# Software Design Specification
## for
# Online Examination System

Prepared by
Shahreen Sultana (ID:1521173042)
and
Nazmus Sakib (ID:1521166042)

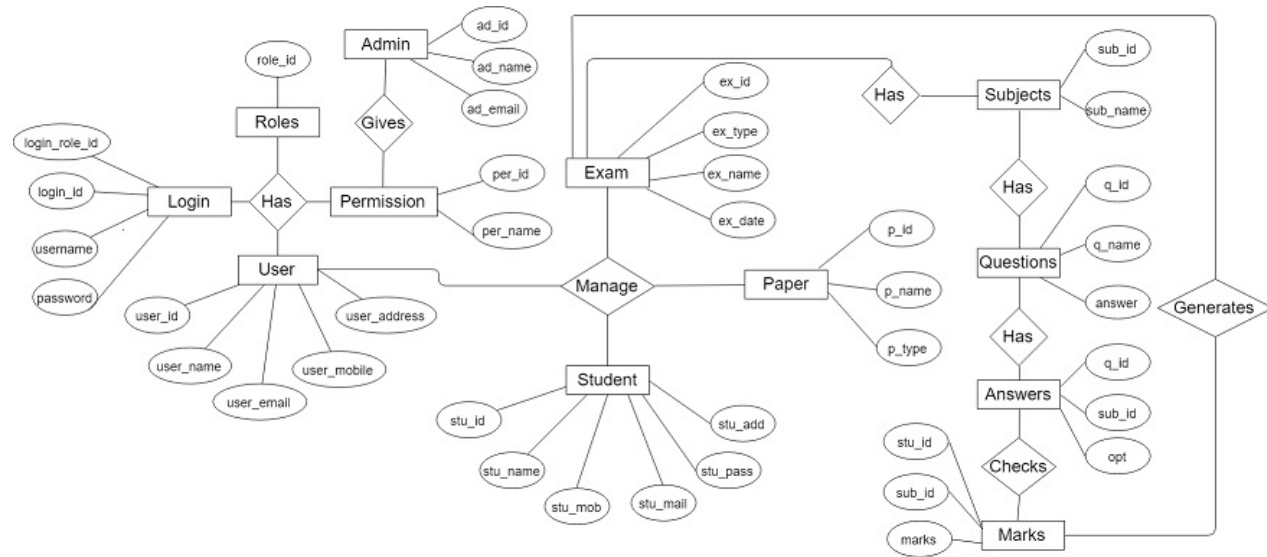Dhaka, 4th July 2019

# Contents

# 1 E-R Diagram



Figure 1: E-R Diagram
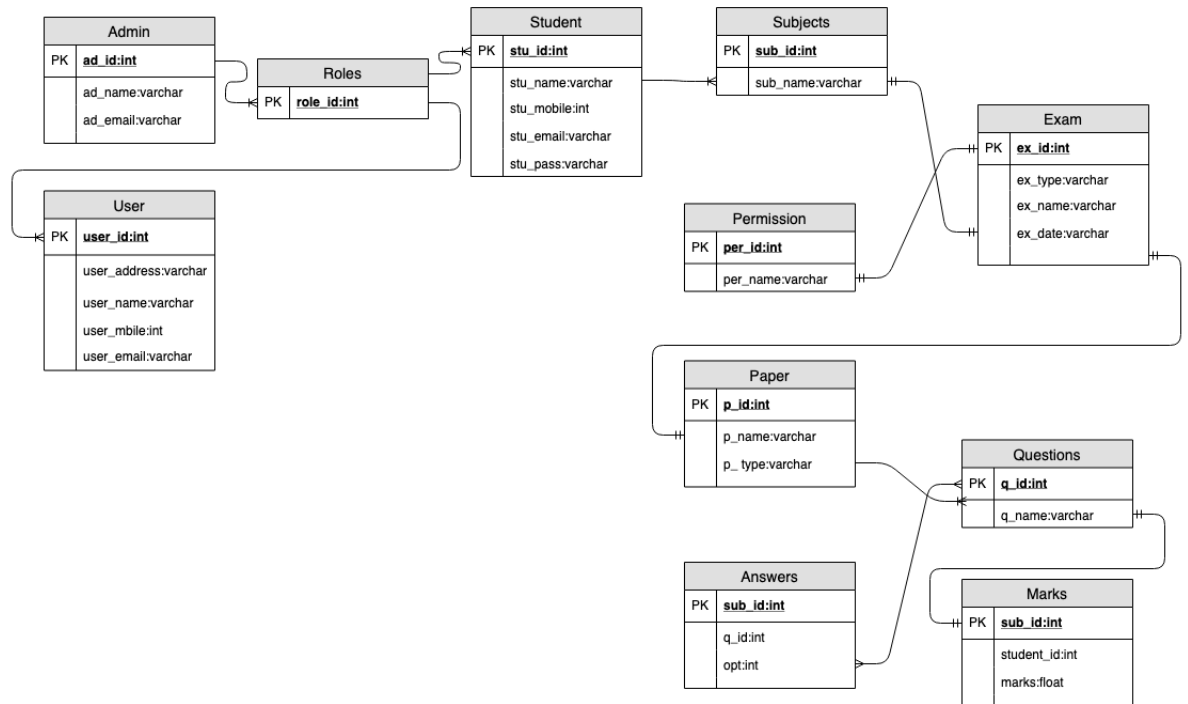
# 2 Database Schema



Figure 2: Database Schema
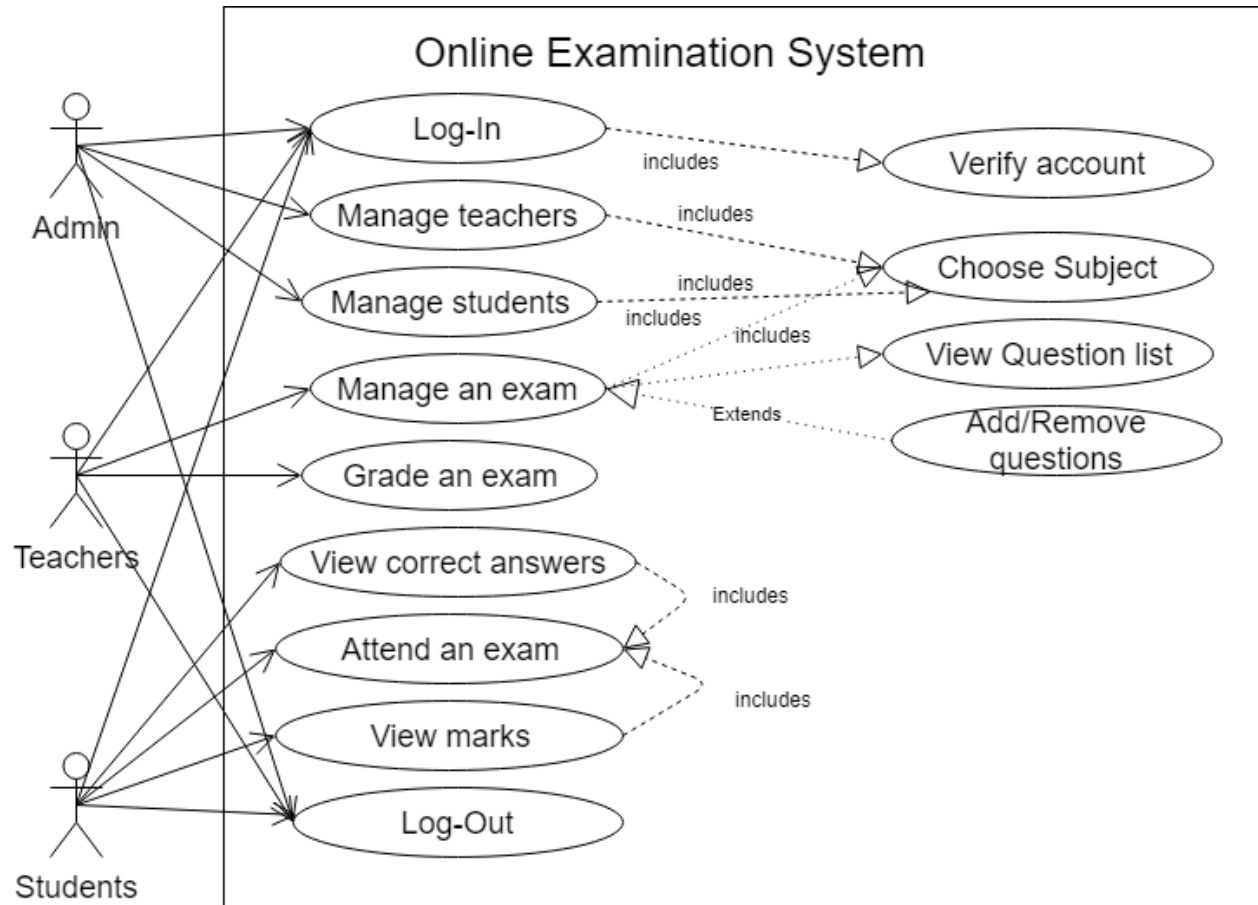
# 3 UML Diagrams

## 3.1 UML Use Case Diagram



Figure 3: UML Use Case Diagram

## 3.2 UML Extended Use Case Diagram

### 3.2.1 Log-In

**Use Case Name: Log In**

Actor: Students, Teachers, Admin
Description:
1. Input user id and password
2. Check user id and password
3. Save id and password
4. Remember password

Exception:
1. No database connection
2. Required page not found

Precondition:
1. URL of login page in web browser

Post Condition:
1. Successful login: Log in into the system
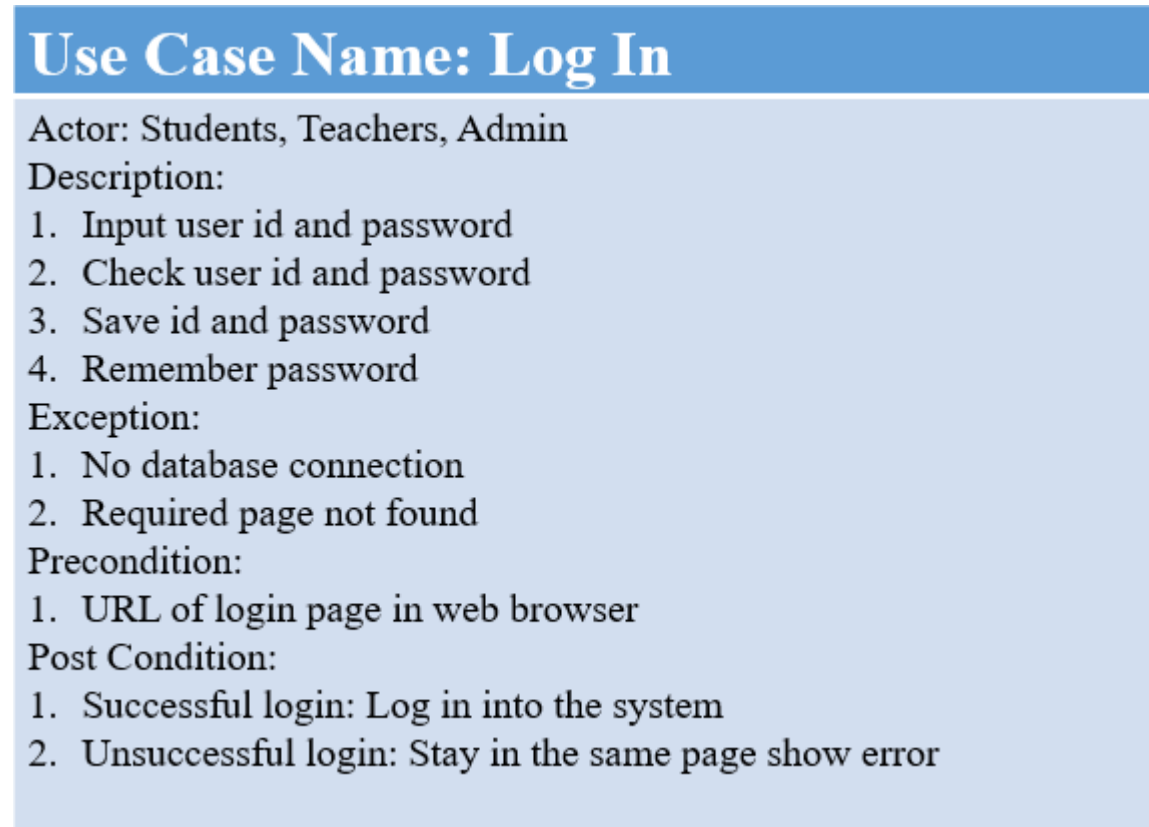2. Unsuccessful login: Stay in the same page show error

Figure 4: Log-In

### 3.2.2 Manage Teachers

## Use Case Name: Manage Teachers

Actor: Admin
Description:
1. Click to the list of teachers
2. Select which teachers will take the exam
3. Select which teachers will prepare the question paper
Exception:
1. Can not choose the teachers
Precondition:
1. Admin must know which teachers will take the exam
Post Condition:
1. Successfully selected the teachers
2. Could not select the teachers

Figure 5: Manage Teachers

### 3.2.3 Manage Students

## Use Case Name: Manage Students

Actor: Admin

Description:
1. Click to the list of subjects
2. Select a subject
3. Select which students will attend the exam

Exception:
1. No database connection
2. Required page not found

Precondition:
1. Log in to the system
2. Click on manage students
3. A Student list should be in the database

Post Condition:
1. Successful added the students
2. Could not add the students

Figure 6: Manage Students

### 3.2.4 Manage Exams

## Use Case Name: Manage an Exam

Actor: Admin

Description:
1. Click to the list of subjects
2. Select a subject
3. Select which students will attend the exam
4. Select the question paper for the exam

Exception:
1. No database connection
2. Required page not found

Precondition:
1. Log in to the system
2. Click on the subjects
3. Click on manage students
4. A Student list should be in the database
5. Questions should be in the database

Post Condition:
1. Successful added the students
2. Could not add the students

Figure 7: Manage Exams

9

### 3.2.5 Grade an Exam

## Use Case Name: Grade an Exam

Actor: Teacher

Description:
1. Click to the subject
2. Click to the answer scripts
3. Check the answers
4. Exception:
5. No database connection
6. Required page not found

Precondition:
1. Log in to the system
2. Answer scripts should be in database
3. Answers should be in the database

Post Condition:
1. Successful graded the papers
2. Could not grade the papers

Figure 8: Grade an Exam

### 3.2.6 Seat for Exam

## Use Case Name: Seat for Exam

Actor: Students
Description:
1.  Log in to the system.
2.  Click to the list of subjects
3.  Select a subject
4.  Click on the attend exam
Exception:
1.  No database connection
2.  Required page not found
3.  Can not go to the attend exam page
Precondition:
1.  Students should be added by the admin
2.  Student should have that subject
3.  Student name should be in the student database
Post Condition:
1.  Successfully attend the exam
2.  Could not attend the exam

Figure 9: Seat for Exam

### 3.2.7 View Correct Answers

## Use Case Name: Check Answers

Actor: Teacher

Description:
1. Click to the list of subjects
2. Select a subject
3. Check the answers

Exception:
1. No database connection
2. Required page not found

Precondition:
1. Log in to the system
2. Answer scripts should be in the database
3. Answer should be in the database

Post Condition:
1. Successful checked the answers
2. Could not check the answers

Figure 10: View Correct Answers

### 3.2.8 View Marks

## Use Case Name: View Marks

Actor: Students
Description:
1. Click to the list of subjects
2. Select a subject
3. Click to the mark of the subject
Exception:
1. No database connection
2. Required page not found
Precondition:
1. Log in to the system
2. Students must attend the exam
3. Students name should be in the database
4. A Student list should be in the database
Post Condition:
1. Successfully viewed marks
2. Could not view the marks

Figure 11: View Marks

### 3.2.9   Log Out

## Use Case Name: Log Out

Actor: Students, Teachers, Admin
Description:
1.   Click to the Log out option
2.   Reenter in the log in page
Exception:
1.  Required action not completed
Precondition:
1.   Log in to the System
Post Condition:
1.  Successful logout: Log out from the system
2.  Unsuccessful log out: Stay in the same page show error

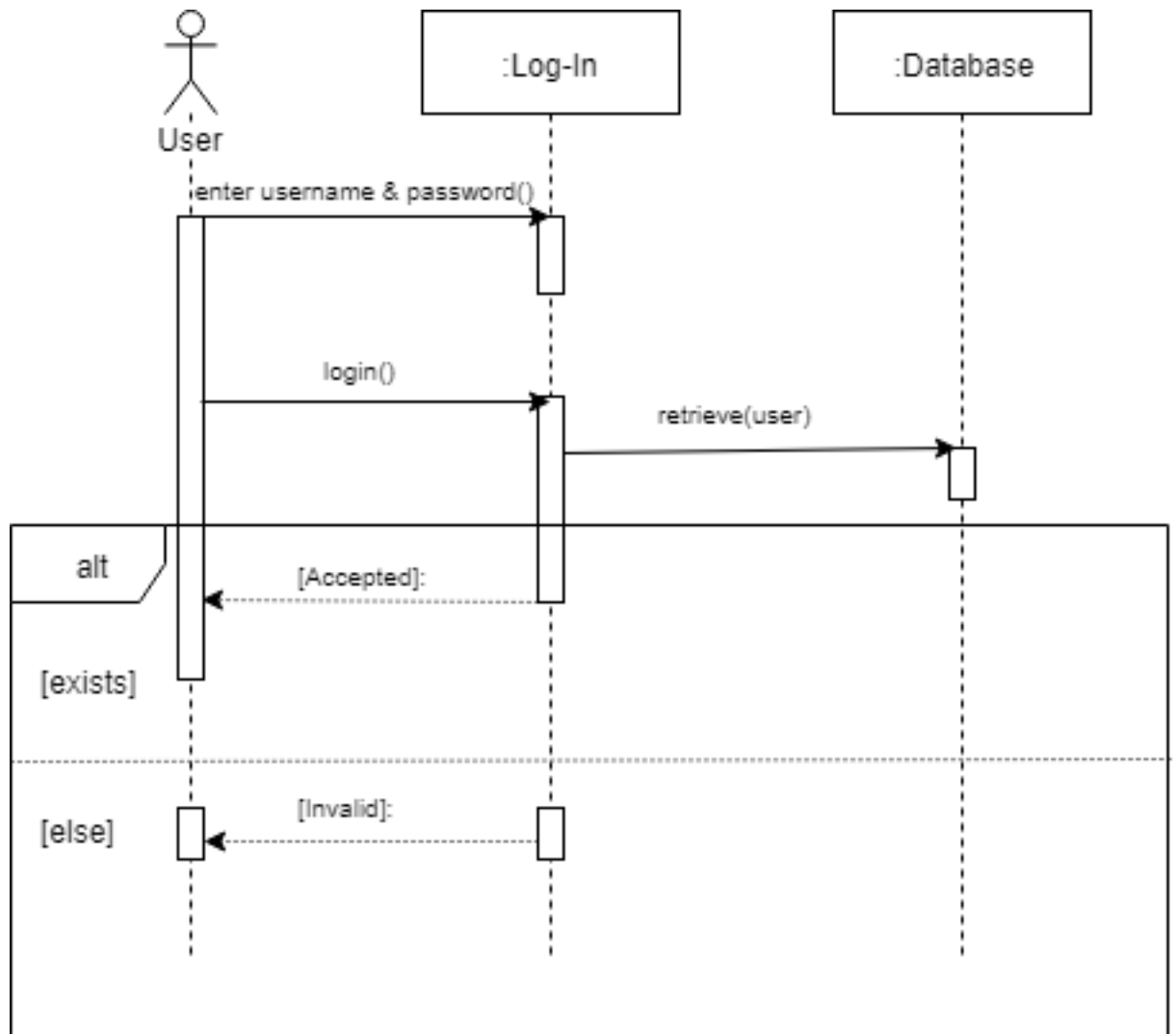Figure 12: Log Out

# 4 UML Sequence Diagram
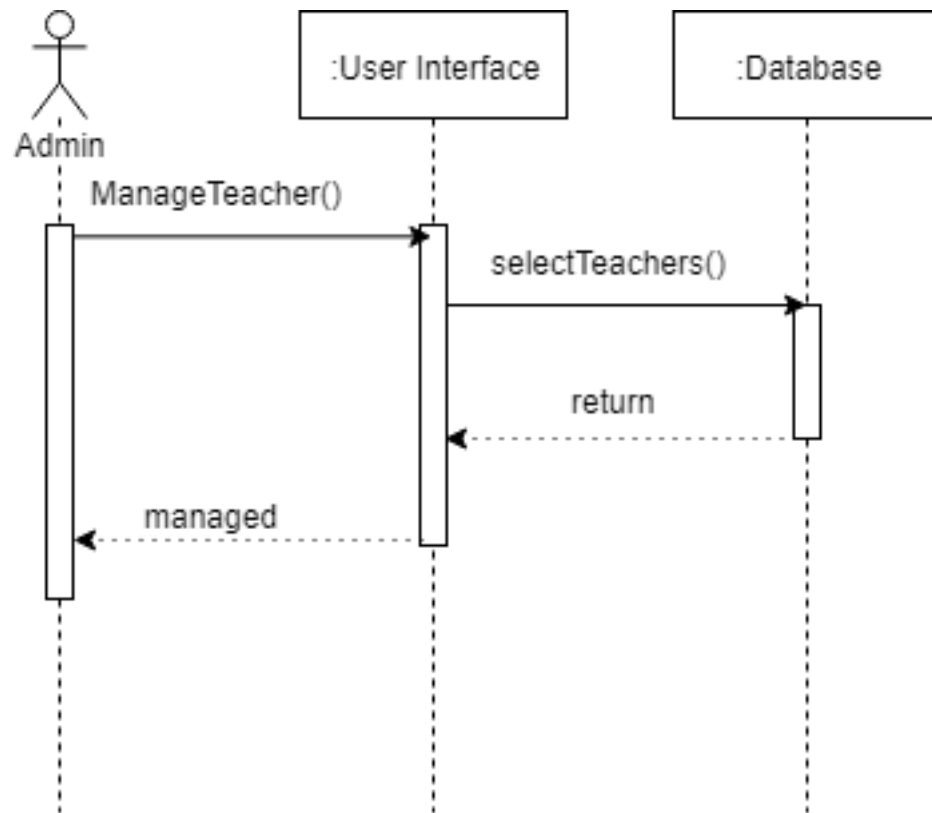
### 4.0.1 Log-In



Figure 13: Log-In

### 4.0.2   Manage Teachers



Figure 14: Manage Teachers

### 4.0.3 Manage Students
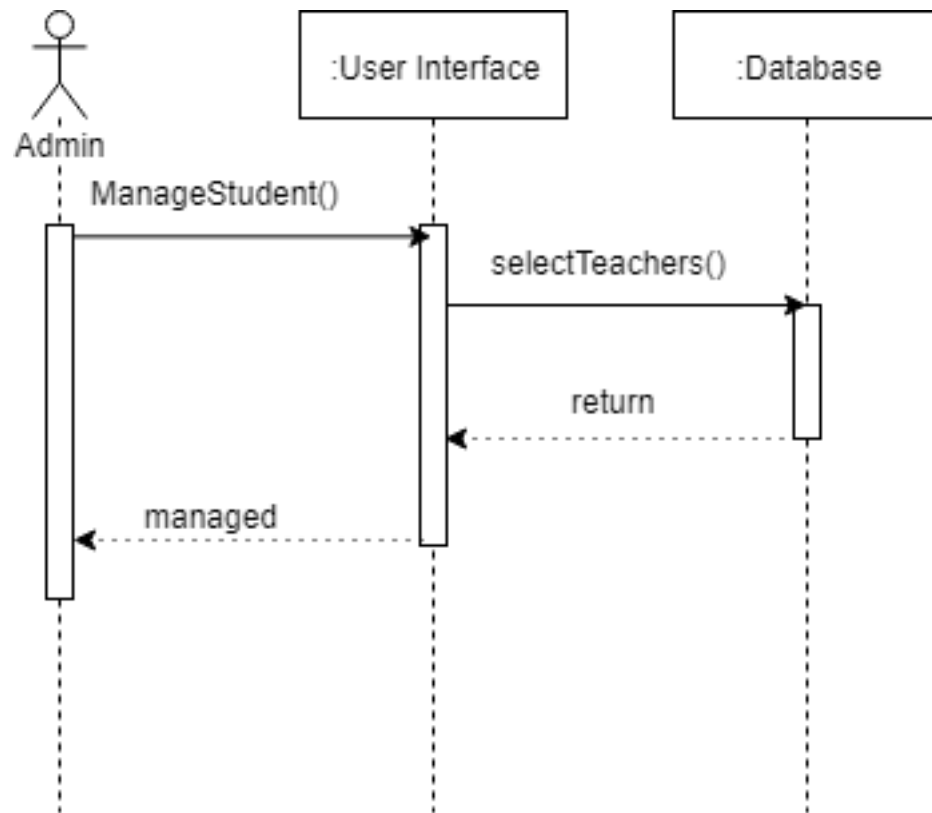


Figure 15: Manage Students
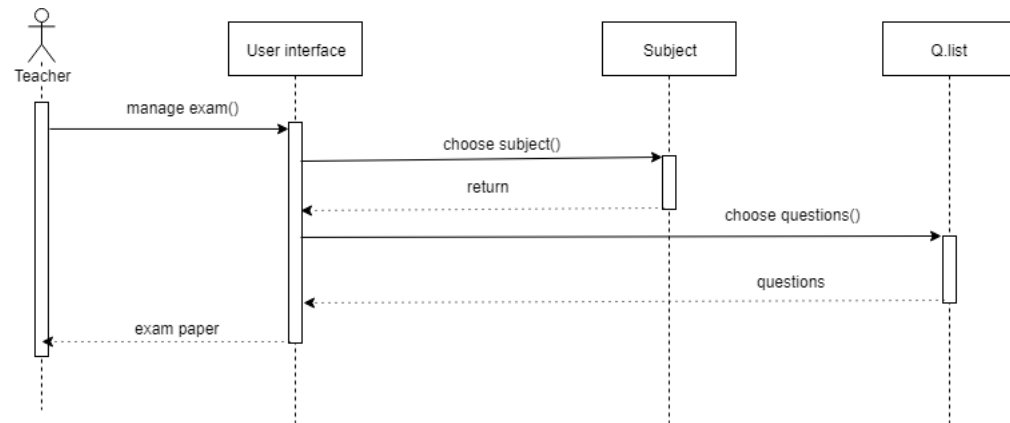
### 4.0.4 Manage Exams
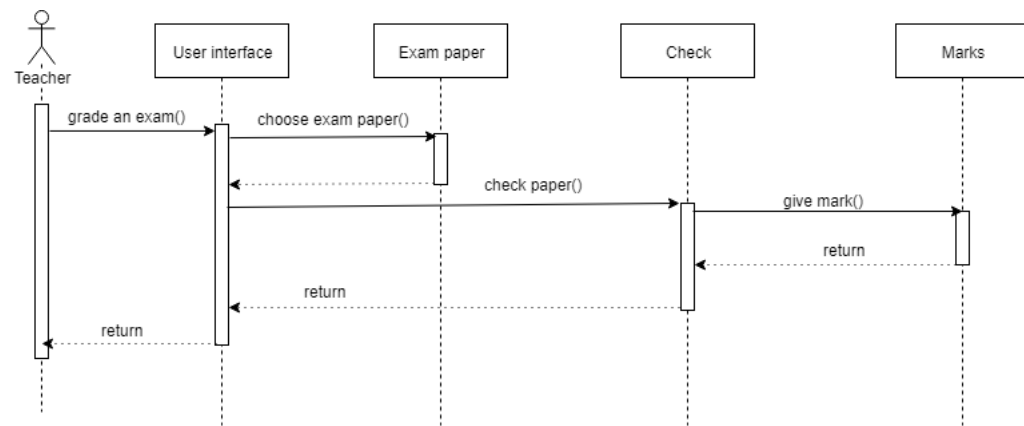


Figure 16: Manage Exams

### 4.0.5 Grade an Exam



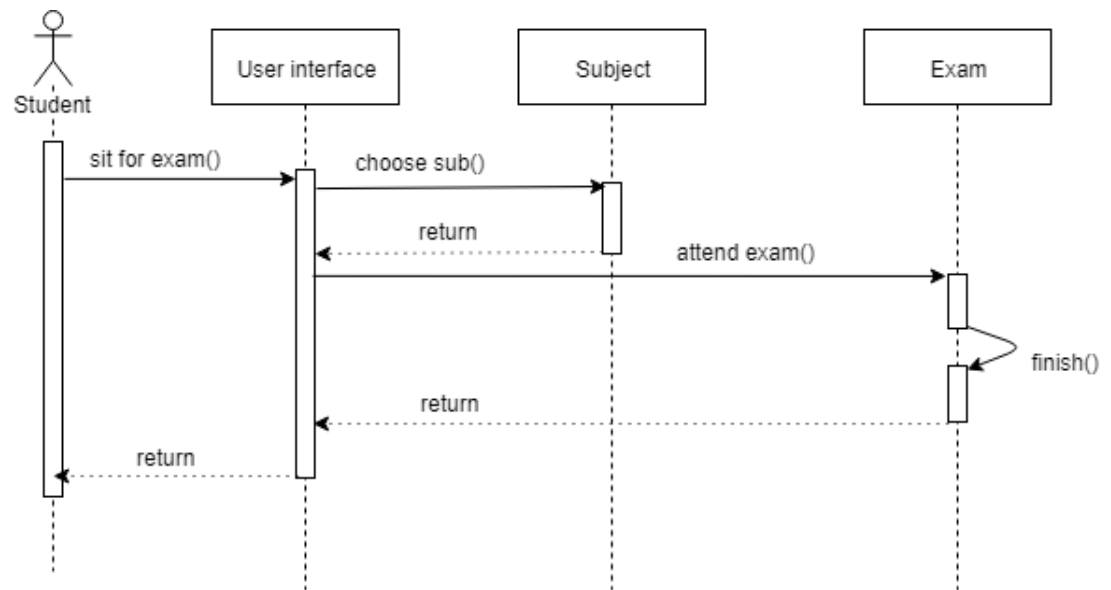Figure 17: Grade an Exam

### 4.0.6   Seat for Exam



Figure 18: Seat for Exam

### 4.0.7 View Correct Answers



Figure 19: View Correct Answers

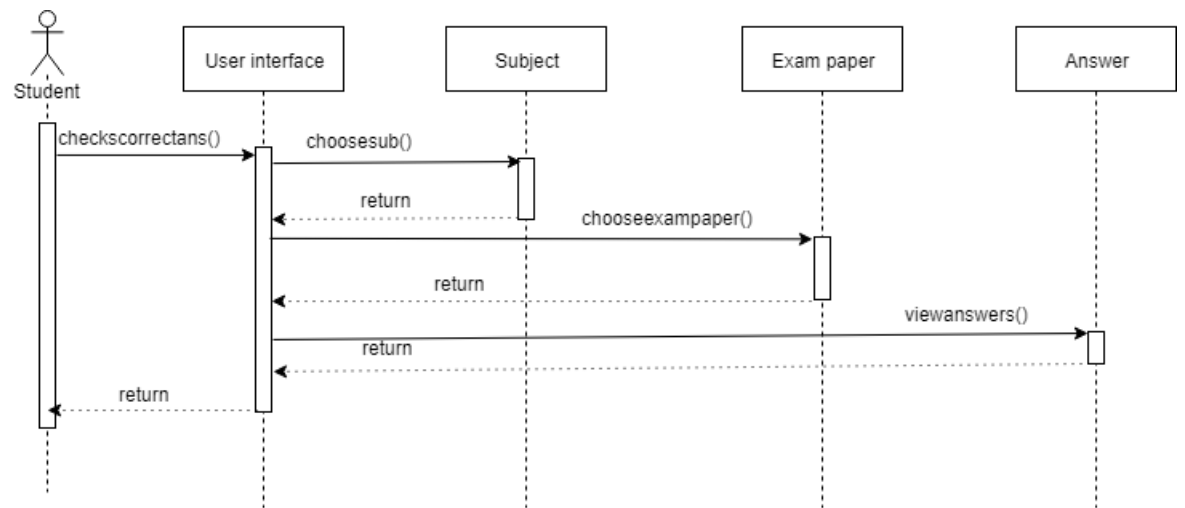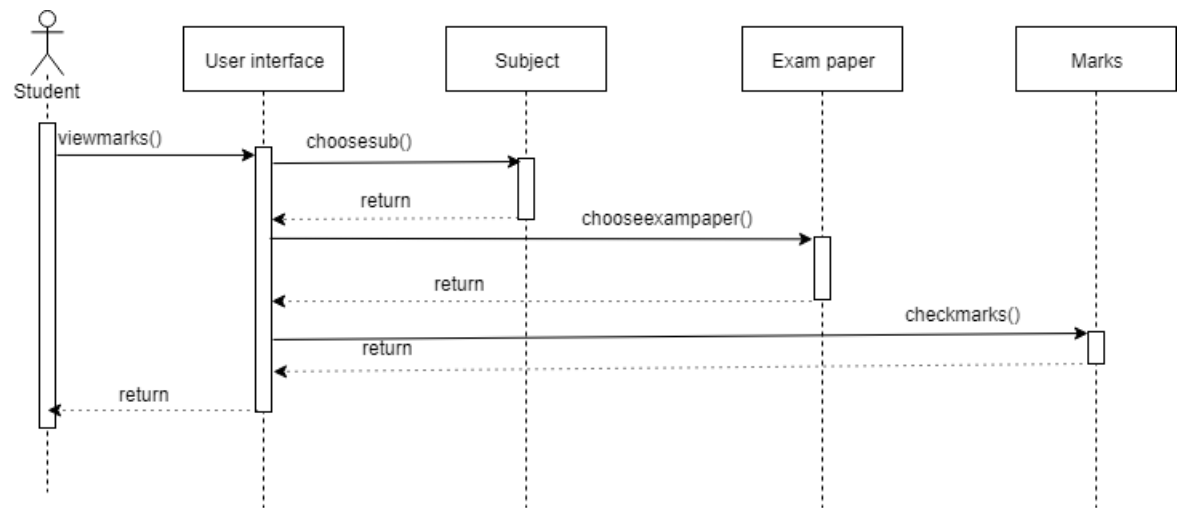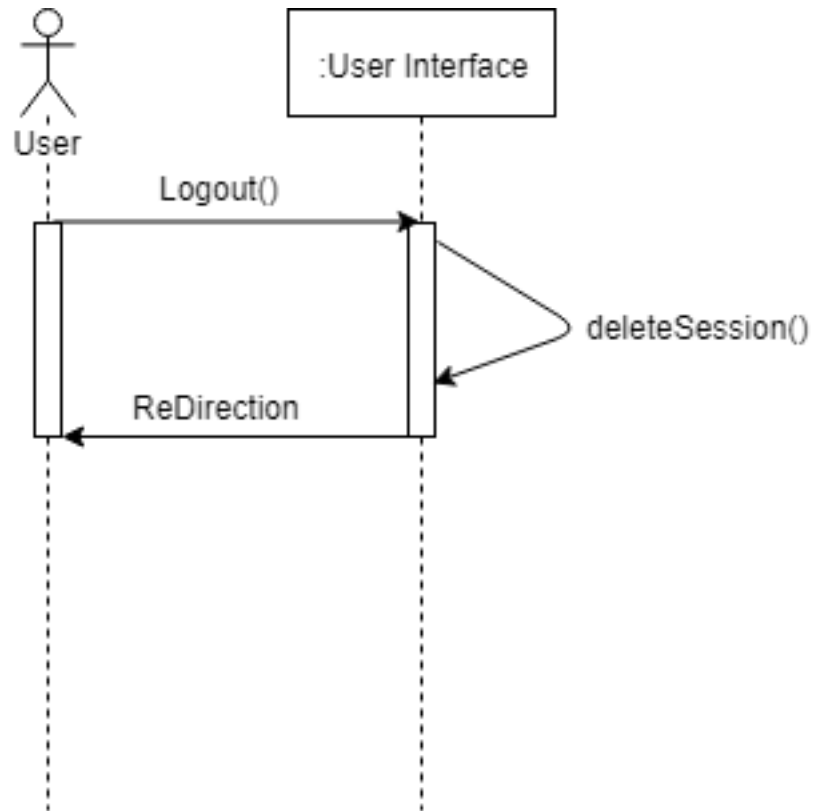### 4.0.8 View Marks



Figure 20: View Marks

### 4.0.9   Log Out



Figure 21: Log Out