



Daffodil
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E-Learning: A Government Remote Learning Platform

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This Project report has been submitted in fulfillment of the requirements for the Degree of Bachelor of Science in Software Engineering.

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APPROVAL

This project titled on “E Learning: A Government Remote learning platform”, submitted by Md. Joy Islam (ID: 171-35-1954) to the Department of Software Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of Bachelor of Science in Software Engineering and approval as to its style and contents.

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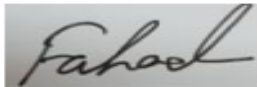
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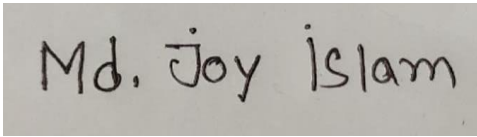


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DECLARATION

I hereby declare that I have taken this project under the supervision of **Mr. Md. Anwar Hossen, Senior Lecturer, Department of Software Engineering, and Daffodil International University**. I also declare that I have submitted neither this project nor any part of it for award of any degree.



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Chapter 1

INTRODUCTION

1.1 Introduction

Sometimes government offers so many courses. Those are any kind of courses. Like (IT related, Bank related etc.). Then government takes classes and takes some exam according to their classes. However, when they take classes & exams physically they face some problems. Like sometimes, some students cannot come timely to attend their classes & give their exams as they face many problems. Therefore, I consider those problems and try to solve those problems. Therefore, I made an application to solve those problems. Now government easily can take those class and exams online by using my application. Examinees will be able to given their exam from anywhere in their exam time using this application. In my application, they will be able to make questions and calculate the results easily because my application will calculate marks automatically. Now everybody know the situation of the country. It is a pandemic situation. Peoples cannot get out from home. Therefore, they are doing work from home through online. Therefore, I think it is perfect for this time or for any time & it will help them. After finishing exams, students will get certificate of their courses.

1.2 Project Purpose

The purpose of this project is to help the government and normal user. As a mentioned before that government sometimes offers many courses for the people under any ministry. Under those courses government takes physical class and exam. So when students trying to do those physical classes and performed at exam they face many problems. Sometimes

many student could be unable to do the classes and would be unable to perform exams at proper time. Therefore, they will miss those classes and exams.

So according to these problems, I consider my project. E-learning application will solve those problems. Students will be able to do their classes from any place through my application al so; they will can perform their exam from any place. Therefore, they do not need to come physically for giving their exams and for doing classes.

Government will be able to take their exams through my application easily and they do not need to calculate marks individually for each student. Because my system will automatically do that.

In addition, after completing the courses students will get certificate and those certificate will help them in future.

In addition, in this pandemic situation everybody should maintain some distance from each other. Therefore, my project would be perfect for this situation. Students and government both will to take and give their exams and classes from home.

1.3 Project Problem Statement

When student coming for the exam they are facing some problem. Many examines come from far away to take the exam. Students have to come physically and attend their exam.

In addition, there have a result published problem like some time government cannot published exam results in proper time. They cannot give result in an accurate time.

Students cannot find their result properly. Government showing results not sequentially.

The result sheet look like mess.

1.4 Project Objective

This system will save time. Candidates do not need to coming for the exam. Examinee will find their question topic wise. They are can take the test or exams from home or anywhere. There will be no problem in the result sheet. Candidates will be able to find out their result in the time.

1.5 Project Scope

This system is being build up for government. Government easily can take their course exams using online. Super admin will be add ministry, minister name and full details of minister. Minister add trainer for course and all details of trainer. Trainer add topic wise question in the system and create question for exam. Examinee will attend their exam via online form anywhere.

1.6 Project Overview

Student will be able to enroll government courses from anywhere of the country. Ministry incharge will be able to take courses through internet. It will reduce travel problem for learning. Learning will be easy.

1.7 Project Motivation

Our motivation is do somethings for people that will be solved their problems. In addition, our course teacher (Md. Anwar Hossen) sir motivate us for do something different. We really want to thank our teacher for helping us in this project and for motivating us. In addition, always said one things don not worry about it, you all can do it and go ahead.

1.8 Stakeholder

There are four types of user in the system. The first user is Super Admin, second is Ministry Incharge, third is Teacher and the last is Student.

Super admin: Super admin have permission add ministry in the system and minister details. So super admin log in the system with his valid email and password then he will be able to access the system and do his work.

Ministry Incharge: Minister Incharge have permission add teacher for training. Therefore, ministry incharge will add teacher and all details of teacher in the system. Ministry incharge log in the system with his valid email and password then he will be able to access the system and do his work.

Teacher: Teacher have permission for add question in the system and create question for the exam. Therefore, he log in the system with his validate email and password then he will be able to access the system then, add question in the system and create question for the exam.

Student: Student have permission to see the topic and topic wise some videos in the system. Then they will attend the exam. But before they have to sign up the system with valid information then, log in the system with their email and password after that they will be able to attend their exams.

Chapter 2

Software Requirement Specification (SRS)

2.1 Functional Requirement

Functional requirements refer to the function, which is necessary for the system. They are mandatory to run the application. There is no system without functional requirements.

Now, we are going to discuss functional requirement for this project.

Priority Chart

It is a technique to assemble the requirements according to priority. Using this technique, we can easily categorized the functional requirements that can be performed by my system and can identify which function should get High Priority and which one should get Medium Priority and which one get Low Priority.

FR ID	DESCRIPTION	PRIORITY
FR01	Log In	High
FR02	Recover Password	High
FR03	Update Profile	Medium
FR04	Super Admin can manage ministry	High
FR05	Super Admin can manage ministry incharge	Medium
FR06	Ministry Incharge can view course	High
FR07	Ministry Incharge can manage teacher	High
FR08	Ministry Incharge can manage student	High
FR09	Ministry Incharge can manage course assign	High

FR10	Ministry Incharge can manage course material approved	High
FR11	Ministry Incharge can manage student enroll	High
FR12	Teacher can manage course material	High
FR13	Teacher can manage course material upload	High
FR14	Teacher can manage quiz	High
FR15	Teacher can manage question	High
FR16	Teacher can manage answer	High
FR17	Teacher can view result sheet	Medium
RR18	Student can sign up	High
FR19	Student can view course	Medium
FR20	Student can view teacher	Medium
FR21	Student can course enroll	High
FR22	Student can view enroll courses	Medium
FR23	Student can view enroll courses material lecture	High
FR24	Student can view quiz	Medium
FR25	Student can Attempt quiz	High
FR26	Student can view taken quiz result	High

Table 2. 1: Priority of the system features based on Priority Char

2.1.1 Log In

FR01	Log In		
Description	Authenticate user can log in to the system using their email and password.		
Stakeholders	Super Admin, Ministry Incharge, Teacher, Student	Priority	High

2.1.2 Recover Password

FR02	Recover Password		
Description	Authenticate users can recover password using their email.		
Stakeholders	Super Admin, Ministry Incharge, Teacher, Student	Priority	High

2.1.3 Update Profile

FR03	Update Profile		
Description	Authenticate users can update profile.		
Stakeholders	Super Admin, Ministry Incharge, Teacher, Student	Priority	Medium

2.1.4 Super Admin can manage ministry

FR04	Can Manage Ministry		
Description	Super admin can manage ministry information. Super admin can manage add ministry, view ministry, update ministry, delete ministry		
Stakeholders	Super Admin	Priority	High

2.1.5 Super Admin can manage ministry incharge

FR05	Can Manage Ministry Incharge		
Description	Super admin can manage ministry incharge information. Super admin can add ministry incharge, view ministry incharge, update ministry incharge, and delete ministry incharge.		
Stakeholders	Super Admin	Priority	High

2.1.6 Ministry Incharge can manage view course

FR06	Can Manage Course		
Description	Ministry incharge can manage course information. Ministry incharge can add course, view course, update course, delete course		
Stakeholders	Ministry Incharge	Priority	High

2.1.7 Ministry Incharge can manage teacher

FR07	Can Manage Teacher		
Description	Ministry incharge can manage teacher information. Ministry incharge can add teacher, view teacher, update teacher, delete teacher		
Stakeholders	Ministry Incharge	Priority	High

2.1.8 Ministry Incharge can manage teacher enroll

FR08	Can Manage Teacher Enroll		
Description	Ministry incharge can manage teacher enroll information. Ministry incharge can add teacher enroll, view teacher enroll, update teacher enroll, delete teacher enroll		
Stakeholders	Ministry Incharge	Priority	High

2.1.9 Ministry Incharge can manage student

FR09	Can Manage Student		
Description	Ministry incharge can manage student information. Ministry incharge can add student, view student, update student, delete student		
Stakeholders	Ministry Incharge	Priority	High

2.1.10 Ministry Incharge can manage student enroll

FR10	Can Manage Student Enroll		
Description	Ministry incharge can manage student enroll information. Ministry incharge can add student enroll, view student enroll, update student enroll, delete student enroll		
Stakeholders	Ministry Incharge	Priority	High

2.1.11 Ministry Incharge can manage course material approved

FR11	Can Manage Course Material Approved		
Description	Ministry incharge can manage course material approved information. Ministry incharge can view, update, delete course material approved		
Stakeholders	Ministry Incharge	Priority	High

2.1.12 Teacher can manage course material

FR12	Can Manage Course Material		
Description	Teacher can manage course material information. Teacher can add, view, delete, update course material		
Stakeholders	Teacher	Priority	High

2.1.13 Teacher can manage upload lecture

FR13	Can Manage Upload Lecture		
Description	Teacher can view all the courses upload lecture information. Teacher can add, view, delete, update upload lecture.		
Stakeholders	Teacher	Priority	High

2.1.14 Teacher can manage quiz

FR14	Can Manage Quiz		
Description	Teacher can manage course quiz information. Teacher can add, view, delete, update quiz		
Stakeholders	Teacher	Priority	High

2.1.15 Teacher can manage question

FR15	Can Manage Question		
Description	Teacher can manage question information. Teacher can add, view, delete, update question		
Stakeholders	Teacher	Priority	High

2.1.16 Teacher can manage answer

FR16	Can Manage Answer		
Description	Teacher can manage answer information. Teacher can add, view, update, delete answer		
Stakeholders	Teacher	Priority	High

2.1.17 Teacher can view result sheet

FR17	View Result Sheet		
Description	Teacher can view all the result information		
Stakeholders	Teacher	Priority	Medium

2.1.18 Student can sign up

FR18	Sign Up		
Description	Student can register in the system		
Stakeholders	Student	Priority	High

2.1.19 Student can View Course

FR19	View Course		
Description	Student can view all the course information		
Stakeholders	Student	Priority	Medium

2.1.20 Student can View Teacher

FR20	View Teacher		
Description	Student can view all the teacher information		
Stakeholders	Student	Priority	Medium

2.1.21 Student can Course Enroll

FR21	Course Enroll		
Description	Student can course enroll information		
Stakeholders	Student	Priority	High

2.1.22 Student can View Enroll Courses

FR22	View Enroll Courses		
Description	Student can view enroll courses information		
Stakeholders	Student	Priority	Medium

2.1.23 Student can View Enroll Courses Material Lecture

FR23	View Enroll Courses Material Lecture		
Description	Student can view enroll courses material lecture information		
Stakeholders	Student	Priority	High

2.1.24 Student can View Quiz

FR24	View Quiz		
Description	Student can view quiz courses information		
Stakeholders	Student	Priority	High

2.1.25 Student can Attempt Quiz

FR25	Attempt Quiz		
Description	Student can attempt quiz courses information		
Stakeholders	Student	Priority	High

2.1.26 Student can View Taken Quiz Result

FR26	View Taken Quiz Result		
Description	Student can view taken quiz result courses information		
Stakeholders	Student	Priority	High

2.2 Non-Functional Requirements

2.2.1 Performance Requirements

NFR-01	The landing function will response within second.
Description	While the actors browsing the system the landing function will show within a second.
Stakeholders	Super Admin, Ministry Incharge, Teacher, Student

2.2.2 Reliability and Availability

NFR-02	The system must be available 24x7
Description	The system are available 24 hours in a day. This system will be never fall.
Stakeholders	Super Admin, Ministry Incharge, Teacher, Student

2.2.3 Maintainability and Supportability

NFR-03	The system helps to update information all the time.
Description	The teacher add questions in the system then system will update that question on that time. In addition, when student attend their exams, after that system automatically update result in the system. Always keep safe all the information.
Stakeholders	Super Admin, Ministry Incharge, Teacher, Student

2.2.4 Security

NFR-04	System keep secure all information.
Description	Every actors must enter in system with authentic information. Without authentic information, no one can enter the system. In addition, all the system always keep secured.
Stakeholders	Super Admin, Ministry Incharge, Teacher, Student

Chapter 3

Requirement Analysis

3.1 Use Case diagram

3.1.1 Super Admin

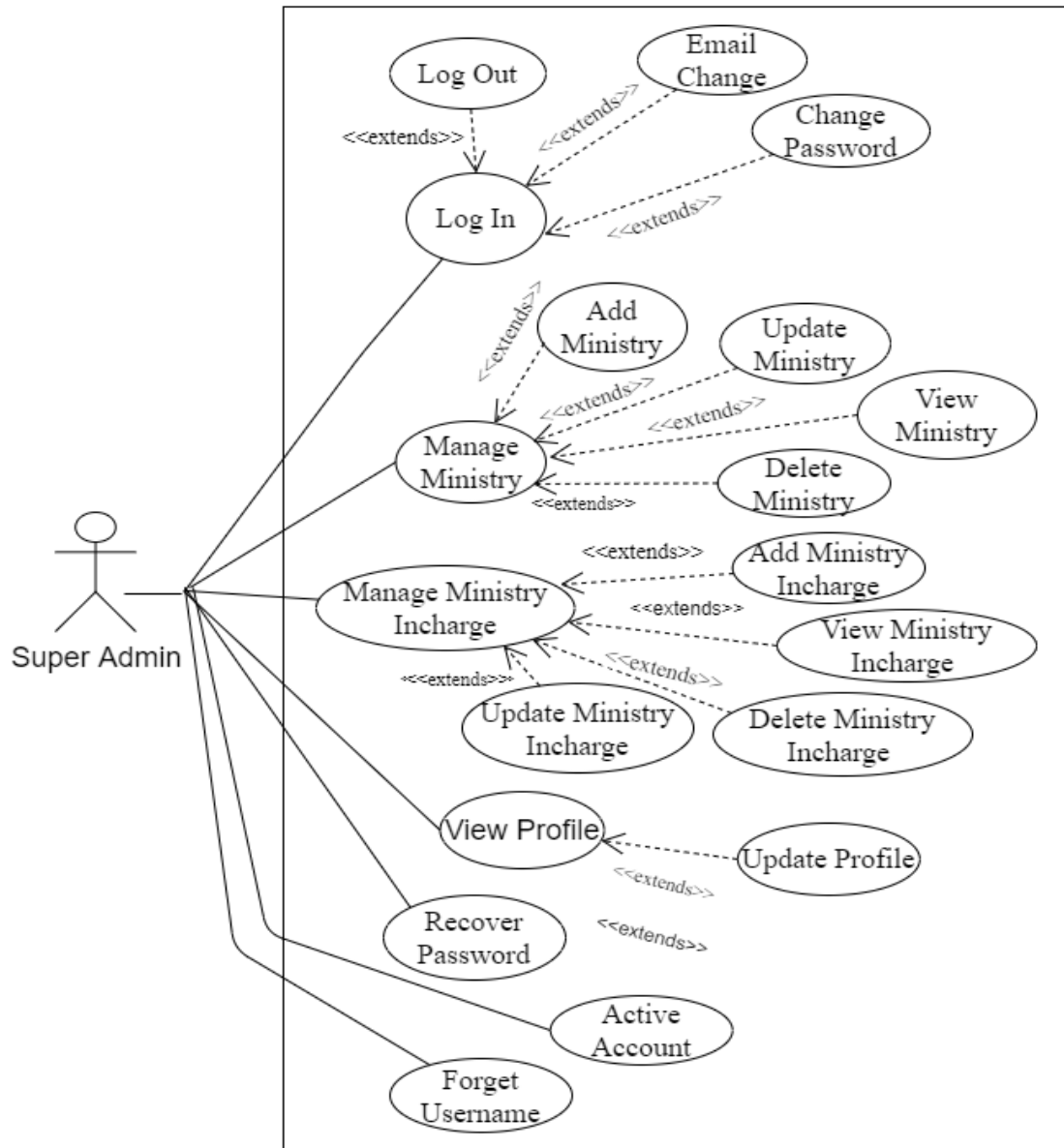


Figure 3.1: Use Case Diagram for Super Admin

3.1.2 Ministry Incharge

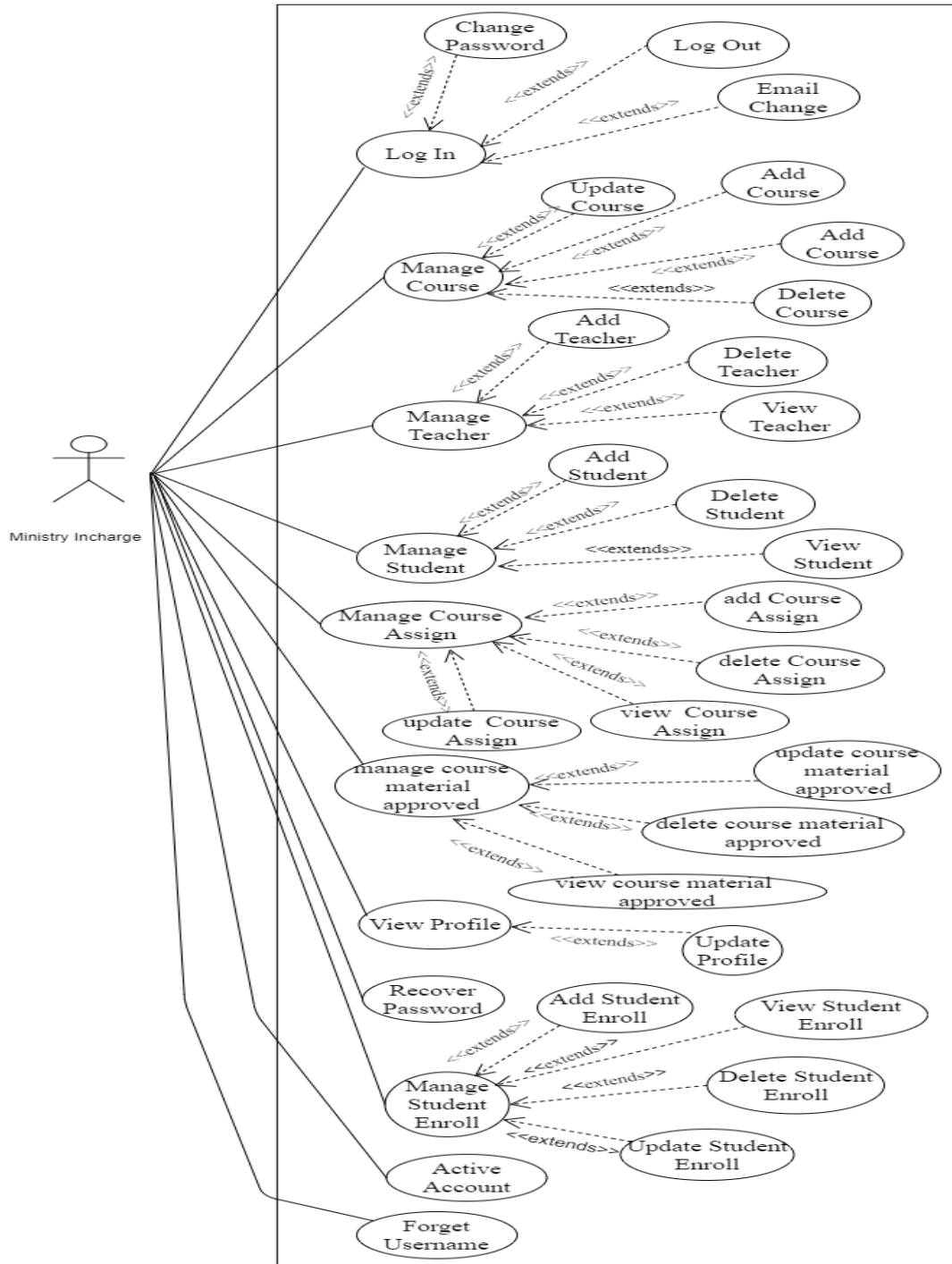


Figure 3.2: Use Case Diagram for Ministry Incharge

3.1.3 Teacher

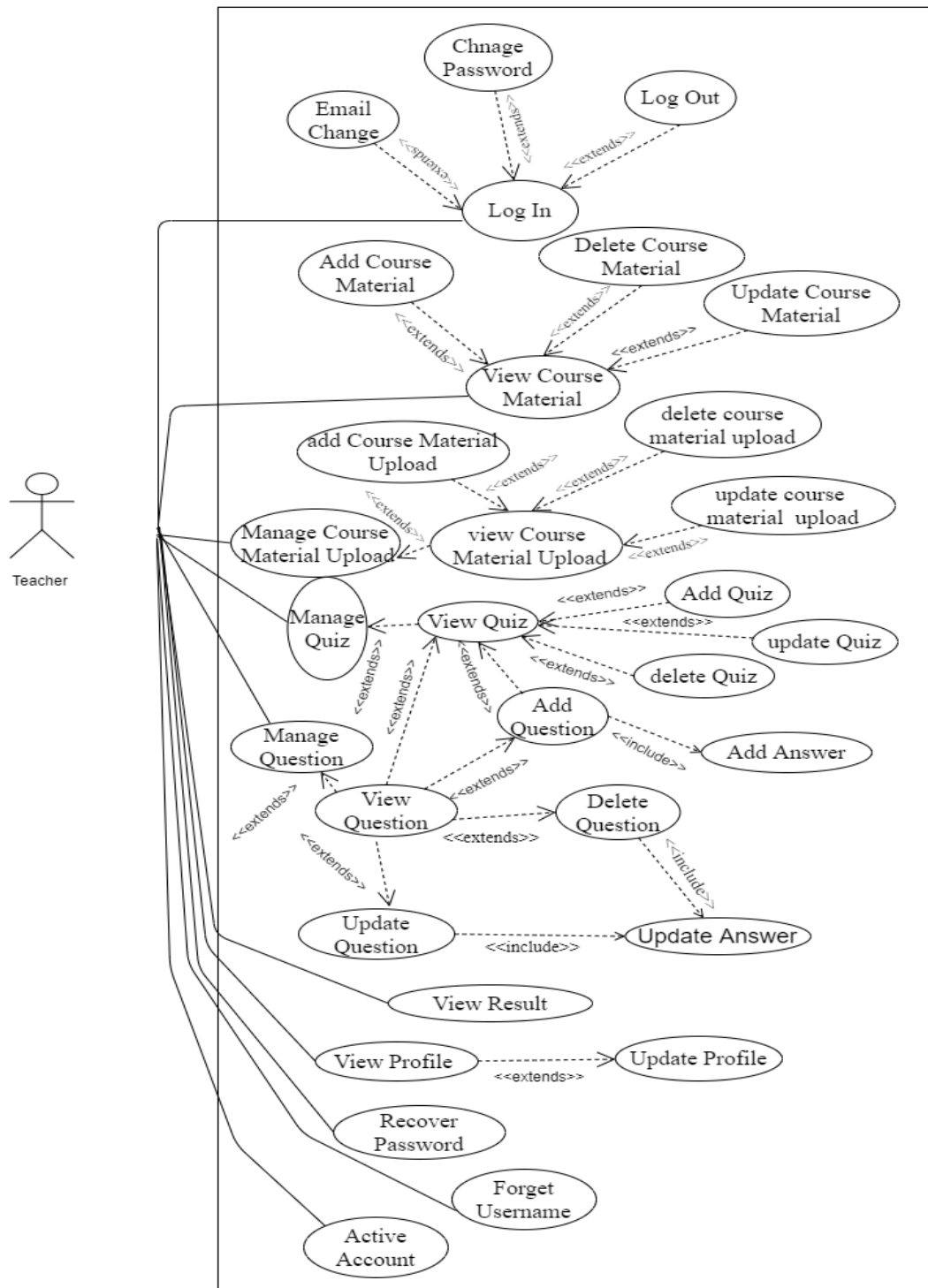


Figure 3.3: Use Case Diagram for Teacher

3.1.4 Student

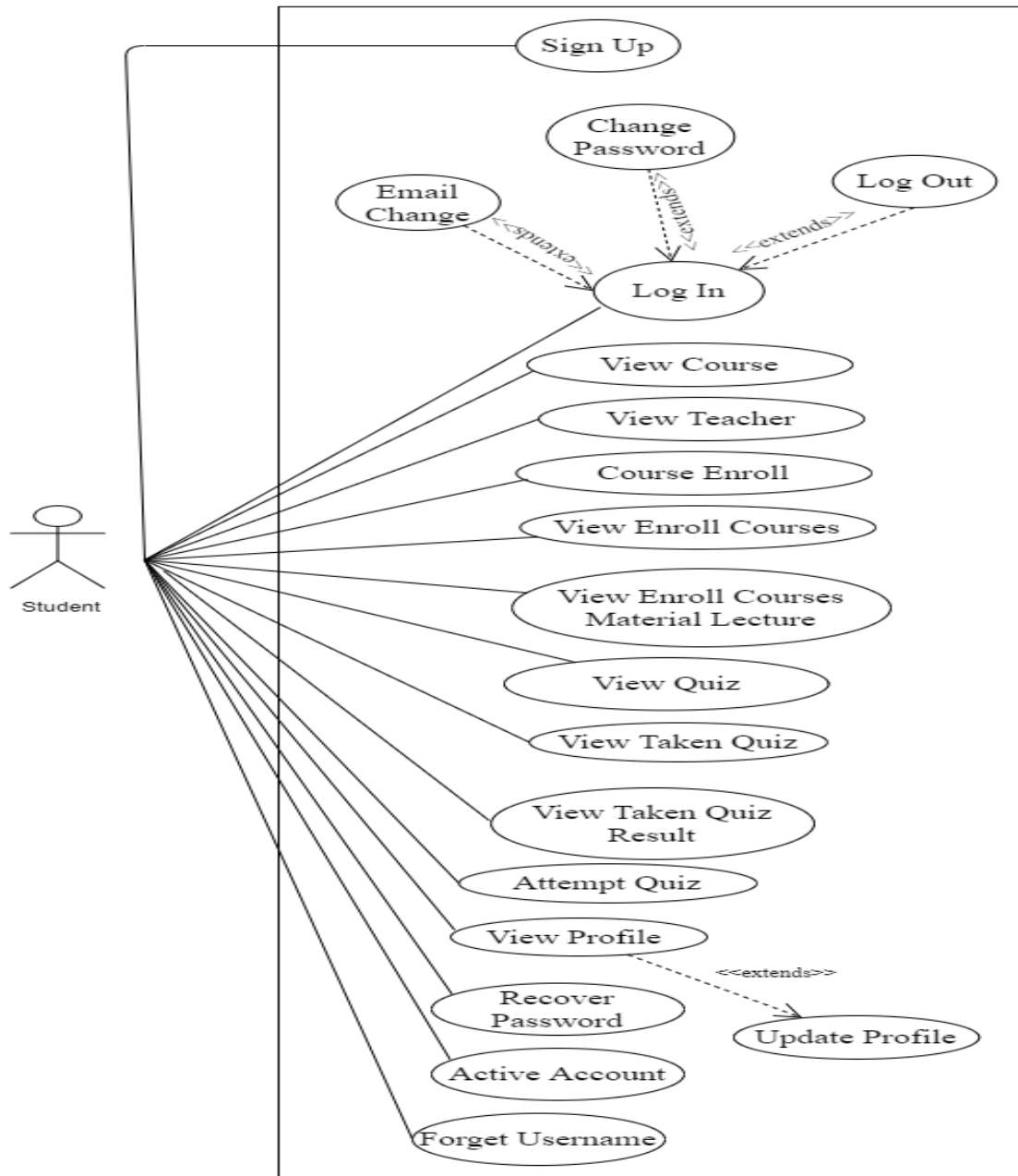


Figure 3.4: Use Case Diagram for Student

3.2 Use Case Description

3.2.1 Login for Super Admin

Use Case	Log In	
Goal	Super admin are able to log in and access the site	
Precondition	Super admin account information must exist in the database	
Success End Condition	Super admin will enter their authentic information and can log in. Super admin get access to their dashboard.	
Failed End Condition	Email and password is not valid	
Primary actor	Super Admin	
Secondary actor	N/A	
Trigger	Super Admin click on the “Log In” button	
Description/Main Success scenario	Step	Action
	1	System displays the Log In page
	2	Super Admin enters their email & password
	3	Super Admin clicks on the “Log In” button
	4	Super Admin successfully logged in the site
	5	Super Admin get access to their dashboard
Alternative Flows	Step	Branching Action
	3a	Email and Password is not valid
	4a	Super Admin cannot access the system
Quality Requirements	Super Admin must fill up the log in field with their authentic information	
Quality Requirements	N/A	

3.2.2 View Ministry for Super Admin

Use Case	View Ministry	
Goal	Super admin is able to see Ministry information in the system.	
Precondition	Super Admin have to log in the system	
Success End Condition	Super admin successfully can view ministry information.	
Failed End Condition	Super admin is unable to view ministry information	
Primary actor	Super Admin	
Secondary actor	N/A	
Trigger	Super admin click on the “Ministry” button	
Description/Main Success scenario	Step	Action
	1	Super Admin have to log in first
	2	System shows the super admin dashboard
	3	Super Admin clicks “Ministry” button
	4	System displays View Ministry Information
Alternative Flow	Step	Branching Action
	4a	There is no post available in the database
Quality Requirements	N/A	

3.2.3 Add Ministry for Super Admin

Use Case	Add Ministry	
Goal	Super admin is able to add ministry information in the system	
Precondition	Super Admin have to log in the system	
Success End Condition	Super admin successfully do his work and can add ministry	
Failed End Condition	Super admin is unable to add ministry information	
Primary actor	Super Admin	
Secondary actor	N/A	
Trigger	Super admin click on the “New Ministry” button	
Description/Main Success scenario	Step	Action
	1	Super Admin have to log in first
	2	System show the super admin dashboard
	3	Super Admin clicks “Ministry” button
	4	System will display Ministry Information
	5	Super admin clicks “New Ministry” button
	6	Super Admin fills the required input fields
	7	Successfully are add ministry in the system
Alternative Flows	Step	Branching Action
	6a	All the required fields are not filled yet
Quality Requirements	N/A	

3.2.4 View Ministry Incharge for Super Admin

Use Case	View Ministry Incharge	
Goal	Super admin is able to see Ministry Incharge information in the system.	
Precondition	Super Admin have to add ministry information first	
Success End Condition	Super admin successfully can view ministry incharge information.	
Failed End Condition	Super admin is unable to view ministry incharge	
Primary actor	Super Admin	
Secondary actor	N/A	
Trigger	Super admin click on the “Ministry Incharge” button	
Description/Main Success scenario	Step	Action
	1	Super Admin have to log in first
	2	System shows the super admin dashboard
	3	Super Admin clicks “Ministry Incharge” button
	4	System displays View Ministry Incharge Information
Alternative Flow	Step	Branching Action
	4a	There is no post available in the database
Quality Requirements	N/A	

3.2.5 Add Ministry Incharge for Super Admin

Use Case	Add Ministry Incharge	
Goal	Super admin is able to add ministry incharge information in the system	
Precondition	Super Admin have to log in the system	
Success End Condition	Super admin successfully do his work and can add ministry incharge	
Failed End Condition	Super admin is unable to add ministry incharge	
Primary actor	Super Admin	
Secondary actor	N/A	
Trigger	Super admin click on the “New Ministry Incharge” button	
Description/Main Success scenario	Step	Action
	1	Super Admin have to log in first
	2	System show the super admin dashboard
	3	Super Admin clicks “Ministry Incharge” button
	4	System will display Ministry Incharge Information
	5	Super admin clicks “New Ministry Incharge” button
	6	Super Admin fills the required input fields
	7	Successfully are add ministry incharge in the system
Alternative Flows	Step	Branching Action
	6a	All the required fields are not filled yet
Quality Requirements	N/A	

3.2.6 View Profile for Super Admin

Use Case	View Profile	
Goal	Super admin is able to see his profile information in the system.	
Precondition	Super admin is logged into the system	
Success End Condition	Super admin successfully can view profile information.	
Failed End Condition	Super admin is unable to view profile information	
Primary actor	Super Admin	
Secondary actor	N/A	
Trigger	Super admin click on the “Profile” than “Profile” button	
Description/Main Success scenario	Step	Action
	1	Super Admin have to log in first
	2	System shows the super admin dashboard
	3	Super Admin clicks “Profile” button
	4	System displays View profile Information
Alternative Flow	Step	Branching Action
	4a	There is no profile available in the database
Quality Requirements	N/A	

3.2.7 Update Profile for Super Admin

Use Case	Update Profile	
Goal	Super admin is modify their profile information	
Precondition	Super admin log in first	
Success End Condition	Super admin successfully do his work and can updated profile	
Failed End Condition	Super admin is unable to update profile	
Primary actor	Super Admin	
Secondary actor	N/A	
Trigger	Super admin click on the “Profile” than “Profile” button	
Description/Main Success scenario	Step	Action
	1	System shows the super admin dashboard
	2	Super Admin clicks “Profile” button
	3	System displays user information
	4	System shows the modifiable input fields to the super admin
	5	Super admin modifies the field and click on “Update Profile” button
	6	System shows “successfully update profile” notification
Alternative Flows	Step	Branching Action
	5a	Super admin must log in to update profile
Quality Requirements	N/A	

3.2.8 Recover Password for Super Admin

Use Case	Recover Password	
Goal	Super admin can recover their password when forgotten	
Precondition	Super Admin account information must be exist in the database	
Success End Condition	Password recovery link is delivered to the super admin	
Failed End Condition	Super admin email doesn't match	
Primary actor	Super Admin	
Secondary actor	N/A	
Trigger	Super admin click on the "Forget Password" button	
Description/Main Success scenario	Step	Action
	1	System displays password recovery page
	2	Super Admin enters their email address
	3	Super Admin clicks on the "Next" button
	4	Super Admin gets password reset link
	5	Super Admin successfully recover pass
Alternative Flows	Step	Branching Action
	3a	Email is not registered
Quality Requirements	N/A	

3.2.9 Active Account for Super admin

Use Case	Active Account	
Goal	Super admin can recover their account when forgotten	
Precondition	Super admin account information must be exist in the database	
Success End Condition	Active account recovery link is delivered to the Super admin email	
Failed End Condition	Super admin email doesn't match	
Primary actor	Super admin	
Secondary actor	N/A	
Trigger	Super admin click on the "Resend an activation code" button	
Description/Main Success scenario	Step	Action
	1	System displays active account recovery page
	2	Super admin enters their email address
	3	Super admin clicks on the "Next" button
	4	Super admin gets active account link
	5	Super admin successfully recover account
Alternative Flows	Step	Branching Action
	3a	Email is not registered
Quality Requirements	N/A	

3.2.10 Login for Ministry Incharge

Use Case	Log In	
Goal	Ministry incharge are able to log in and access the site	
Precondition	Ministry incharge account information must exist in the database	
Success End Condition	Ministry incharge will enter their authentic information and can log in. Ministry incharge get access to their dashboard.	
Failed End Condition	Email and password is not valid	
Primary actor	Ministry incharge	
Secondary actor	N/A	
Trigger	Ministry incharge click on the “Log In” button	
Description/Main Success scenario	Step	Action
	1	System displays the Log In page
	2	Ministry incharge enters their email & password
	3	Ministry incharge clicks on the “Log In” button
	4	Ministry incharge successfully logged in the site
	5	Ministry incharge get access to their dashboard
Alternative Flows	Step	Branching Action
	3a	Email and Password is not valid
	4a	Ministry incharge cannot access the system
Quality Requirements	Ministry incharge must fill up the log in field with their authentic information	
	5a	Ministry incharge must log in to update profile
Quality Requirements	N/A	

3.2.11 Add Course for Ministry Incharge

Use Case	Add Course	
Goal	Ministry incharge is able to add course information in the system	
Precondition	Ministry incharge have to log in the system	
Success End Condition	Ministry incharge successfully do his work and can add course	
Failed End Condition	Ministry incharge is unable to add course information	
Primary actor	Ministry Incharge	
Secondary actor	N/A	
Trigger	Ministry incharge click on the “New Course” button	
Description/Main Success scenario	Step	Action
	1	Ministry incharge have to log in first
	2	System show the ministry incharge dashboard
	3	Ministry incharge clicks “Course” button
	4	System will display course Information
	5	Ministry incharge clicks “New Course” button
	6	Ministry incharge fills the required input fields
	7	Successfully are add course in the system
Alternative Flows	Step	Branching Action
	6a	All the required fields are not filled yet
Quality Requirements	N/A	

3.2.12 Add Teacher for Ministry Incharge

Use Case	Add Teacher	
Goal	Ministry incharge is able to add teacher information in the system	
Precondition	Ministry incharge have to log in the system	
Success End Condition	Ministry incharge successfully do his work and can add teacher	
Failed End Condition	Ministry incharge is unable to add teacher information	
Primary actor	Ministry Incharge	
Secondary actor	N/A	
Trigger	Ministry incharge click on the “New Teacher” button	
Description/Main Success scenario	Step	Action
	1	Ministry incharge have to log in first
	2	System show the ministry incharge dashboard
	3	Ministry incharge clicks “Teacher” button
	4	System will display teacher Information
	5	Ministry incharge clicks “New Teacher” button
	6	Ministry incharge fills the required input fields
	7	Successfully are add teacher in the system
Alternative Flows	Step	Branching Action
	6a	All the required fields are not filled yet
Quality Requirements	N/A	

3.2.13 Add Course Assign for Ministry Incharge

Use Case	Add Course Assign	
Goal	Ministry incharge is able to add teacher & add course information in the system	
Precondition	Ministry incharge have to log in the system	
Success End Condition	Ministry incharge successfully do his work and can add course assign	
Failed End Condition	Ministry incharge is unable to add course assign information	
Primary actor	Ministry Incharge	
Secondary actor	N/A	
Trigger	Ministry incharge click on the “New Teacher Enroll” button	
Description/Main Success scenario	Step	Action
	1	Ministry incharge have to log in first
	2	System show the ministry incharge dashboard
	3	Ministry incharge clicks “Course Assign” button
	4	System will display course assign Information
	5	Ministry incharge clicks “New Teacher Enroll” button
	6	Ministry incharge fills the required input fields
	7	Successfully are add course assign in the system
Alternative Flows	Step	Branching Action
	6a	All the required fields are not filled yet
Quality Requirements	N/A	

3.2.14 View Course Material Approved for Ministry Incharge

Use Case	View Course Material Approved	
Goal	Ministry incharge is able to see course material approved information in the system.	
Precondition	Teacher have to add course material information first	
Success End Condition	Ministry incharge successfully can view course material approved information.	
Failed End Condition	Ministry incharge is unable to view course material approved information	
Primary actor	Ministry incharge	
Secondary actor	N/A	
Trigger	Ministry incharge click on the “Course Material Approved” button	
Description/Main Success scenario	Step	Action
	1	Ministry incharge have to log in first
	2	System shows the ministry incharge dashboard
	3	Ministry incharge clicks “Course Material Approved”
	4	System displays View course material Information
Alternative Flow	Step	Branching Action
	4a	There is no post available in the database
Quality Requirements	N/A	

3.2.15 Add Student for Ministry Incharge

Use Case	Add Student	
Goal	Ministry incharge is able to add student information in the system	
Precondition	Ministry incharge have to log in the system	
Success End Condition	Ministry incharge successfully do his work and can add student	
Failed End Condition	Ministry incharge is unable to add student information	
Primary actor	Ministry Incharge	
Secondary actor	N/A	
Trigger	Ministry incharge click on the “New Student” button	
Description/Main Success scenario	Step	Action
	1	Ministry incharge have to log in first
	2	System show the ministry incharge dashboard
	3	Ministry incharge clicks “Student” button
	4	System will display student Information
	5	Ministry incharge clicks “New Student” button
	6	Ministry incharge fills the required input fields
	7	Successfully are add student in the system
Alternative Flows	Step	Branching Action
	6a	All the required fields are not filled yet
Quality Requirements	N/A	

3.2.16 Add Student Enroll for Ministry Incharge

Use Case	Add Student Enroll	
Goal	Ministry incharge is able to add student & add course information in the system	
Precondition	Ministry incharge have to log in the system	
Success End Condition	Ministry incharge successfully do his work and can add student course enroll assign	
Failed End Condition	Ministry incharge is unable to add student course enroll information	
Primary actor	Ministry Incharge	
Secondary actor	N/A	
Trigger	Ministry incharge click on the “New Student Enroll” button	
Description/Main Success scenario	Step	Action
	1	Ministry incharge have to log in first
	2	System show the ministry incharge dashboard
	3	Ministry incharge clicks “Student Enroll” button
	4	System will display student course enroll Information
	5	Ministry incharge clicks “New Student Enroll” button
	6	Ministry incharge fills the required input fields
	7	Successfully are add student enroll assign in the system
Alternative Flows	Step	Branching Action
	6a	All the required fields are not filled yet
Quality Requirements	N/A	

3.2.17 Login for Teacher

Use Case	Log In	
Goal	Teacher are able to log in and access the site	
Precondition	Teacher account information must exist in the database	
Success End Condition	Teacher will enter their authentic information and can log in. Teacher get access to their dashboard.	
Failed End Condition	Email and password is not valid	
Primary actor	Teacher	
Secondary actor	N/A	
Trigger	Teacher click on the “Log In” button	
Description/Main Success scenario	Step	Action
	1	System displays the Log In page
	2	Teacher enters their email & password
	3	Teacher clicks on the “Log In” button
	4	Teacher successfully logged in the site
	5	Teacher get access to their dashboard
Alternative Flows	Step	Branching Action
	3a	Email and Password is not valid
	4a	Teacher cannot access the system
Quality Requirements	Teacher must fill up the log in field with their authentic information	

3.2.18 View Course Material for Teacher

Use Case	View Course Material	
Goal	Teacher is able to see course material information in the system.	
Precondition	Teacher have to add course material information first	
Success End Condition	Teacher successfully can view course material information.	
Failed End Condition	Teacher is unable to view course material information	
Primary actor	Teacher	
Secondary actor	N/A	
Trigger	Teacher click on the “Course Material” button	
Description/Main Success scenario	Step	Action
	1	Teacher have to log in first
	2	System shows the teacher dashboard
	3	Teacher clicks “Course Material” button
	4	System displays view course material Information
Alternative Flow	Step	Branching Action
	4a	There is no post available in the database
Quality Requirements	N/A	

3.2.19 Add Course Material for Teacher

Use Case	Add Course Material	
Goal	Teacher is able to add course material information in the system	
Precondition	Teacher have to log in the system	
Success End Condition	Teacher successfully do his work and can add course material	
Failed End Condition	Teacher is unable to add course material information	
Primary actor	Teacher	
Secondary actor	N/A	
Trigger	Teacher click on the “New Course Material” button	
Description/Main Success scenario	Step	Action
	1	Teacher have to log in first
	2	System show the Teacher dashboard
	3	Teacher clicks “Course Material” button
	4	System will display course material Information
	5	Teacher clicks “New Course Material” button
	6	Teacher fills the required input fields
	7	Successfully are add course material in the system
Alternative Flows	Step	Branching Action
	6a	All the required fields are not filled yet
Quality Requirements	N/A	

3.2.20 Add Course Material Upload for Teacher

Use Case	Add Course Material Upload	
Goal	Teacher is able to add course material upload information in the system	
Precondition	Teacher have to log in the system	
Success End Condition	Teacher successfully do his work and can add course material & add course material upload	
Failed End Condition	Teacher is unable to add course material upload information	
Primary actor	Teacher	
Secondary actor	N/A	
Trigger	Teacher click on the “New Upload Lecture” button	
Description/Main Success scenario	Step	Action
	1	Teacher have to log in first
	2	System show the Teacher dashboard
	3	Teacher clicks “Upload Lecture” button
	4	System will display course material upload Information
	5	Teacher clicks “New Upload Lecture” button
	6	Teacher fills the required input fields
	7	Successfully are add course material in the system
Alternative Flows	Step	Branching Action
	6a	All the required fields are not filled yet
Quality Requirements	N/A	

3.2.21 Delete Course Material Upload for Teacher

Use Case	Delete Course Material Upload	
Goal	Teacher is able to Delete course material upload information in the system.	
Precondition	Teacher have to add course material upload & add material upload information first	
Success End Condition	Teacher successfully do his work and can delete course material upload	
Failed End Condition	Teacher is unable to delete course material upload information	
Primary actor	Teacher	
Secondary actor	N/A	
Trigger	Teacher click on the “Delete Upload Lecture” button	
Description/Main Success scenario	Step	Action
	1	System shows the teacher dashboard
	2	Teacher clicks “Upload Lecture” button
	3	System displays course material upload information
	4	Teacher clicks “Delete Upload Lecture” button
	5	System shows the delete course material upload form
Alternative Flows	Step	Branching Action
	5a	Cannot access the system
Quality Requirements	N/A	

3.2.22 View Quiz for Teacher

Use Case	View Quiz	
Goal	Teacher is able to see quiz information in the system.	
Precondition	Teacher have to add quiz information first	
Success End Condition	Teacher successfully can view quiz information.	
Failed End Condition	Teacher is unable to view quiz information	
Primary actor	Teacher	
Secondary actor	N/A	
Trigger	Teacher click on the “Quiz” button	
Description/Main Success scenario	Step	Action
	1	Teacher have to log in first
	2	System shows the teacher dashboard
	3	Teacher clicks “Quiz” button
	4	System displays view quiz Information
Alternative Flow	Step	Branching Action
	4a	There is no quiz post available in the database
Quality Requirements	N/A	

3.2.23 Add Quiz for Teacher

Use Case	Add Quiz	
Goal	Teacher is able to add quiz information in the system	
Precondition	Teacher have to log in the system	
Success End Condition	Teacher successfully do his work and can add quiz	
Failed End Condition	Teacher is unable to add quiz information	
Primary actor	Teacher	
Secondary actor	N/A	
Trigger	Teacher click on the “Add quiz” button	
Description/Main Success scenario	Step	Action
	1	Teacher have to log in first
	2	System show the teacher dashboard
	3	Teacher clicks “Quiz” button
	4	System will display quiz Information
	5	Teacher clicks “Add Quiz” button
	6	Teacher fills the required input fields
	7	Successfully are add quiz in the system
Alternative Flows	Step	Branching Action
	6a	All the required fields are not filled yet
Quality Requirements	N/A	

3.2.24 Update Quiz for Teacher

Use Case	Update Quiz	
Goal	Teacher is able to update quiz information in the system.	
Precondition	Teacher have to add quiz information first	
Success End Condition	Teacher successfully do his work and can update quiz	
Failed End Condition	Teacher is unable to update quiz	
Primary actor	Teacher	
Secondary actor	N/A	
Trigger	Teacher click on the “quiz name” button	
Description/Main Success scenario	Step	Action
	1	System shows the Teacher dashboard
	2	Teacher clicks “Quiz” button
	3	System displays quiz information
	4	Teacher clicks “quiz name” button
	5	System shows the modifiable input fields to the Teacher
	6	Teacher modifies the field and click on “Save changes” button
	7	When you update the quiz, you can view questions
	8	System shows “successfully update quiz” notification
		Step
Alternative Flows	5a	There modifiable input fields are not filled yet
Quality Requirements	N/A	

3.2.25 Add Question for Teacher

Use Case	Add Question	
Goal	Teacher is able to add question information in the system	
Precondition	Teacher have to log in the system	
Success End Condition	Teacher successfully do his work and can add question	
Failed End Condition	Teacher is unable to add question information	
Primary actor	Teacher	
Secondary actor	N/A	
Trigger	Teacher click on the “Add question” button	
Description/Main Success scenario	Step	Action
	1	System show the teacher dashboard
	2	Teacher clicks “Quiz” button
	3	System will display quiz Information
	4	Teacher clicks “quiz name” button
	5	Teacher clicks “Add question” button
	6	Teacher fills the required input fields
	7	Successfully are add question in the system
Alternative Flows	Step	Branching Action
	6a	All the required fields are not filled yet
Quality Requirements	N/A	

3.2.26 Add Answer for Teacher

Use Case	Add Answer	
Goal	Teacher is able to add answer information in the system	
Precondition	Teacher have to log in the system	
Success End Condition	Teacher successfully do his work and can add answer	
Failed End Condition	Teacher is unable to add answer information	
Primary actor	Teacher	
Secondary actor	N/A	
Trigger	Teacher click on the “question name” button	
Description/Main Success scenario	Step	Action
	1	System show the teacher dashboard
	2	Teacher clicks “Quiz” button
	3	System will display quiz Information
	4	Teacher clicks “quiz name” button
	5	System will display question Information
	6	Teacher clicks “question name” button
	7	Teacher fills the required input fields
	8	Successfully are add answer in the system
Alternative Flows	Step	Branching Action
	7a	All the required fields are not filled yet
Quality Requirements	N/A	

3.2.27 View Result for Teacher

Use Case	View Result	
Goal	Teacher is able to see result information in the system.	
Precondition	First student have to attempt quiz	
Success End Condition	Teacher successfully can view question information.	
Failed End Condition	Teacher is unable to view question information	
Primary actor	Teacher	
Secondary actor	N/A	
Trigger	Teacher click on the “Quiz” button	
Description/Main Success scenario	Step	Action
	1	System show the teacher dashboard
	2	Teacher clicks “Quiz” button
	3	Teacher clicks “View Results” button
	4	System displays view result Information
Alternative Flow	Step	Branching Action
	4a	There is no result available in the database
Quality Requirements	N/A	

3.2.28 Sign Up for Student

Use Case	Sign Up	
Goal	Student can create an account successfully	
Precondition	N/A	
Success End Condition	New account is created and access his site	
Failed End Condition	Already have an account with the given email address	
Primary actor	Student	
Secondary actor	N/A	
Trigger	Student click on the “Sign Up” button	
Description/Main Success scenario	Step	Action
	1	System displays the sign up page
	2	Student fills up the required fields
	3	Student clicks on the “Submit” button
	4	Student check his email to active accounts
	5	Student get access to their dashboard
Alternative Flows	Step	Branching Action
	3a	Mandatory / required input fields are not filled in
	4a	Student cannot access the system
Quality Requirements	Student must fill up the log in field with their authentic information	

3.2.29 View Course for Student

Use Case	View Course	
Goal	Student is able to see course information in the system.	
Precondition		
Success End Condition	Student successfully can view courses information.	
Failed End Condition	Student is unable to view courses information	
Primary actor	Student	
Secondary actor	N/A	
Trigger	Student click on the “Courses” button	
Description/Main Success scenario	Step	Action
	1	System show the user dashboard
	2	Student clicks “Courses” button
	3	System displays view courses Information
Alternative Flow	Step	Branching Action
	2a	There is no courses available in the database
Quality Requirements	N/A	

3.2.30 Course Enroll for Student

Use Case	Course Enroll	
Goal	Students will be able to enroll in the course	
Precondition	Student log in first	
Success End Condition	Student successfully do his work and can enroll course	
Failed End Condition	Student is unable to enroll course	
Primary actor	Student	
Secondary actor	N/A	
Trigger	Student click on the “Courses” than “Course Details” button	
Description/Main Success scenario	Step	Action
	1	System shows the Student dashboard
	2	Student clicks “Courses” button
	3	System displays courses information
		Student clicks “Course Details” button
	4	System shows course details to the Student
	5	Student click on “Enroll Now” button
	6	System shows “successfully course enroll” notification
Alternative Flows	Step	Branching Action
	5a	Student must log in in the system
Quality Requirements	N/A	

3.2.31 View Course Material Lecture for Student

Use Case	View Course Material Lecture	
Goal	Students can view enroll course material lecture	
Precondition	Student will be able to enroll in the course	
Success End Condition	Student successfully do his work and can view enroll course material lecture	
Failed End Condition	Student is unable to view enroll course material lecture	
Primary actor	Student	
Secondary actor	N/A	
Trigger	Student click on the “Courses” than “Course Details” button	
Description/Main Success scenario	Step	Action
	1	System shows the Student dashboard
	2	Student clicks “Courses” button
	3	System displays courses information
	4	Student clicks “Course Details” button
	5	System shows course details to the Student
	6	Student click on “Go To Course” button
	7	System shows view enroll courses material lecture
Alternative Flows	Step	Branching Action
	6a	Student must be enroll course in in the system
Quality Requirements	N/A	

3.2.32 View Quiz for Student

Use Case	View Quiz	
Goal	Students will be able to view quiz in the course	
Precondition	Student will be able to enroll in the course	
Success End Condition	Student successfully do his work and can view quiz course	
Failed End Condition	Student is unable to view quiz course	
Primary actor	Student	
Secondary actor	N/A	
Trigger	Student click on the “My Accounts” button	
Description/Main Success scenario	Step	Action
	1	System shows the Student dashboard
	2	Student clicks “My Accounts” button
	3	Student clicks “My Quiz” button, than clicks “New” button
	4	System displays user view quiz information
Alternative Flows	Step	Branching Action
	4a	Student will be able to enroll in the course
Quality Requirements	N/A	

3.2.33 Attempt Quiz for Student

Use Case	Attempt Quiz	
Goal	Students will be able to attempt quiz in the course	
Precondition	Student will be able to enroll in the course	
Success End Condition	Student successfully do his work and can attempt quiz course	
Failed End Condition	Student is unable to attempt quiz course	
Primary actor	Student	
Secondary actor	N/A	
Trigger	Student click on the “My Accounts” button	
Description/Main Success scenario	Step	Action
	1	System shows the Student dashboard
	2	Student clicks “My Accounts” button
	3	Student clicks “My Quiz” button, than clicks “New” button
	4	System displays user view quiz information
	5	Student clicks “Start” button. Quiz is start.
	6	Finishing quiz system auto show result
Alternative Flows	Step	Branching Action
	4a	Student will be able to enroll in the course
Quality Requirements	N/A	

3.2.34 View Taken Quiz Result for Student

Use Case	View Taken Quiz Result	
Goal	Students will be able to view taken quiz results in the course	
Precondition	Student will be able to enroll in the course	
Success Condition	End	Student successfully do his work and can view taken quiz result course
Failed Condition	End	Student is unable to view taken quiz result course
Primary actor	Student	
Secondary actor	N/A	
Trigger	Student click on the “My Accounts” button	
Description/Main Success scenario	Step	Action
	1	System shows the Student dashboard
	2	Student clicks “My Accounts” button
	3	Student clicks “My Quiz” button, than clicks “Taken” button
	4	System displays user view taken quiz result information
Alternative Flows	Step	Branching Action
	4a	Student will be able to enroll in the course
Quality Requirements	N/A	

3.3 Activity Diagram
3.3.1 Super Admin

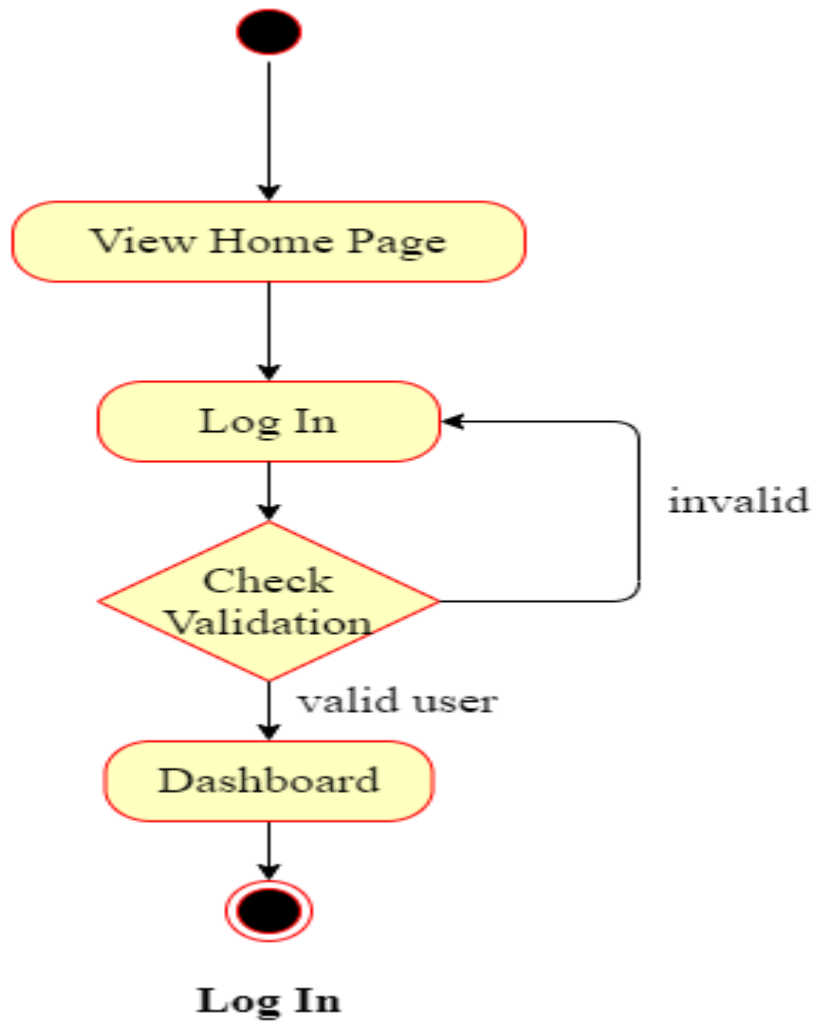


Figure 3.5: Activity Diagram for Super Admin Log In

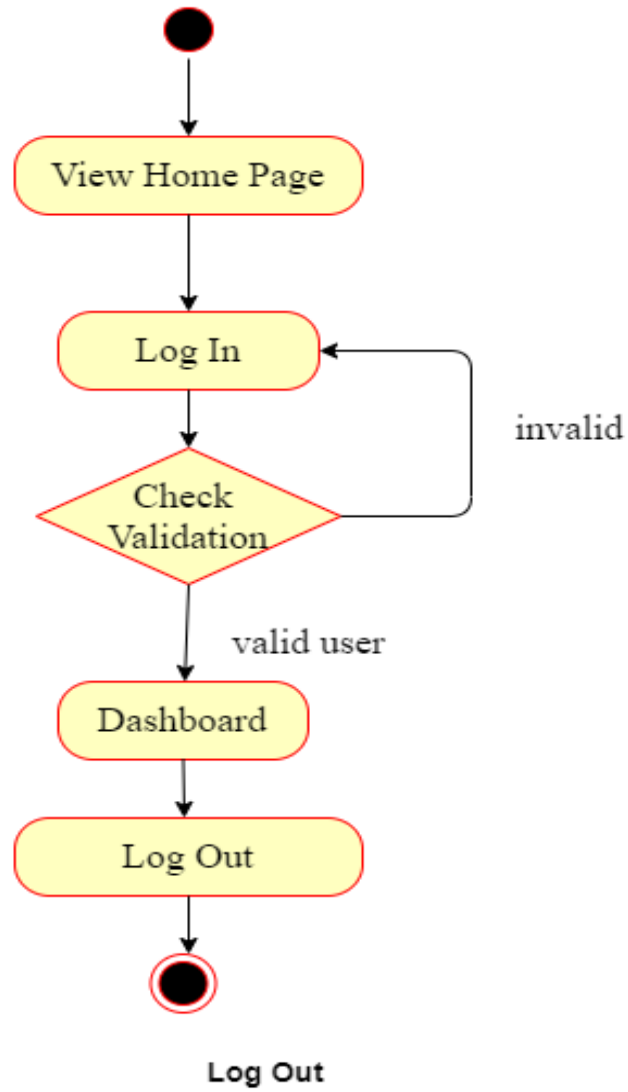


Figure 3.6: Activity Diagram for Super Admin Log Out

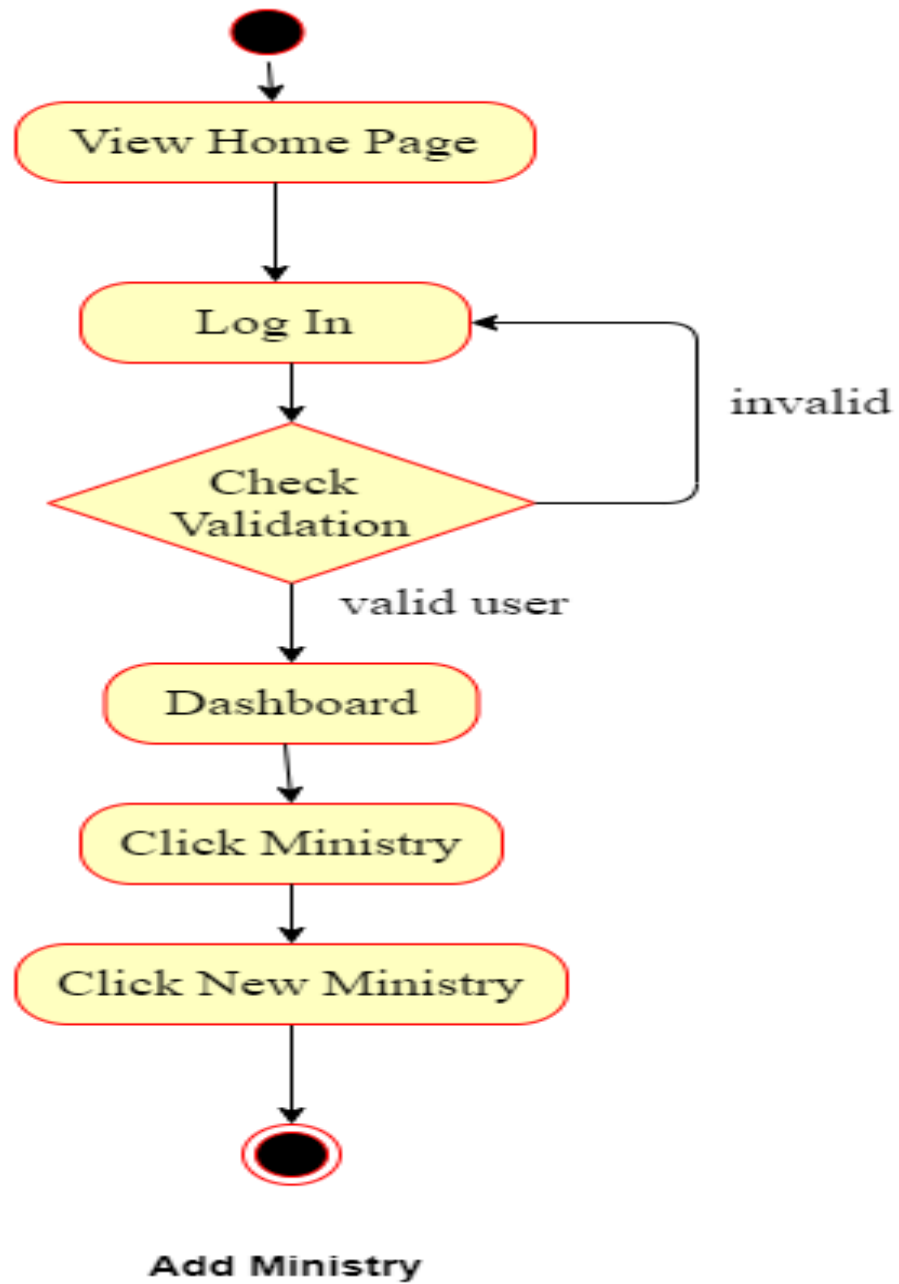
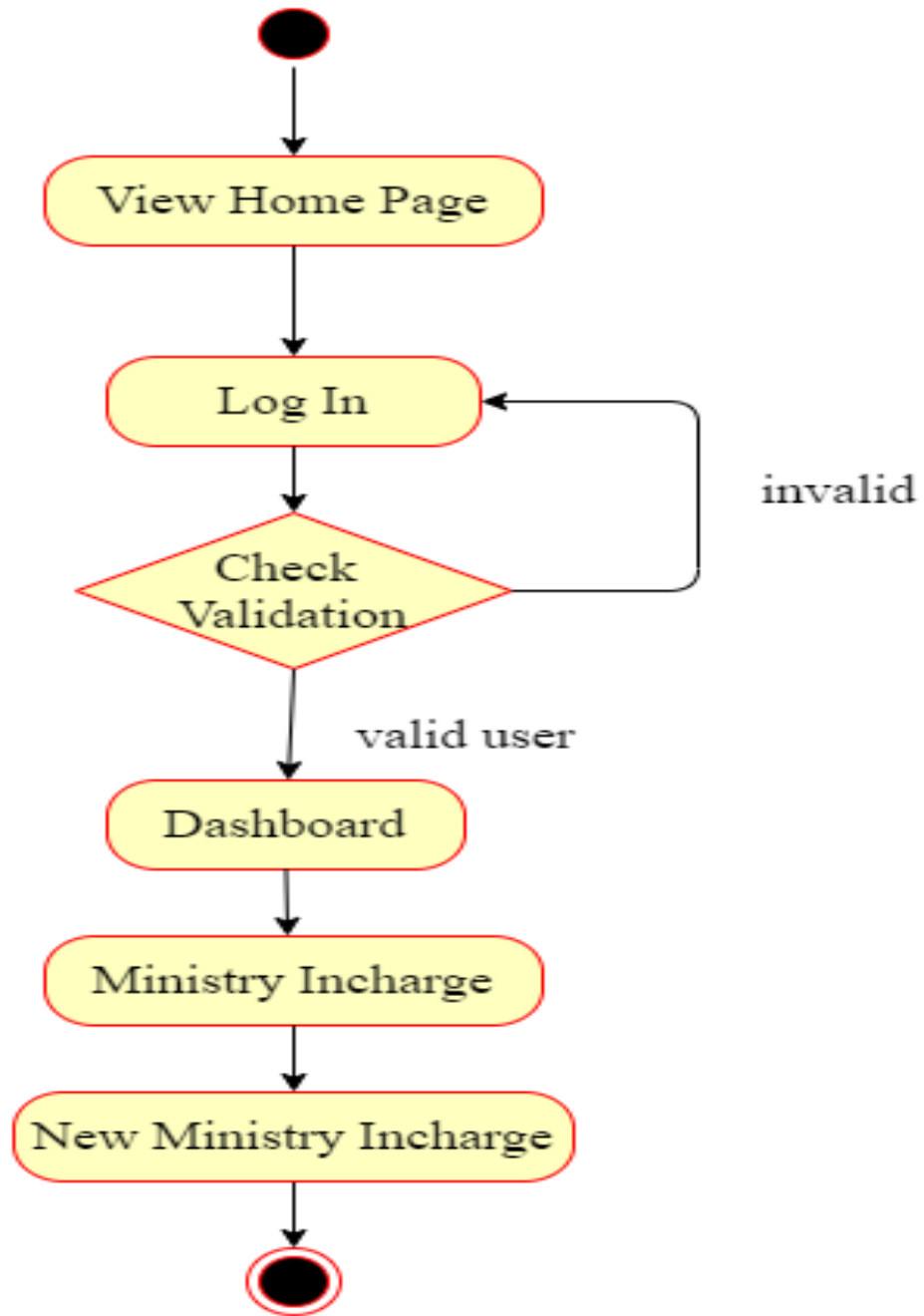


Figure 3.7: Activity Diagram for Super Admin Add Ministry



Add Ministry Incharge for super admin

Figure 3.8: Activity Diagram for Super Admin Add Ministry Incharge

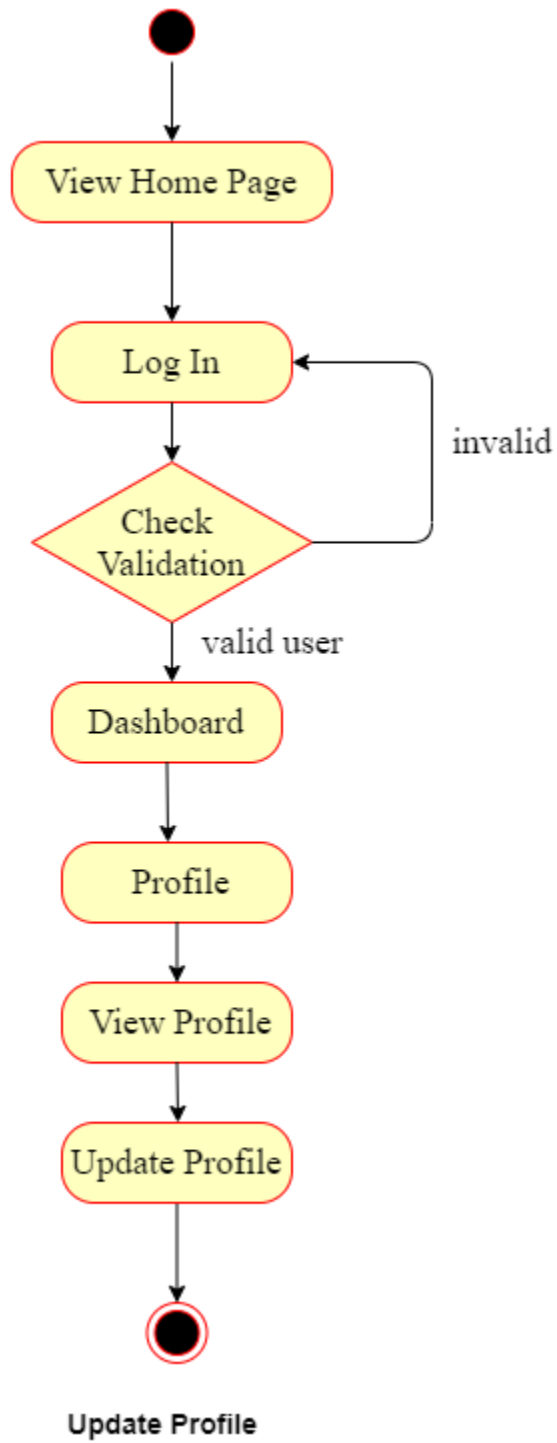


Figure 3.9: Activity Diagram for Super Admin Update Profile

3.3.2 Ministry Incharge

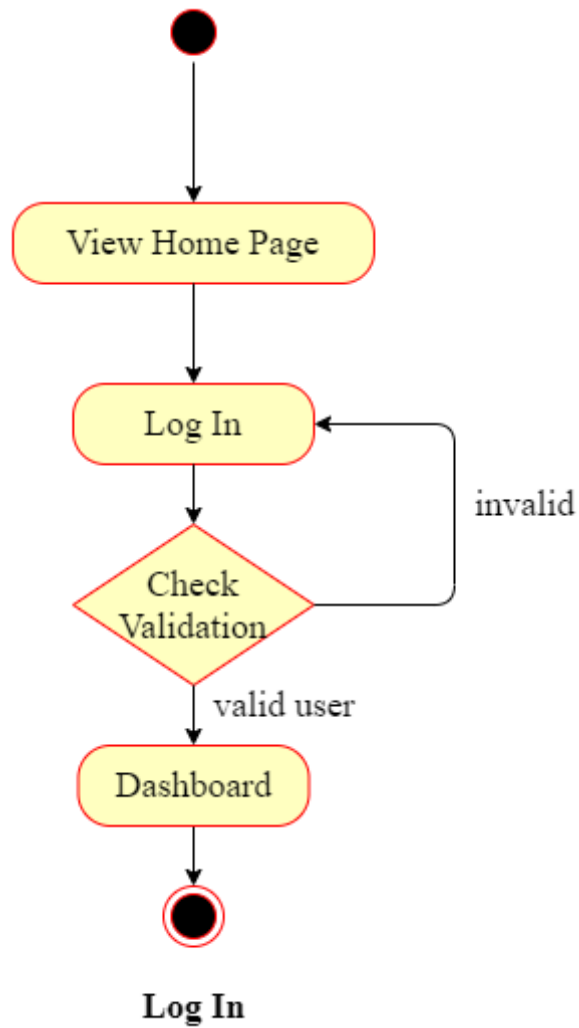


Figure 3.10: Activity Diagram for Ministry Incharge Log In

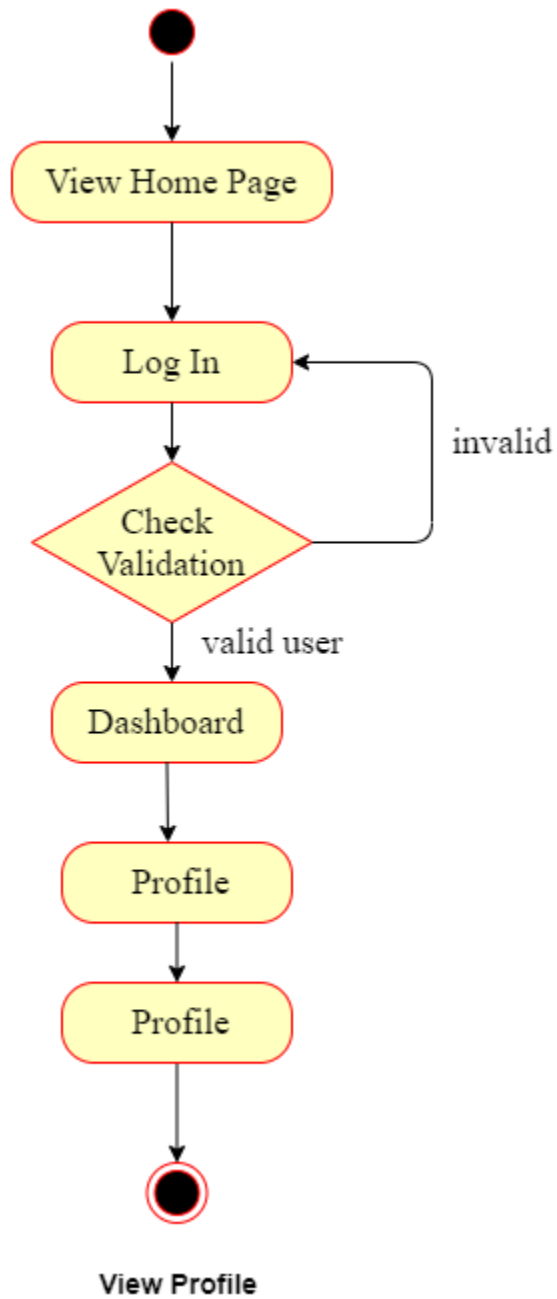
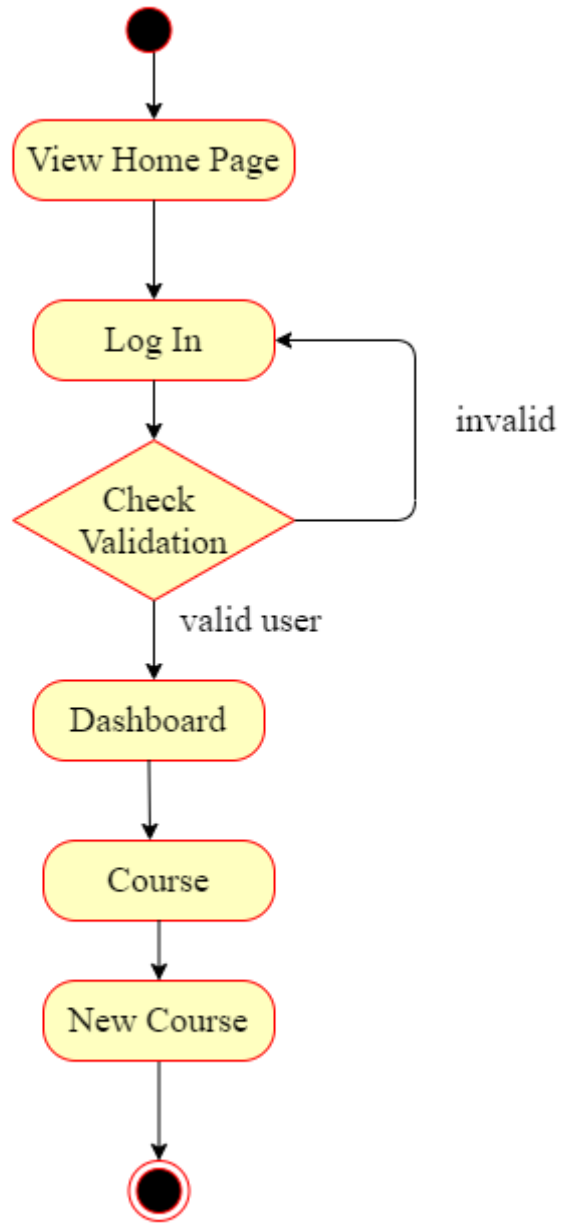
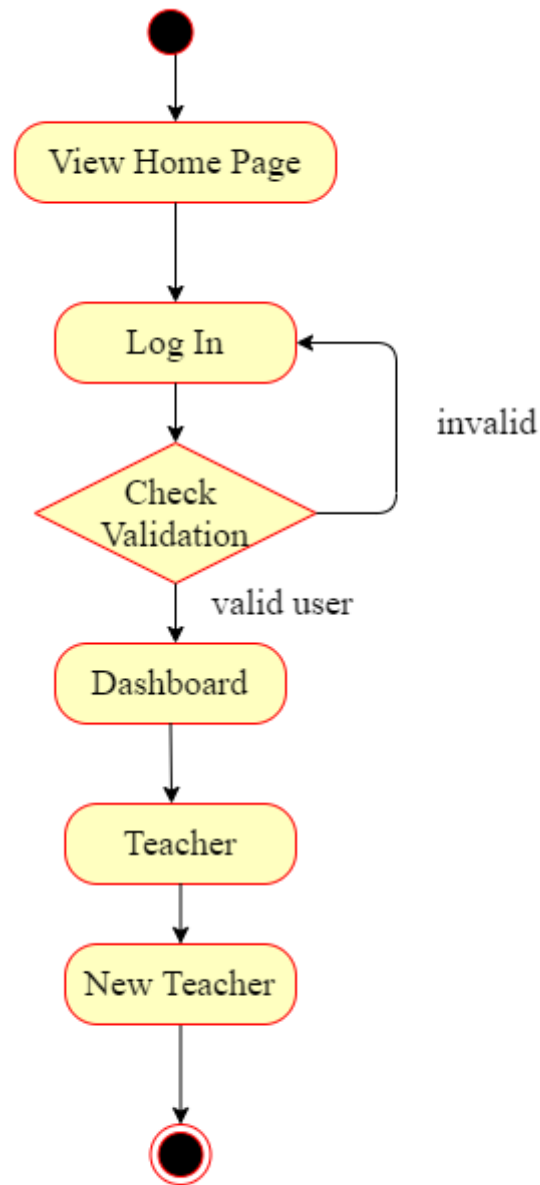


Figure 3.11: Activity Diagram for Ministry Incharge View Profile



add Course for Ministry Incharge

Figure 3.12: Activity Diagram for Ministry Incharge Add Course



Add Teacher

Figure 3.13: Activity Diagram for Ministry Incharge Add Teacher

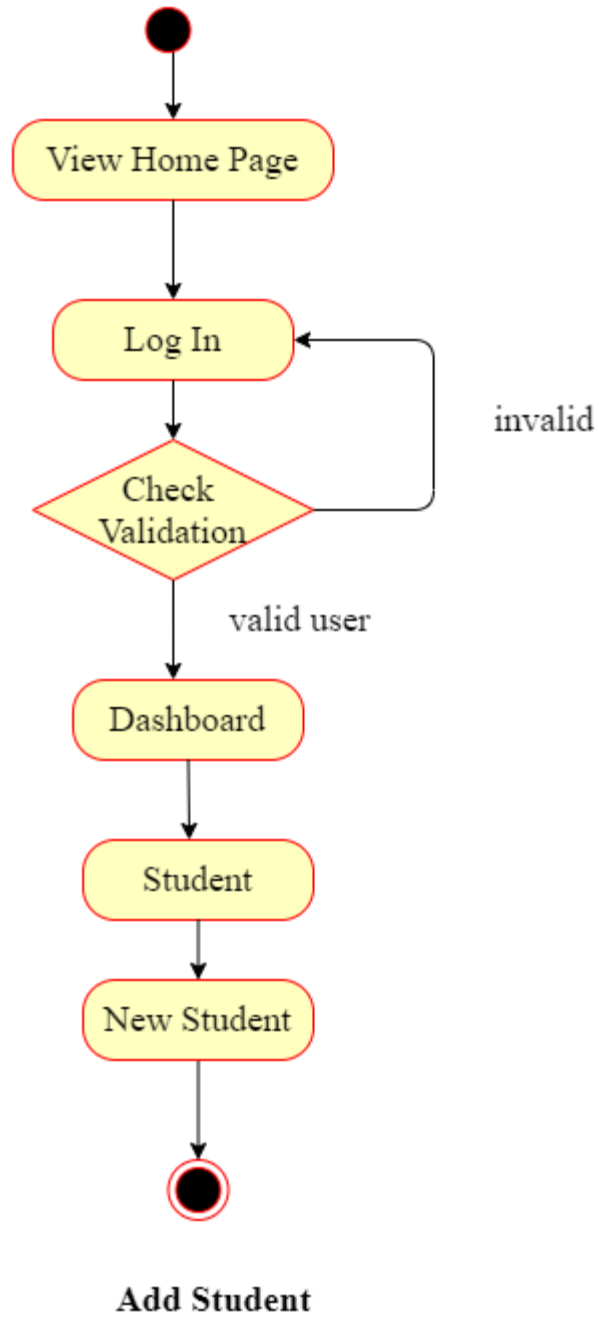


Figure 3.14: Activity Diagram for Ministry Incharge Add Student

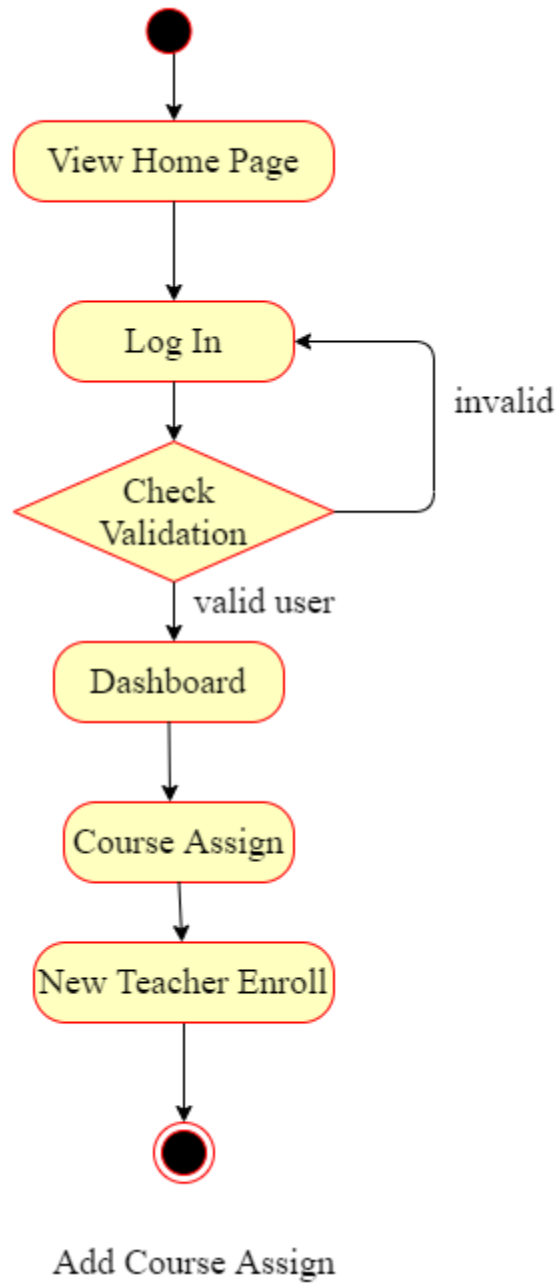
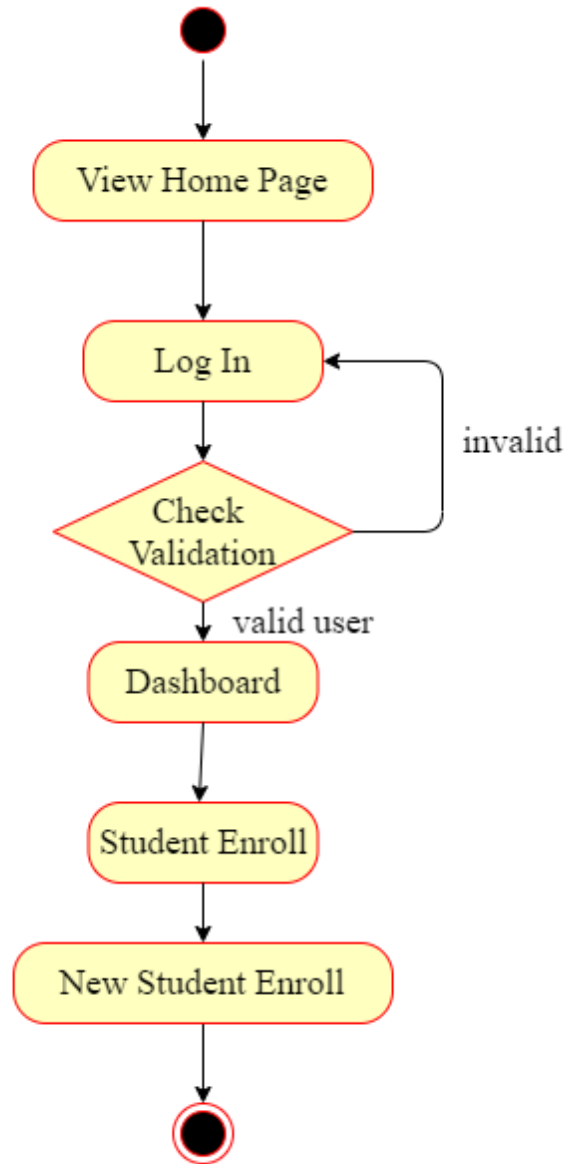


Figure 3.15: Activity Diagram for Ministry Incharge Add Course Assign



Student Enroll for Ministry Incharge

Figure 3.16: Activity Diagram for Ministry Incharge Add Student Enroll

3.3.3 Teacher

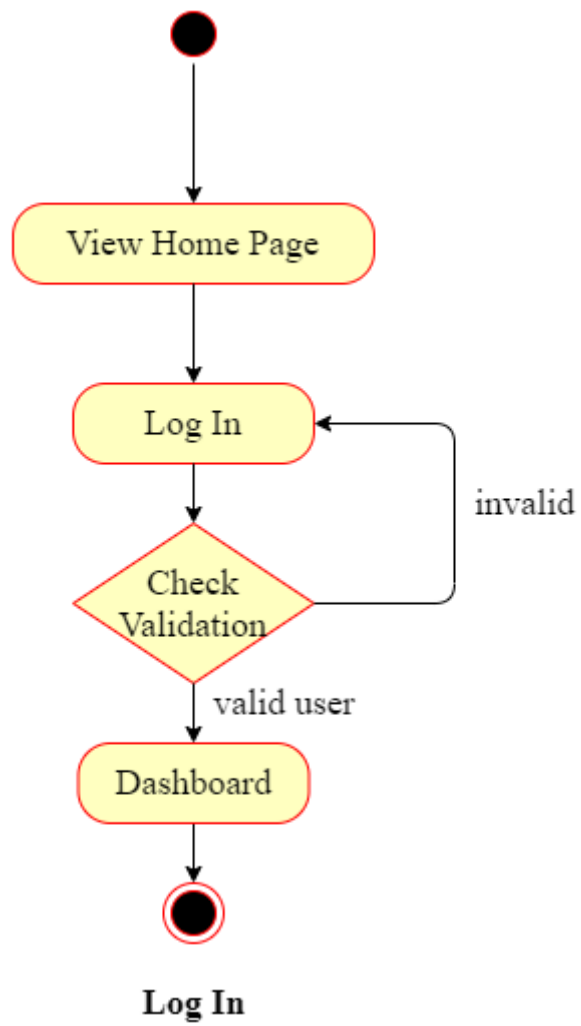


Figure 3.17: Activity Diagram for Teacher Log In

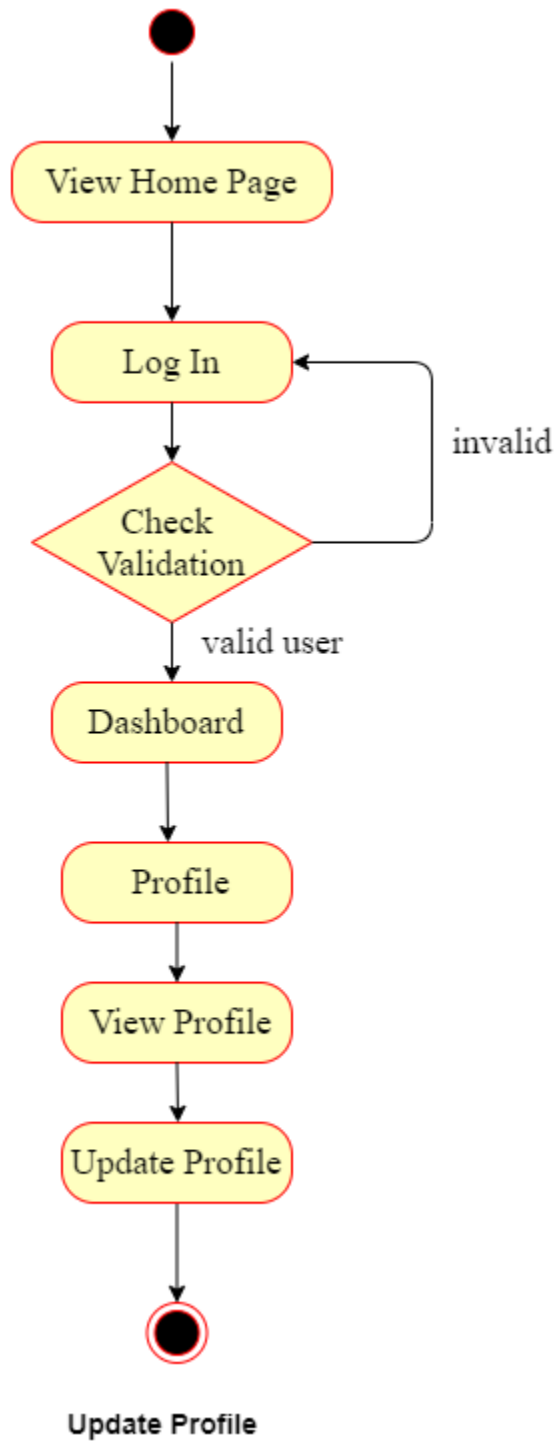
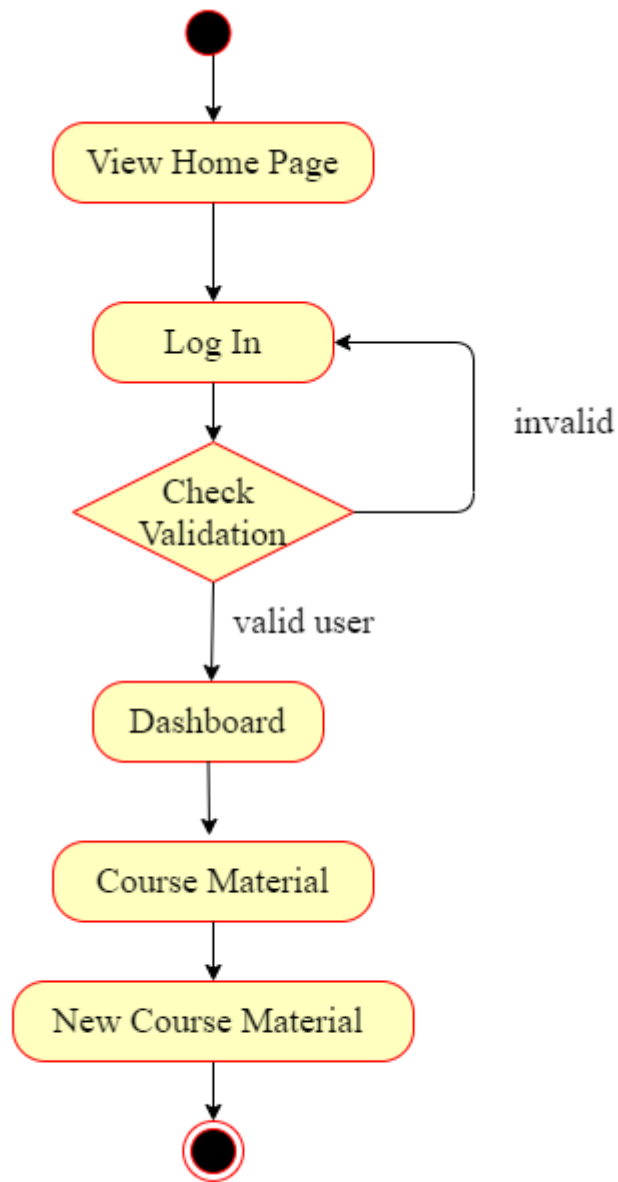
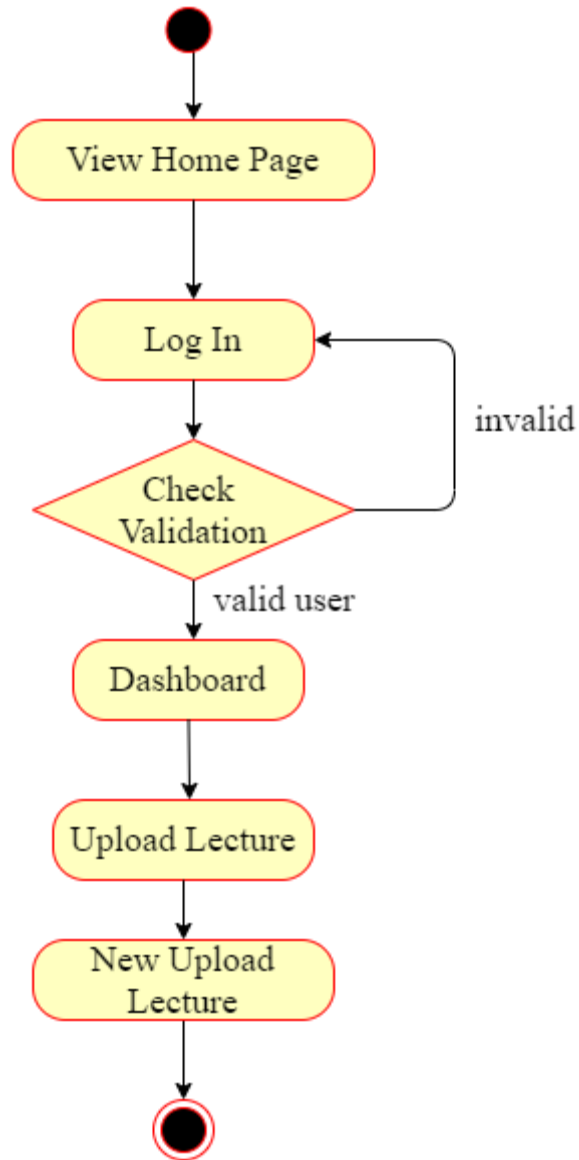


Figure 3.18: Activity Diagram for Teacher Update Profile



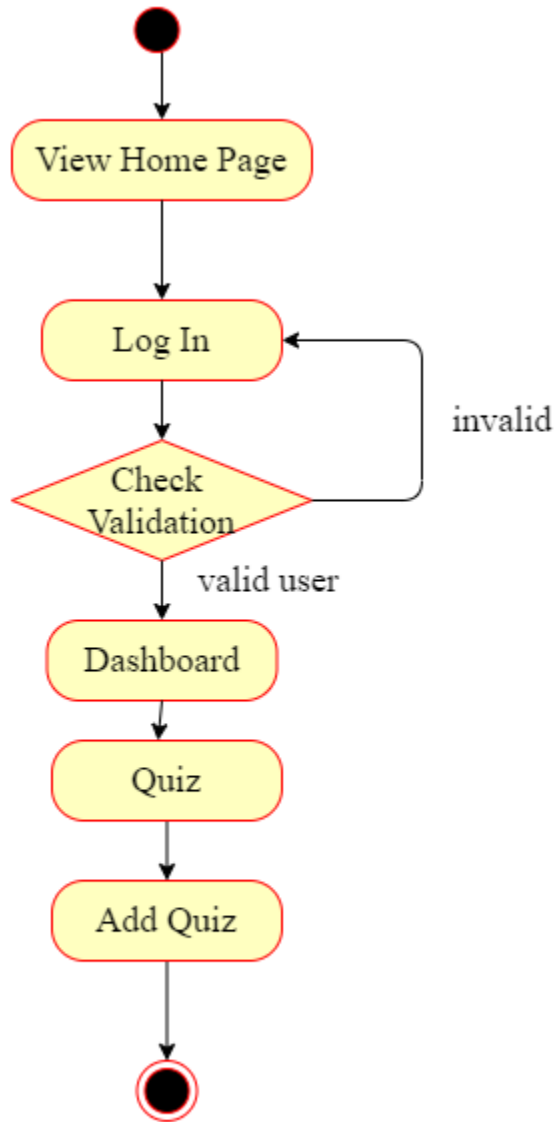
Add Course Material for Teacher

Figure 3.19: Activity Diagram for Teacher Add Course Material



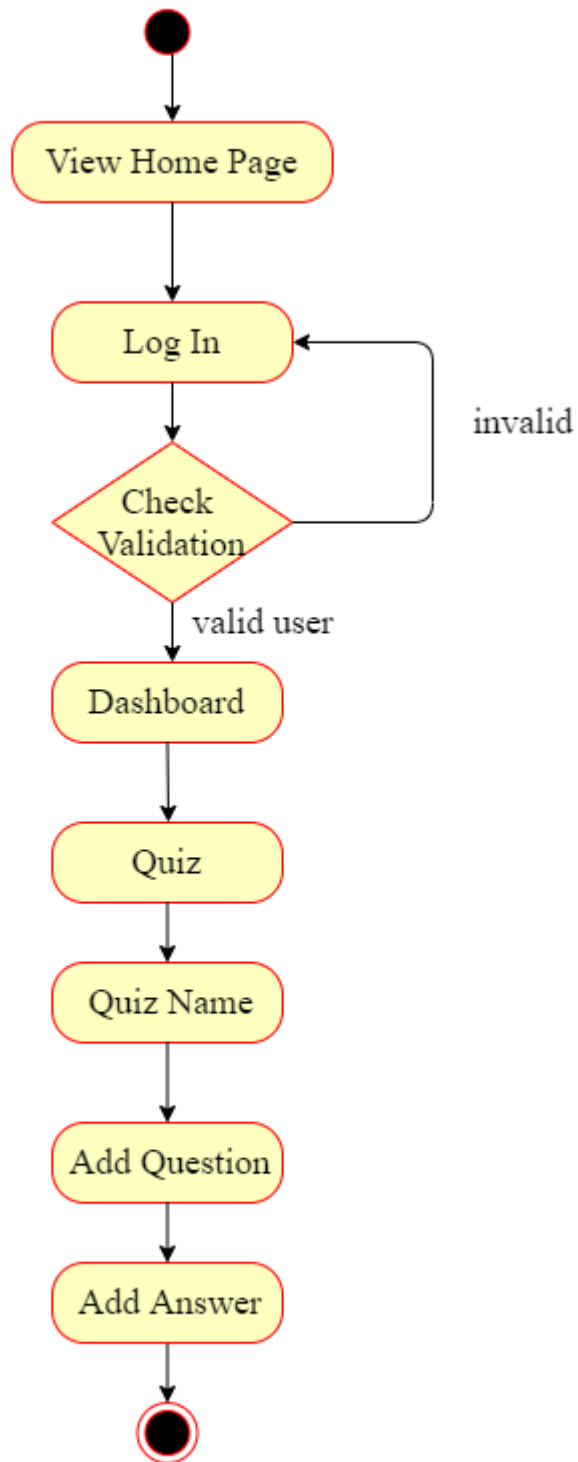
Add Course Material Upload

Figure 3.20: Activity Diagram for Teacher Add Course Material Upload



Add Quiz for Teacher

Figure 3.21: Activity Diagram for Teacher Add Quiz



Add Question & Answer for Teacher

Figure 3.22: Activity Diagram for Teacher Add Question & Answer

3.3.4 Student

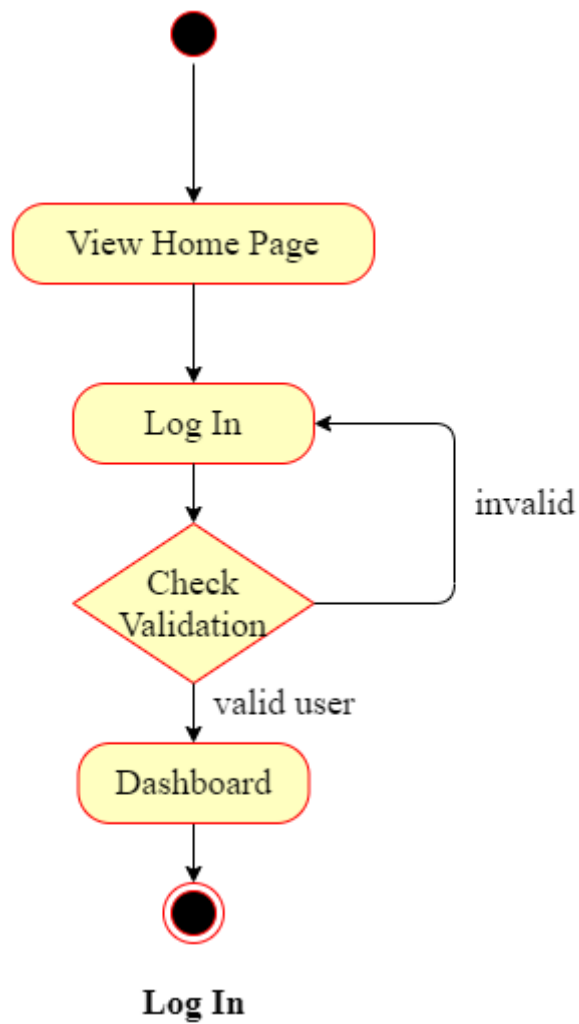


Figure 3.23: Activity Diagram for Student Log In

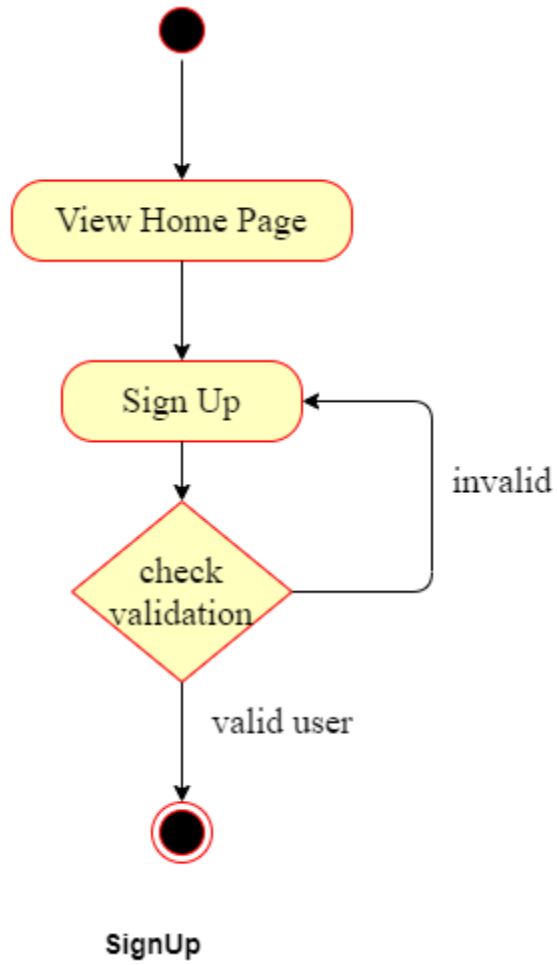


Figure 3.24: Activity Diagram for Student Sign Up

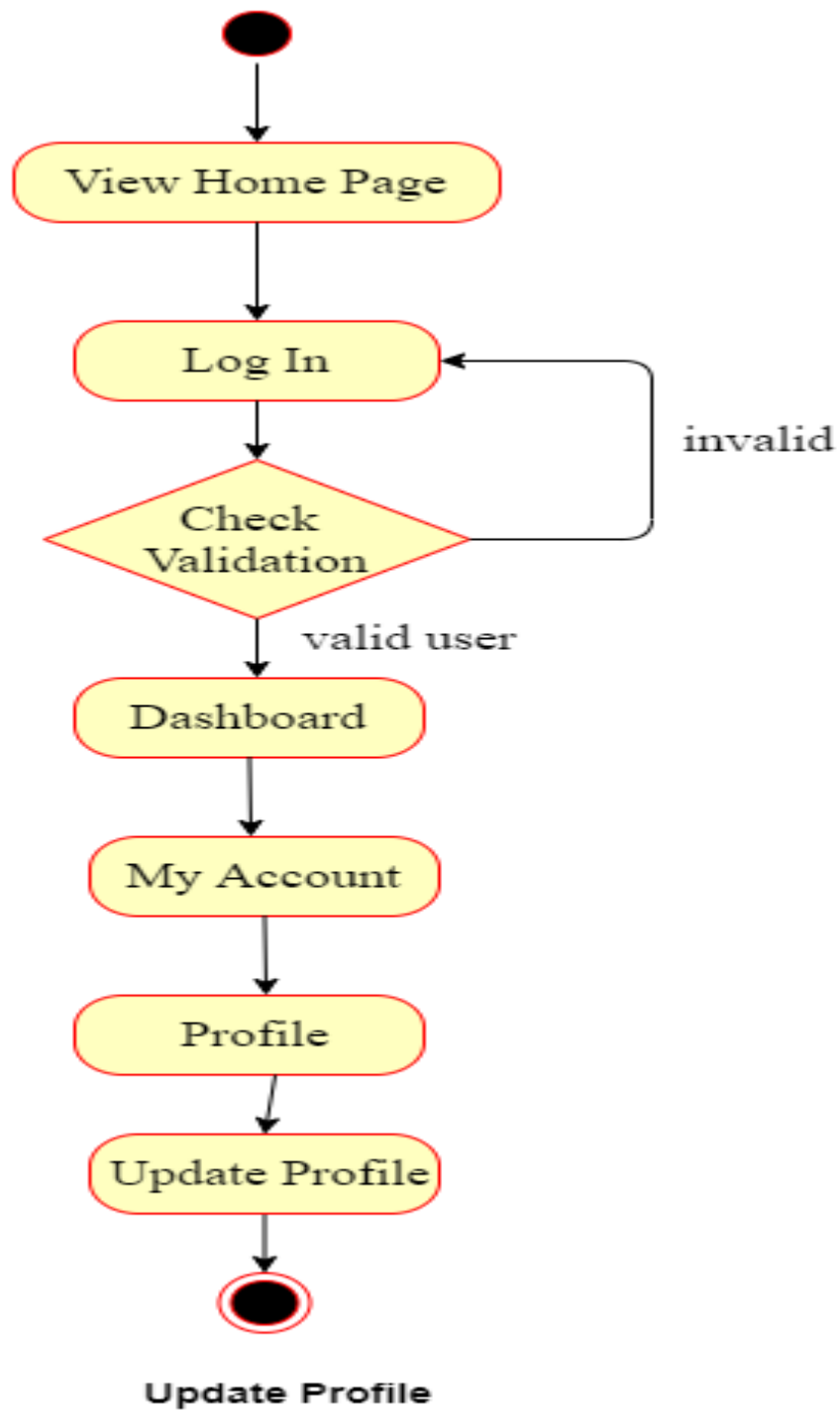


Figure 3.25: Activity Diagram for Student Update Profile

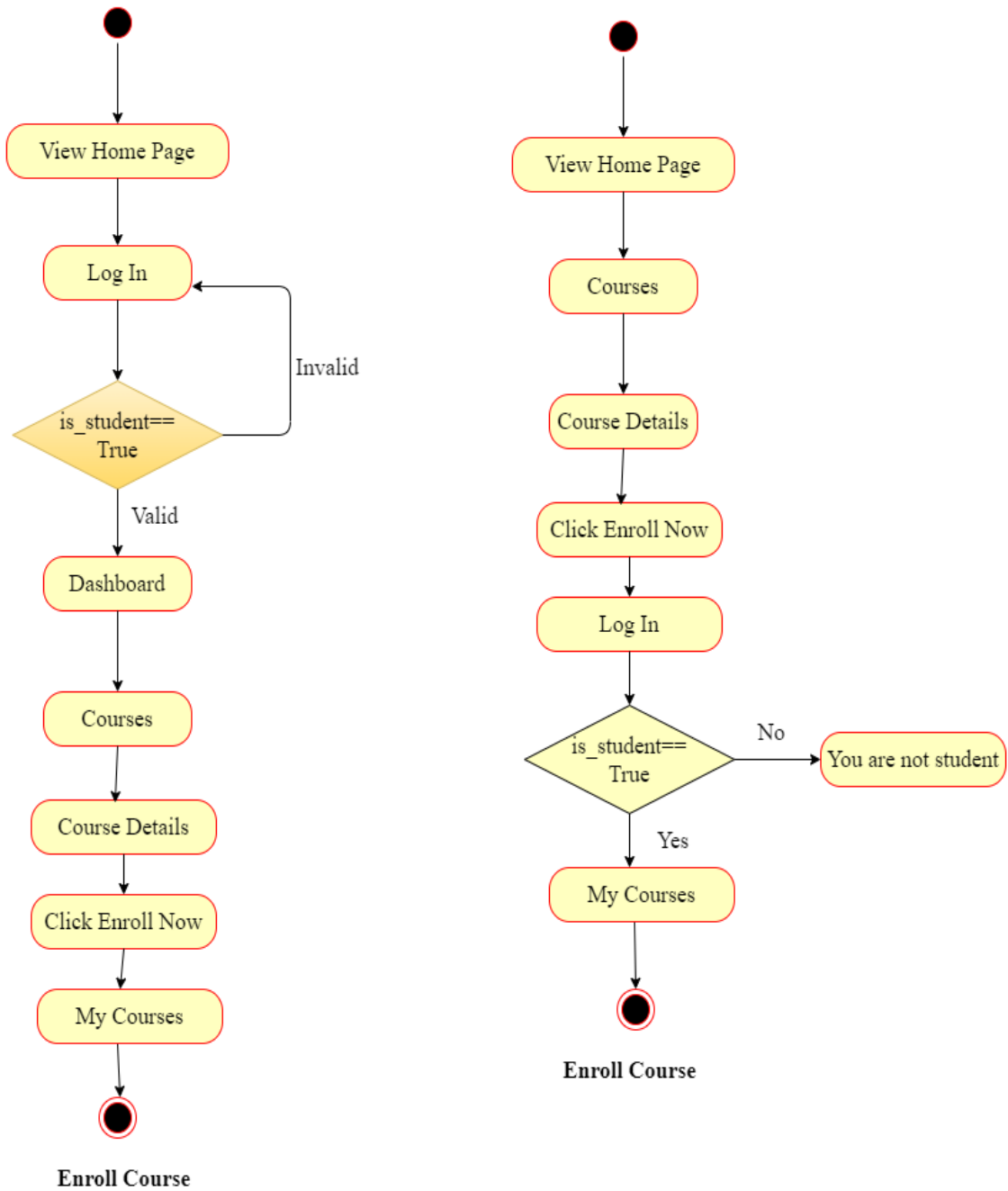
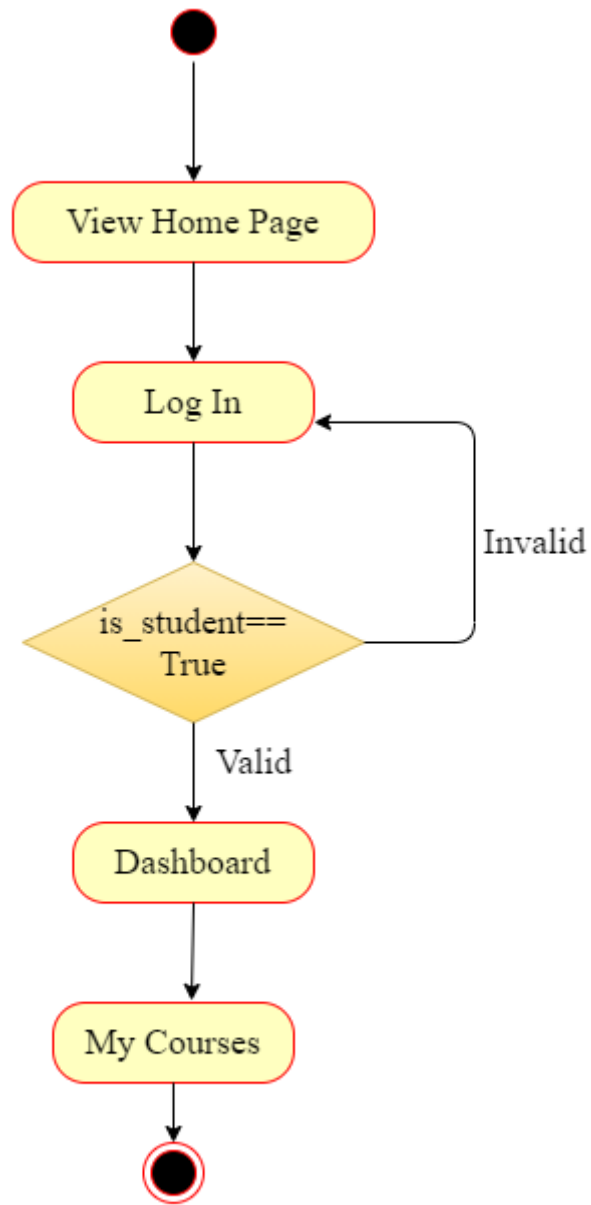


Figure 3.26: Activity Diagram for Student Enroll Course



View Enroll Courses

Figure 3.27: Activity Diagram for Student View Enroll Courses

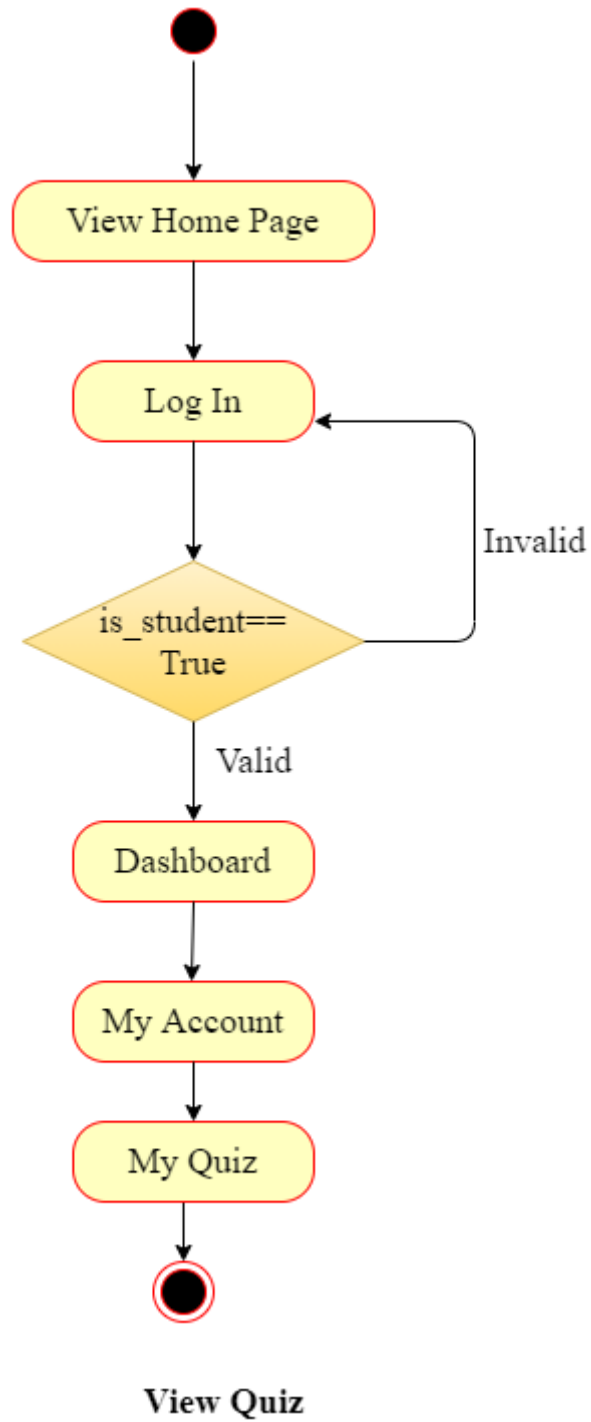
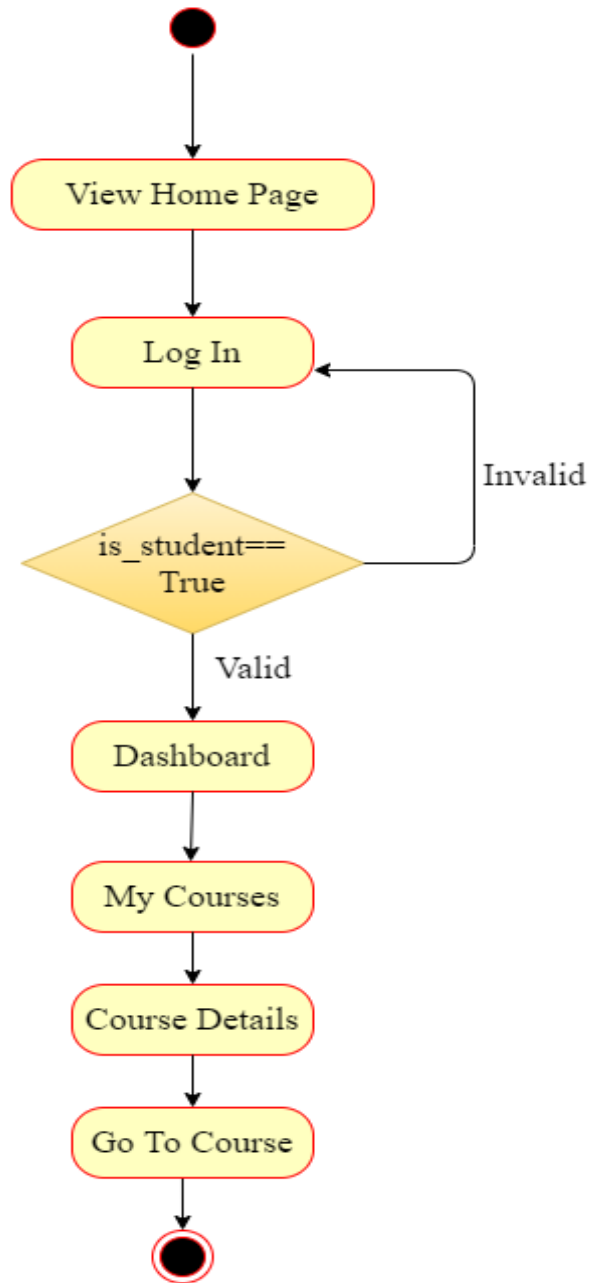
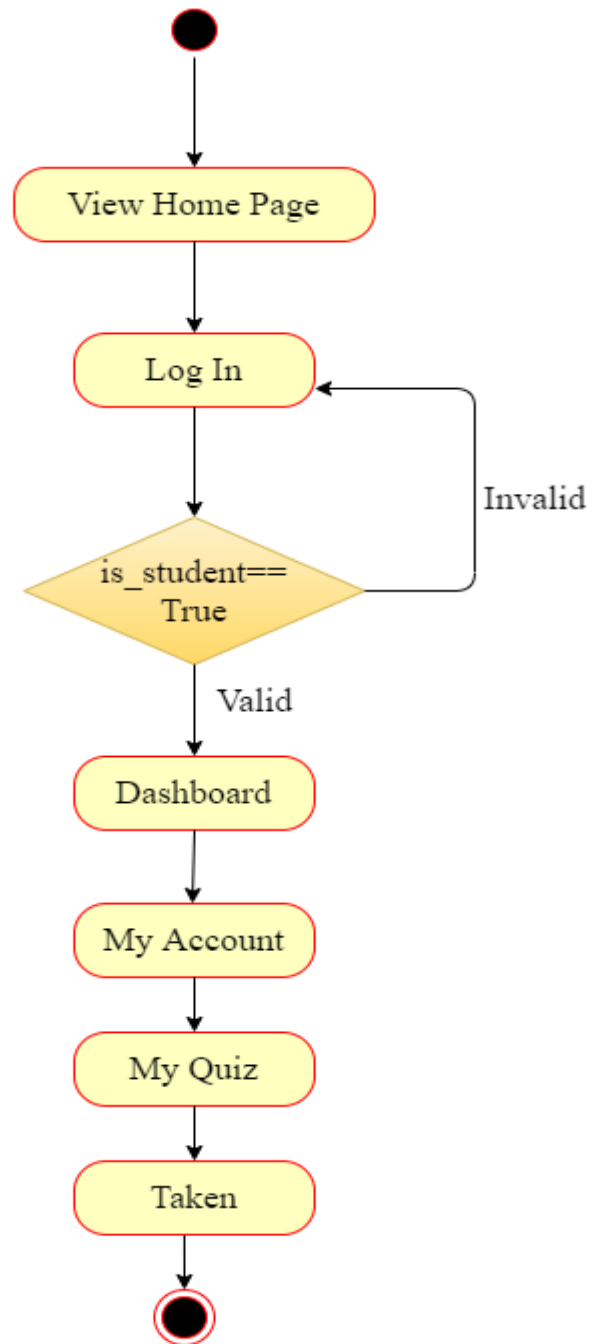


Figure 3.28: Activity Diagram for Student View Quiz



View Enroll Courses Material Lecture

Figure 3.29: Activity Diagram for Student View Enroll Course Material Lecture



View Taken Quiz & View Taken Quiz Result

Figure 3.30: Activity Diagram for Student View Taken Quiz & View Taken Quiz Result

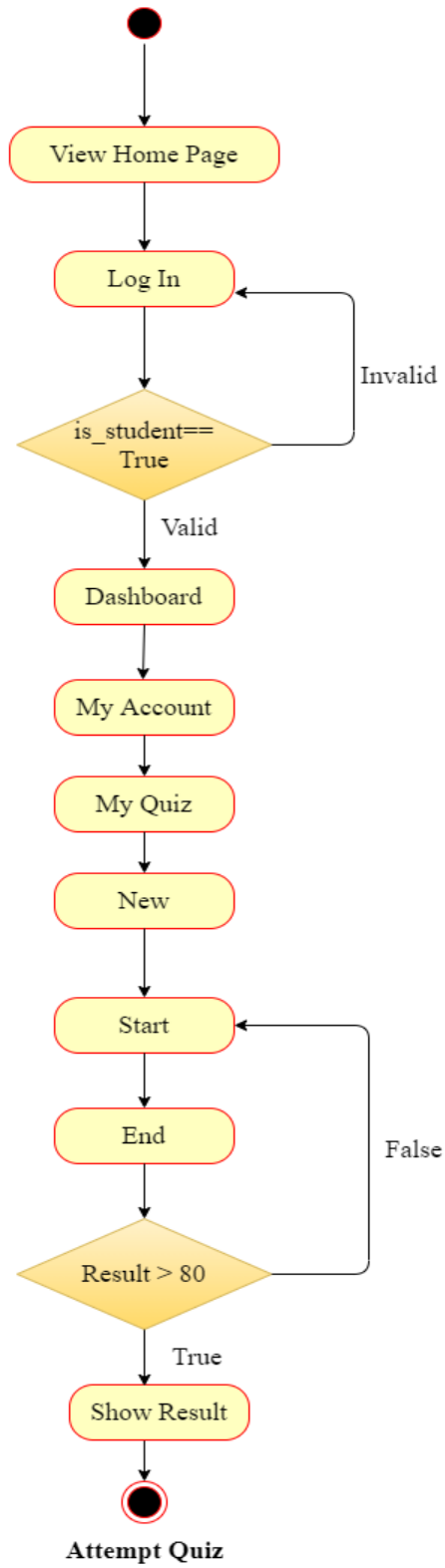


Figure 3.31: Activity Diagram for Student Attempt Quiz

3.4 Sequence Diagram

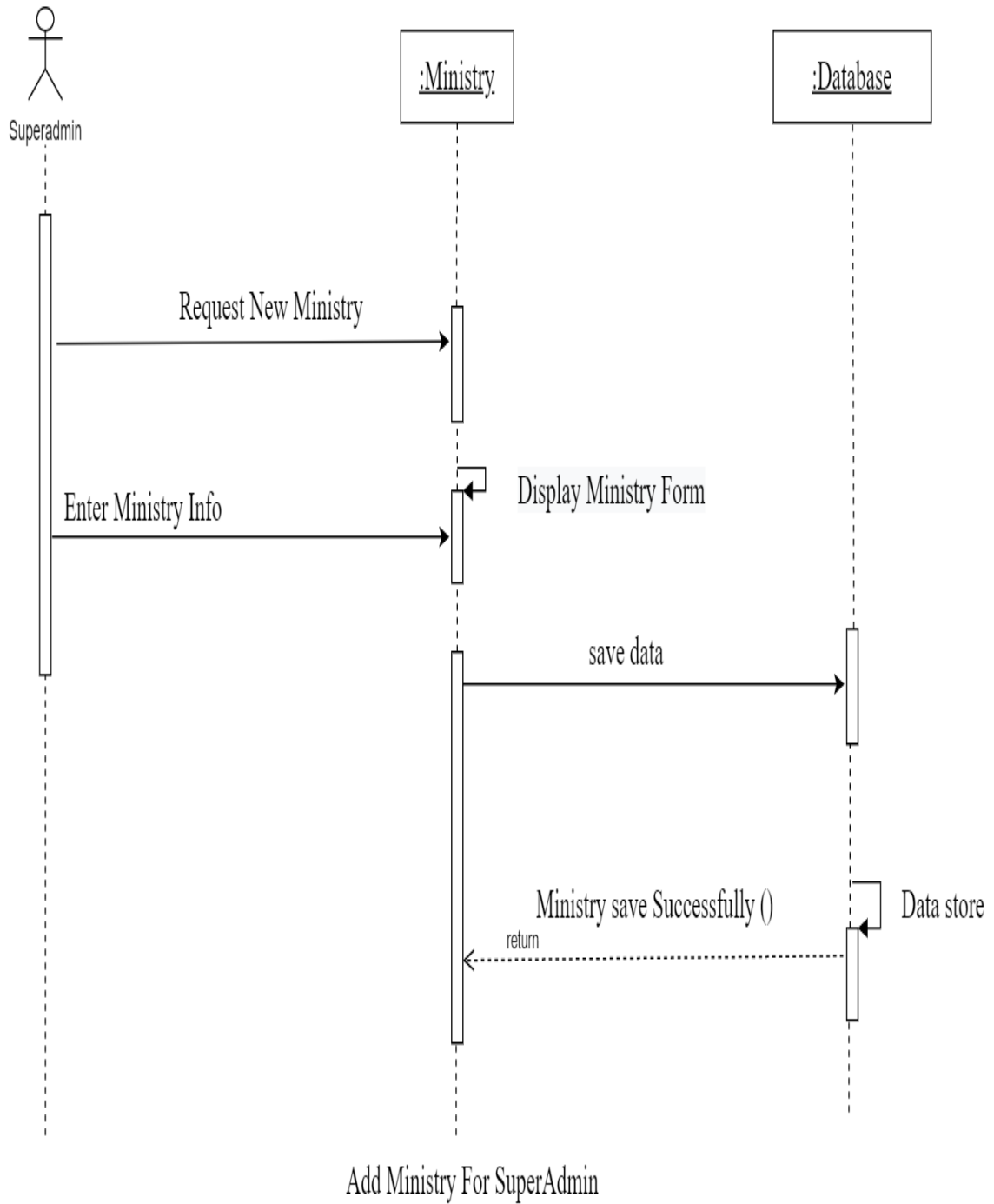


Figure 3.32: Add Ministry for Super Admin

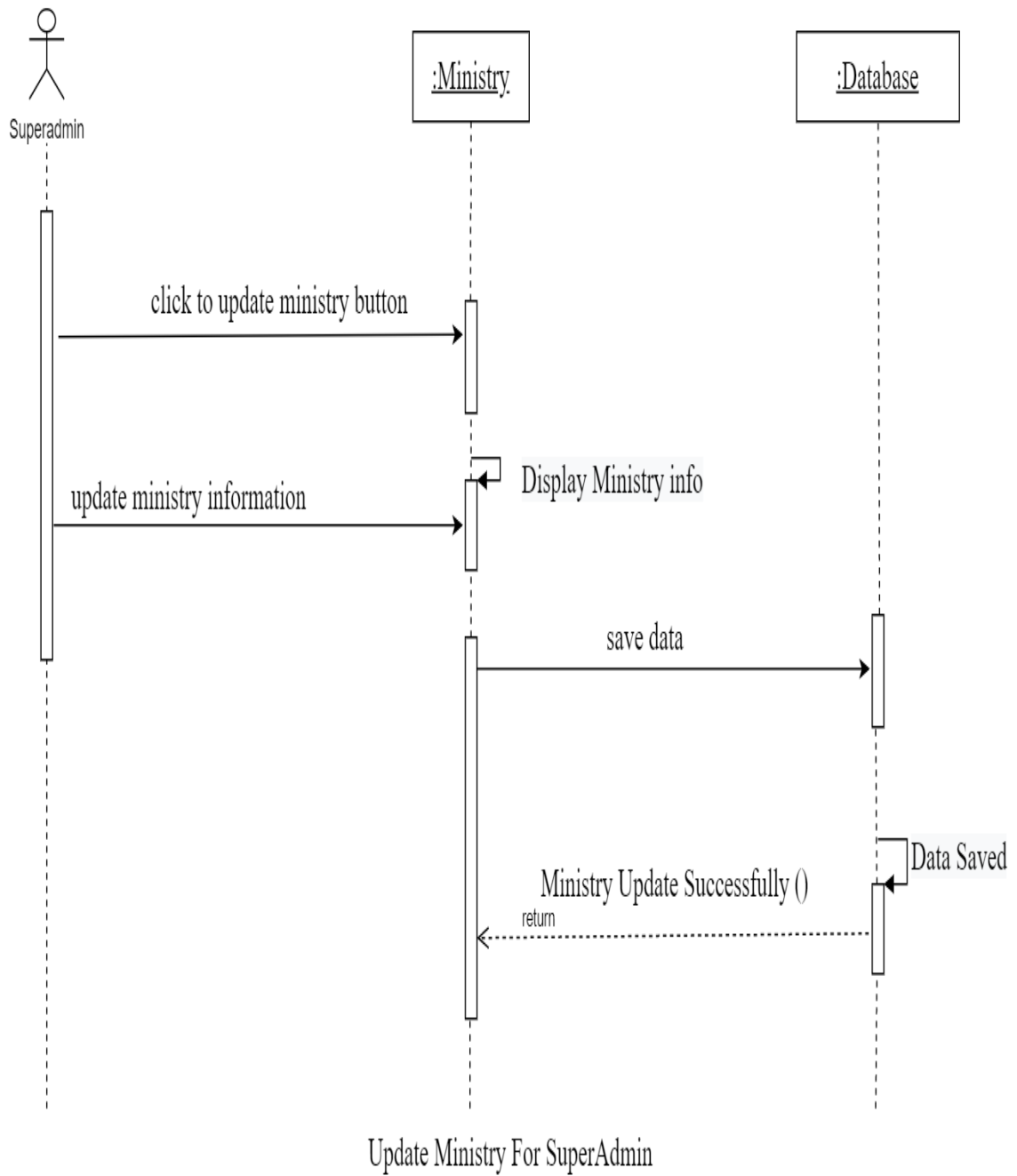
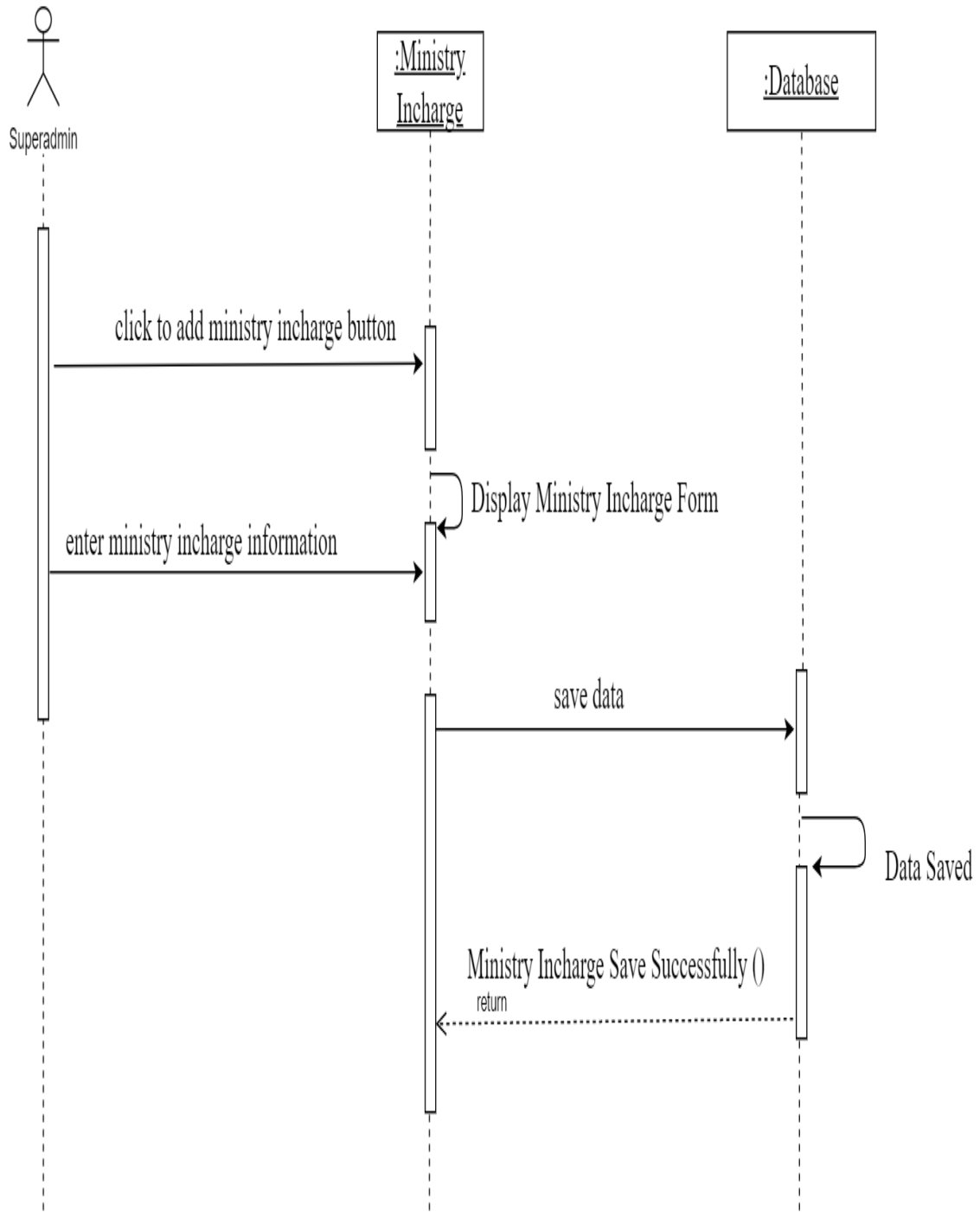
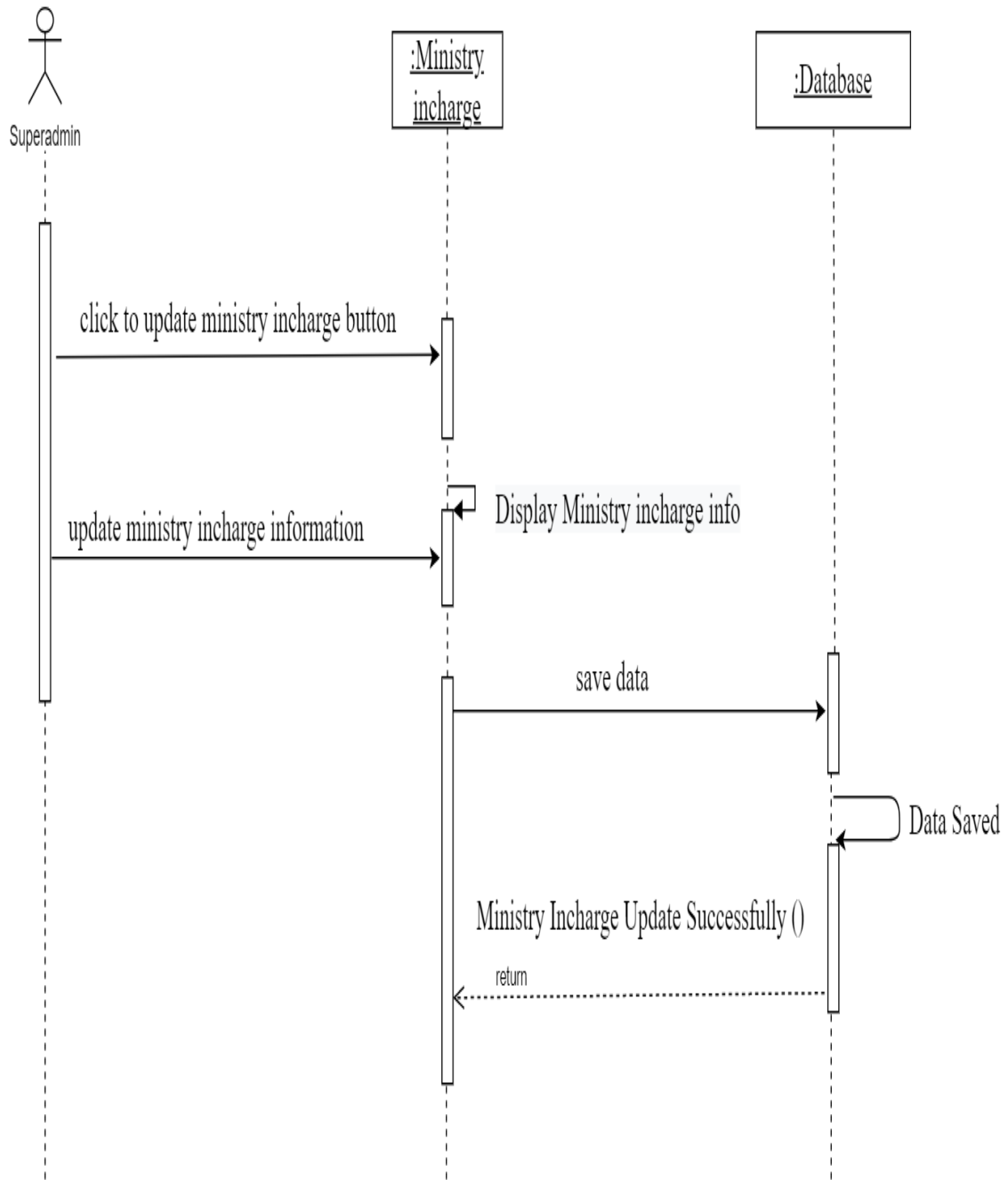


Figure 3.33: Update Ministry for Super Admin



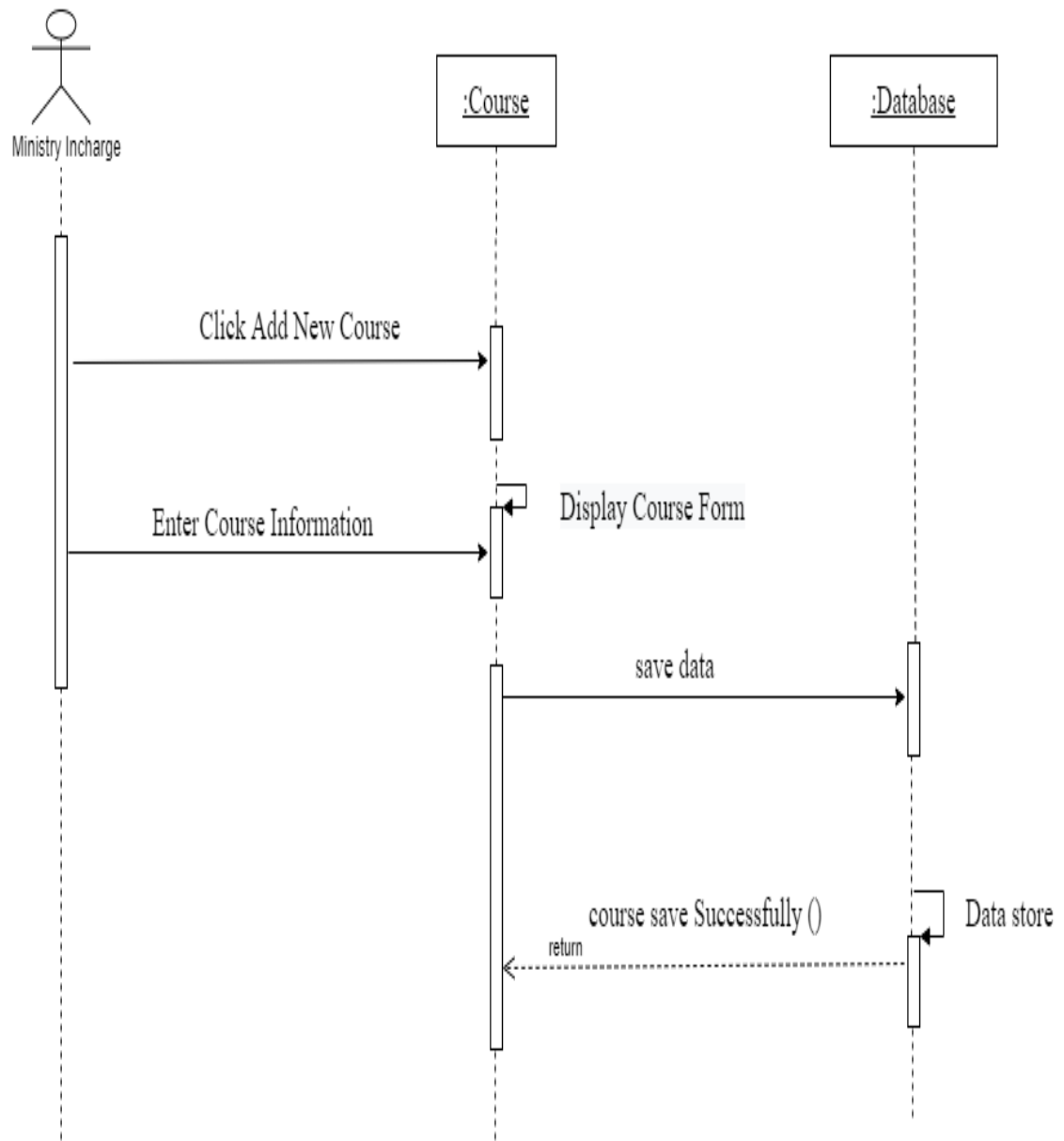
Add Ministry Incharge For SuperAdmin

Figure 3.34: Add Ministry Incharge for Super Admin



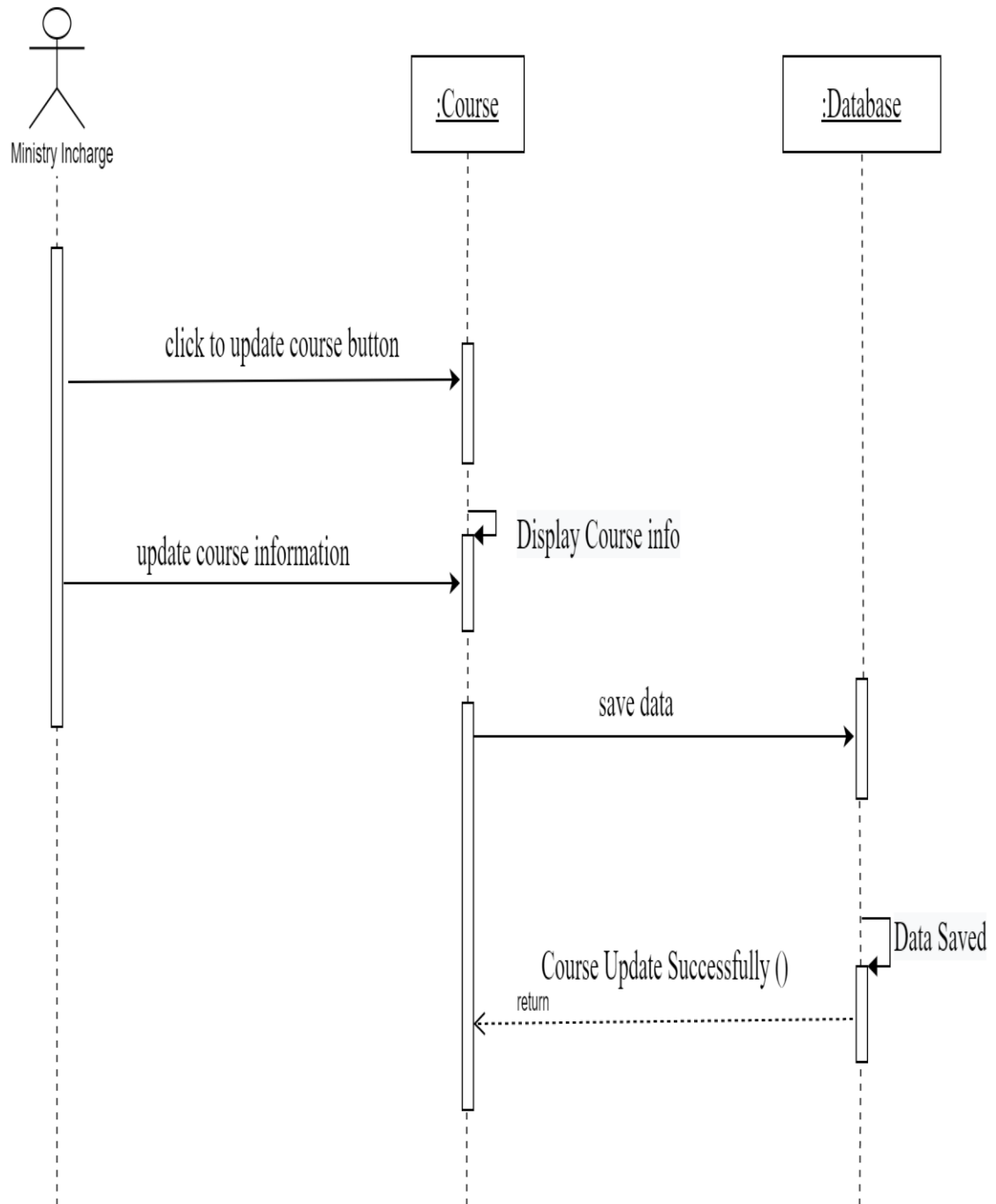
Update Ministry Incharge For SuperAdmin

Figure 3.35: Update Ministry Incharge for Super Admin



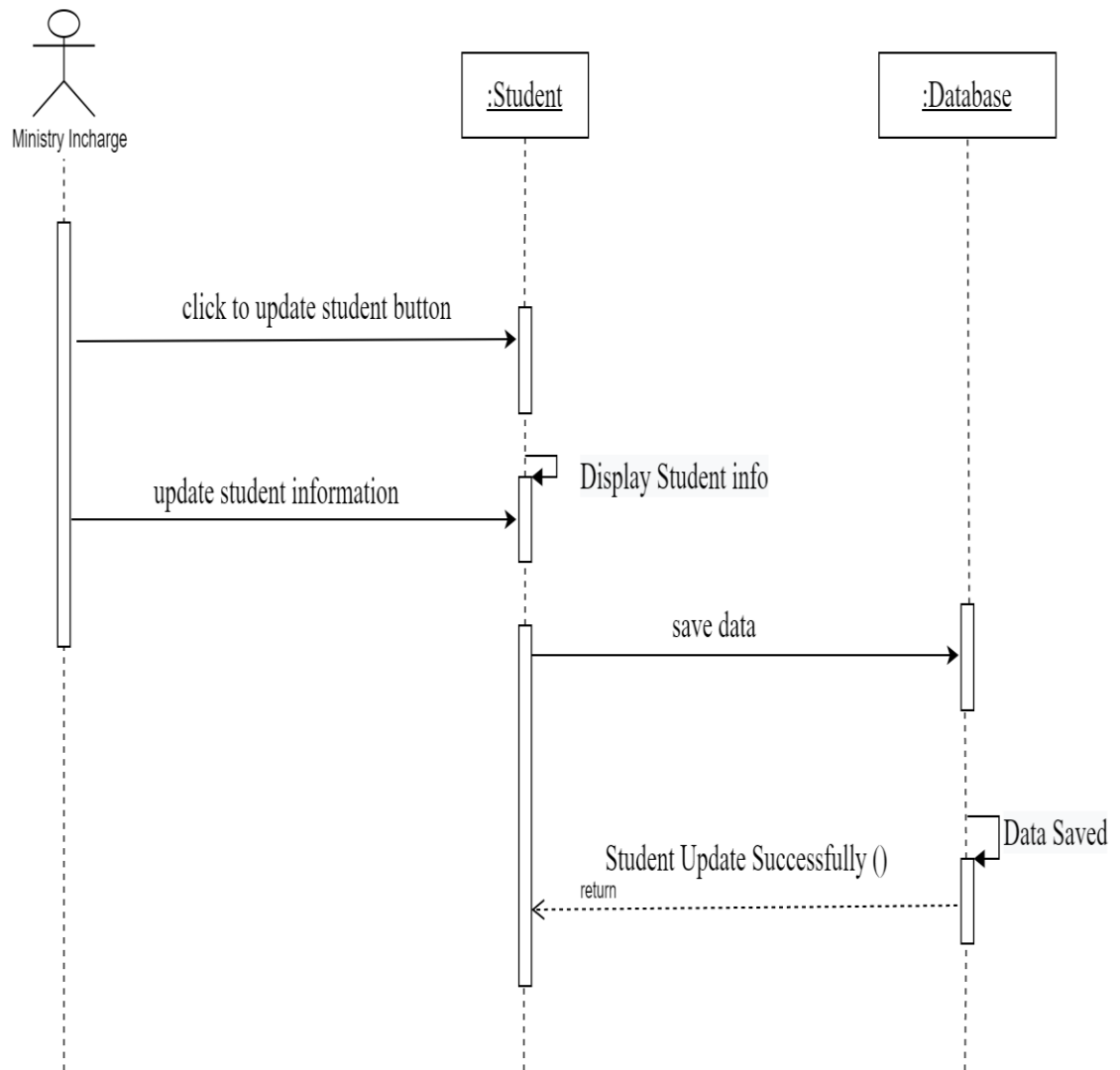
Add Course for Ministry Incharge

Figure 3.36: Add Course for Ministry Incharge



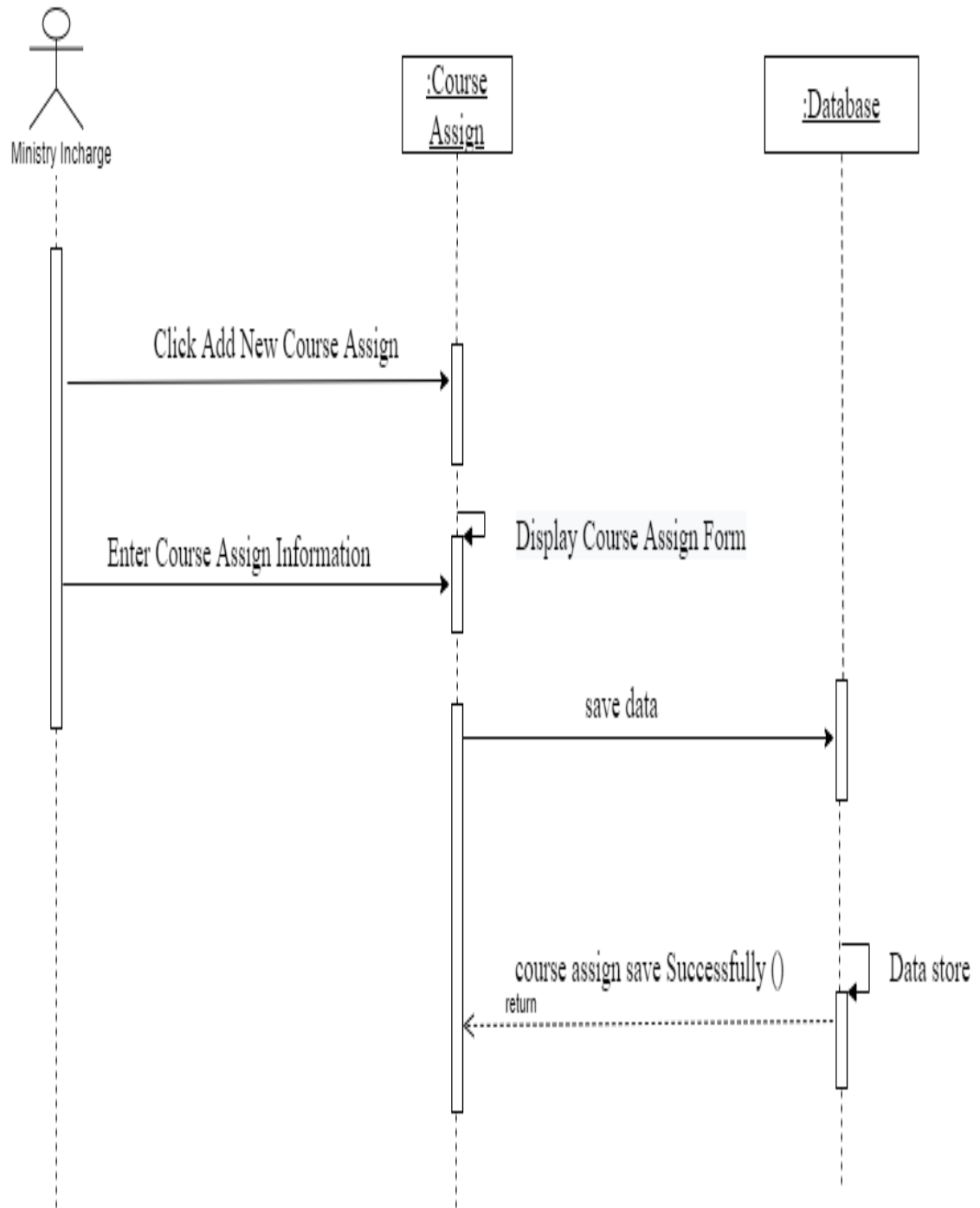
Update Course For Ministry Incharge

Figure 3.37: Update Course for Ministry Incharge



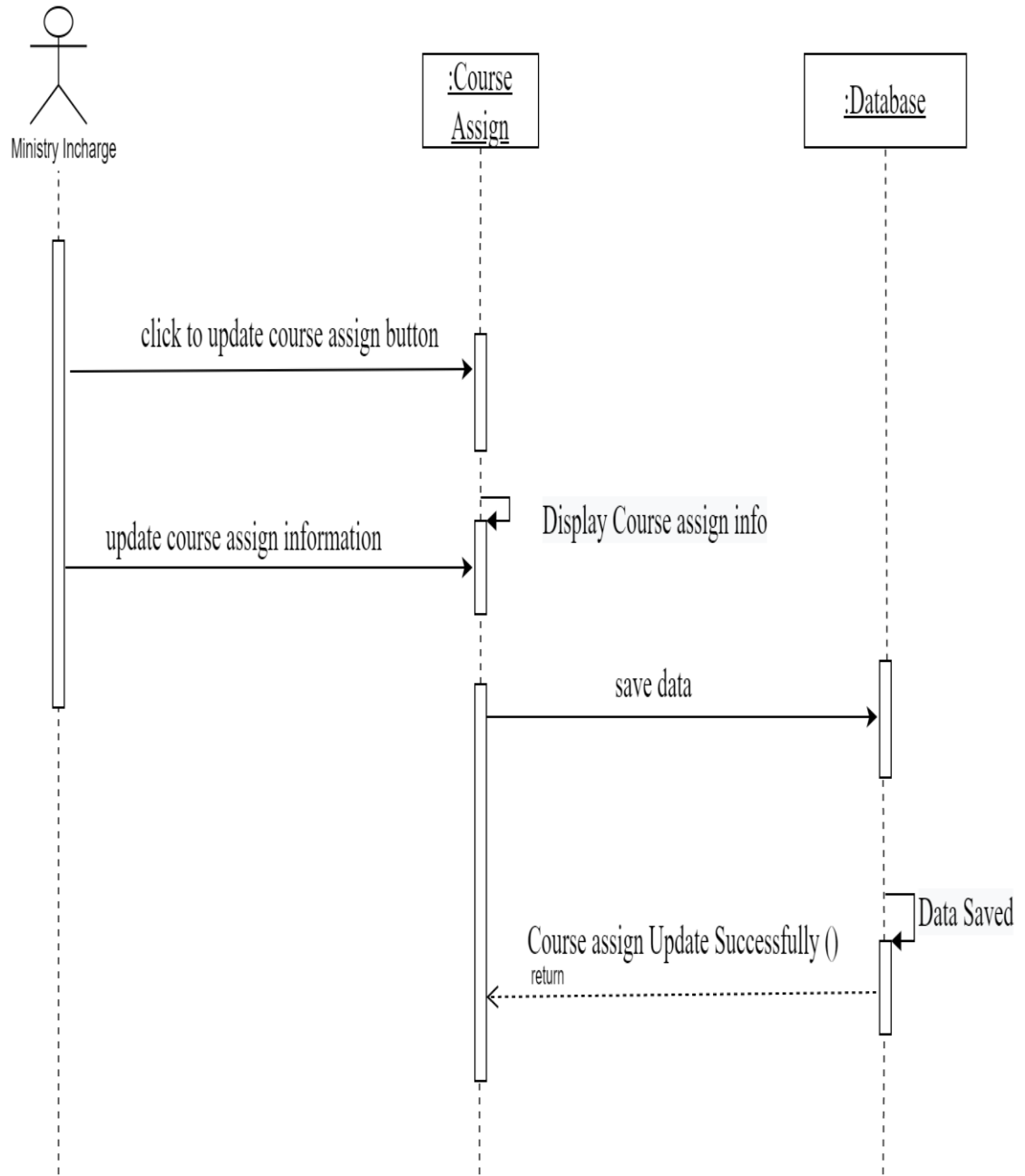
Update Student For Ministry Incharge

Figure 3.38: Add Teacher for Ministry Incharge



Add Course assign for Ministry Incharge

Figure 3.39: Add Course Assign for Ministry Incharge



Update Course Assign For Ministry Incharge

Figure 3.40: Update Course Assign for Ministry Incharge

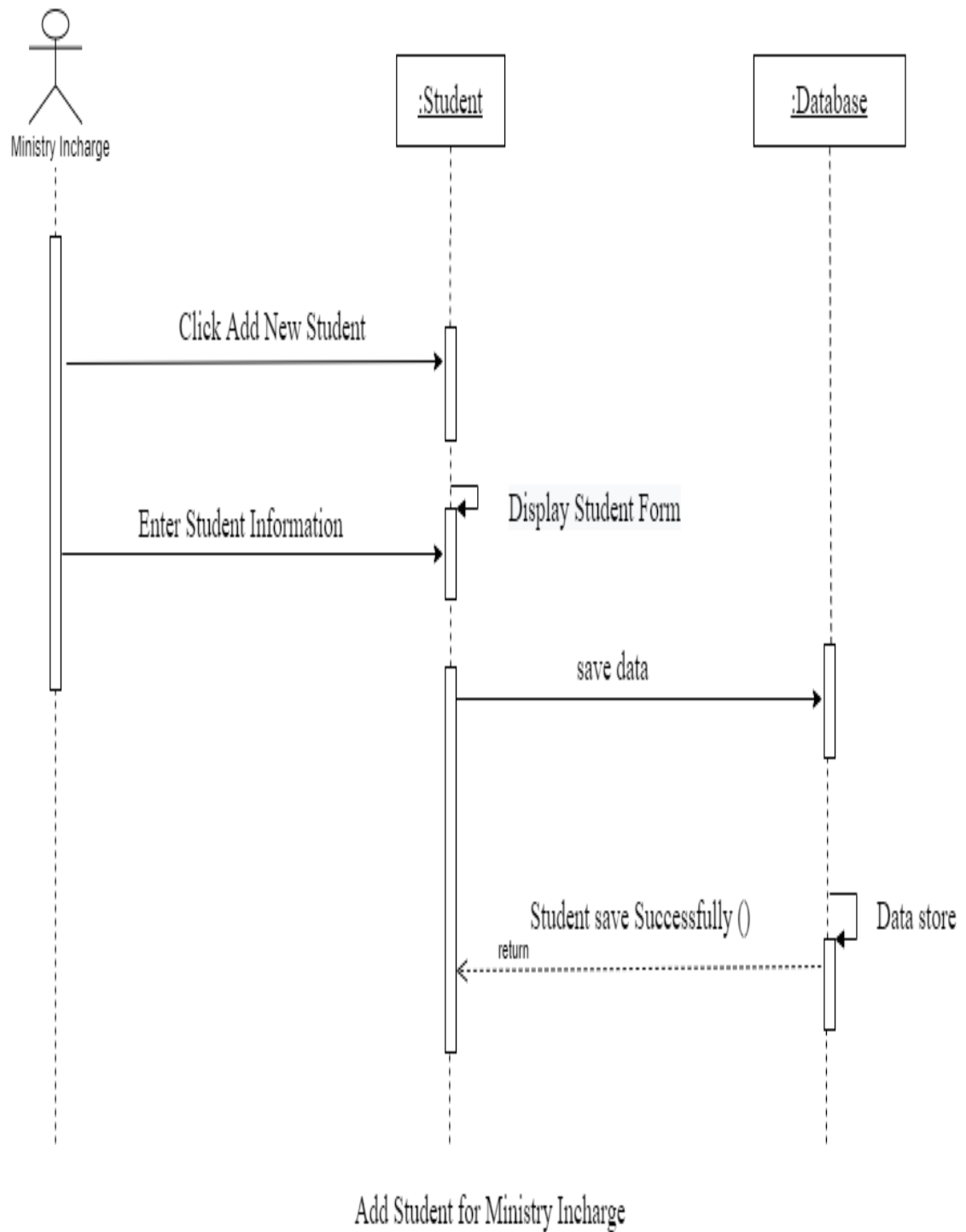


Figure 3.41: Add Student for Ministry Incharge

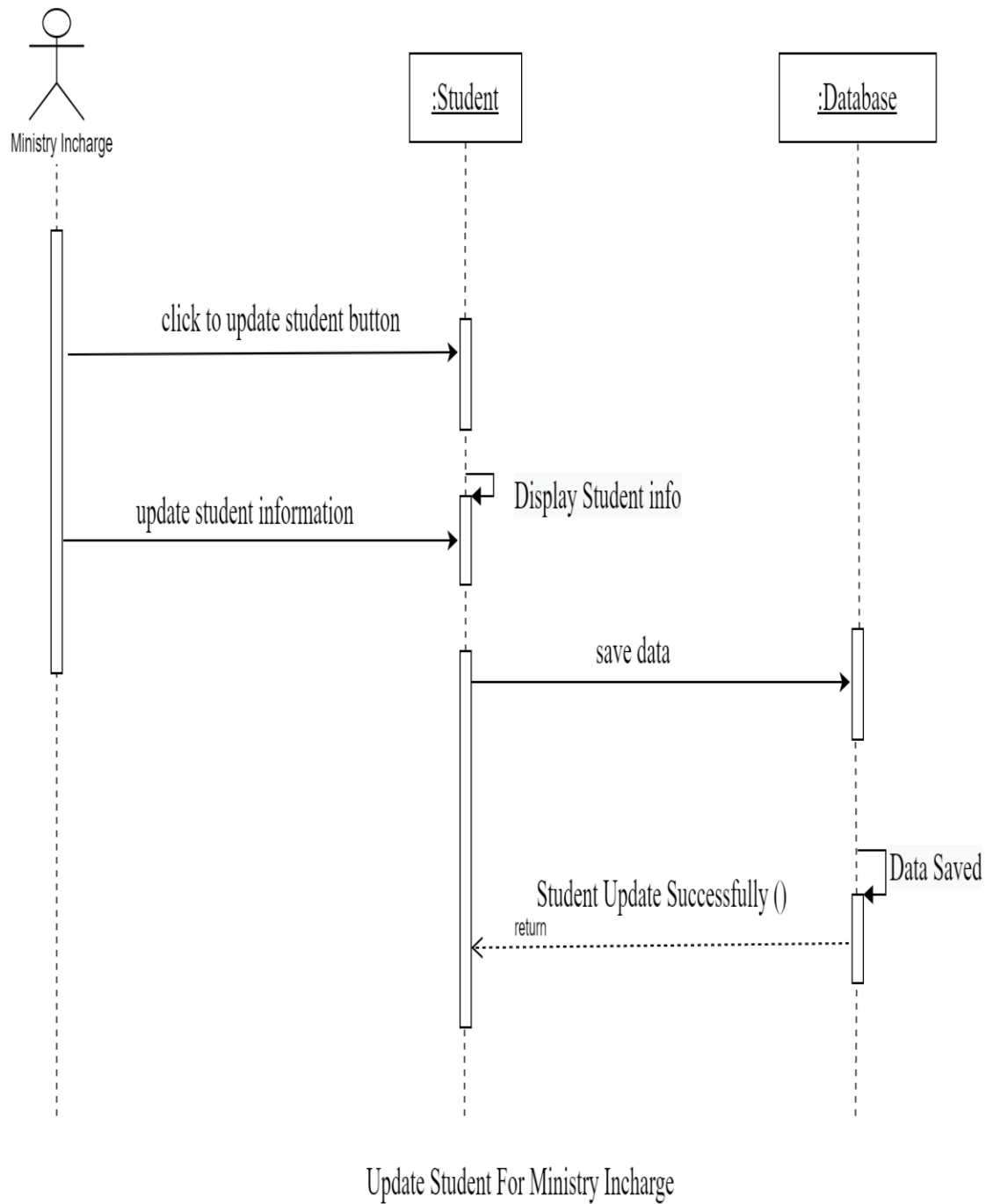
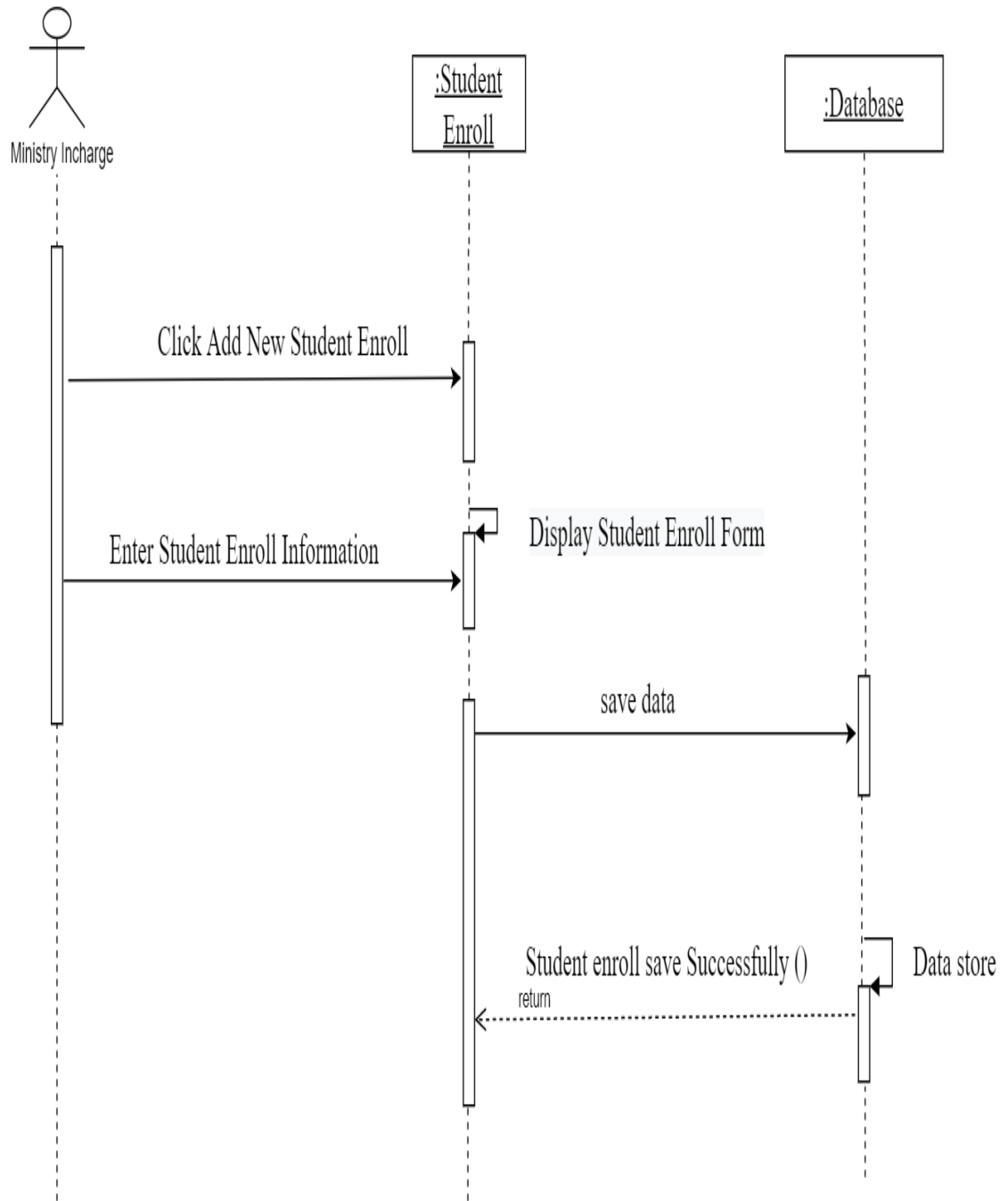
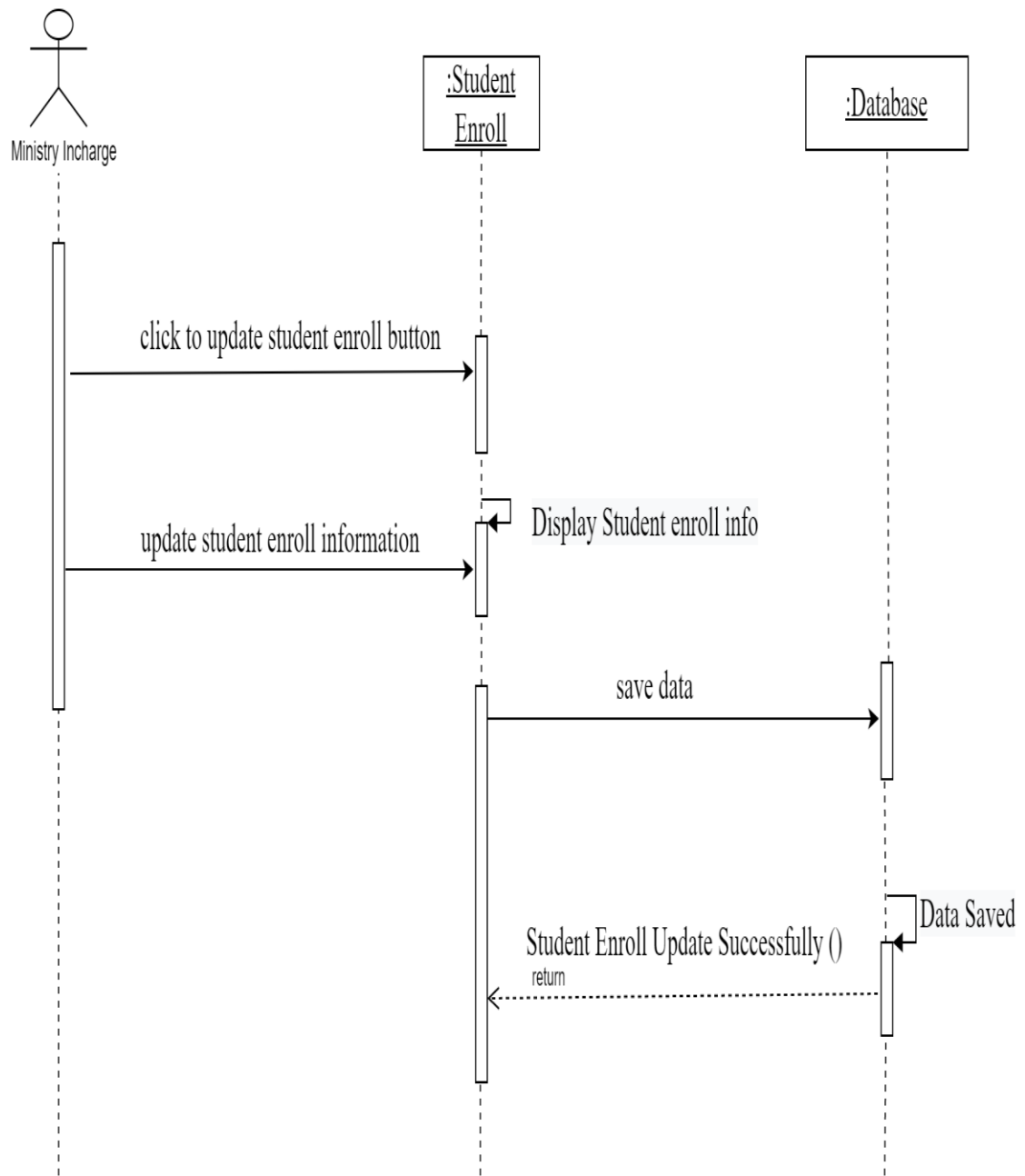


Figure 3.42: Update Student for Ministry Incharge



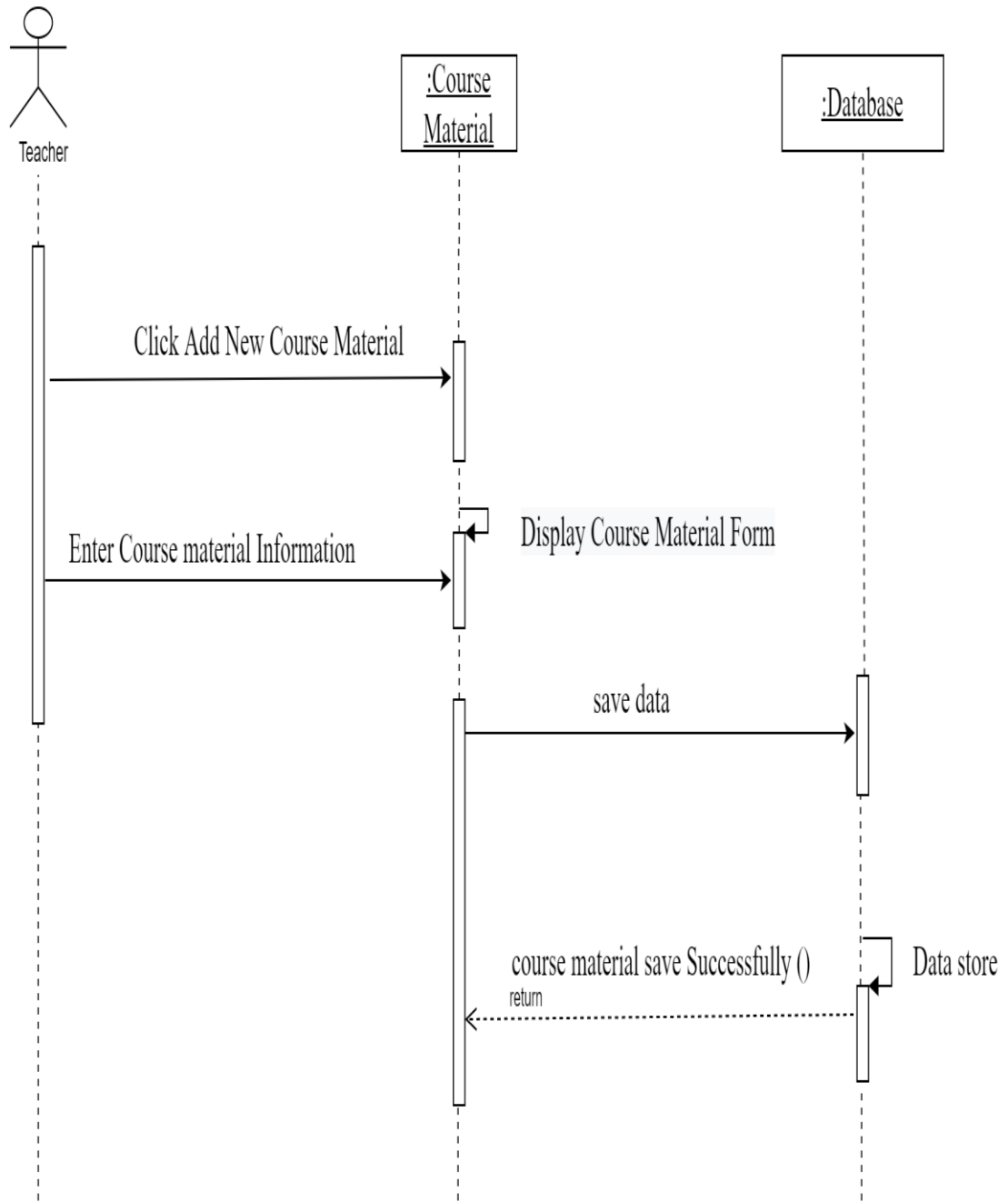
Add Student Enroll for Ministry Incharge

Figure 3.43: Add Student Enroll for Ministry Incharge



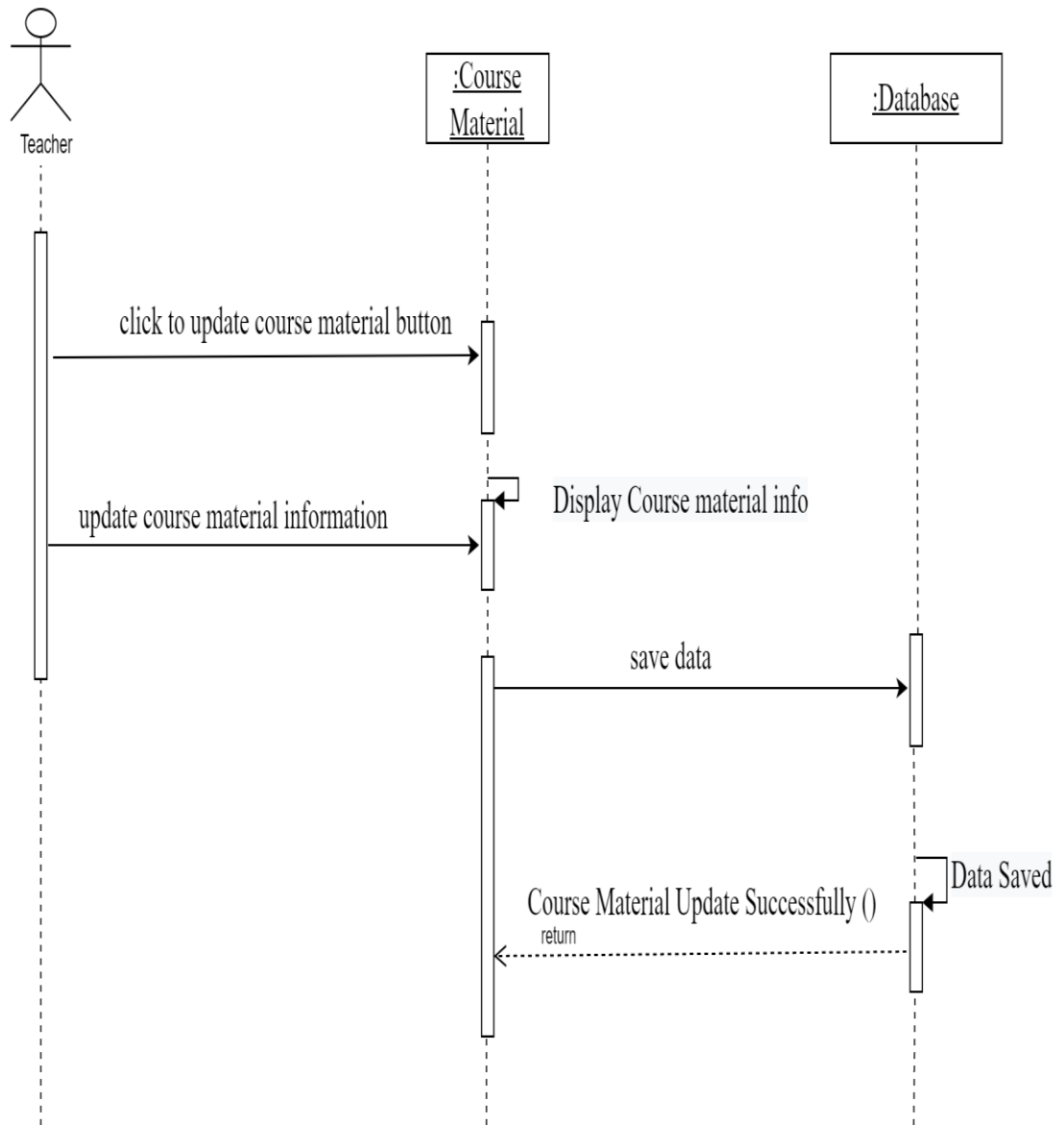
Update Student Enroll for Ministry Incharge

Figure 3.44: Update Student Enroll for Ministry Incharge



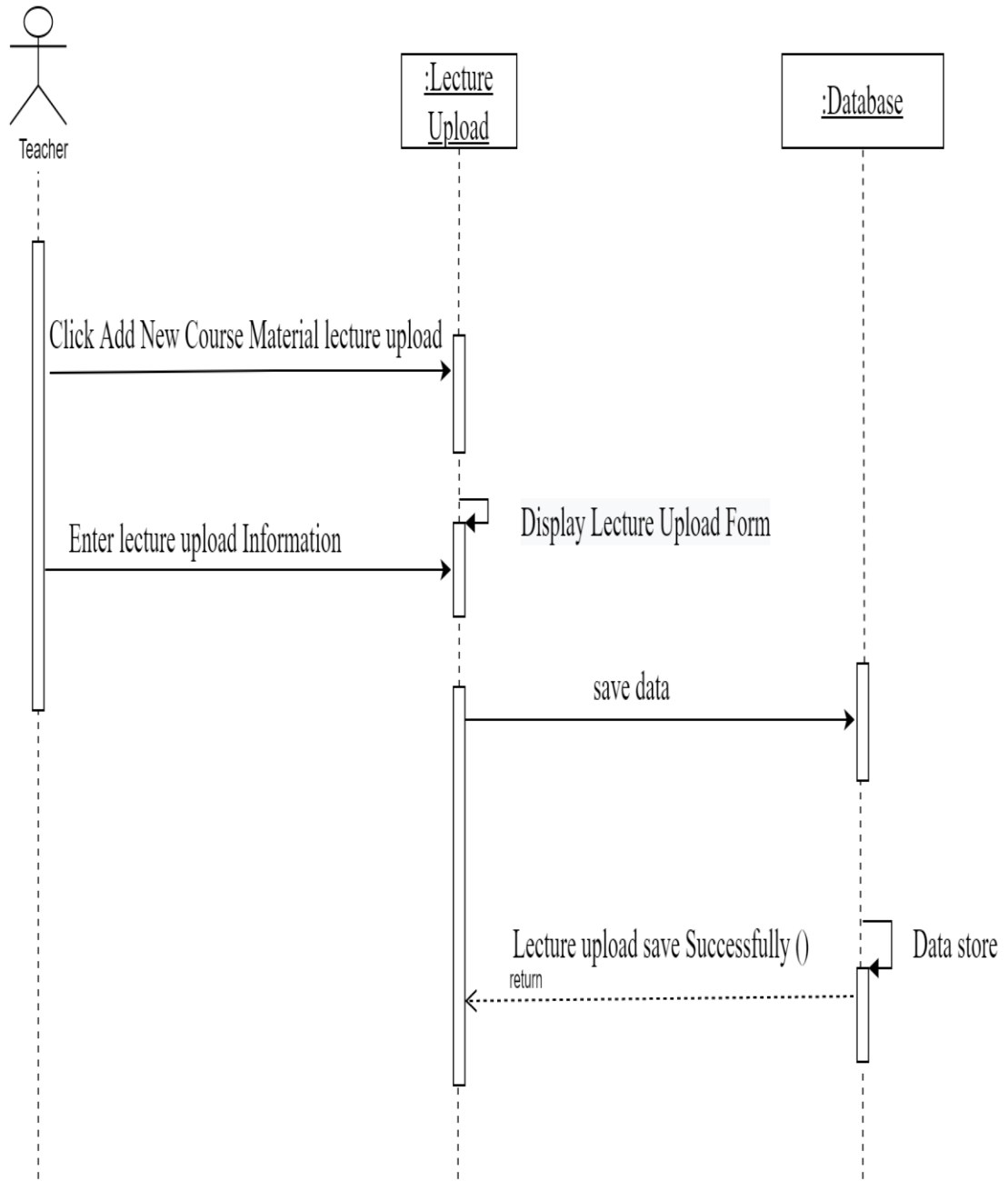
Add Course Material for Teacher

Figure 3.45: Add Course Material for Teacher



Update Course Material For Teacher

Figure 3.46: Update Course Material for Teacher



Add Lecture Upload for Teacher

Figure 3.47: Add Lecture Upload for Teacher

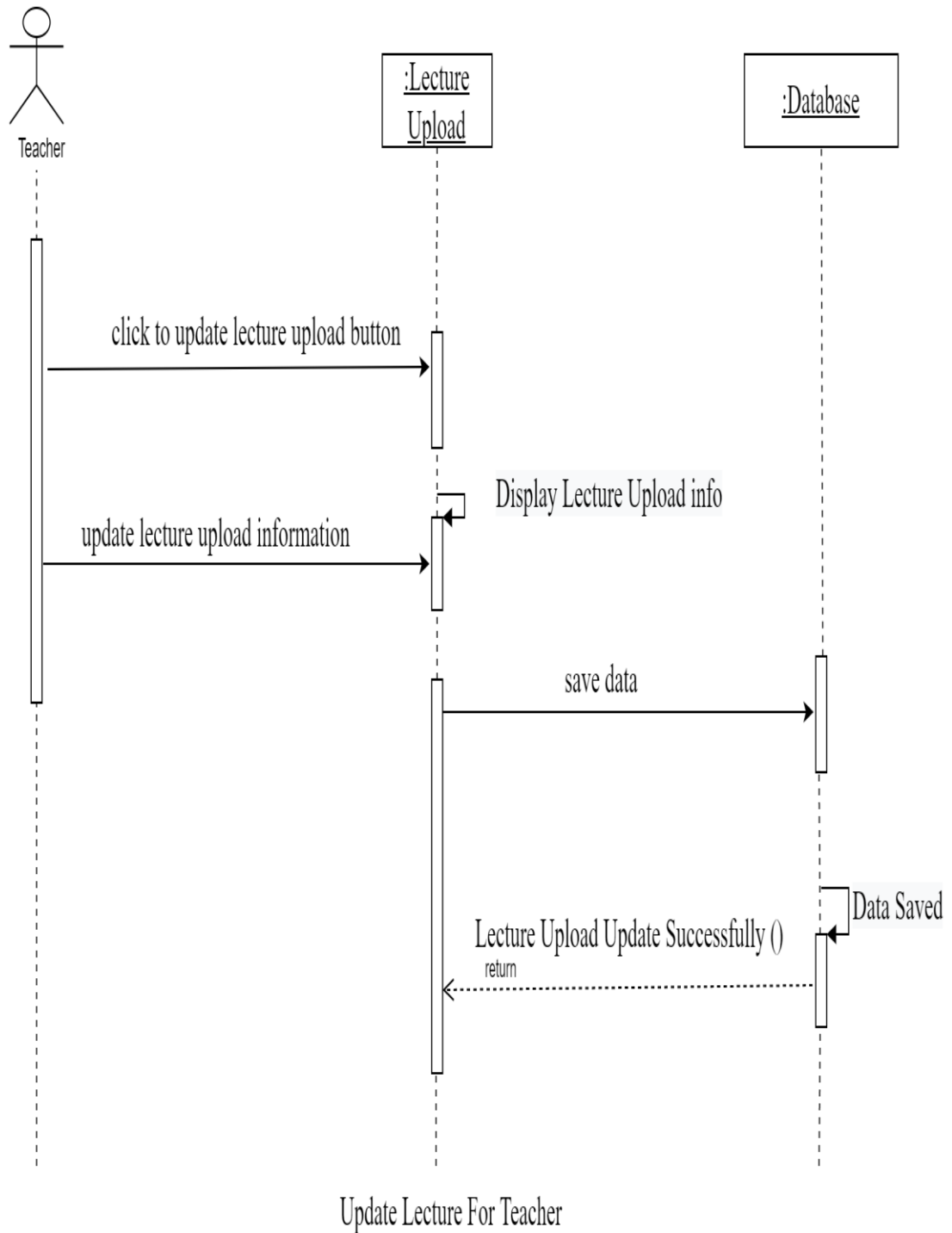
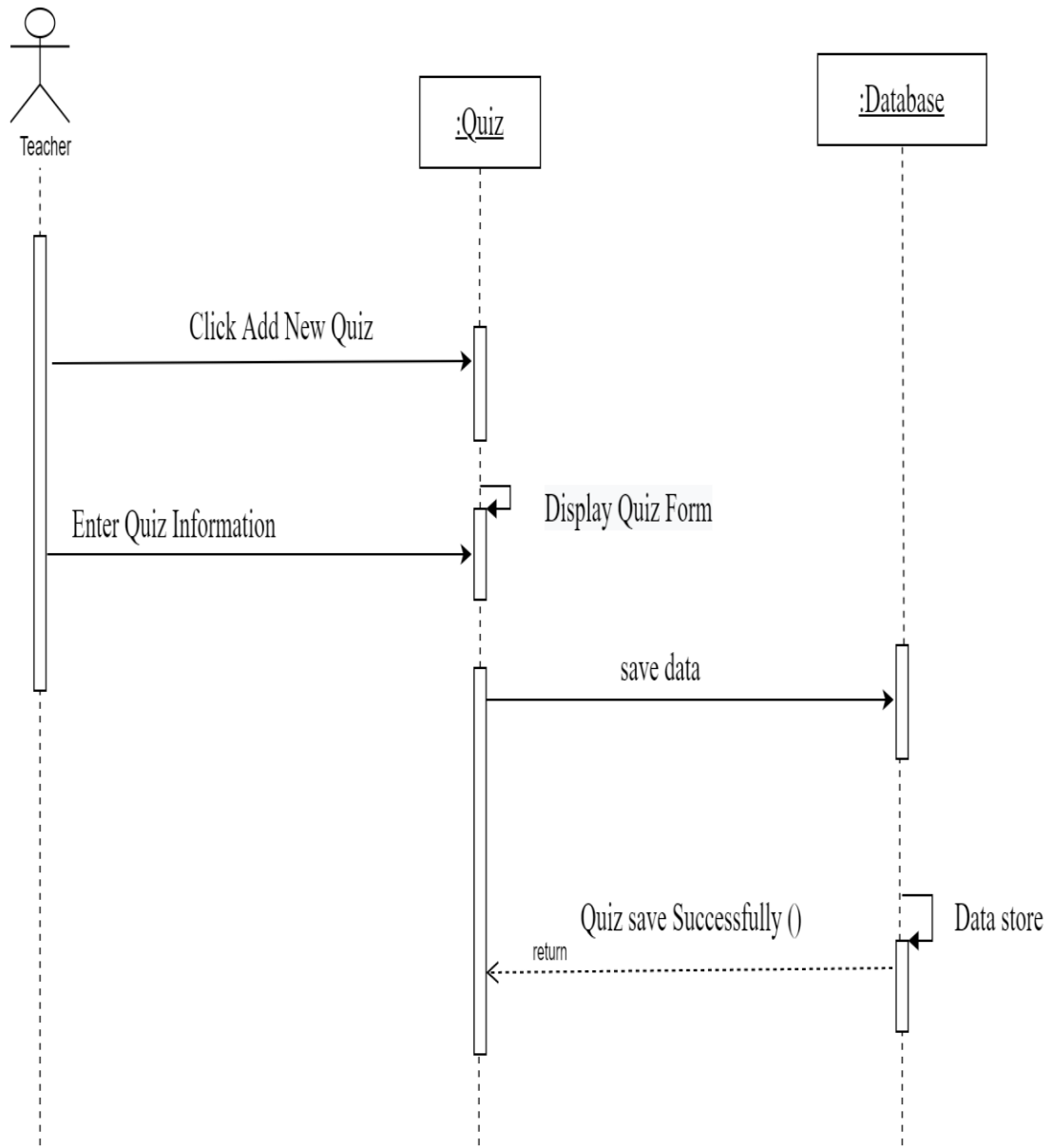
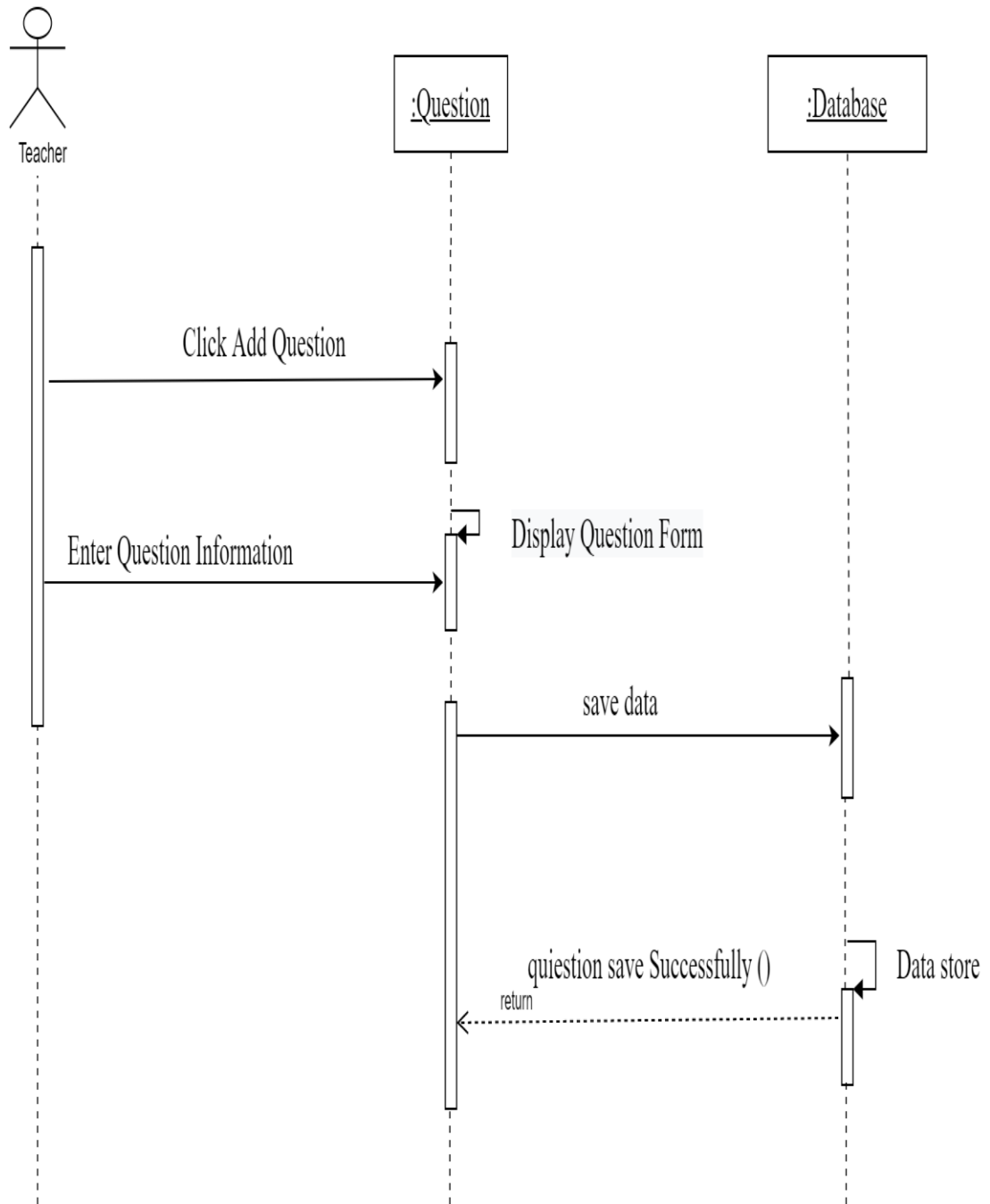


Figure 3.48: Update Lecture for Teacher



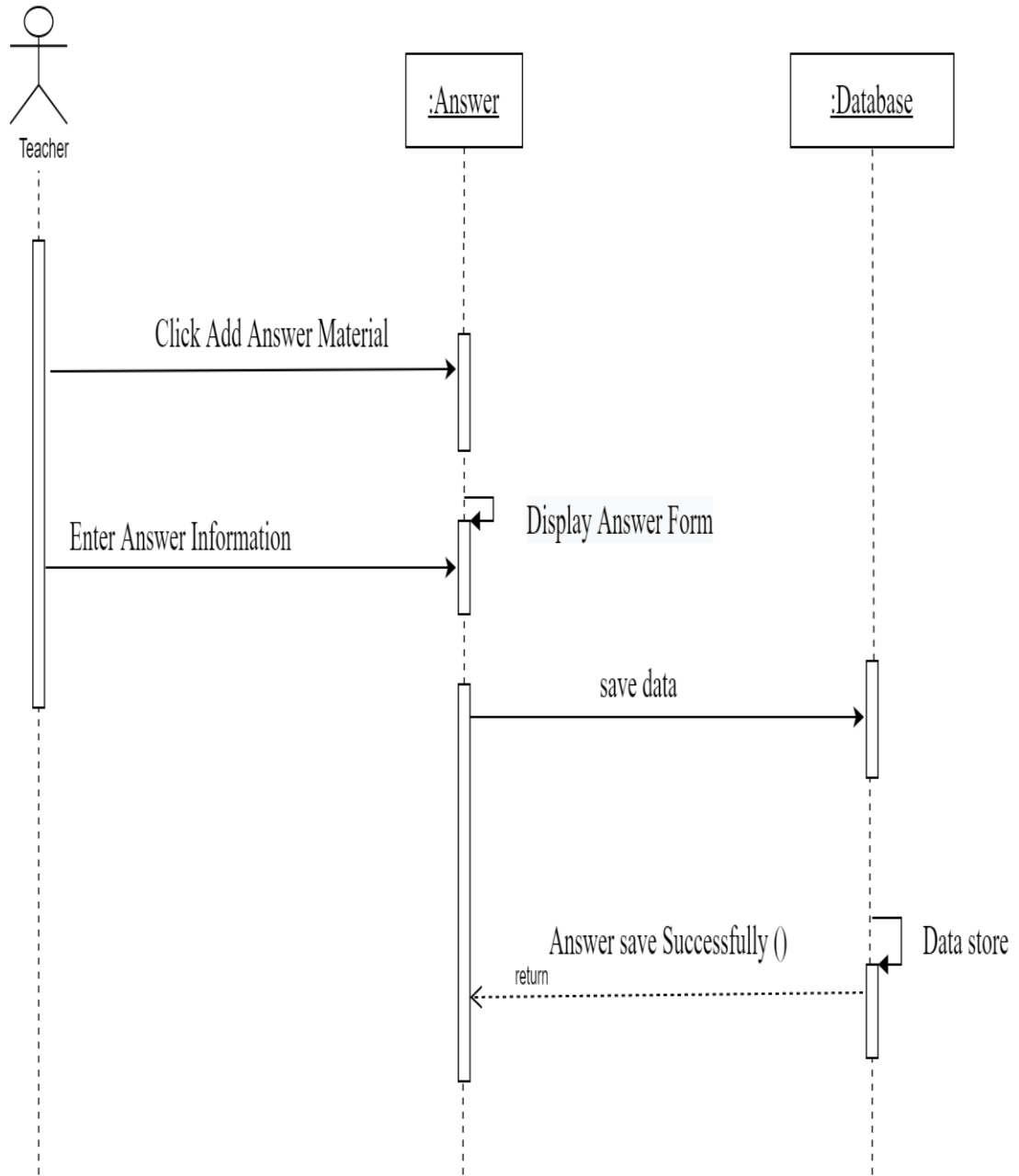
Add Quiz for Teacher

Figure 3.49: Add Quiz for Teacher



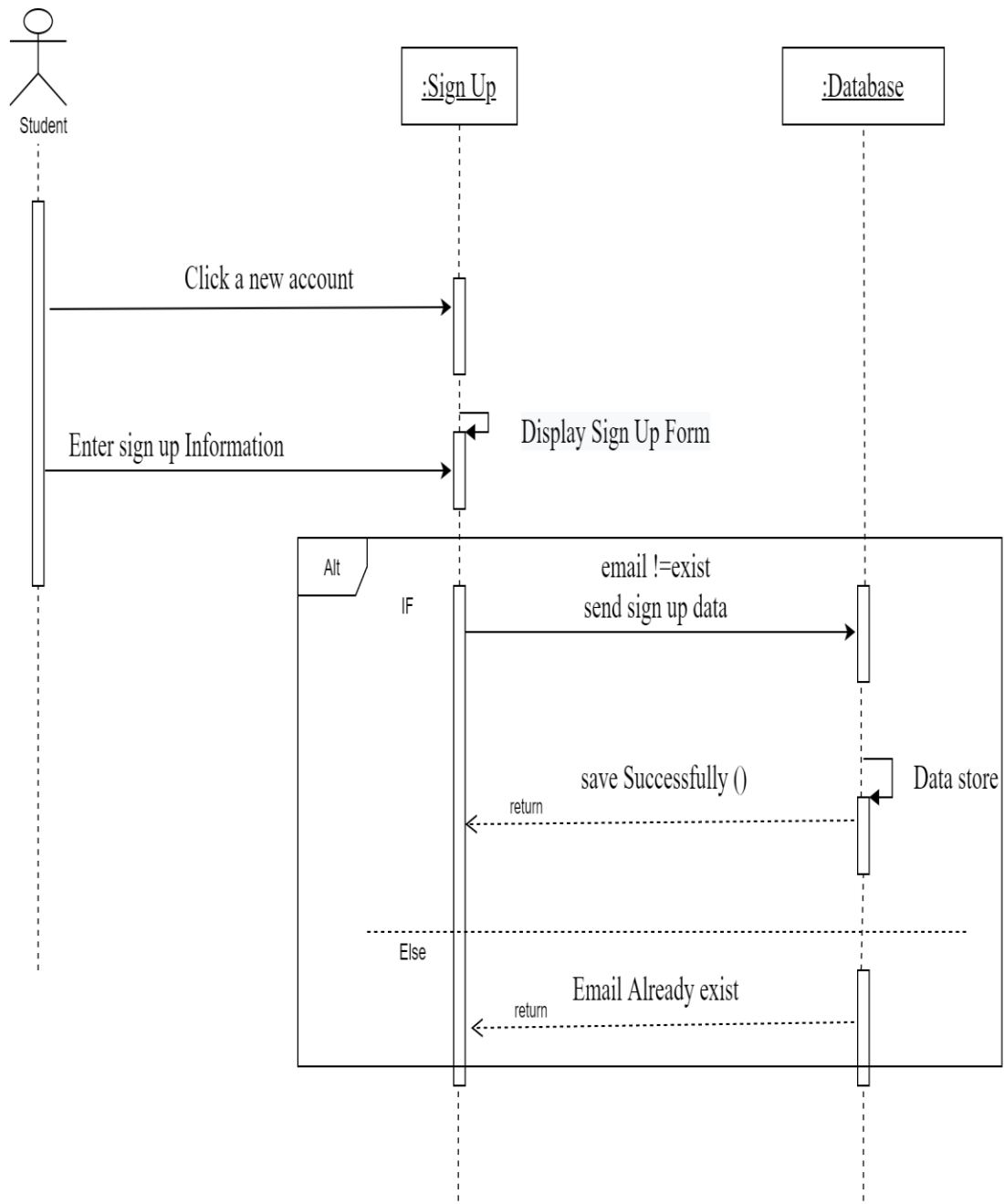
Add Question for Teacher

Figure 3.50: Add Question for Teacher



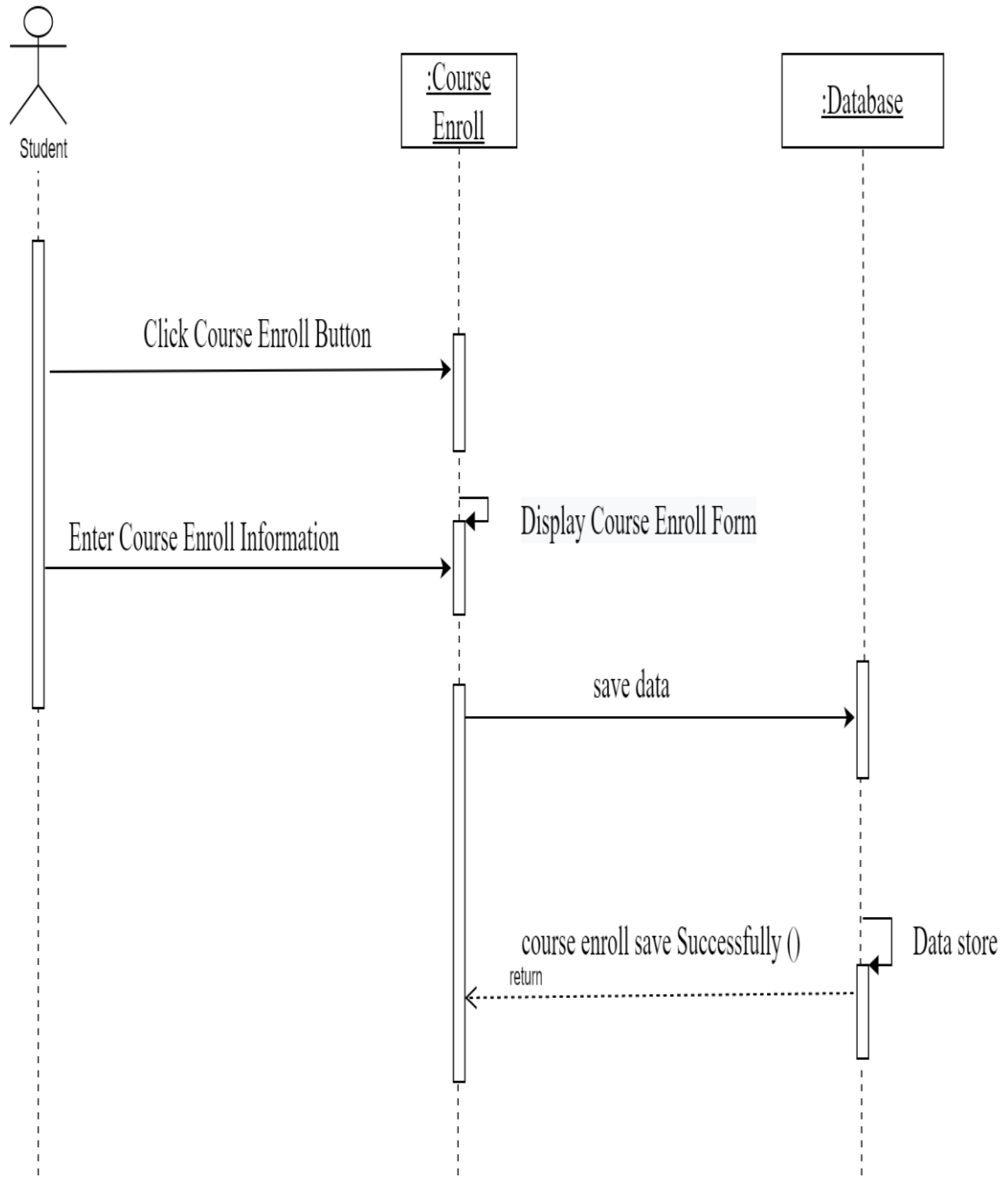
Add Answer for Teacher

Figure 3.51: Add Answer for Teacher



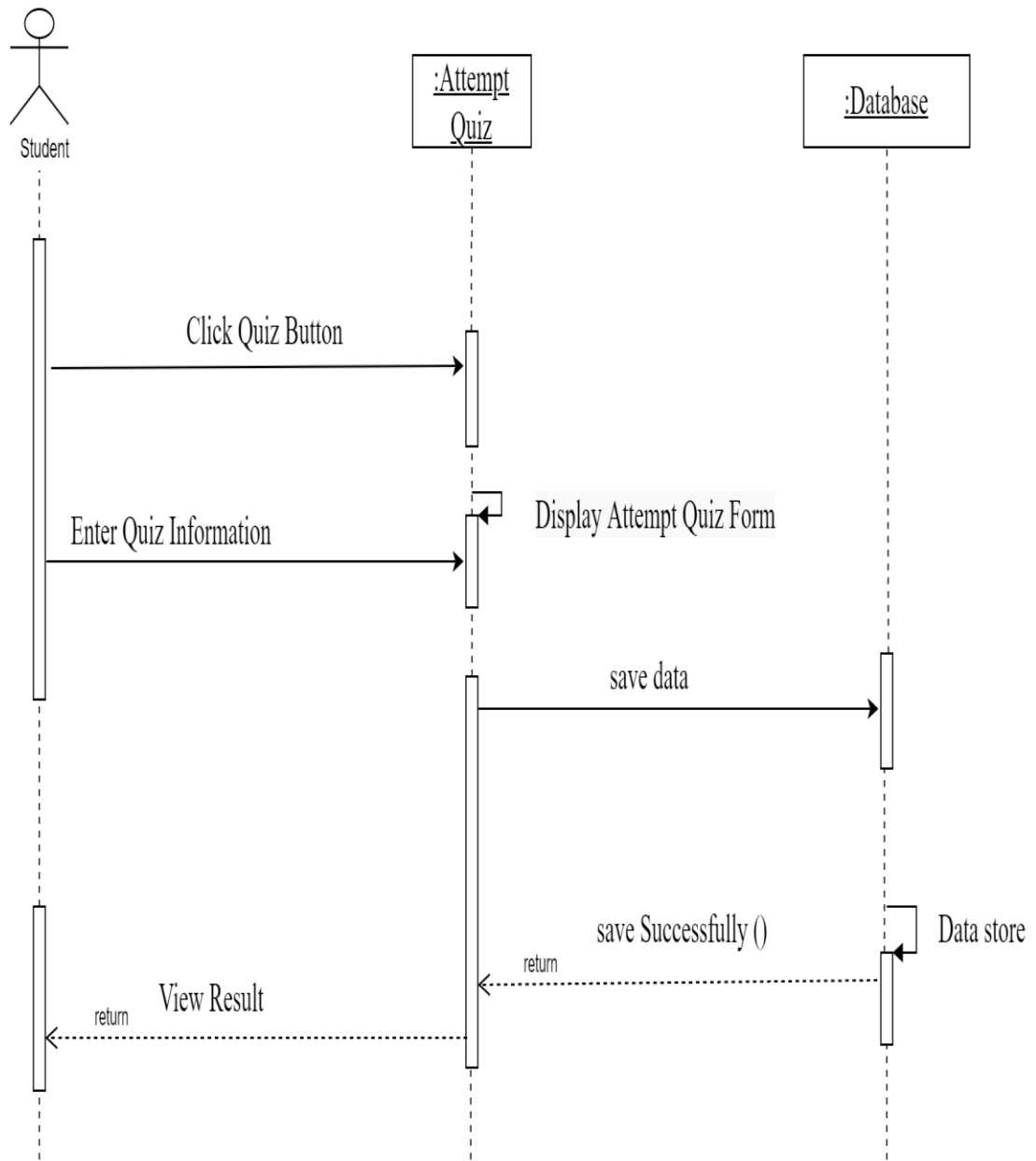
Sign Up for Studnet

Figure 3.52: Sign Up for Student



Course Enroll for Teacher

Figure 3.53: Course Enroll for Student



Attempt Quiz for Teacher

Figure 3.54: Attempt Quiz for Student

Chapter 4

System Design Specification (SDS)

4.1 Development Tools and Technologies

4.1.1 User Interface Technology

4.1.1.1 HTML

Hypertext Markup Language (HTML) is the standard markup language for documents designed to be displayed in a web browser. It can be assisted by technologies such as Cascading Style Sheets (CSS) and scripting languages such as JavaScript.

4.1.1.2 CSS

Cascading Style Sheet (CSS) is style sheet language used for describing the presentation of a document within a markup language like HTML. It is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript

4.1.1.3 JavaScript

JavaScript (JS) is a high level, just-in-time compiled, object-oriented programming language that conforms to the ECMAScript specification. Alongside HTML and CSS, JavaScript is one of the core technologies of the World Wide Web. It enables interactive web pages and is an essential part of web applications

4.1.2 Implementation Tools and Platform

4.1.2.1 Editor

A source-code editor is text editor program designed specifically for editing source code of computer program. It is a fundamental programming tool, as the fundamental job of programmers is to write and edit source code. “E-learning” is developed using Pycharm text editor.

4.1.2.2 Database

A database is an organized collection of data, generally stored and accessed electronically from a computer system. The database management system (DBMS) is the software that interacts with end users, applications, and the database itself to capture and analyze the data. “E-learning” is built on SQLite3 database.

4.2 Class Diagram

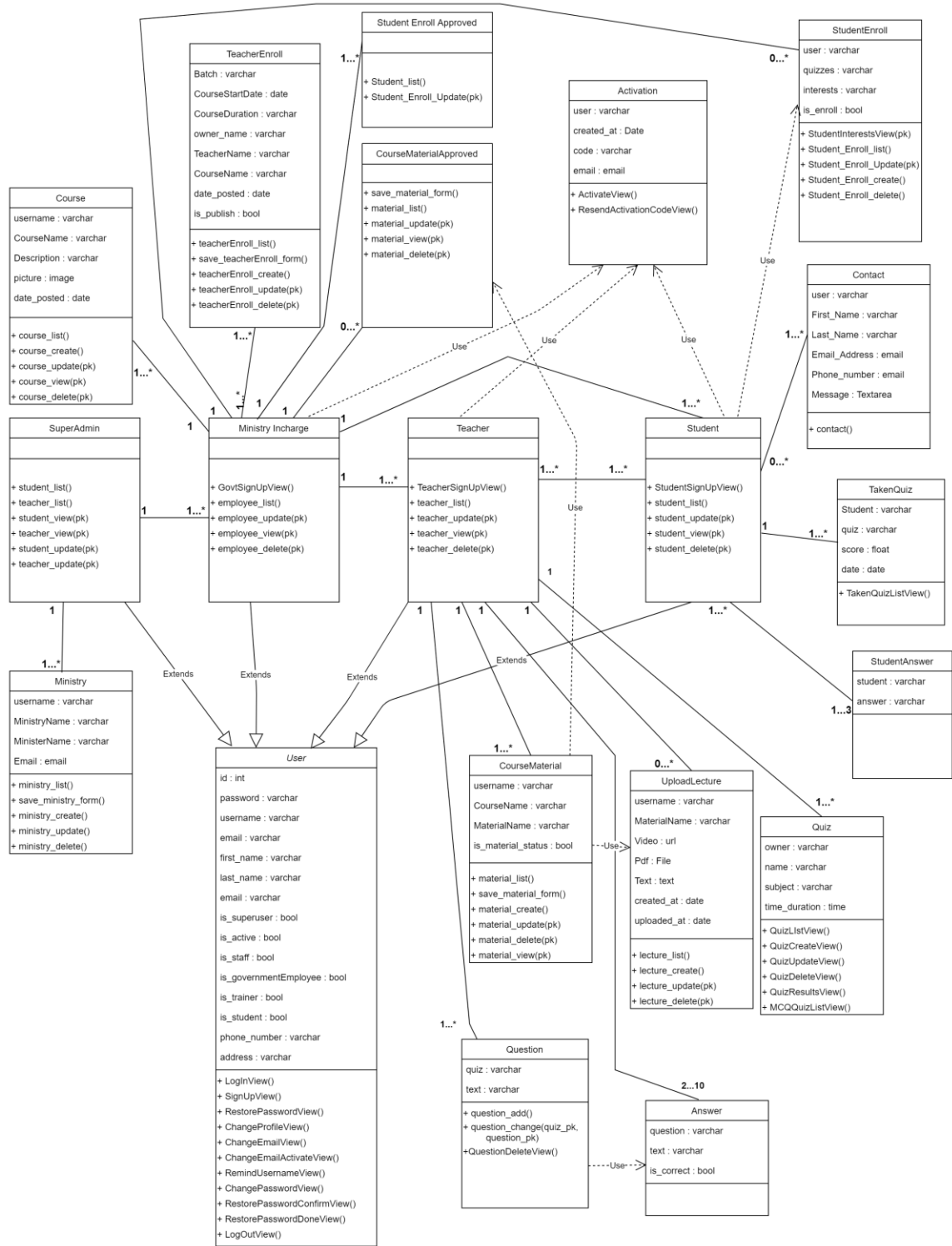


Figure 4. 1: Class Diagram

4.3 ERD Diagram

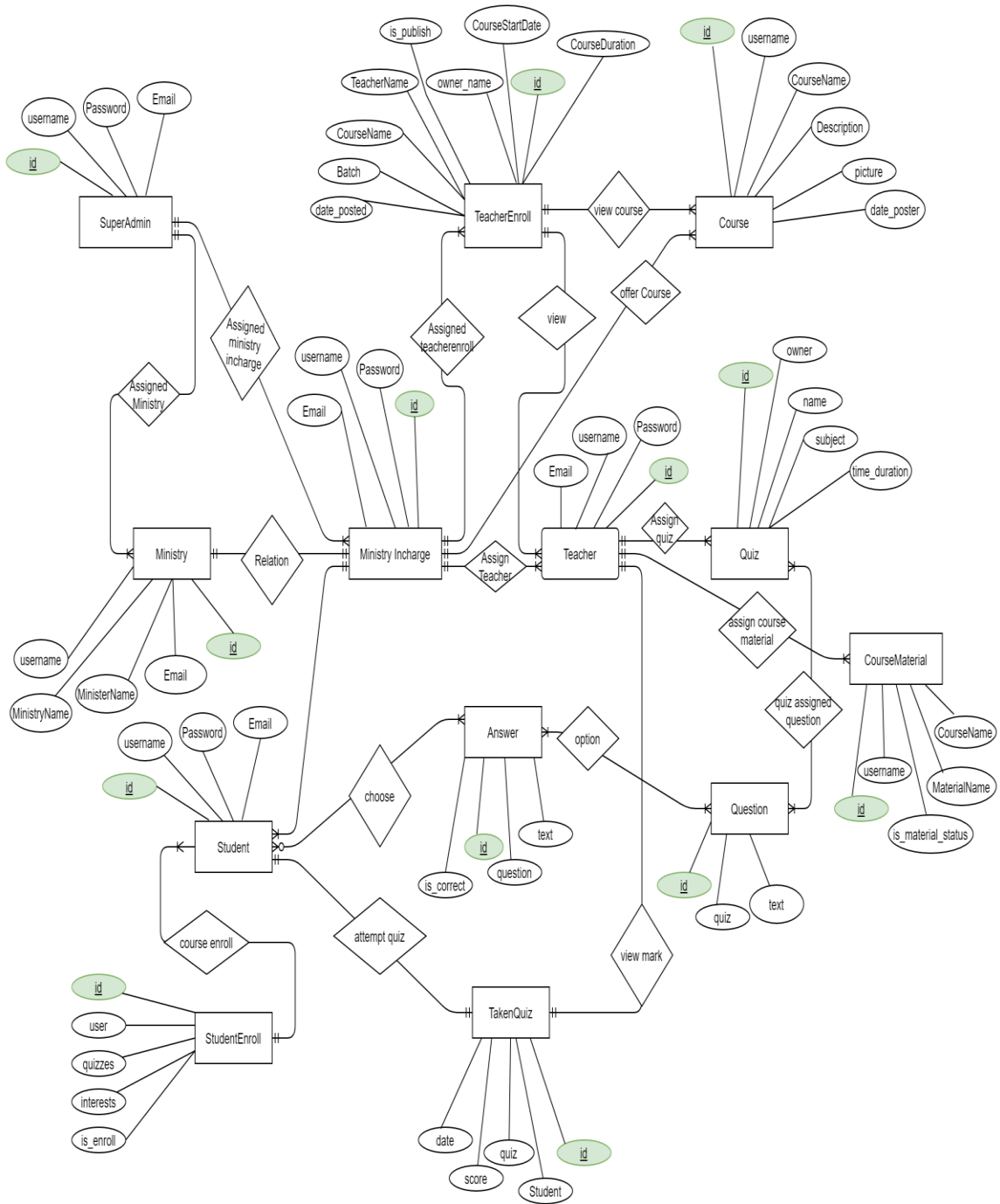


Figure 4. 2: ERD Diagram

Chapter 5

System Test

5.1 Test Cases

5.1.1 Account Sign Up

Test Case: 5.1.1		Test case Name: Account Sign Up			
System: E-Learning		Subsystem:			
Designed by: Md. Joy Islam		Design Date:			
Executed by:		Execution Date:			
Description: A user must be registered to gain access to the student dashboard. To sign up an account, a user must provide a valid email address and password					
Pre-condition:					
<ul style="list-style-type: none"> • Email must be unique • Your password cannot be too similar to your other personal information. • Your password must contain at least 8 characters. • Your password can't be a commonly used password. • Your password can't be entirely numeric. 					
Step	Email	Password	Response	Pass/Fail	Comment
1	joyislam1954@gmail.com	171-35-1954	Registration successful	Pass	
2	joy35-1954@diu.edu.bd	171351954	Registration successful	Pass	
3	joyislam1954job@gamil.com	Joy	Password must contain at least 8 characters	Fail	
Post-condition: a new user account has been registered successfully					

5.1.2 Log In

Test Case: 5.1.2		Test case Name: Log In			
System: E-Learning		Subsystem:			
Designed by: Md. Joy Islam		Design Date:			
Executed by:		Execution Date:			
Description: Registered user must login to access their dashboard. The system will check for authentication and authorization.					
Pre-condition:					
<ul style="list-style-type: none"> • User must input valid email and password • User should registration first • Let email be joyislam1954@diu.edu.bd and password:171351954 					
Step	Email	Password	Response	Pass/Fail	Comment
1	joy35- 1954@diu.edu.bd	171351954	Login successful	Pass	
2	joy35- 1954@diu.edu.bd	17131954	Wrong email or password	Fail	
3	joy351954@diu.edu.bd	171351954	Wrong email or password	Fail	
Post-condition: User can access to the system					

5.1.3 Add Ministry Incharge

Test Case: 5.1.3		Test case Name: Add Ministry Incharge		
System: E-Learning		Subsystem:		
Designed by: Md. Joy Islam		Design Date:		
Executed by:		Execution Date:		
Description: Super Admin can add ministry incharge				
Pre-condition:				
<ul style="list-style-type: none"> • Super Admin must be log in 				
Step	Action	Response	Pass/Fail	Comment
1	Super Admin fill up all the required files and click on “Save Ministry Incharge” button	System add a new ministry incharge and display it to the super admin.	Pass	
2	Super Admin does not fill up all the required files	All required files must be filled up	Fail	
Post-condition: a new ministry incharge will added				

5.1.4 View Ministry Incharge

Test Case: 5.1.4		Test case Name: View Ministry Incharge		
System: E-Learning		Subsystem:		
Designed by: Md. Joy Islam		Design Date:		
Executed by:		Execution Date:		
Description: Super Admin can view ministry incharge				
Pre-condition:				
<ul style="list-style-type: none"> • Super Admin must be log in • Super admin must have at least one ministry incharge to display 				
Step	Action	Response	Pass/Fail	Comment
1	Super Admin click to “ministry incharge” button	System display ministry incharge	Pass	
Post-condition: system ministry incharge will be displayed to the super admin				

5.1.5 Log Out

Test Case: 5.1.5		Test case Name: Log Out		
System: E-Learning		Subsystem:		
Designed by: Md. Joy Islam		Design Date:		
Executed by:		Execution Date:		
Description: user log out from their dashboard				
Pre-condition:				
<ul style="list-style-type: none"> The user must be logged in to the system 				
Step	Action	Response	Pass/Fail	Comment
1	Super Admin click to “Log Out” button	System display Home page	Pass	
Post-condition: user log out from their dashboard				

Chapter 6

Conclusion

6.1 GitHub Link

The source code of “Final-Semester-Project” can be found at GitHub.

GitHub Link: <https://github.com/joy1954islam/Final-Semester-Project>

6.2 Limitations

In my project, there is a leaking file named “course certificate”.

6.3 Future Scope

In future, it is necessary for my project to solve the limitation issue that I have mentioned previously.

Chapter 7

UI Design

LANDING PAGE

This is the Landing page of the project. When a user enters the system, they can see this landing page.



Figure 7. 1: UI for landing page

View All Courses

When a user visit this site user view all courses in the system

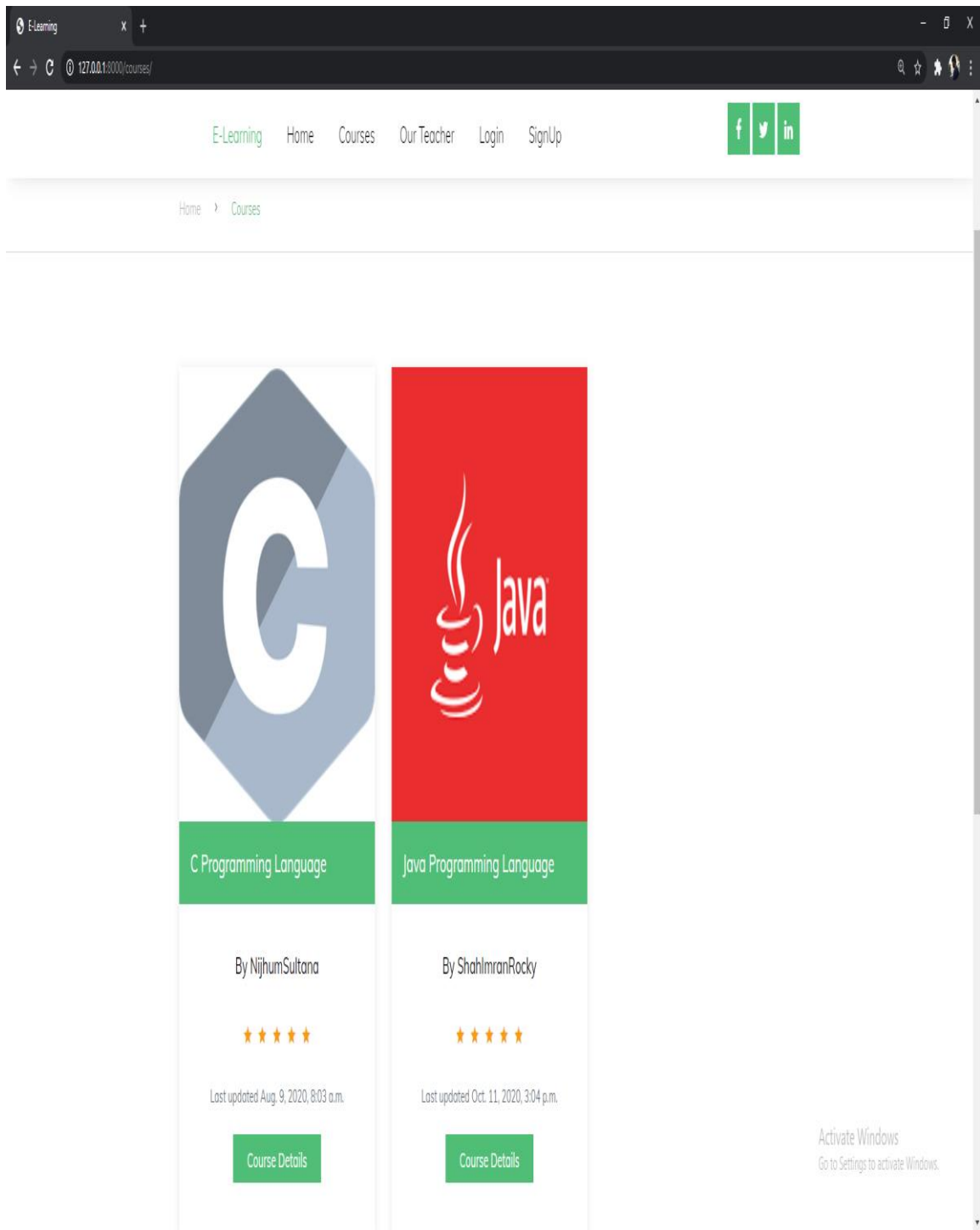


Figure 7. 2: UI for view all Courses

Log In Page

E-Learning Home Courses Our Teacher Login SignUp

f t in

Log In

Home > Login

Email*

Password*

Remember me

[Log In](#)

[First time here? Create new Account](#)

- [Forgot your password?](#)
- [Forgot your username?](#)
- [Resend an activation code](#)

Activate Windows
Go to Settings to activate Windows.

Figure 7. 3: UI for Log In

Super Admin Dashboard

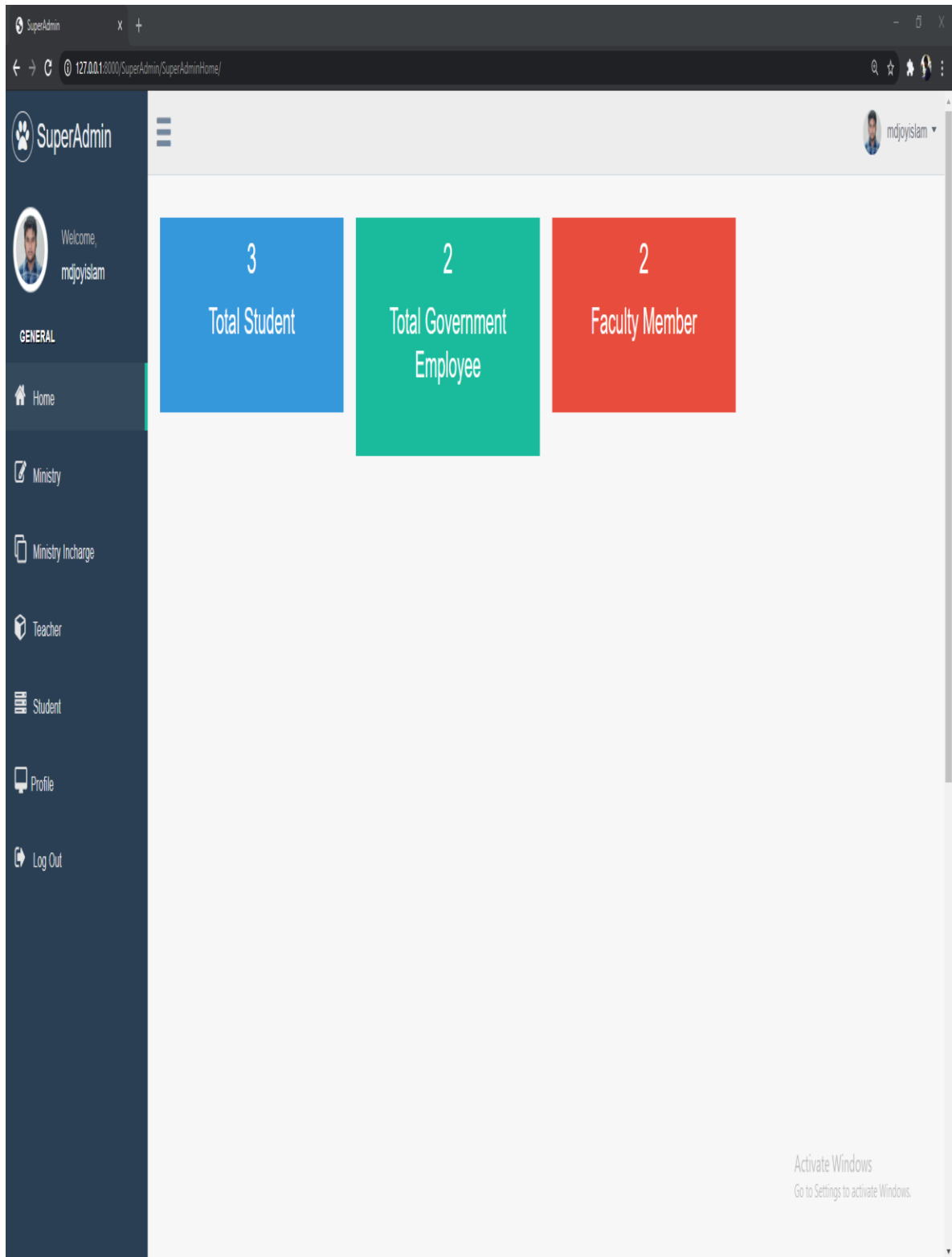


Figure 7. 4: UI for super admin dashboard

Super Admin Ministry Incharge

Welcome, mdjoyislam

[+ New Ministry Incharge](#)

Button Example Users

Username contains: First name contains: Last name contains:

MinistryName:
 Education Ministry Information Technology ICT Food Ministry

[Search](#)

Copy CSV Excel PDF Print

Show entries

Search:

Id	UserName	First Name	Last Name	Email	Ministry Name
15	NijhumSultana	Nijhum	Sultana1981	joy35-1954@diu.edu.bd	Education Ministry
22	ShahImranRocky	Shah	Imran Rocky	rocky1849@gmail.com	ICT

Showing 1 to 2 of 2 entries

Figure 7. 5: UI for Super admin ministry incharge

Ministry Incharge Dashboard

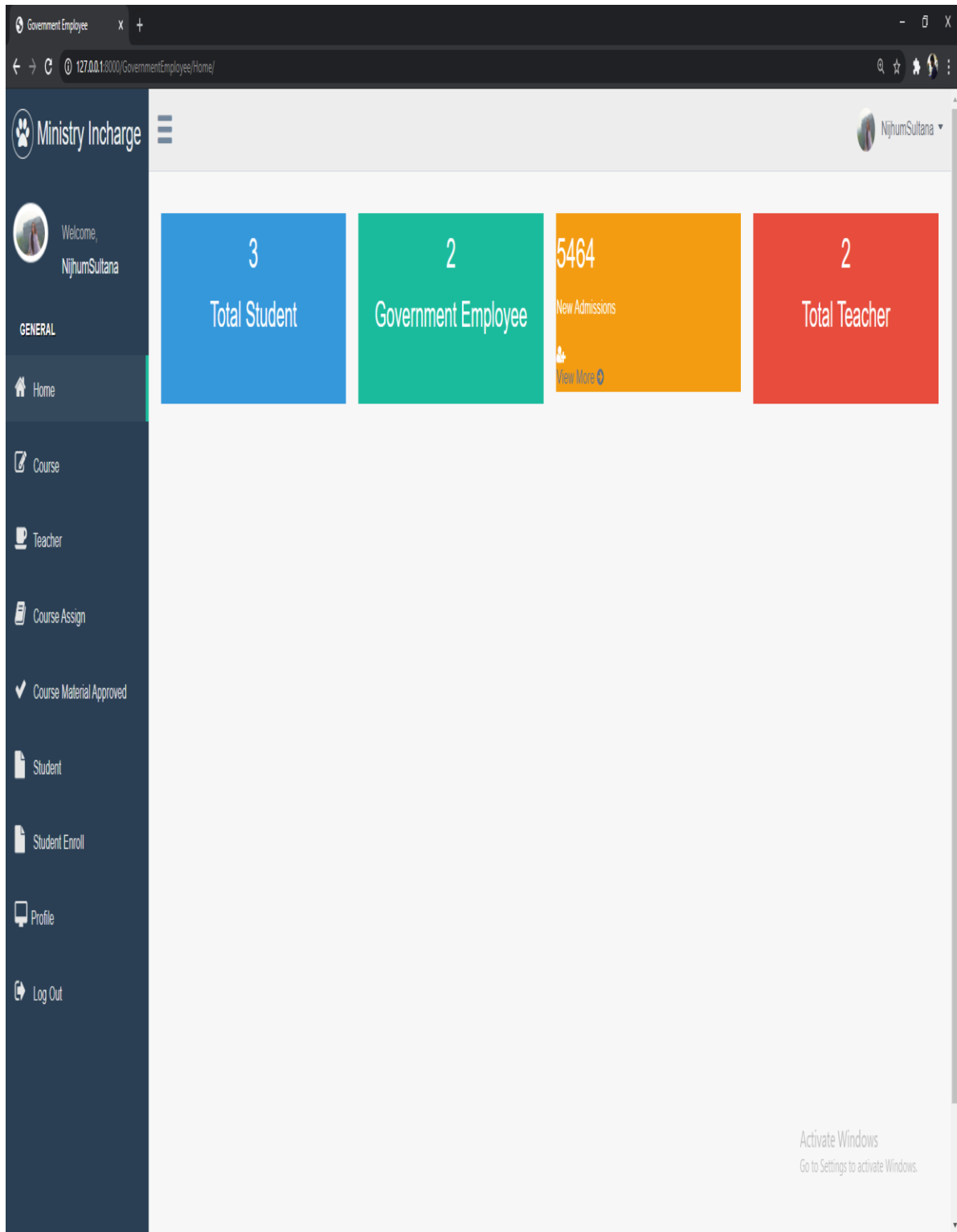


Figure 7. 6: UI for Ministry Incharge Dashboard

Ministry Incharge View Course

The screenshot displays the 'Ministry Incharge' web application interface. The top navigation bar includes a 'New Course' button. The sidebar on the left contains navigation links for Home, Course, Teacher, Course Assign, Course Material Approved, Student, Student Enroll, Profile, and Log Out. The main content area shows a table of courses with the following data:

id	CourseName	Description	Picture
20	C Programming Language	এই কোর্সটি এমন ভাবে তৈরি করা যে আপনি যদি কোন দিন প্রোগ্রামিং নাও করে থাকেন, তবুও সব কিছু আপনার কাছে খুব সাবলিম মনে হবে। Course টি শুধু মাত্র C programming এর জন্য না, এটি এমন ভাবে তৈরি যে আপনি এখনকার concept থেকে অন্য যে কোন programming language আপনার পছন্দের programming language নিয়ে কাজ করতে পারবেন। অবশ্যই ভাবা চকি হবে না যে syntax same বলে language same অথবা syntax ভিন্ন বলে হয়ত বা এই Concept গুলো কাগে লাগবে না। Syntax যেমনই হক না কেন এখনকার concept universally programming language এর জন্য প্রয়োগ যোগ্য। একটু উদাহরণ দিলে আরেকটু পরিষ্কার হবে, Visual Basic programming language এর syntax সম্পূর্ণ ভিন্ন ধরনের, কিন্তু এইখান কার variables, datatype, conditions, control-flow(if-else, switch), looping, variables lifecycle etc... concept শিখে তারপর যদি আপনি visual basic এর syntax datatype, scoping ইত্যাদি search করেন তাহলেই আপনি খুব সহজেই বুঝে যাবেন কিভাবে Visual Basic এ কাজ করতে হয়। আরেকটা উদাহরণ না দিলেই নয়, Javascript অনেকটা দেখতে C এর মত(যে সব language দেখতে C এর মত এদের কে বলে C-base syntax), এখন আপনি যদি মনে করেন Javascript এর variable, datatype, scoping ইত্যাদি C এর মত, তাহলে মস্ত বড় ভুল করবে। আবার আরেকটা জিনিস বলতে হয় যে syntax programming এর সব কিছু না, আপনি যদি এই ভিডিও গুলো দেখে ৪-৫ টা language এর syntax বের করে তা রপ্ত করতে যান তাহলে আবার কিছুই হবে না। আপনি শুধু মাত্র syntax শিখবেন কিন্তু আসল programming কি তা রপ্ত করতে পারবেন না। আপনি concept শিখে যেকোনো একটি language নিয়ে কাজ করবেন ৩-৪ বছর। আমরা Asian region যারা থাকি, তারা সাধারণত একটা খুব ভুল ধারণা নিয়ে প্রোগ্রামিং শুরু করে যে C দিয়ে প্রোগ্রামিং শুরু করে ACM or UVA problem solve না করলে প্রোগ্রামিং হয় না, বা এই পথ ছাড়া অন্য কোন উপায়ে প্রোগ্রামিং শুরু করা যাবে না। এইটা পুরোটাই ভুল ধারণা। জিনিসটা বাখা করতে আমি একটি article লিখে রেখেছি ভাল লাগলে পড়ুন।	
24	Java Programming Language	*****কেন জাভা শিখবেন? এই কোর্স হাতে-কলমে (পড়ুন হাতে-কী বোর্ডে কিংবা হাতে-মাউসে) প্রোগ্রামিং শেখার পাশাপাশি অর্জন করতে পারবেন তত্ত্বীয় জ্ঞানও। নিঃসন্দেহে বলা যায়, বর্তমান সময়ের সবচেয়ে জনপ্রিয় প্রোগ্রামিং ল্যাঙ্গুয়েজ হচ্ছে জাভা। কয়েক দশক ধরেই ইন্ডাস্ট্রিতে এই ল্যাঙ্গুয়েজটির আধিপত্য। নতুন নতুন ল্যাঙ্গুয়েজ সময়ের সাথে উঠে আসলেও টেক-জায়ান্টদের প্রথম পছন্দ কিন্তু এখনো জাভাই। *****এই কোর্স করে কিভাবে উপকৃত হবেন? প্রোগ্রামিং শেখা হবে। যেকোনো সমস্যা নিয়ে ভাবতে শিখবেন সূক্ষ্মভাবে। রপ্ত করতে পারবেন সমস্যাটিকে ছোট ছোট ধাপে ভাগ করে সহজে সমাধান করার কৌশল। জাভার সাথে শেখা হবে অবজেক্ট ওরিয়েন্টেড প্রোগ্রামিং (OOP)। শিখবেন কনসোল-বেজড প্রজেক্ট। জাভাতে কিভাবে বিভিন্ন আইডিয়া ইমপ্লিমেন্ট করতে হয় তাও শেখা হয়ে যাবে আপনার। আর এনড্রয়েড প্রাটফর্মের কাঠামো যেহেতু জাভা ল্যাঙ্গুয়েজের ওপরই দাঁড়িয়ে, এই কোর্স করতে করতে আপনি শিখে ফেলবেন এনড্রয়েড ডেভেলপমেন্টও। Javafx এর মতো GUI ডেভেলপমেন্ট শিখে বানিয়ে ফেলতে পারবেন ক্রস-প্ল্যাটফর্ম ডেস্কটপ এপ্লিকেশন। প্রজেক্ট কিংবা মাইকোস্টান থেকে যেমন শেখা হবে, তেমনি বাতুরে আপনার আত্মবিশ্বাসও। এই কোর্সটিতে সব প্রোগ্রামিং ল্যাঙ্গুয়েজের মূল বিষয়গুলো মোটামুটি বুঝে নেওয়ার পরই জাভা শিখবেন বিস্তারিত। তাই এই কোর্সের শেখাটা আপনি অন্যান্য প্রোগ্রামিং ল্যাঙ্গুয়েজেও কাজে লাগাতে পারবেন সহজে।	

Figure 7. 7: UI for Ministry Incharge View Course

Ministry Incharge View Teacher

The screenshot shows a web application interface for viewing teachers. The browser address bar indicates the URL is `127.0.0.1:3000/GovernmentEmployee/teacher/`. The page title is "Ministry Incharge". The user is logged in as "NijumSultana".

The main content area is titled "Button Example Users". It features a search bar and a "New Teacher" button. Below the search bar is a table of users with the following data:

Id	UserName	First Name	Last Name	Email
11	mdanikislam	Md anik	islam	anikislam668@gmail.com

The table also includes action icons for each entry. The page shows "Showing 1 to 1 of 1 entries" and navigation buttons for "Previous" and "Next".

Figure 7. 8: UI for Ministry Incharge View Teacher

Ministry Incharge View Course Assign

The screenshot shows a web browser window with the URL `127.0.0.1:8000/GovernmentEmployee/teacherEnroll/`. The application has a dark blue sidebar on the left with the following menu items: Home, Course, Teacher, Course Assign (highlighted), Course Material Approved, Student, Student Enroll, Profile, and Log Out. The main content area is titled "Ministry Incharge" and includes a welcome message for "NijhumSultana" and a "+ New teacherEnroll" button. Below this is a "Button Example Users" section with a search form containing "Batch contains:" and "CourseName:" fields, and a "Search" button. There are also links for "Copy", "CSV", "Excel", "PDF", and "Print", and a "Show 10 entries" dropdown. A table displays course assignments with columns for id, Batch, TeacherName, CourseName, CourseStartDate, CourseDuration, and Published. The table contains two rows of data. At the bottom of the table, it says "Showing 1 to 2 of 2 entries" and has "Previous" and "Next" navigation buttons. A watermark "Activate Windows" is visible in the bottom right corner.

Ministry Incharge

Welcome, NijhumSultana

+ New teacherEnroll





Button Example Users

Batch contains: CourseName: Search

Copy CSV Excel PDF Print

Show 10 entries

Search:

id	Batch	TeacherName	CourseName	CourseStartDate	CourseDuration	Published	
1	Batch2020	mdanikislam	C Programming Language	Oct. 1, 2020	03 Days	True	 
9	Batch2021	mdanikislam	C Programming Language	Dec. 31, 2020	60 Days	False	 

Showing 1 to 2 of 2 entries

Previous 1 Next

Activate Windows
Go to Settings to activate Windows.

Figure 7. 9: UI for Ministry Incharge View Course Assign

Ministry Incharge View Student

The screenshot shows a web application interface for 'Ministry Incharge'. The browser address bar indicates the URL is '127.0.0.1:3000/GovernmentEmployee/student/'. The user is logged in as 'NijhumSultana'. The sidebar on the left contains navigation links: Home, Course, Teacher, Course Assign, Course Material Approved, Student (highlighted), Student Enroll, Profile, and Log Out. The main content area is titled 'Button Example Users' and features a table of users. Above the table are options to 'Copy', 'CSV', 'Excel', 'PDF', and 'Print', along with a 'Show 10 entries' dropdown and a search bar. The table has columns for 'Id', 'UserName', 'First Name', 'Last Name', and 'Email'. There are three rows of data. At the bottom of the table, it says 'Showing 1 to 3 of 3 entries' and includes 'Previous' and 'Next' navigation buttons. A 'New student' button is located in the top right corner of the main content area.

Id	UserName	First Name	Last Name	Email
20	toufiqislamnoyon	Md	Toufiqul Islam Noyon	rtarek641@gmail.com
21	joy	MD	joy islam	joy@gmail.com
25	ragib	ragib	shahriar1803	ragibshahriar920@gmail.com

Figure 7. 10: UI for Ministry Incharge View Student

Ministry Incharge Student enroll

Government Employee x +

127.0.0.1:8000/GovernmentEmployee/StudentEnroll/

Welcome,
NijhumSultana

+ New studentEnroll

GENERAL

Home

Course

Teacher

Course Assign

Course Material Approved

Student

Student Enroll

Profile

Log Out

Button Example Users

Interests:

- C Programming Language
- Java Programming Language
- C Programming Language

Search

Copy CSV Excel PDF Print

Show 10 entries

Search:

id	StudentName	CourseName	IsEnroll	
20	toufiqislamnoyon	C Programming Language Java Programming Language	True	
25	ragib	C Programming Language	False	

Showing 1 to 2 of 2 entries

Previous 1 Next

Activate Windows
Go to Settings to activate Windows.

Gentelella - Bootstrap Admin Template by Colorlib

Figure 7. 11: UI for Ministry Incharge View Student Enroll

Teacher Dashboard

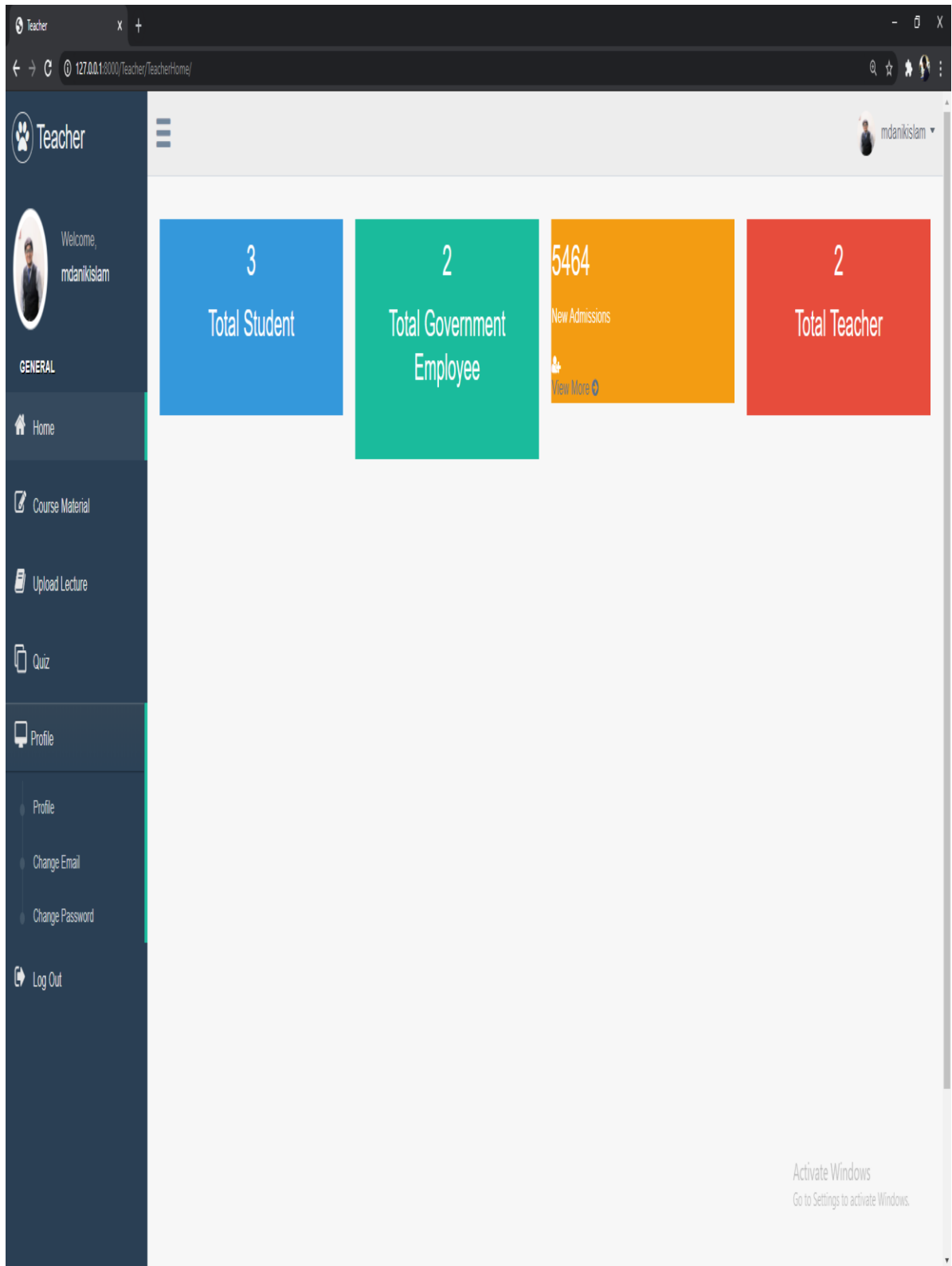






Figure 7. 12: UI for Teacher Dashboard

Teacher View Course Material

The screenshot displays the 'Teacher View Course Material' interface. On the left is a dark blue sidebar with the 'Teacher' logo and a user profile for 'mdanikislam'. The main content area features a 'Button Example' section with options to 'Copy', 'CSV', 'Excel', 'PDF', and 'Print'. Below this is a table of course materials. The table has columns for 'Id', 'CourseName', 'MaterialName', and 'Material Status'. Two entries are listed:

Id	CourseName	MaterialName	Material Status	
1	C Programming Language	Introduction	True	 
2	C Programming Language	C Flow Control	True	 

At the bottom of the table, it says 'Showing 1 to 2 of 2 entries' and includes 'Previous', '1', and 'Next' navigation buttons. A search bar is located to the right of the table. A 'New Course Material' button is in the top right corner. The browser address bar shows '127.0.0.1:8000/Teacher/material/'.

Figure 7. 13: UI for Teacher View Course Material

Teacher View Upload Lecture

Welcome, mdanikislam

[+ New Upload Lecture](#)

Button Example Users

Copy CSV Excel PDF Print

Show 10 entries

Search:

Material					
Id	Name	Video	PDF	Text	
4	Introduction	https://youtu.be/u2UHKkiqqOA	PDF/md_joy_islam_EWWd5Jm.pdf	About A card is a flexible and extensible content container. It includes options for headers and footers, a wide variety of content, contextual background colors, and powerful display options. If you're familiar with Bootstrap 3, cards replace our old panels, wells, and thumbnails. Similar functionality to those components is available as modifier classes for cards.	Edit Delete
5	Introduction	https://youtu.be/a1f8EHIA1_U	PDF/Marufur_Rahman_CVDIU_1.pdf	Cards are built with as little markup and styles as possible, but still manage to deliver a ton of control and customization. Built with flexbox, they offer easy alignment and mix well with other Bootstrap components. They have no margin by default, so use spacing utilities as needed. Below is an example of a basic card with mixed content and a fixed width. Cards have	Edit Delete

Figure 7. 14: UI for Teacher Upload Lecture

Teacher view quiz

The screenshot shows a web application interface for a teacher's quiz management. The browser address bar indicates the URL is 127.0.0.1:8000/Teacher/quiz/. The page features a dark blue sidebar on the left with a 'Teacher' header and a user profile for 'mdanikislam'. The main content area is titled 'My Quizzes' and includes an 'Add quiz' button. Below this is a table with the following data:

Quiz	Subject	Questions	Time Duration	Taken
Introduction quiz	Introduction	11	6 a.m.	1

A 'View results' button is located to the right of the 'Introduction quiz' row. At the bottom right of the page, there is a watermark: 'Activate Windows Go to Settings to activate Windows.'

Figure 7. 15: UI for Teacher Quiz

Teacher View Question and Update quiz

The screenshot shows a web application interface for a teacher. The browser address bar shows the URL `127.0.0.1:8000/teacher/quiz/1/`. The page title is "Teacher". The sidebar on the left contains a "GENERAL" section with navigation links: Home, Course Material, Upload Lecture, Quiz, Profile, and Log Out. The main content area displays the "Introduction quiz" details. The form fields are:

- Name: Introduction quiz
- Subject: Introduction
- Time duration: 06:00:00

Buttons for "Save changes", "Nevermind", and "Delete" are visible. A "View results" button is also present. Below the form is a table of quiz questions and answers:

Questions	Answers
<code>printf("5+5");</code>	4
c language is	3
which of the following is not a variable type?	4
Who developed C languages?	4
What is the default return type of a function?	4
How much memory is required to store a value of type double?	4
Which of the following is not a valid variable name declaration?	4
All keywords in C are in _____	4
A single line comment in C language source code can begin with ____	4
5+5	0

An "Activate Windows" watermark is visible in the bottom right corner of the table area.

Figure 7. 16: UI for Teacher Update quiz and view question

Teacher Update question and update answer

The screenshot shows a web browser window with the URL `127.0.0.1:3000/Teacher/quiz/1/question/11/`. The page title is "Teacher" and the user is logged in as "mdanikislam". The main content area displays a quiz question: "Who developed C languages?". Below the question, there is a table with columns for "Answers", "Correct?", and "Delete?". The table contains several rows of answers, with "Dennis Ritchie" marked as correct. The interface includes a sidebar with navigation options like "Home", "Course Material", "Upload Lecture", "Quiz", "Profile", and "Log Out".

Answers	Correct?	Delete?
Answer* Ken Thomson	<input type="checkbox"/>	<input type="checkbox"/>
Answer* Peter Norton	<input type="checkbox"/>	<input type="checkbox"/>
Answer* Von Neuman	<input type="checkbox"/>	<input type="checkbox"/>
Answer* Dennis Ritchie	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Answer* 	<input type="checkbox"/>	
Answer* 	<input type="checkbox"/>	
Answer* 	<input type="checkbox"/>	

Activate Windows
Go to Settings to activate Windows.

Figure 7. 17: UI for Teacher update question and update answer

Student Dashboard


E-Learning Home Courses Our Teacher toufiqueislamnoyon

f t in

Profile

Home Profile Education Email Change Password Change My Course My Quiz

Home > Profile

 UserName : toufiqueislamnoyon
Email : rtarek541@gmail.com
First Name : Md
Last Name : Toufique Islam Noyon
Full Name : Md Toufique Islam Noyon
Phone Number : 01792101898
Address : Dhaka

Update Profile

Activate Windows
Go to Settings to activate Windows.

Figure 7. 18: UI for Student Dashboard

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