FACE RECOGNITION BASED ATTENDANCE MANAGEMENT SYSTEM

Guide: Dr Lince Rachel Varghese

Name: John George

Roll Number:213242210229

INTRODUCTION

- A face recognition based Attendance Management System is Web applications that uses facial recognition technology to manage attendance in organizations.
- The system is typically composed of a camera, software, and a database.
- This system contain two actor : Admin and User
- Admin of system can register user with their details and He can also view complete details of each user and their attendance Details
- Admin can also modify the details of a user.
- User will login to the system using their own id and password and mark their attendance with their face. User also can view their attendance details

Modules

Module 1: User Registration

Introduction:

This Module allows administrators to register new users to the system.

Inputs:

User information (e.g., name, ID), user photo or face image.

Processing:

Validate and store user information and face images in the system's database.

Outputs:

Confirmation message indicating successfully registered.

Modules

Module 2:Training image

Introduction:

This feature involves training the image of user to improve accuracy

Inputs:

user face images.

Processing:

Collected image converted into histogram data to improve the accuracy

Outputs:

Display Successfully Train Image

Modules

Module 3:Attendance Marking

Introduction

This feature allows users to mark their attendance

Inputs:

Camera captured User face image

Processing:

Compare the captured face with registered faces in the system's database

Outputs:

Confirmation of successful attendance marking

Modules

Module 4: Tracking Attendance

Introduction

This feature tracks and records attendance data for all users.

Inputs:

User Id, Name

Processing:

Fetch the attendance records from database, including date, time, and user details.

Outputs:

Display updated attendance records for each individual users.

Modules

Module 5: Reporting Issue

Introduction

This feature allow user to report any issue to admin

Inputs:

Give a detailed description of Issue

Processing:

Analyse the issue

Outputs:

Display Successfully Reported Issue

Modules

Module 6: Managing User

Introduction

This feature allows administrators to manage user accounts , data etc..

Inputs:

User information, such as name, employee ID

Processing:

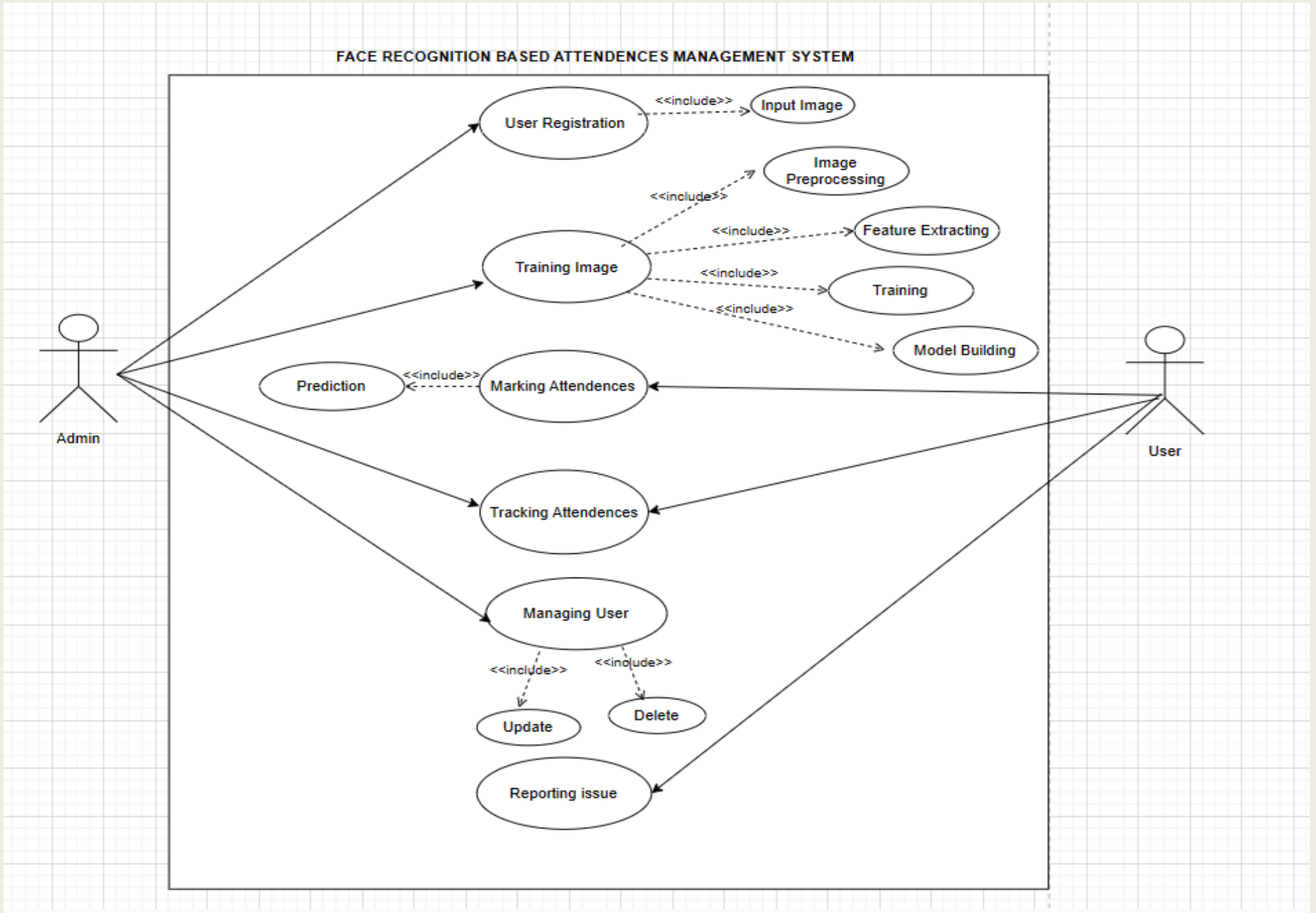
Perform operations like deleting users, modifying user information.

Outputs:

Confirmation of successful update user information

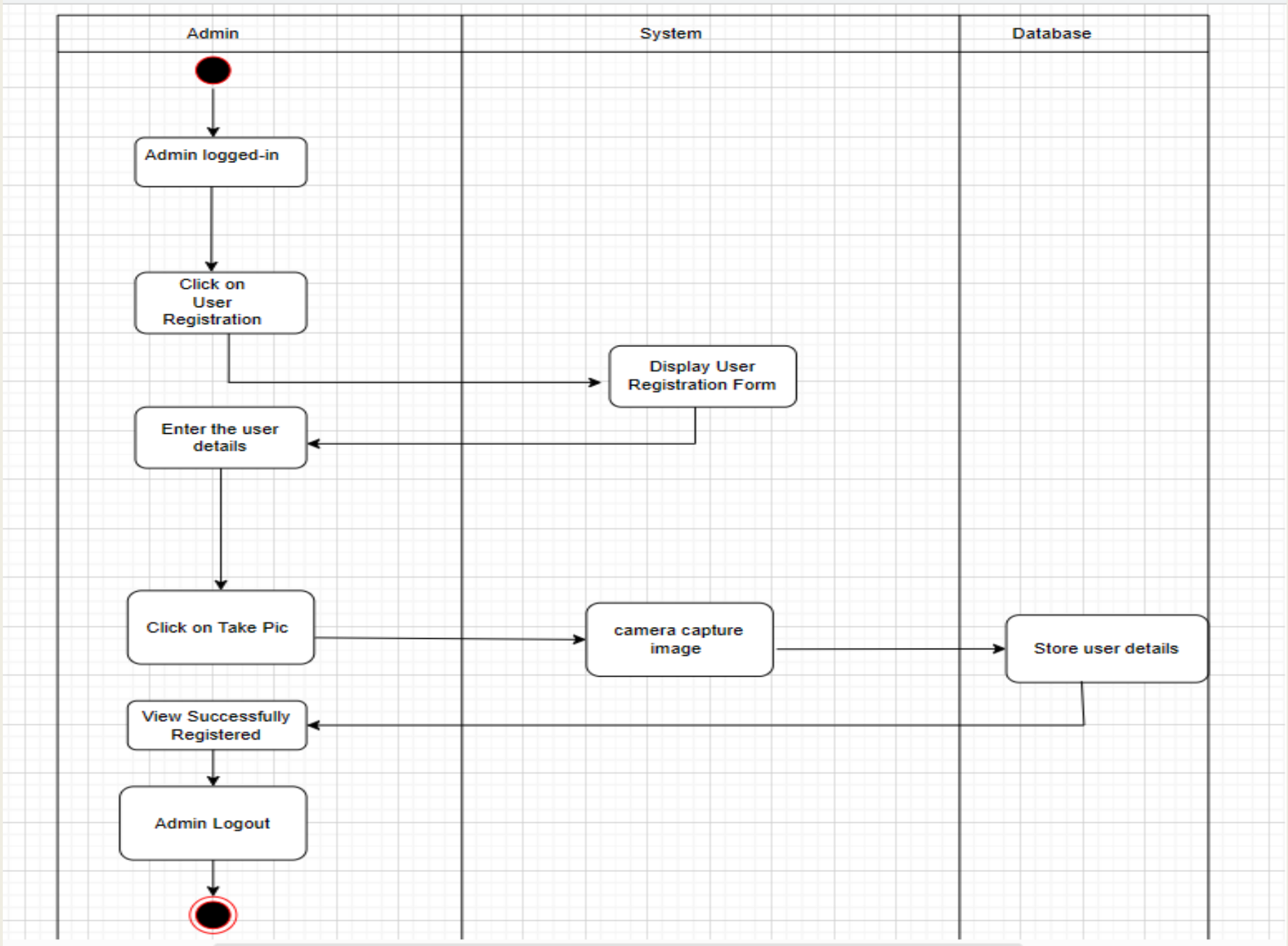
Architecture Diagrams

Use Case Diagram



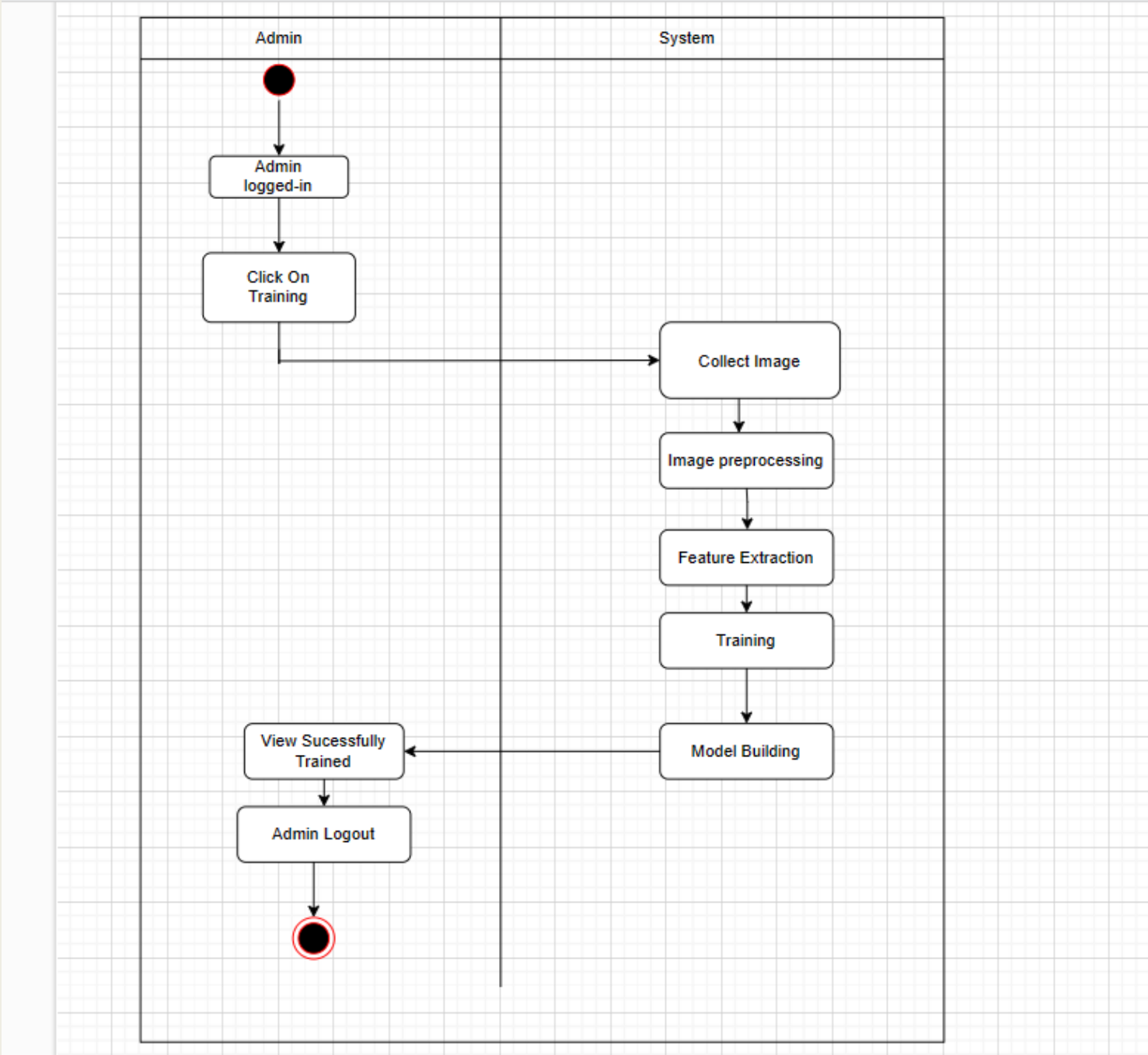
Activity Diagram

- User Registration



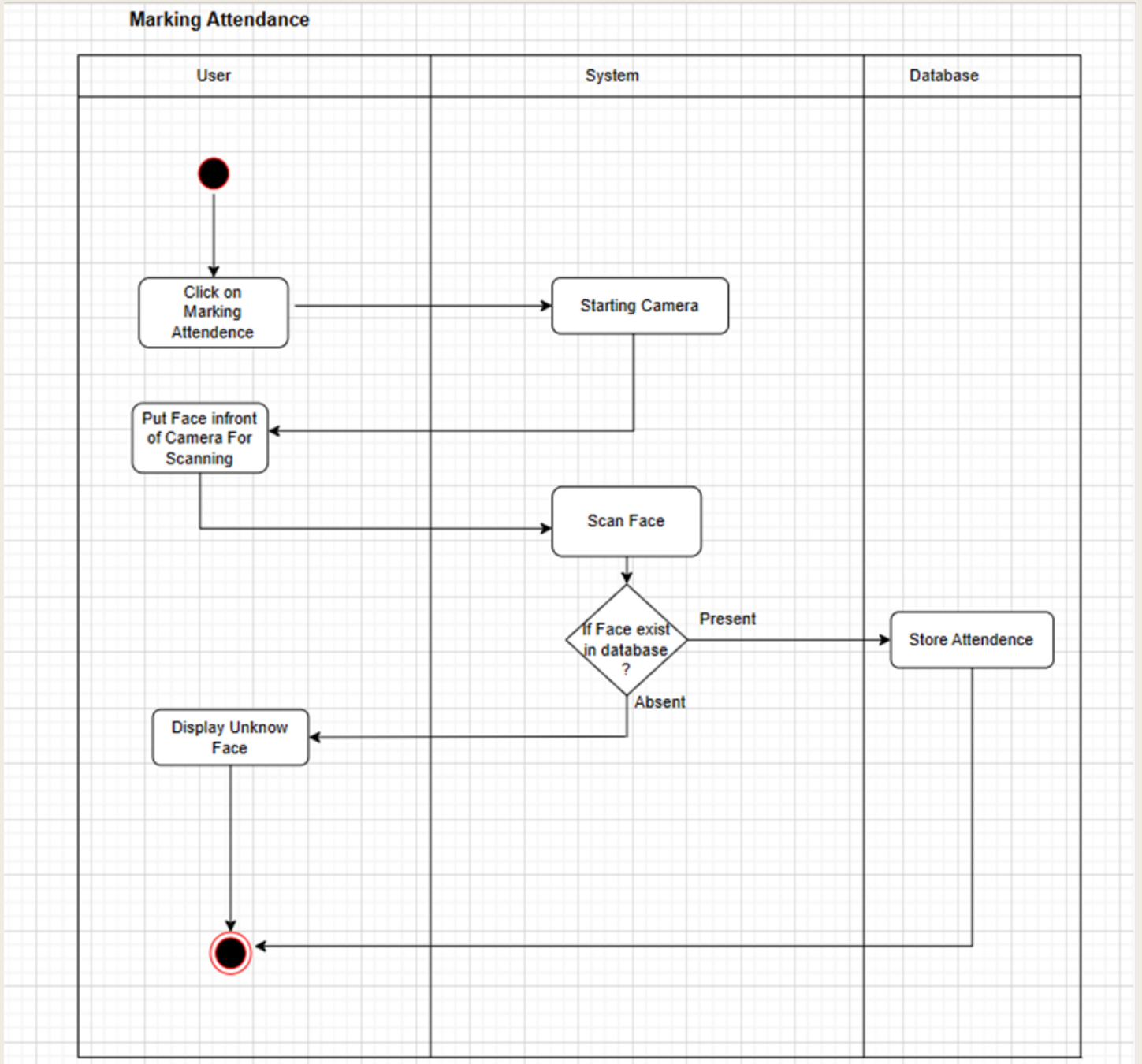
- Training Face

Activity Diagram



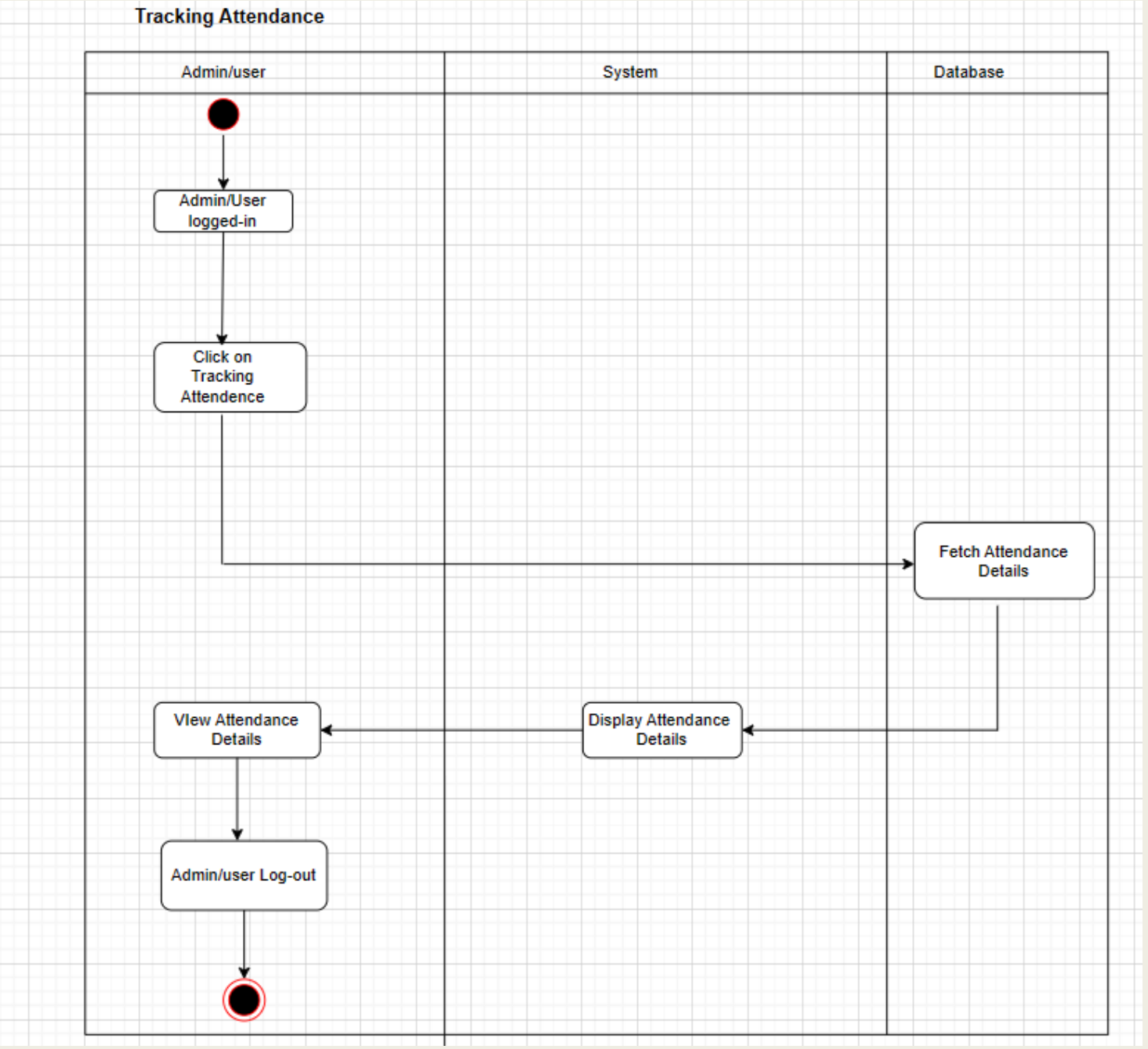
Activity Diagram

- Marking Attendance

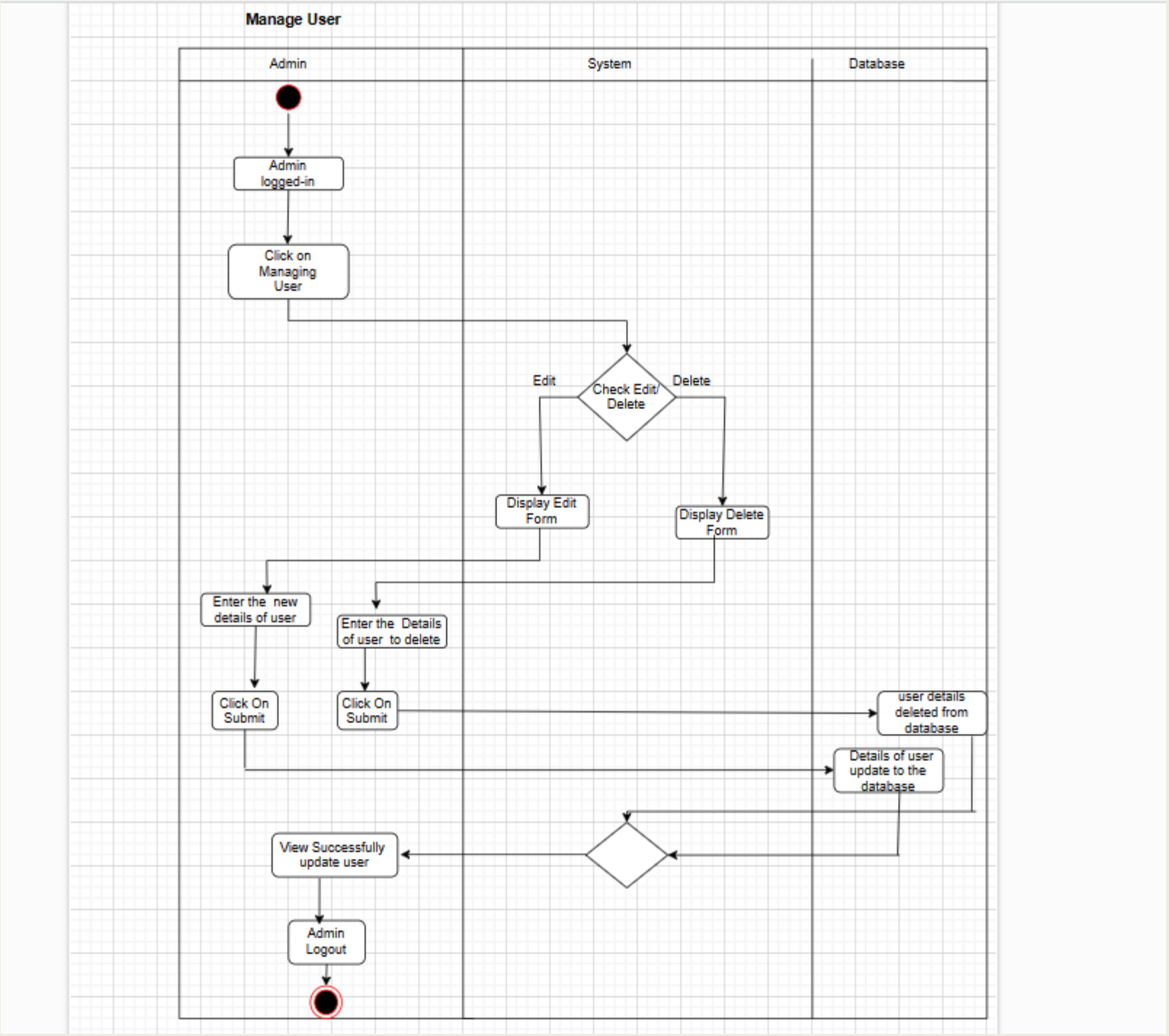


Activity Diagram

- Tracking Attendance

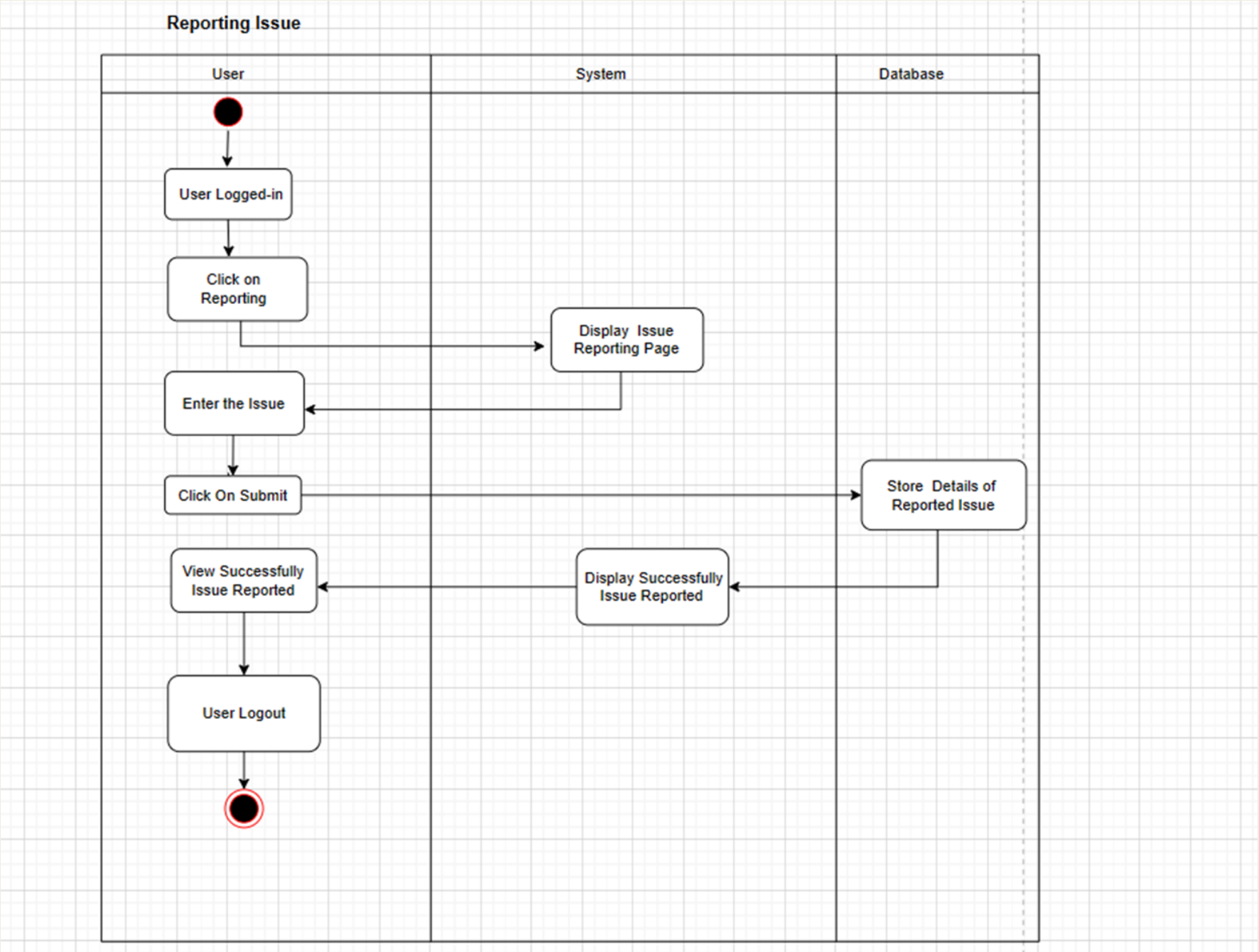


- Managing User

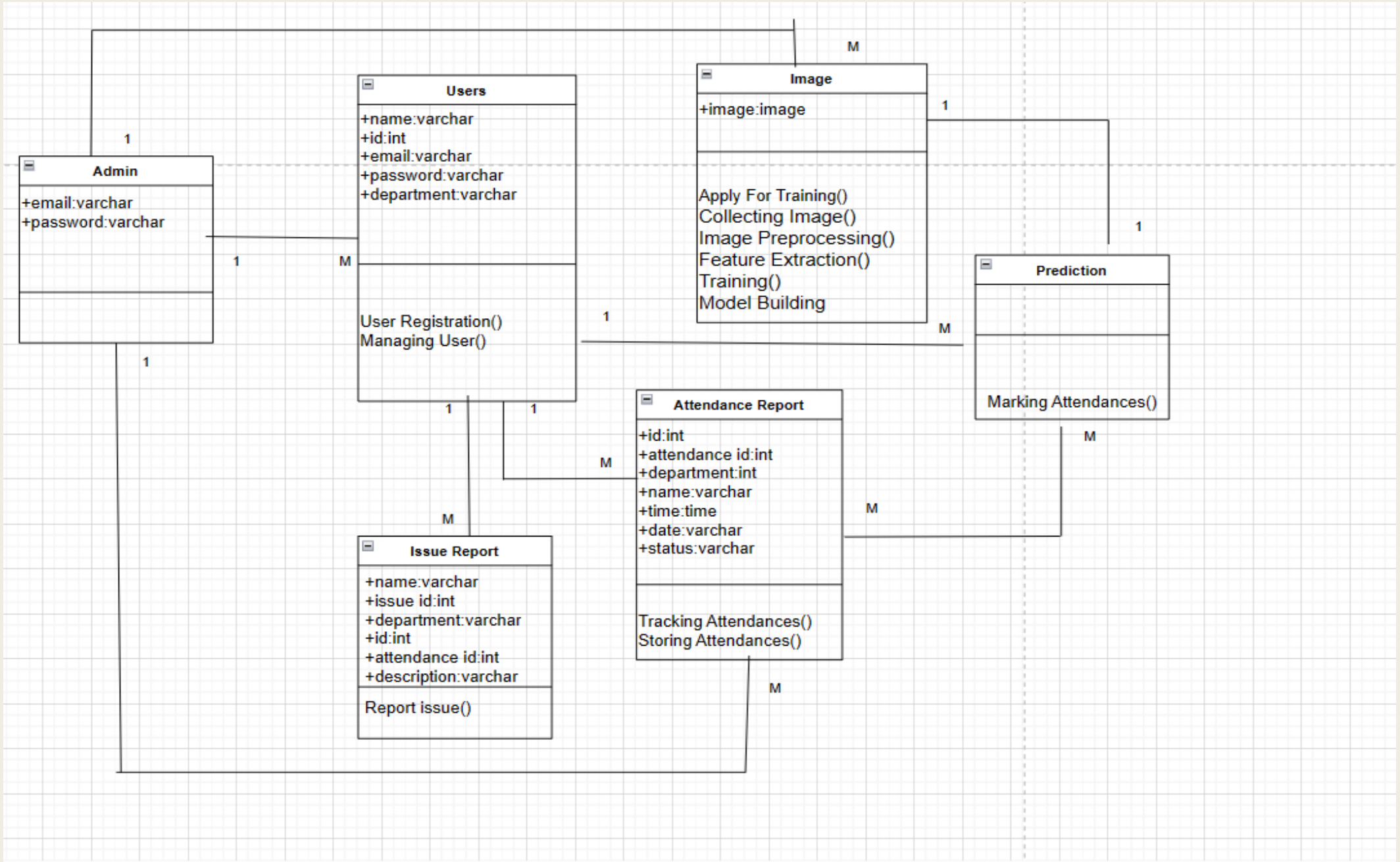


Activity Diagram

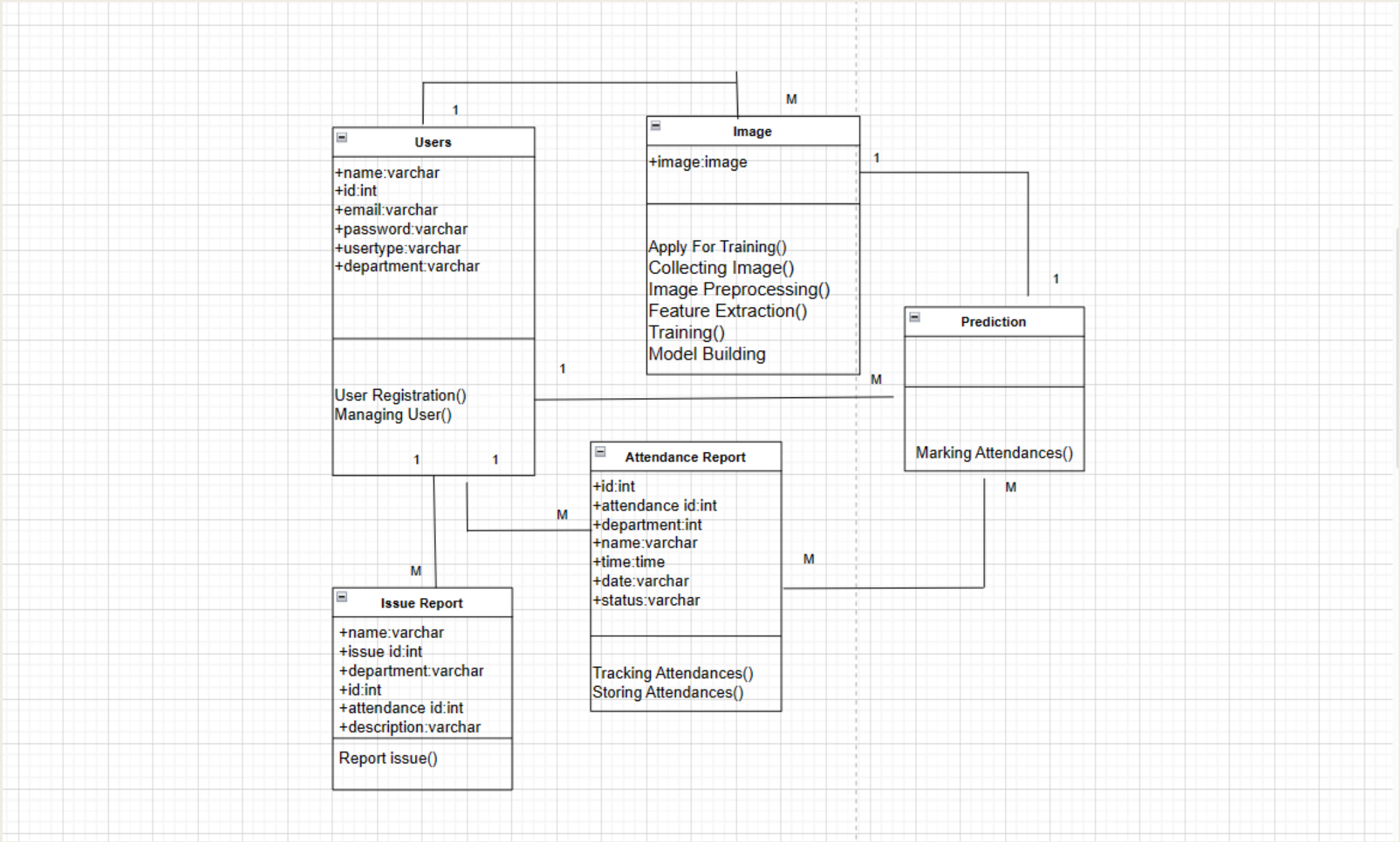
- Reporting Issue



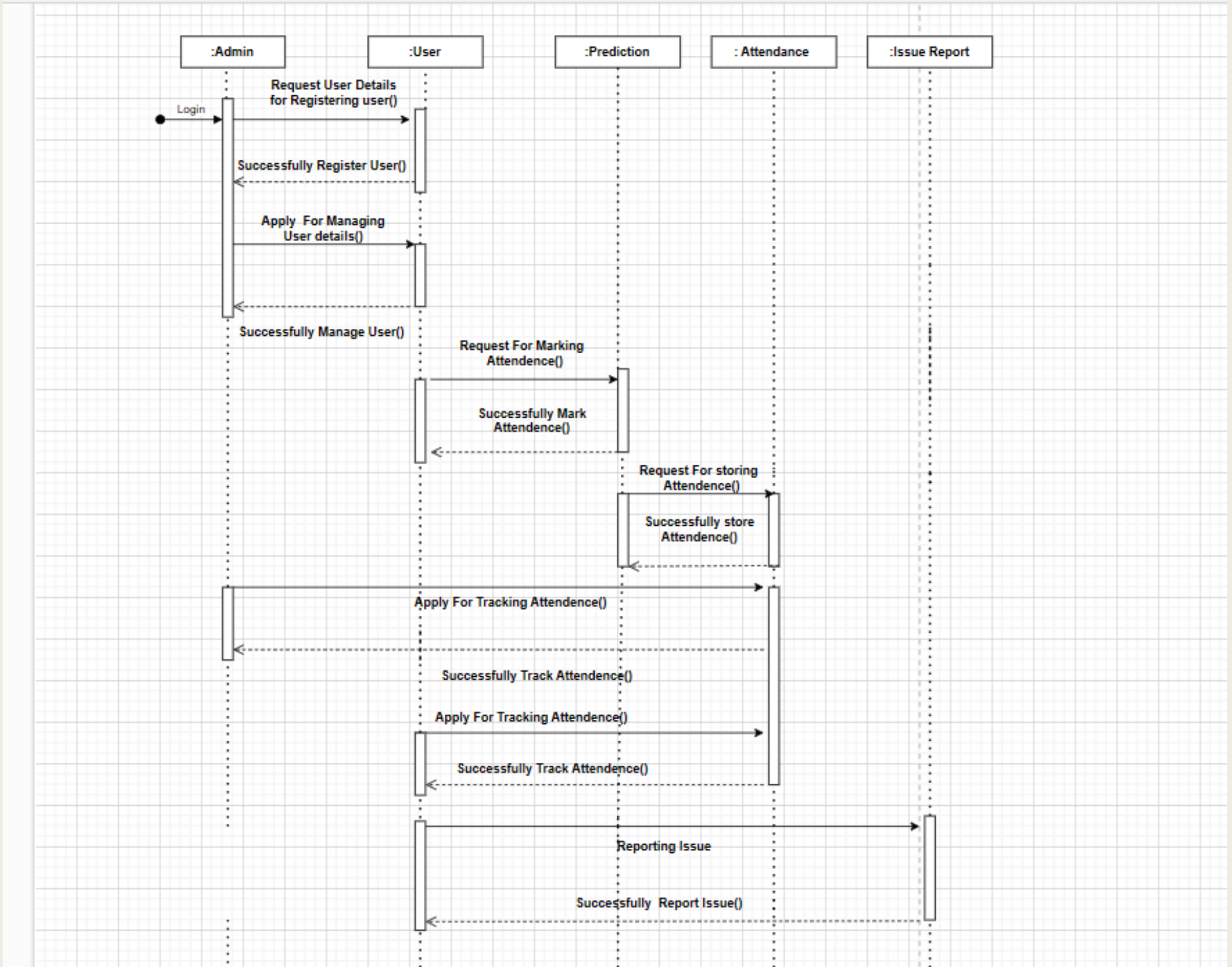
Class Diagram



Class Diagram



Sequences Diagram



Sequences Diagram

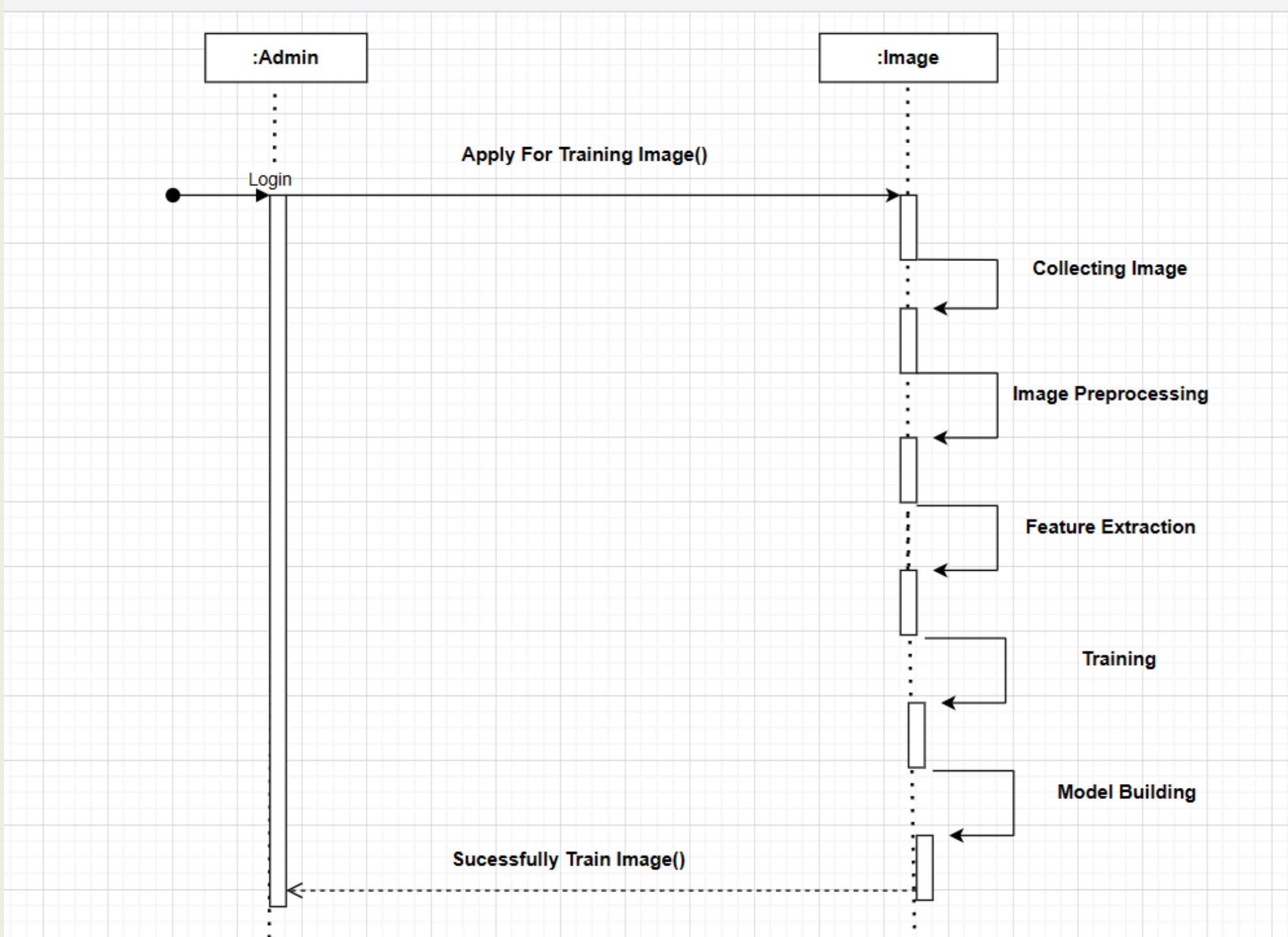


Table Design

Table Name: Users

Purpose: This table is used to store user details

SI NO.	Field Name	Type	Constraints	Description
1	Id	Int	Primary Key	To Store User Id
2	Name	varchar(20)	Not Null	To Store Name of User
3	Password	Int	Not Null	To Store Password Of user
4	Email	Varchar	Not Null	To Store Email of User
5	Department	Varchar(20)	Not Null	To Store Department name
6	Image	Varchar(20)	Not Null	To store The Image of User

Table Design

Table Name: Attendance

Purpose: This table is used to store Attendances details

SI NO.	Field Name	Type	Constraints	Description
1	Id	Int	Foreign key	To Store User Id
2	Name	varchar(20)	Not Null	To Store Name of User
3	Attendance Id	Int	Primary Key	To Store id attendance of each user
4	Time	Time	Not Null	To Store Time which Attendance Marked
5	Department	Varchar(20)	Not Null	To Store Department name
6	Date	Varchar(20)	Not Null	To Store Date of Attendance Marked
7	status	varchar(20)	Not Null	To store Status of attendance

Table Design

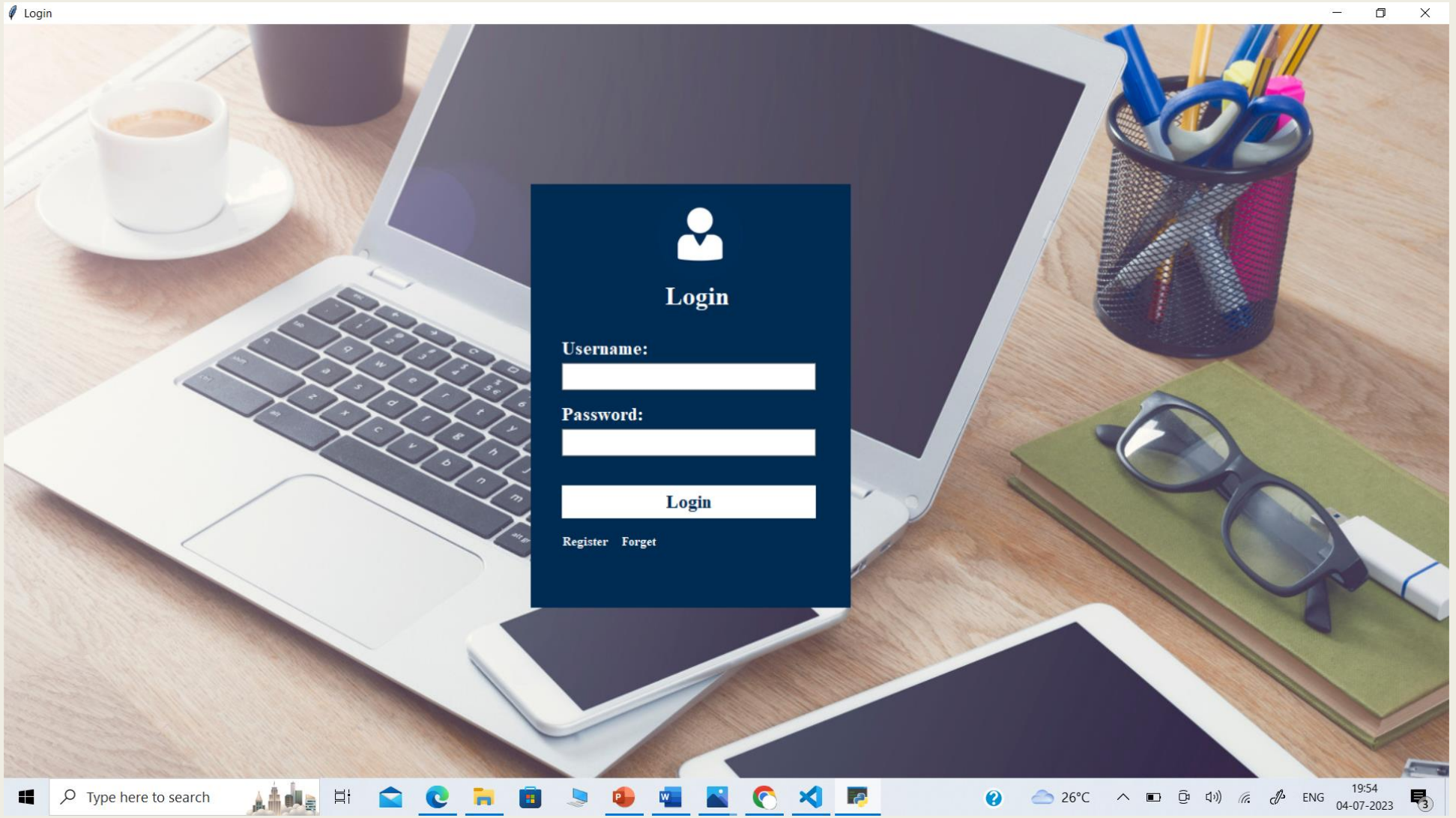
Table Name: Issue Reporting

Purpose: This table is used to store issue details

SI NO.	Field Name	Type	Constraints	Description
1	Issue Id	Int	Primary key	To Store Issue Id
2	Name	varchar(20)	Not Null	To Store Name of User
3	Attendance Id	Int	Foreign Key	To Store id of Department
4	Id	int	Foreign Key	To Store user Id
5	Description	Varchar(20)	Not Null	To Store Description of Issue

Form Design

Login



Form Design

User Registration

Form Design

Training Face

References

- **S. S. Pawaskar and A. M. Chavan, "Face Recognition based Class Management and Attendance System," 2020 IEEE Bombay Section Signature Conference (IBSSC), Mumbai, India, 2020, pp. 180-185, doi: 10.1109/IBSSC51096.2020.9332212.**

- **Face Recognition based Attendance System using Haar Cascade and Local Binary Pattern Histogram Algorithm. Published in: 2020 4th International Conference on Trends in Electronics and Informatics (ICOEI)(48184).**

- **Arjun Raj, M. Shoheb, K. Arvind and K. S. Chethan, "Face Recognition Based Smart Attendance System," 2020 International Conference on Intelligent Engineering and Management (ICIEM), London, UK, 2020, pp. 354-357, doi 10.1109/ICIEM48762.2020.9160184**

- **.Face Recognition: Understanding LBPH Algorithm | by Kelvin Salton do Prado | Towards Data Science**
- 5.