

# **Smart Quiz**

Software Design Document

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## Document History

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# Chapter One | Introduction

## 1.1 Purpose

The software design document (SDD) is written for describing the high level of software design, system architecture, database system and graphic user interfaces. It also consists of the users' requirements. This document is an important thing for facilitating the developer team members to understand the direction for developing SmartQuiz.

## 1.2 Software Scope

This document describes the implementation details of SmartQuiz. The system consists of five features. First feature is '*User registration*' which covers the registration of Lecturer and Student. Second feature is '*Log in/Log out system*' and covers the log in/log out of Lecturer account, Student account, and Administrator account. Third feature is '*Course management*'. It covers management of courses by Administrator, and access to those courses by Lecturer and Student. Fourth feature is '*Assignment and quiz management*' that covers assigning, editing, deleting assignments or quizzes by Lecturer. Fifth feature is '*Taking assignments and quizzes*'. It covers taking assignments and quizzes by Student. This document explains how all features in the application are implemented using class diagrams and sequence diagrams for clarifying and providing the overall picture of the system.

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## **1.3 Technology Review**

### **1.3.1 JavaScript**

#### **Technology description**

JavaScript is a programming language known as the “script”. Translation operates on each command. It is commonly used as part of web browsers, which allow client-side scripts to interact with the user, control the browser, and change the content displayed on the We can add the JavaScript programming web pages to process data of both the display and receiving - transmitting. And that can interact with users immediately. JavaScript is also used in server-side programming and building games as well as desktop and mobile applications.

#### **The selection of this technology**

- We use JavaScript for calculating data, displaying, sending – receiving data for interacting with the user.
- JavaScript is easy to learn.

### **1.3.2 HTML5**

#### **Technology description**

HTML5 is a language that was developed for use as a markup language. Website for writing the latest version is being developed by WHATWG (The Web Hypertext Application Technology Working Group). Several features have been added to allow developers to use more easily.

#### **Alternative technology**

- HTML4

#### **The selection of this technology**

- HTML5 can access sites easier than older version.
- HTML5 is support multimedia content.
- HTML5 is standardized for creating the user interface of website.

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### 1.3.3 JavaScript Object Notation (JSON)

#### Technology description

JSON (JavaScript Object Notation) is a data interchange - format. It is based on a JavaScript programming language. JSON is a text format that is completely language independent. JSON uses sending and receiving data to and from different platforms.

#### Alternative technology

- XML

#### The selection of this technology

- JSON can send and receive data between different platforms.
- JSON is based on JavaScript, which the developers are familiar with.

### 1.3.4 Windows Communication Foundation (WCF)

#### Technology description

Windows Communication Foundation (WCF) is a framework for building service-oriented applications. Using WCF, you can send data as asynchronous messages from one service endpoint to another. A service endpoint can be part of a continuously available service hosted by IIS, or it can be a service hosted in an application. An endpoint can be a client of a service that requests data from a service endpoint. The messages can be as simple as a single character or word sent as XML, or as complex as a stream of binary data.

#### The selection of this technology

- Windows Communication Foundation is service of c# .net

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### 1.3.5 Google Drive APIs

#### Technology description

Google Drive APIs is the drive platform gives a group of APIs along with client libraries, which help to create drive for managing documents. Google Drive is an application of Google Company.

#### The selection of this technology

- This technology is a freeware.
- Google Drive can work together with Gmail by using Google account.

### 1.3.5 Google Spreadsheets APIs

#### Technology description

Google Spreadsheets APIs is the gives group of APIs along with client libraries, which help to create spreadsheets for handling everything from simple task lists to data analysis with charts, filters and pivot tables.

#### The selection of this technology

- This technology is a freeware.

### 1.3.5 Gmail APIs

#### Technology description

Gmail APIs is the gives group of APIs along with client libraries, which help to send the email by using Gmail application.

#### The selection of this technology

- This technology is a freeware.
- Gmail can work together with Google Drive by using Google account.

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## Chapter Two | System Architecture



**Figure 1 SmartQuiz Architecture.**

The architecture of SmarQuiz is shown in Figure 8. It consists of the web application, which the user can access via a browser. The system uses JSON for interchanging data between the web services and the web application. The web services have been implemented in C#.Net and MS SQL database. In this progress, the web application work with two system, front-end and back-end system both are running together.

**Front-end** - The aspect of the application that the user interacts with. The web application interface that receive information from the user and display the result to the user.

**Back-end** - The aspect of the application the user does not interact with. It is developed and maintained by development professionals. The web application system use to hold the business logic for calculating receiving and sending from the front-end system.

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# Chapter Three | Detail Design

## 3.1 Class Diagram

### 3.1.1 Web service class diagram (Back-end system)

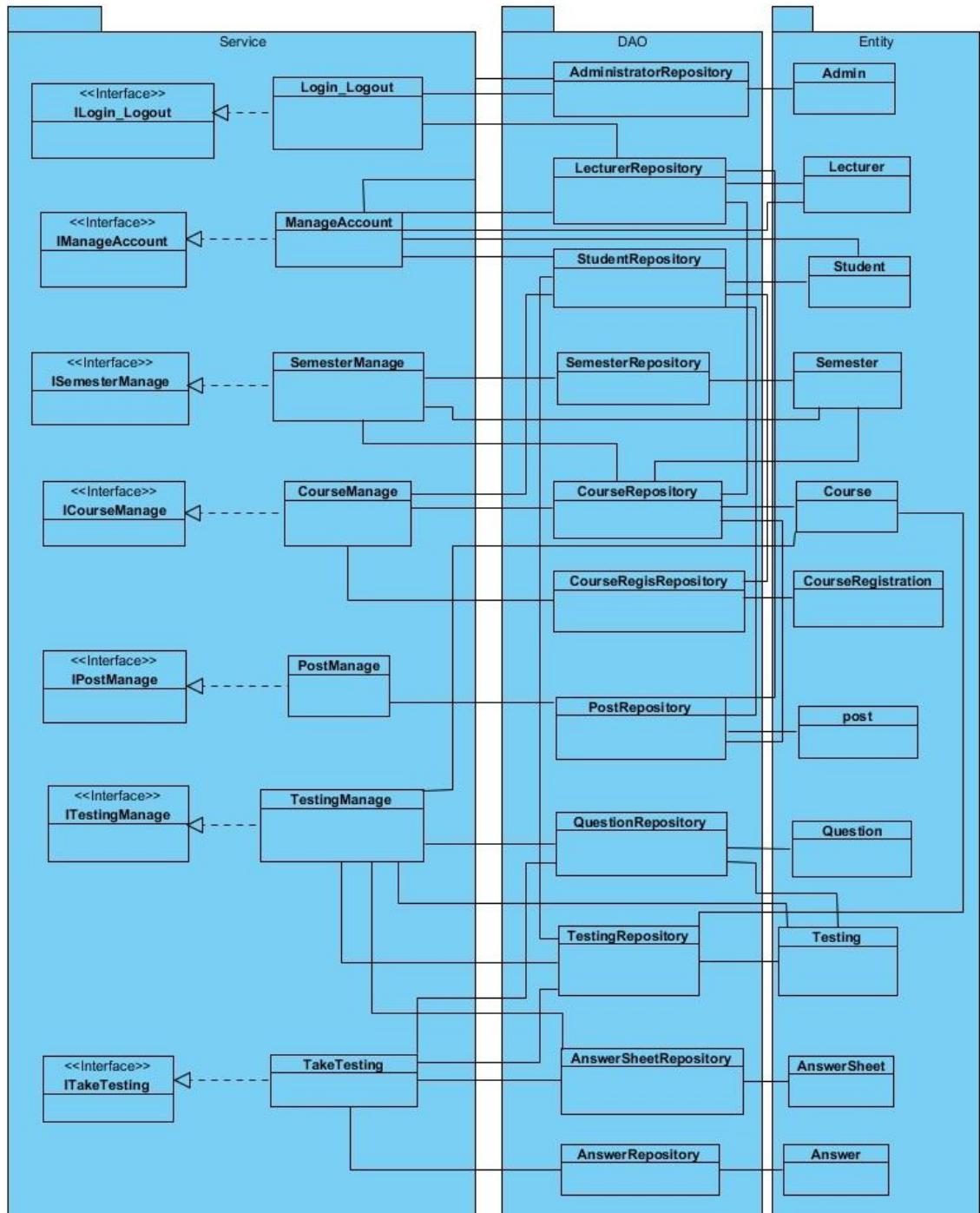


Figure 2 SmartQuiz web service class diagram.

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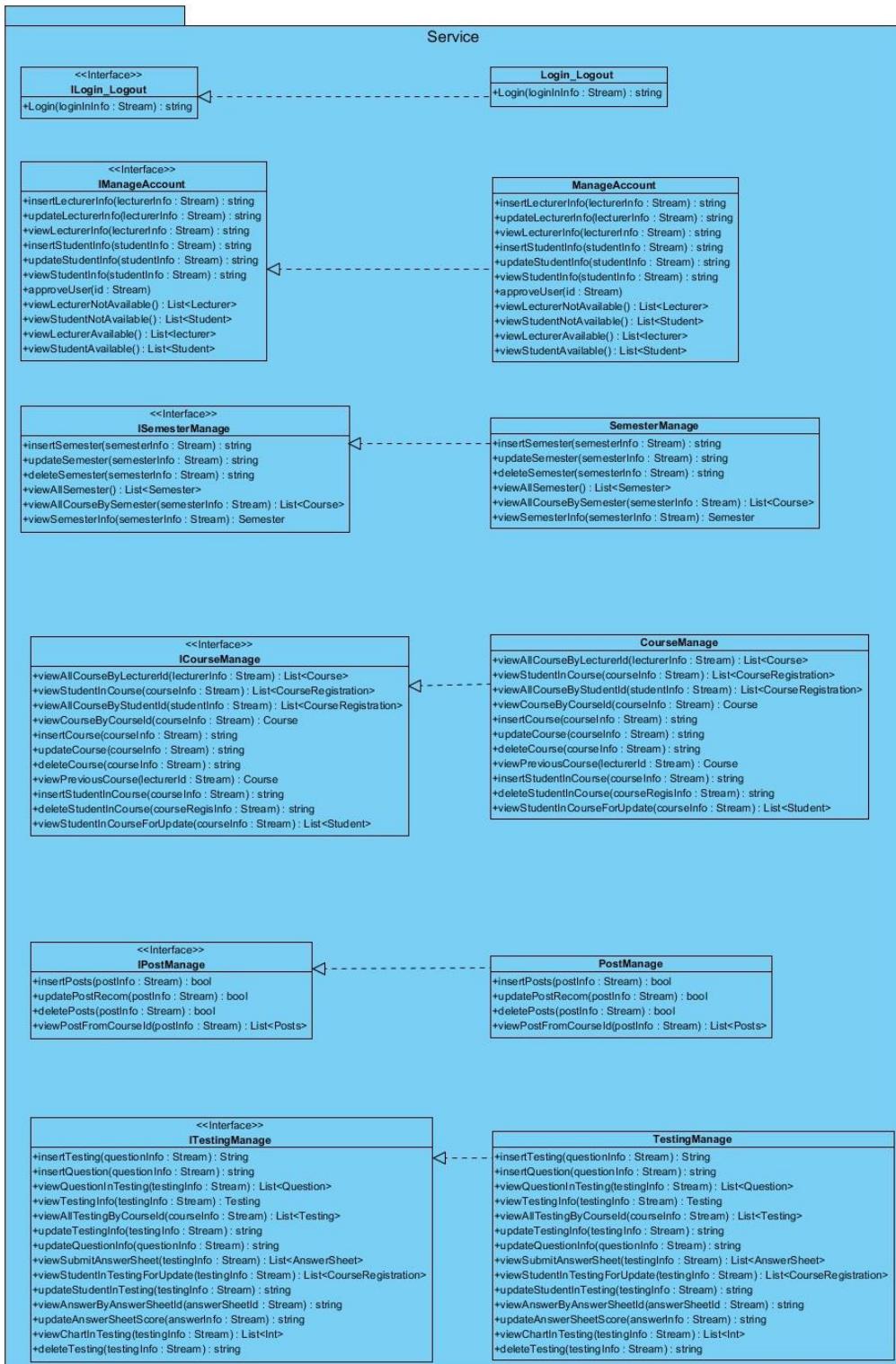


Figure 2-1 class Service package.

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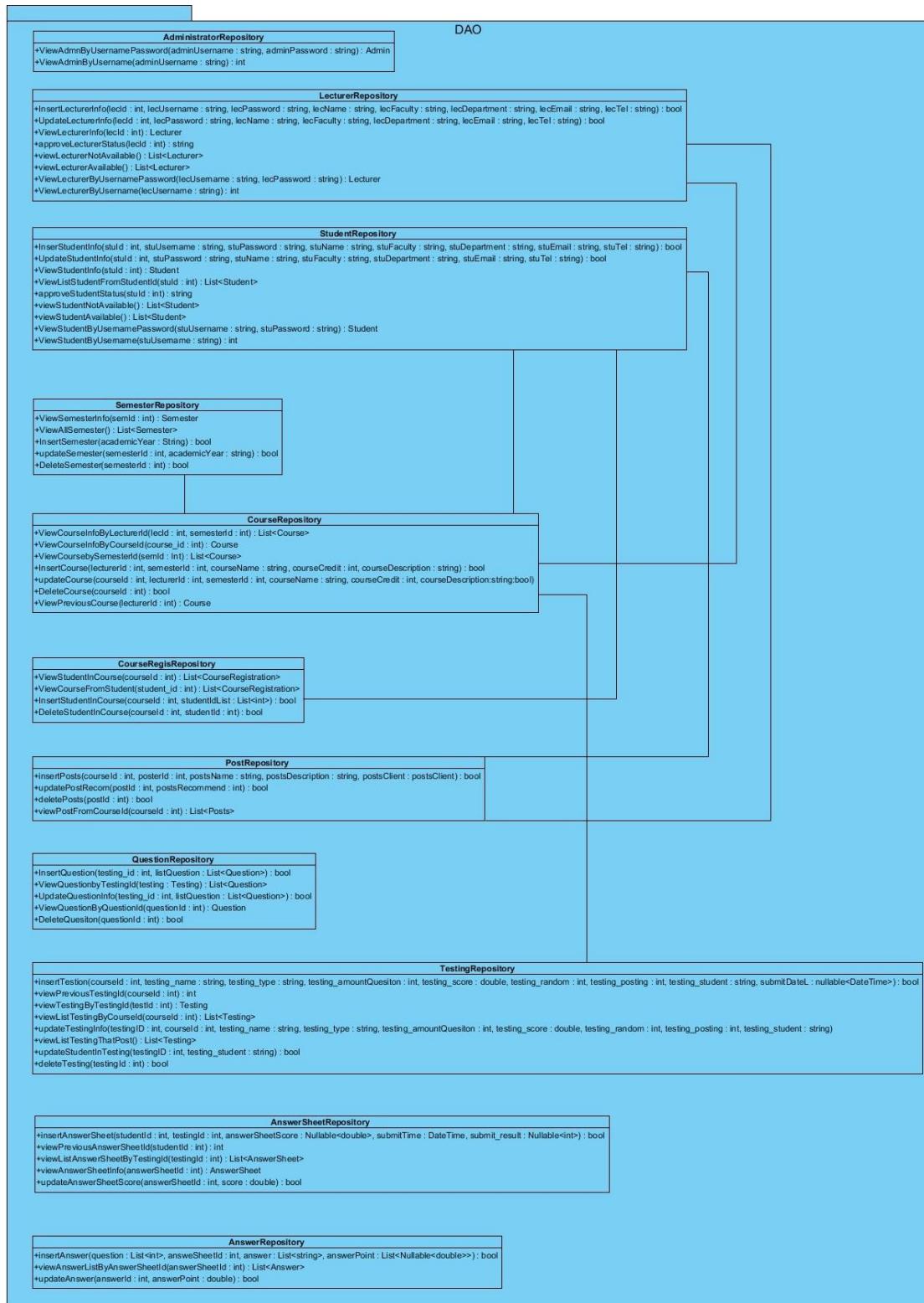


Figure 2-2 DAO package.

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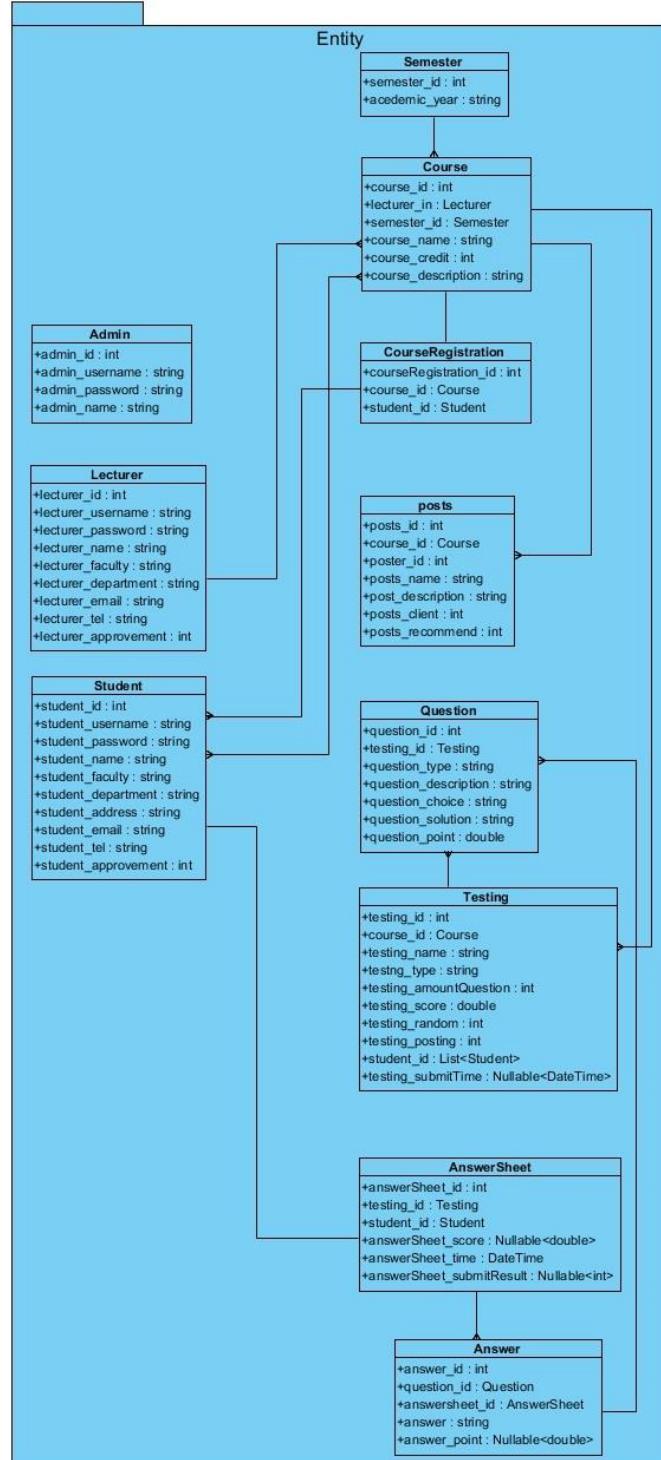


Figure 2-3 Entity package.

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### 3.1.2 Web application class diagram (Front-end system)

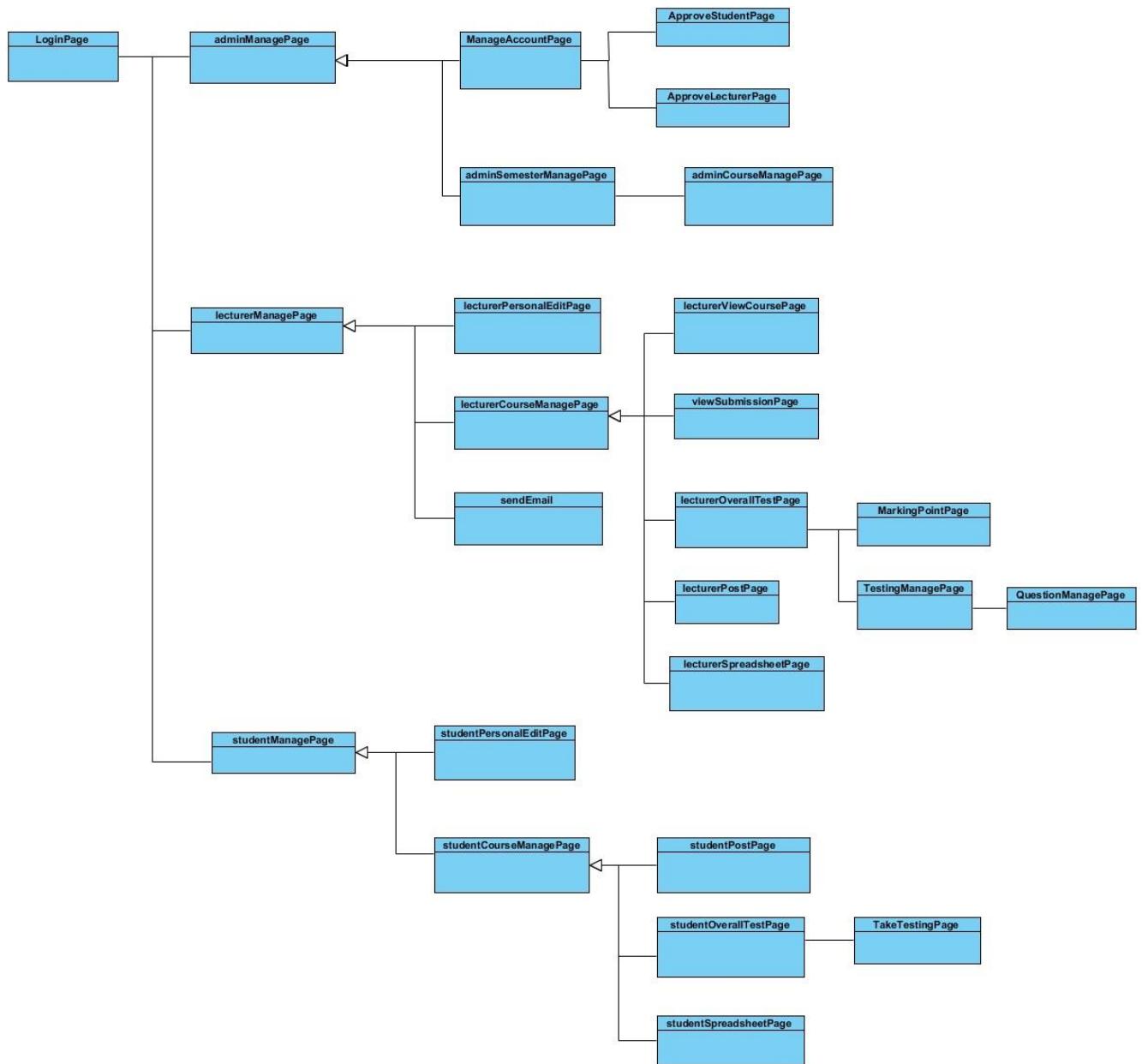


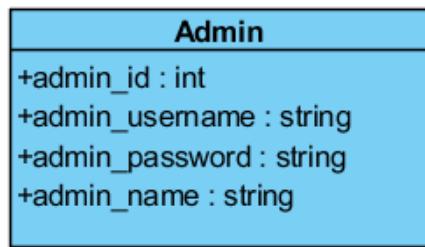
Figure 3 SmartQuiz web applicaiton class diagram.

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## 3.2 Class Diagram Description

### 3.2.1 Web service class diagram Description

Class Admin is Model-1 (MD-1)



#### Description

This class is a model of for administrator which consists administrator information and username/password.

#### Attribute

No.	Name	Description	Type
1.1	admin_id	Unique Identifier of Administrator	int
1.2	admin_username	Username of Administrator	string
1.3	admin_password	Password of Administrator	string
1.4	admin_name	Name of Administrator	string

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### 3.1.2 Class-02. Lecturer

Class Lecturer is Model-2 (MD-2)

Lecturer	
+lecturer_id : int	
+lecturer_username : string	
+lecturer_password : string	
+lecturer_name : string	
+lecturer_faculty : string	
+lecturer_department : string	
+lecturer_email : string	
+lecturer_tel : string	
+lecturer_approval : int	

#### Description

This class is a model class for the lecturer which consists lecturer information and username/password.

#### Attribute

No.	Name	Description	Type
2.1	lecturer_id	Unique Identifier of Lecturer	int
2.2	lecturer_username	Username of Lecturer	string
2.3	lecturer_password	Password of Lecturer	string
2.4	lecturer_name	Name of Lecturer	string
2.5	lecturer_faculty	Faculty of Lecturer	string
2.6	lecturer_department	Department of Lecturer	string
2.7	lecturer_address	Address of Lecturer	string
2.8	lecturer_email	Email of Lecturer	string
2.9	lecturer_tel	Tel of Lecturer	string
2.10	lecturer_approval	Approval status of Lecturer (1 is approve, 0 is not approve)	int

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### 3.1.3 Class-03. Student

Class Student is Model-3 (MD-3)

Student	
+student_id : int	
+student_username : string	
+student_password : string	
+student_name : string	
+student_faculty : string	
+student_department : string	
+student_address : string	
+student_email : string	
+student_tel : string	
+student_approvement : int	

#### Description

This class is a model class for the student which consists student information and username/password.

#### Attribute

No.	Name	Description	Type
3.1	student_id	Unique Identifier of Student	int
3.2	student_username	Username of Student	string
3.3	student_password	Password of Student	string
3.4	student_name	Name of Student	string
3.5	student_faculty	Faculty of Student	string
3.6	student_department	Department of Student	string
3.7	student_address	Address of Student	string
3.8	student_email	Email of Student	string
3.9	student_tel	Tel of Student	string
3.10	student_approvement	Approval status of Student (1 is approve, 0 is not approve)	int

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### 3.1.4 Class-04. Course

Class Course is Model-4 (MD-4)

Course
+course_id : int
+lecturer_id : Lecturer
+semester_id : Semester
+course_name : string
+course_credit : int
+course_description : string

#### Description

This class is a model class for the course which consists course information.

#### Attribute

No.	Name	Description	Type
4.1	course_id	Unique Identifier of Course	int
4.2	lecturer_id	Object for identifying Lecturer	Lecturer
4.3	semester_id	Object for identifying Semester	Semester
4.4	course_name	Name of Course	string
4.5	course_credit	Credit of Course	int
4.6	course_description	Description of Course	string

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### **3.1.5 Class-05. CourseRegistration**

Class CourseRegistration is Model-5 (MD-5)



#### **Description**

This class is a model class for registration of student in each course which consists student id and course id for identifying registration.

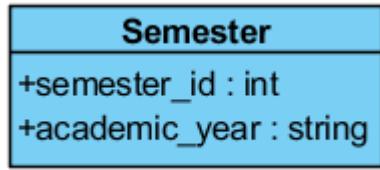
#### **Attribute**

No.	Name	Description	Type
5.1	CourseRegistration_id	Unique Identifier of Registration of Student into Course	int
5.2	course_id	Object for identifying Course	Course
5.3	student_id	Object for identifying Student	Student

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### **3.1.6 Class-06. Semester**

Class Semester is Model-6 (MD-6)



#### **Description**

This class is a model class for semester model which consists academic year information.

#### **Attribute**

No.	Name	Description	Type
6.1	semester_id	Unique Identifier of Semester	int
6.2	academic_year	Value of semester	string

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### 3.1.7 Class-07. Testing

Class Testing is Model-7 (MD-7)

Testing	
+testing_id : int	
+course_id : Course	
+testing_name : string	
+testing_type : string	
+testing_amountQuestion : int	
+testing_score : double	
+tesing_random : int	
+testing_posting : int	
+student_id : List<Student>	
+testing_submitTime : Nullable<DateTime>	

#### Description

This class is a model class for testing model which consists testing information and list of student that can access to the testing.

#### Attribute

No.	Name	Description	Type
7.1	testing_id	Unique Identifier of Testing	int
7.2	course_id	Object for identifying Course	Course
7.3	testing_name	Name of Testing	string
7.4	testing_type	Type of Testing (1 is an assignment, 2 is a quiz)	string
7.5	testing_amountQuestion	Amount of question in testing	int
7.6	testing_score	Score of Testing	double
7.7	tesing_random	Random status of testing (1 is random, 2 is not random)	int
7.8	testing_posting	Post status of testing (1 is post, 0 is not post)	int
7.9	student_id	List of Student objects in testing. It use for identifying accession to testing of a student.	List<Student>
7.10	testing_submitTime	Dead line of time to submission	Nullable<Date Time>

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### 3.1.8 Class-08. Question

Class Question is Model-8 (MD-8)

Question
+question_id : int
+testing_id : Testing
+question_type : string
+question_description : string
+question_choice : string
+question_solution : string
+question_point : double

#### Description

This class is a model class for question model which consists question information and testing id for identifying where question in testing.

#### Attribute

No.	Name	Description	Type
8.1	question_id	Unique Identifier of Question	int
8.2	testing_id	Object for identifying Testing	Testing
8.3	question_type	Type of question (1 is a multiple choices question, 2 is a true/false question, 3 is a short answer question)	string
8.4	question_description	Description of question	string
8.5	question_choice	Description of choice in question - Format of data  1. Multiple choice Ex. choice1#\$choice2#\$choice3#\$choice4 2. True/False Ex. True#\$False 3. Short answer Ex. null	string
8.6	question_solution	Solution of question - Format data 1. Multiple choice Ex. index of choice (1 or 2 or 3 or 4) 2. True/False Ex. index of choice (1 or 2) 3. Short answer Ex. null	string
8.7	question_point	Score of question	double

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### 3.1.9 Class-09. AnswerSheet

Class AnswerSheet is Model-9 (MD-9)

AnswerSheet	
+answerSheet_id : int	
+testing_id : Testing	
+student_id : Student	
+answerSheet_score : Nullable<double>	
+answerSheet_time : DateTime	
+answerSheet_submitResult : Nullable<int>	

#### Description

This class is a model class for answer sheet model which consists answer sheet information, student id for identifying who is student that take testing, and testing id for identifying testing in an answer sheet.

#### Attribute

No.	Name	Description	Type
9.1	answerSheet_id	Unique Identifier of Answer sheet	int
9.2	testing_id	Object for identifying Testing	Testing
9.3	student_id	Object for identifying Student	Student
9.4	answerSheet_score	Score of answer sheet. Score can null status.	Nullable<double>
9.5	answerSheet_time	Time of answer sheet in submission.	DateTime
9.6	answerSheet_submitResult	Submit result of answer sheet (1 is early deal line of testing's submission time, 0 is late deal line of testing's submission time)	Nullable<int>

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### 3.1.10 Class-10. Answer

Class Answer is Model-10 (MD-10)

Answer
+answer_id : int
+question_id : Question
+answersheet_id : AnswerSheet
+answer : string
+answer_point : Nullable<double>

#### Description

This class is a model class for answer model which consists answer information, answer sheet id for identifying answer sheet that keep answers, and question id for identifying a question that student create an answer.

#### Attribute

No.	Name	Description	Type
10.1	answer_id	Unique Identifier of Answer	int
10.2	question_id	Object for identifying Question	Question
10.3	answersheet_id	Object for identifying Answer sheet	AnswerSheet
10.4	answer	Description of answer	string
10.5	answer_point	Score of correctness of answer	Nullable<double>

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### 3.1.11 Class-11. StudentRepository

Class StudentRepository is Repository-01 (MD-11)

StudentRepository	
+InsertStudentInfo(stuId : int, stuUsername : string, stuPassword : string, stuName : string, stuFaculty : string, stuDepartment : string, stuAddress : string, stuEmail : string, stuTel : string) : bool +UpdateStudentInfo(stuId : int, stuPassword : string, stuName : string, stuFaculty : string, stuDepartment : string, stuAddress : string, stuEmail : string, stuTel : string) : bool +ViewStudentInfo(stuId : int) : Student +ViewListStudentFromStudentId(stuId : string) : List<Student> +approveStudentStatus(stuId : int) : string +viewStudentNotAvailable() : List<Student> +viewStudentAvailable() : List<Student> +ViewStudentIdByUsernamePassword(stuUsername : string, stuPassword : string) : Student +ViewStudentIdByUsername(stuUsername : string) : int	

#### Method

No.	Name	Description	Parameters	Return
11.1	InsertStudentInfo	This method is used for inserting a student account to the database.	stuId: int, stuUsername: string, stuPassword: string, stuName: string, stuFaculty: string, stuDepartment: string, stuAddress: string, stuEmail: string, stuTel: string	bool
11.2	UpdateStudentInfo	This method is used for updating student information into the database.	stuId: int, stuPassword: string, stuName: string, stuFaculty: string, stuDepartment: string, stuAddress: string, ,string, stuTel: string	bool
11.3	ViewStudentInfo	This method is used for viewing student information from the database.	stuId: int	Student
11.4	ViewListStudentFr omStudentId	This method is used for viewing a list of student information from the database. Input of this method is many student id in the form of string.	stuId: string	List<Stu dent>
11.5	approveStudentStat us	This method is used for updating student approval status in the database.	stuId: int	string

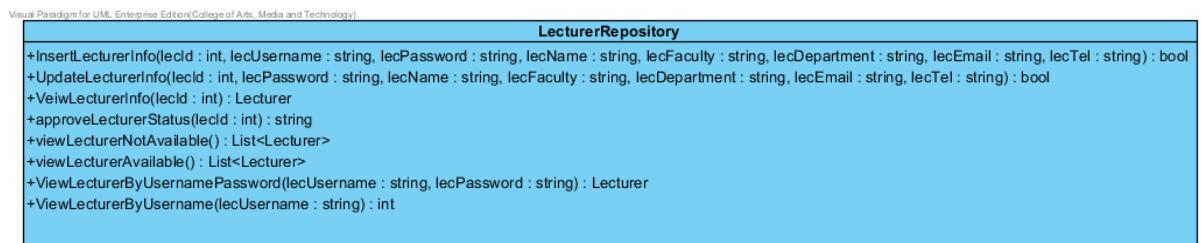
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11.6	viewStudentNotAvailable	This method is used for viewing student accounts that still does not approved.	None	List<Student>
11.7	viewStudentAvailable	This method is used for viewing student accounts that are approved.	None	List<Student>
11.8	ViewStudentByUserNamePassword	This method is used for viewing a Student object.	stuUsername: string, stuPassword: string	Student
11.9	ViewStudentIdByUsername	This method is used for viewing a Student id.	stuUsername: string	int

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### 3.1.12 Class-12. LecturerRepository

Class LecturerRepository is Repository-02 (MD-12)



#### Method

No.	Name	Description	Parameters	Return
12.1	InsertLecturerInfo	This method is used for inserting a lecturer account to the database.	lecId: int, lecUsername: string, lecPassword: string, lecName: string, lecFaculty: string, lecDepartment: string, lecEmail: string, lecTel: string	bool
12.2	UpdateLecturerInfo	This method is used for updating lecturer information into the database.	lecId: int, lecPassword: string, lecName: string, lecFaculty: string, lecDepartment: string, lecEmail: string, lecTel: string	bool
12.3	ViewLecturerInfo	This method is used for viewing lecturer information from the database.	lecId: int	Lecturer
12.4	approveLecturerStatus	This method is used for updating lecturer approval status in the database.	lecId: int	string
12.5	viewLecturerNotAvailable	This method is used for viewing lecturer accounts that still does not approved.	None	List<Lecturer>
12.6	viewLecturerAvailable	This method is used for viewing lecturer accounts that are approved.	None	List<Lecturer>

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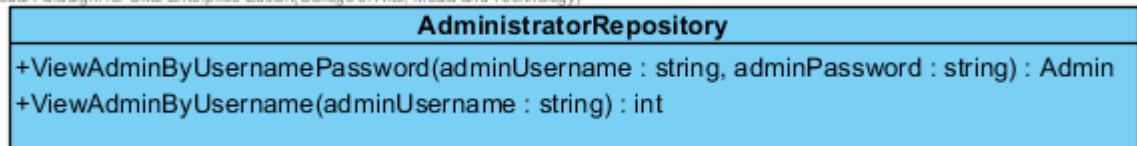
12.7	ViewLecturerByUsernamePassword	This method is used for viewing a lecturer object.	lecUsername: string, lecPassword: string	Lecturer
12.8	ViewLecturerByUsername	This method is used for viewing a lecturer id.	lecUsername: string	int

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### 3.1.13 Class-13. AdministratorRepository

Class AdministratorRepository is Repository-03 (MD-13)

Visual Paradigm for UML Enterprise Edition(College of Arts, Media and Technology)



#### Method

No.	Name	Description	Parameters	Return
13.1	ViewAdminByUsernameP assword	This method is used for viewing an administrator object by using username and password in searching administrator.	adminUsername: string, adminPassword: string	Admin
13.2	ViewAdminByUsername	This method is used for viewing an administrator id by using username in searching administrator id.	adminUsername: string	int

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### 3.1.14 Class-14. CourseRepository

Class CourseRepository is Repository-04 (MD-14)

Visual Paradigm for UML Enterprise Edition(College of Arts, Media and Technology)

CourseRepository
+ViewCourseInfoByLecturerId(lecId : int, semesterId : int) : List<Course>
+ViewCourseInfoByCourseId(course_id : int) : Course
+ViewCoursesBySemesterId(semId : int) : List<Course>
+InsertCourse(lecturerId : int, semesterId : int, courseName : string, courseCredit : int, courseDescription : string) : bool
+updateCourse(courseId : int, lecturerId : int, semesterId : int, courseName : string, courseCredit : int, courseDescription : string) : bool
+DeleteCourse(courseId : int) : bool
+ViewPreviousCourse(lecturerId : int) : Course

#### Method

No.	Name	Description	Parameters	Return
14.1	ViewCourseInfoByLecturerId	This method is used for viewing a list of courses that Lecturer teaches.	lecId: int, semesterId: int	List<Course>
14.2	ViewCourseInfoByCourseId	This method is used for view course object by using course id in searching course object.	course_id: int	Course
14.3	viewCoursesBySemesterId	The method is used for viewing a list of courses in each semester by using semester id in searching list of course.	semId : int	List<Course>
14.4	InsertCourse	This method is used for inserting course information to the database.	lecturerId: int, semesterId: int, courseName: string, courseCredit: int, courseDescription: string	bool
14.5	updateCourse	This method is used for updating course information in the database	courseId: int, lecturerId: int, semesterId: int, courseName: string, courseCredit: int, courseDescription: string	bool
14.6	DeleteCourse	This method is used for deleting course	courseId: int	bool

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		information in the database.		
14.7	ViewPreviousCourse	The method is used for viewing a course that was created by a lecturer.	lecturerId: int	Course

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### 3.1.15 Class-15. CourseRegisRepository

Class CourseRegisRepository is Repository-05 (MD-15)

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CourseRegisRepository	
+ViewStudentInCourse(courseId : int) : List<CourseRegistration>	
+ViewCourseFromStudent(student_id : int) : List<CourseRegistration>	
+InsertStudentsInCourse(courseId : int, studentIdList : List<int>) : bool	
+DeleteStudentInCourse(courseId : int, studentId : int) : bool	

#### Method

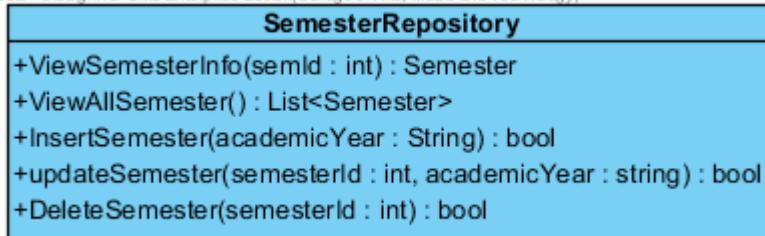
No.	Name	Description	Parameters	Return
15.1	ViewStudentInCourse	This method is used for viewing a list of students that registered in course.	courseId: int	List<CourseRegistration>
15.2	ViewCourseFromStudent	This method is used for viewing a list of courses that student registered.	student_id: int	List<CourseRegistration>
15.3	InsertStudentsInCourse	This method is used for registering list of students in course.	courseId: int, studentIdList: List<int>	bool
15.4	DeleteStudentInCourse	This method is used for deleting a student in course.	courseId: int, studentId: int	bool

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### 3.1.16 Class-16. SemesterRepository

Class SemesterRepository is Repository-06 (MD-16)

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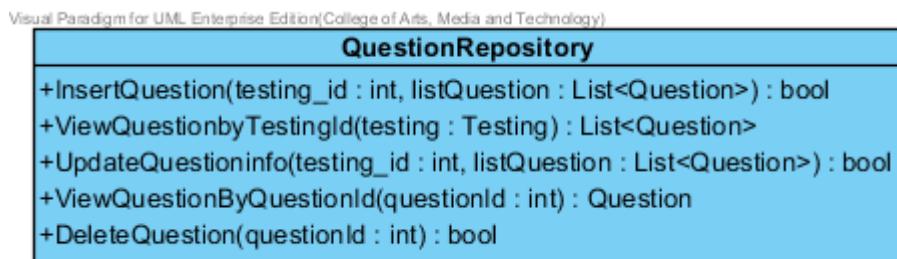
#### Method

No.	Name	Description	Parameters	Return
16.1	ViewSemesterInfo	This method is used for viewing semester information.	semId: int	Semester
16.2	ViewAllSemester	The method is used for viewing all semester that was created.	None	List<Semester>
16.3	InsertSemester	This method is used for inserting a semester information to the database.	academicYear: String	bool
16.4	updateSemester	This method is used for updating a semester information in the database.	semesterId: int, academicYear: string	bool
16.5	DeleteSemester	This method is used for deleting a semester in the database	semesterId: int	bool

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### 3.1.17 Class-17. QuestionRepository

Class QuestionRepository is Repository-07 (MD-17)



#### Method

No.	Name	Description	Parameters	Return
17.1	InsertQuestion	This method is used for inserting list of questions to the database.	testing_id: int, listQuestion: List	bool
17.2	ViewQuestionbyTestingId	This method is used for viewing a list of questions in testing.	testing: Testing	List<Question>
17.3	UpdateQuestioninfo	This method is used for updating list of question in the database.	testing_id: int, listQuestion: List	bool
17.4	ViewQuestionByQuestionId	This method is used for viewing question information by using question id in searching.	questionId: int	Question
17.5	DeleteQuestion	This method is used for deleting question information in the database.	questionId : int	bool

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### 3.1.18 Class-18. TestingRepository

Class TestingRepository is Repository-08 (MD-18)

TestingRepository	
+insertTesting(courseId : int, testing_name : string, testing_type : string, testing_amountQuestion : int, testing_score : double, testing_random : int, testing_posting : int, testing_student : string, submit_date : Nullable<DateTime>) : bool +viewPreviousTestingId(courseId : int) : int +viewTestingByTestingId(testingId : int) : Testing +viewListTestingbyCourseId(courseId : int) : List<Testing> +updateTestinginfo(testingId : int, courseId : int, testing_name : string, testing_type : string, testing_amountQuestion : int, testing_score : double, testing_random : int, testing_posting : int, testing_student : string) : bool +viewListTestingThatPost() : List<Testing> +updateStudentInTesting(testingId : int, testing_student : string) : bool +deleteTesting(testingId : int) : bool	

#### Method

No.	Name	Description	Parameters	Return
18.1	insertTesting	The method is used for inserting testing information to the database.	courseId: int, testing_name: string, testing_type: string, testing_amountQuestion: int, testing_score: double, testing_random: int, testing_posting: int, testing_student: string, submit_date: Nullable<DateTime>	bool
18.2	viewPreviousTestingId	This method is used for viewing a testing that was created in a course.	courseId: int	int
18.3	viewTestingByTestingId	This method is used for viewing testing information by using testing id in searching.	testingId: int	Testing
18.4	viewListTestingbyCourseId	This method is used for viewing a list of testing in a course.	courseId: int	List<Testing>
18.5	updateTestinginfo	This method is used for updating testing information in the database.	testingId : int, courseId : int, testing_name : string, testing_type : string, testing_amountQuestion : int, testing_score : double, testing_random : int, testing_posting : int, testing_student : string	bool
18.6	viewListTestingThatPost	This method is used for viewing a list of testing that are post status.	None	List<Testing>
18.7	updateStudentInTesting	This method is used for updating students in a testing.	testingId : int, testing_student : string	bool

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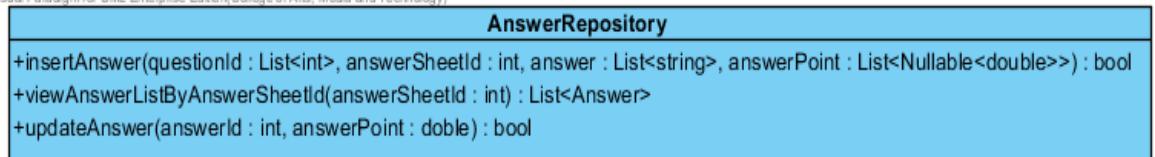
18.8	DeleteTesting	This method is used for deleting testing in the database.	testingId : int	bool
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### 3.1.19 Class-19. AnswerRepository

Class AnswerRepository is Repository-09 (MD-19)

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#### Method

No.	Name	Description	Parameters	Return
19.1	insertAnswer	This method is used for inserting a list of answers to the database	questionId : List<int>, answerSheetId : int, answer : List<string>, answerPoint : List<Nullable<double>>	bool
19.2	viewAnswerListByAnswerSheetId	This method is used for viewing a list of answers in an answer sheet.	answerSheetId : int	List<Answer>
19.3	updateAnswer	This method is used for updating point of answer in the database.	answerId : int, point : double	bool

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### 3.1.20 Class-20. AnswerSheetRepository

Class AnswerSheetRepository is Repository-10 (MD-20)

AnswerSheetRepository	
+insertAnswerSheet(studentId : int, testingId : int, answerSheetScore : Nullable<double>, submitTime : DateTime, submit_result : Nullable<int>) : bool	
+viewPreviousAnswerSheetId(studentId : int) : int	
+viewListAnswerSheetBytestingId(testingId : int) : List<AnswerSheet>	
+viewAnswerSheetInfo(answerSheetId : int) : AnswerSheet	
+updateAnswerSheetScore(answerSheetId : int, score : double) : bool	

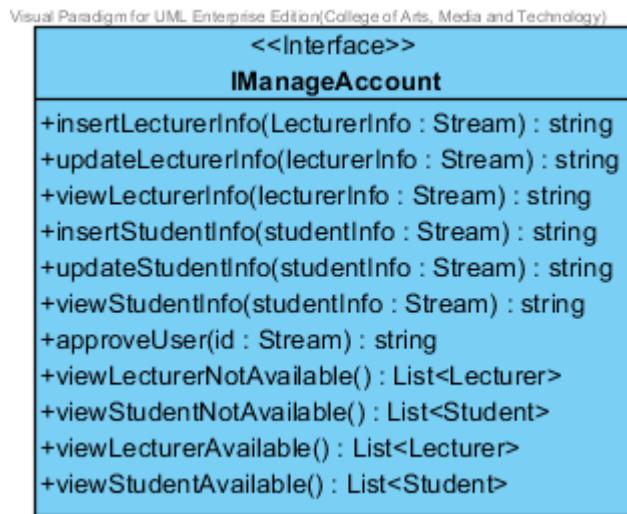
#### Method

No.	Name	Description	Parameters	Return
20.1	insertAnswerSheet	This method is used for inserting an answer sheet to the database.	studentId : int, testingId : int, answerSheetScore : Nullable<double>, submitTime : DateTime, submit_result : Nullable<int>	bool
20.2	viewPreviousAnswerSheetId	This method is used for viewing answer sheet id that student take a testing in latest.	studentId : int	int
20.3	viewListAnswerSheetBytestingId	This method is used for viewing a list of answer sheets in a testing.	testingId : int	List<AnswerSheet>
20.4	viewAnswerSheetInfo	This method is used for viewing answer sheet information in the database	answerSheetId : int	Answer Sheet
20.5	updateAnswerSheetScore	This method is used for updating score of answer sheet in the database.	answerSheetId : int, score : double	bool

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### 3.1.21 Class-21. IManageAccount

Class IManageAccount is Interface class-01 (MD-21)



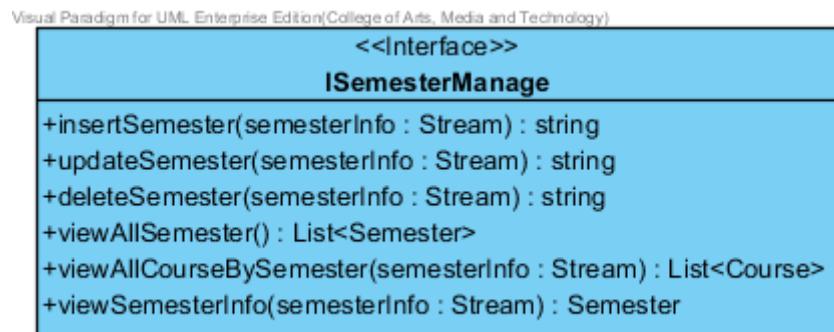
#### Method

No.	Name	Parameters	Return
21.1	insertLecturerInfo	lecturerInfo: Stream	string
21.2	updateLecturerInfo	lecturerInfo: Stream	string
21.3	viewLecturerInfo	lecturerInfo: Stream	string
21.4	insertStudentInfo	studentInfo: Stream	string
21.5	updateStudentInfo	studentInfo: Stream	string
21.6	viewStudentInfo	studentInfo: Stream	string
21.7	approveUser	id: Stream	string
21.8	viewLecturerNotAvailable	None	List<Lecturer>
21.9	viewStudentNotAvailable	None	List<Student>
21.10	viewLecturerAvailable	None	List<Lecturer>
21.11	viewStudentAvailable	None	List<Student>

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### 3.1.22 Class-22. ISemesterManage

Class ISemesterManage is Interface class-02 (MD-22)



#### Method

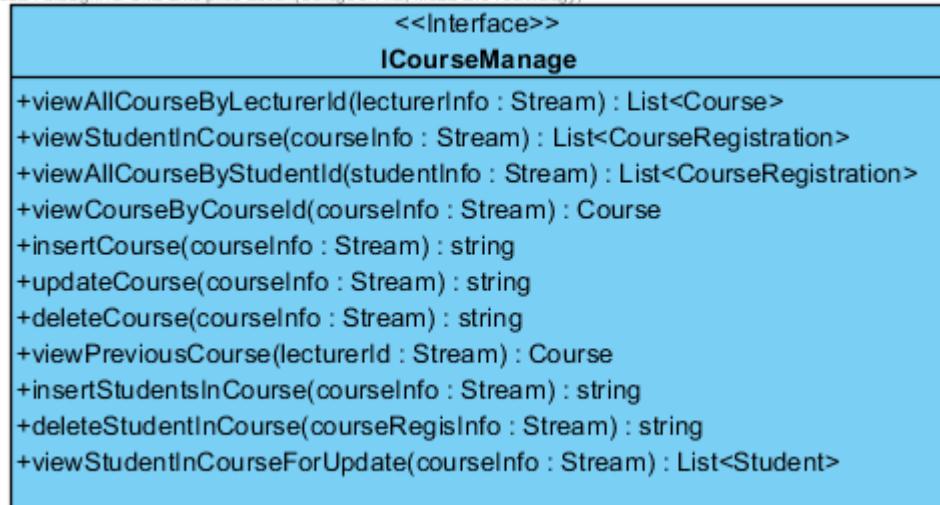
No.	Name	Parameters	Return
22.1	insertSemester	semesterInfo: Stream	string
22.2	updateSemester	semesterInfo: Stream	string
22.3	deleteSemester	semesterInfo: Stream	string
22.4	viewAllSemester	None	List<Semester>
22.5	viewAllCourseBySemester	semesterInfo: Stream	List<Course>
22.6	viewSemesterInfo	semesterInfo: Stream	Semester

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### 3.1.23 Class-23. ICourseManage

Class ICourseManage is Interface class-03 (MD-23)

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#### Method

No.	Name	Parameters	Return
23.1	viewAllCourseByLecturerId	lecturerInfo: Stream	List<Course>
23.2	viewStudentInCourse	courseInfo: Stream	List<CourseRegistration>
23.3	viewAllCourseByStudentId	studentInfo: Stream	List<CourseRegistration>
23.4	viewCourseByCourseId	courseInfo: Stream	Course
23.5	insertCourse	courseInfo: Stream	string
23.6	updateCourse	courseInfo: Stream	string
23.7	deleteCourse	courseInfo: Stream	string
23.8	viewPreviousCourse	lecturerId: Stream	Course
23.9	insertStudentsInCourse	courseInfo: Stream	string
23.10	deleteStudentInCourse	courseRegisInfo: Stream	string
23.11	viewStudentInCourseForUpdate	courseInfo: Stream	List<Student>

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### 3.1.24 Class-24. ITestingManage

Class ITestingManage is Interface class-04 (MD-24)

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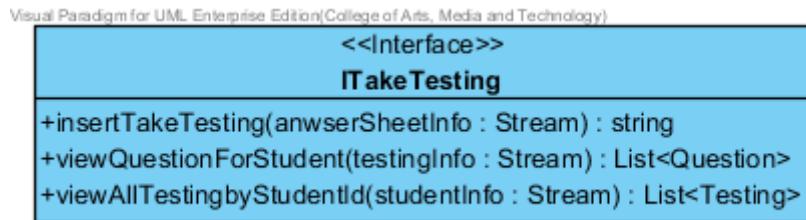
#### Method

No.	Name	Parameters	Return
24.1	insertTesting	questionInfo: Stream	string
24.2	insertQuestion	questionInfo: Stream	string
24.3	viewQuestionInTesting	testingInfo : Stream	List<Question>
24.4	viewTestingInfo	testingInfo: Stream	Testing
24.5	viewAllTestingByCourseId	courseInfo: Stream	List<Testing>
24.6	updateTestingInfo	testingInfo: Stream	string
24.7	updateQuestionInfo	questionInfo: Stream	string
24.8	viewSubmitAnswerSheet	testingInfo : Stream	List<AnswerSheet>
24.9	viewStudentInTestingForUpdate	testingInfo : Stream	List<CourseRegistration>
24.10	updateStudentInTesting	testingInfo : Stream	String
24.11	viewAnswerByAnswerSheetId	answerSheetId : Stream	List<Answer>
24.12	updateAnswerSheetScore	answerInfo : Stream	string
24.13	viewChartInTesting	testingInfo : Stream	List<int>
24.14	deleteTesting	testingInfo : Stream	string

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### 3.1.25 Class-25. ITakeTesting

Class ITakeTesting is Interface class-05 (MD-25)



#### Method

No.	Name	Parameters	Return
25.1	insertTakeTesting	anwserSheetinfo: Stream	string
25.2	viewQuestionForStudent	testinginfo: Stream	List<Questiom>
25.3	viewAllTestingbyStudentId	studentInfo : Stream	List<Testing>

### 3.1.26 Class-26. ITakeTesting

Class ITakeTesting is Interface class-06 (MD-26)



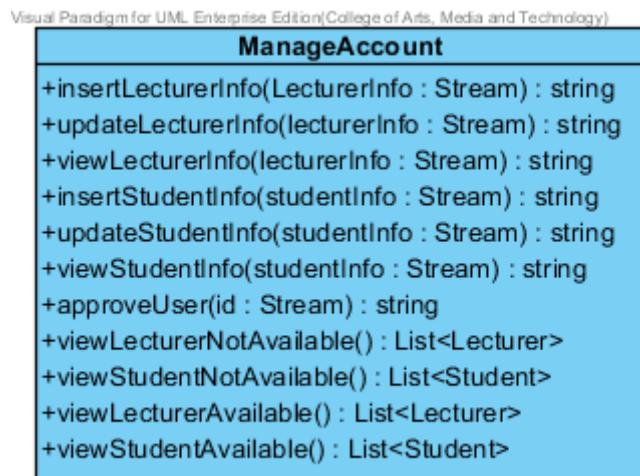
#### Method

No.	Name	Parameters	Return
26.1	Login	loginInfo : Stream	string

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### 3.1.27 Class-27. ManageAccount

Class ManageAccount is service class-01 (MD-27)



#### Method

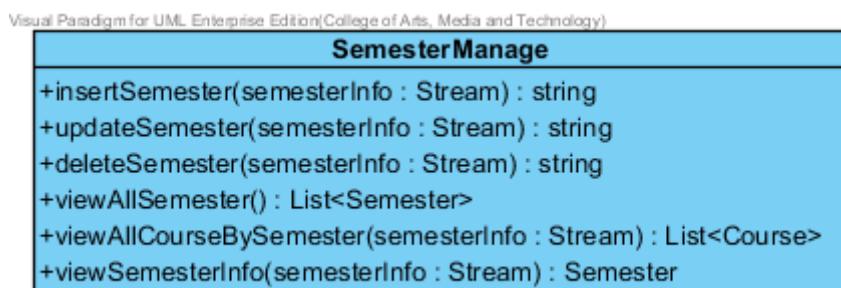
No.	Name	Description	Parameters	Return
27.1	insertLecturerInfo	This method is used for inserting lecturer information to the system.	lecturerInfo: Stream	string
27.2	updateLecturerInfo	This method is used for updating lecturer information in the system.	lecturerInfo: Stream	string
27.3	viewLecturerInfo	This method is used for viewing lecturer information from the system.	lecturerInfo: Stream	string
27.4	insertStudentInfo	This method is used for inserting student information in the system.	studentInfo: Stream	string
27.5	updateStudentInfo	This method is used for updating student information in the system.	studentInfo: Stream	string
27.6	viewStudentInfo	This method is used for viewing student information from the system.	studentInfo: Stream	string

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27.7	approveUser	This method is used for updating lecturer or student approval status.	id: Stream	string
27.8	viewLecturerNotAvailable	This method is used for viewing lecturers that have approval status equal “0”.	None	List<Lecturer >
27.9	viewStudentNotAvailable	This method is used for viewing students that have approval status equal “0”.	None	List<Student>
27.10	viewLecturerAvailable	This method is used for viewing students that have approval status equal “1”.	None	List<Lecturer >
27.11	viewStudentAvailable	This method is used for viewing students that have approval status equal “1”.	None	List<Student>

### 3.1.28 Class-28. SemesterManage

Class SemesterManage is service class -02 (MD-28)



#### Method

No.	Name	Description	Parameters	Return
28.1	insertSemester	This method is used for inserting semester information to the system.	semesterInfo: Stream	string
28.2	updateSemester	This method is used for updating semester information in the system.	semesterInfo: Stream	string

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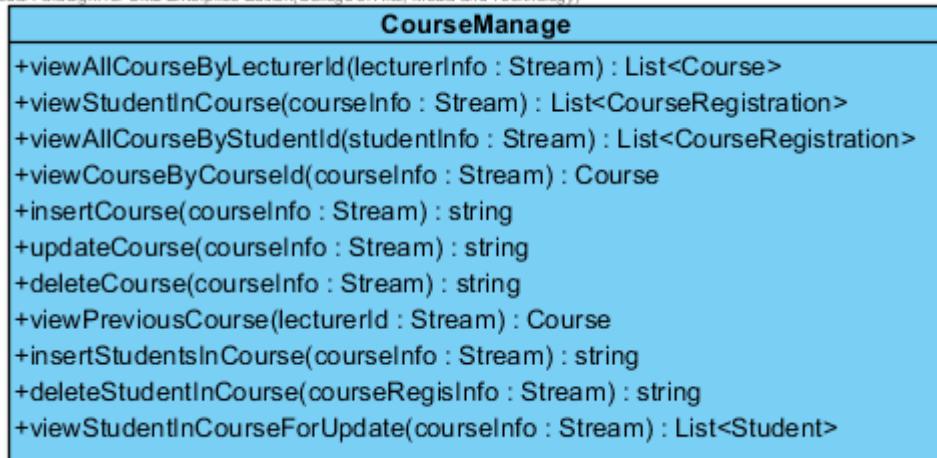
28.3	deleteSemester	This method is used for deleting semester information from the system.	semesterInfo: Stream	string
28.4	viewAllSemester	This method is used for viewing all of semesters from the system.	None	List<Semester>
28.5	viewAllCourseBySemester	This method is used for viewing all of courses in a semester.	semesterInfo: Stream	List<Course>
28.6	viewSemesterInfo	This method is used for viewing semester information from the system.	semesterInfo: Stream	Semester

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### 3.1.29 Class-29. CourseManage

Class CourseManage is service class -03 (MD-29)

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#### Method

No.	Name	Description	Parameters	Return
29.1	viewAllCourseByLecturerId	This method is used for viewing a list of courses that are taught by a lecturer.	lecturerInfo: Stream	List<Course>
29.2	viewStudentInCourse	This method is used for viewing a list of students that register in a course.	courseInfo: Stream	List<Course Registration>
29.3	viewAllCourseByStudentId	This method is used for viewing a list of courses that are registered by a student.	studentInfo: Stream	List<Course Registration>
29.4	viewCourseByCourseId	This method is used for viewing course information from the database.	courseInfo: Stream	Course
29.5	insertCourse	This method is used for inserting course information to the system.	courseInfo: Stream	string
29.6	updateCourse	This method is used for updating course information in the system.	courseInfo: Stream	string
29.7	deleteCourse	This method is used for deleting course information in the system.	courseInfo: Stream	string

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29.8	viewPreviousCourse	This method is used for viewing latest course information of lecturer.	lecturerId: Stream	Course
29.9	insertStudentsInCourse	This method is used for inserting students to the course.	courseInfo: Stream	string
29.10	deleteStudentInCourse	This method is used for deleting students from the course.	courseRegisInfo: Stream	string
29.11	viewStudentInCourseForUpdate	This method is used for viewing students that aren't registered in a course.	courseInfo: Stream	List<Student >

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### 3.1.30 Class-30. TestingManage

Class TestingManage is service class -04 (MD-30)

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TestingManage
<pre>+insertTesting(questionInfo : Stream) : string +insertQuestion(questionInfo : Stream) : string +viewQuestionInTesting(testingInfo : Stream) : List&lt;Question&gt; +viewTestingInfo(testingInfo : Stream) : Testing +viewAllTestingByCourseId(courseInfo : Stream) : List&lt;Testing&gt; +updateTestingInfo(testingInfo : Stream) : string +updateQuestionInfo(questionInfo : Stream) : string +viewSubmitAnswerSheet(testingInfo : Stream) : List&lt;AnswerSheet&gt; +viewStudentInTestingForUpdate(testingInfo : Stream) : List&lt;CourseRegistration&gt; +updateStudentInTesting(testingInfo : Stream) : string +viewAnswerByAnswerSheetId(answerSheetId : Stream) : List&lt;Answer&gt; +updateAnswerSheetScore(answerInfo : Stream) : string +viewChartInTesting(testingInfo : Stream) : List&lt;int&gt; +deleteTesting(testingInfo : Stream) : string</pre>

#### Method

No.	Name	Description	Parameters	Return
30.1	insertTesting	This method is used for inserting testing information to the system.	questionInfo: Stream	string
30.2	insertQuestion	This method is used for inserting questions to the system.	questionInfo: Stream	string
30.3	viewQuestionInTesting	This method is used for view a list of questions in a testing.	testingInfo : Stream	List<Question>
30.4	viewTestingInfo	This method is used for viewing testing information from the system	testingInfo: Stream	Testing
30.5	viewAllTestingByCourseId	This method is used for viewing all of testing in a course.	courseInfo: Stream	List<Testing>
30.6	updateTestingInfo	This method is used for updating testing information in the system.	testingInfo: Stream	string
30.7	updateQuestionInfo	This method is used for updating question information in the system.	questionInfo: Stream	string
30.8	viewSubmitAnswerSheet	This method is used for viewing all of answer sheets that students submit in a course.	testingInfo : Stream	List<AnswerSheet>

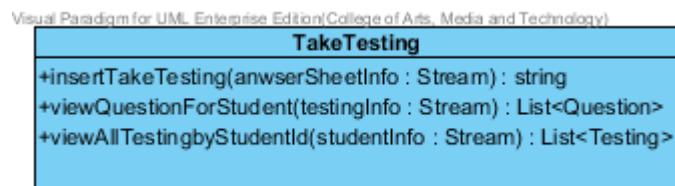
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30.9	viewStudentInTestingForUpdate	This method is used for viewing student that don't have in a testing.	testingInfo : Stream	List<Course Registration >
30.10	updateStudentInTesting	This method is used for updating students to access the testing	testingInfo : Stream	String
30.11	viewAnswerByAnswerSheetId	This method is used for viewing a list of answers in a answer sheet.	answerSheetId : Stream	List<Answer>
30.12	updateAnswerSheetScore	This method is used for updating answer sheet score.	answerInfor : Stream	string
30.13	viewChartInTesting	This method is used for viewing the chart of answers in testing	testingInfo : Stream	List<int>
30.14	deleteTesting	This method is used for deleting a testing in the system.	testingInfo : Stream	string

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### 3.1.31 Class-31. TakeTesting

Class TakeTesing is service class -05 (MD-31)

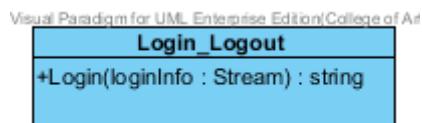


#### Method

No.	Name	Description	Parameters	Return
31.1	insertTakeTestin g	This method is used for inserting an answer sheet, when student takes a testing.	anwserSheetinfo: Stream	string
31.2	viewQuestionFor Student	This method is used for viewing a list of questions in testing, when Student takes a testing.	testinginfo: Stream	List<Qu estion>
31.3	viewAllTestingb yStudentId	This method is used for viewing all of testing which student can access to the testing.	studentInfo : Stream	List<Tes ting>

### 3.1.32 Class-32. Login\_Logout

Class Login\_Logout is service class -06 (MD-32)

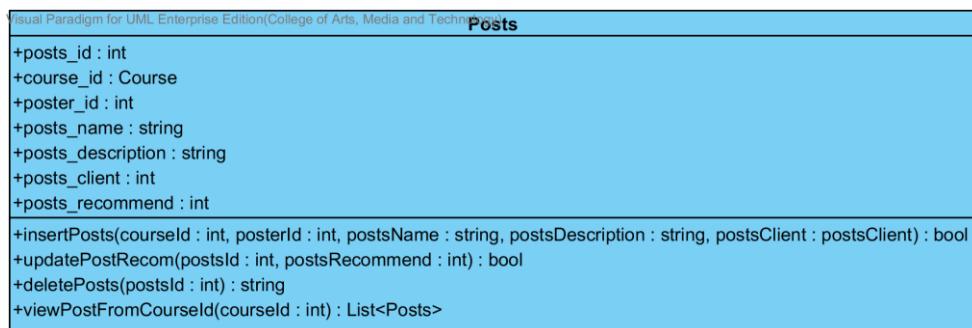


#### Method

No.	Name	Description	Parameters	Return
32.1	Login	This method is used for validating username and password, when user login to the system.	loginInfo : Stream	string

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### 3.1.33 Class-33. Posts



#### Attribute

No.	Name	Description	Type
33.1	posts_id	Unique Identifier Posts	int
33.2	course_id	Object for identifying Course	Course
33.3	poster_id	Unique Identifier poster	int
33.4	posts_name	Name of posts	string
33.5	posts_description	Description of posts	string
33.6	posts_client	Type of client that want to communicate.	string
33.7	posts_recommend	Recommend status of posts (0 is random, 1 is not random)	int

#### Method

No.	Name	Description	Parameters	Return
33.8	insertPosts	This method is used for inserting posts in database.	courseId: int, posterId: int, postsName: string, postsDescription: string, postsClient: postsClient	bool
33.9	updatePostRecom	This method is used for updating posts for recommending in database.	postsId: int, postsRecommend: int)	bool
33.10	deletePosts	This method is used for deleting posts in database.	postsId: int	string
33.11	viewPostFromCourseId	This method is used for viewing a list of posts in course.	courseId: int	List<Posts>

### 3.1.34 Class-34. PostsRepository

Visual Paradigm for UML Enterprise Edition(College of Arts, Media and Technology)	<b>PostsRepository</b>
+insertPosts(courseId : int, posterId : int, postsName : string, postsDescription : string, postsClient : postsClient) : bool	
+updatePostRecom(postsId : int, postsRecommend : int) : bool	
+deletePosts(postsId : int) : bool	
+viewPostFromCourseId(courseId : int) : List<Posts>	

#### Method

No.	Name	Description	Parameters	Return
34.1	insertPosts	This method is used for inserting posts in database.	courseId: int, posterId: int, postsName: string, postsDescription: string, postsClient: postsClient	bool
34.2	updatePost Recom	This method is used for updating posts for recommending in database.	postsId: int, postsRecommend: int)	bool
34.3	deletePosts	This method is used for deleting posts in database.	postsId: int	bool
34.4	viewPostFromCourseId	This method is used for viewing a list of posts in course.	courseId: int	List<Posts>

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### 3.1.35 Class-35. PostsManage

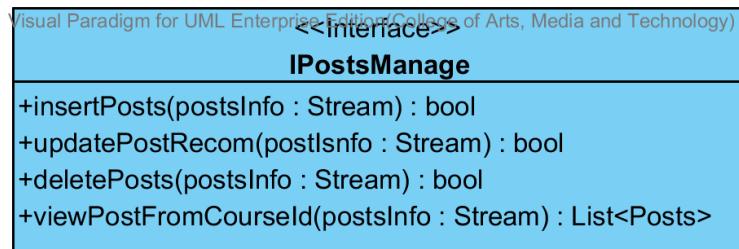


#### Method

No.	Name	Description	Parameters	Return
35.1	insertPosts	This method is used for inserting posts in database.	postInfo: Stream	bool
35.2	updatePost Recom	This method is used for updating posts for recommending in database.	postInfo: Stream	bool
35.3	deletePost s	This method is used for deleting posts in database.	postInfo: Stream	string
35.4	viewPostF romCours eId	This method is used for viewing a list of posts in course.	postInfo: Stream	List<Posts>

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### 3.1.36 Class-36. IPostsManage



#### Method

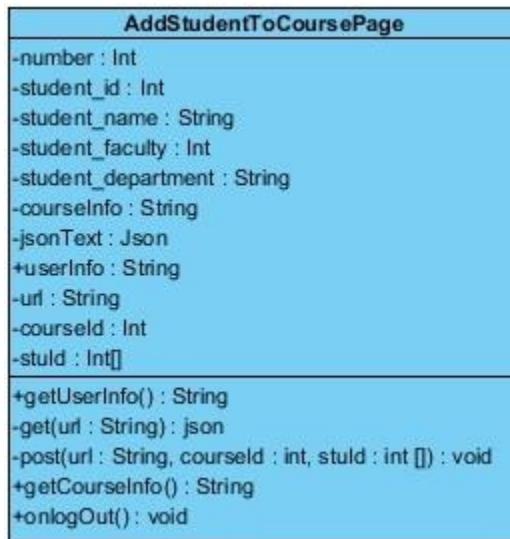
No.	Name	Parameters	Return
36.1	insertPosts	postInfo: Stream	bool
36.2	updatePostRecom	postInfo: Stream	bool
36.3	deletePosts	postInfo: Stream	string
36.4	viewPostFromCourseId	postInfo: Stream	List<Posts>

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### 3.2.2 Web application class diagram Description

#### Web Application Class Diagram ID: 01

##### Class Name: AddStudentToCoursePage



##### Attribute

No.	Name	Description	Type
1.	number	Unique Identifier of Registration of Student into Course	int
2.	student_id	Object for identifying Student ID number	int
3.	student_faculty	Object for identifying a faculty of student	string
4.	student_department	Name department of student	string
5.	courseInfo	Set of course information	string
6.	jsonText	Object of Json object	json
7.	userInfo	set of user information	string
8.	url	Set URL Link for access to web server	string
9.	courseId	Number of Course ID	int
10.	stuId	Number of Student ID	int

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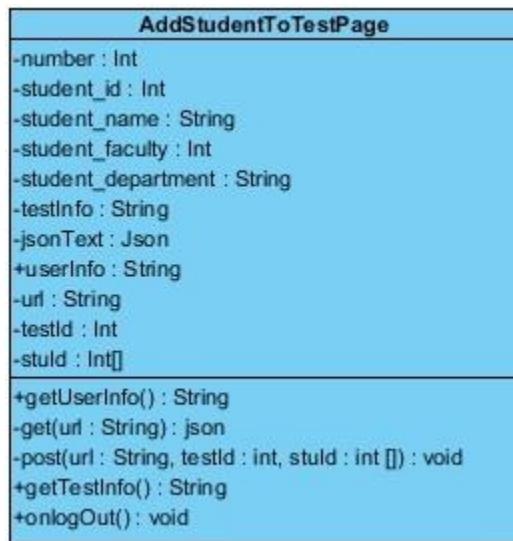
## Method

No.	Name	Description	Parameters	Return
1.	getUserInfo()	This method is used to get user information consisting user type and user id to identify the user.	None	string
2.	get	Get JSON form URL by parameters (url)	url : string	Json
3.	post	This method is used to send the information through Json object to web server following URL	courseId : int stuId : int[]	void
4.	getCourseInfo	This method is used to get course information by user id	None	string
5.	onlogOut	This method is used to logout from the system	None	void

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## Web Application Class Diagram ID: 02

### Class Name: AddStudentToTestPage



### Attribute

No.	Name	Description	Type
1.	number	Unique Identifier of Registration of Student into Course	int
2.	student_id	Object for identifying Student ID number	int
3.	student_faculty	Object for identifying a faculty of student	string
4.	student_department	Name department of student	string
5.	testInfo	Set of test information	string
6.	jsonText	Object of Json object	json
7.	userInfo	set of user information	string
8.	url	Set URL Link for access to web server	string
9.	testId	Number of Test ID	int
10.	stuId	Number of Student ID	int

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## Method

No.	Name	Description	Parameters	Return
1.	getUserInfo()	This method is used to get user information consisting user type and user id to identify the user.	None	string
2.	get	Get JSON form URL by parameters (url)	url : string	Json
3.	post	This method is used to send the information through Json object to web server following URL	testId : int stuId : int[]	void
4.	getTestInfo	This method is used to get test information by user id	None	string
5.	onlogOut	This method is used to logout from the system	None	void

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## Web Application Class Diagram ID: 03

### Class Name: adminCourseManagePage

adminCourseManagePage	
-courseInfo : String	
-courseId : Int	
-courseName : String	
-courseCredit : Int	
-courseDescription : String	
-academic_year : Int	
-lecturer_name : String	
-jsonText : Json	
+userInfo : String	
-url : String	
+getUserInfo() : String	
-onAdd() : void	
-onDelete(courseId : Int) : void	
-onEdit(courseId : Int) : void	
-get(url : String) : json	
-post(url : String, courseId : Int, courseName : String, courseCredit : Int, courseDescription : String, lecturer_name : String, academic_year : Int) : string	
+onLogout() : void	

### Attribute

No.	Name	Description	Type
1.	courseInfo	Set of course information	int
2.	courseId	Unique Identifier of Course	int
3.	courseName	Name of Course	string
4.	courseCredit	Credit of Course	int
5.	courseDescription	Description of Course	string
6.	academic_year	Number of semester and year of semester	int
7.	lecturer_name	name of lecturer	string
8.	jsonText	Object of Json object	json
9.	userInfo	set of user information	string
10.	url	Set URL Link for access to web server	string

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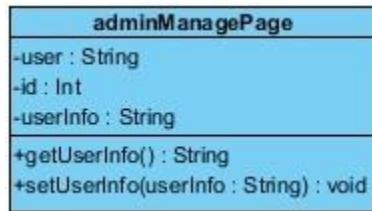
## Method

No.	Name	Description	Parameters	Return
1.	getUserInfo()	This method is used to get user information consisting user type and user id to identify the user.	None	string
2.	get	Get JSON form URL by parameters (url)	url : string	Json
3.	post	This method is used to send the information through Json object to web server following URL	url : string, courseId : int , courseName : string, courseCredit int, coursedescription : string, lecturer_name : string, academic_year : int.	string
4.	onAdd()	This method is used to prepare attributes for sending course information to the web server	None	void
5.	onDelete	This method is used to prepare attributes for deleting course information from the web server	courseId : int	void
6.	onEdit	This method is used to prepare attributes for editing course information from the web server	courseId : int	void
7.	onlogOut	This method is used to logout form the system	None	void

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## Web Application Class Diagram ID:04

### Class Name: adminManagePage



#### Attribute

No.	Name	Description	Type
1.	user	Type of user	string
2.	id	Number of user ID	int
3.	userInfo	set of user information	string

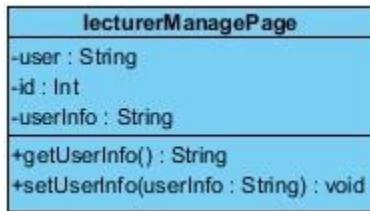
#### Method

No.	Name	Description	Parameters	Return
1.	getUserInfo()	This method is used to get user information consisting user type and user id to identify the user.	None	string
2.	setUserInfo()	This method is used to set the attribute of user information consisting user type and user id to identify the user.	userInfo : string	string

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## Web Application Class Diagram ID:05

### Class Name: lecturerManagePage



#### Attribute

No.	Name	Description	Type
1.	user	Type of user	string
2.	id	Number of user ID	int
3.	userInfo	set of user information	string

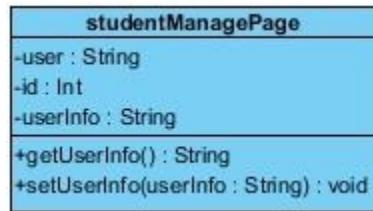
#### Method

No.	Name	Description	Parameters	Return
1.	getUserInfo()	This method is used to get user information consisting user type and user id to identify the user.	None	string
2.	setUserInfo()	This method is used to set the attribute of user information consisting user type and user id to identify the user.	userInfo : string	string

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## Web Application Class Diagram ID:06

### Class Name: studentManagePage



#### Attribute

No.	Name	Description	Type
1.	user	Type of user	string
2.	id	Number of user ID	int
3.	userInfo	set of user information	string

#### Method

No.	Name	Description	Parameters	Return
1.	getUserInfo()	This method is used to get user information consisting user type and user id to identify the user.	None	string
2.	setUserInfo()	This method is used to set the attribute of user information consisting user type and user id to identify the user.	userInfo : string	string

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## Web Application Class Diagram ID:07

### Class Name: adminSemesterManagePage

adminSemesterManagePage	
-semesterInfo : String	
-academic_year : Int	
-term : Int	
-jsonText : Json	
+userInfo : String	
-url : String	
-semester_id : Int	
+getUserInfo() : String	
-onAdd() : void	
-onDelete(semester_id : Int) : void	
-onEdit(semester_id : Int) : void	
+get(url : String) : json	
+post(academic_year : Int, term : Int) : string	
+onLogOut() : void	

#### Attribute

No.	Name	Description	Type
1.	semesterInfo	Set of semester information	string
2.	term	NUmber of semester term	int
3.	academic_year	Number of semester and year of semester	int
4.	semester_id	Unique Identifier of semester	int
5.	jsonText	Object of Json object	json
6.	userInfo	set of user information	string
7.	url	Set URL Link for access to web server	string

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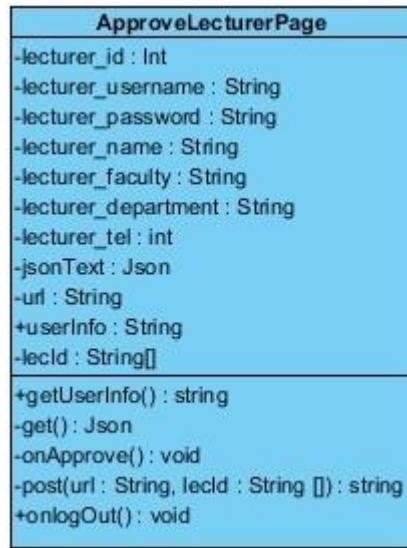
## Method

No.	Name	Description	Parameters	Return
1.	getUserInfo()	This method is used to get user information consisting user type and user id to identify the user.	None	string
2.	get	Get JSON form URL by parameters (url)	url : string	Json
3.	post	This method is used to send the information through Json object to web server following URL	academic_year : int, term : int	string
4.	onAdd()	This method is used to prepare attributes for sending semester information to the web server	None	void
5.	onDelete	This method is used to prepare attributes for deleting semester information from the web server	semester_id : int	void
6.	onEdit	This method is used to prepare attributes for editing semester information from the web server	semester_id : int	void
7.	onlogOut	This method is used to logout from the system	None	void

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## Web Application Class Diagram ID:08

### Class Name: ApproveLecturerPage



### Attribute

No.	Name	Description	Type
1.	lecturer_id	Unique Identifier of Lecturer	int
2.	lecturer_username	Username of Lecturer	string
3.	lecturer_password	Password of Lecturer	string
4.	lecturer_name	Name of Lecturer	string
5.	lecturer_faculty	Faculty of Lecturer	string
6.	lecturer_department	Department of Lecturer	string
7.	lecturer_tel	Tel of Lecturer	int
8.	jsonText	Object of Json object	json
9.	userInfo	set of user information	string
10.	url	Set URL Link for access to web server	string
11.	lectId	set of Unique Identifier of Lecturer	int[]

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## Method

No.	Name	Description	Parameters	Return
1.	getUserInfo()	This method is used to get user information consisting user type and user id to identify the user.	None	string
2.	get	Get JSON form URL by parameters (url)	url : string	Json
3.	post	This method is used to send the information through Json object to web server following URL	url : string, lecId : int[]	string
4.	onApprove()	This method is used to prepare attributes for sending approve information to the web server	None	void
5.	onlogOut	This method is used to logout from the system	None	void

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## Web Application Class Diagram ID:09

### Class Name: ApproveStudentPage

ApproveStudentPage	
-student_id : int	
-student_username : String	
-student_password : String	
-student_name : String	
-student_faculty : String	
-student_department : String	
-student_tel : int	
-jsonText : Json	
-url : String	
+userInfo : String	
-stuid : String[]	
+getUserInfo() : string	
-get() : Json	
-onApprove() : void	
-post(url : String, stuid : String[]) : string	
+onLogout() : void	

### Attribute

No.	Name	Description	Type
1.	student_id	Unique Identifier of Student	int
2.	student_username	Username of Student	string
3.	student_password	Password of Student	string
4.	student_name	Name of Student	string
5.	student_faculty	Faculty of Student	string
6.	student_department	Department of Student	string
7.	student_tel	Tel of Student	int
8.	jsonText	Object of Json object	json
9.	userInfo	set of user information	string
10.	url	Set URL Link for access to web server	string
11.	stuid	set of Unique Identifier of Student	int[]

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## Method

No.	Name	Description	Parameters	Return
1.	getUserInfo()	This method is used to get user information consisting user type and user id to identify the user.	None	string
2.	get	Get JSON form URL by parameters (url)	url : string	Json
3.	post	This method is used to send the information through Json object to web server following URL	url : string, stuId : int[]	string
4.	onApprove()	This method is used to prepare attributes for sending approve information to the web server	None	void
5.	onlogOut	This method is used to logout from the system	None	void

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## Web Application Class Diagram ID:10

### Class Name: lecturerCourseManagePage

lecturerCourseManagePage	
-courseId : Int	
-courseName : String	
-courseCredit : int	
-courseDescription : String	
-academic_year : int	
-jsonText : Json	
+userInfo : String	
-url : String	
-courseInfo : String	
+getUserInfo() : String	
-get(url : String) : json	
+onlogOut() : void	
+getCourseInfo() : String	
+setCourseInfo(courseInfo : String) : void	

#### Attribute

No.	Name	Description	Type
1.	courseId	Unique Identifier of Course	int
2.	courseName	Name of Course	string
3.	courseCredit	Credit of Course	int
4.	courseDescription	Description of Course	string
5.	academic_year	Number of year of semester and semester	int
6.	jsonText	Object of Json object	json
7.	userInfo	set of user information	string
8.	url	Set URL Link for access to web server	string
9.	courseInfo	Set of course information	string

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## Method

No.	Name	Description	Parameters	Return
1.	getUserInfo()	This method is used to get user information consisting user type and user id to identify the user.	None	string
2.	get	Get JSON form URL by parameters (url)	url : string	Json
3.	onlogOut	This method is used to logout from the system	None	void
4.	getCourseInfo()	This method is used to get course information.	None	string
5.	setCourseInfo()	This method is used to set the attribute of course information.	courseInfo : string	string

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## Web Application Class Diagram ID:11

### Class Name: studentCourseManagePage

studentCourseManagePage	
-courseId : Int	
-courseName : String	
-courseCredit : int	
-courseDescription : String	
-academic_year : int	
-jsonText : Json	
+userInfo : String	
-url : String	
-courseInfo : String	
+getUserInfo() : String	
-get(url : String) : json	
+onlogOut() : void	
+getCourseInfo() : String	
+setCourseInfo(courseInfo : String) : void	

#### Attribute

No.	Name	Description	Type
1.	courseId	Unique Identifier of Course	int
2.	courseName	Name of Course	string
3.	courseCredit	Credit of Course	int
4.	courseDescription	Description of Course	string
5.	academic_year	Number of year of semester and semester	int
6.	jsonText	Object of Json object	json
7.	userInfo	set of user information	string
8.	url	Set URL Link for access to web server	string
9.	courseInfo	Set of course information	string

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## Method

No.	Name	Description	Parameters	Return
1.	getUserInfo()	This method is used to get user information consisting user type and user id to identify the user.	None	string
2.	get	Get JSON form URL by parameters (url)	url : string	Json
3.	onlogOut	This method is used to logout from the system	None	void
4.	getCourseInfo()	This method is used to get course information.	None	string
5.	setCourseInfo()	This method is used to set the attribute of course information.	courseInfo : string	string

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## Web Application Class Diagram ID:12

### Class Name: lecturerOverallTestPage



#### Attribute

No.	Name	Description	Type
1.	testId	Unique Identifier of Testing	int
2.	testName	Name of Testing	string
3.	testType	Type of Testing (1 is an assignment, 2 is a quiz)	string
4.	testPosting	Post status of testing (1 is post, 0 is not post)	int
5.	testRandom	Random status of testing (1 is random, 2 is not random)	int
6.	testSubmitTime	Dead line of time to submission	int
7.	testInfo	Set of test information	string
8.	jsonText	Object of Json object	json
9.	userInfo	set of user information	string
10.	url	Set URL Link for access to web server	string

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## Method

No.	Name	Description	Parameters	Return
1.	getUserInfo()	This method is used to get user information consisting user type and user id to identify the user.	None	string
2.	get	Get JSON form URL by parameters (url)	url : string	Json
3.	getTestInfo()	This method is used to get test information.	None	string
4.	setTestInfo()	This method is used to set the attribute of test information.	testInfo : string	string

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## Web Application Class Diagram ID:13

### Class Name: studentOverallTestPage



#### Attribute

No.	Name	Description	Type
1.	testId	Unique Identifier of Testing	int
2.	testName	Name of Testing	string
3.	testType	Type of Testing (1 is an assignment, 2 is a quiz)	string
4.	testPosting	Post status of testing (1 is post, 0 is not post)	int
5.	testRandom	Random status of testing (1 is random, 2 is not random)	int
6.	testSubmitTime	Dead line of time to submission	int
7.	testInfo	Set of test information	string
8.	jsonText	Object of Json object	json
9.	userInfo	set of user information	string
10.	url	Set URL Link for access to web server	string

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## Method

No.	Name	Description	Parameters	Return
1.	getUserInfo()	This method is used to get user information consisting user type and user id to identify the user.	None	string
2.	get	Get JSON form URL by parameters (url)	url : string	Json
3.	getTestInfo()	This method is used to get test information.	None	string
4.	setTestInfo()	This method is used to set the attribute of test information.	testInfo : string	string

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## Web Application Class Diagram ID:14

### Class Name: lecturerPersonalEditPage

lecturerPersonalEditPage	
-lecturerID : Int	
-lecPassword : Int	
-lecName : String	
-lecFaculty : String	
-lecDepartment : String	
-lecEmail : String	
-lecTel : Int	
-jsonText : Json	
+userInfo : String	
-url : String	
+getUserInfo() : String	
-onEdit(lecturerID : Int) : void	
-get(url : String) : json	
-post(url : String, lecturerID : Int, lecPassword : Int, lecName : String, lecFaculty : String, lecDepartment : String, lecEmail : String, lecTel : Int) : string	
+onlogOut() : void	

### Attribute

No.	Name	Description	Type
1.	lecturerId	Unique Identifier of Lecturer	int
2.	lecPassword	Password of Lecturer	string
3.	lecName	Name of Lecturer	string
4.	lecFaculty	Faculty of Lecturer	string
5.	lecDepartment	Department of Lecturer	string
6.	lecEmail	Email of Lecturer	string
7.	lecTel	Tel of Lecturer	int
8.	jsonText	Object of Json object	json
9.	userInfo	set of user information	string
10.	url	Set URL Link for access to web server	string

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## Method

No.	Name	Description	Parameters	Return
1.	getUserInfo()	This method is used to get user information consisting user type and user id to identify the user.	None	string
2.	get	Get JSON form URL by parameters (url)	url : string	Json
3.	post	This method is used to send the information through Json object to web server following URL	url : string, lecturerId : int, lecPassword : string, lecName : string, lecFaculty : string, lecDepartment : string, lecEmail : string, lecTelL : int.	string
4.	onEdit	This method is used to prepare attributes for editing lecturer information from the web server	lecturerID : int	void
5.	onlogOut	This method is used to logout form the system	None	void

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## Web Application Class Diagram ID:15

### Class Name: studentPersonalEditPage

studentPersonalEditPage	
-studentID : Int	
-stuPassword : Int	
-stuName : String	
-stuFaculty : String	
-stuDepartment : String	
-stuEmail : String	
-stuTel : Int	
-jsonText : Json	
+userInfo : String	
-url : String	
+getUserInfo() : String	
-onEdit(studentID : Int) : void	
-get(url : String) : json	
-post(url : String, studentID : Int, stuPassword : Int, stuName : String, stuFaculty : String, stuDepartment : String, stuEmail : String, stuTel : Int) : string	
+onLogout() : void	

### Attribute

No.	Name	Description	Type
1.	studentId	Unique Identifier of Student	int
2.	stuPassword	Password of Student	string
3.	stuName	Name of Student	string
4.	stuFaculty	Faculty of Student	string
5.	stuDepartment	Department of Student	string
6.	stuEmail	Email of Student	string
7.	stuTel	Tel of Student	int
8.	jsonText	Object of Json object	json
9.	userInfo	set of user information	string
10.	url	Set URL Link for access to web server	string

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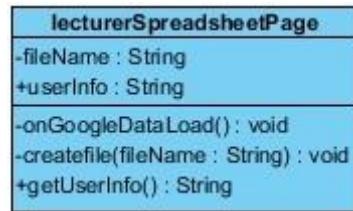
## Method

No.	Name	Description	Parameters	Return
1.	getUserInfo()	This method is used to get user information consisting user type and user id to identify the user.	None	string
2.	get	Get JSON form URL by parameters (url)	url : string	Json
3.	post	This method is used to send the information through Json object to web server following URL	url : string, studentId : int, stuPassword : string, stuName : string, stuFaculty : string, stuDepartment : string, stuEmail : string, stuTelL : int.	string
4.	onEdit	This method is used to prepare attributes for editing lecturer information from the web server	studentID : int	void
5.	onlogOut	This method is used to logout form the system	None	void

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## Web Application Class Diagram ID:16

### Class Name: lecturerSpreadsheetPage



#### Attribute

No.	Name	Description	Type
1.	fileName	name of spreadsheet file	string
2.	userInfo	set of user information	string

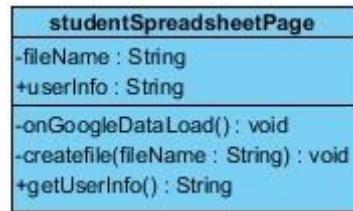
#### Method

No.	Name	Description	Parameters	Return
1.	onGoogleDataLoad	view the list of spreadsheet available in Google drive	None	void
2.	createfile	create the spreadsheet file	filename : string	void
3.	getUserInfo()	This method is used to get user information consisting user type and user id to identify the user.	None	string

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## Web Application Class Diagram ID: 17

### Class Name: studentSpreadsheetPage



#### Attribute

No.	Name	Description	Type
1.	fileName	name of spreadsheet file	string
2.	userInfo	set of user information	string

#### Method

No.	Name	Description	Parameters	Return
1.	onGoogleDataLoad	view the list of spreadsheet available in Google drive	None	void
2.	createfile	create the spreadsheet file	filename : string	void
3.	getUserInfo()	This method is used to get user information consisting user type and user id to identify the user.	None	string

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## Web Application Class Diagram ID:18

### Class Name: lecturerPostPage

lecturerPostPage	
-postId : Int	
-postName : String	
-postDescription : String	
-postRecommend : Int	
-jsonText : Json	
+postInfo : String	
-url : String	
+userInfo : String	
-course_id : Int	
-posterName : String	
+setPostInfo(postInfo : String) : void	
-onDelete(postId : Int) : void	
-onPosts() : void	
-get(url : String) : json	
-post(url : String, course_id : Int, posterName : String, postName : String, postDescription : String) : string	
-post(url : String, course_id : Int, postRecommend : int) : String	
+getUserInfo() : String	

### Attribute

No.	Name	Description	Type
1.	postId	Unique Identifier of post	Int
2.	postName	Name of post	string
3.	postDescription	Description of post	string
4.	postRecommend	Recommend status of post	int
5.	postInfo	Set of post information	string
6.	url	Set URL Link for access to web server	string
7.	jsonText	Object of Json object	json
8.	userInfo	set of user information	string
9.	course_id	Unique Identifier of course	int
10.	posterName	Name of poster	string

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## Method

No.	Name	Description	Parameters	Return
1.	setPostInfo	Set the post information	postInfo : string	void
2.	get	Get JSON form URL by parameters (url)	url : string	Json
3.	post	This method is used to send the information through Json object to web server following URL	url : string, courseId : int, posterName : string, postName : String, postDescription : string	string
4.	post	This method is used to send the information through Json object to web server following URL	url : string, courseId : int, postRecommend : int	string
5.	onPost	This method is used to prepare attributes to add post information to the web server	None	void
6.	onDelete	This method is used to prepare attributes to delete post information from the web server	postId : int	void
7.	getUserInfo()	This method is used to get user information consisting user type and user id to identify the user.	None	string

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## Web Application Class Diagram ID:19

### Class Name: lecturerPostPage

studentPostPage	
-postId : Int	
-postName : String	
-postDescription : String	
-jsonText : Json	
+postInfo : String	
-url : String	
+userInfo : String	
-course_id : Int	
-posterName : String	
+setPostInfo(postInfo : String) : void	
-onPosts() : void	
-get(url : String) : json	
-post(url : String, course_id : Int, posterName : String, postName : String, postDescription : String) : string	
+getUserInfo() : String	

### Attribute

No.	Name	Description	Type
1.	postId	Unique Identifier of post	Int
2.	postName	Name of post	string
3.	postDescription	Description of post	string
4.	postInfo	Set of post information	string
5.	url	Set URL Link for access to web server	string
6.	jsonText	Object of Json object	json
7.	userInfo	set of user information	string
8.	course_id	Unique Identifier of course	int
9.	posterName	Name of poster	string

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## Method

No.	Name	Description	Parameters	Return
1.	setPostInfo	Set the post information	postInfo : string	void
2.	get	Get JSON form URL by parameters (url)	url : string	Json
3.	post	This method is used to send the information through Json object to web server following URL	url : string, courseId : int, posterName : string, postName : String, postDescription : string	string
4.	onPost	This method is used to prepare attributes to add post information to the web server	None	void
5.	getUserInfo()	This method is used to get user information consisting user type and user id to identify the user.	None	string

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## Web Application Class Diagram ID:20

### Class Name: lecturerViewCoursePage

lecturerViewCoursePage	
-courseId : Int	
-courseName : String	
-courseCredit : Int	
-courseDescription : String	
-semesterId : Int	
-lecturerId : Int	
-studentInfo : String[]	
-jsonText : Json	
+userInfo : String	
-url : String	
+getUserInfo() : String	
-get(url : String) : json	
-getStudentInfo() : String	
-setStudentInfo(studentInfo : String) : void	
+onLogout() : void	

#### Attribute

No.	Name	Description	Type
1.	courseId	Unique Identifier of Course	int
2.	courseName	Name of Course	string
3.	courseCredit	Credit of Course	int
4.	courseDescription	Description of Course	string
5.	semesterId	Unique Identifier Semester	int
6.	lecturerId	Unique Identifier Lecturer	int
7.	studentInfo	Set of student information	string[]
8.	jsonText	Object of Json object	json
9.	userInfo	set of user information	string
10.	url	Set URL Link for access to web server	string
11.	courseInfo	Set of course information	string

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## Method

No.	Name	Description	Parameters	Return
1.	getUserInfo()	This method is used to get user information consisting user type and user id to identify the user.	None	string
2.	get	Get JSON form URL by parameters (url)	url : string	Json
3.	getStudentInfo()	This method is used to get student information.	None	string
4.	setStudentInfo()	This method is used to set the attribute of student information.	studentInfo : string	string
5.	onlogOut	This method is used to logout from the system	None	void

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## Web Application Class Diagram ID:21

### Class Name: studentViewCoursePage

studentViewCoursePage	
-courseId : Int	
-courseName : String	
-courseCredit : Int	
-courseDescription : String	
-semesterId : Int	
-lecturerId : Int	
-lecturerName : String	
-studentInfo : String[]	
-jsonText : Json	
+userInfo : String	
-url : String	
+getUserInfo() : String	
-get(url : String) : json	
-getStudentInfo() : String	
-setStudentInfo(studentInfo : String) : void	
+onLogout() : void	

### Attribute

No.	Name	Description	Type
1.	courseId	Unique Identifier of Course	int
2.	courseName	Name of Course	string
3.	courseCredit	Credit of Course	int
4.	courseDescription	Description of Course	string
5.	semesterId	Unique Identifier Semester	int
6.	lecturerId	Unique Identifier Lecturer	int
7.	lecturerName	Name of lecturer	string
8.	studentInfo	Set of student information	string[]
9.	jsonText	Object of Json object	json
10.	userInfo	set of user information	string
11.	url	Set URL Link for access to web server	string
12.	courseInfo	Set of course information	string

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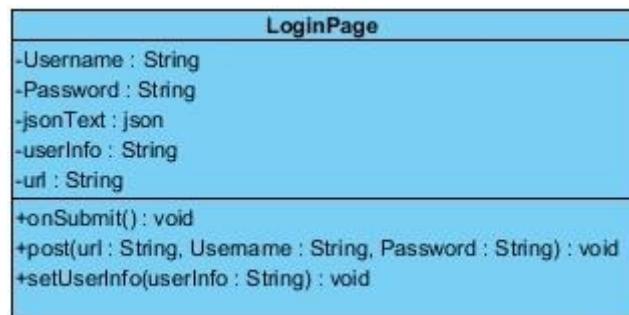
## Method

No.	Name	Description	Parameters	Return
1.	getUserInfo()	This method is used to get user information consisting user type and user id to identify the user.	None	string
2.	get	Get JSON form URL by parameters (url)	url : string	Json
3.	getStudentInfo()	This method is used to get student information.	None	string
4.	setStudentInfo()	This method is used to set the attribute of student information.	studentInfo : string	string
5.	onlogOut	This method is used to logout from the system	None	void

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## Web Application Class Diagram ID:22

### Class Name: LoginPage



### Attribute

No.	Name	Description	Type
1.	Username	Username of the user account	string
2.	Password	Password of the user account	string
3.	jsonText	Object of Json object	json
4.	userInfo	set of user information	string
5.	url	Set URL Link for access to web server	string

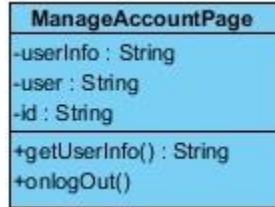
### Method

No.	Name	Description	Parameters	Return
1.	onSubmit	This method is used to prepare attributes to submit the username and password information to the web server	None	void
2.	post	This method is used to send the information through Json object to web server following URL	url : string Username : string Password : string	void
3.	setUserInfo	keep the user information data	userInfo : string	void

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## Web Application Class Diagram ID:23

### Class Name: ManageAccountPage



#### Attribute

No.	Name	Description	Type
1.	user	Type of user	string
2.	id	Unique Identifier of user ID	string

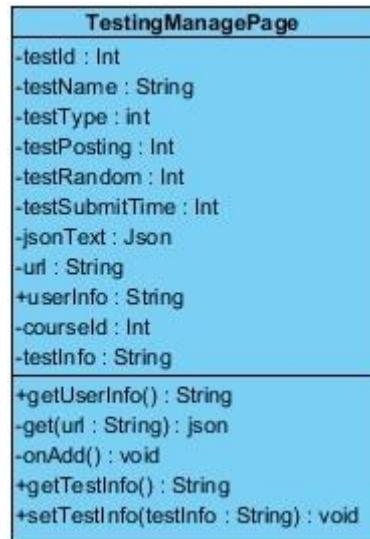
#### Method

No.	Name	Description	Parameters	Return
1.	getUserInfo()	This method is used to get user information consisting user type and user id to identify the user.	None	string
2.	onlogOut	This method is used to logout from the system	None	void

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## Web Application Class Diagram ID:24

### Class Name: TestingManagePage



### Attribute

No.	Name	Description	Type
1.	testId	Unique Identifier of Testing	int
2.	testName	Name of Testing	string
3.	testType	Type of Testing (1 is an assignment, 2 is a quiz)	string
4.	testPosting	Post status of testing (1 is post, 0 is not post)	int
5.	testRandom	Random status of testing (1 is random, 2 is not random)	int
6.	testSubmitTime	Dead line of time to submission	int
7.	jsonText	Object of Json object	json
8.	userInfo	set of user information	string
9.	url	Set URL Link for access to web server	string
10.	courseId	Unique Identifier of Course	int
11.	testInfo	Set of test information	string

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## Method

No.	Name	Description	Parameters	Return
5.	getUserInfo()	This method is used to get user information consisting user type and user id to identify the user.	None	string
6.	get	Get JSON form URL by parameters (url)	url : string	Json
7.	onAdd	This method is used to prepare attributes for sending test information to the web server	None	void
8.	getTestInfo()	This method is used to get test information.	None	string
9.	setTestInfo()	This method is used to set the attribute of test information.	testInfo : string	string

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## Web Application Class Diagram ID:25

### Class Name: QuestionManagePage

QuestionManagePage	
-questionType : Int	
-questionDescription : String	
-choice : String[]	
-solution : Int	
-point : Int	
-jsonText : Json	
-url : String	
+userInfo : String	
-courseId : Int	
-testInfo : String	
-questionInfo : String[]	
+getUserInfo() : String	
-get(url : String, leId : int) : json	
-post(url : String, questionType : Int, questionDescription : String, choice : String[], solution : Int, point : Int, courseId : Int) : void	
-onAddType() : void	
+getTestInfo() : String	
+setTestInfo(testInfo : String) : void	
+onLogout() : void	
+getQuestionInfo() : String[]	
+setQuestionInfo(questionInfo : String[]) : void	

### Attribute

No.	Name	Description	Type
1.	questionType	Type of question (1 is a multiple choices question, 2 is a true/false question, 3 is a short answer question)	string
2.	questionDescription	Description of question	string
3.	choice	Description of choice in question - Format of data 1. Multiple choice Ex. choice1#\$choice2#\$choice3#\$choice4 2. True/False Ex. True#\$False 3. Short answer Ex. null	string
4.	solution	Solution of question - Format data 1. Multiple choice Ex. index of choice (1 or 2 or 3 or 4) 2. True/False Ex. index of choice (1 or 2) 3. Short answer Ex. null	string
5.	point	Score of question	double
6.	jsonText	Object of Json object	json
7.	userInfo	set of user information	string
8.	url	Set URL Link for access to web server	string

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9.	courseId	Unique Identifier of Course	int
10.	testInfo	Set of test information	string
11.	questionInfo	Set of question information	string[]

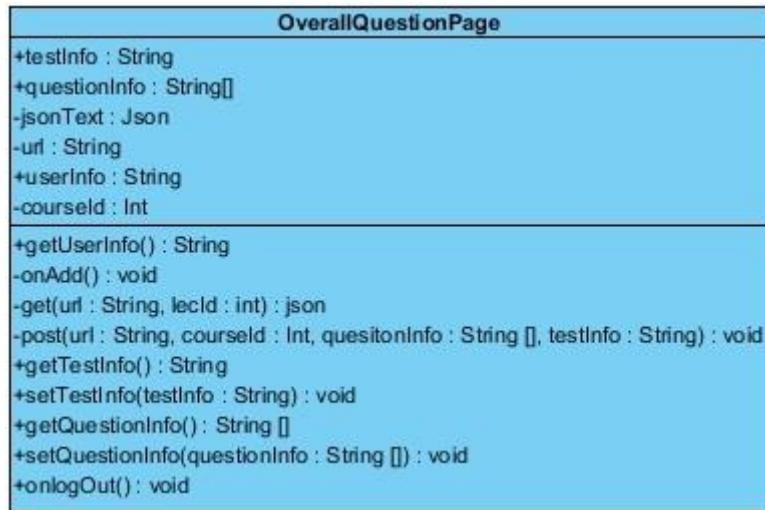
## Method

No.	Name	Description	Parameters	Return
1.	getUserInfo()	This method is used to get user information consisting user type and user id to identify the user.	None	string
2.	get	Get JSON form URL by parameters (url)	url : string, lecId : int	Json
3.	post	This method is used to send the information through Json object to web server following URL	url : string questionType : int, questionDescription : string, choice : string[], solution : int, point : int, courseId : int	void
4.	onAddType	This method is used to prepare attributes for type of question to sending question information to the web server	None	void
5.	getTestInfo()	This method is used to get test information.	None	string
6.	setTestInfo()	This method is used to set the attribute of test information.	testInfo : string	string
7.	getQuestionInfo()	This method is used to get question information.	None	string
8.	setQuesitonInfo()	This method is used to set the attribute of question information.	questionInfo : string	string

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## Web Application Class Diagram ID:26

### Class Name: OverallQuestionPage



### Attribute

No.	Name	Description	Type
1.	testInfo	Set of Test infomation	string
2.	questionInfo	Set of question information	string[]
3.	jsonText	Object of Json object	json
4.	userInfo	set of user information	string
5.	url	Set URL Link for access to web server	string
6.	courseId	Unique Identifier of Course	int

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## Method

No.	Name	Description	Parameters	Return
9.	getUserInfo()	This method is used to get user information consisting user type and user id to identify the user.	None	string
10.	get	Get JSON form URL by parameters (url)	url : string, lecId : int	Json
11.	post	This method is used to send the information through Json object to web server following URL	url : string courseId :Int, questionInfo : string[], testInfo : string	void
12.	onAdd	This method is used to prepare attributes for sending test information to the web server	None	void
13.	getTestInfo()	This method is used to get test information.	None	string
14.	setTestInfo()	This method is used to set the attribute of test information.	testInfo : string	string
15.	getQuestionInfo( )	This method is used to get question information.	None	string
16.	setQuesitonInfo( )	This method is used to set the attribute of question information.	questionInfo : string	string
17.	onlogOut	This method is used to logout from the system	None	void

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## Web Application Class Diagram ID:27

### Class Name: TakeTestingPage

TakeTestingPage	
-testingId : int	
-studentId : int	
-questionIdArray : Int[]	
-valueArray : String[]	
+testInfo : String	
+questionInfo : String[]	
-jsonText : Json	
-url : String	
+userInfo : String	
+getUserInfo() : String	
-onSendAnswer() : void	
-get(url : String, studentId : Int) : json	
-post(url : String, testingId : Int, studentId : Int, questionIdArray : Int[], valueArray : String[]) : String	
+getTestInfo() : String	
+setTestInfo(testInfo : String) : void	
+getQuestionInfo() : String[]	
+setQuestionInfo(questionInfo : String[]) : void	
+onLogOut() : void	

#### Attribute

No.	Name	Description	Type
1.	testingId	Unique Identifier of Test	Int
2.	studentId	Unique Identifier of Student	int
3.	questionIdArray	ArrayList of QuestionID	int[]
4.	valueArray	ArrayList of Value	string[]
5.	questionInfo	Set of question information	string[]
6.	jsonText	Object of Json object	json
7.	userInfo	set of user information	string
8.	url	Set URL Link for access to web server	string
9.	testInfo	Set of Test information	string

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## Method

No.	Name	Description	Parameters	Return
1.	getUserInfo()	This method is used to get user information consisting user type and user id to identify the user.	None	string
2.	get	Get JSON form URL by parameters (url)	url : string, studentId : int	Json
3.	post	This method is used to send the information through Json object to web server following URL	url : string testingId : Int, studentId :int, questionArray : Int[], valueArray : string[]	string
4.	onSendAnswer	This method is used to prepare attributes for sending answer information to the web server	None	void
5.	getTestInfo()	This method is used to get test information.	None	string
6.	setTestInfo()	This method is used to set the attribute of test information.	testInfo : string	string
7.	getQuestionInfo()	This method is used to get question information.	None	string
8.	setQuesitonInfo()	This method is used to set the attribute of question information.	questionInfo : string	string
9.	onlogOut	This method is used to logout from the system	None	void

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## Web Application Class Diagram ID:28

### Class Name: MarkingPointPage

TakeTestingPage	
-testingId : int	
-studentId : int	
-questionIdArray : Int[]	
-valueArray : String[]	
+testInfo : String	
+questionInfo : String[]	
-jsonText : Json	
-url : String	
+userInfo : String	
+getUserInfo() : String	
-onSendAnswer() : void	
-get(url : String, studentId : Int) : json	
-post(url : String, testingId : Int, studentId : Int, questionIdArray : Int[], valueArray : String[]) : String	
+getTestInfo() : String	
+setTestInfo(testInfo : String) : void	
+getQuestionInfo() : String[]	
+setQuestionInfo(questionInfo : String[]) : void	
+onlogOut() : void	

#### Attribute

No.	Name	Description	Type
1.	questionPointArray	ArrayList of Question point	Int[]
2.	answerPointArray	ArrayList of point	int[]
3.	questionIdArray	ArrayList of QuestionID	int[]
4.	answersheetId	Unique Identifier of answersheet	int
5.	questionInfo	Set of question information	string[]
6.	jsonText	Object of Json object	json
7.	userInfo	set of user information	string
8.	url	Set URL Link for access to web server	string
9.	testInfo	Set of Test information	string

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## Method

No.	Name	Description	Parameters	Return
1.	getUserInfo()	This method is used to get user information consisting user type and user id to identify the user.	None	string
2.	get	Get JSON form URL by parameters (url)	url : string, answersheetId : int	Json
3.	post	This method is used to send the information through Json object to web server following URL	url : string questionIdArray : Int[], answerPointArray : int[]	string
4.	onMark	This method is used to prepare attributes for sending point of answer information to the web server	None	void
5.	getTestInfo()	This method is used to get test information.	None	string
6.	setTestInfo()	This method is used to set the attribute of test information.	testInfo : string	string
7.	getQuestionInfo()	This method is used to get question information.	None	string
8.	setQuestionInfo()	This method is used to set the attribute of question information.	questionInfo : string[]	string
9.	onlogOut	This method is used to logout from the system	None	void

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## Web Application Class Diagram ID:29

### Class Name: MarkingPointPage

MarkingPointPage	
-questionPointArray : int[]	
-answerPointArray : int[]	
-questionIdArray : int[]	
-answersheetId : Int	
+testInfo : String	
+questionInfo : String[]	
-jsonText : Json	
-url : String	
+userInfo : String	
+getUserInfo() : String	
-onMark() : void	
-get(url : String, answersheetId : int) : json	
-post(url : String, questionIdArray : Int[], answerPointArray : int[]) : String	
+getTestInfo() : String	
+setTestInfo(testInfo : String) : void	
+getQuestionInfo() : String[]	
+setQuestionInfo(questionInfo : String[]) : void	
+onlogOut() : void	

### Attribute

No.	Name	Description	Type
10.	questionPointArray	ArrayList of Question point	Int[]
11.	answerPointArray	ArrayList of point	int[]
12.	questionIdArray	ArrayList of QuestionID	int[]
13.	answersheetId	Unique Identifier of answersheet	int
14.	questionInfo	Set of question information	string[]
15.	jsonText	Object of Json object	json
16.	userInfo	set of user information	string
17.	url	Set URL Link for access to web server	string
18.	testInfo	Set of Test information	string

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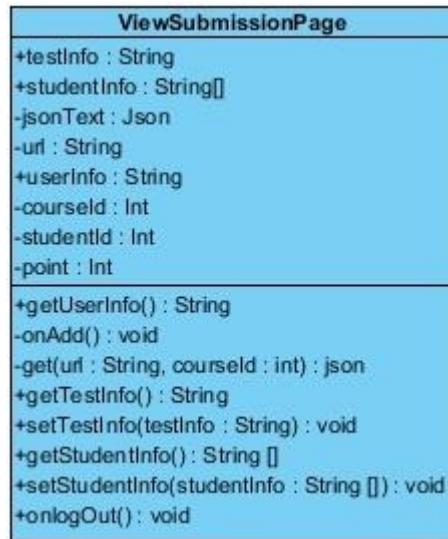
## Method

No.	Name	Description	Parameters	Return
10.	getUserInfo()	This method is used to get user information consisting user type and user id to identify the user.	None	string
11.	get	Get JSON form URL by parameters (url)	url : string, answersheetId : int	Json
12.	post	This method is used to send the information through Json object to web server following URL	url : string questionIdArray : Int[], answerPointArray : int[]	string
13.	onMark	This method is used to prepare attributes for sending point of answer information to the web server	None	void
14.	getTestInfo()	This method is used to get test information.	None	string
15.	setTestInfo()	This method is used to set the attribute of test information.	testInfo : string	string
16.	getQuestionInfo()	This method is used to get question information.	None	string
17.	setQuestionInfo()	This method is used to set the attribute of question information.	questionInfo : string[]	string
18.	onlogOut	This method is used to logout from the system	None	void

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## Web Application Class Diagram ID:30

### Class Name: ViewSubmissionPage



### Attribute

No.	Name	Description	Type
1.	studentInfo	Set of Student Information	string[]
2.	courseId	Unique Identifier of Course	int
3.	studentId	Unique Identifier of Student	int
4.	point	Point of question	double
5.	jsonText	Object of Json object	json
6.	userInfo	set of user information	string
7.	url	Set URL Link for access to web server	string
8.	testInfo	Set of Test information	string

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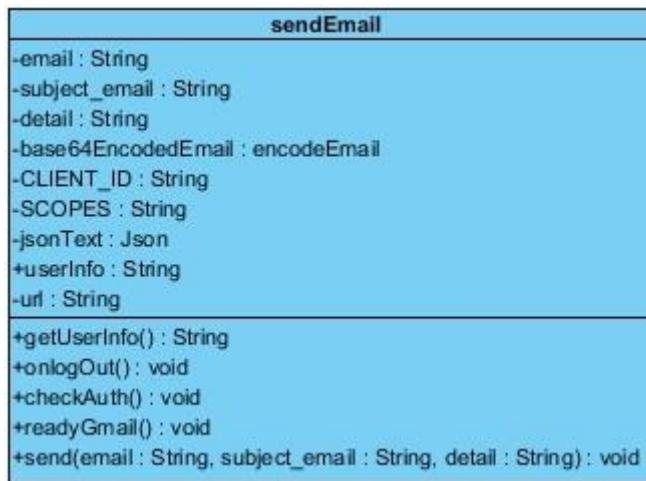
## Method

No.	Name	Description	Parameters	Return
1.	getUserInfo()	This method is used to get user information consisting user type and user id to identify the user.	None	string
2.	get	Get JSON form URL by parameters (url)	url : string, answersheetId : int	Json
3.	getTestInfo()	This method is used to get test information.	None	string
4.	setTestInfo()	This method is used to set the attribute of test information.	testInfo : string	string
5.	getStudentInfo()	This method is used to get student information.	None	string
6.	setStudentInfo()	This method is used to set the attribute of student information.	studentInfo : string[]	string
7.	onlogOut	This method is used to logout from the system	None	void

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## Web Application Class Diagram ID:31

### Class Name: sendEmail



### Attribute

No.	Name	Description	Type
1.	email	Email destination information	string
2.	subject_email	Topic of the Email	int
3.	detail	Content of the Email	int
4.	base64EncodedEmail	Object of encodeEmail	double
5.	CLIENT_ID	Client Id for authorization	
6.	SCOPES	Scopes url for authorization	
7.	jsonText	Object of Json object	json
8.	userInfo	set of user information	string
9.	url	Set URL Link for access to web server	string

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## Method

No.	Name	Description	Parameters	Return
8.	getUserInfo()	This method is used to get user information consisting user type and user id to identify the user.	None	string
9.	checkAuth	authorization to use personal data.	None	void
10.	readyGmail()	This method is used to sets the API key to register this application to Google Gmail	None	void
11.	send()	This method is used to send the email via Google Gmail api	email:string, subject_email:stringm detail : string.	void
12.	onlogOut	This method is used to logout form the system	None	void

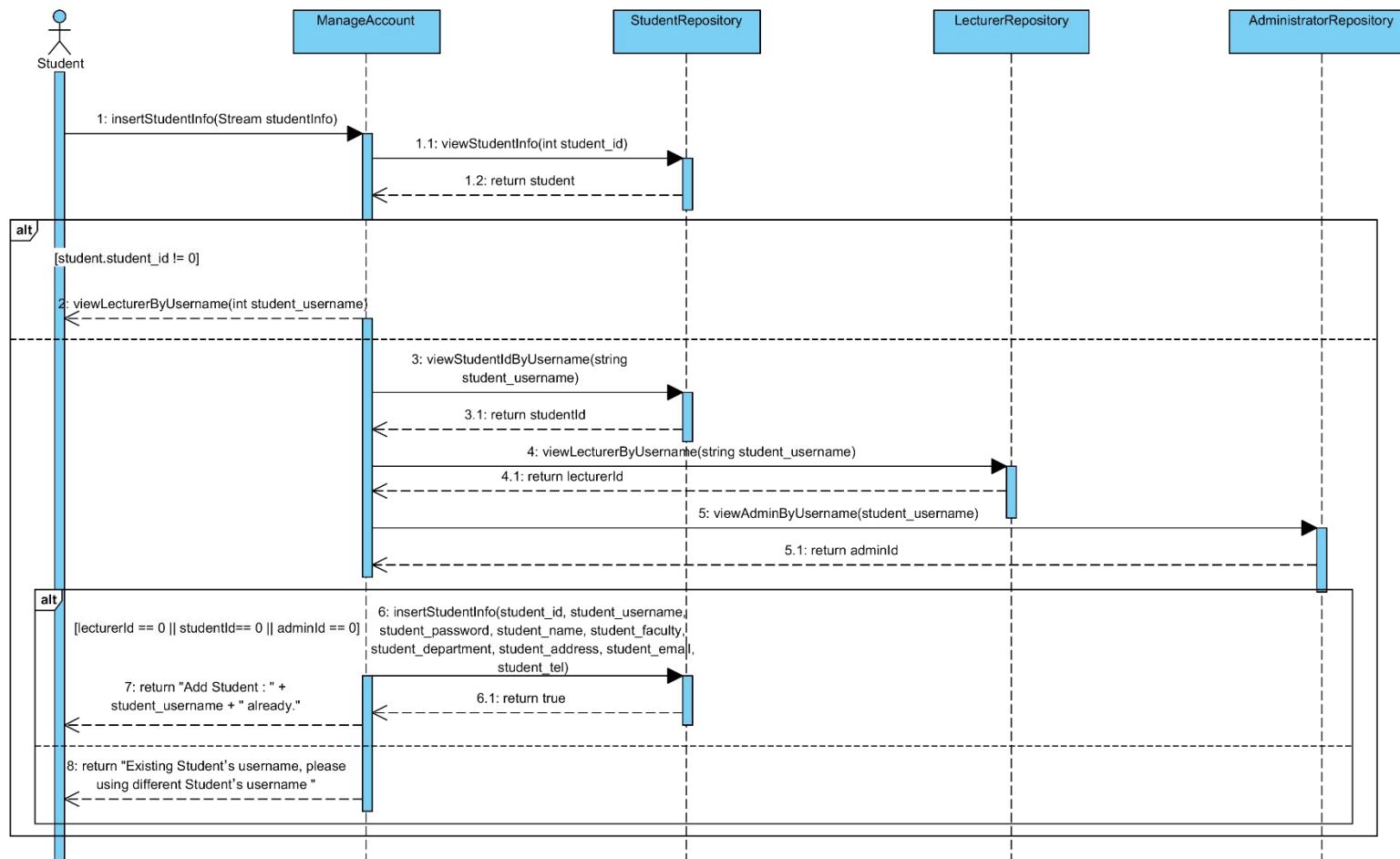
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### 3.3 Sequence Diagram

#### 3.3.1 Sequence Diagram (SD 01): Student register to the system.

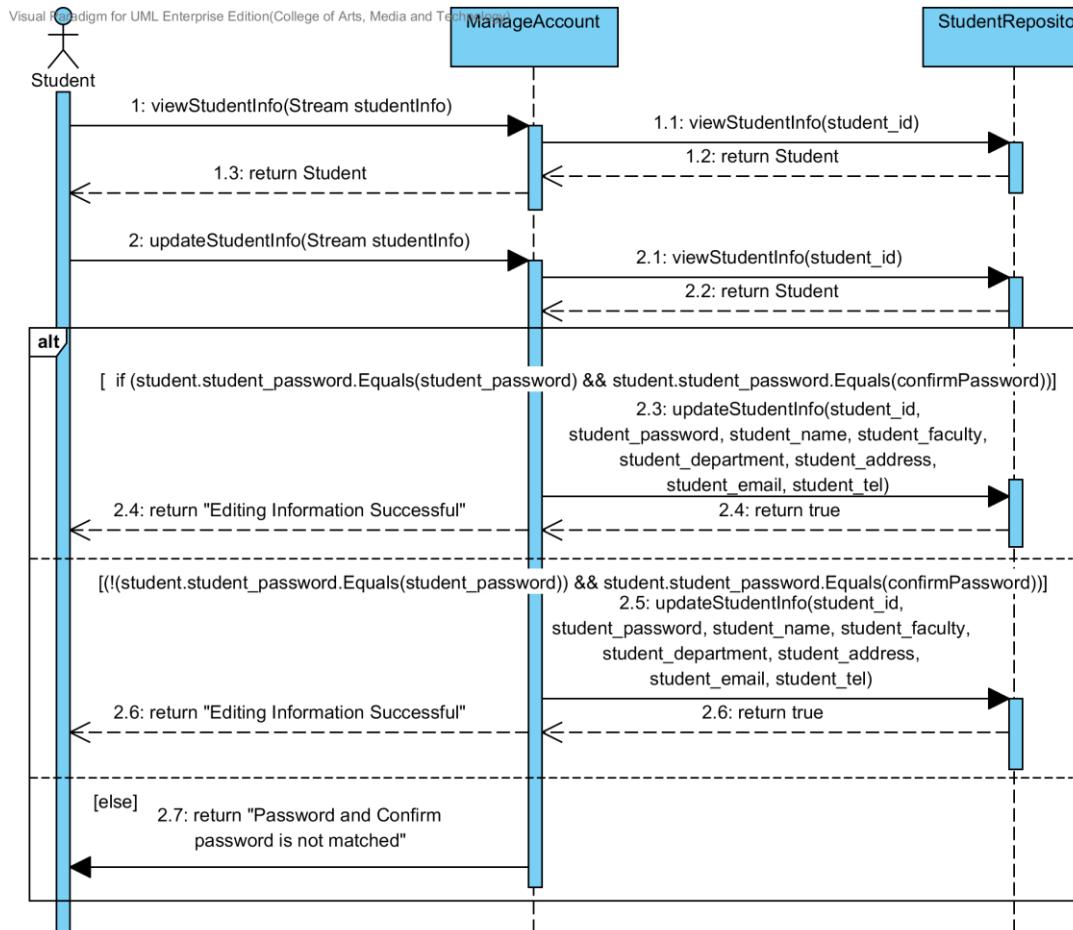
: This sequence diagram responses to URS 01: The student can register to the system.

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### 3.2.2 Sequence Diagram (SD 02): Student manage to add or edit personal information.

: This sequence diagram responses to URS 02: The student can manage to add or edit personal information

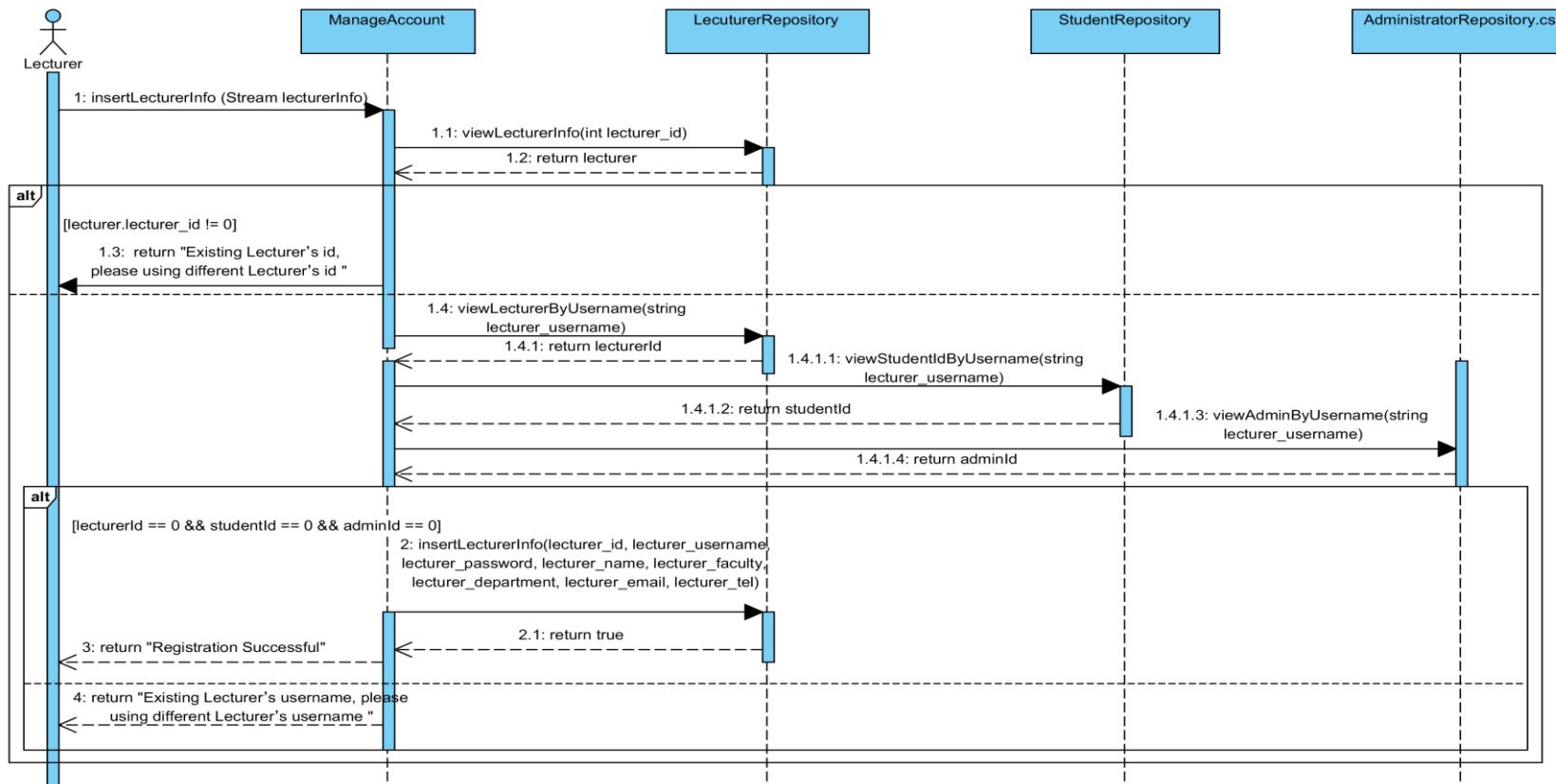


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### 3.2.3 Sequence Diagram (SD 03): Lecturer registers to the system.

: This sequence diagram responses to URS 03: The lecturer can register to the system.

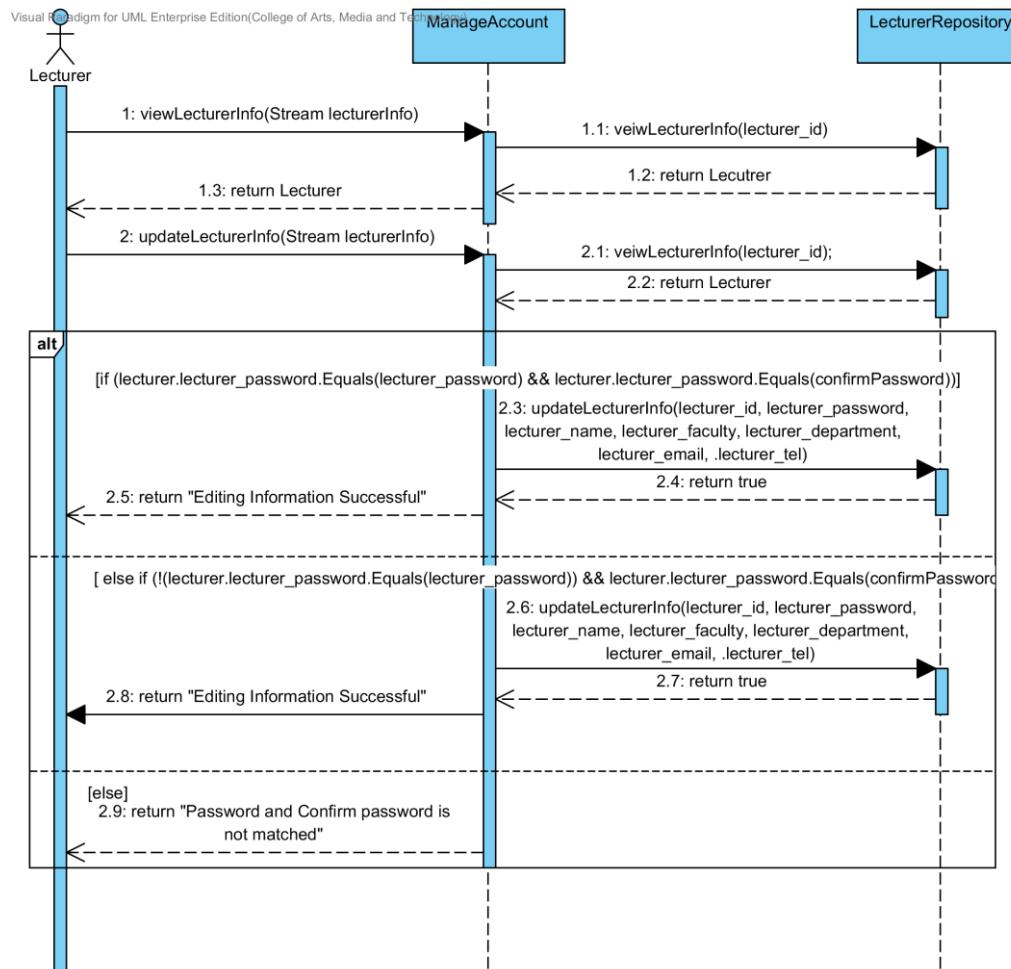
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### 3.2.4 Sequence Diagram (SD 04): Lecturer manage to add or edit personal information.

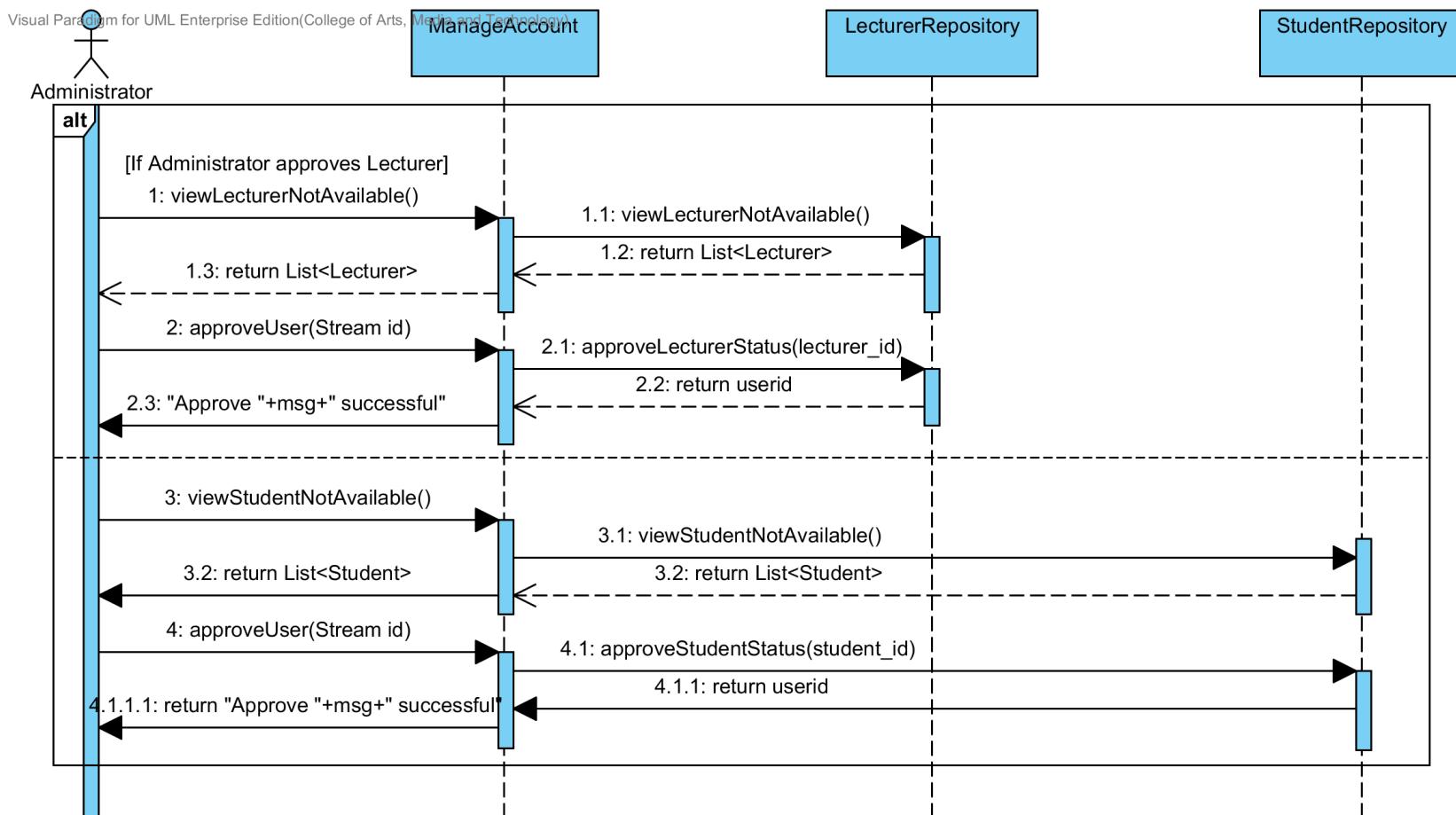
: This sequence diagram responses to URS 04: The lecturer can manage to add or edit personal information.



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### 3.2.5 Sequence Diagram (SD 05): Administrator approves Lecturer or Student account.

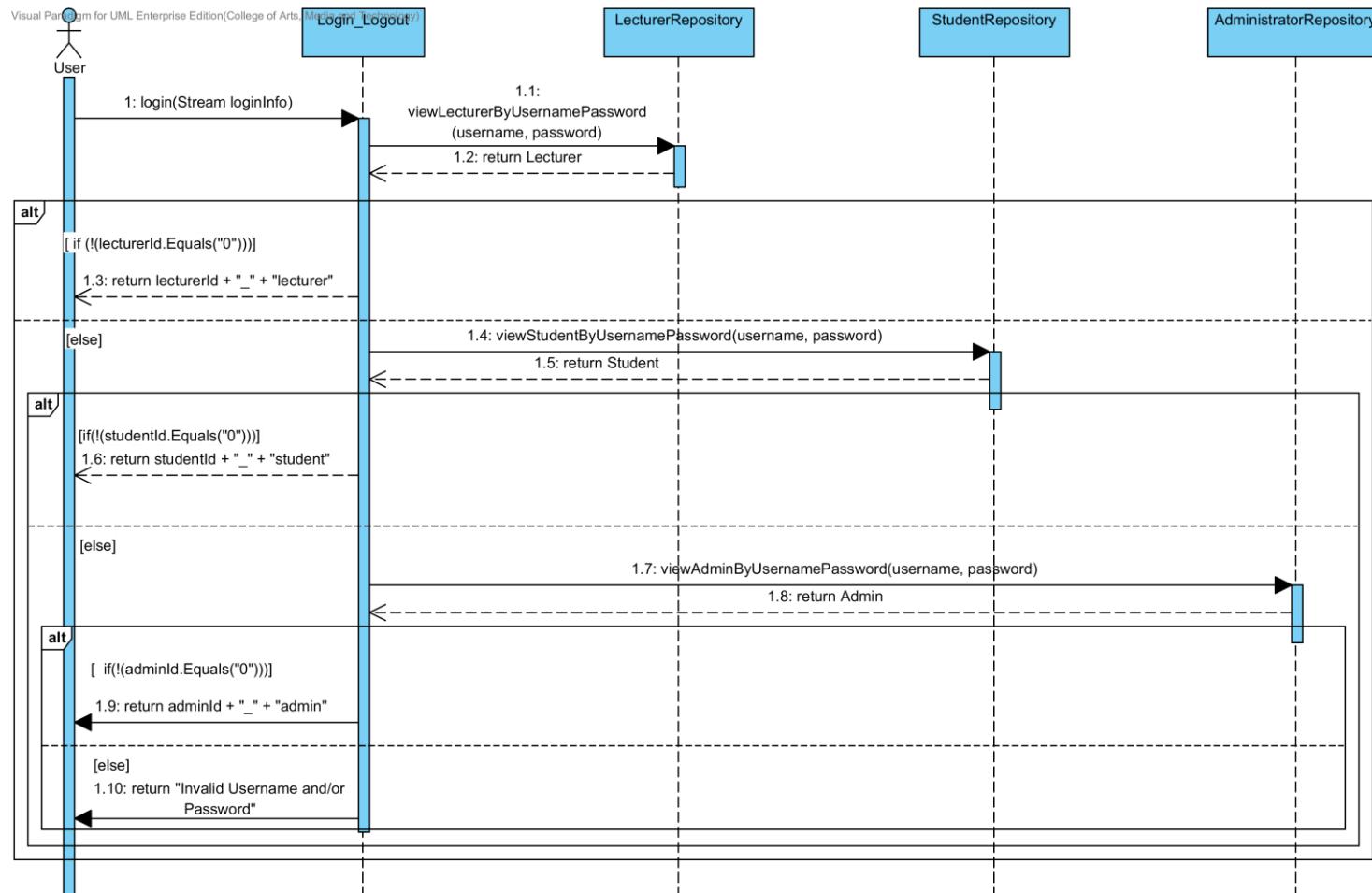
: This sequence diagram responses to URS 05: The Administrator can approve student and lecturer account.



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### 3.2.6 Sequence Diagram (SD 06): Student/Lecturer/Administrator log in to the system.

: This sequence diagram responses to URS 06: The student can log in to the system, URS 08: The lecturer can login to the system, and URS - 10: The Administrator can login to the system.

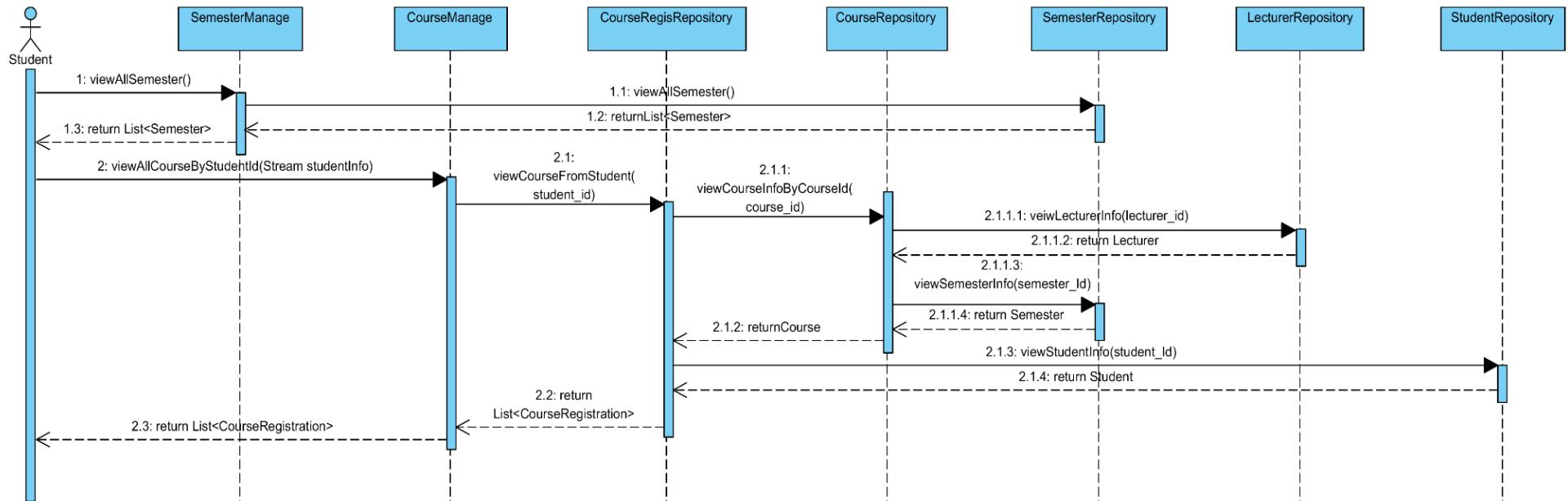


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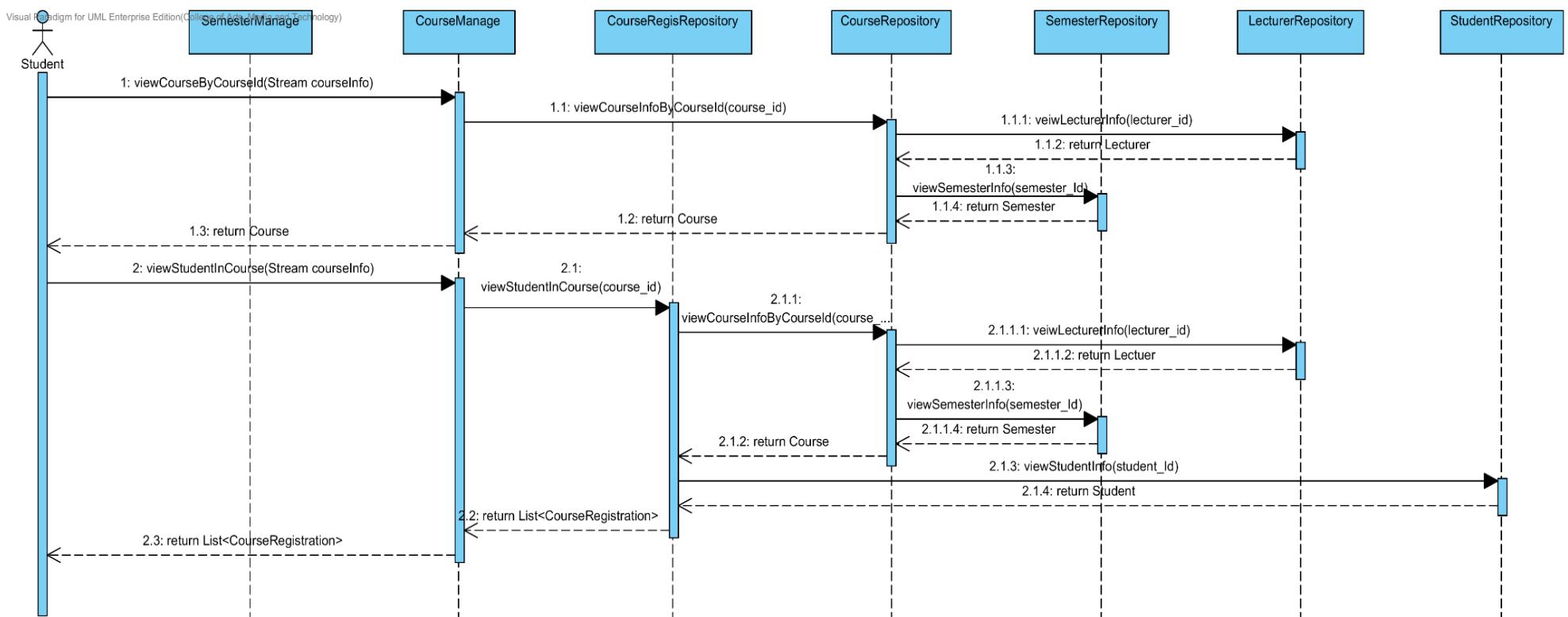
### 3.2.7 Sequence Diagram (SD 07): Student views course information.

: This sequence diagram responses to URS 12: The student can view courses information.

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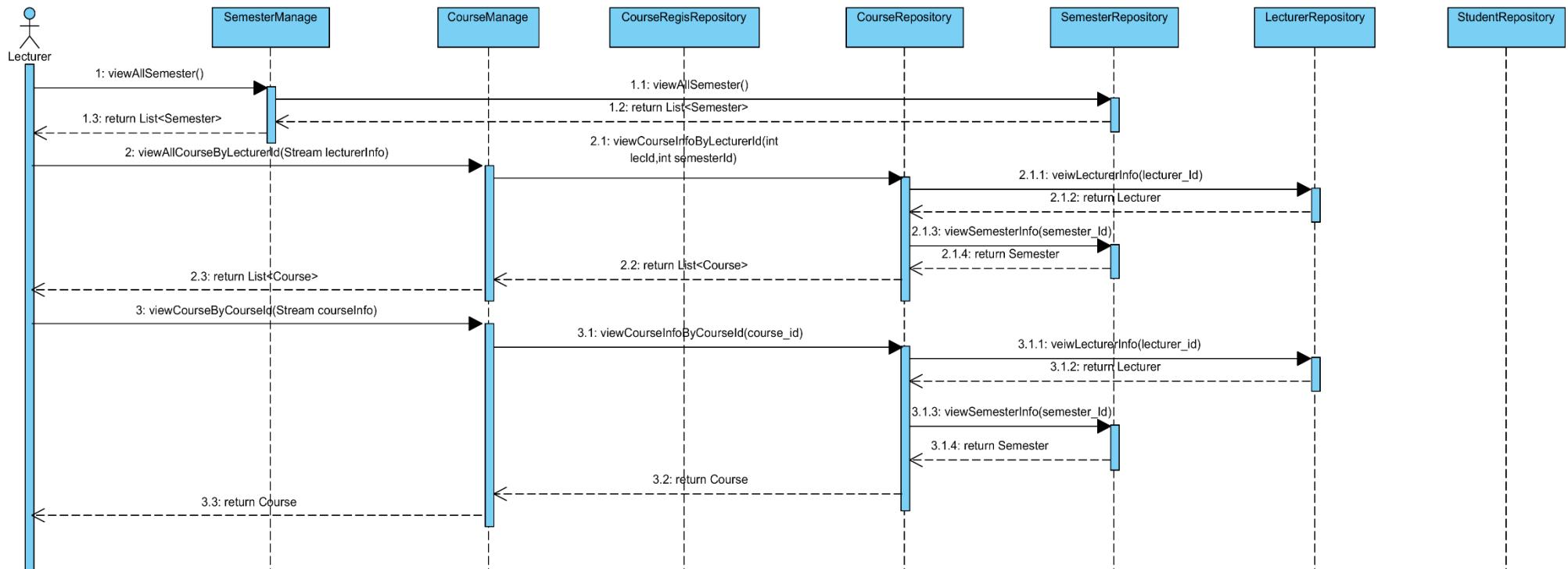


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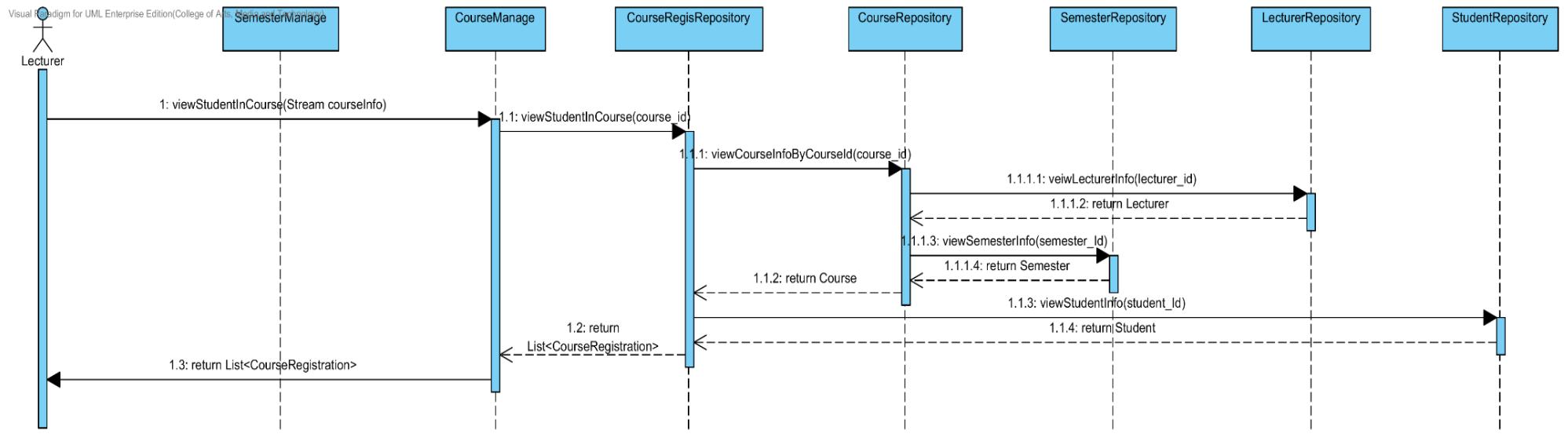
### 3.2.8 Sequence Diagram (SD 08): Lecturer views course information.

: This sequence diagram responses to URS 13: The lecturer can view courses information.

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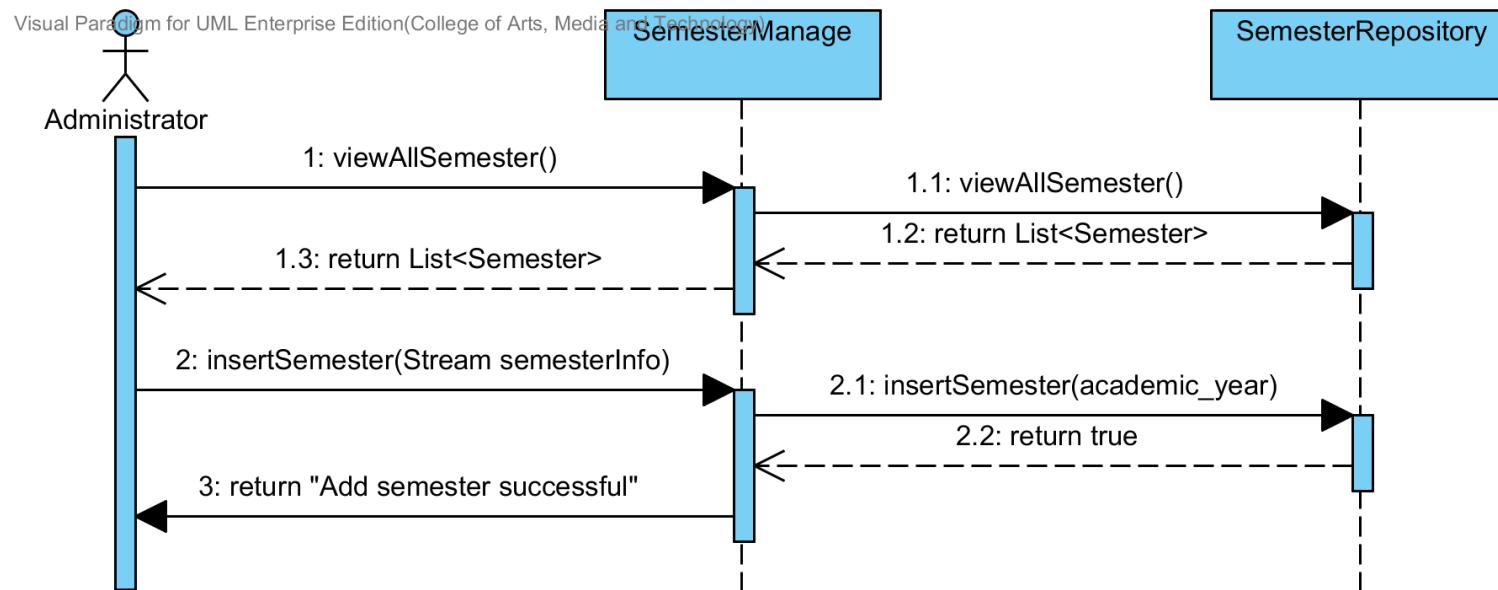
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### 3.2.9 Sequence Diagram (SD 9): Administrator creates a semester.

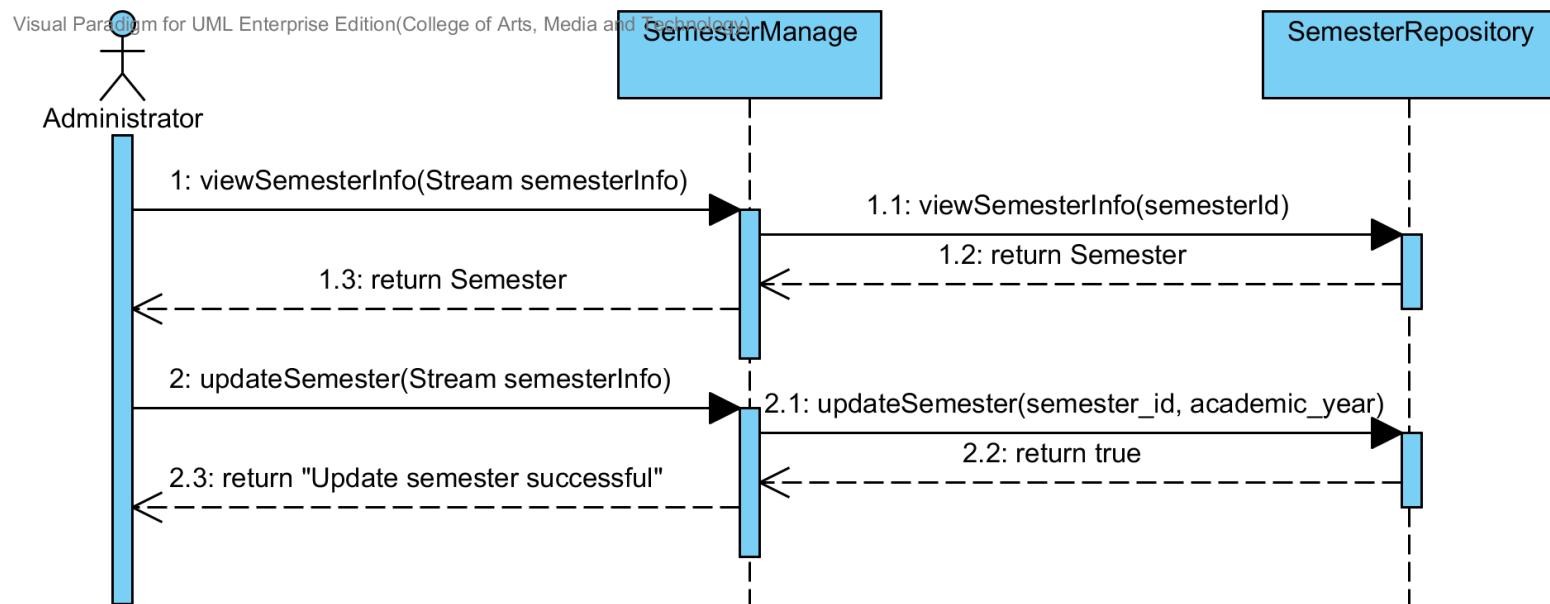
: This sequence diagram responses to URS 14: The administrator can create a semester.



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### 3.2.10 Sequence Diagram (SD 10): Administrator edits a semester.

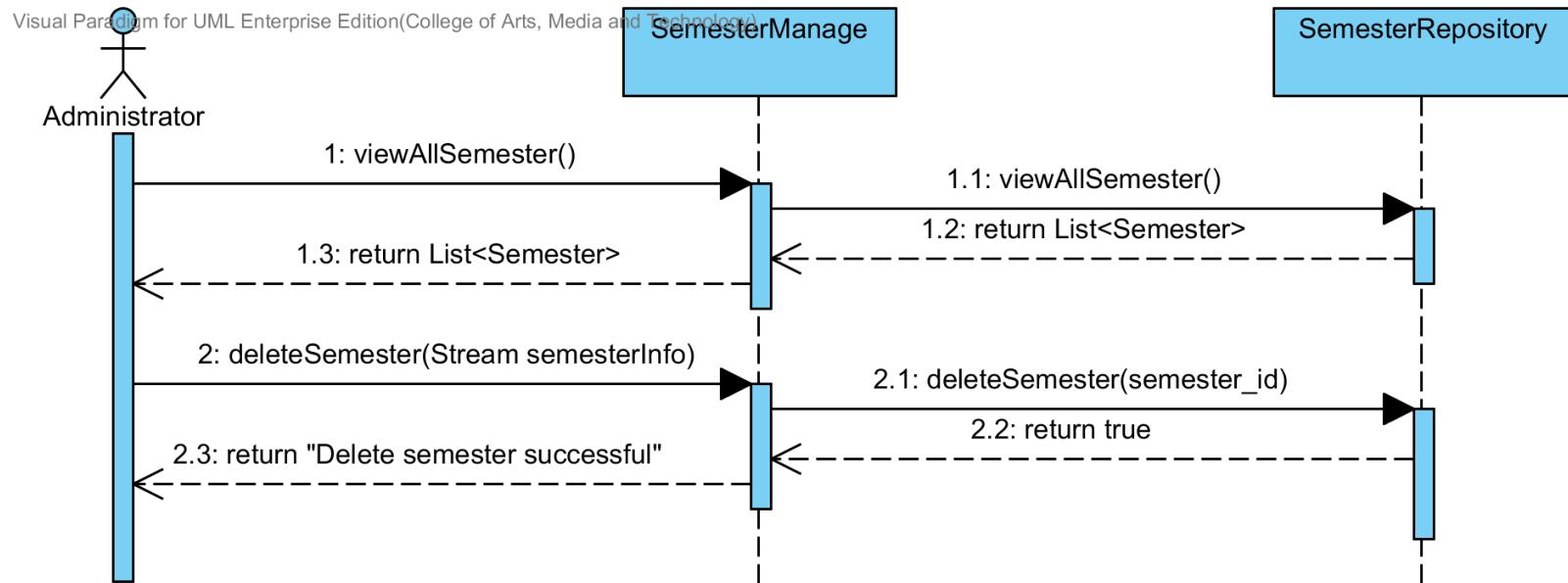
: This sequence diagram responses to URS 15: The administrator can edit a semester.



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### 3.2.11 Sequence Diagram (SD 11): Administrator remove a semester.

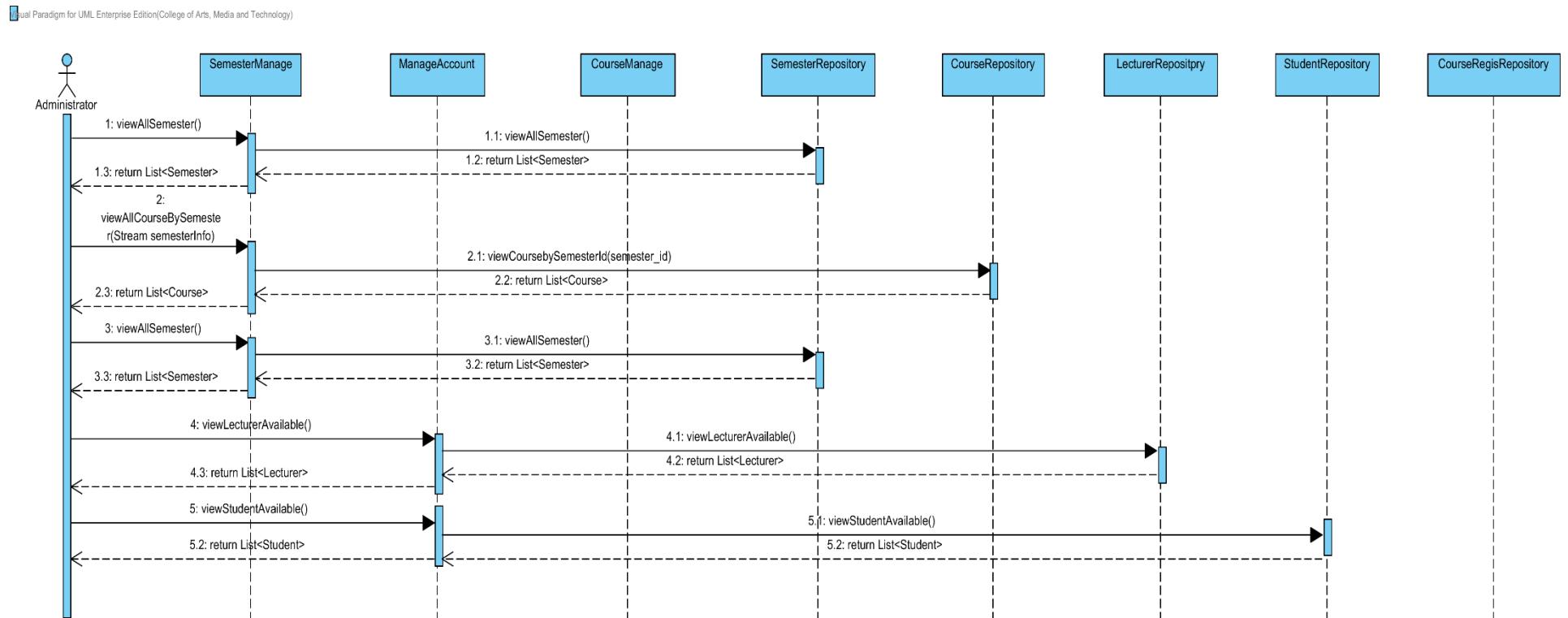
: This sequence diagram responses to URS 16: The Administrator can remove a semester.



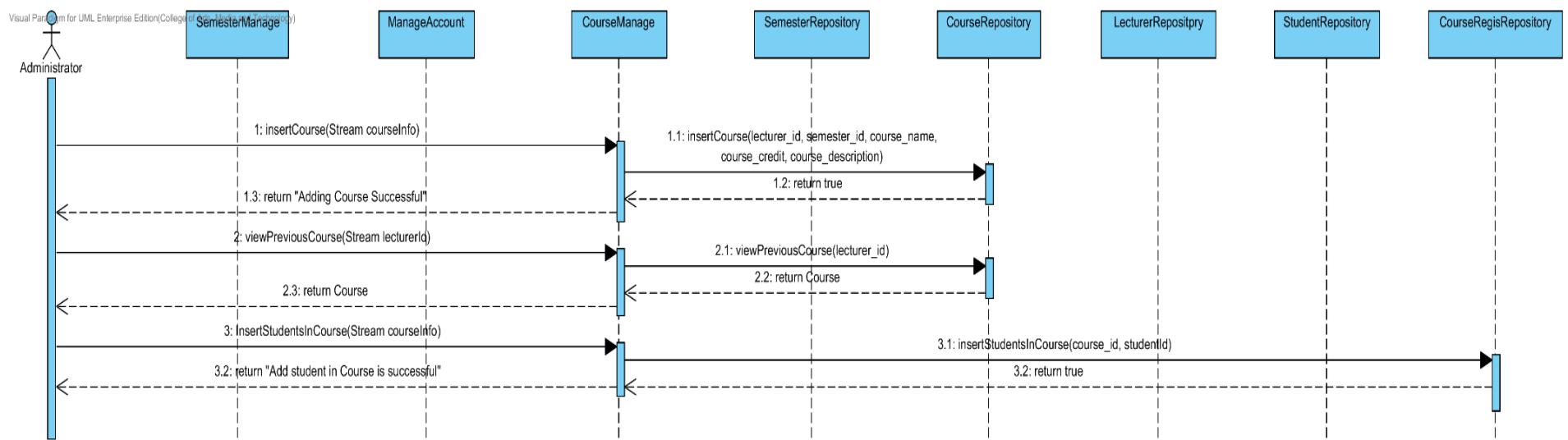
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### 3.2.12 Sequence Diagram (SD 12): Administrator creates a course.

: This sequence diagram responses to URS 17: Administrator can create a course.



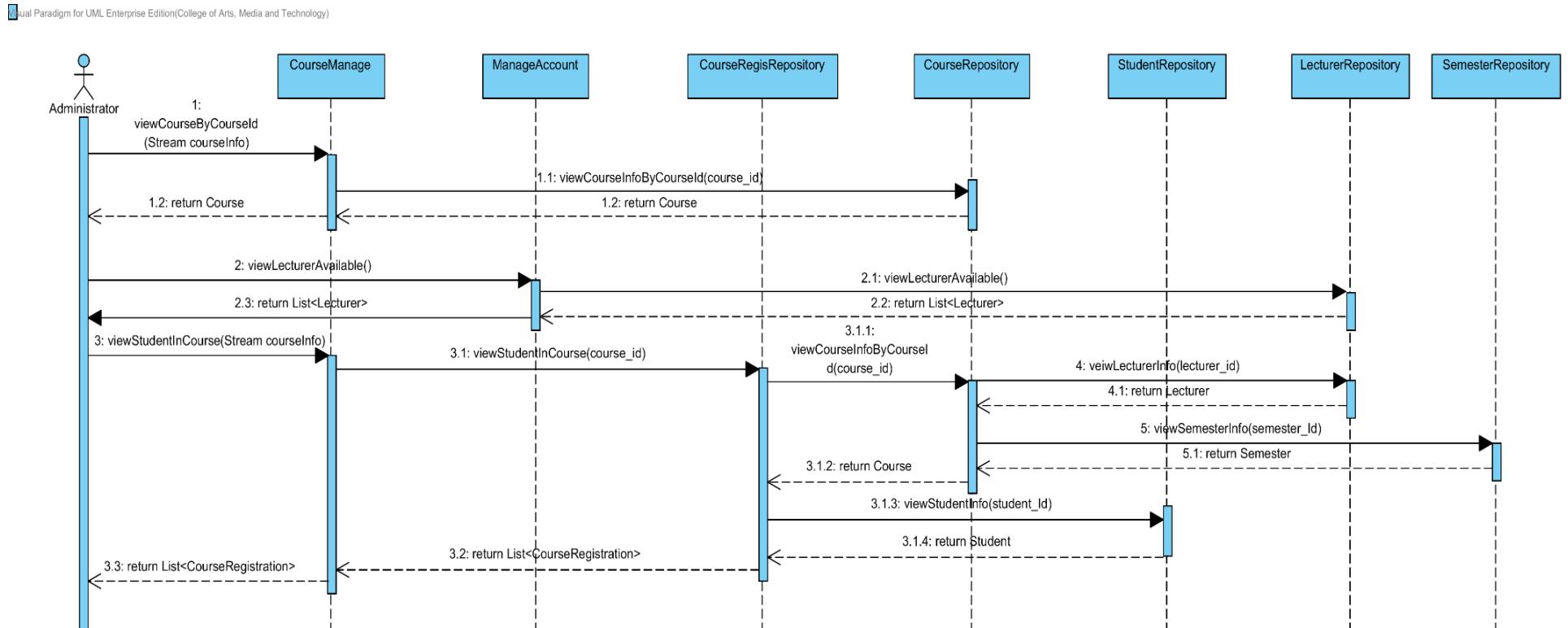
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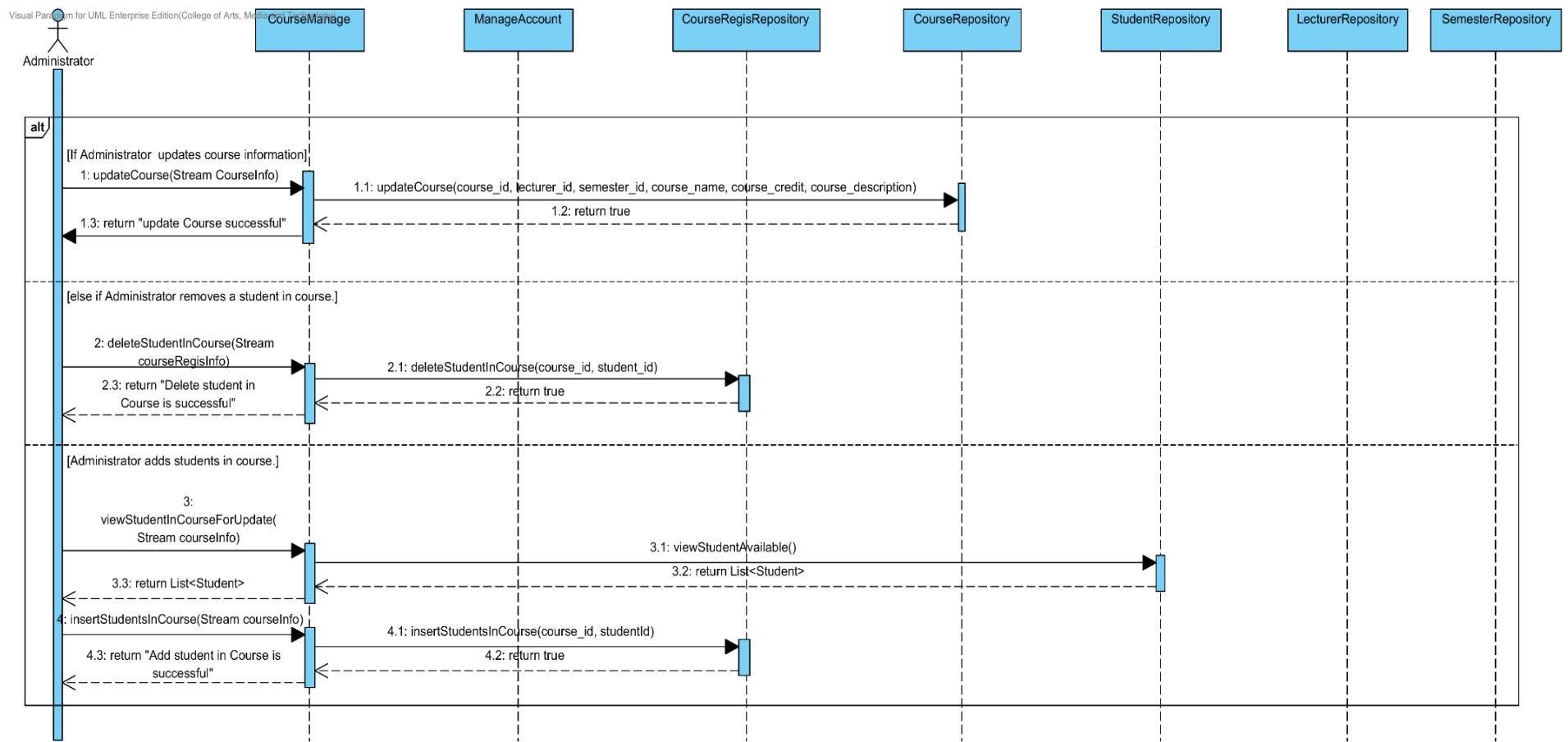
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### 3.2.13 Sequence Diagram (SD 13): Administrator edits a course.

: This sequence diagram responses to URS 18: The administrator can edit a course.



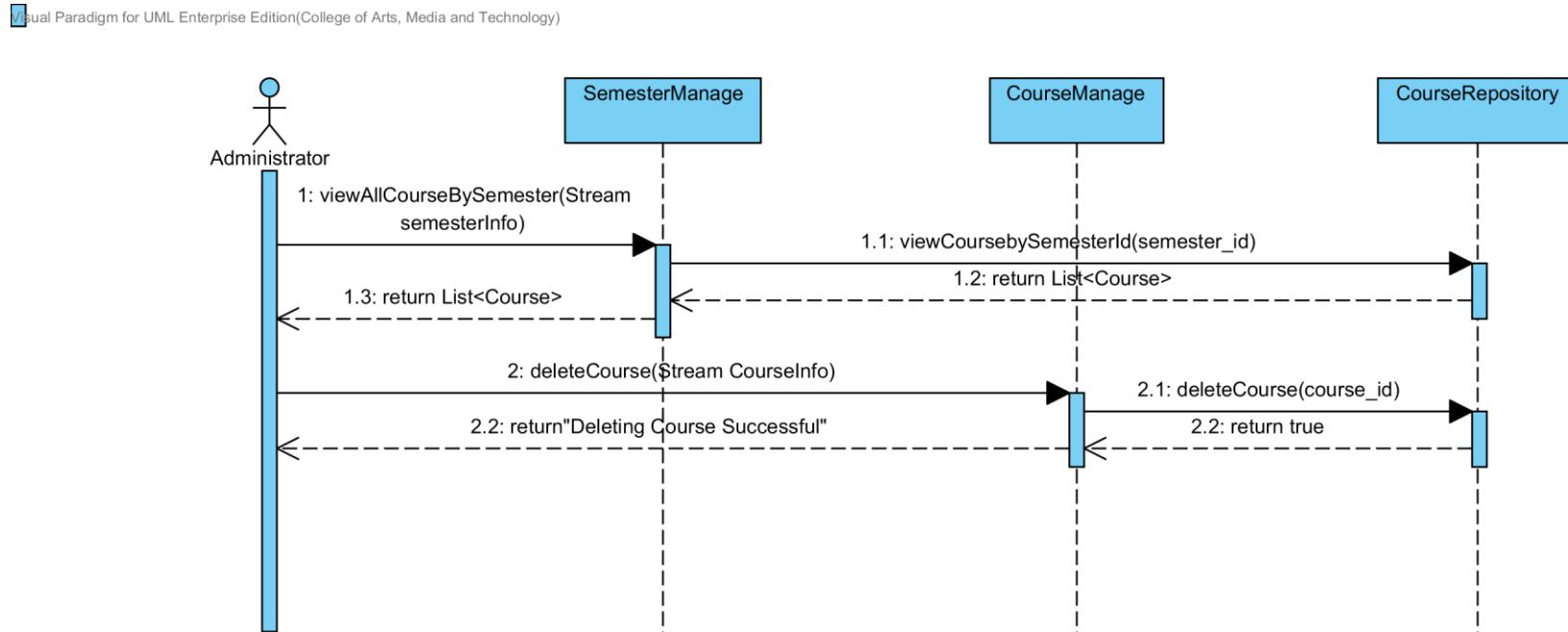
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### 3.2.14 Sequence Diagram (SD 14): Administrator remove a course.

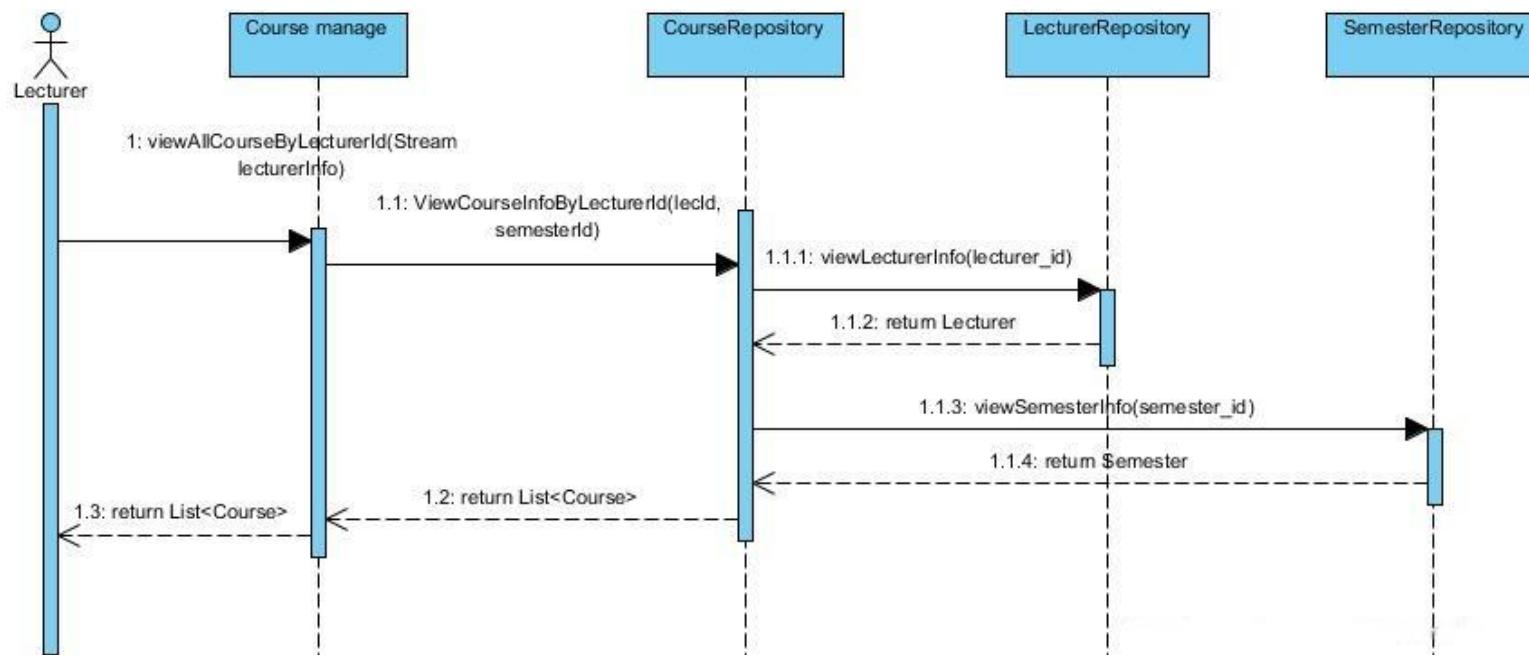
: This sequence diagram responses to URS 19: The Administrator can remove a course.



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### 3.2.15 Sequence Diagram (SD 15): Lecturer can choose course for creating/editing assignment and quiz.

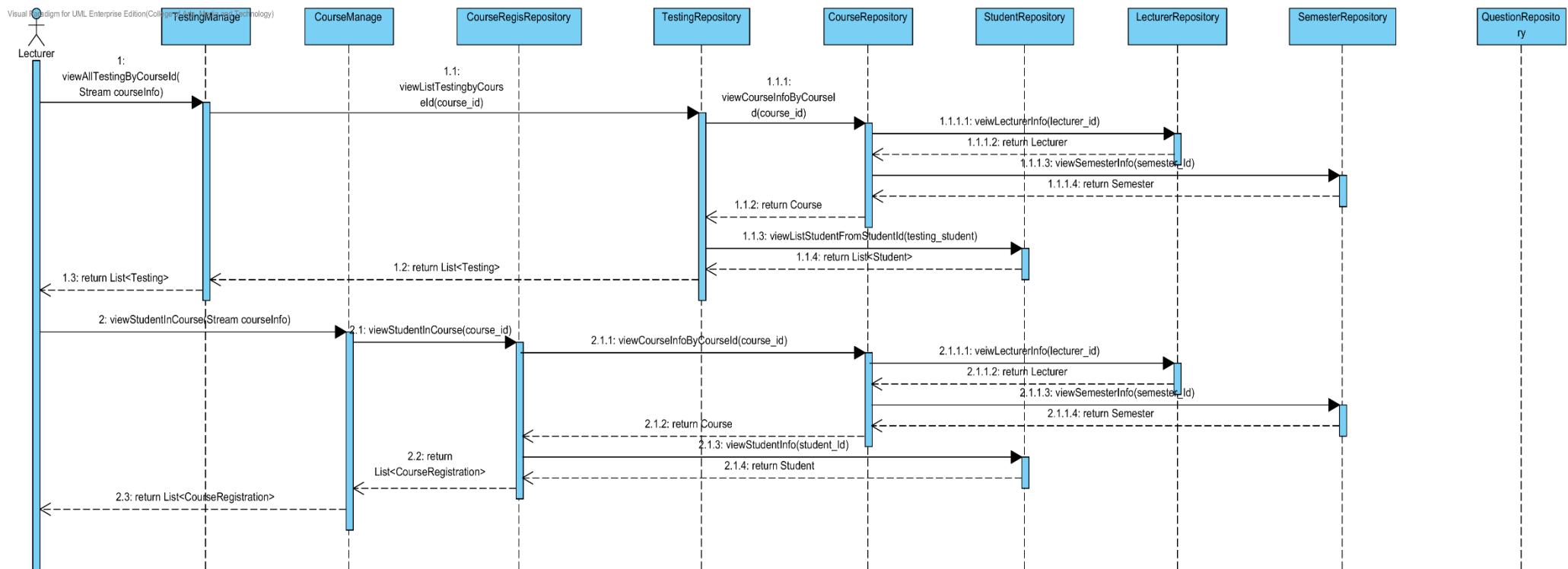
: This sequence diagram responses to URS 20: The lecturer can choose course for creating/editing assignment and quiz.



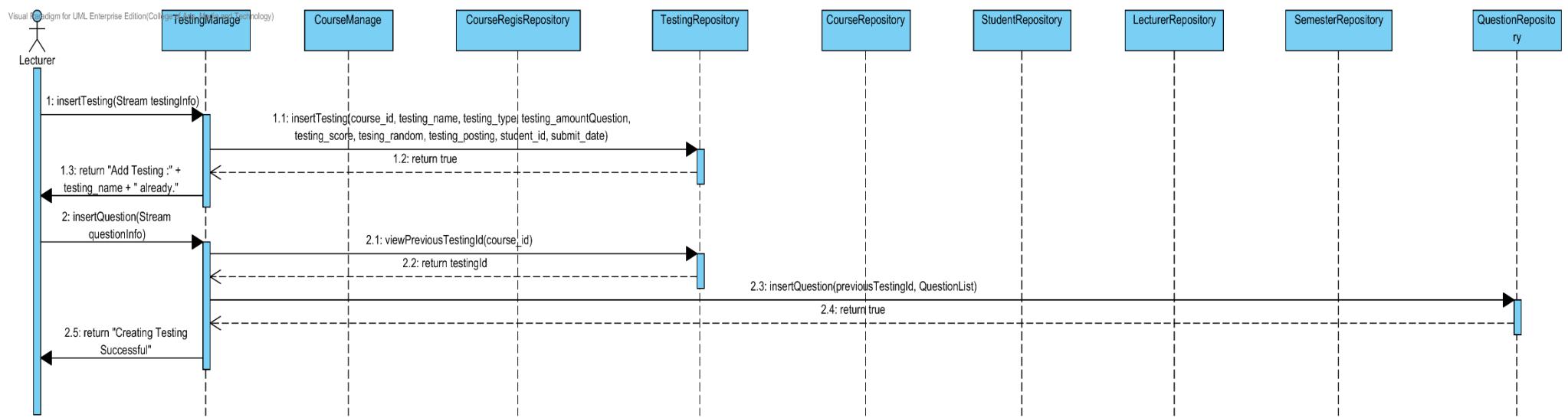
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### 3.2.16 Sequence Diagram (SD 16): Lecturer create assignments or quizzes which are multiple choices question, true/false question, and short answers to student in the adding test page.

: This sequence diagram responses to URS 21: The lecturer can create assignments or quizzes which are multiple choices question, true/false question, and short answers to student in the adding test page.



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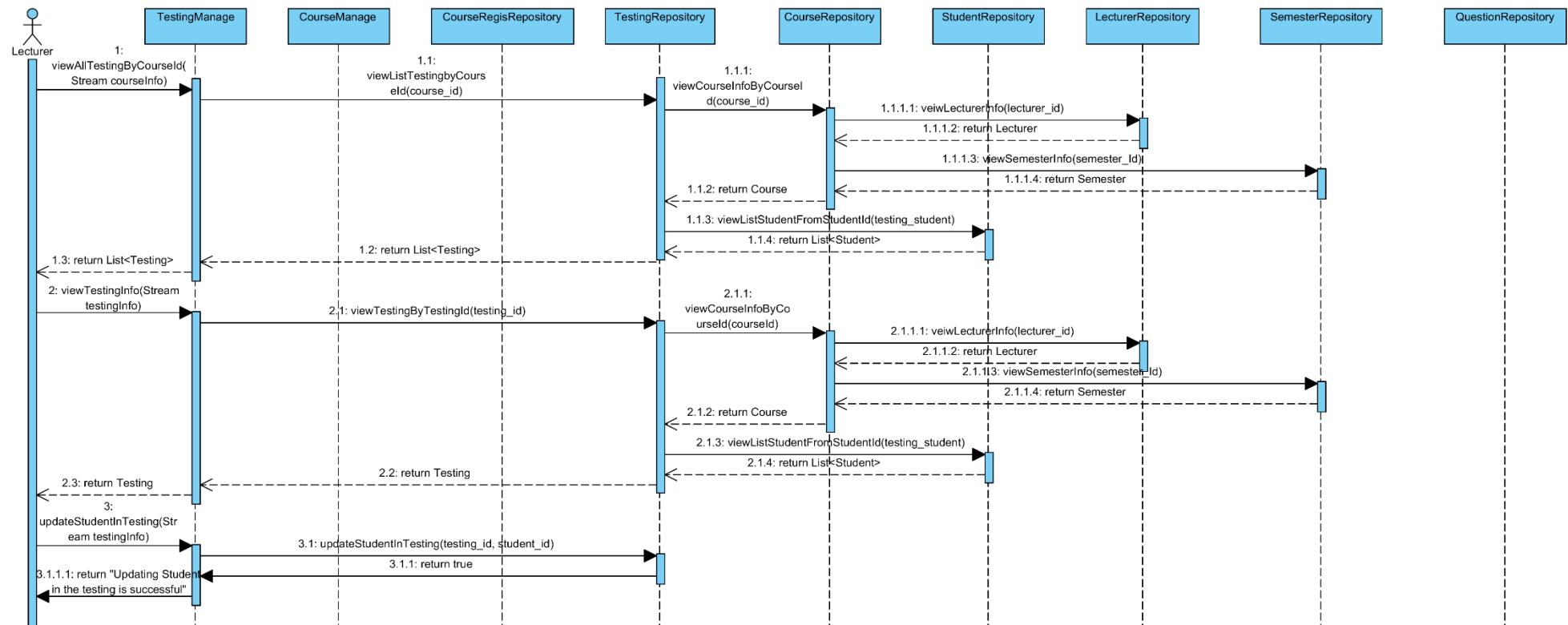


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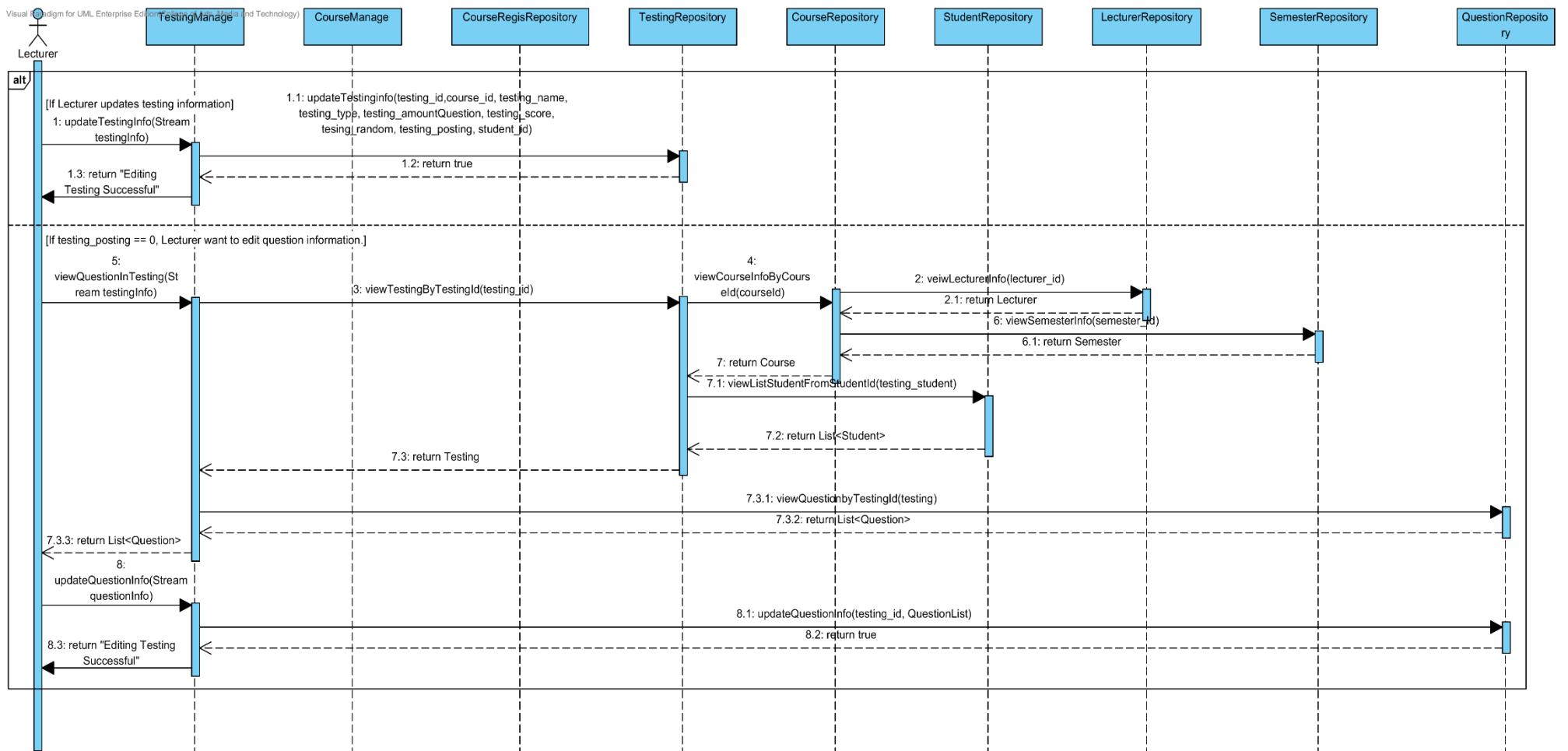
**3.2.17 Sequence Diagram (SD 17): Lecturer edit assignments or quizzes information which are multiple choices question, true/false question, and short answers in the edit test page.**

: This sequence diagram responses to URS 22: The lecturer can edit assignments or quizzes information which are multiple choices question, true/false question, and short answers in the edit test page.

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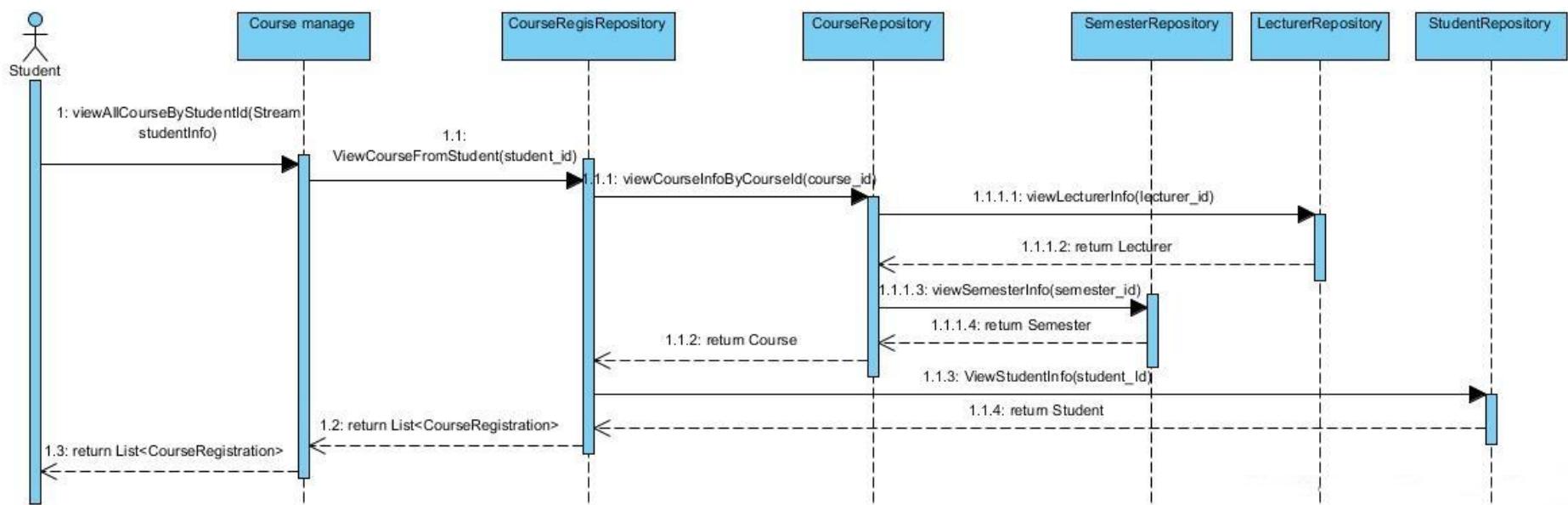


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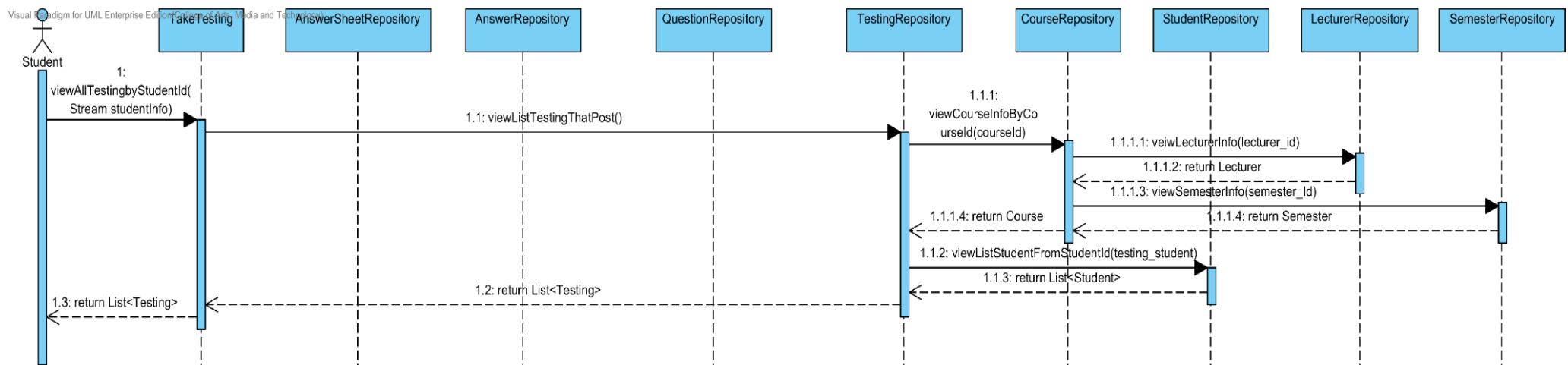
**3.2.18 Sequence Diagram (SD 18): Student choose course for taking assignment and quiz in course management page.**  
**: This sequence diagram responses to URS 23: The student can choose course for taking assignment and quiz in course management page.**



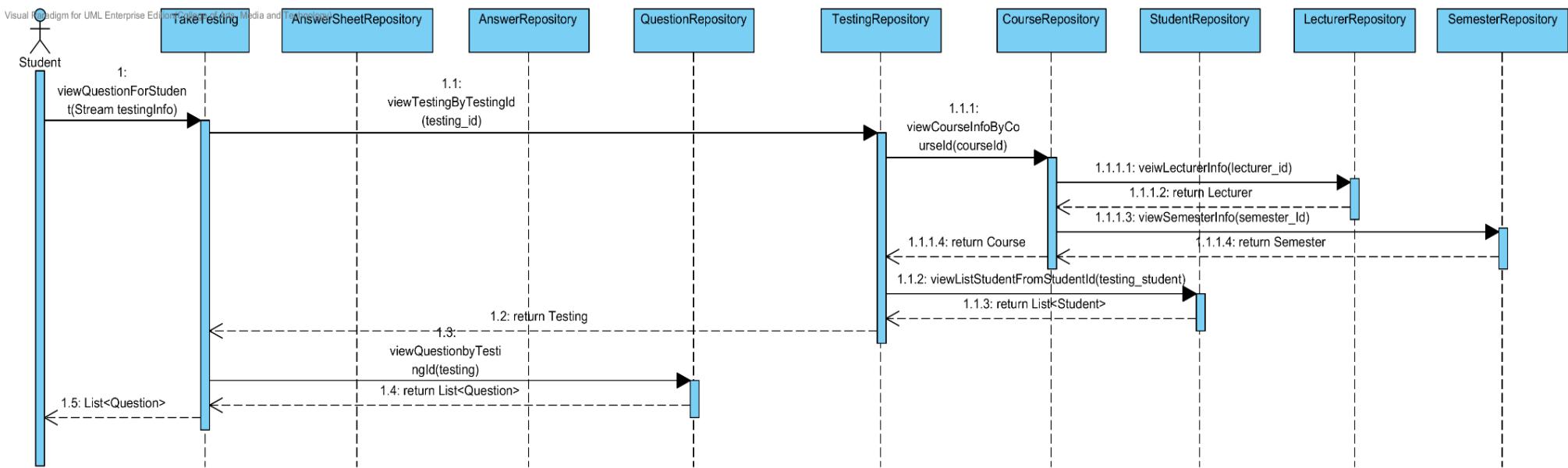
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**3.2.20 Sequence Diagram (SD 19): Student take assignments or quizzes which are multiple choices, true/false questions, and short answers from lecturer in the assignment or quiz page.**

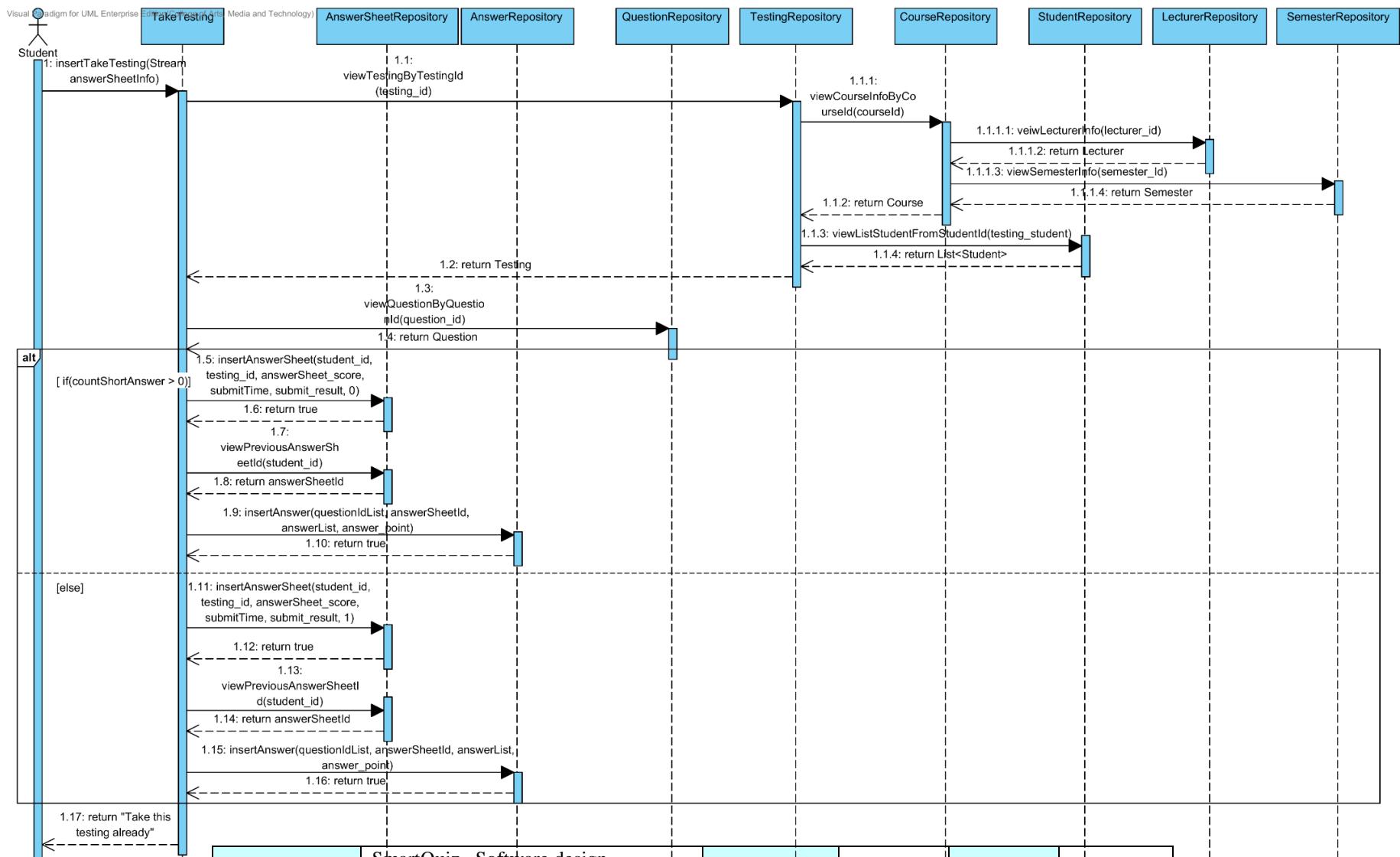
: This sequence diagram responses to URS 24: The student can take assignments or quizzes which are multiple choices, true/false questions, and short answers from lecturer in the assignment or quiz page.



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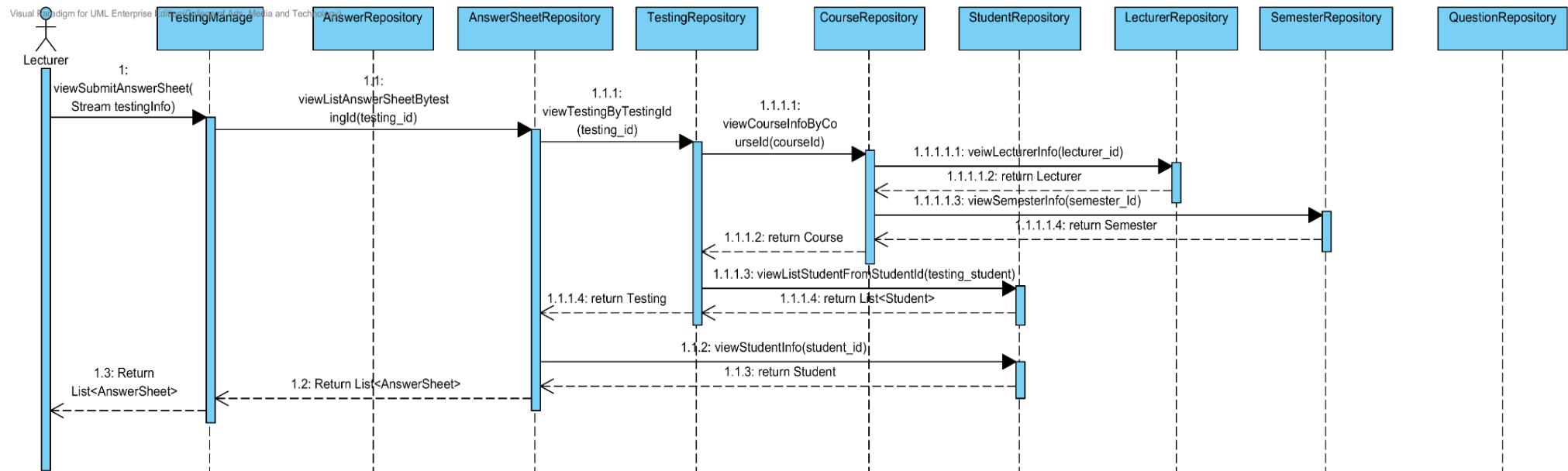
Document Name	SmartQuiz– Software design document_v2.0.docx	Owner	CS,SK	Page	135 / 175
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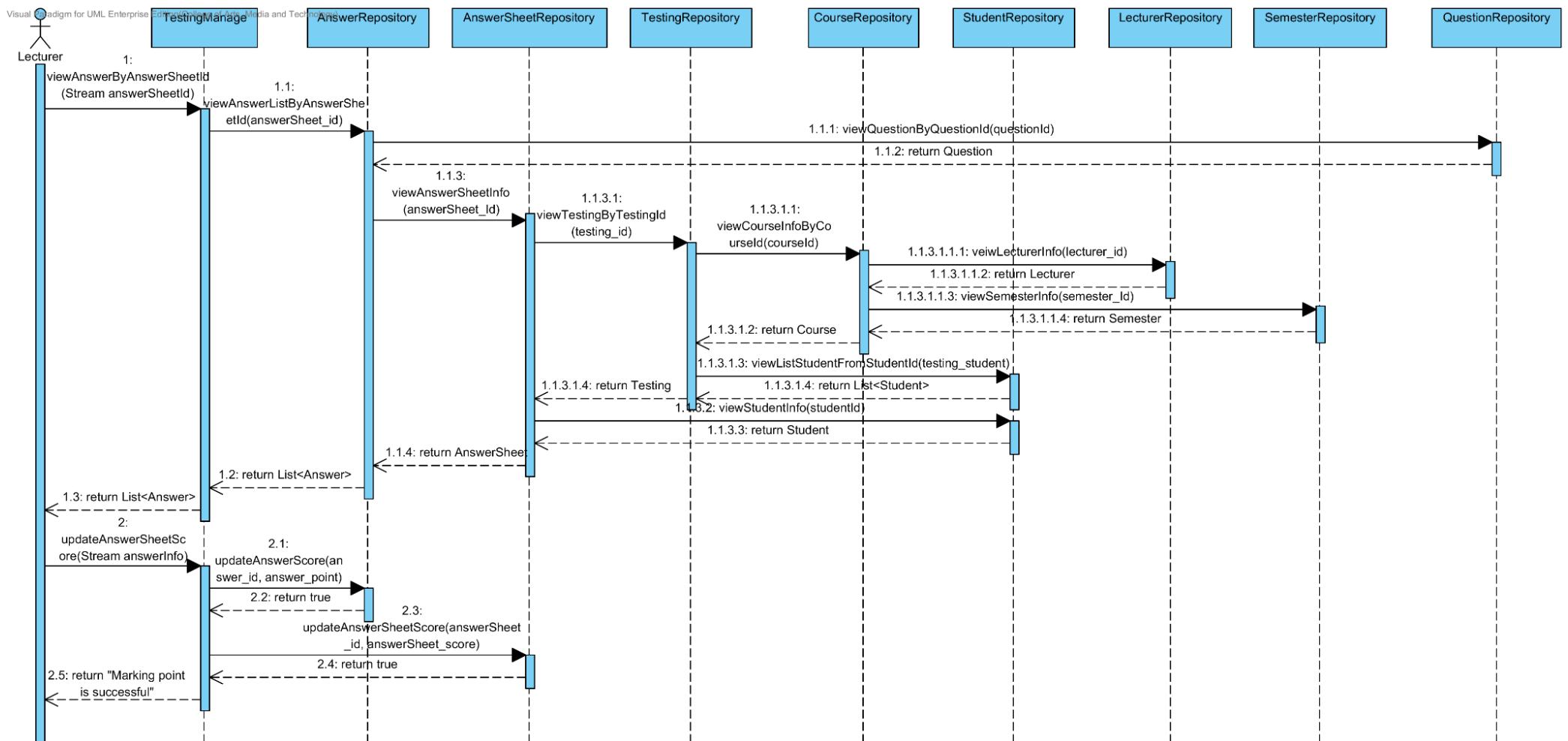
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### 3.2.21 Sequence Diagram (SD 20): Lecturer marks the point for student's short answer.

: This sequence diagram responses to URS 25: The lecturer can marks the point for student's short answer.



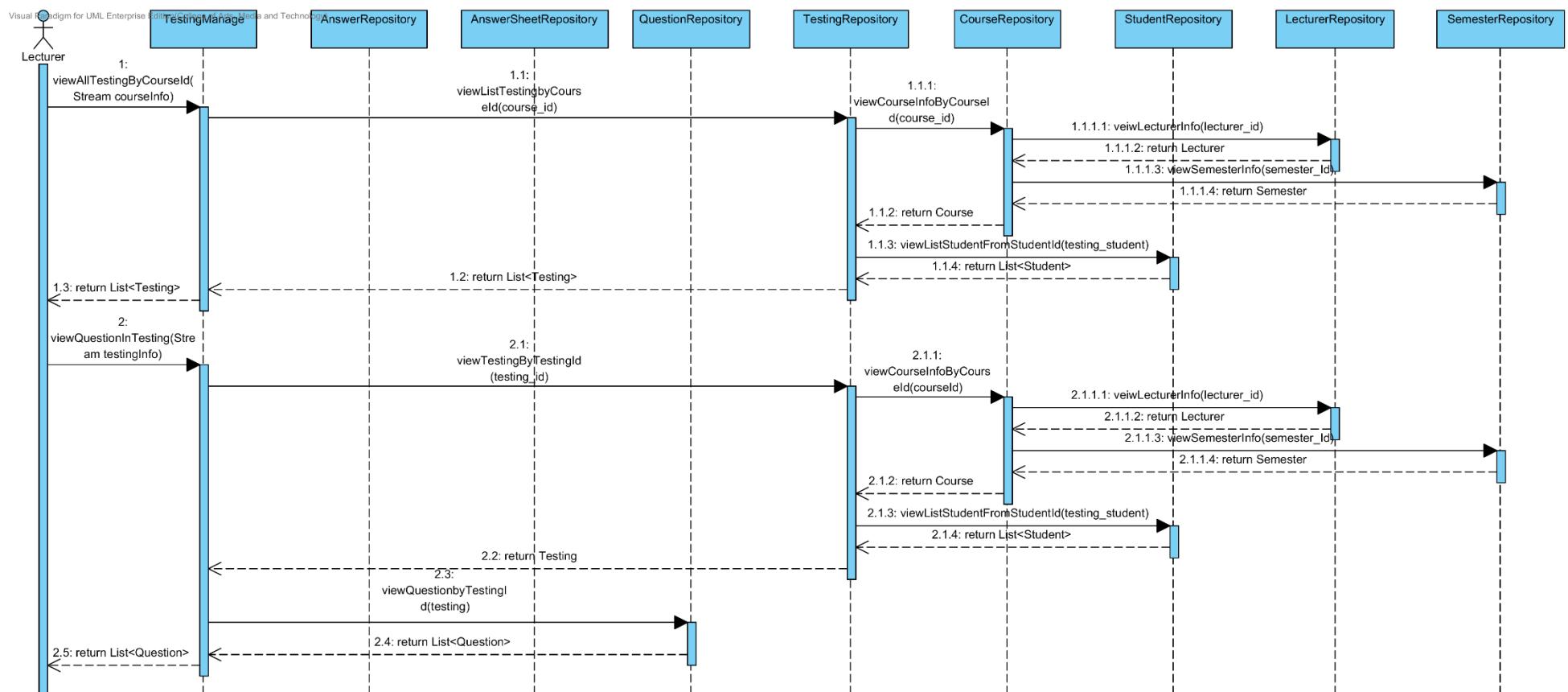
Document Name	SmartQuiz– Software design document_v2.0.docx	Owner	CS,SK	Page	137 / 175
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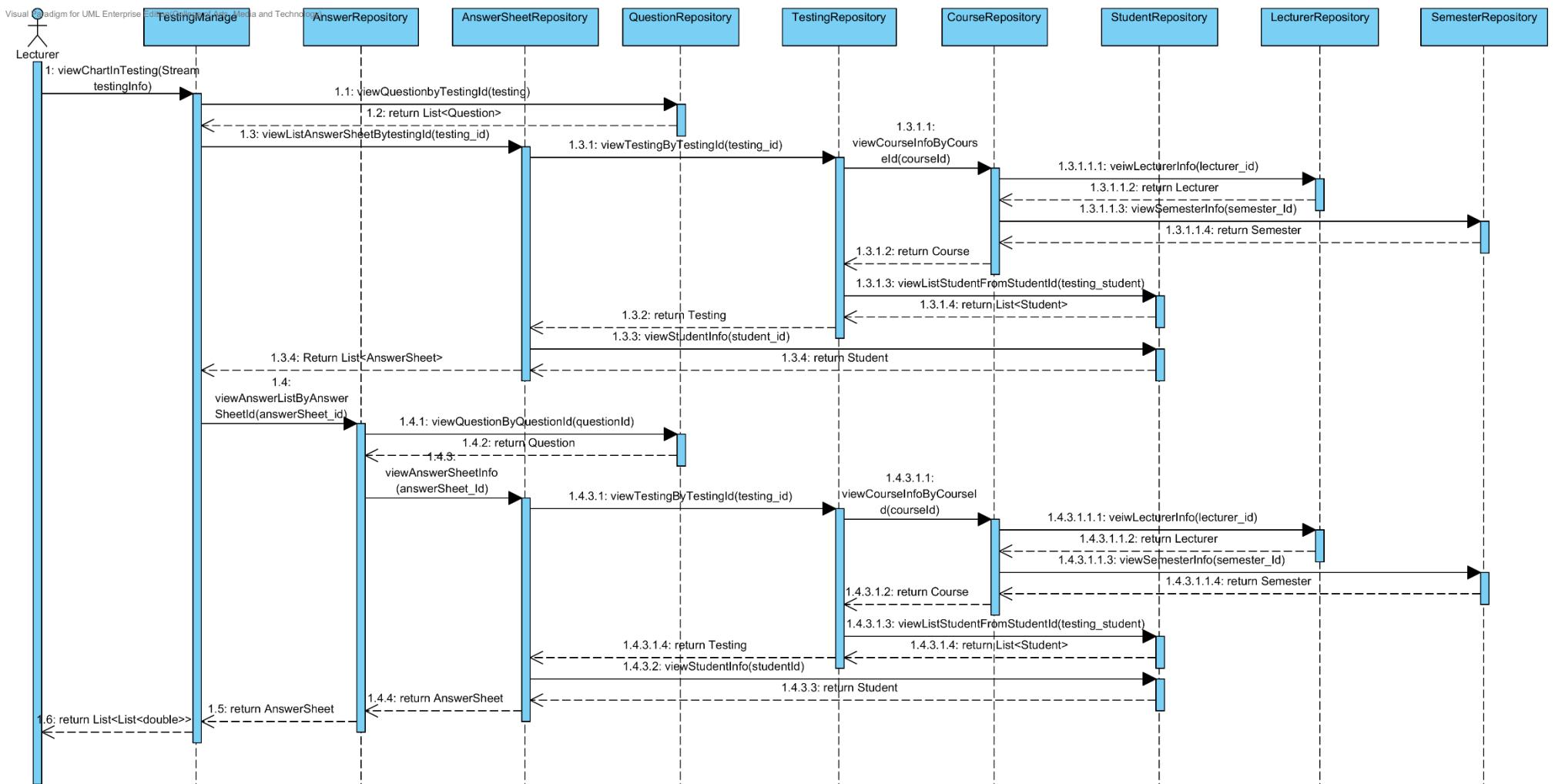
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### 3.2.22 Sequence Diagram (SD 21): Lecturer reviews overall student's answer in each choice of assignment or quiz in chart format.

: This sequence diagram responses to URS 26: Lecturer can review overall student's answer in each choice of assignment or quiz in chart format.



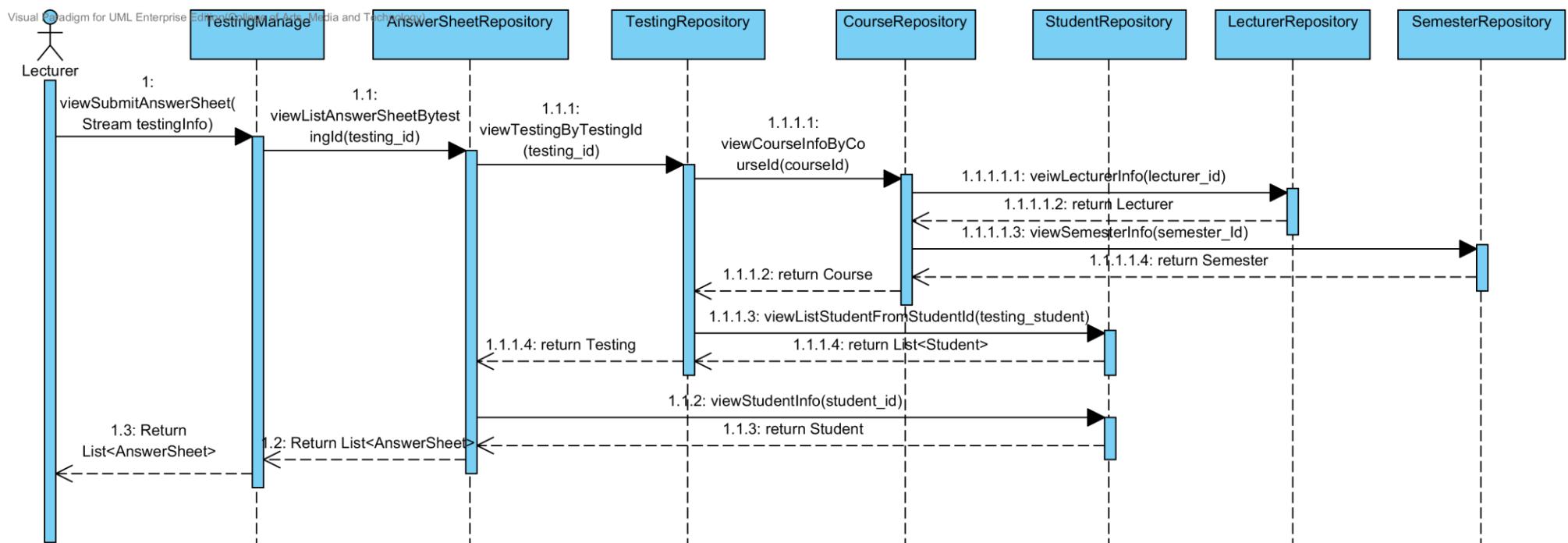
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### 3.2.23 Sequence Diagram (SD 22): Lecturer check the assignment that are submitted in time or not time.

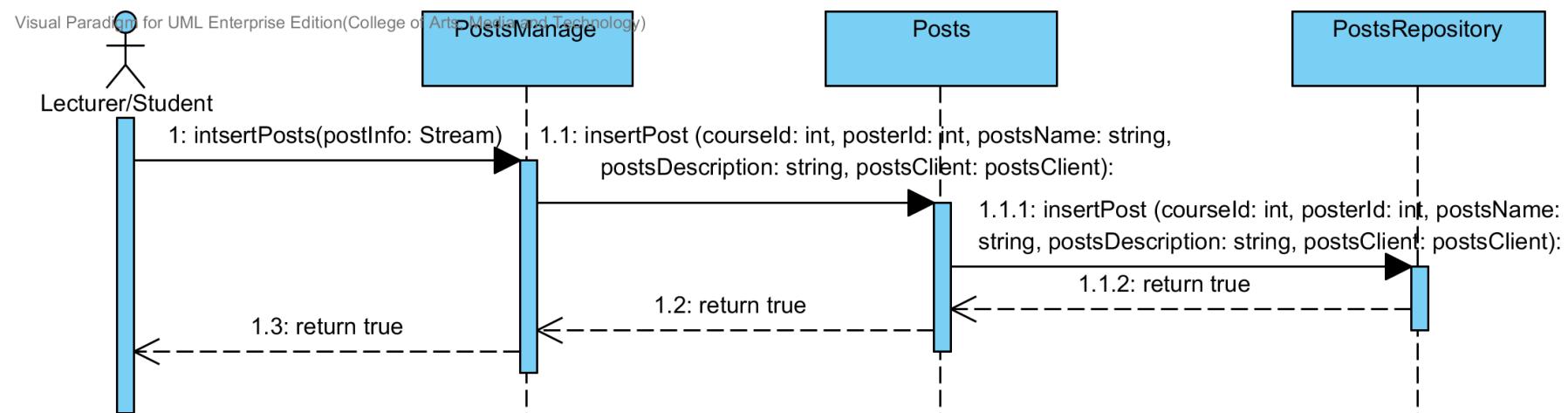
: This sequence diagram responses to URS 27: The lecturer can check the assignment that are submitted in time or not time.



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### 3.2.24 Sequence Diagram (SD 23): Lecturer/Student can post the question to each other.

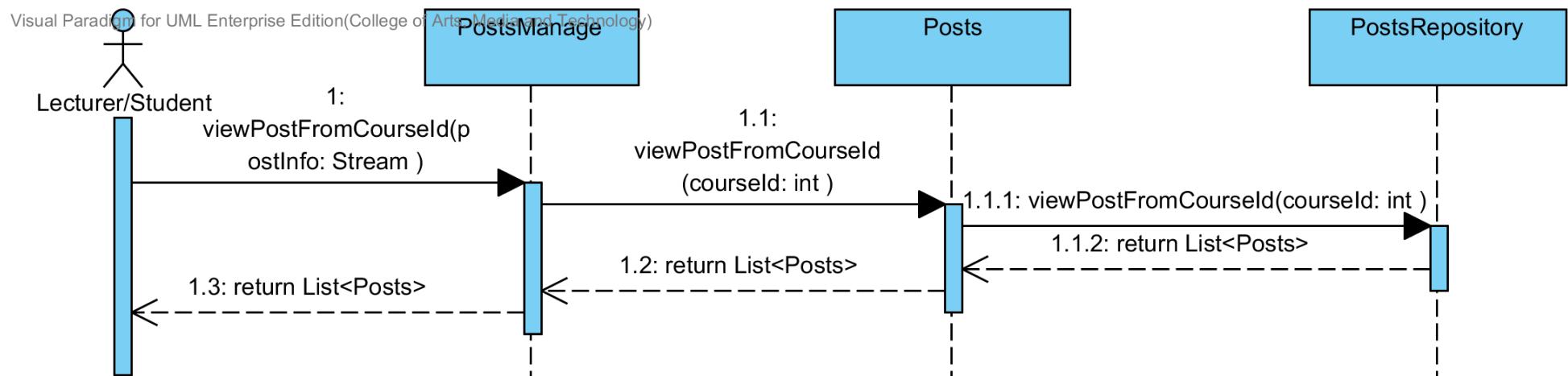
: This sequence diagram responses to URS 35: The student can post the question to lecturer in the post page, and URS 38: The lecturer can post the question to student in the post page.



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### 3.2.25 Sequence Diagram (SD 24): Lecturer/Student can reply the post to each other.

: This sequence diagram responses to URS 36: The student can reply the post from lecturer in the post page, and URS 39: The lecturer can reply the question to student in the post page.

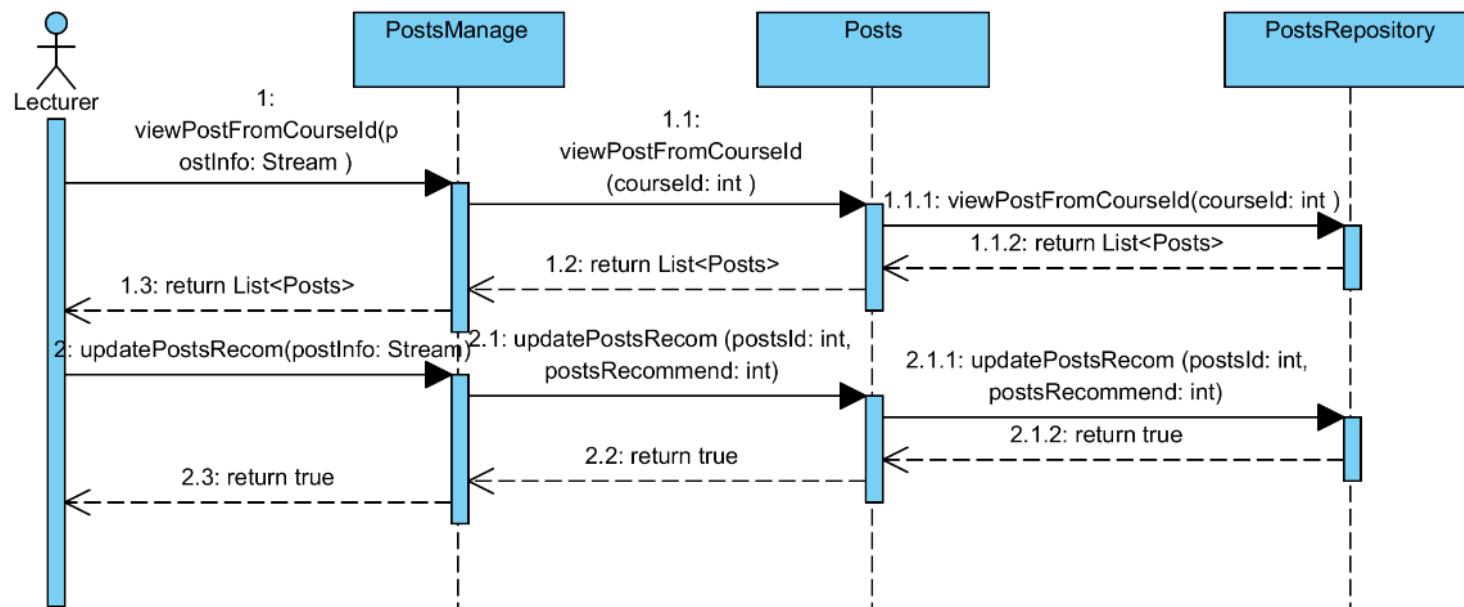


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### 3.2.26 Sequence Diagram (SD 25): Lecturer recommends the post

: This sequence diagram responses to URS 39: The lecturer can recommend the post.

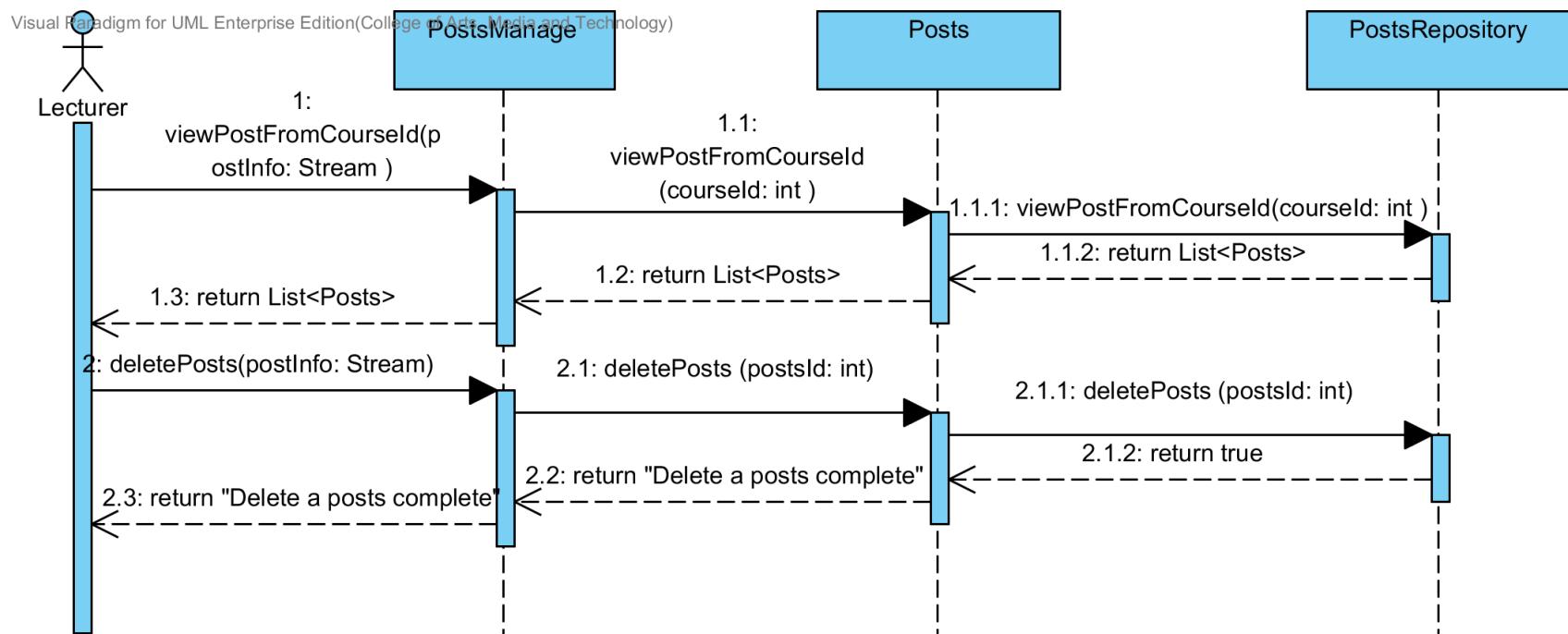
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### 3.2.27 Sequence Diagram (SD 26): Lecturer deletes the posts.

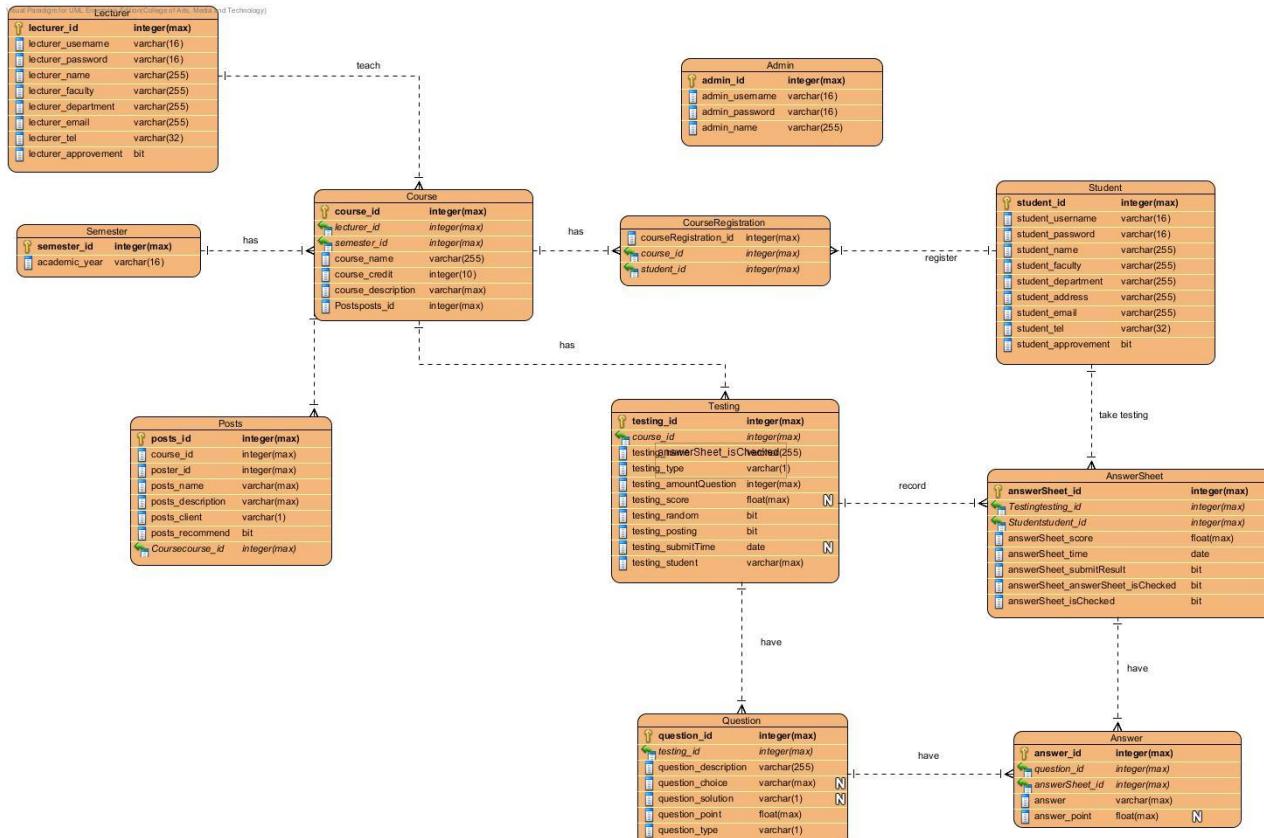
: This sequence diagram responses to URS 40: The lecturer can delete the post.



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# Chapter Four | Data Architecture

## 4.1 Database design



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### 3.3.1 Table Lecturer

**Description:** Lecturer table stores all the lecturer information.

Field Name	Description	Type	Length	Primary Key	Foreign Key	Nullable
lecturer_id	Unique Identifier of Lecturer	integer	max	PK	-	Not Null
lecturer_username	Username of Lecturer	varchar	16	-	-	Not Null
lecturer_password	Password of Lecturer	varchar	16	-	-	Not Null
lecturer_name	Name of Lecturer	varchar	255	-	-	Not Null
lecturer_faculty	Faculty of Lecturer	varchar	255	-	-	Not Null
lecturer_department	Description of Lecturer	varchar	255	-	-	Not Null
lecturer_email	Email of Lecturer	varchar	255	-	-	Not Null
lecturer_tel	Tel of Lecturer	varchar	32	-	-	Not Null
lecturer_approval	Approval status of lecturer account	bit	1	-	-	Not Null

### 3.3.2 Table Student

**Description:** Student table stores all the student information.

Field Name	Description	Type	Length	Primary Key	Foreign Key	Nullable
student_id	Unique Identifier of Student	integer	max	PK	-	Not Null
student_username	Username of Student	varchar	16	-	-	Not Null

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student_password	Password of Student	varchar	16	-	-	Not Null
student_name	Name of Student	varchar	255	-	-	Not Null
student_faculty	Faculty of Student	varchar	255	-	-	Not Null
student_department	Description of Student	varchar	255	-	-	Not Null
student_addresses	Address of Student	varchar	255	-	-	Not Null
student_email	Email of Student	varchar	255	-	-	Not Null
student_tel	Tel of Student	varchar	32	-	-	Not Null
student_approval	Approval status of Student account	bit	1	-	-	Not Null

### 3.3.3 Table Admin

**Description:** Admin table stores all the admin information.

Field Name	Description	Type	Length	Primary Key	Foreign Key	Nullable
admin_id	Unique Identifier of Admin	integer	max	PK	-	Not Null
admin_username	Username of Admin	varchar	16	-	-	Not Null
admin_password	Password of Admin	varchar	16	-	-	Not Null
admin_name	Name of Admin	varchar	255	-	-	Not Null

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### 3.3.4 Table Semester

**Description:** Semester table stores all the semester information.

Field Name	Description	Type	Length	Primary Key	Foreign Key	Nullable
semester_id	Unique Identifier of Semester	integer	max	PK	-	Not Null
academic_year	Academic year information	varchar	16	-	-	Not Null

### 3.3.5 Table Course

**Description:** Course table stores all the course information.

Field Name	Description	Type	Length	Primary Key	Foreign Key	Nullable
course_id	Unique Identifier of Course	integer	max	PK	-	Not Null
lecturer_id	Unique Identifier of Lecturer	integer	max	-	FK	Not Null
semester_id	Unique Identifier of Semester	integer	max		FK	Not Null
course_name	Name of Course	varchar	255	-	-	Not Null
course_credit	Credit of Course	int	max	-	-	Not Null
course_descrip tion	Description of Course	varchar	max	-	-	Not Null

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### 3.3.6 Table Course Registration

**Description:** Course Registration table stores all the student's registration information.

Field Name	Description	Type	Length	Primary Key	Foreign Key	Nullable
courseRegistration_id	Unique Identifier of Course registration	integer	max	PK	-	Not Null
course_id	Unique Identifier of Course	integer	max	-	FK	Not Null
student_id	Unique Identifier of Student	integer	max	-	FK	Not Null

### 3.3.7 Table Testing

**Description:** Testing table stores all the testing information.

Field Name	Description	Type	Length	Primary Key	Foreign Key	Nullable
testing_id	Unique Identifier of Testing	integer	max	PK	-	Not Null
course_id	Unique Identifier of Course	integer	max	-	FK	Not Null
testing_name	Name of Testing	varchar	255	-	-	Not Null
testing_type	Type of Testing	varchar	1	-	-	Not Null
testing_amountQuestion	Amount of questions in Testing	integer	max	-	-	Not Null
testing_score	Score of Testing	float	max	-	-	Not Null

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testing_random	Random status of Testing	bit	1	-	-	Not Null
testing_posting	Posting status of Testing	bit	1	-	-	Not Null
testing_submit Time	Submit Time of Testing	datetime 2	max	-	-	Null
testing_student	Student of Testing	varchar	max	-	-	Not Null

### 3.3.8 Table Question

**Description:** Question table stores all the question information.

Field Name	Description	Type	Length	Primary Key	Foreign Key	Nullable
question_id	Unique Identifier of Question	integer	max	PK	-	Not Null
testing_id	Unique Identifier of Testing	integer	max	-	FK	Not Null
question_description	Description of Question	varchar	max	-	-	Not Null
question_choices	Choices of Question	varchar	max	-	-	Null
question_solution	Solution of Question	varchar	1	-	-	Null
question_point	Point of Question	float	max	-	-	Not Null
question_type	Type of Question	varchar	1	-	-	Not Null

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### 3.3.9 Table AnswerSheet

**Description:** AnswerSheet table stores all the answer sheet information.

Field Name	Description	Type	Length	Primary Key	Foreign Key	Nullable
answerSheet_id	Unique Identifier of Answer Sheet	integer	max	PK	-	Not Null
student_id	Unique Identifier of Student	integer	max	-	FK	Not Null
testing_id	Unique Identifier of Testing	integer	max	-	FK	Not Null
answerSheet_score	Score of Answer sheet	varchar	max	-	-	Not Null
answerSheet_time	Time of Answer sheet	varchar	max	-	-	Not Null
answerSheet_submitResult	Submit result of Answer sheet	varchar	1	-	-	Null
answerSheet_isChecked	Status of marking point in answer sheet	varchar	1	-	-	Not Null

### 3.3.10 Table Answer

**Description:** AnswerSheet table stores all the answer sheet information.

Field Name	Description	Type	Length	Primary Key	Foreign Key	Nullable
answer_id	Unique Identifier of Answer	integer	max	PK	-	Not Null
question_id	Unique Identifier of Question	integer	max	-	FK	Not Null

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answerSheet_id	Unique Identifier of Answer Sheet	integer	max	-	FK	Not Null
answer	Answer detail	varchar	max	-	-	Not Null
answer_point	Point of Answer	float	max	-	-	Null

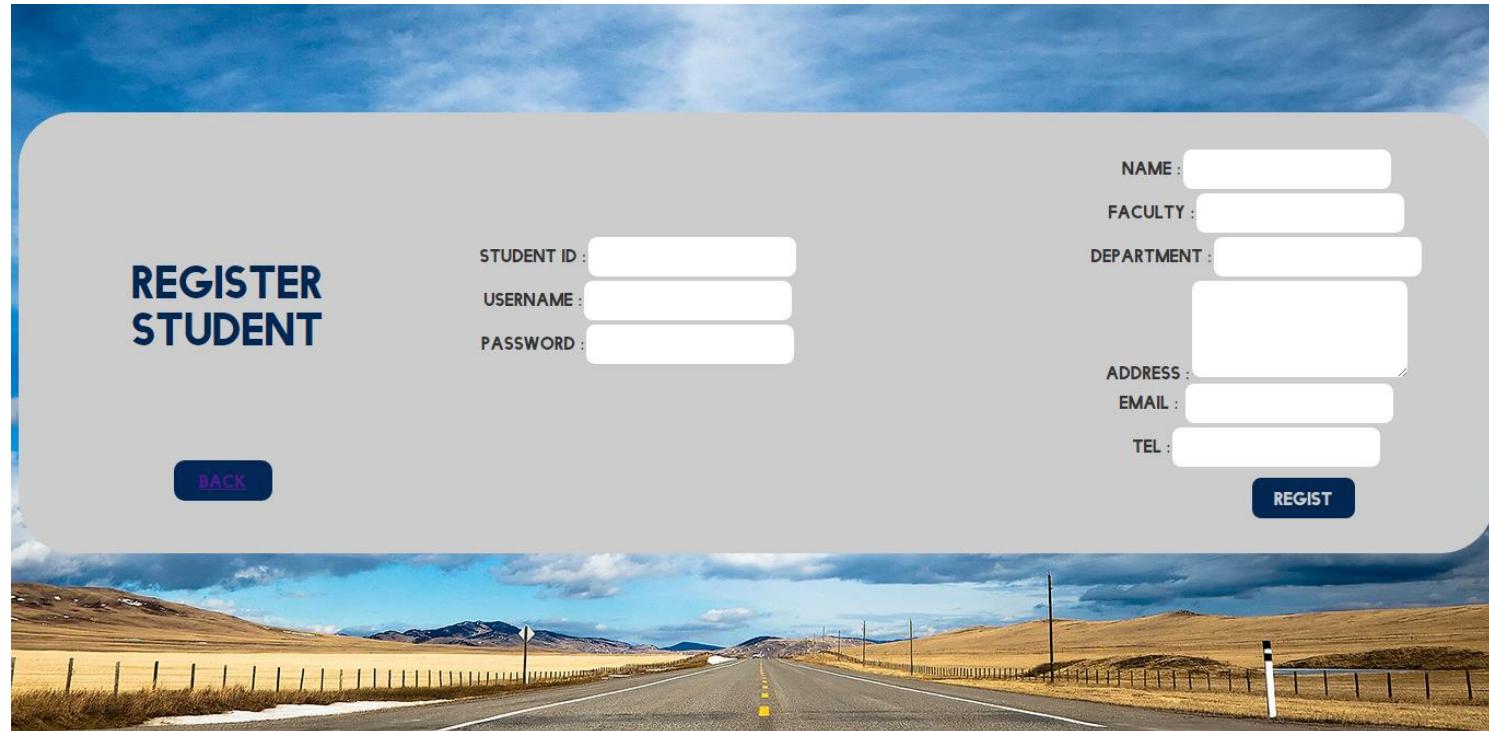
### 3.3.11 Posts

Field Name	Description	Type	Length	Primary Key	Foreign Key	Nullable
posts_id	Unique Identifier of posts	integer	max	PK	-	Not Null
course_id	Unique Identifier of course	integer	max	-	FK	Not Null
poster_id	Id of poster	integer	max	-	-	Not Null
posts_name	Name of posts	varchar	max	-	-	Not Null
posts_descripti on	Description of posts	varchar	max	-	-	Not Null
posts_client	Type of client that want to posts.	varchar	1	-	-	Not Null
posts_recomm end	Recommend status of posts	int	max	-	-	Not Null

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# Chapter Five | User Interface Design

UID 01 - Student Register



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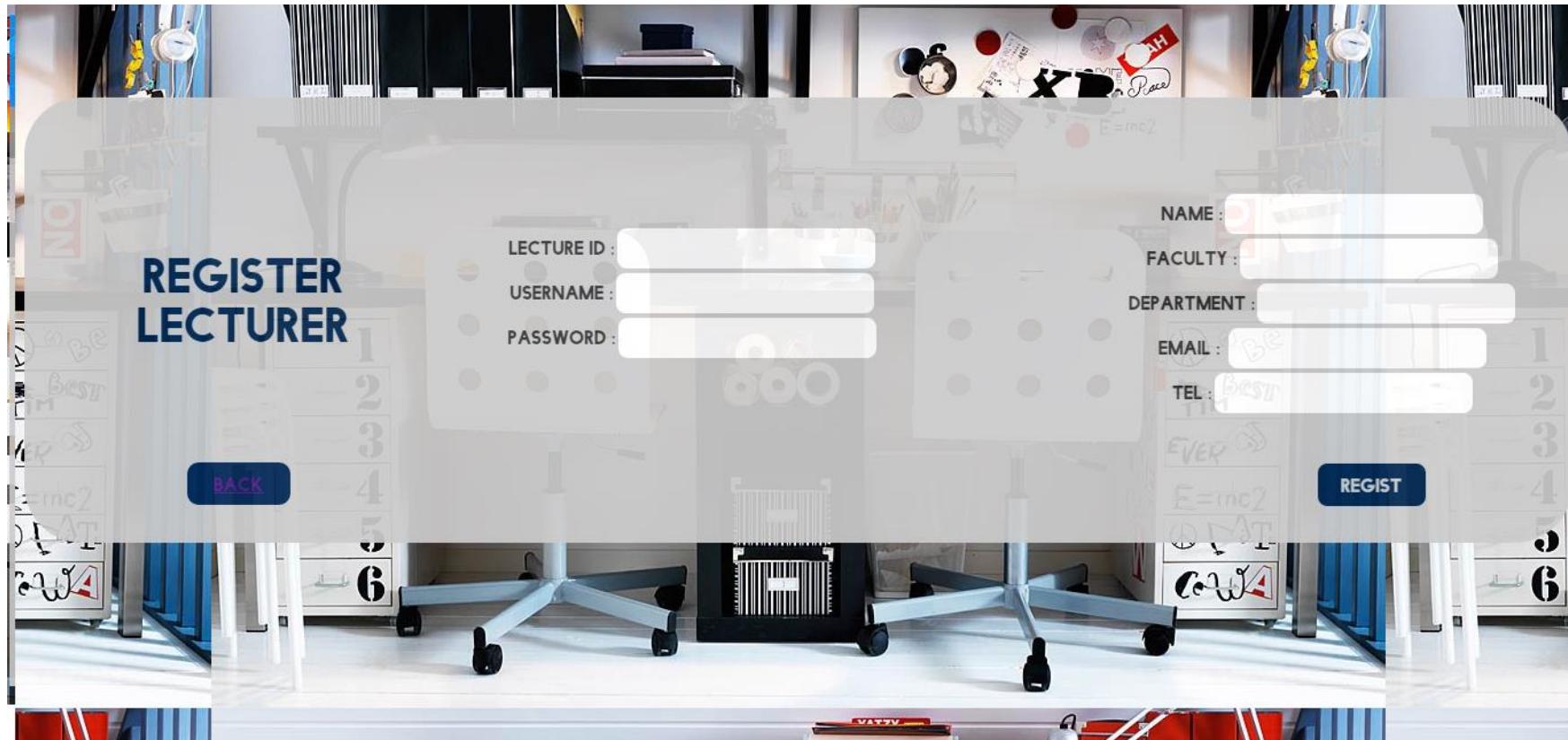
# STUDENT PERSONAL INFORMATION

ID: 542115064 STUDENT USERNAME: STUDENTI  
STUDENT NAME: STUDENT  
STUDENT FACULTY: CAMT  
STUDENT DEPARTMENT: CAMT  
STUDENT EMAIL:   
TEL:   
PASSWORD: .....  
CONFIRM PASSWORD:

[EDIT](#) [BACK](#) [LOG OUT](#)

Document Name	SmartQuiz– Software design document_v2.0.docx	Owner	CS,SK	Page	155 / 175
Document Type	Software Design Document	Release Date	16 July 2015	Print Date	

UID 03 Lecturer Register



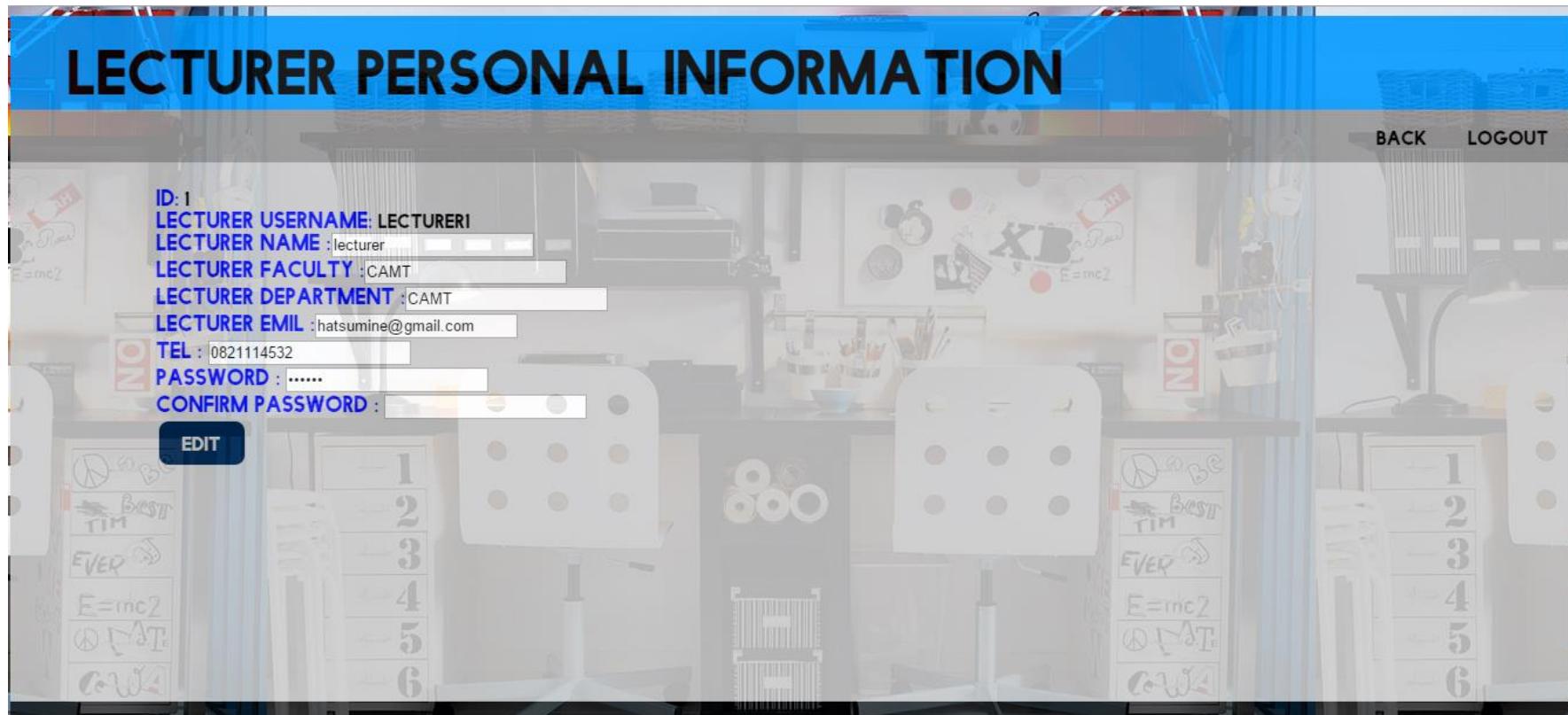
Document Name	SmartQuiz– Software design document_v2.0.docx	Owner	CS,SK	Page	156 / 175
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# LECTURER PERSONAL INFORMATION

BACK LOGOUT

ID: 1  
LECTURER USERNAME: LECTURER1  
LECTURER NAME :lecturer  
LECTURER FACULTY :CAMT  
LECTURER DEPARTMENT :CAMT  
LECTURER EMAIL :hatsumine@gmail.com  
TEL : 0821114532  
PASSWORD : .....  
CONFIRM PASSWORD : .....

EDIT



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UI 05 - Approve Account

# APPROVE STUDENT PAGE

USER : ADMIN ID : 1

MANAGE ACCOUNT SEMESTER MANAGEMENT COURSE MANAGEMENT LOG OUT

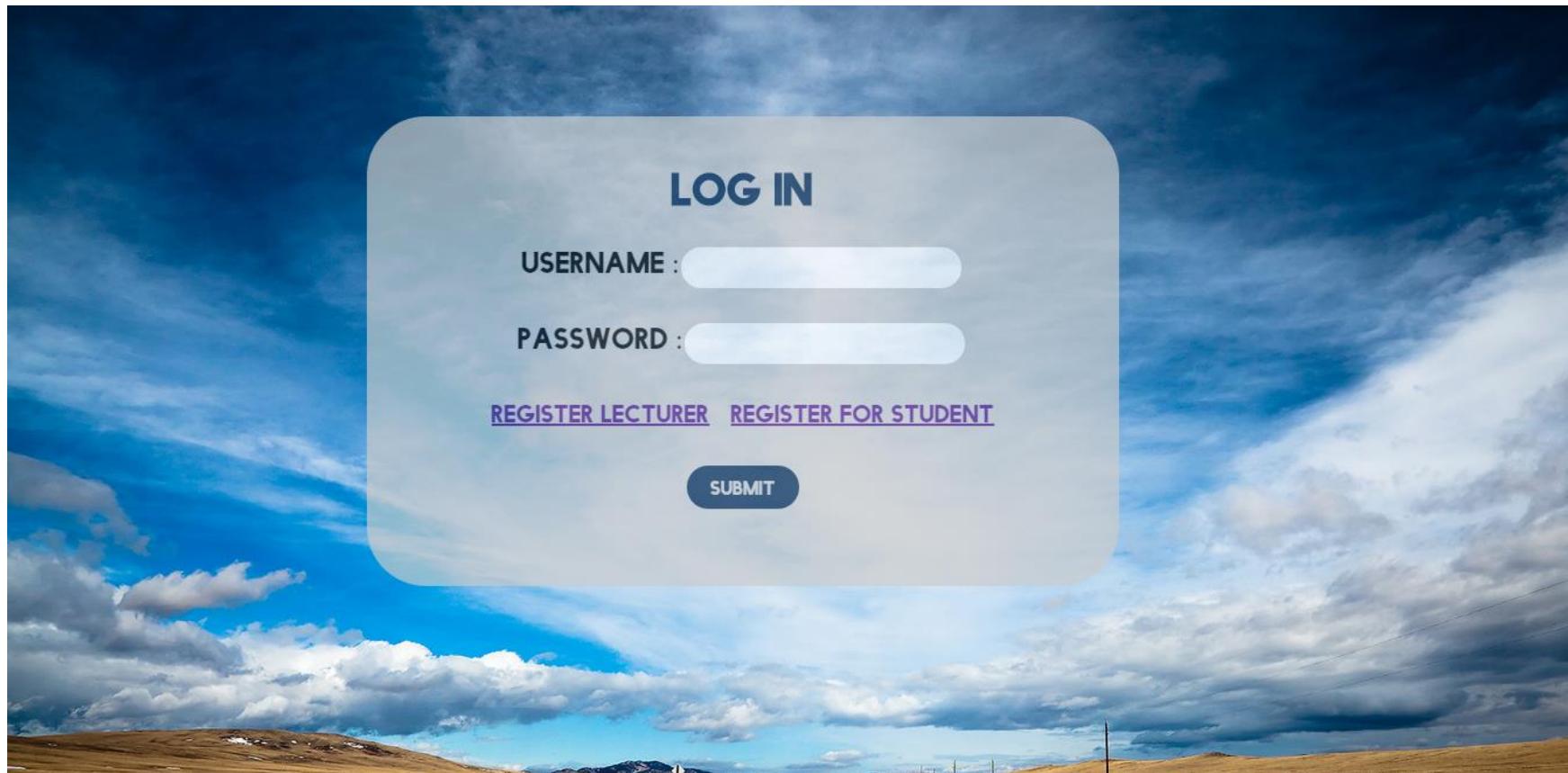
APPROVE LECTURER APPROVE STUDENT AVAILABLE LECTURER AVAILABLE STUDENT BACK TO ADMIN MAIN PAGE

NO.	STUDENT ID	STUDENT USERNAME	STUDENT PASSWORD	STUDENT NAME	STUDENT FACULTY	STUDENT DEPARTMENT	STUDENT TEL
1	542115088	CHAICHAN	I23456	CHAICHAN SUTEE	22	33	0978542215 <input checked="" type="checkbox"/>
2	542115099	SUPAWIT	I23456789	SUPAWIT KAMJINA	SSS	DDD	0979203312 <input checked="" type="checkbox"/>
3	552110066	STUDENT6	I23456	STUDENT6	HUMANITIES	HUMANITIES	0966785436 <input checked="" type="checkbox"/>
4	552115075	STUDENTS5	I23456	STUDENTS5	HUMANITIES	HUMANITIES	0934723741 <input checked="" type="checkbox"/>

**APPROVE**

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UID 06 - Login



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Document Type	Software Design Document	Release Date	16 July 2015	Print Date	

UID 07 - Student View Course

# COURSE INFORMATION

ID 5  
COURSE NAME MATH  
COURSE CREDIT 4  
COURSE DESCRIPTION MATH FOR SE  
SEMESTER 2/2558  
LECTURER NAME LECTURER

## STUDENT IN COURSE

NO.	STUDENT ID	STUDENT NAME	FACULTY	DEPARTMENT	STUDENT EMAIL
1	542115033	STUDENT3	CAMT	CAMT	
2	542115044	STUDENT4	CAMT	CAMT	
3	542115055	STUDENT2	CAMT	CAMT	
4	542115064	STUDENT	CAMT	CAMT	

USER : STUDENT ID : 542115064  
[BACK TO OVER ALL COURSE PAGE](#) [LOG OUT](#)

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# COURSE INFORMATION

USER : LECTURER ID : 1

[BACK TO COURSE MAIN PAGE](#) [LOG OUT](#)

ID 5  
COURSE NAME MATH  
COURSE CREDIT 4  
COURSE DESCRIPTION MATH FOR SE  
SEMESTER 2/2558  
LECTURER NAME LECTURER

## STUDENT IN COURSE

NO.	STUDENT ID	STUDENT NAME	STUDENT FACULTY	STUDENT DEPARTMENT	STUDENT EMAIL
1	542II5033	STUDENT3	CAMT	CAMT	SE542II5033@VR.CAMT.INFO
2	542II5044	STUDENT4	CAMT	CAMT	SE542II5043@VR.CAMT.INFO
3	542II5055	STUDENT2	CAMT	CAMT	SE542II5055@VR.CAMT.INFO
4	542II5064	STUDENT	CAMT	CAMT	SE542II5064@VR.CAMT.INFO

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UID 09 - Create/Edit/Delete Semester

# SEMESTER MANAGEMENT PAGE

USER : ADMIN ID : 1

MANAGE ACCOUNT SEMESTER MANAGEMENT COURSE MANAGEMENT LOG OUT

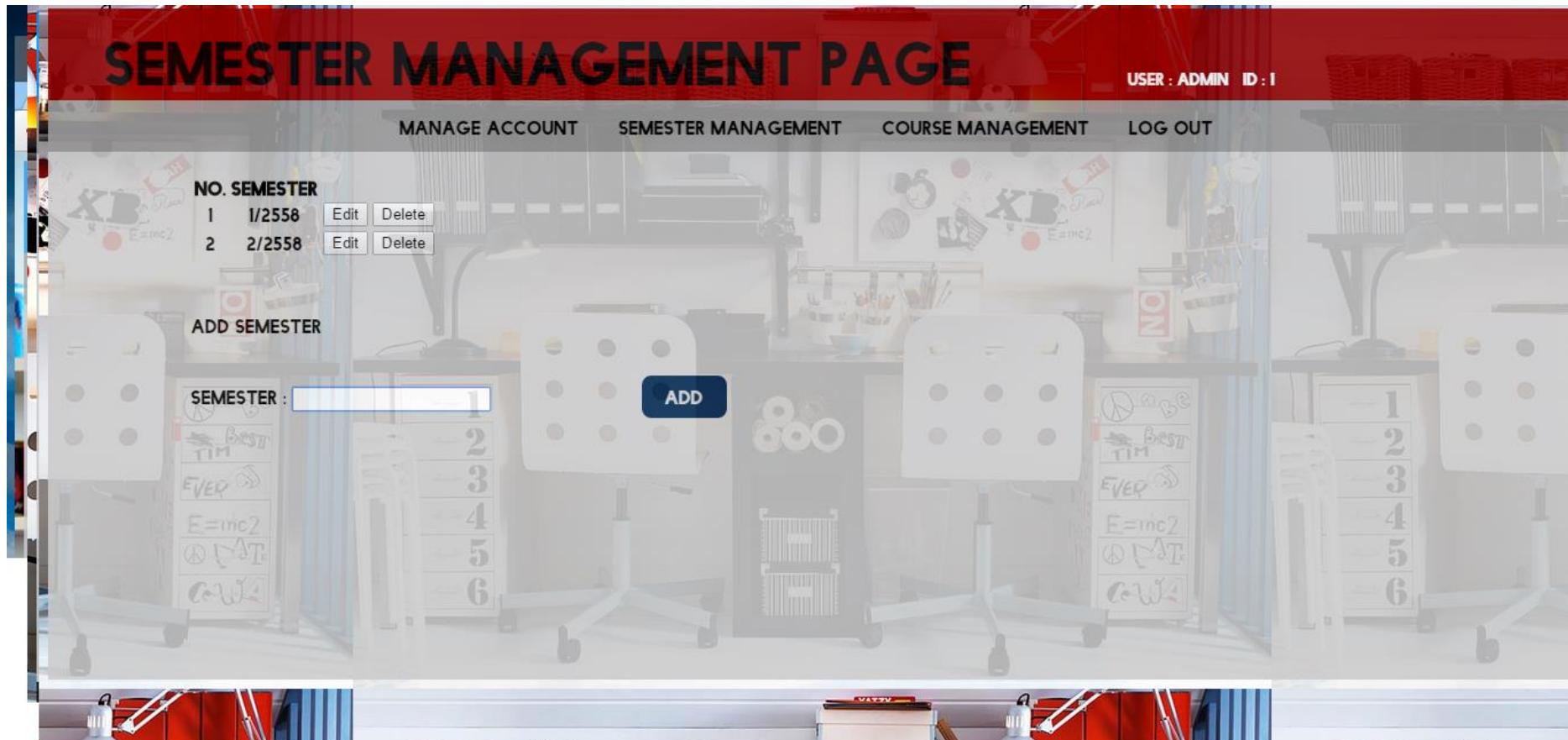
NO. SEMESTER

1	I/2558	Edit	Delete
2	2/2558	Edit	Delete

ADD SEMESTER

SEMESTER :  1

ADD



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# COURSE MAIN PAGE

USER : ADMIN ID : 1

MANAGE ACCOUNT   SEMESTER MANAGEMENT   COURSE MANAGEMENT   LOG OUT

COURSE NAME:   
COURSE CREDIT:

COURSE DESCRIPTION:

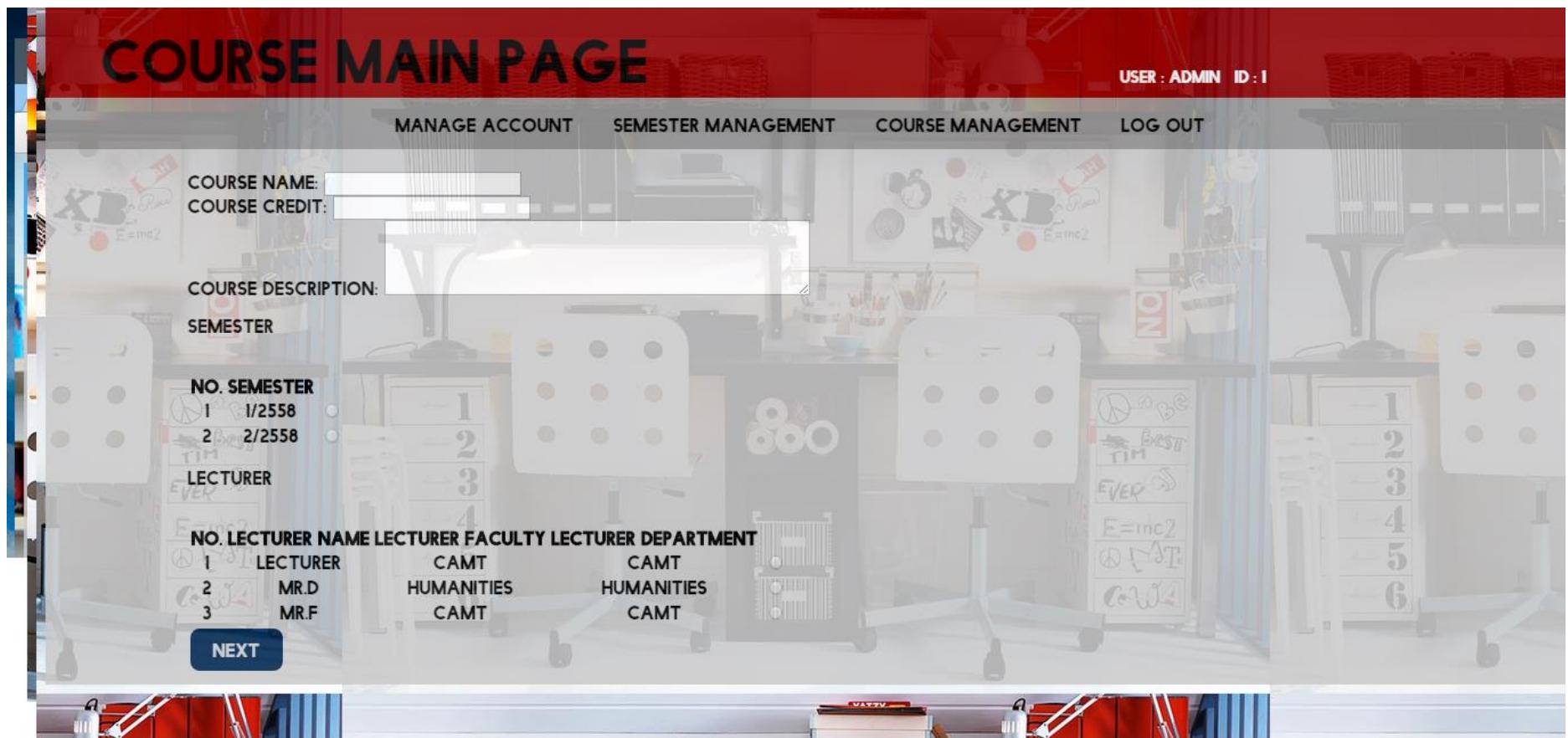
SEMESTER

NO. SEMESTER  
1 1/2558  
2 2/2558

LECTURER

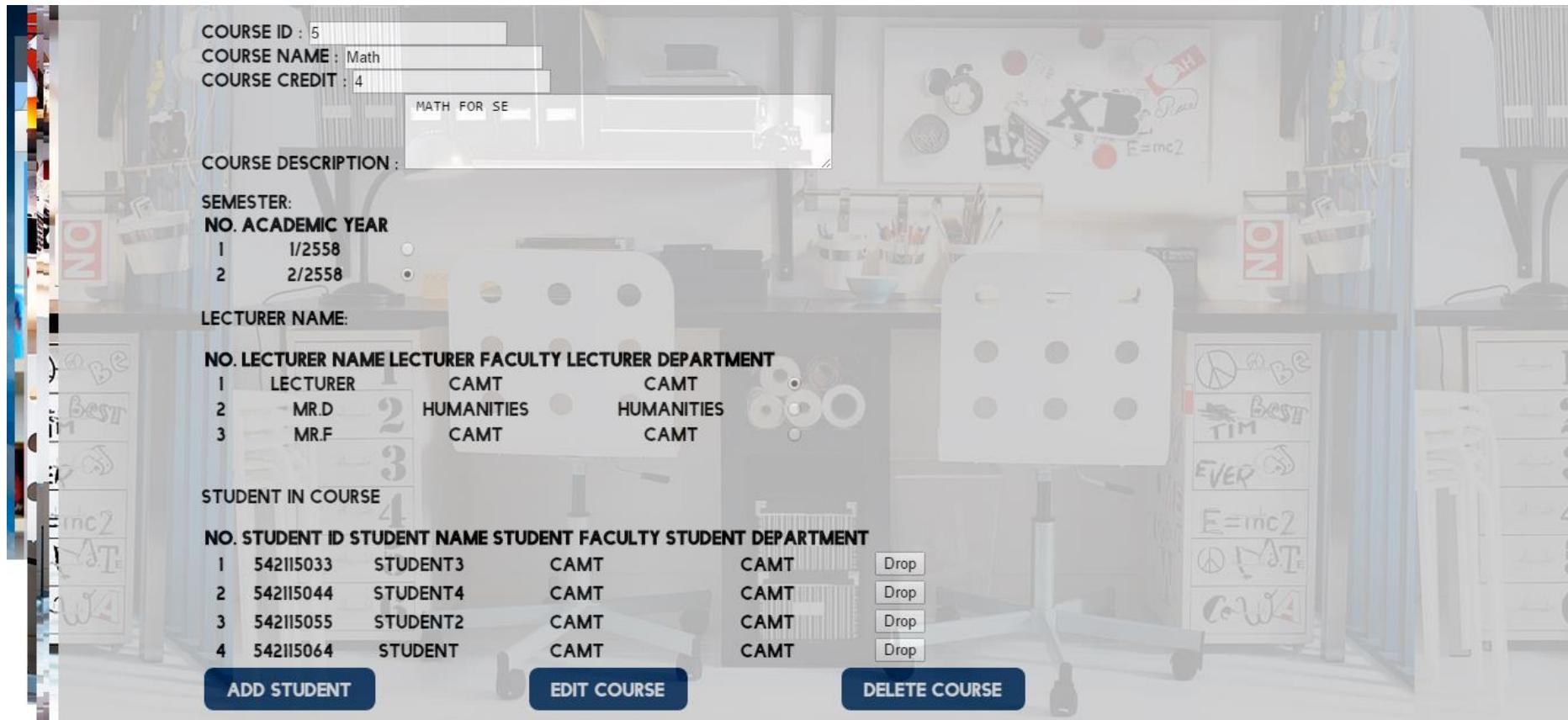
NO.	LECTURER NAME	LECTURER FACULTY	LECTURER DEPARTMENT
1	LECTURER	CAMT	CAMT
2	MR.D	HUMANITIES	HUMANITIES
3	MR.F	CAMT	CAMT

**NEXT**



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## UID 11 - Edit/Delete Course



COURSE ID : 5  
COURSE NAME : Math  
COURSE CREDIT : 4  
MATH FOR SE

COURSE DESCRIPTION :

SEMESTER:  
NO. ACADEMIC YEAR  
1 I/2558  
2 2/2558

LECTURER NAME:

NO.	LECTURER NAME	LECTURER FACULTY	LECTURER DEPARTMENT
1	LECTURER	CAMT	CAMT
2	MR.D	HUMANITIES	HUMANITIES
3	MR.F	CAMT	CAMT

STUDENT IN COURSE

NO.	STUDENT ID	STUDENT NAME	STUDENT FACULTY	STUDENT DEPARTMENT
1	542115033	STUDENT3	CAMT	CAMT
2	542115044	STUDENT4	CAMT	CAMT
3	542115055	STUDENT2	CAMT	CAMT
4	542115064	STUDENT	CAMT	CAMT

**ADD STUDENT** **EDIT COURSE** **DELETE COURSE**

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UID 12 - Lecturer Choose Course

# COURSE MAIN PAGE

LECTURER : LECTURER ID : 1

SPREADSHEETS MANAGEMENT    BACK TO SEMESTER PAGE    BACK TO LECTURER MAIN PAGE    LOG OUT

NO.	COURSE ID	COURSE NAME	CREDIT	COURSE DESCRIPTION	LECTURER NAME	SEMESTER	VIEW	OVERALL TEST	POSTS
1	5	MATH	4	MATH FOR SE	LECTURER	2/2558	VIEW	OVERALL TEST	POSTS
2	6	PROGRAMING	4	33	LECTURER	2/2558	VIEW	OVERALL TEST	POSTS

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# ADD TESTING PAGE

USER : LECTURER ID : 1

[BACK TO OVERALL TESTING PAGE](#) [LOG OUT](#)

TESTING NAME : Easy Math  
TYPE OF TEST :  ASSIGNMENT  QUIZ  
STATUS OF POSTING :  POST  NOT POST  
STATUS OF RANDOM :  RANDOM  NOT RANDOM  
SUBMIT TIME :  FIX TIME  NOT FIX TIME  
DATE : 07/08/2015 TIME HOUR : 01 MIN : 30 24 HR FORMAT EX. 04 HOUR 00 MINUTE

NO.	STUDENT ID	STUDENT NAME	FACULTY	STUDENT DEPARTMENT
1	542II5033	STUDENT3	CAMT	<input type="checkbox"/> CAMT <input checked="" type="checkbox"/>
2	542II5044	STUDENT4	CAMT	<input type="checkbox"/> CAMT <input checked="" type="checkbox"/>
3	542II5055	STUDENT2	CAMT	<input type="checkbox"/> CAMT <input checked="" type="checkbox"/>
4	542II5064	STUDENT	CAMT	<input type="checkbox"/> CAMT <input checked="" type="checkbox"/>

**ADD**

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# EDITION TESTING PAGEE

USER : LECTURER ID : 1

BACK TO OVERALL TESTING PAGE   LOG OUT

COURSE NAME: MATH  
TESTING NAME: EASY MATH

TYPE OF TESTING:  ASSIGNMENT  QUIZ

STATUS OF POSTING:  POST  NOT POST

STATUS OF RANDOM:  RANDOM  NOT RANDOM

AMOUNT OF QUESTIONS: 1

TESTING SCORE: 1

SUBMIT TIME: NOT HAVE SUBMIT TIME

[ADD STUDENT](#) [EDIT TESTING](#) [QUESTION](#)

## STUDENT IN TESTING

NO.	STUDENT ID	STUDENT NAME	STUDENT FACULTY	STUDENT DEPARTMENT
1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25
26	27	28	29	30
31	32	33	34	35
36	37	38	39	40
41	42	43	44	45
46	47	48	49	50
51	52	53	54	55
56	57	58	59	60
61	62	63	64	65
66	67	68	69	70
71	72	73	74	75
76	77	78	79	80
81	82	83	84	85
86	87	88	89	90
91	92	93	94	95
96	97	98	99	100

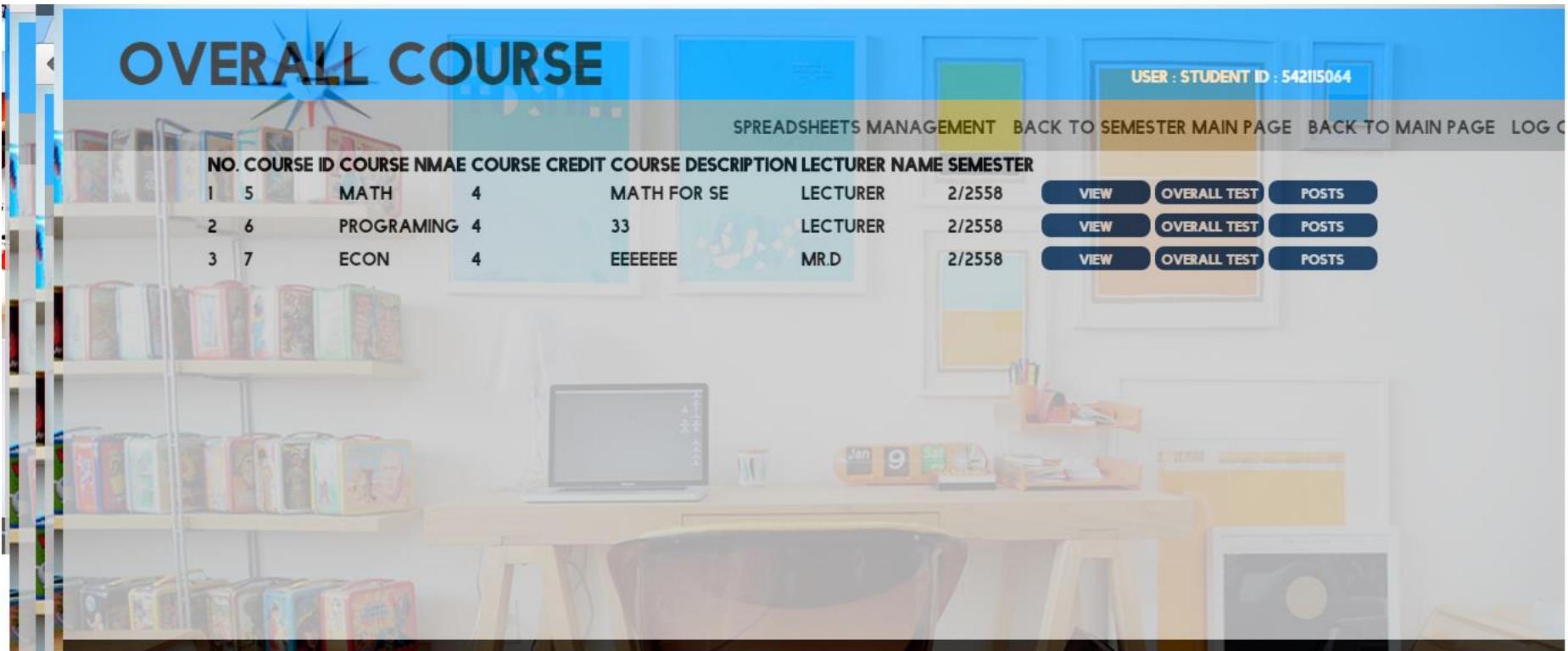
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UID 15 - Student Choose Course

# OVERALL COURSE

SPREADSHEETS MANAGEMENT BACK TO SEMESTER MAIN PAGE BACK TO MAIN PAGE LOG C  
USER : STUDENT ID : 542II5064

NO.	COURSE ID	COURSE NAME	CREDIT	COURSE DESCRIPTION	LECTURER	SEMESTER	VIEW	OVERALL TEST	POSTS
1	5	MATH	4	MATH FOR SE	LECTURER	2/2558	VIEW	OVERALL TEST	POSTS
2	6	PROGRAMING	4	33	LECTURER	2/2558	VIEW	OVERALL TEST	POSTS
3	7	ECON	4	EEEEEEE	MR.D	2/2558	VIEW	OVERALL TEST	POSTS



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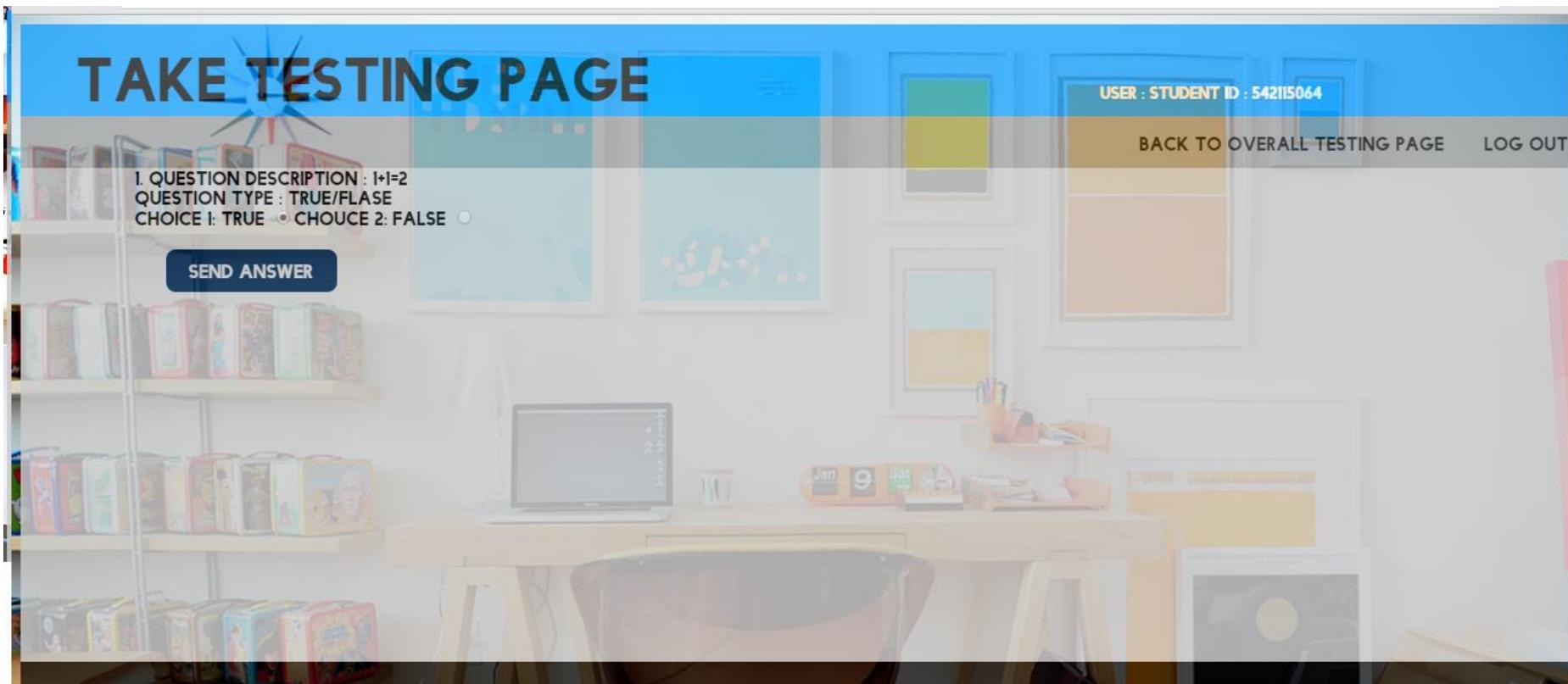
# TAKE TESTING PAGE

1. QUESTION DESCRIPTION : 1+1=2  
QUESTION TYPE : TRUE/FLASE  
CHOICE 1: TRUE  CHOUC 2: FALSE

SEND ANSWER

USER : STUDENT ID : 542115064

BACK TO OVERALL TESTING PAGE    LOG OUT



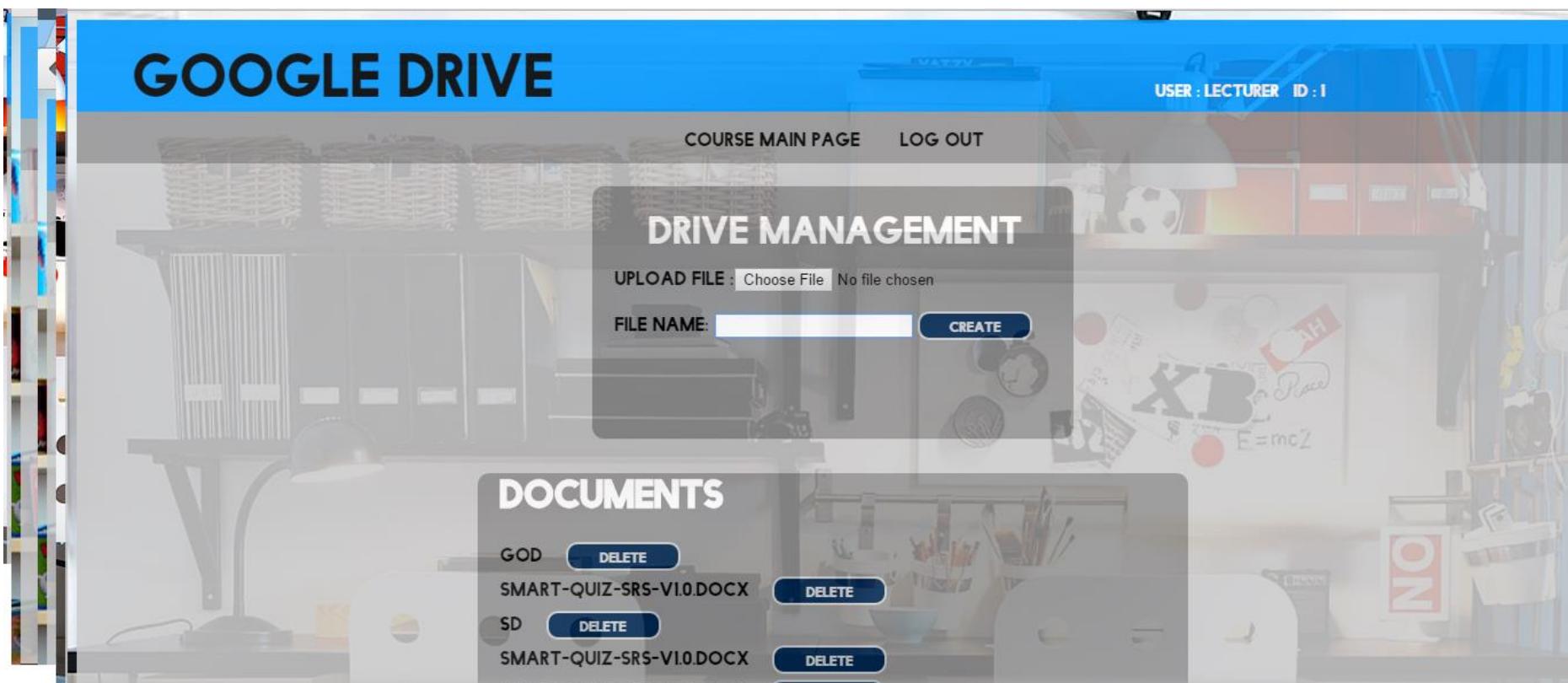
Document Name	SmartQuiz– Software design document_v2.0.docx	Owner	CS,SK	Page	169 / 175
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UID 17 - View Student's Score

The screenshot shows a web application titled "TESTING SUBMISSION" in large, bold, black letters at the top left. At the top right, it displays "USER : LECTURER ID : 1". Below the title, there are two buttons: "BACK TO OVERALL TESTING PAGE" and "LOG OUT". The main content area features two sections: "SUBMIT IN TIME" and "SUBMIT LATE", each with a table header showing columns for "NO.", "STUDENT ID", "TESTING NAME", "ANSWER SHEET", "SCORE", "TIME", and "SUBMIT STATUS". The background of the page is a blurred image of a classroom or laboratory setting with various educational equipment and posters.

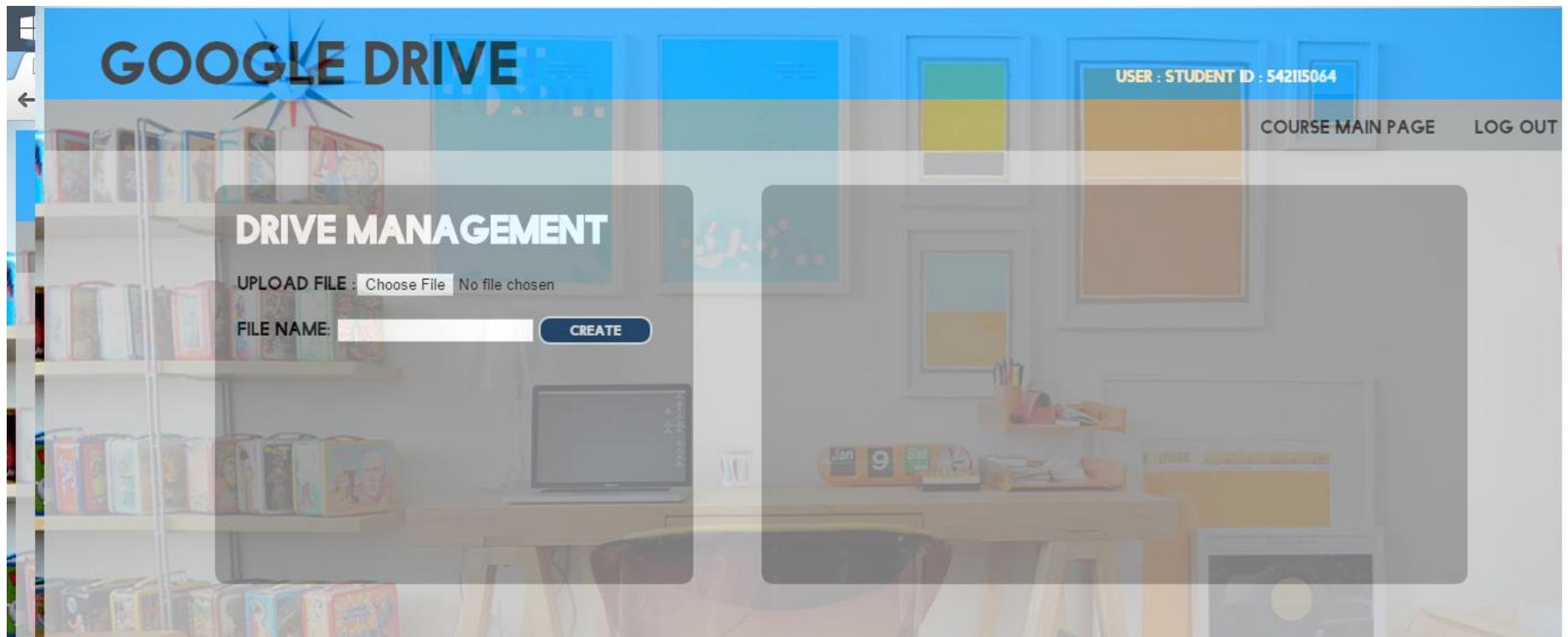
Document Name	SmartQuiz– Software design document_v2.0.docx	Owner	CS,SK	Page	170 / 175
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UID 18 - Lecturer with Spreadsheet



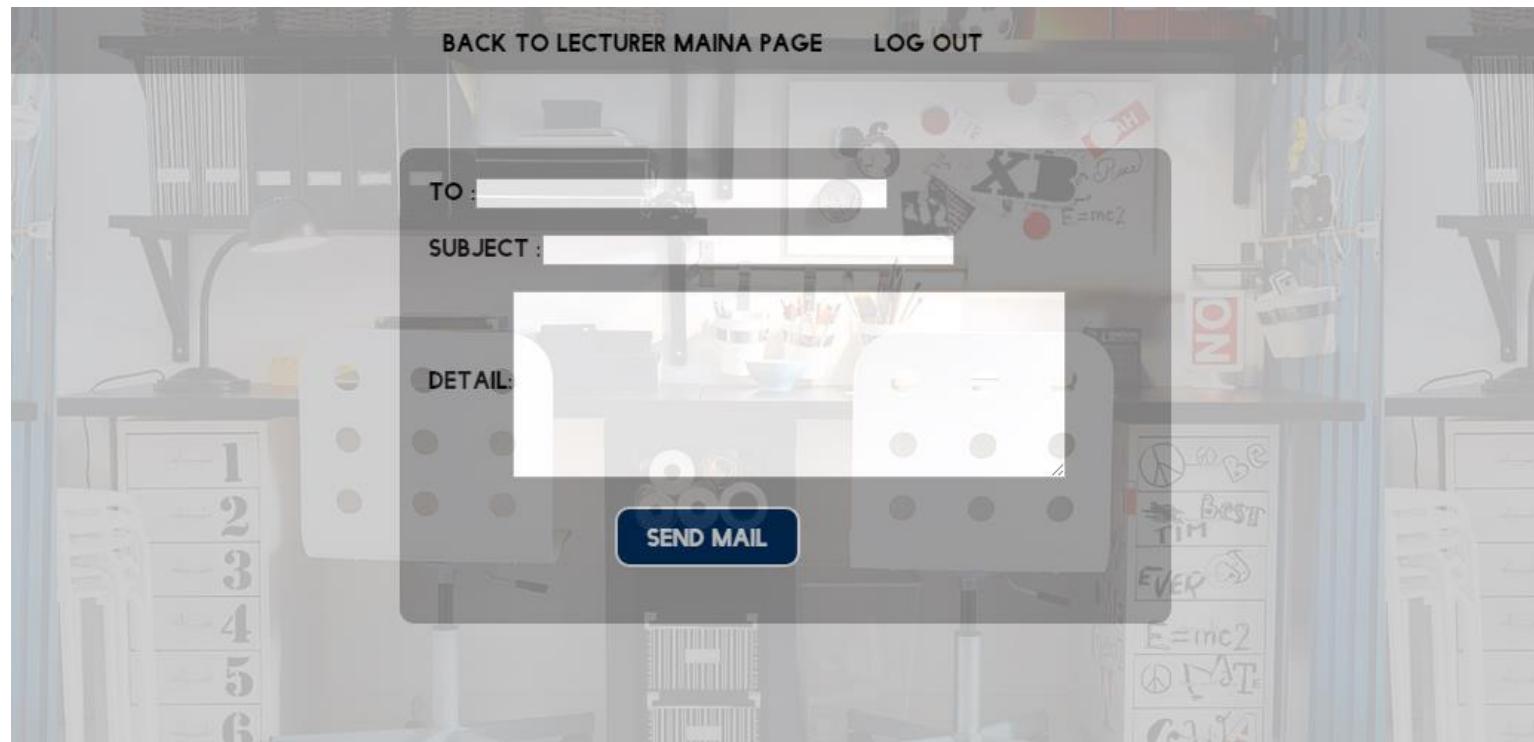
Document Name	SmartQuiz– Software design document_v2.0.docx	Owner	CS,SK	Page	171 / 175
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UID 19 - Student view score



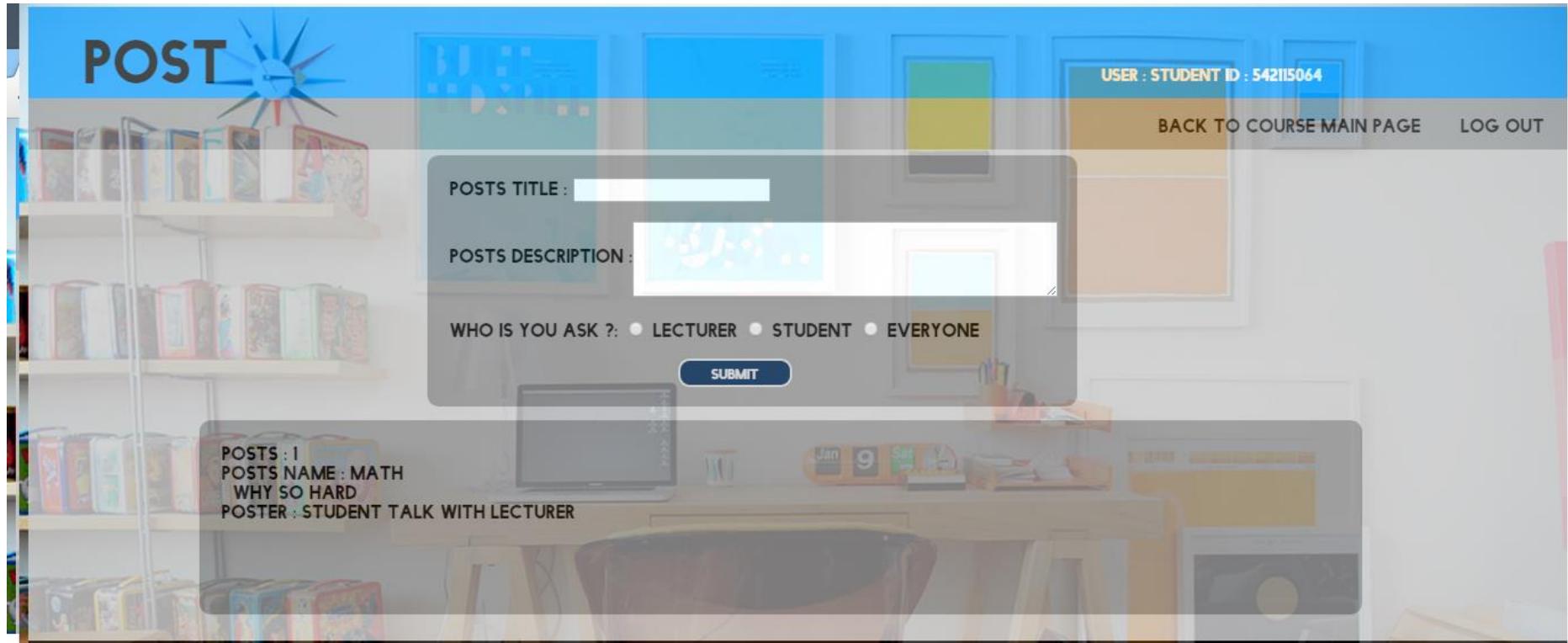
Document Name	SmartQuiz– Software design document_v2.0.docx	Owner	CS,SK	Page	172 / 175
Document Type	Software Design Document	Release Date	16 July 2015	Print Date	

UID 20 - Send Email



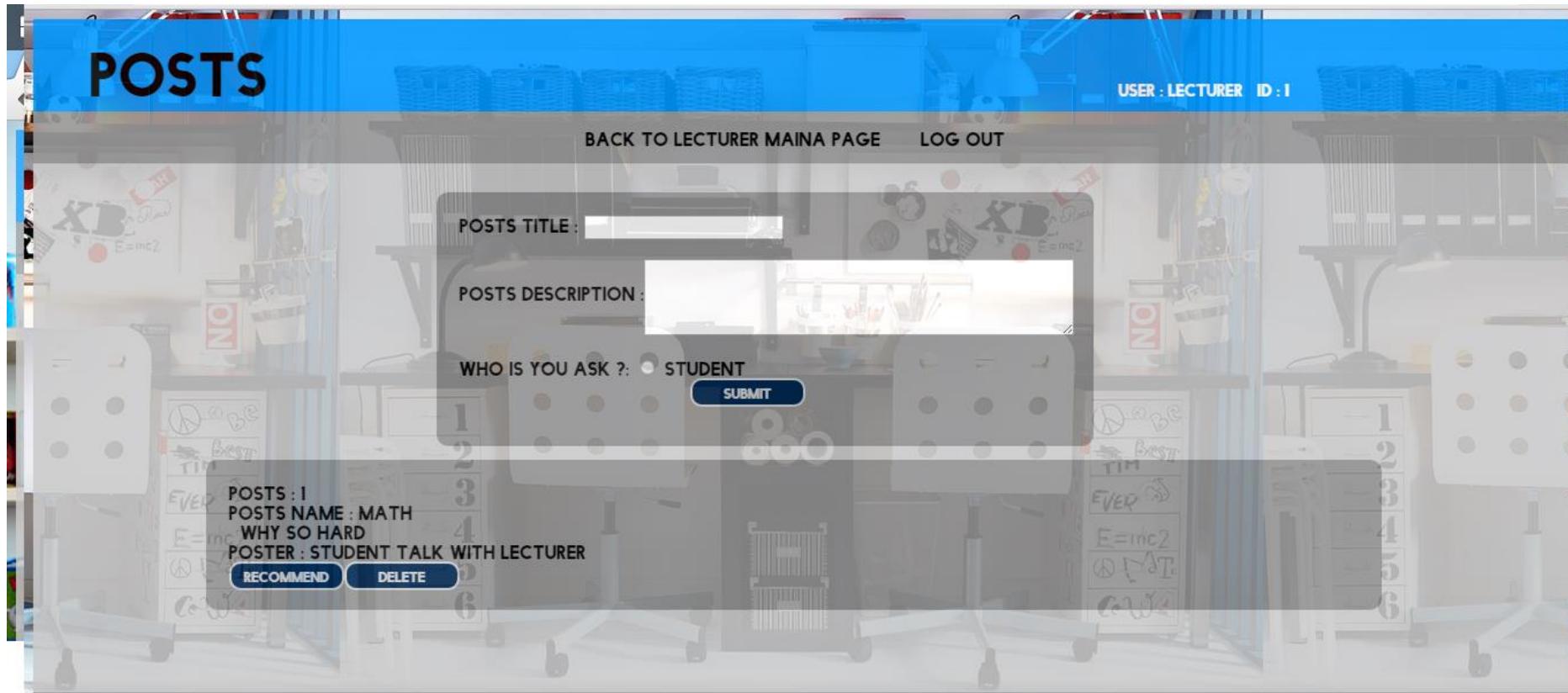
Document Name	SmartQuiz– Software design document_v2.0.docx	Owner	CS,SK	Page	173 / 175
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UID 21 - Student post



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UID 22 - Lecturer post



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Document Type	Software Design Document	Release Date	16 July 2015	Print Date	