EMPLOYEE MANAGEMENT SYSTEM

USING PYTHON AND MYSQL DATABASE

BY

RAHUL GARAI

MD SAHID RAJA

INTRODUCTION

- Employee Management System Project is designed to keep track of employee information in any company. It stores data such as their employees' personal information leave details and salary details.

- The employee management system project gives managers a better idea of their employees and helps them plan and manage their work hours to cut costs and boost productivity. It gives appropriate directions and supervisions for employees. It also secures and manages information that are important to the employees including personal and work-related information.

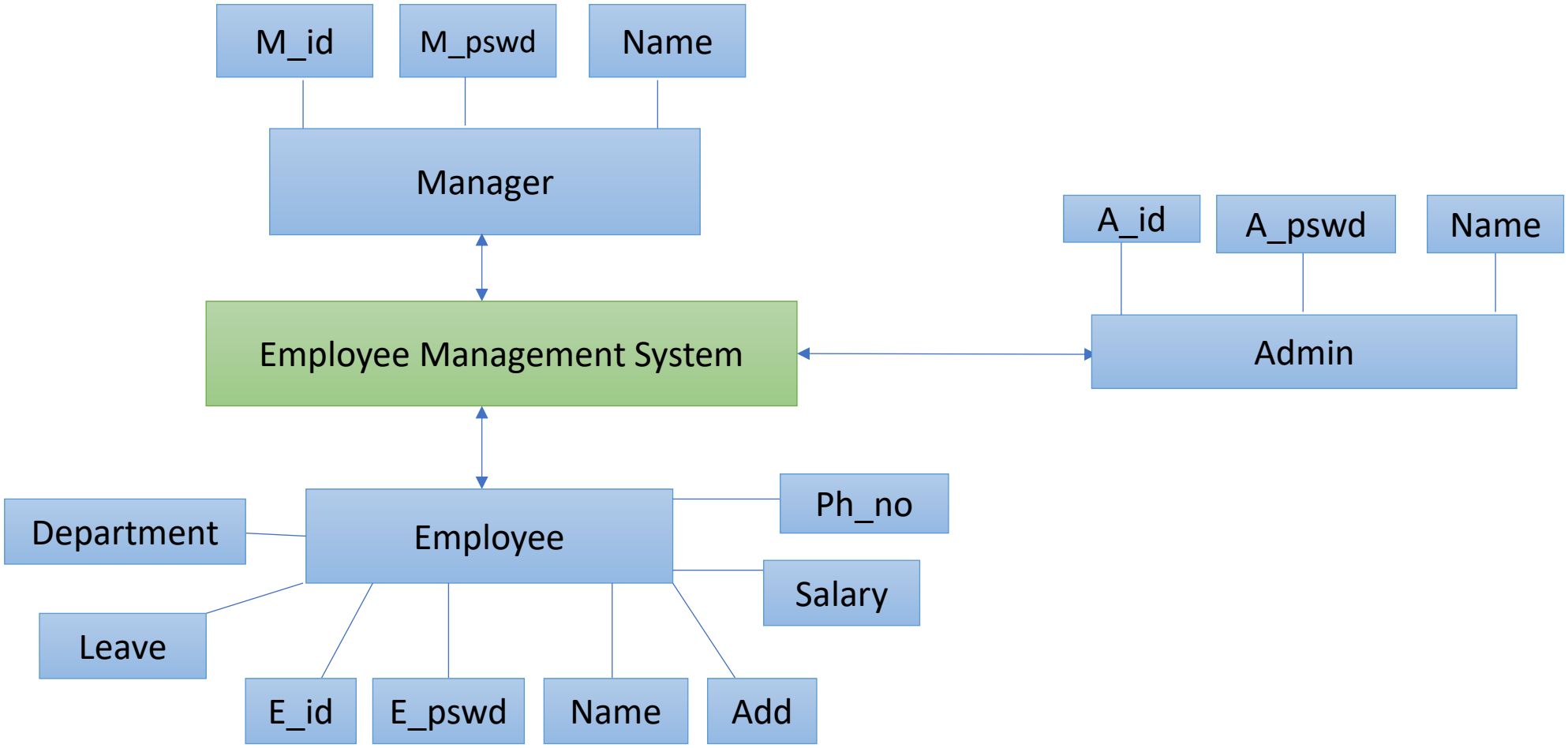
- Employee management system is developed to manage the data and information of an employee in a company. It is developed to override the problems prevailing in the practicing manual system.

Overview of the Problem

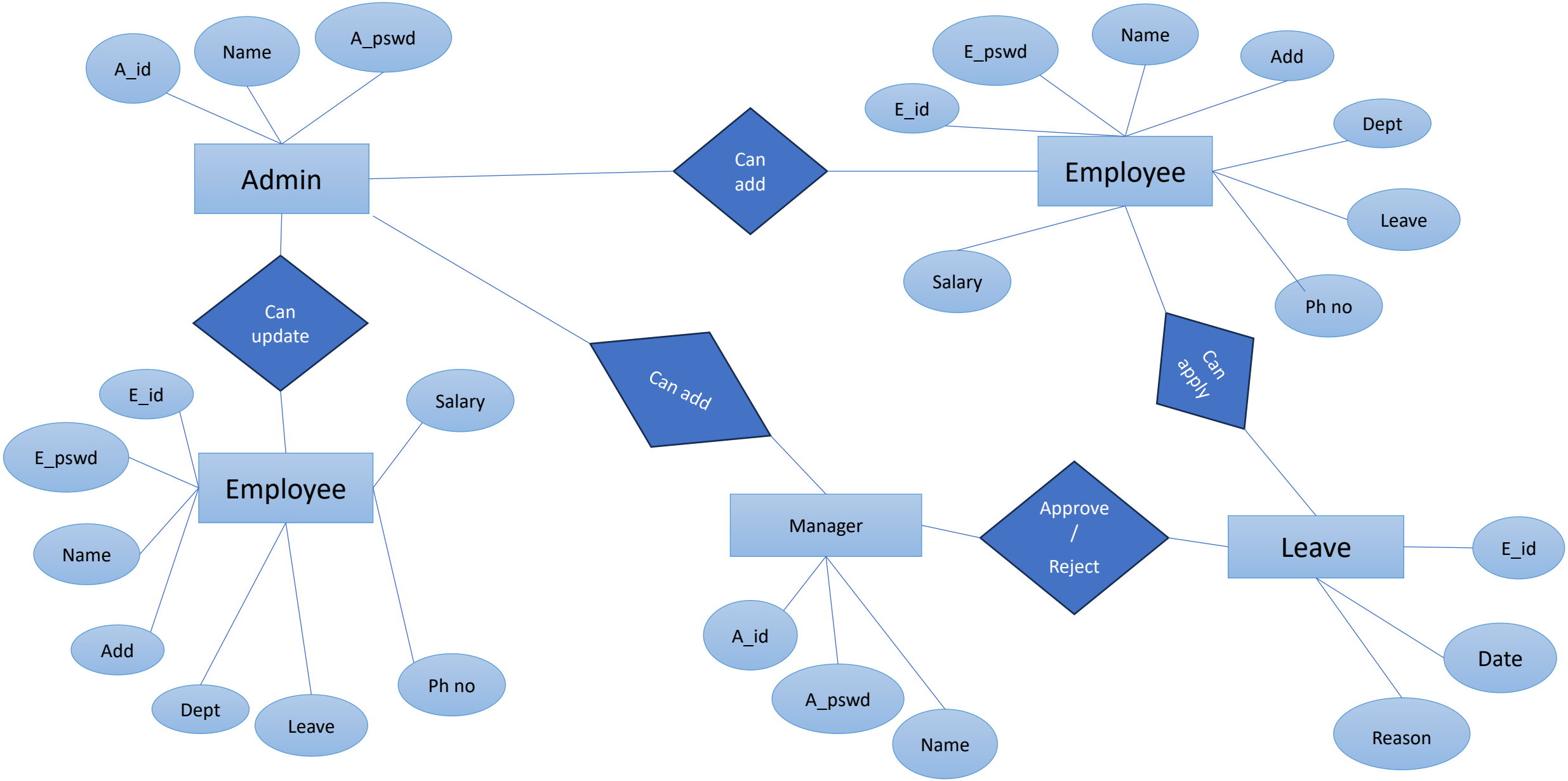
Due too many data and paperwork that needed to record the employee data could consume a lot of space in the filling cabinet. The retrieval of data can time consuming because it must be searched from the filling cabinet. This will cause waste of resource in term of time and money. In addition, it would also cause inconvenience and ineffectiveness in daily work. Plus, the manger will face difficulties when need to update employee working schedule, report and leave request.

In the employee point of view, when they need to request for leave, they need to fill in a leave request form manually and submit to manager personally and wait for confirmation, this is time consuming. Other than that, if there are any changes in working schedule, employee might have wrong information in the working schedule because the schedule might not update immediately, therefore the employee might not satisfy with the working schedule.

Architecture diagram



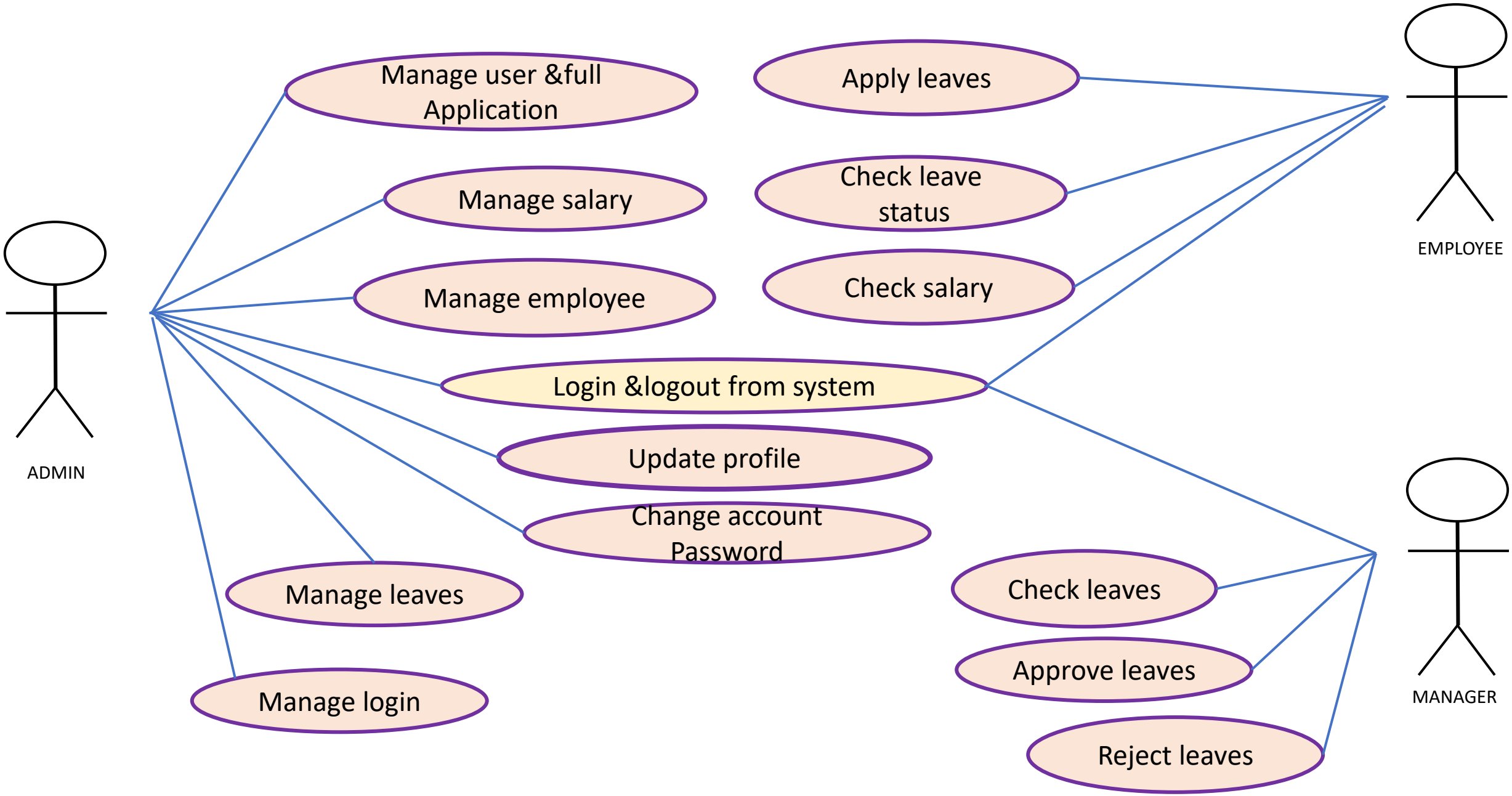
Entry relationship diagram:



In the figure ER diagram of employee management system.

We have 5 different entities and each entity have its own-own attributes and relationship between them. The first entities are admin, and its attribute are admin id, admin name and admin password. The second entities we have employee, and its attribute are employee name, employee proof, employee phone number, employee address, employee department, employee salary, employee leave, employee password. And the relationship admin and employee are “can add” that is admin can add employee. The third entities are employee details and the relationship between admin and employee details “can update” that is admin can update the employee details. The fourth entities we have is manager and its attribute are manager id, manager password, manger name and the relationship between admin and manager is “can add” that is admin can add any manger. The last entities we have leave and its attribute are leave id, leave reason, leave type and leave date and the relationship between employee and leave are “can apply’ that is employee can apply for leave and the relationship between manager and leave is “can approve/reject” that is manager can either approve or reject employee leave.

UML USE CASE DIAGRAM



In the figure UML Use Case Diagram of Employee Management System we have admin, manager and employee

- Admin: Admin can manage the full application and user. It can manage salary, employee, and leave. It can update employee details and change the password.
- Employee: Employee can apply for leave, check leave status and check salary. Employee can also login and logout from the system, update their profile and change account password.
- Manager: Manager can check leave, check timesheet and can approve or reject leaves.

HOW TO RUN THIS PROJECT

- Open mysql and create database named **employee_management_system.**
- Create the follwoing table- **admin, employee, manager, leave_applications.**
- Open visual studio code or any other source code editor, go to the terminal and run following commands –
  1.pip install tk
  2.pip install mysql-connector-python
- Open **Employee Management** folder in source code editor and `Update this line of code according to your mysql database.`

```
conn = mysql.connector.connect(
    host='localhost',
    username='root',
    password='your password ',
    database='employee_management_system'
)
```

- `Then open login.py file and run this code.`

SQL QUARY FOR CREATE EMPLOYEE TABLE:

```
CREATE TABLE employee (
   Emp_ID INT AUTO_INCREMENT PRIMARY KEY,  -- Auto-incrementing primary key for employee ID
   Manager_ID INT,                         -- Foreign key or reference to Manager (optional)
   Department VARCHAR(50),
   Designation VARCHAR(50),
   Name VARCHAR(50),
   Mobile_Number VARCHAR(15),
   DOJ DATE,                               -- Date of joining
   Email VARCHAR(100),
   Country VARCHAR(50),
   City VARCHAR(50),
   Married_Status VARCHAR(50),
   DOB DATE,                               -- Date of birth
   ID_Type VARCHAR(50),
   ID_Proof VARCHAR(100),
   Gender VARCHAR(10),
   Salary DECIMAL(10, 2),                  -- Salary with two decimal places
   Password VARCHAR(50)                    -- Password field
);
CREATE TRIGGER generate_password_before_insert
BEFORE INSERT ON employee
FOR EACH ROW
SET NEW.Password = CONCAT(UPPER(SUBSTRING(NEW.Name, 1, 4)), YEAR(NEW.DOB));
```

SQL QUARY FOR CREATE MANAGER TABLE:

```
CREATE TABLE manager (
   Manager_ID INT AUTO_INCREMENT PRIMARY KEY,  -- Auto-incrementing primary key for manager ID
   Department VARCHAR(50),
   Name VARCHAR(50),
   Mobile_Number VARCHAR(15),
   DOJ DATE,                                   -- Date of joining
   Email VARCHAR(100),
   Country VARCHAR(50),
   City VARCHAR(50),
   Married_Status VARCHAR(10),
   DOB DATE,                                   -- Date of birth
   ID_Type VARCHAR(50),
   ID_Proof VARCHAR(50),
   Gender VARCHAR(10),
   Salary DECIMAL(10, 2),                      -- Salary with two decimal places
   Password VARCHAR(50)                        -- Password field
);
CREATE TRIGGER set_password_before_insert
BEFORE INSERT ON manager
FOR EACH ROW
SET NEW.Password = CONCAT(UPPER(SUBSTRING(NEW.Name, 1, 4)), YEAR(NEW.DOB));
```

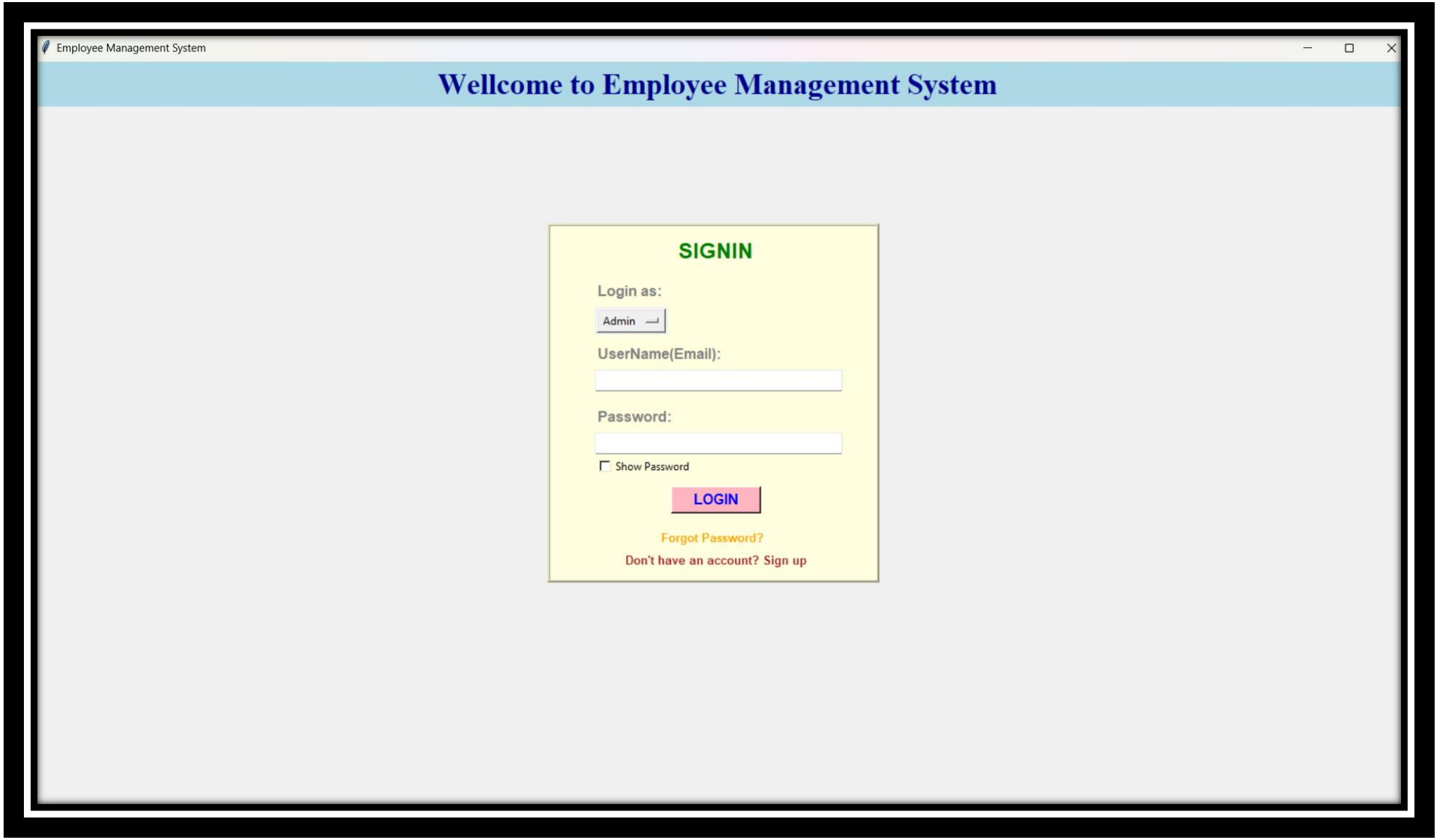
SQL QUARY FOR CREATE ADMIN TABLE:

```
CREATE TABLE admin (
    First_Name VARCHAR(50),
    Last_Name VARCHAR(50),
    Contact_No VARCHAR(15),
    Email VARCHAR(100) PRIMARY KEY,
    ID_Type VARCHAR(50),
    ID_Proof VARCHAR(50),
    Password VARCHAR(255)
);
```

SQL QUARY FOR CREATE LEAVE_APPLICATION TABLE:

```
CREATE TABLE leave_applications (
    Application_ID INT AUTO_INCREMENT PRIMARY KEY,
    Emp_ID INT,
    LeaveType VARCHAR(50),
    StartDate DATE,
    EndDate DATE,
    Reason TEXT,
    Status VARCHAR(20)
);
```

RESULT: LOGIN PAGE

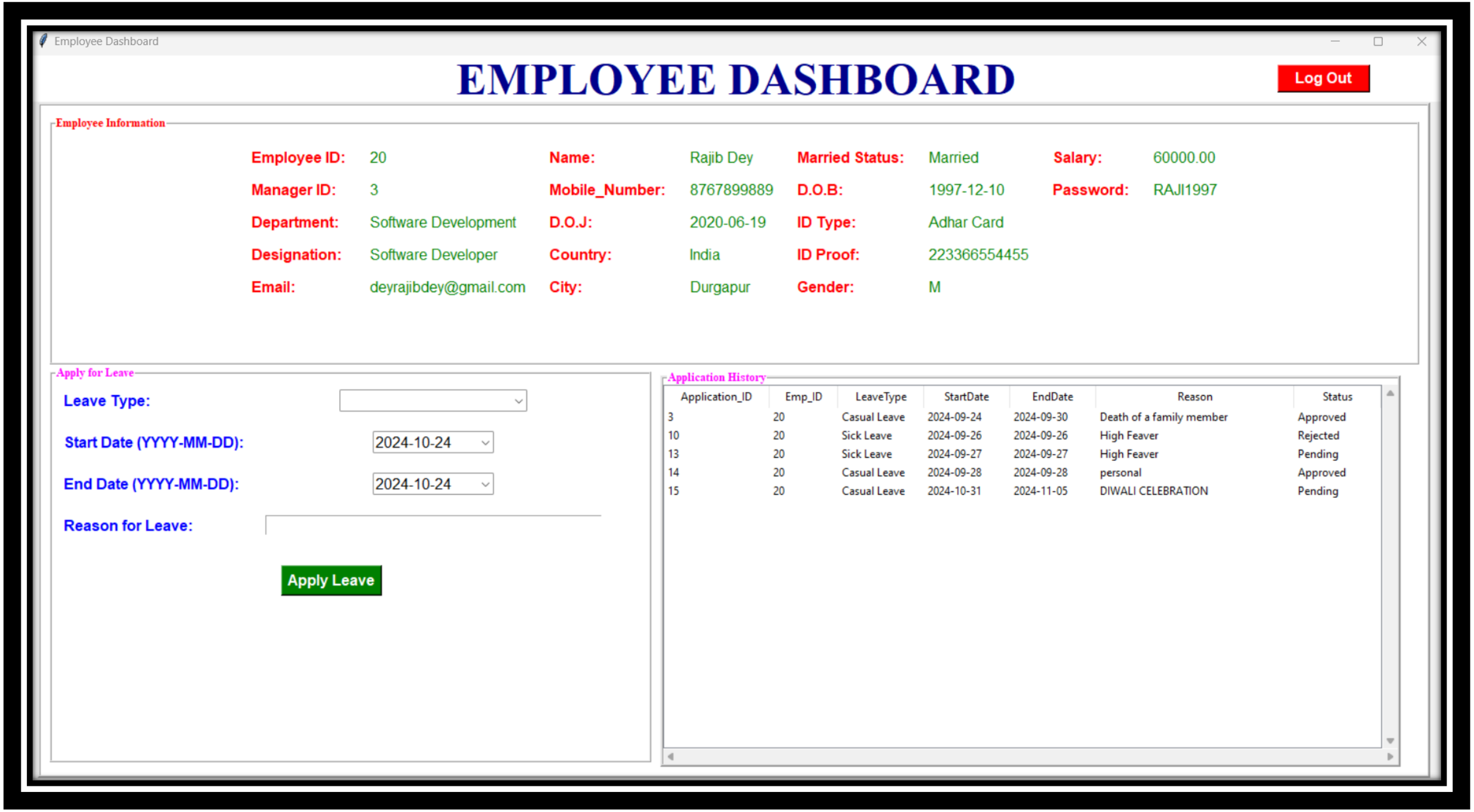


REGISTRATION PAGE:

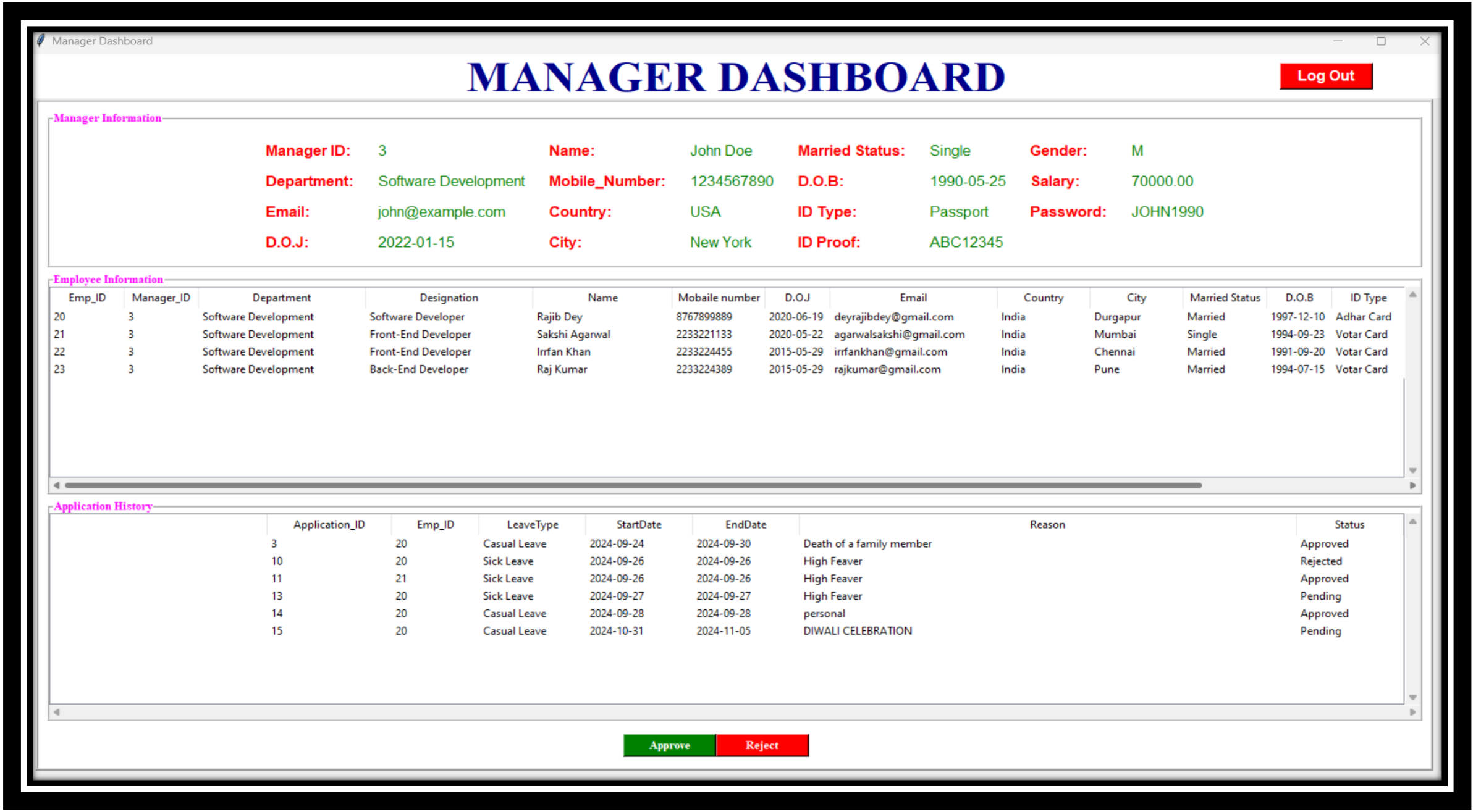
ADMIN PAGE:


Employee Management System
EMPLOYEE MANAGENENT SYSTEM
Log Out
Employee Information
Department:
Name:
Mobaile number:
Go to Manager Portal
Designation:
Email:
Country:
D.O.J:
2024-10-24
D.O.B:
2024-10-24
City:
Gender:
Salary:
Select ID Proof
Married status:
Manager ID:
0
Save
Update
Delete
Reset
Employee Information Table
Search Employee Information
Search By
Search By
Search
Show All
Emp_ID Manager_ID Department Designation Name Mobaile number D.O.J Email Country City Married Stati D.O.B ID Type ID Pro
20 3 Software Development Software Developer Rajib Dey 8767899889 2020-06-19 deyrajibdey@gmail.com India Durgapur Married 1997-12-10 Adhar Card 223366554
21 3 Software Development Front-End Developer Sakshi Agarwal 2233221133 2020-05-22 agarwalsakshi@gmail.com India Mumbai Single 1994-09-23 Votar Card GX060953S
22 3 Software Development Front-End Developer Irrfan Khan 2233224455 2015-05-29 irrfankhan@gmail.com India Chennai Married 1991-09-20 Votar Card OI904826BI
23 3 Software Development Back-End Developer Raj Kumar 2233224389 2015-05-29 rajkumar@gmail.com India Pune Married 1994-07-15 Votar Card HF445038S
24 4 Quality Assurance(QA) Software Tester Samyuktha Mennon 2233554389 2015-05-29 amyukthamennon@gmail.com India Delli Married 1994-07-15 Votar Card DW880276
25 9 Cybersecurity Security Engineer Balraj Sahni 9966886533 2022-10-28 sahnibalraj@gmail.com India kolkata Single 1997-07-22 Votar Card VH004585S

EMPLOYEE PAGE:



MANAGER PAGE:



THANK YOU