IT314

Software Engineering

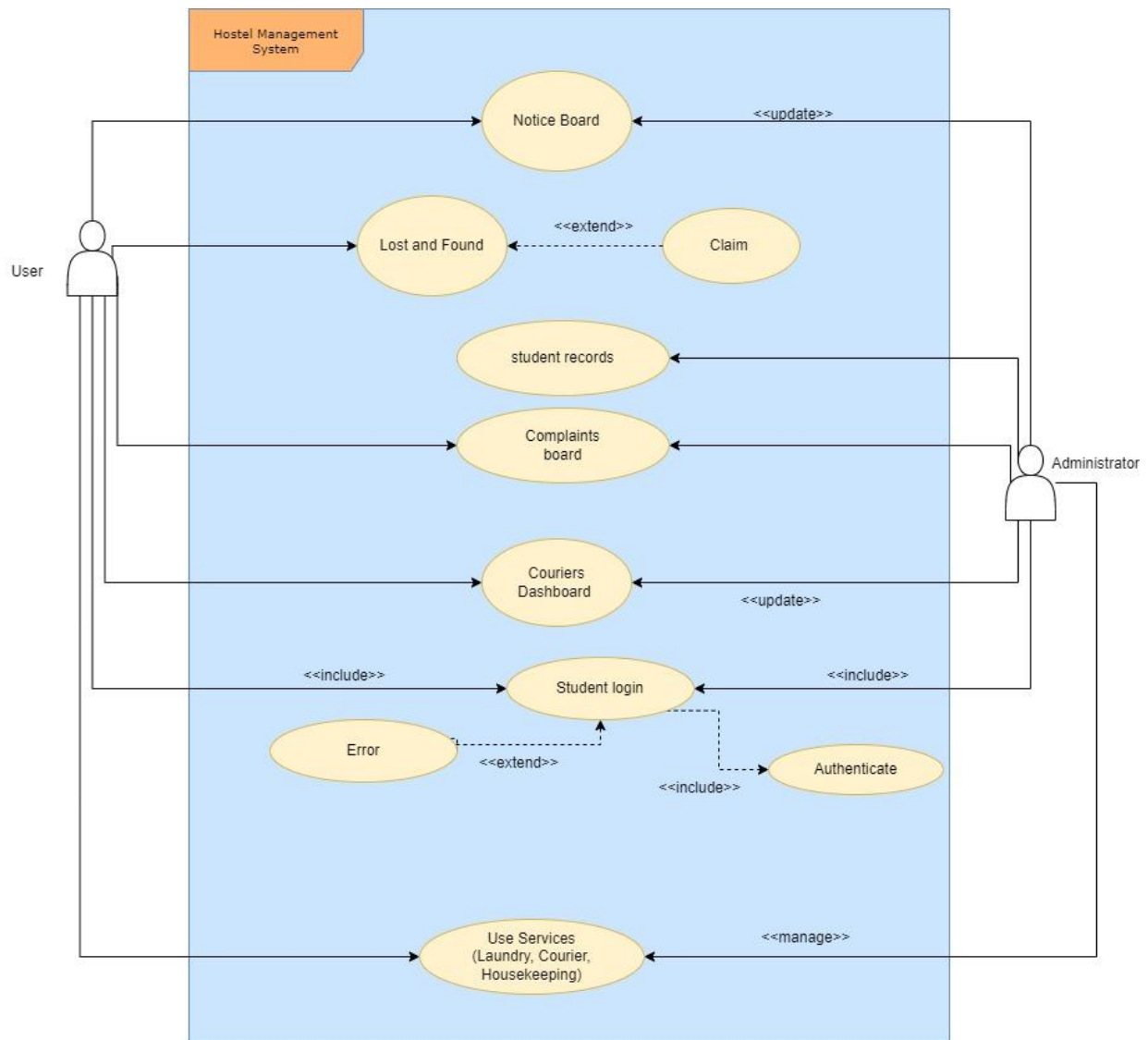## Group 5

Hostel Management System

Design Document

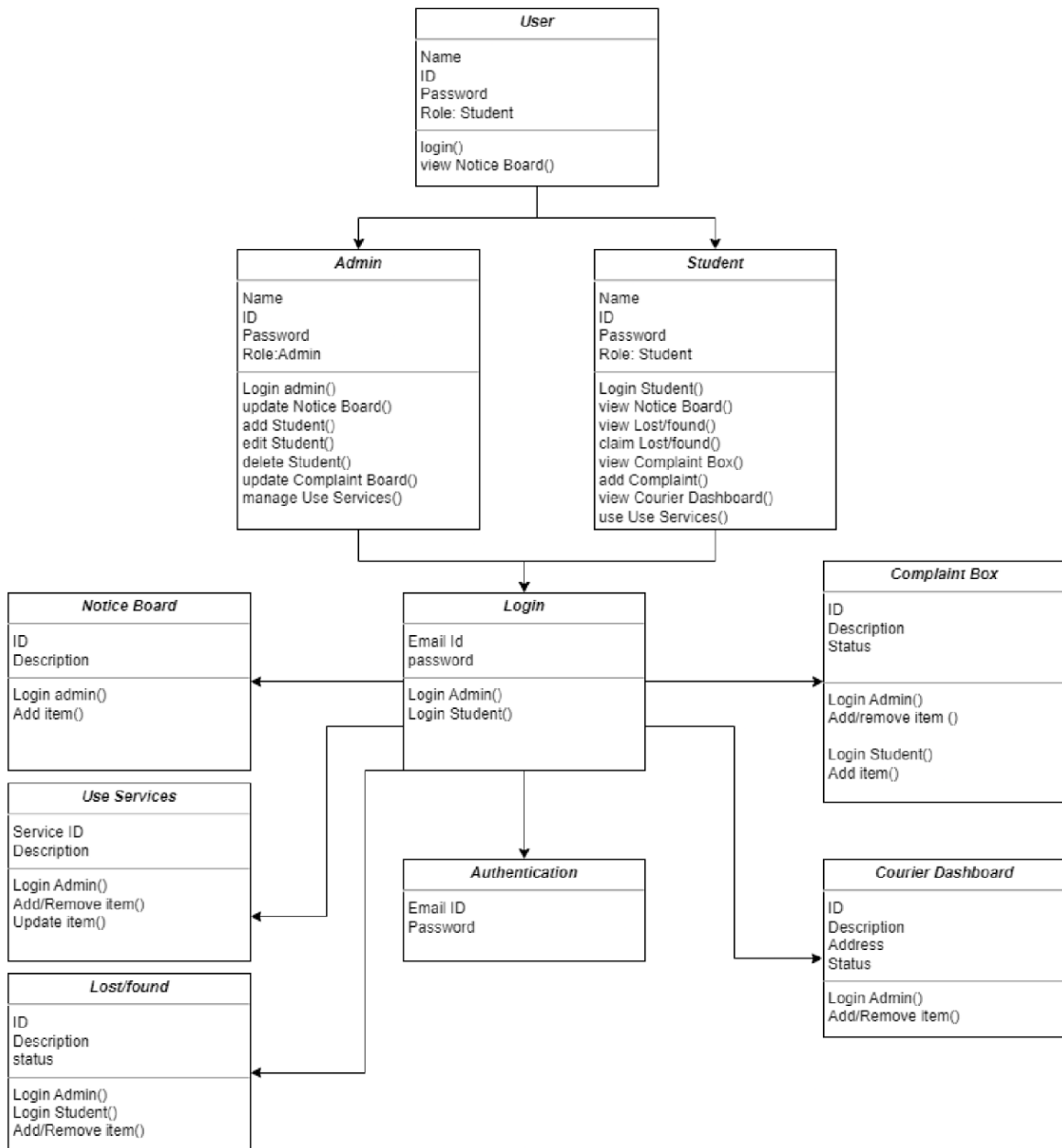Instructor: Dr. Saurabh Tiwari and Dr. Manish Khare

Date: 26/04/2023

Introduction

- This Design document outlines the various components and functionalities of the system in detail, along with the use case model, class diagram, sequence diagram, and system design diagram.

- The Hostel Management System is a software application that simplifies and automates the management of hostel activities. The system enables the hostel management to efficiently manage the hostel facilities and student activities such as room allocation, mess management, fee collection, and other administrative tasks.

- The use case model provides a comprehensive view of the system's functionality from the perspective of different actors. It identifies the different use cases and scenarios that are required to support the functionalities of the system.

- The class diagram presents the system's structure, depicting the various classes, their attributes, and the relationships between them. This diagram serves as a blueprint for the system's design and implementation.

- The sequence diagram shows the interaction between the various objects in the system, presenting the flow of events that occur during the execution of the system's functionalities.

- Finally, the system design diagram outlines the overall architecture and design of the system, including the hardware and software components that make up the system.

- Overall, this design document serves as a comprehensive guide to the Hostel Management System, providing a clear understanding of the system's functionality and design.
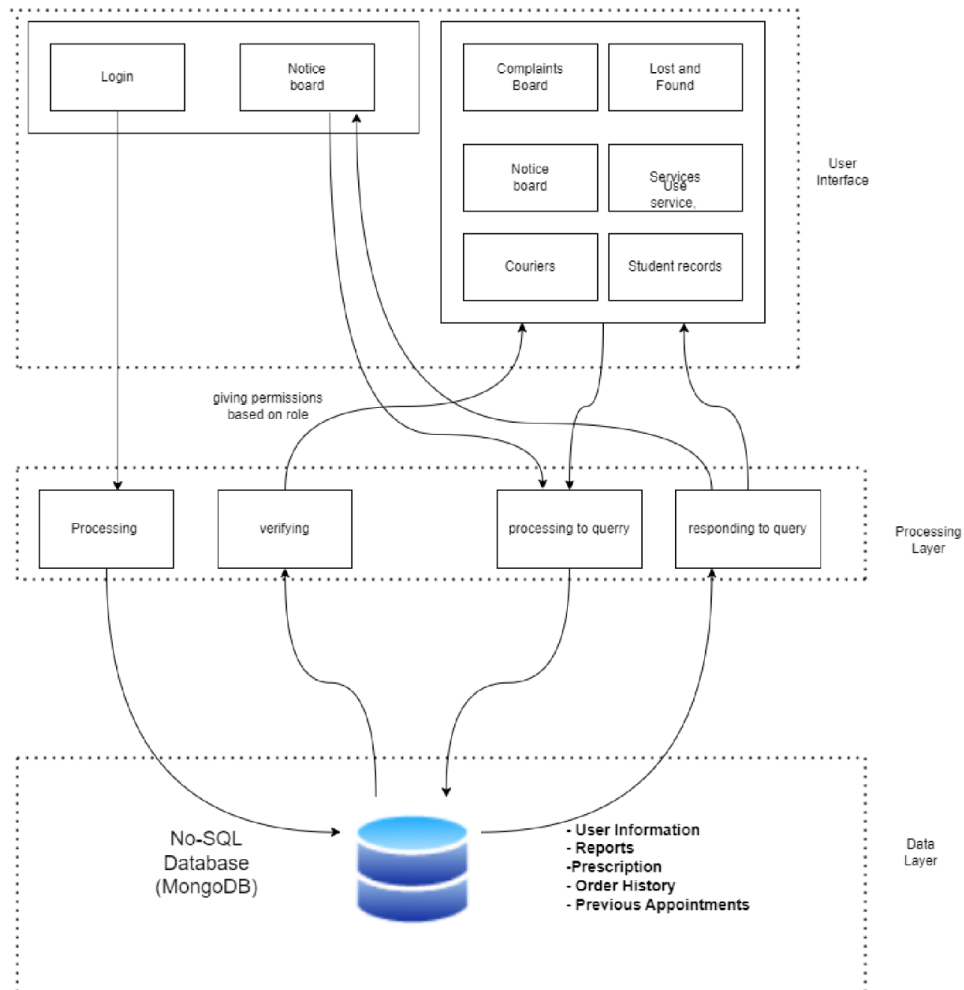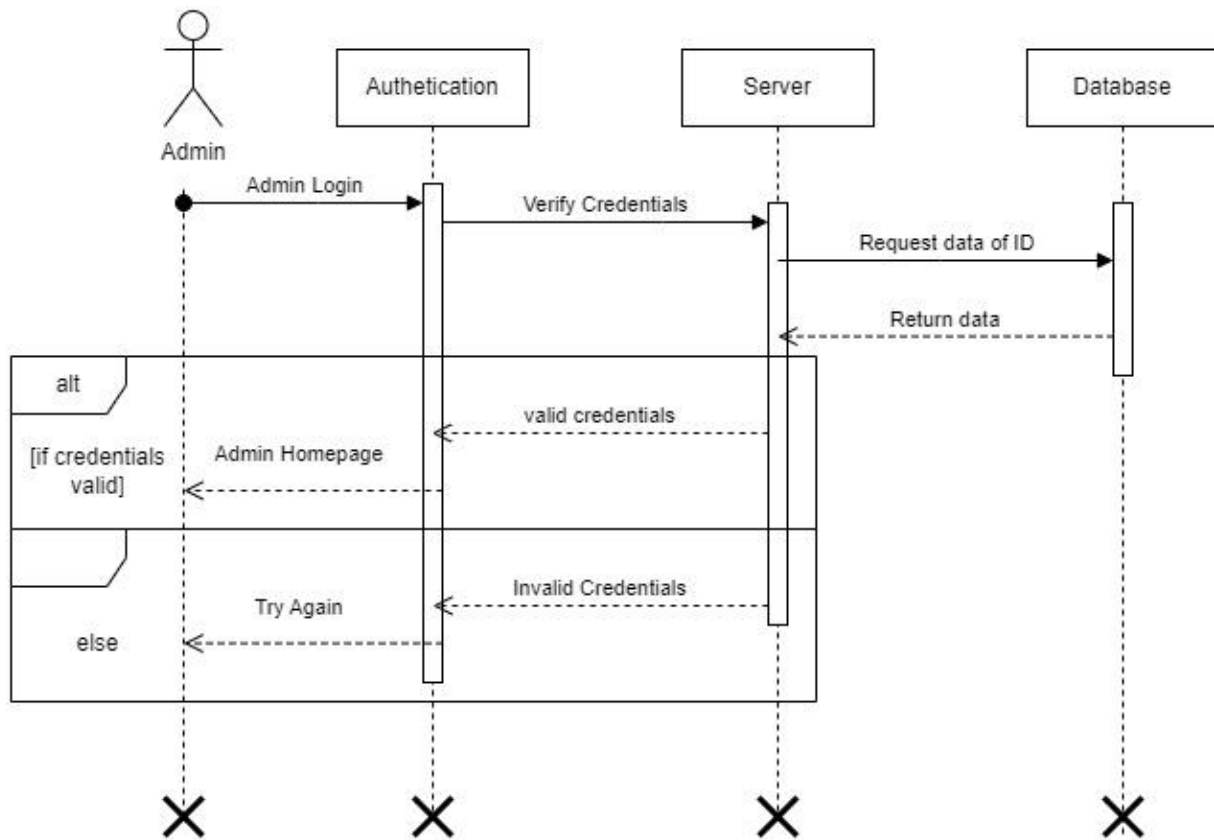
Use Case Diagram:

Class Diagram:

User

Name
ID
Password
Role: Student

login()
view Notice Board()

Admin

Name
ID
Password
Role:Admin

Login admin()
update Notice Board()
add Student()
edit Student()
delete Student()
update Complaint Board()
manage Use Services()

Student

Name
ID
Password
Role: Student

Login Student()
view Notice Board()
view Lost/found()
claim Lost/found()
view Complaint Box()
add Complaint()
view Courier Dashboard()
use Use Services()

Notice Board

ID
Description

Login admin()
Add item()

Login

Email Id
password

Login Admin()
Login Student()

Complaint Box

ID
Description
Status

Login Admin()
Add/remove item ()

Login Student()
Add item()

Use Services

Service ID
Description

Login Admin()
Add/Remove item()
Update item()

Authentication

Email ID
Password

Courier Dashboard

ID
Description
Address
Status

Login Admin()
Add/Remove Item()

Lost/found

ID
Description
status

Login Admin()
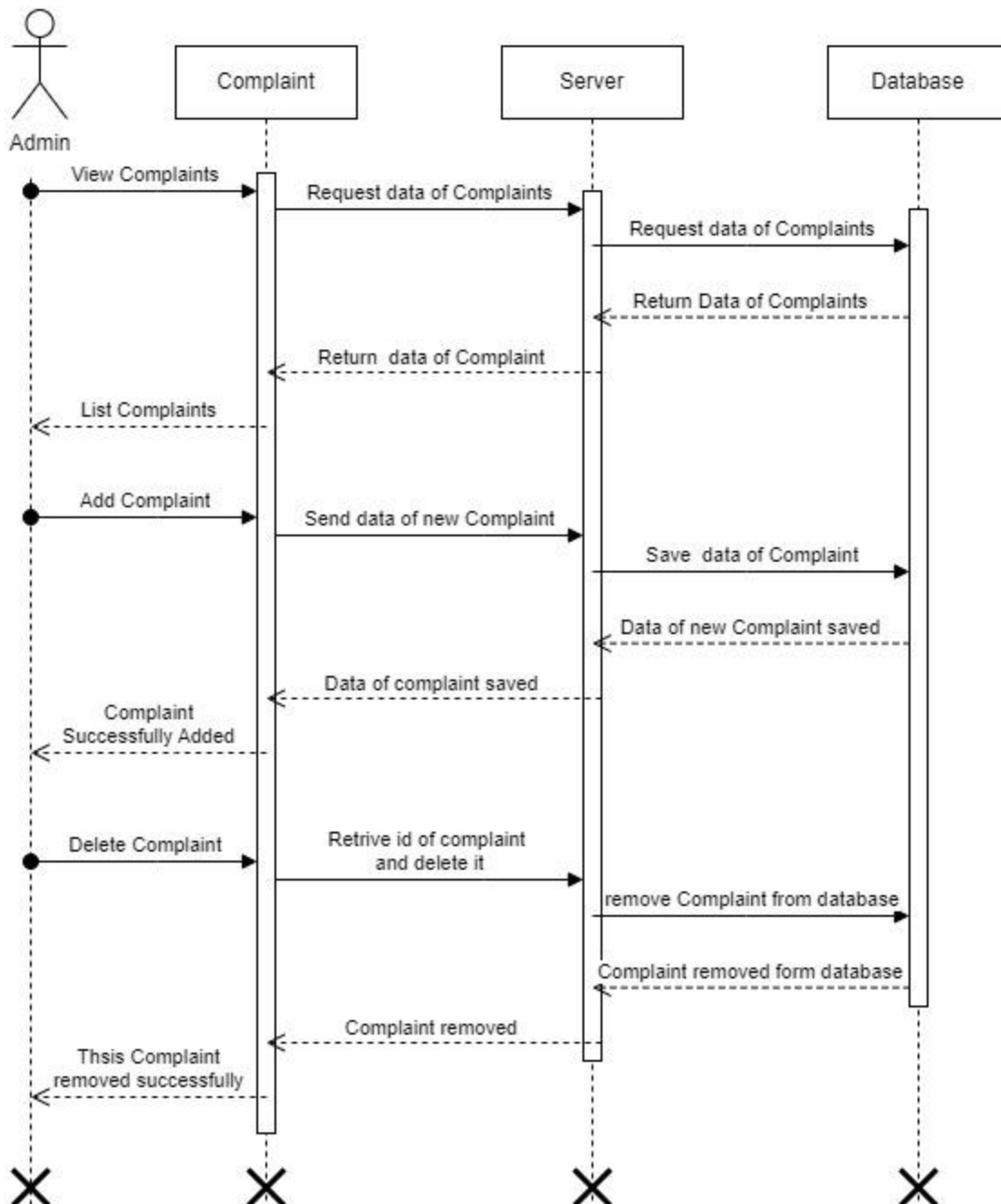Login Student()
Add/Remove item()
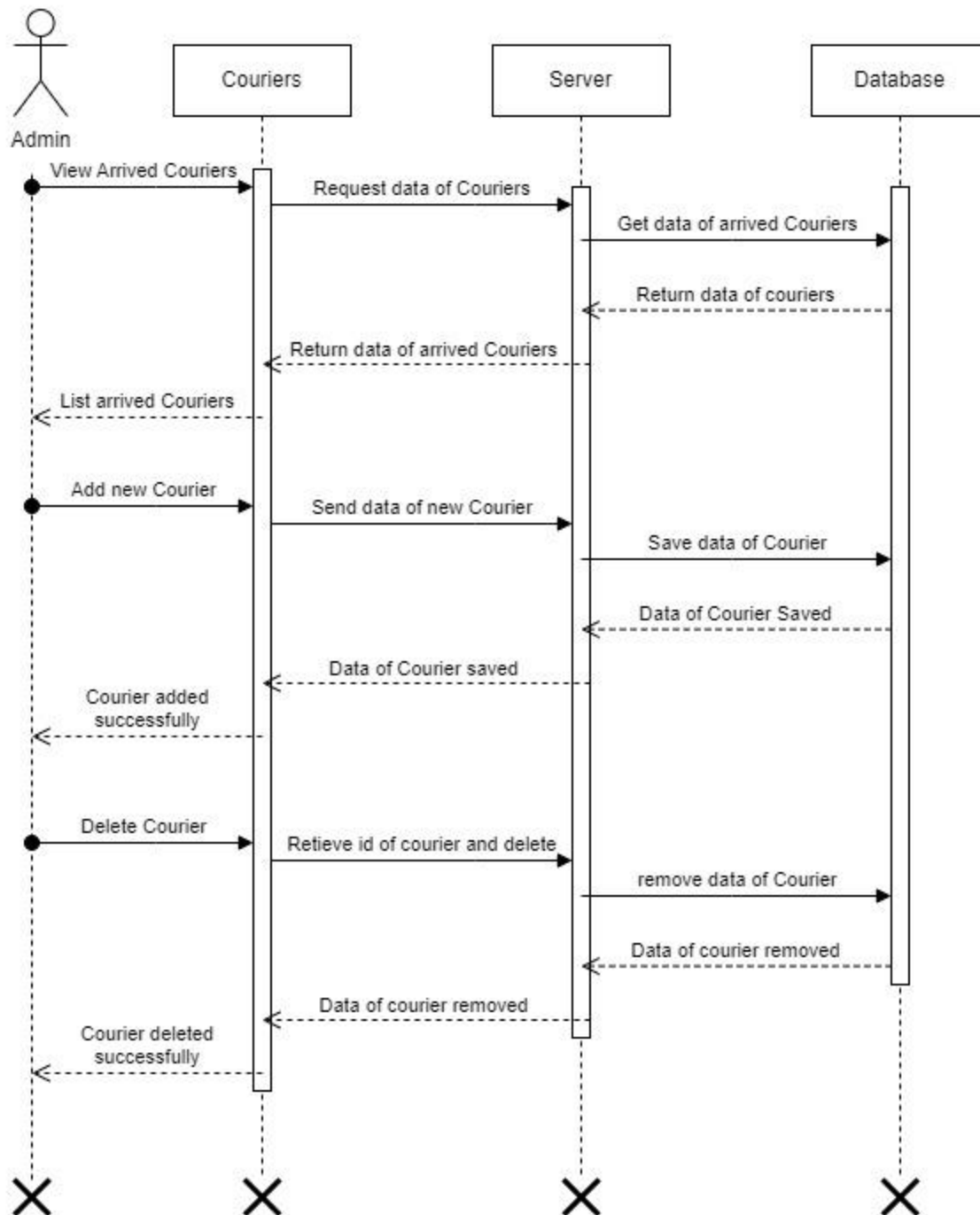
System Design Diagram:

High Level Diagram: **Three Tier Architecture**

Sequence Diagrams:

Sequence Diagram Of
Authentication For Admin

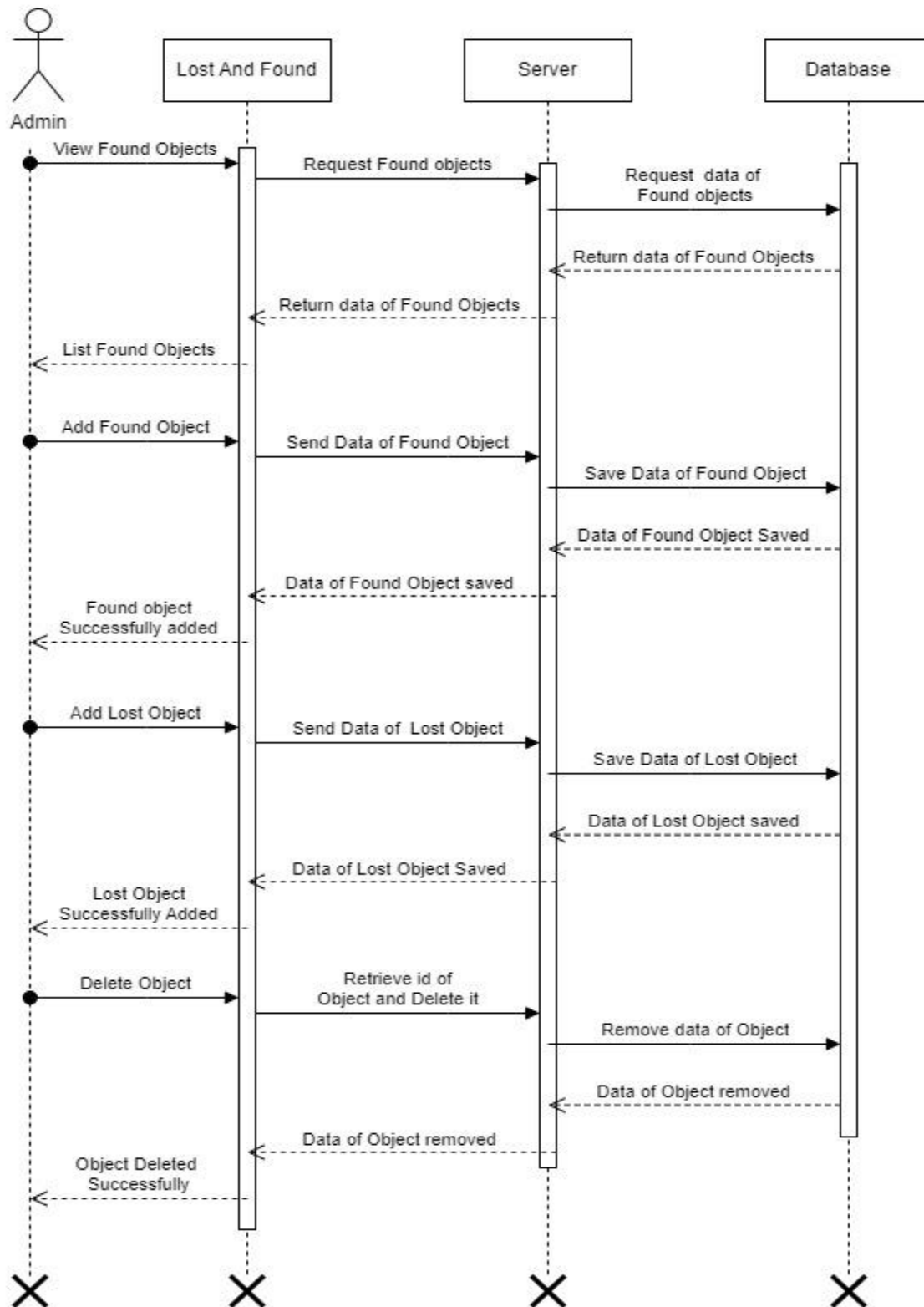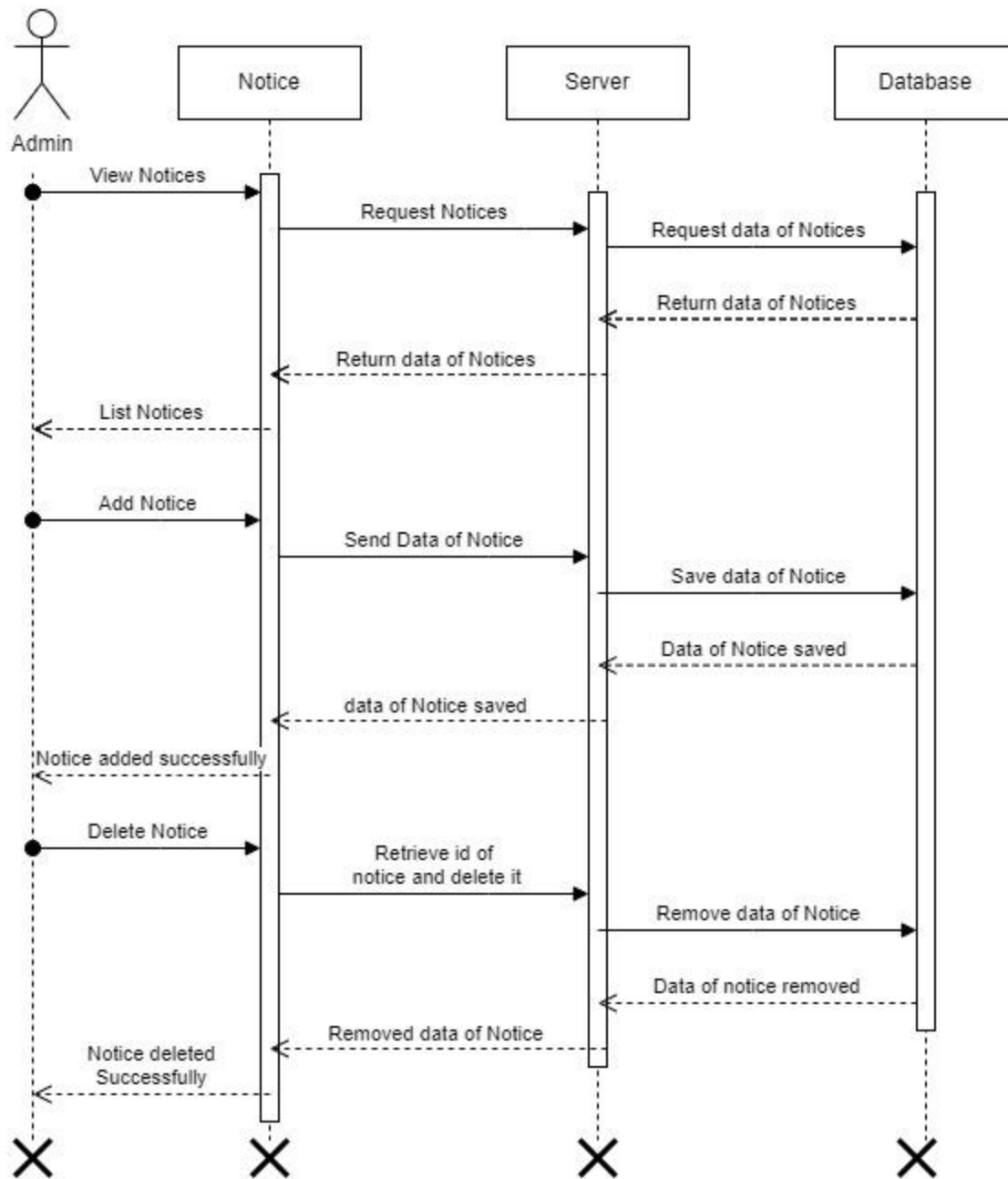Sequence Diagram Of
Complaint management For Admin

Admin

View Arrived Couriers
Request data of Couriers
Get data of arrived Couriers
Return data of couriers
Return data of arrived Couriers
List arrived Couriers

Add new Courier
Send data of new Courier
Save data of Courier
Data of Courier Saved
Data of Courier saved
Courier added successfully

Delete Courier
Retieve id of courier and delete
remove data of Courier
Data of courier removed
Data of courier removed
Courier deleted successfully

Sequence Diagram Of
Courier management For Admin

Admin

Lost And Found

Server

Database

View Found Objects

Request Found objects

Request data of Found objects

Return data of Found Objects

Return data of Found Objects

List Found Objects

Add Found Object

Send Data of Found Object

Save Data of Found Object

Data of Found Object Saved

Data of Found Object saved

Found object Successfully added

Add Lost Object

Send Data of Lost Object

Save Data of Lost Object

Data of Lost Object saved

Data of Lost Object Saved

Lost Object Successfully Added

Delete Object

Retrieve id of Object and Delete it

Remove data of Object

Data of Object removed

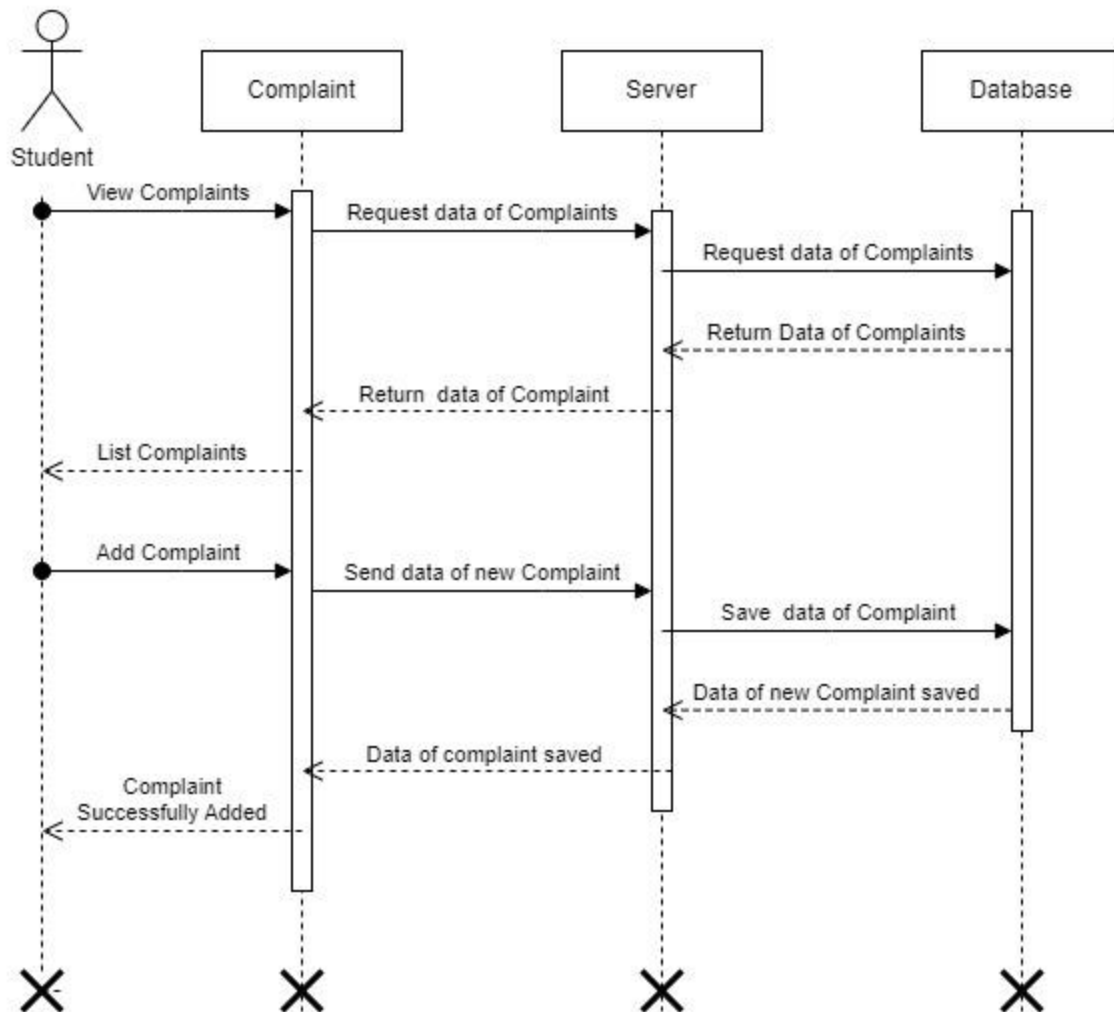Data of Object removed

Object Deleted Successfully

Sequence Diagram Of
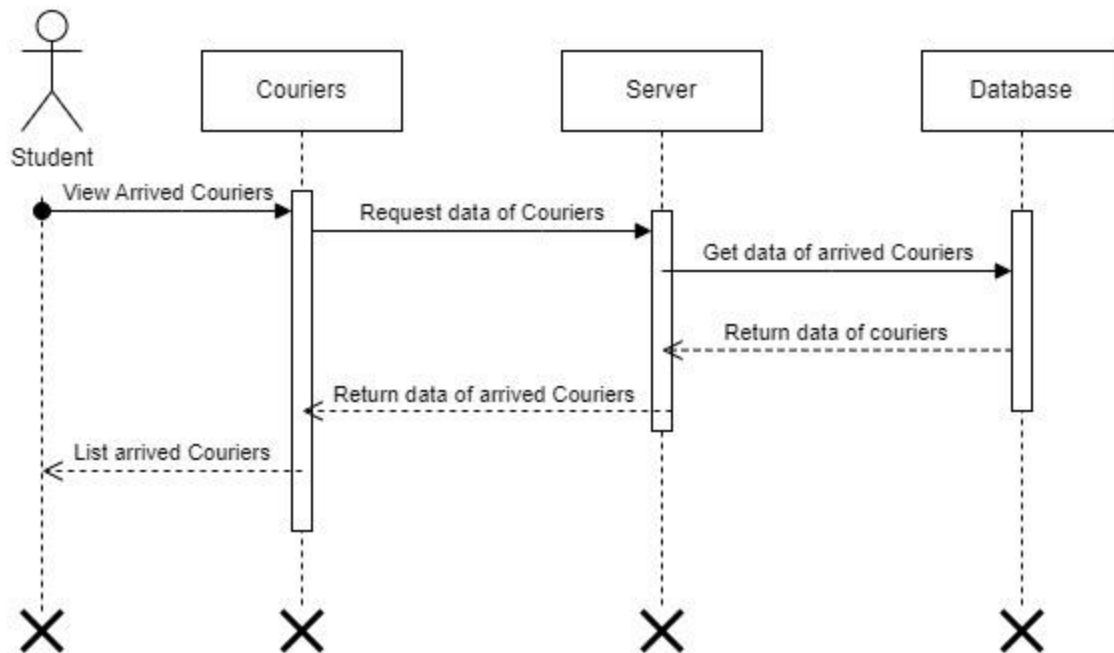Lost and Found Objects For Admin
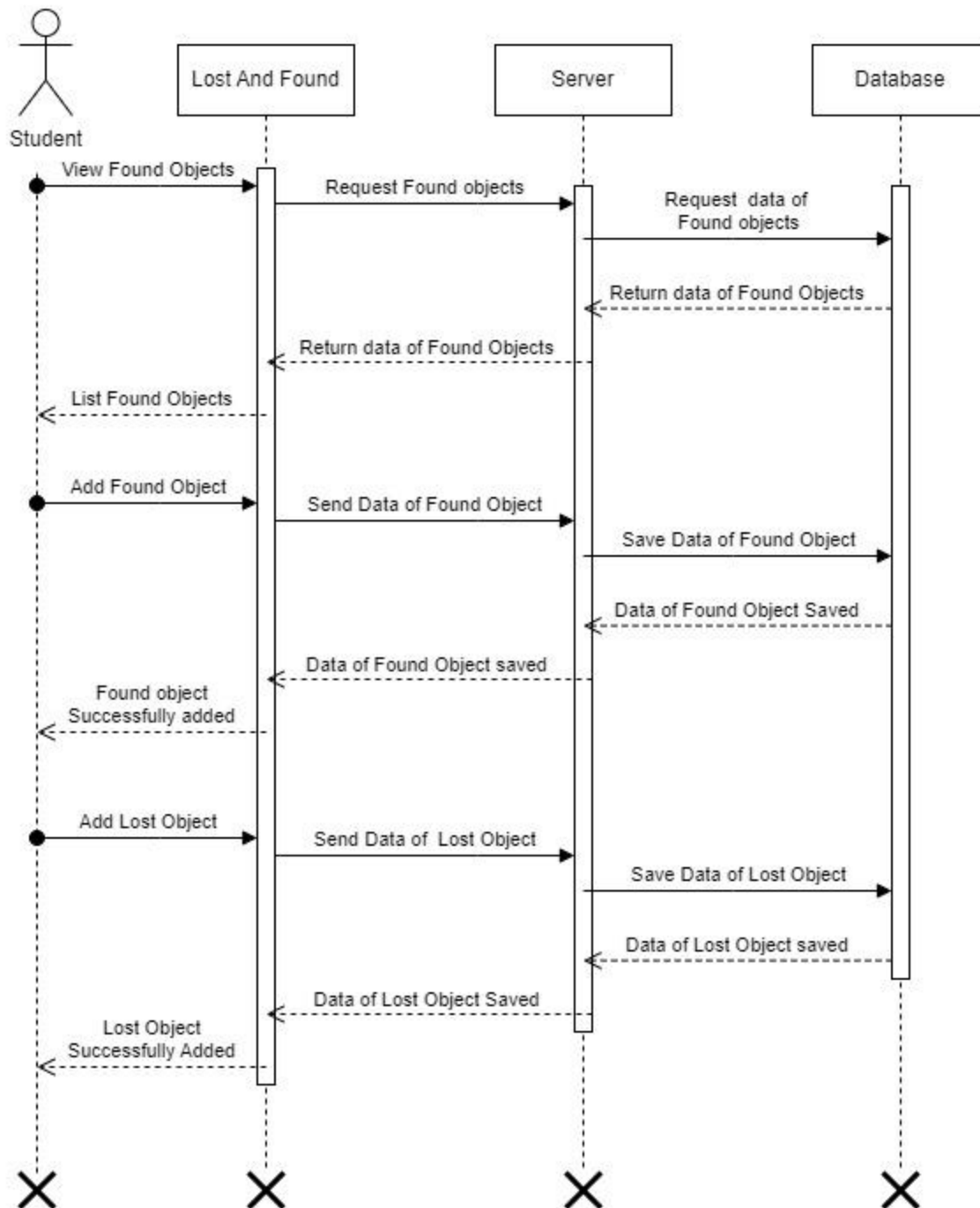
Sequence Diagram Of
Notice management For Admin

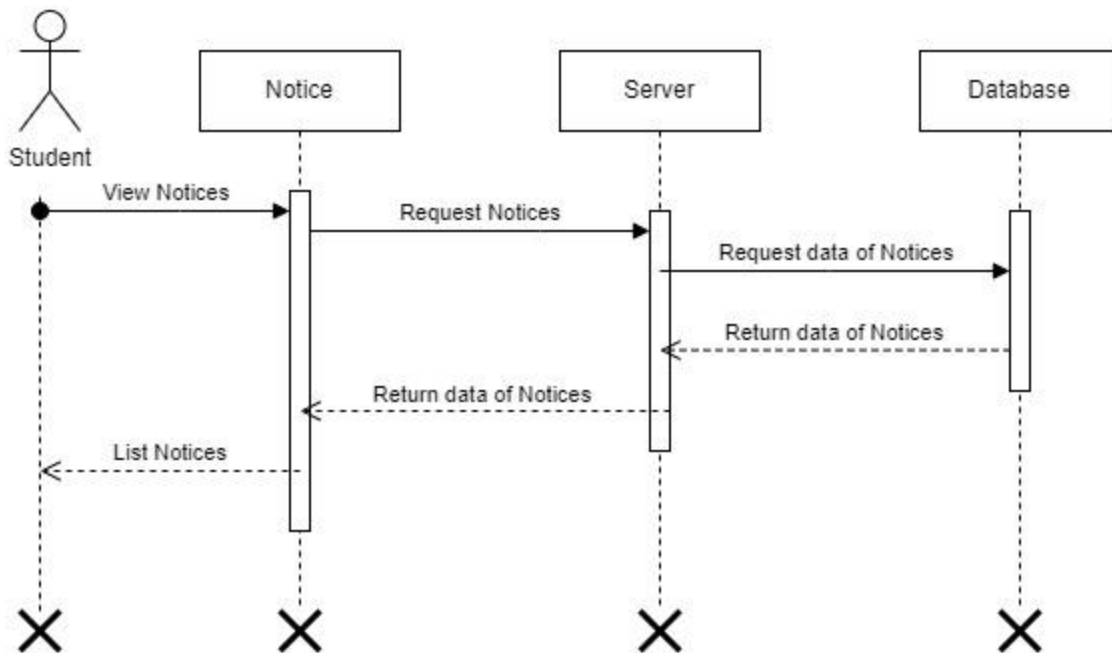Sequence Diagram Of
Authentication For Student

Sequence Diagram Of
Complaints module For Student

Sequence Diagram Of
Couriers For Student

Sequence Diagram Of
Lost and Found Objects For Student

Sequence Diagram Of
Notice For Student