Design Diagrams

for

Course Registration and Time Table Generation System

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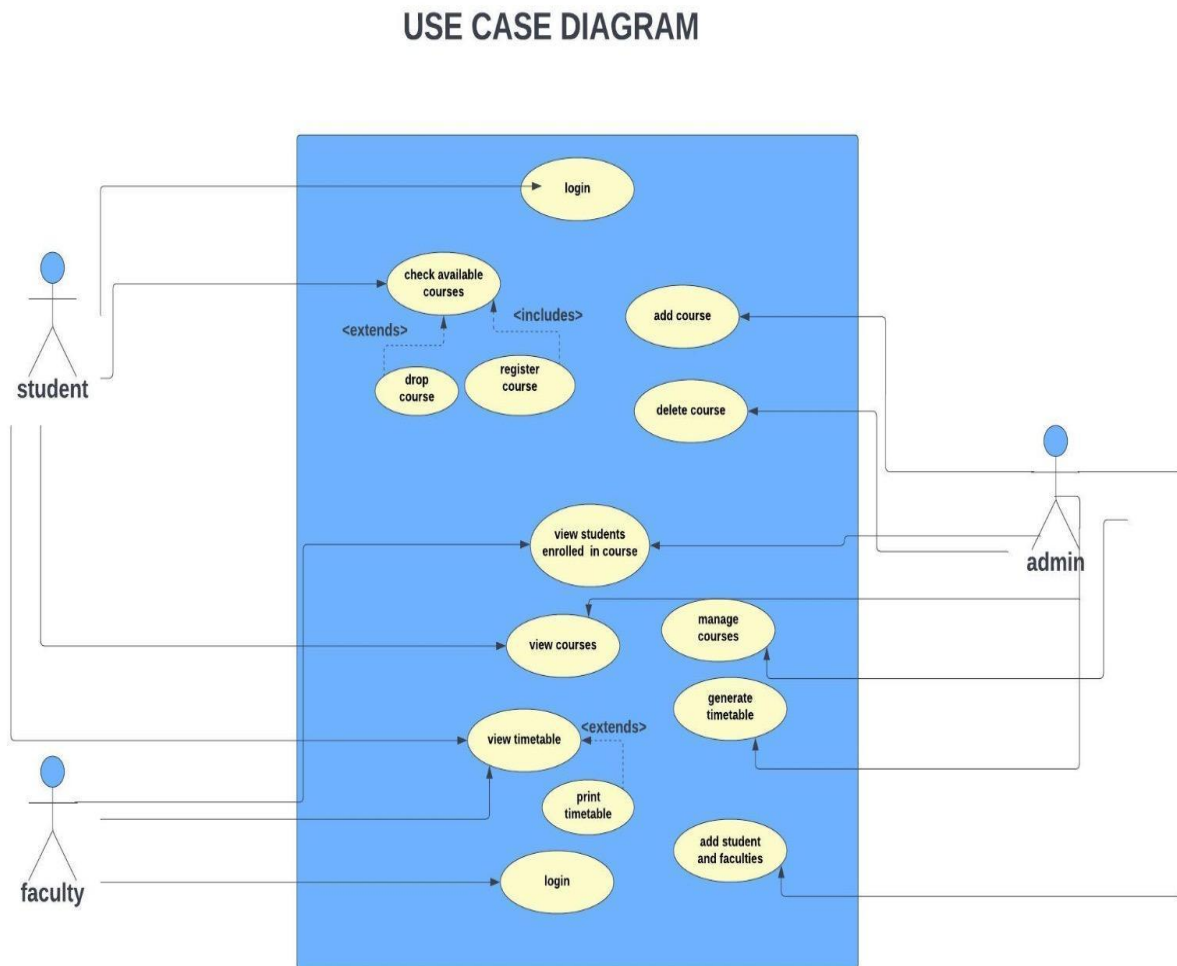The LNM Institute of Information Technology

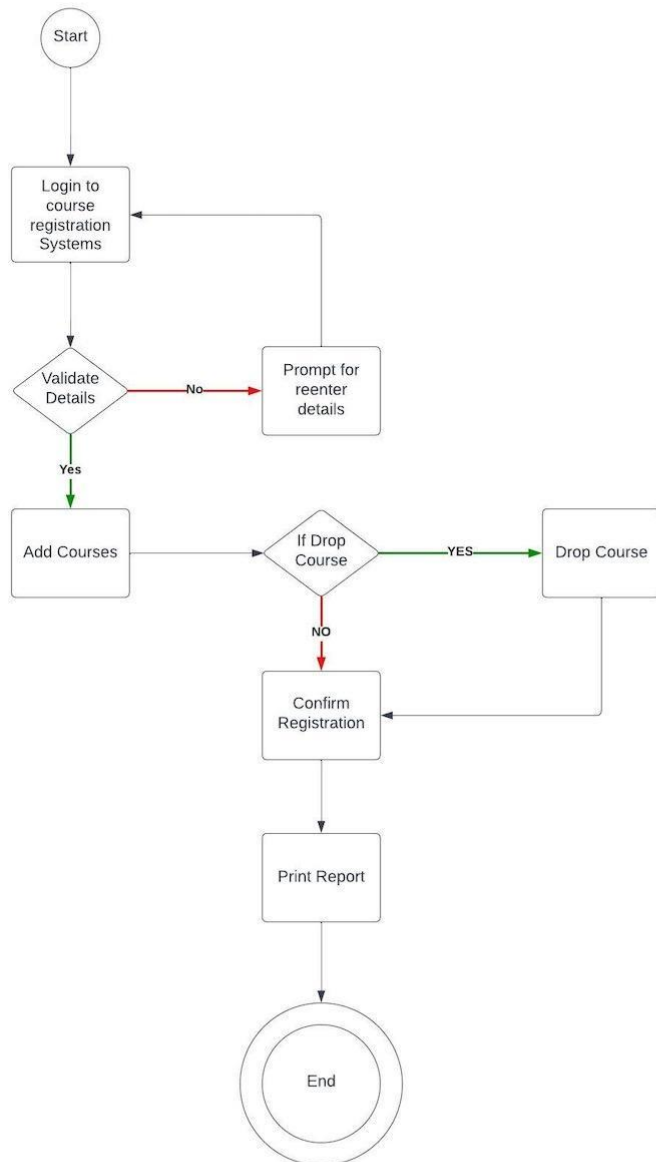Date: October 28, 2023

1 Use Case Diagram

The use case diagram provides a high-level representation of user interactions with the system. It outlines the primary functionalities and features of the application, illustrating how users interact with the system and the main use cases.

USE CASE DIAGRAM

2 Use Case Activity Diagram (UCAD)

UCAD, or Use Case Activity Diagram, is a comprehensive design model that consolidates various design and drafting tools into a unified platform. This model is instrumental in architectural design, enabling the creation of detailed plans and schematics.
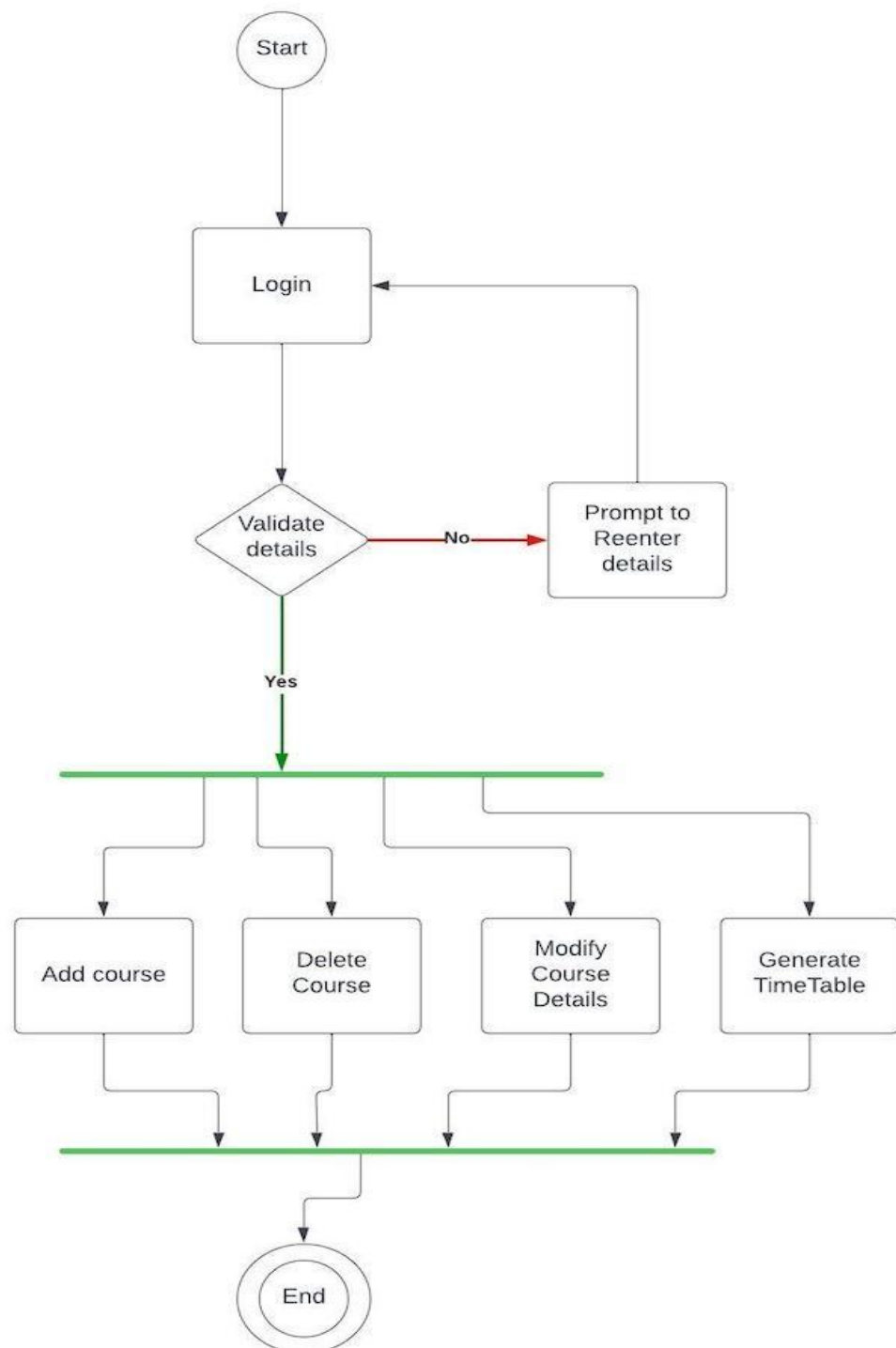

UCAD Student

UCAD Course Instructor

Start

Login

Validate Details

No → Prompt to reenter details

YES

View Timetable/Print Timetable

View students enrolled

End

UCAD Admin

```
                    ┌──────────┐
                    │  Start   │
                    └────┬─────┘
                         │
                         ▼
                    ┌──────────┐ ◄──────────────┐
                    │  Login   │                │
                    └────┬─────┘                │
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                     ╱Validate ╲──No──►│   Prompt to    │
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                      ╲──────╱         │   details      │
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                        Yes
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    ┌─────────┐ ┌─────────┐ ┌─────────┐  ┌──────────┐
    │   Add   │ │ Delete  │ │ Modify  │  │ Generate │
    │ course  │ │ Course  │ │ Course  │  │TimeTable │
    │         │ │         │ │ Details │  │          │
    └────┬────┘ └────┬────┘ └────┬────┘  └────┬─────┘
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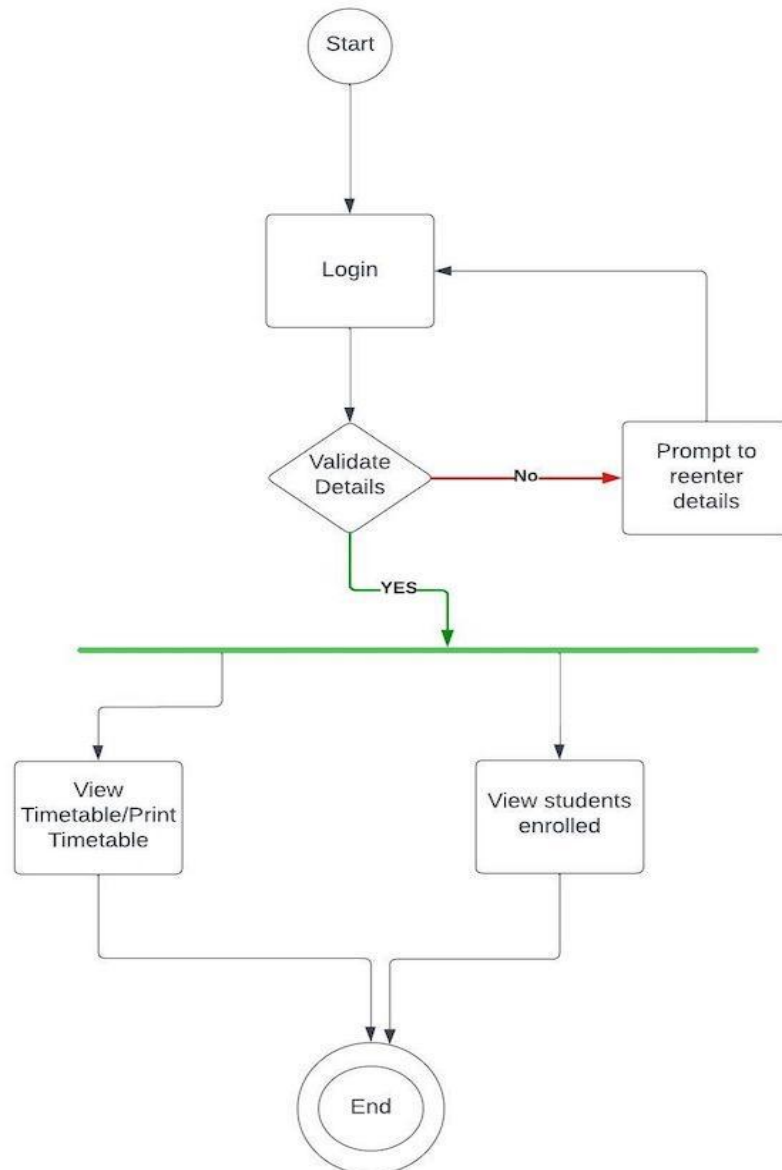
3 Class Diagram

The class diagram offers insights into the system's structure by depicting classes, attributes, and their relationships. It is crucial for understanding the object-oriented design of the application and the organization of classes.
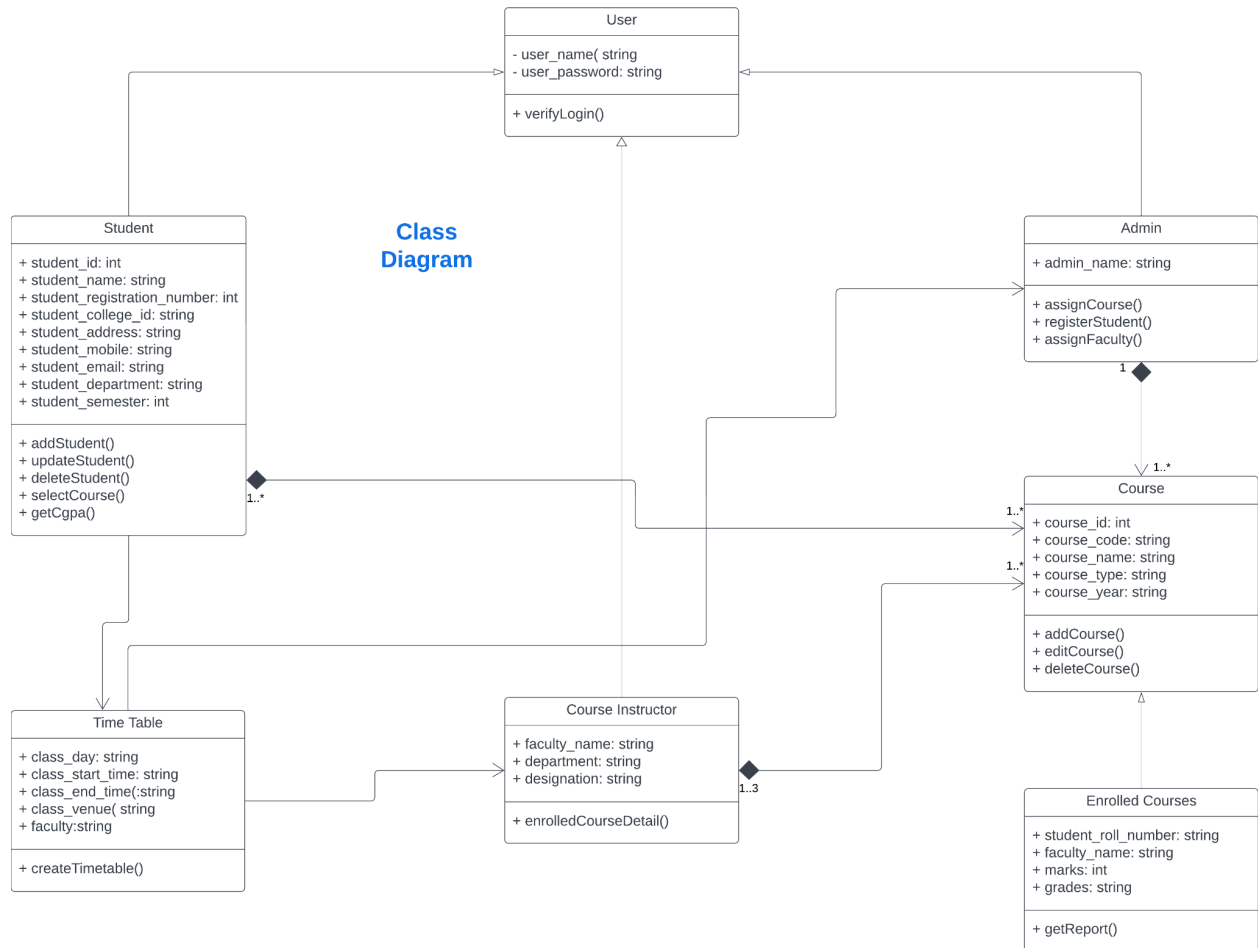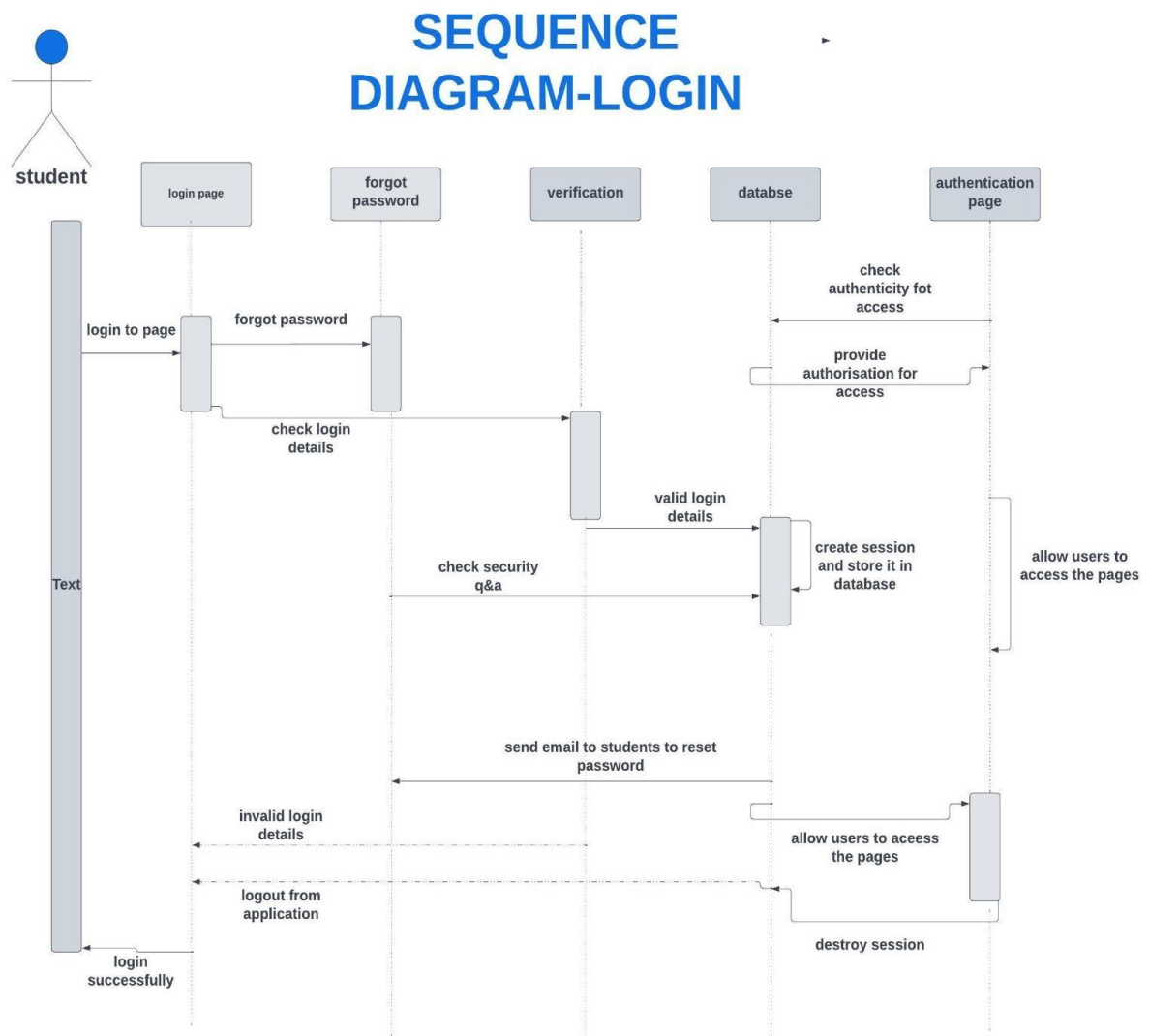

4 Entity-Relationship (ER) Diagram

The ER diagram illustrates the database structure, showcasing entities, their attributes, and the relationships between them. It plays a pivotal role in designing the database schema to ensure efficient data management.
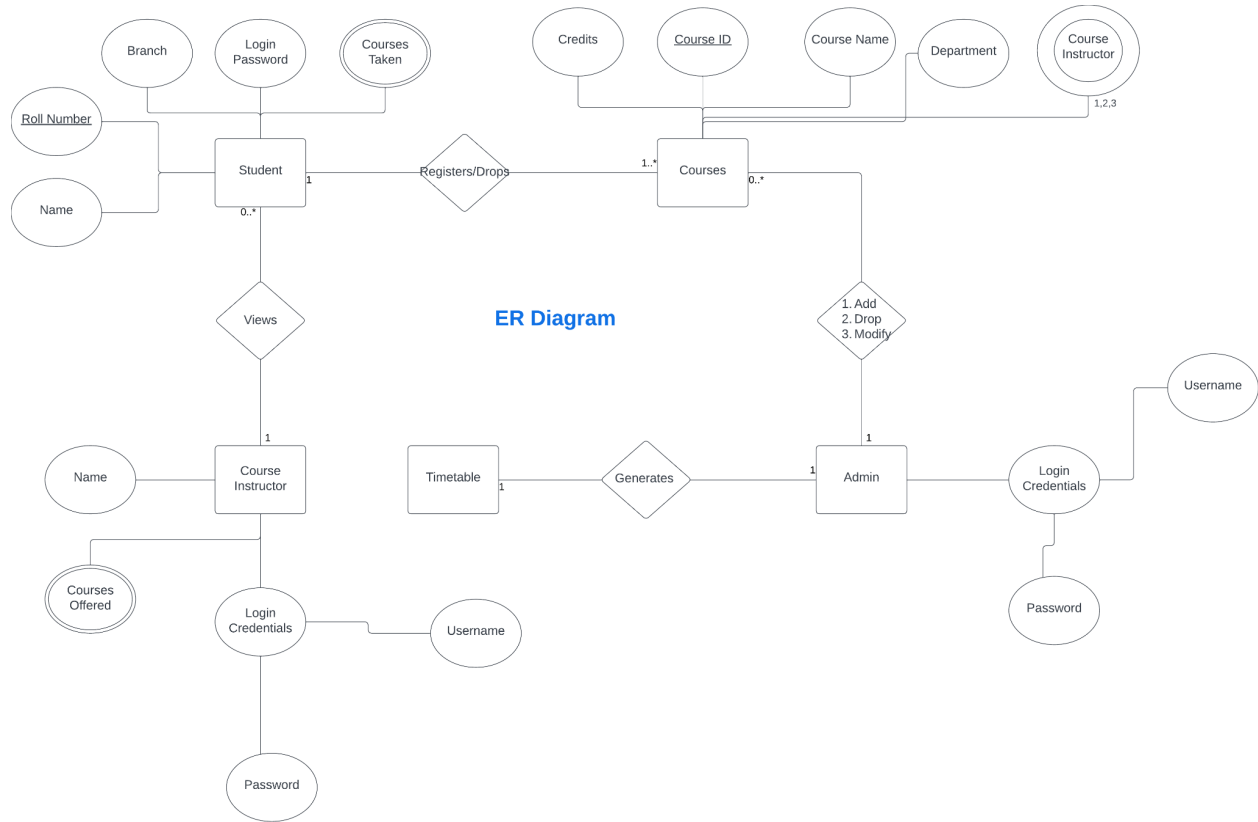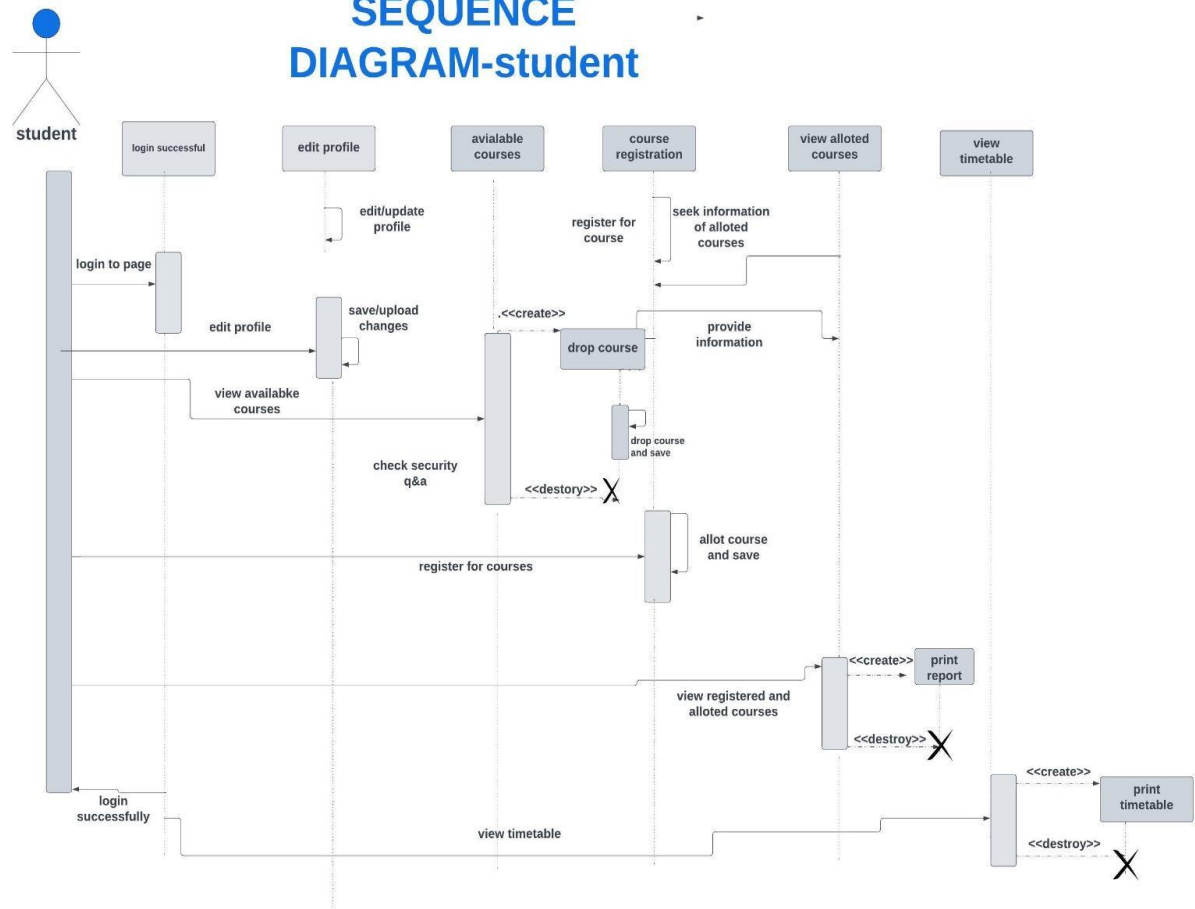

ER Diagram

5 Sequence Diagrams

The sequence diagram provides a dynamic view of the system by illustrating interactions and message sequences between different objects or components. It helps in comprehending the flow of operations and the sequence of events within the application.
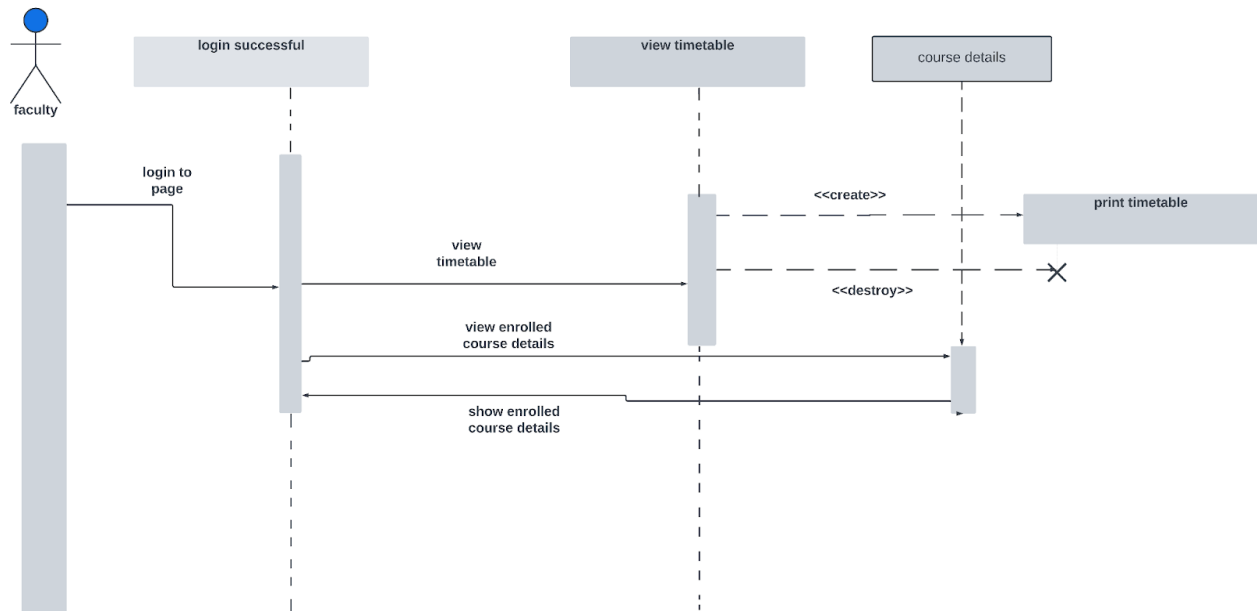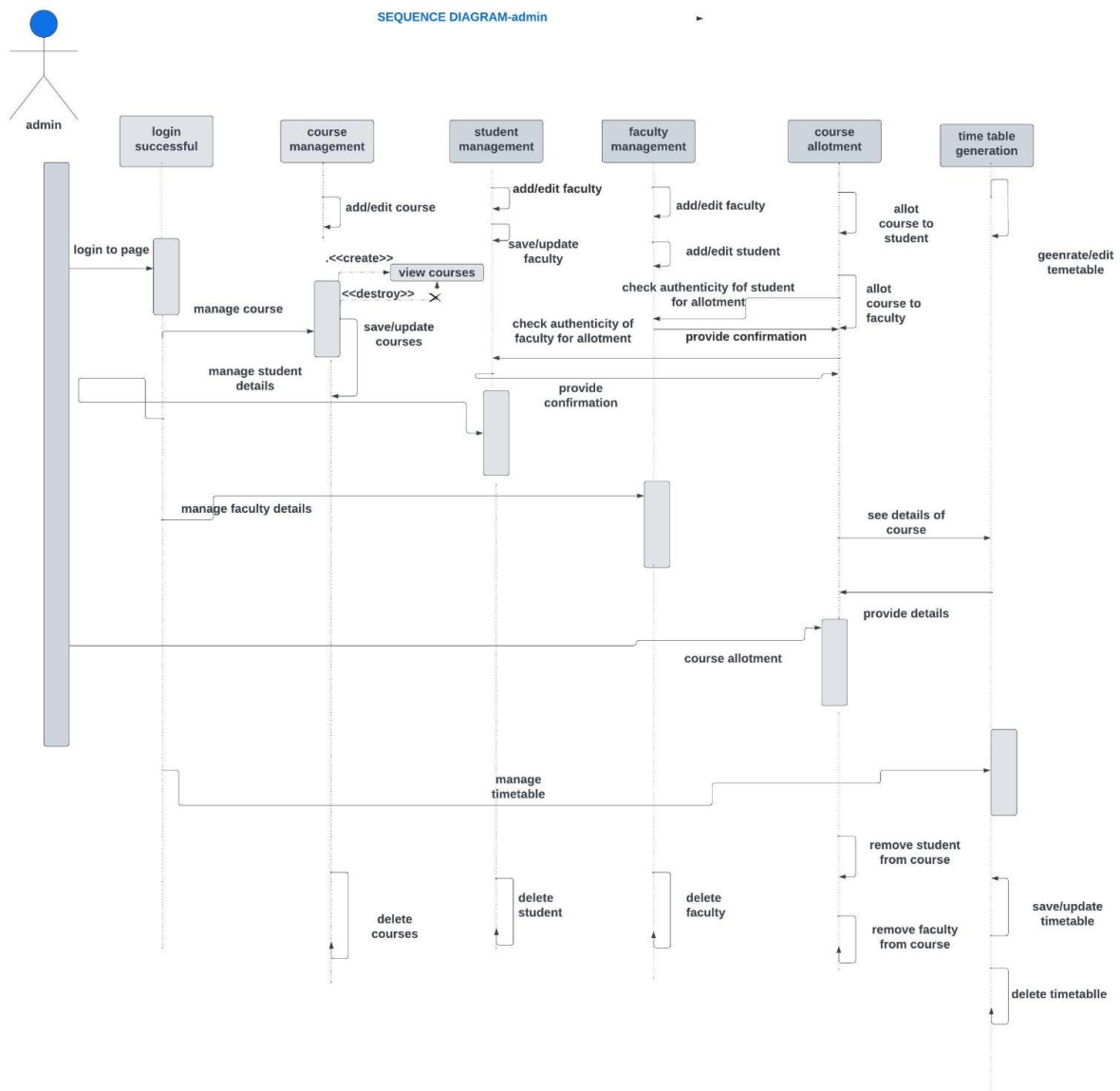

SEQUENCE DIAGRAM-LOGIN

SEQUENCE DIAGRAM-student

| login successful | edit profile | avialable courses | course registration | view alloted courses | view timetable |

student

login to page

edit/update profile

register for course

seek information of alloted courses

edit profile

save/upload changes

.<<create>>

drop course

provide information

view availabke courses

drop course and save

check security q&a

<<destory>>

allot course and save

register for courses

<<create>> | print report

view registered and alloted courses

<<destroy>>

<<create>> | print timetable

login successfully

view timetable

<<destroy>>

SEQUENCE DIAGRAM-Course Instructor

| login successful | view timetable | course details |

faculty

login to page

<<create>>

print timetable

view timetable

view timetable

<<destroy>>

view enrolled course details

show enrolled course details

6 Business Process Model and Notation (BPMN)

BPMN is a standardized graphical notation for modeling business processes. It offers a visual representation of the application's workflow, detailing the sequence of activities, decisions, and interactions within the system. It aids in analyzing process flows and optimizing business processes.
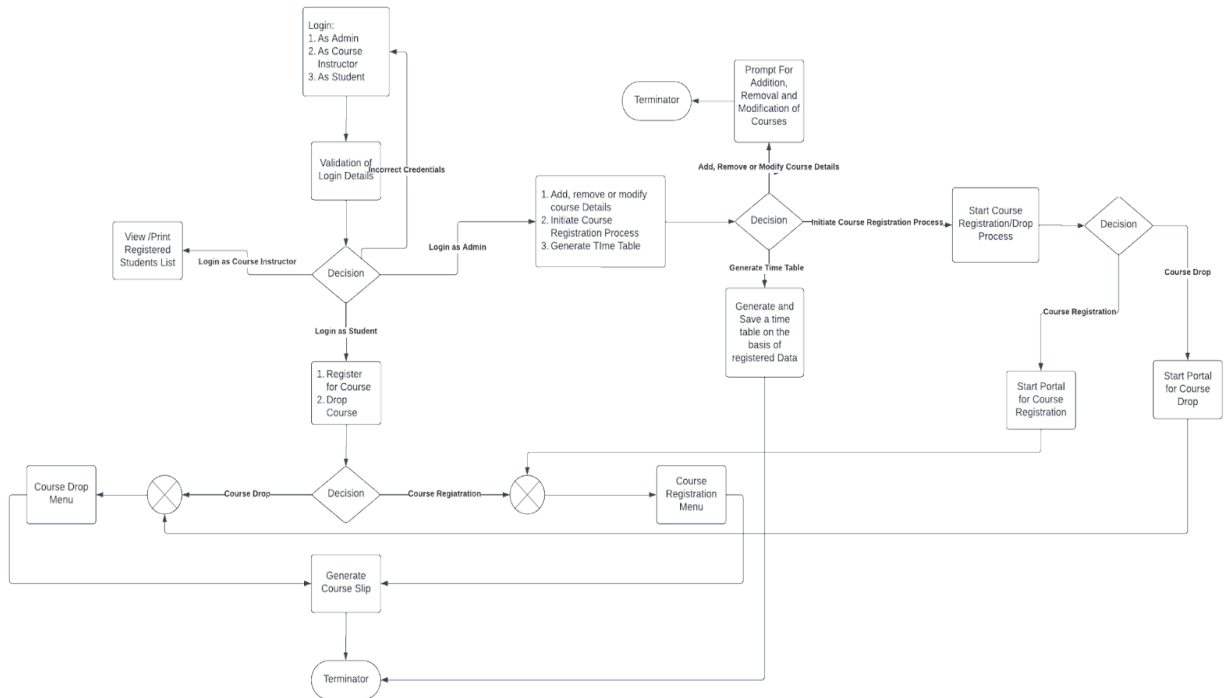
These analysis models collectively contribute to a comprehensive understanding of the course registration and timetable generation web applications. They provide insights into the system's functionality, structure, data management, and business processes.