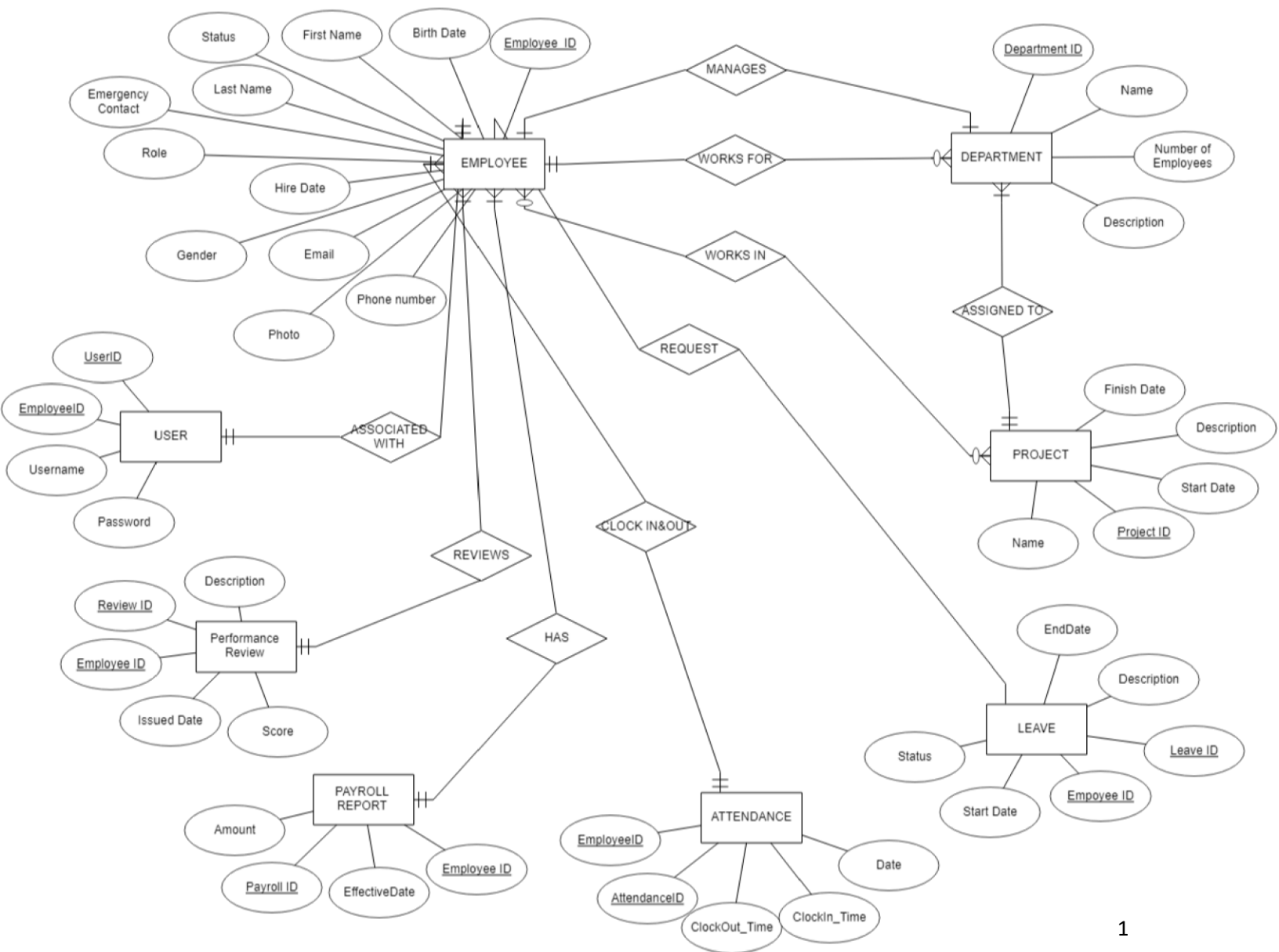


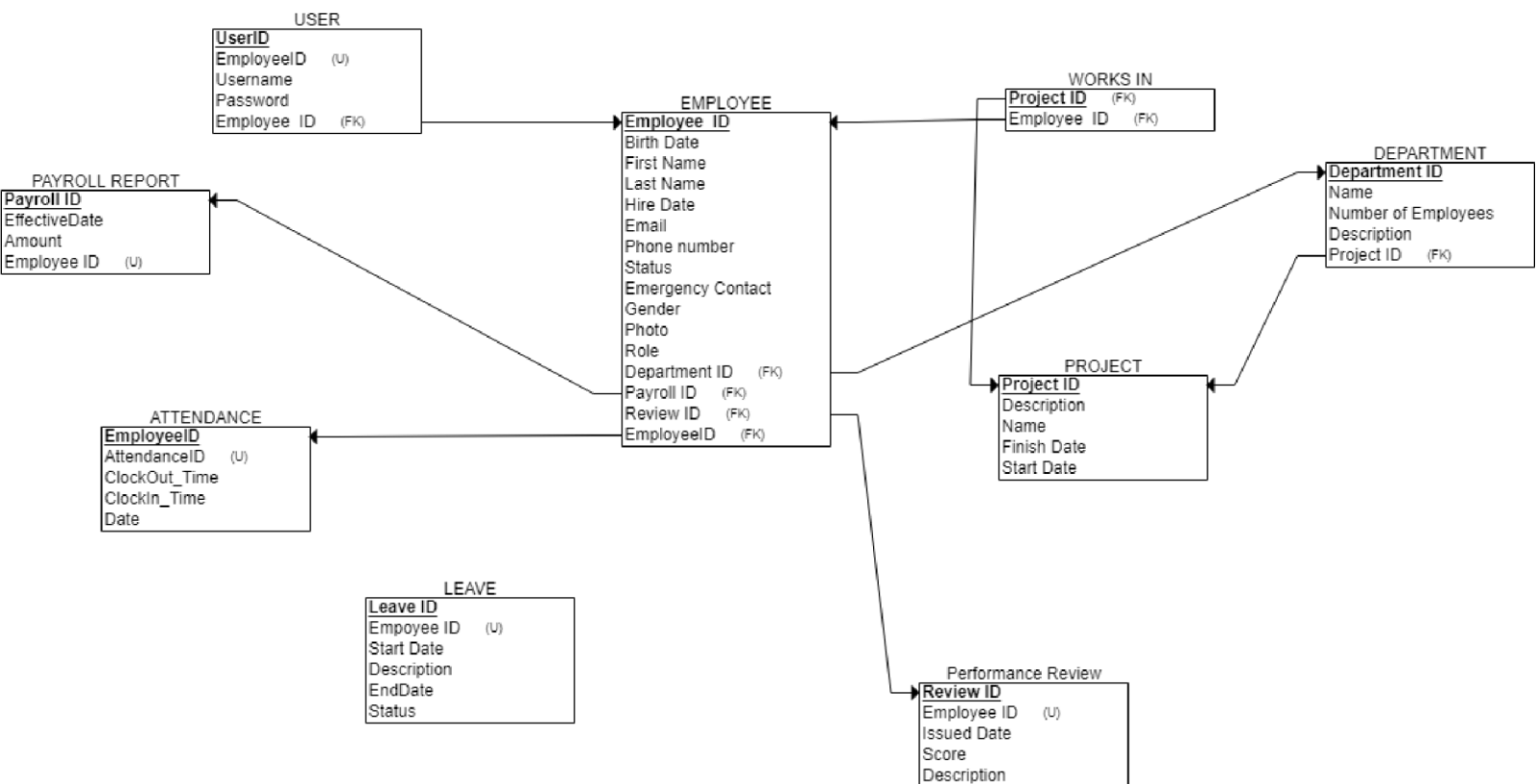
ENTITY RELATIONSHIP DIAGRAM

- One Employee belongs only to one Department.
- One Employee can be assigned to multiple Projects.
- One Employee can have multiple Salary records over time.
- One Employee can take multiple Leaves.
- One Employee can have multiple Attendance records.
- One User is associated with one Employee.
- One Employee can have many Performance Reviews.
- One Department can be assigned many Projects.



RELATIONAL SCHEMA

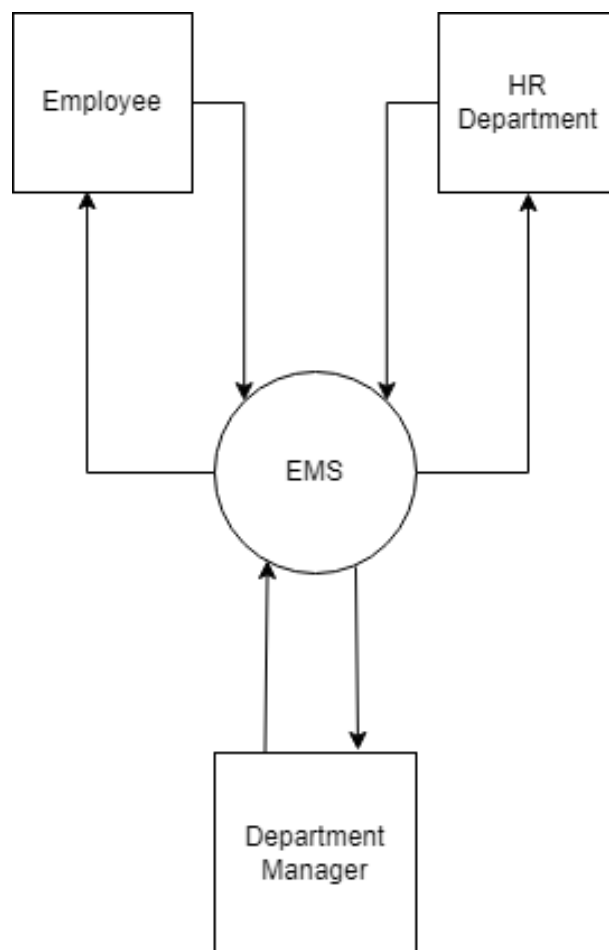
The relational schema of the EMS is a structured representation of the database design that organizes and defines the relationships among various entities within the system. In this schema, the primary entity is the Employee table, which serves as the central repository for information related to each employee. This table includes attributes such as employee ID, name, contact details, and other relevant personal information. The Department table is linked to the Employee table through a foreign key, establishing a one-to-many relationship, as one department can have multiple employees. The Employee table is linked to several other smaller tables.



DATA FLOW DIAGRAM

DFD LEVEL 0 – CONTEXT DIAGRAM

The external entities include the system users such as Employees, HR Department and Managers. In the system the HR and managers are assigned the admin user role. Administrators manage the system and its functionalities. while employees interact with the system to access these functionalities.



PROCESSES

1.1 Employee Information Management

Handles storing and displaying employee data. Employees input their information. Admins update and retrieve employee data. This is done with the employee data records.

1.2 Leave Management

Handles leave requests and approvals. Employees submit leave requests and admins approve/deny them. After this is done, the leave records updates.

1.3 Attendance Tracking

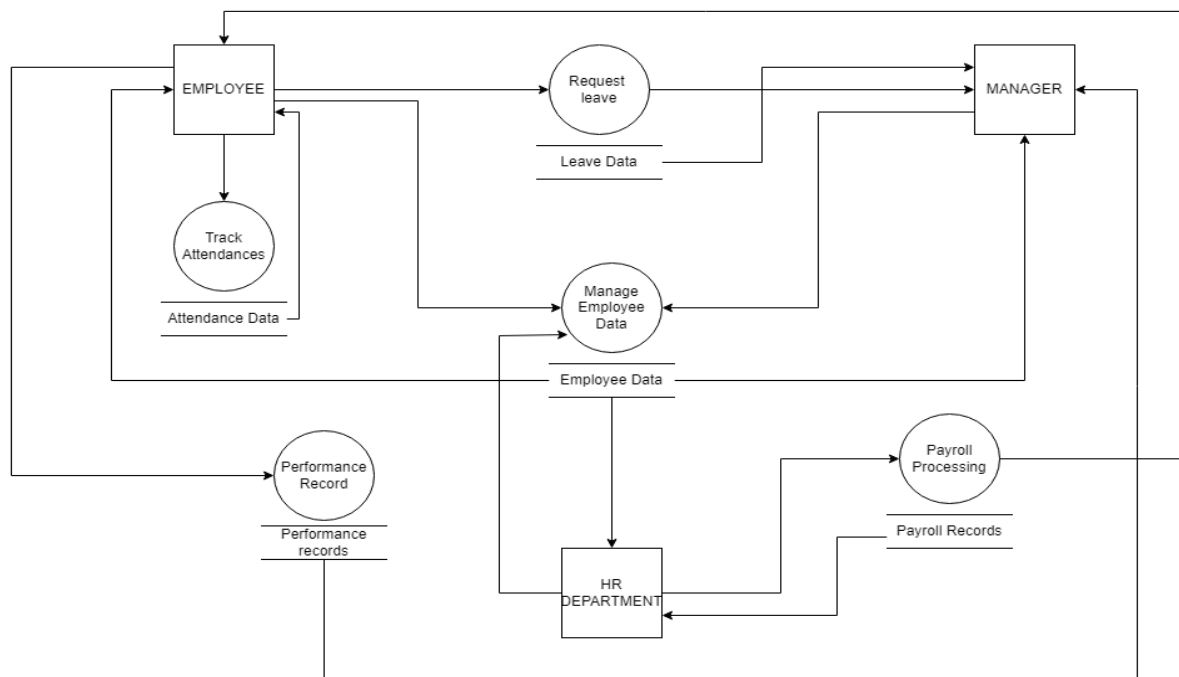
Manages employee attendance records. Employees clock in and out and the attendance records keep track of it.

1.4 Manage Payroll

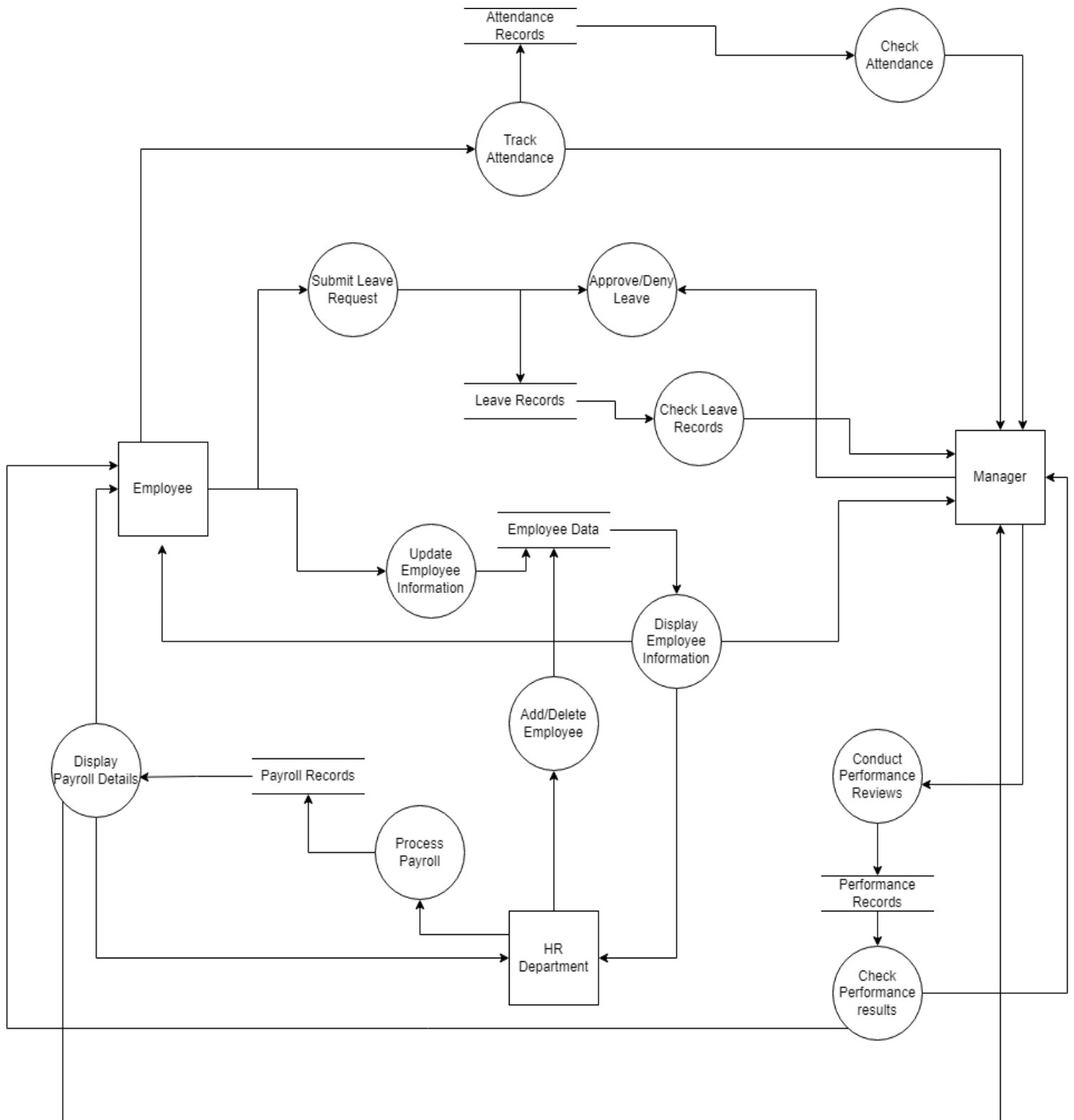
Handles payroll processing. Employees view payroll details while admins process payroll using the system.

1.5 Performance Review

Manages employee performance evaluations. Admins conduct performance reviews and employees view the feedback. This is stored in performance data



Level 2 DFD



CLASS RESPONSIBILITY CARDS

EMPLOYEE	
Responsibilities	Collaborators
Store and display personal information.	Employee Database
Assign employee to a department.	Department Class
Submit leave requests.	Leave Class
Clock in and out to record attendance.	Attendance Class
Participate in performance evaluations.	PerformanceReview Class
Associate with a User for authentication.	User Class
Create projects and collaborate on projects.	Project Class

DEPARTMENT	
Responsibilities	Collaborators
Maintain a list of employees associated with the department.	Employee Database
Provide methods to add, remove, and retrieve employee data.	Employee Database, Employee Class
Collaborate with the Project class to initiate and oversee projects within the department.	Project Class

PROJECT	
Responsibilities	Collaborators
Store project-related information, including project name, description, and start/end dates.	
Create and manage tasks within the project.	
Assign employees to specific tasks within the project.	Employee Database

PAYROLL	
Responsibilities	Collaborators
Calculate employee salaries based on attendance and performance.	Attendance Records, Performance Records
Manage the payroll processing for all employees.	Employee Database
Store and maintain records of payroll-related information.	Payroll Records

LEAVE	
Responsibilities	Collaborators
Store details of leave requests, including start date, end date, and type of leave.	Leave Records

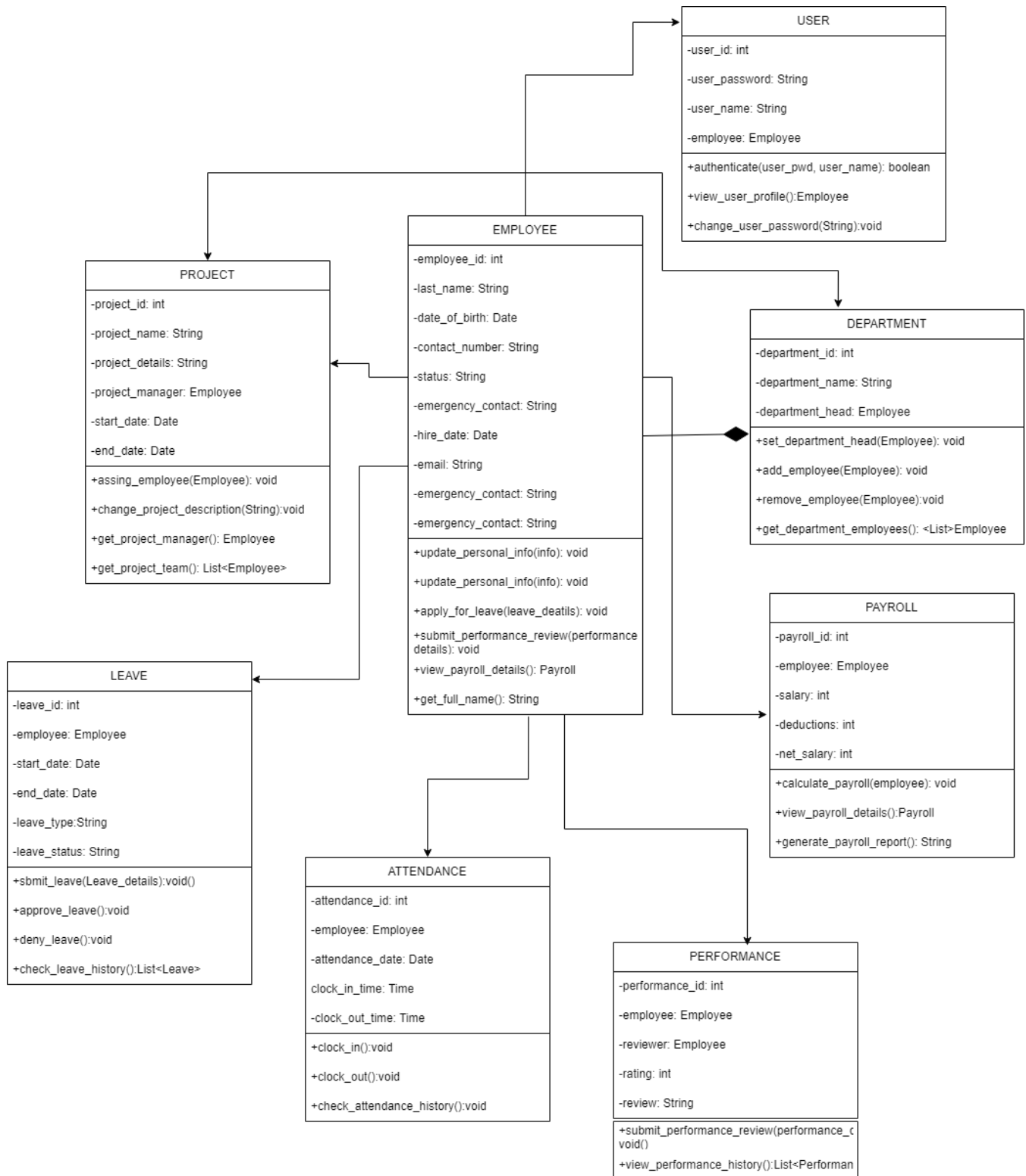
Update the status of leave requests based on approval or rejection.	Employee Class
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ATTENDANCE	
Responsibilities	Collaborators
Track and record employee attendance.	Attendance Records, Employee Class
Calculate attendance metrics, such as hours worked, overtime, etc.	Attendance Records




PERFORMANCE_REVIEW	
Responsibilities	Collaborators
Store and manage performance-related information for employees.	Performance Data
Conduct and document performance reviews.	Employee Class
Provide feedback on employee performance.	Performance Data

USER	
Responsibilities	Collaborators
Handles Employee authentication process.	Employee Database

CLASS DIAGRAM



INTERFACE EXAMPLE

E.M.S.

[Home](#) > [Leave Request](#)

LEAVE REQUEST FORM

First Name

Last Name

Leave Type




Select Leave Type

▼

Start Date

End Date

Submit

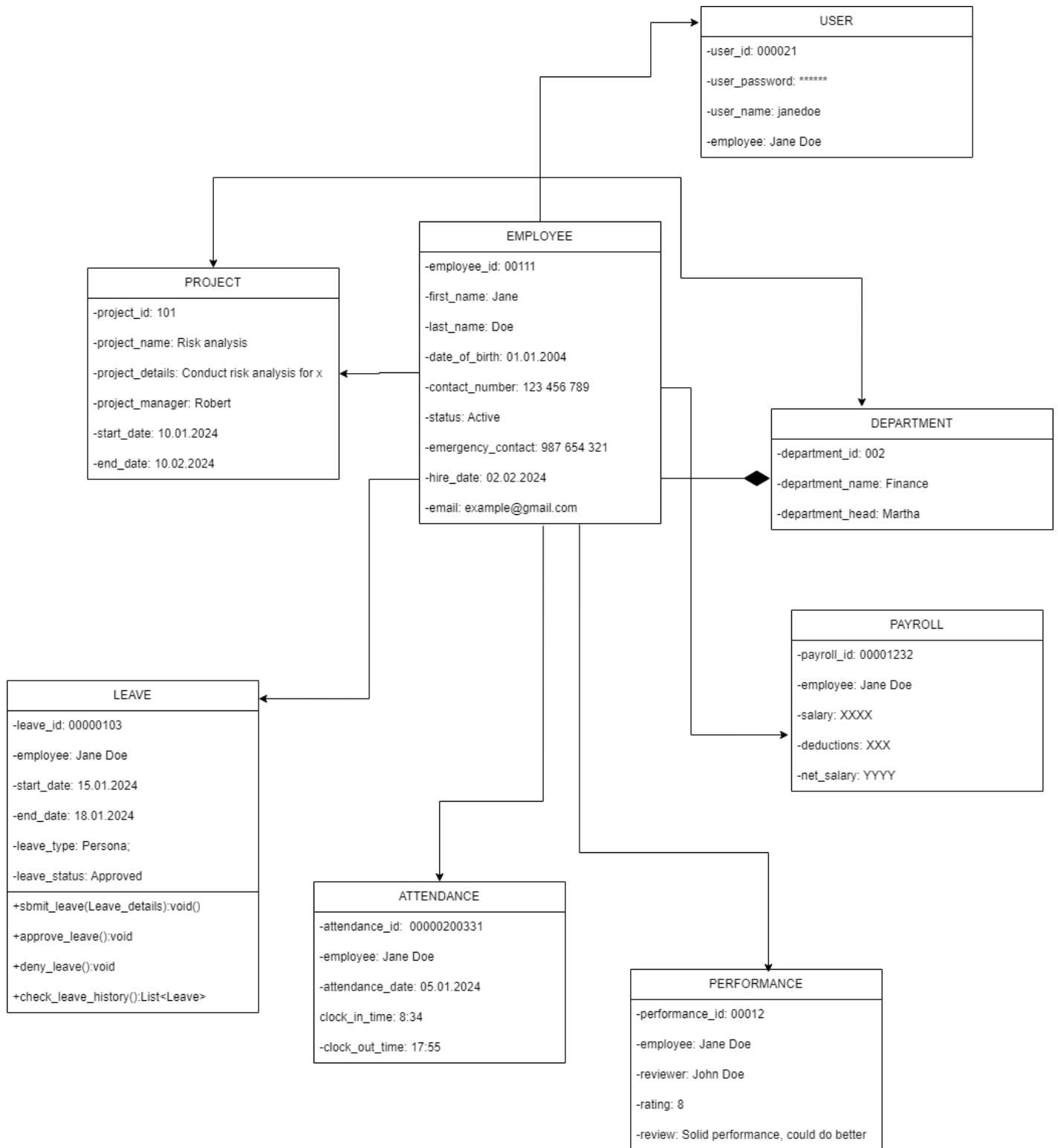
E.M.S.

[Home](#) > [Employee List](#)

COMPANY EMPLOYEES

#	Name	Position	Contact	Status
1	Enis Lika	IT Specialist	1234567	Online
2	Ilten Kaso	IT Specialist	1234567	Online
3	Enkel Mustafaj	IT Specialist	1234567	Online

OBJECT DIAGRAM



COMPONENT DIAGRAM

Presentation Layer -Represents the user interfaces, such as web and mobile interfaces.

Business Logic Layer -Contains the core functionality of the Employee Management System. Components include Employee, Department, Leave, Project, Payroll, User, and Performance.

External Database -Represents an external database that the Employee Management System may utilize.

