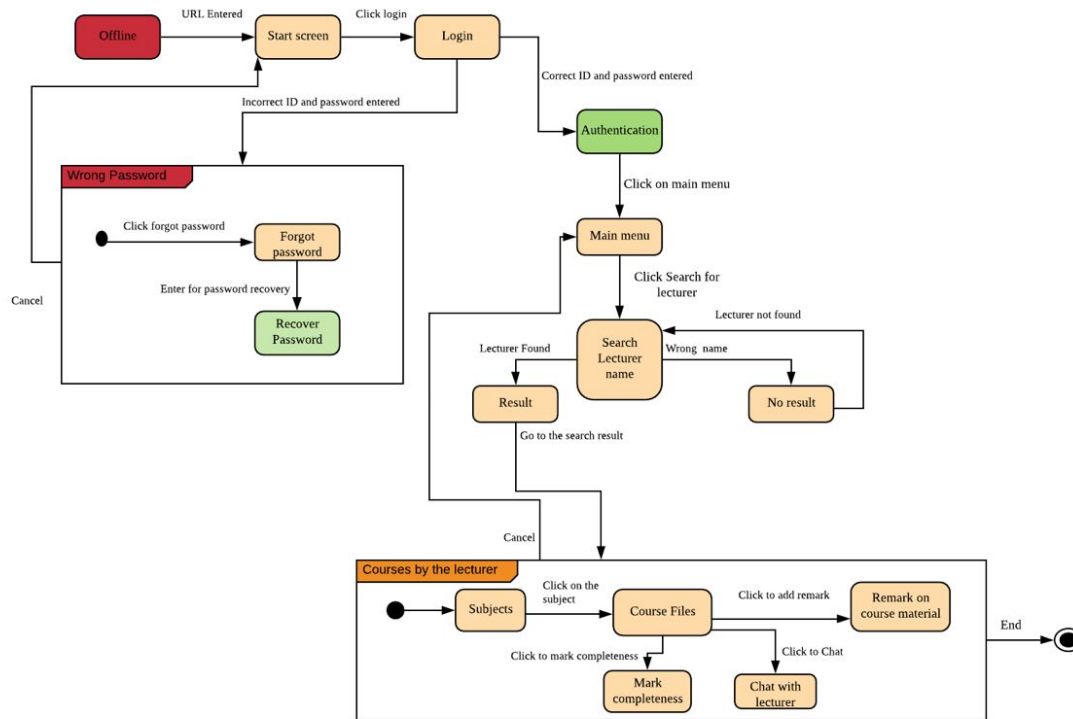
Diagram: HOD as a user's instance

This is an instance of the statechart diagram from the Head of the Departments' perspective. Here we have shown the login procedure for the HOD and the password recovery functionality if the HOD forgets his/her password, then the recovery procedure for that. Then from the main menu, the HOD will be able to search for the desired lecturer by using the lecturer's name. If it matches he/she will be able to see the courses taken by that lecturer. In this case, we have shown the functionality for reviewing options on the course materials, highlighting the files either for assessing later or marking as complete. If the course is not found then it will take the HOD back to the search option.
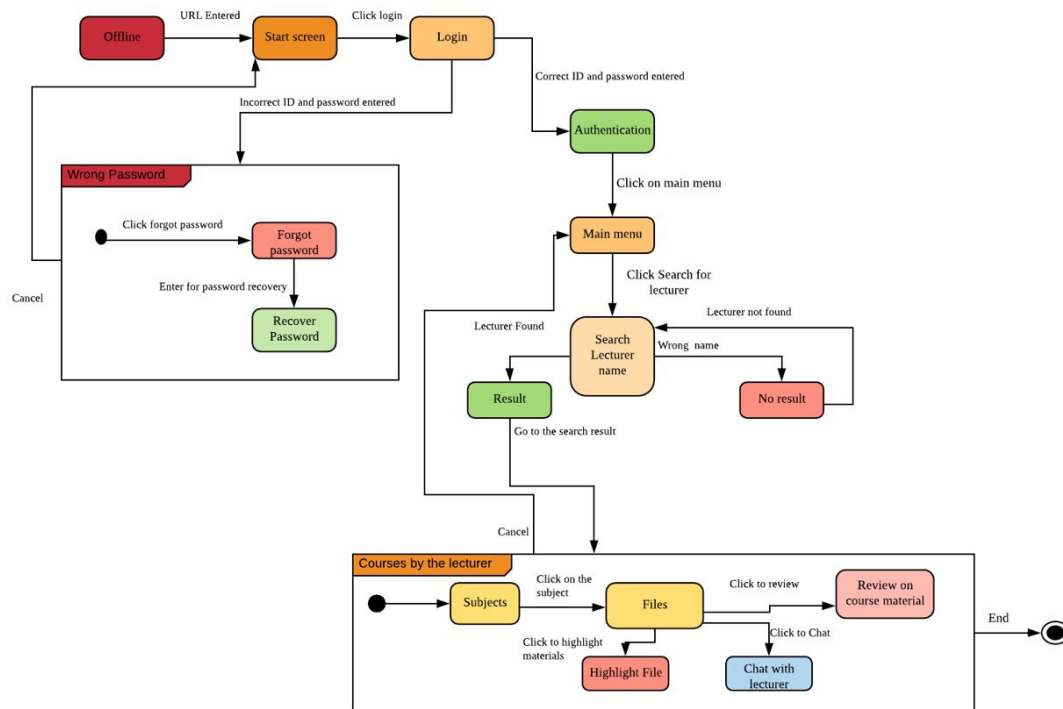
Diagram : Auditor's instance as a user

This is an instance of the statechart diagram from the Auditors' perspective both internal and external. Here we have shown the login procedure for the Auditor and the password recovery functionality if the Auditor forgets his/her password and then the recovery procedure for that. Then from the main menu, the Auditor will be able to search for the desired lecturer by using the lecturer's name. If it matches he/she will be able to see the courses taken by that lecturer. In this case, we have shown the functionality for reviewing options on the course materials, marking the completeness of the files, and chatting with the lecturer option. If the course is not found then it will take the HOD back to the search option.

Task 2:

1) Before proceeding to the final stages, we need to check whether we are building the right system based on the requirements or not. In other words, we need to check if the requirements gathered are appropriate to the system that we are planning to build and then validate them. In order to validate the requirements, we divided the process into two parts, first of all, we focus on the form. It means that we look at how the requirements have been written, their completeness, their validity in terms of syntax and semantics, and if their consistency with the other artifacts. When writing the requirements, we have followed the appropriate rules on how to write requirements in the correct way so that our requirements can be understood by the stakeholders and also by the developers. After our meeting, the different stakeholders shared their requirements and we did map and drew the requirements in different modelling system. Such as use case diagram, context diagram, class diagram and also we did the state chart diagram. Which enables us to see the requirements from different perspectives such as, how the system interacts with the users, how the users interact between themselves in the system etc. This has enabled us to validate our representation and we have found that the requirements are consistent with other artefacts .

2) When writing the requirements, we based our work in gathering features from existing systems and the requirements from our stakeholders and also from the survey we did online.. During the interview, the stakeholders have shared their concerns, what they need about the upcoming system. An agreement has been reached between the two different parties about the requirements that have to be validated. Since we agreed on the requirements and we also validated the correctness of the format. We can validate that our representations are of good quality.