IT2080 – ITP

Year 2, Semester 2, 2024

Actvity 3

Employee Welfare Management System

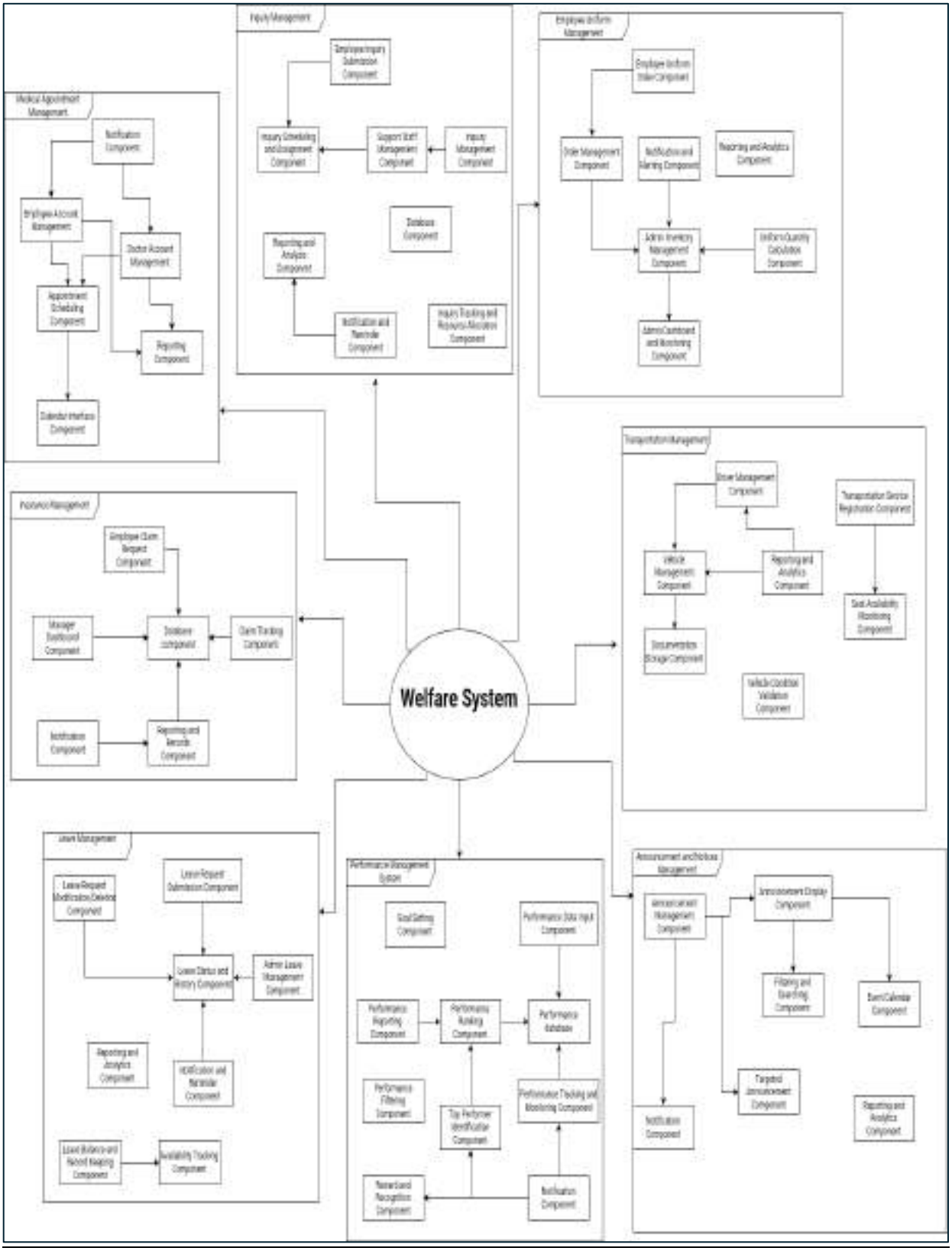
Group Details

Batch: 1.1

Group Number: ITP24_B1_06

	Student Registra4on Number	**Student Name**
1	IT22066466	PALLIYAGURU M D
2	IT22059536	FERNANDO T K
3	IT22060358	DE SILVA K W S C
4	IT22069672	BOLONGHE W D U
5	IT22065544	WEERAKOON M M
6	IT22191588	LIYANAGE D D
7	IT22094322	SENEVIRATNE D V
8	IT22102614	WAHALATHANTHRI D B D

Components



Non functional requirements

Security

Access control

In our implementation, we'll incorporate role-based access control (RBAC) to manage access to sensitive functionality and data within the system. We'll define distinct roles such as "Employee," "Benefits and Compensation Specialist," "Doctor," "HR Supervisor," "Logistics and Operations Manager," "Employee Relations Specialist," and "Admin." Each role will be assigned specific permissions tailored to their responsibilities and access requirements. By implementing RBAC, we ensure that users are granted appropriate levels of access based on their roles, enhancing security and privacy throughout the system.

Secure Document Upload:

In our system implementation, we prioritize security by implementing thorough validation checks for uploaded documents, ensuring that only legitimate files are accepted to prevent any potential threats from malicious uploads. Additionally, uploaded documents are stored in a secure location, accessible only to authorized personnel. By restricting access to these documents, we maintain confidentiality and protect sensitive information from unauthorized access or exploitation. These measures collectively bolster the system's integrity and safeguard against potential security risks associated with file uploads.

Secure Notifications:

To enhance the security of our notification system, we're implementing a protocol to avoid including sensitive information in notification messages. By refraining from including such data, we minimize the risk of unintentional exposure or unauthorized access to confidential information. This proactive measure ensures that notifications serve their intended purpose of alerting users without compromising the confidentiality of sensitive data. By prioritizing data protection in our notification strategy, we uphold the integrity and privacy of our system's communications, mitigating potential risks associated with data exposure.

Performance

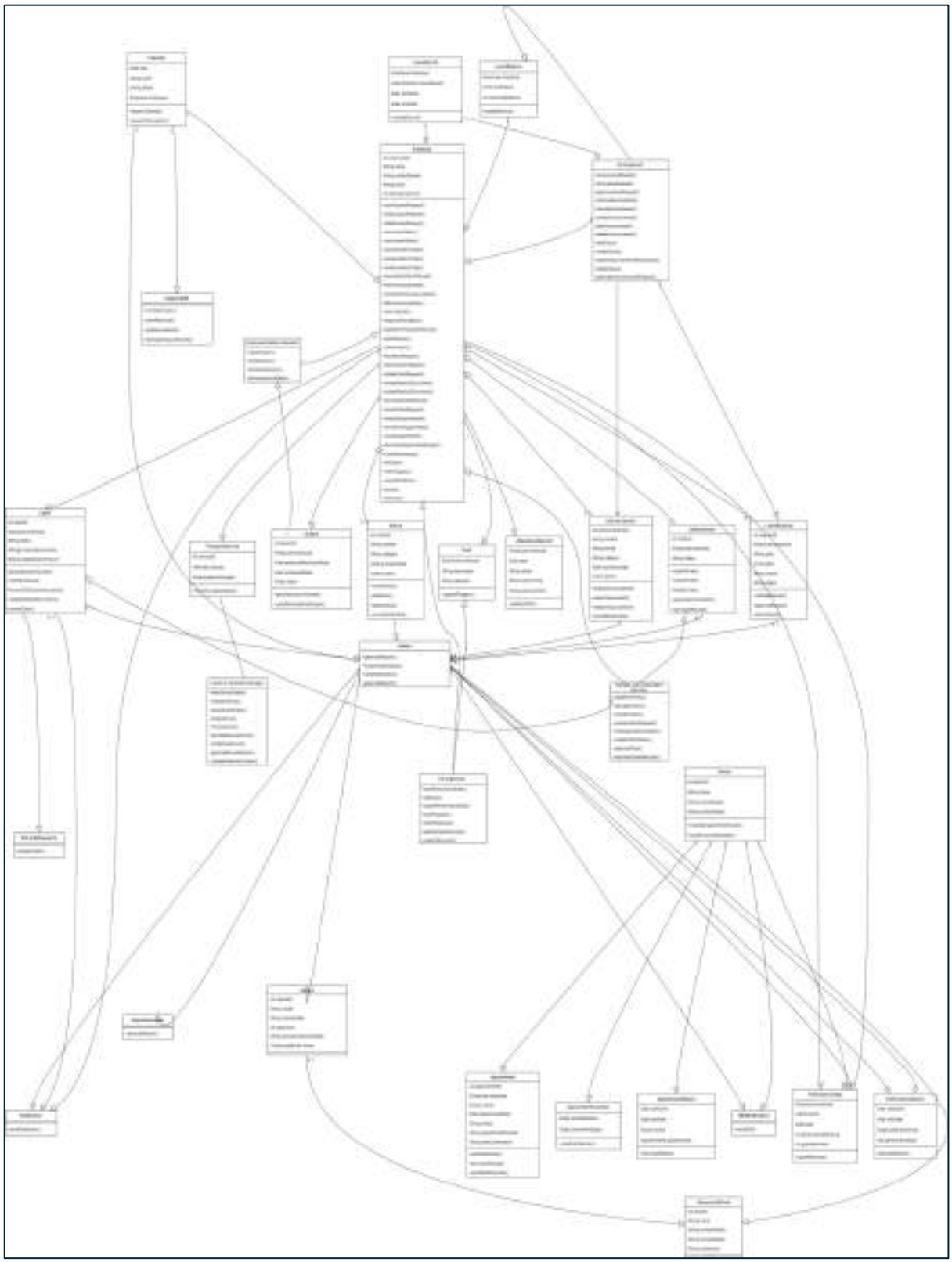
Efficient database design

We'll implement a MongoDB database for an Employee Welfare System, covering Leave Management, Announcement, Performance Management, Transport Management, Uniform Management, Inquiry Management, Insurance Management, Doctor Appointment Management, and Employee Performance Management. We'll carefully design the schema, identifying entities like employees, announcements, leave requests, and performance evaluations. Collections will be created for each entity, with indexes on commonly queried fields for improved performance. We'll use embedded documents and arrays for efficient data representation and consider denormalization to optimize query speed.

Performance Testing and Optimization:

To enhance the security of our notification system, we're implementing a protocol to avoid including sensitive information in notification messages. By refraining from including such data, we minimize the risk of unintentional exposure or unauthorized access to confidential information. This proactive measure ensures that notifications serve their intended purpose of alerting users without compromising the confidentiality of sensitive data. By prioritizing data protection in our notification strategy, we uphold the integrity and privacy of our system's communications, mitigating potential risks associated with data exposure.

Class Diagram



Third Party Components

1. Twilio:

- Purpose: Twilio is a cloud communications platform that enables us to send and receive SMS messages, make and receive phone calls, and perform other communication-related tasks programmatically.

- Usage: Twilio is used to send SMS notifications and reminders to employees.

2. Nodemailer:

- Purpose: Nodemailer is a module for Node.js applications that allows facilitates sending emails easily.

- Usage: Integrate Nodemailer for sending emails for various purposes, such as sending monthly reports**.**

3. React Datepicker:

- Purpose: React Datepicker is a customizable datepicker component for React applications that allows users to select dates easily.

- Usage: React Datepicker is used to provide a user-friendly interface for selecting appointment dates when scheduling appointments, and to dynamically display the available dates.

4. Ant Design:

- Purpose: Ant Design is a React UI library with a set of high-quality components and layouts for building modern web applications.

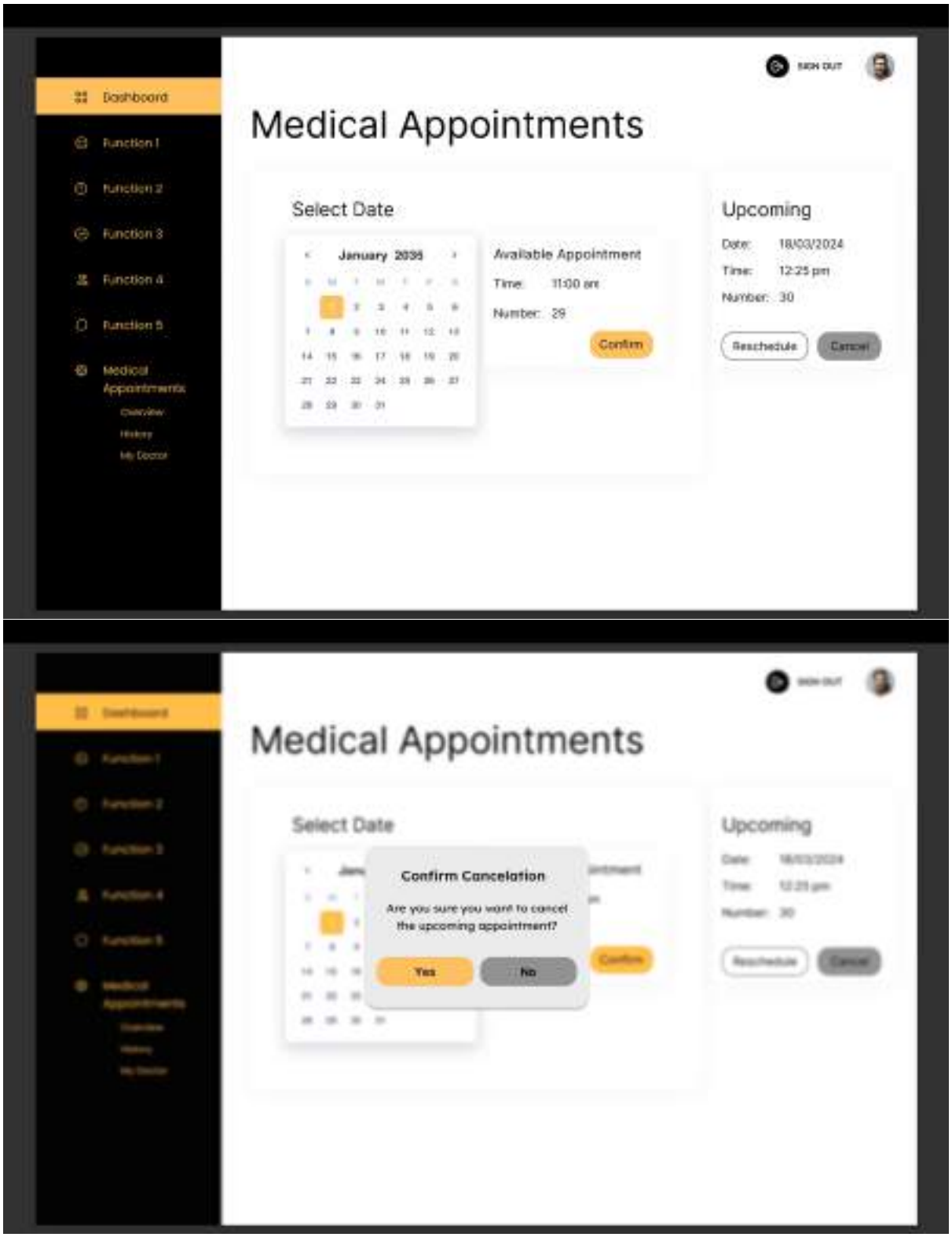
- Usage: Ant Design components are used to create a visually appealing and responsive user interface. Components like forms, buttons, layouts, and navigation elements can be utilized to enhance the user experience.

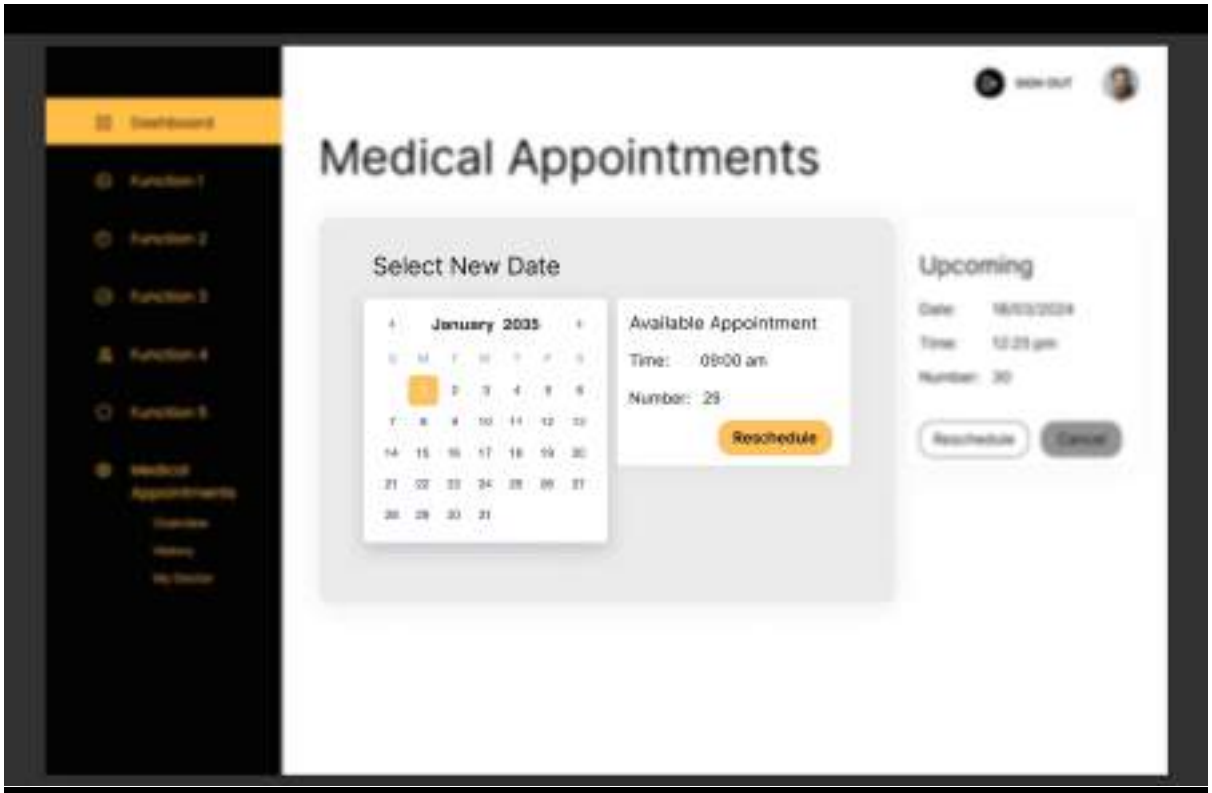
5. SweetAlert2:

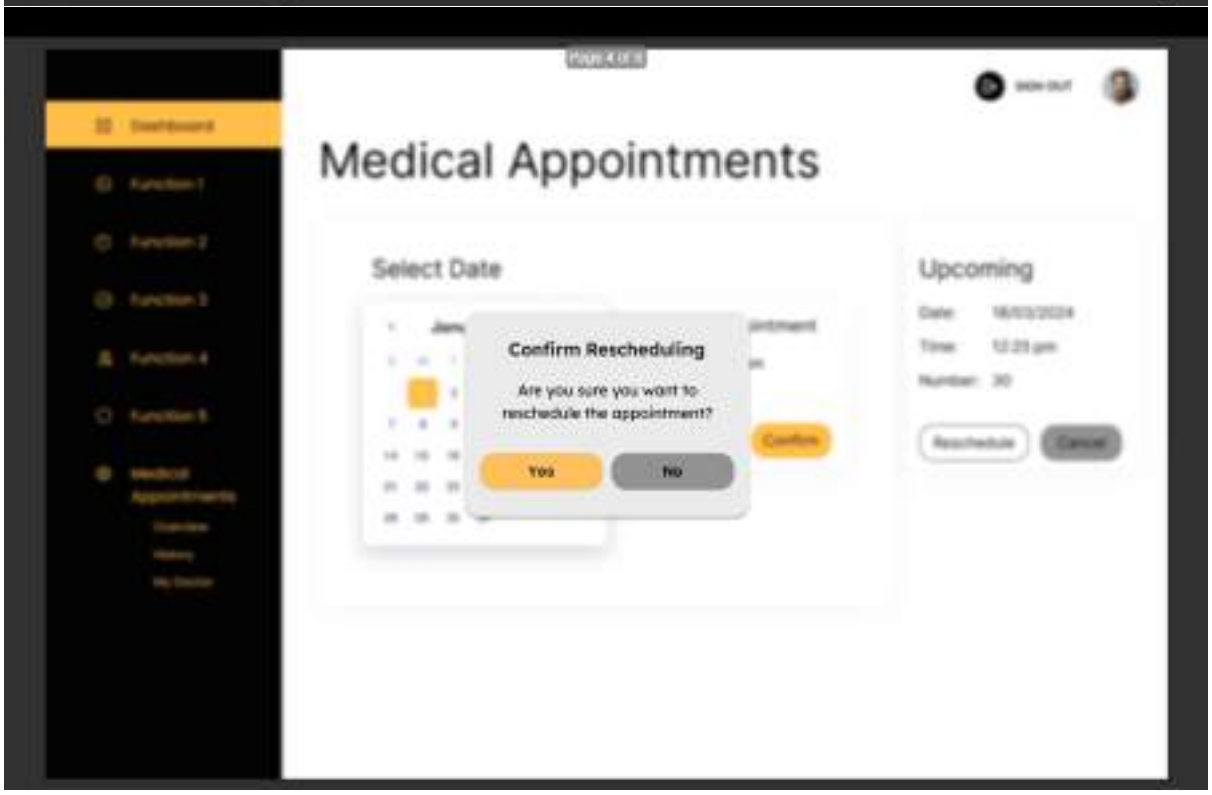
- Purpose: SweetAlert2 is a JavaScript library for creating customizable and beautiful alert, confirmation, and prompt dialogs.

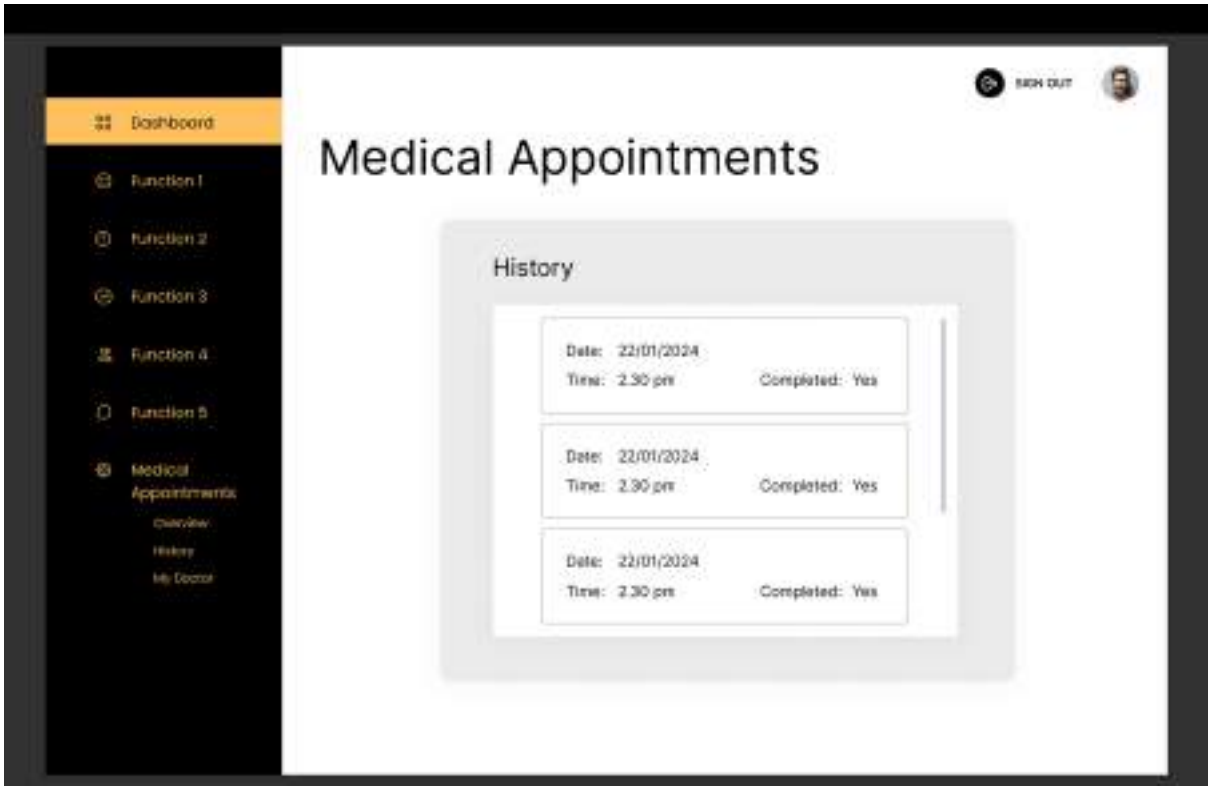
- Usage: SweetAlert2 can be used to display informative and visually appealing alerts or confirmation dialogs for purposes such as operation cancellations, notify users of successful operations, or display error messages.

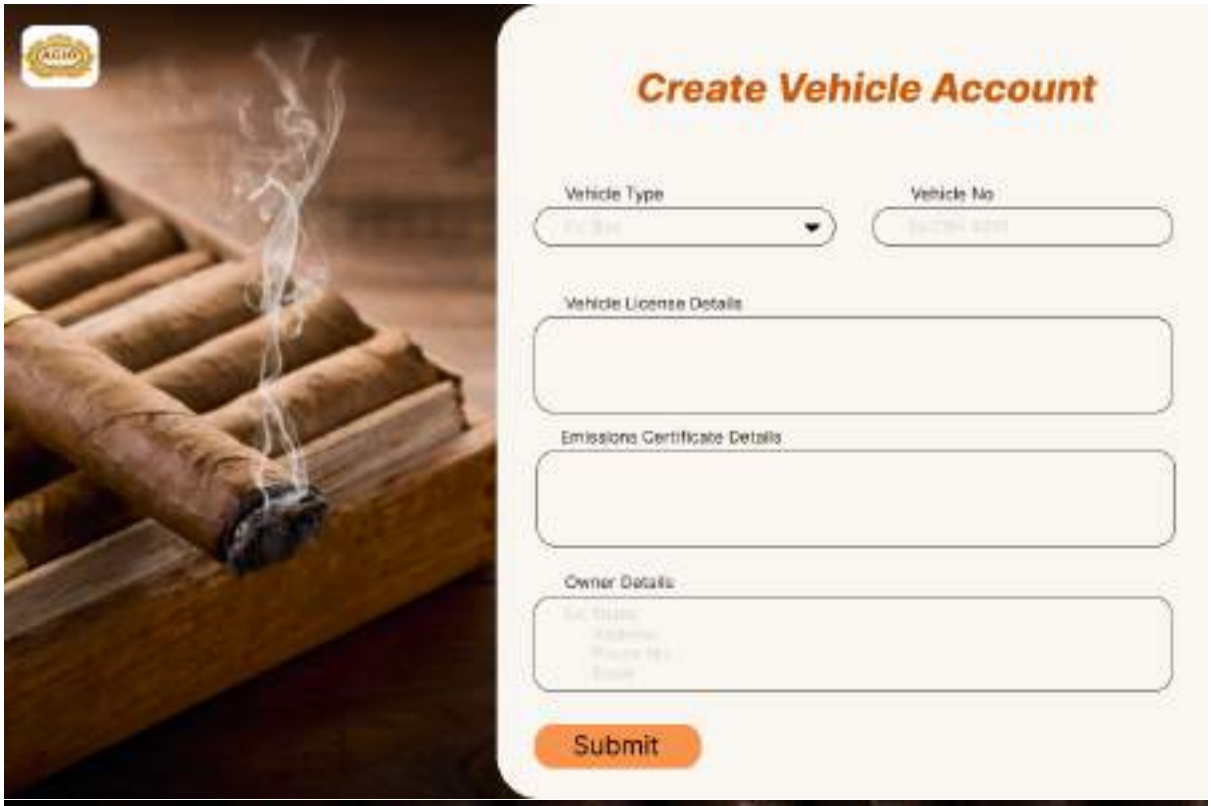
GUIs


Dashboard
Function 1
Function 2
Function 3
Function 4
Function 5
Medical Appointments
Overview
History
My Doctor
SIGN OUT
Medical Appointments
Select Date
January 2035
Available Appointment
Time: 11:00 am
Number: 29
Confirm
Upcoming
Date: 18/03/2024
Time: 12:25 pm
Number: 30
Reschedule
Cancel
Confirm Cancelation
Are you sure you want to cancel the upcoming appointment?
Yes
No

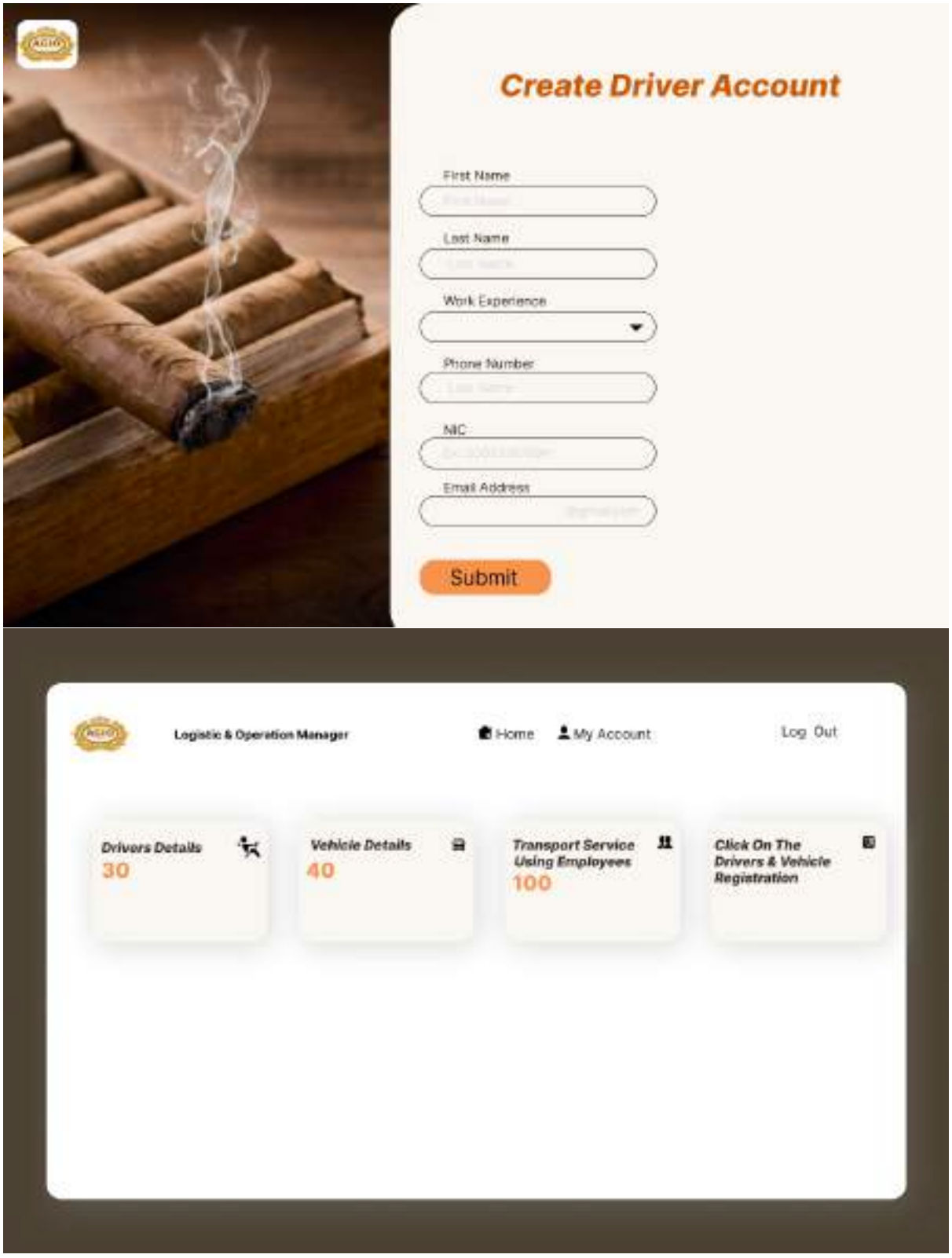

Medical Appointments
Select New Date
January 2035
Available Appointment
Time: 09:00 am
Number: 29
Reschedule
Upcoming


Medical Appointments
Select Date
Confirm Rescheduling
Are you sure you want to reschedule the appointment?
Yes
No
Upcoming

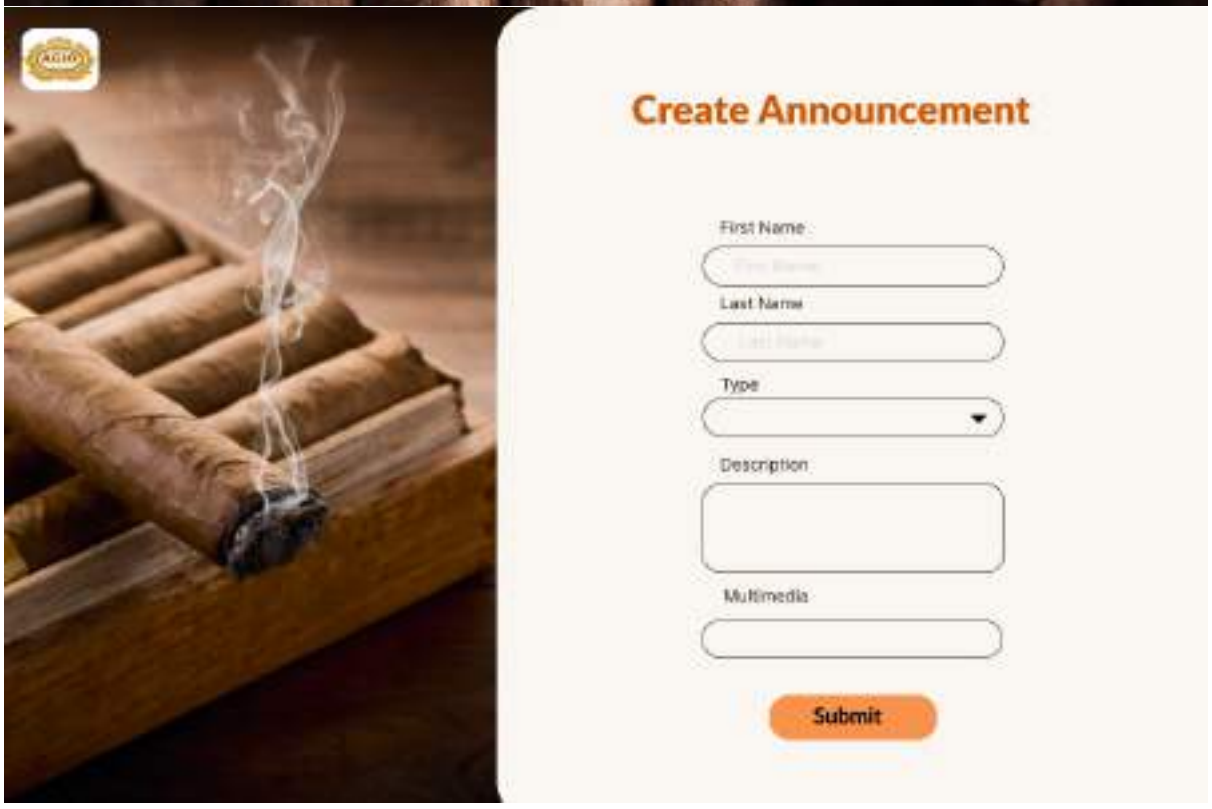

Dashboard
Function 1
Function 2
Function 3
Function 4
Function 5
Medical Appointments
SIGN OUT
Medical Appointments
History
Date: 22/01/2024
Time: 2.30 pm
Completed: Yes
Date: 22/01/2024
Time: 2.30 pm
Completed: Yes
Date: 22/01/2024
Time: 2.30 pm
Completed: Yes

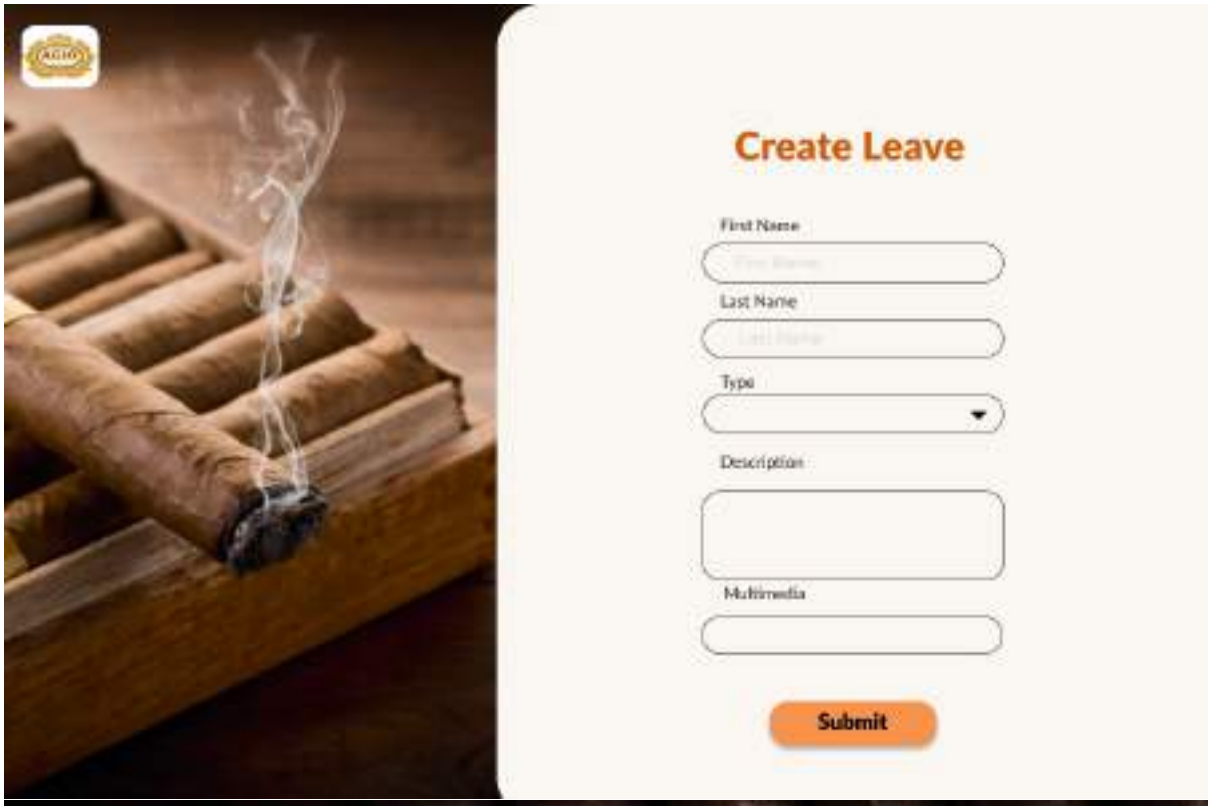

Create Vehicle Account
Vehicle Type
Vehicle No
Vehicle License Details
Emissions Certificate Details
Owner Details
Submit

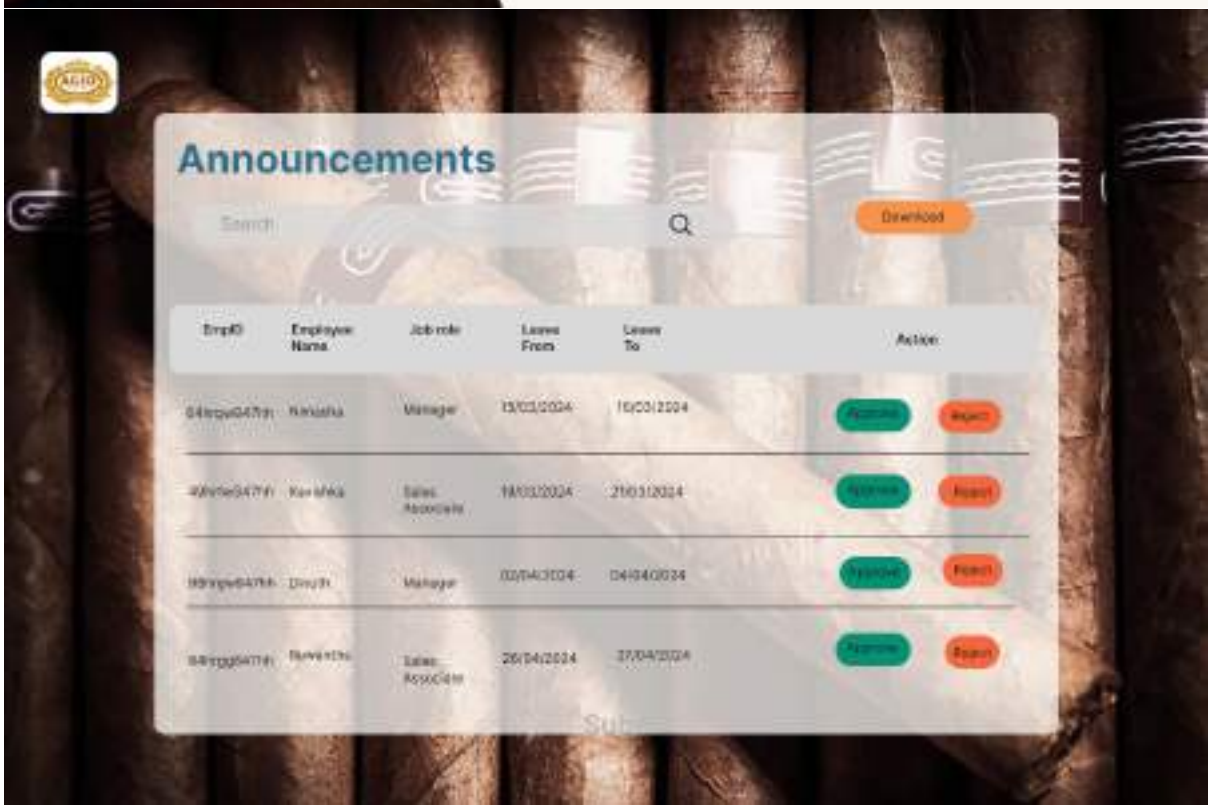
Select Registration Type
Driver Registration
Vehicle Registration


Create Driver Account
First Name
Last Name
Work Experience
Phone Number
NIC
Email Address
Submit
Logistic & Operation Manager
Home
My Account
Log Out
Drivers Details
30
Vehicle Details
40
Transport Service Using Employees
100
Click On The Drivers & Vehicle Registration

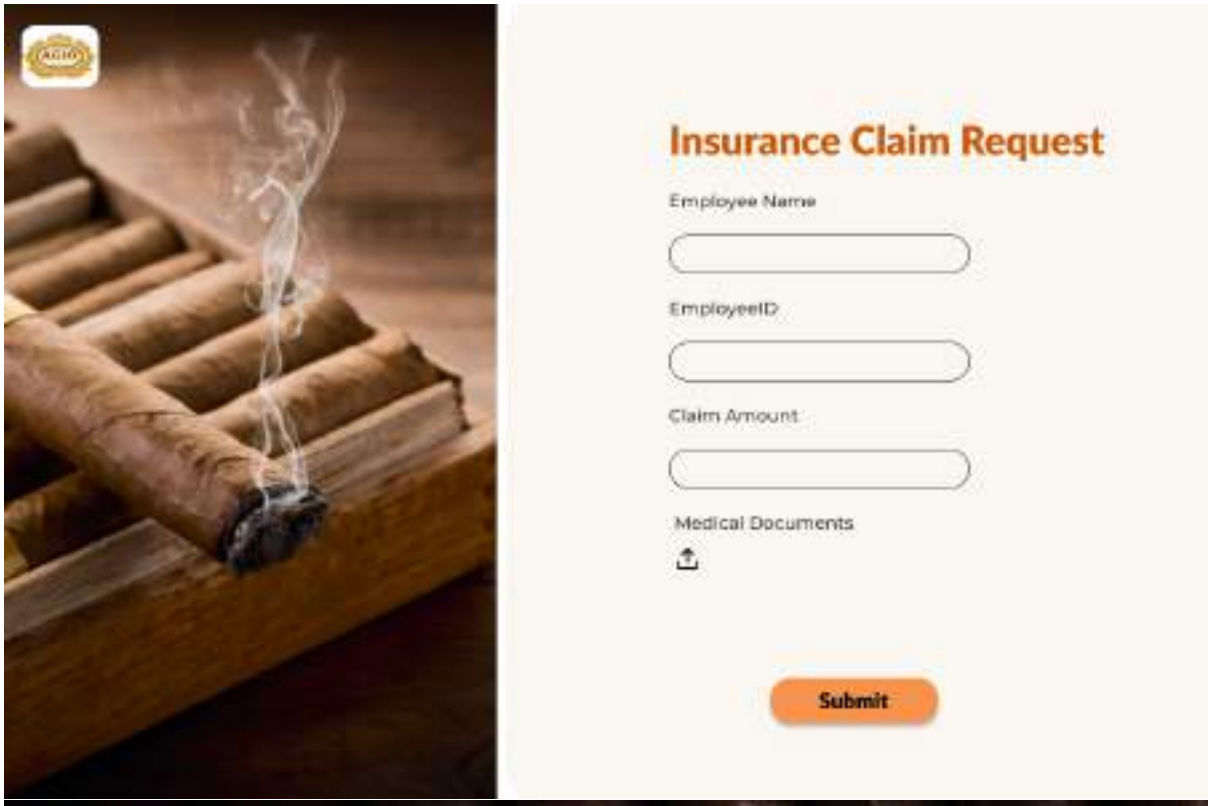
Announcement Management
Leave Management

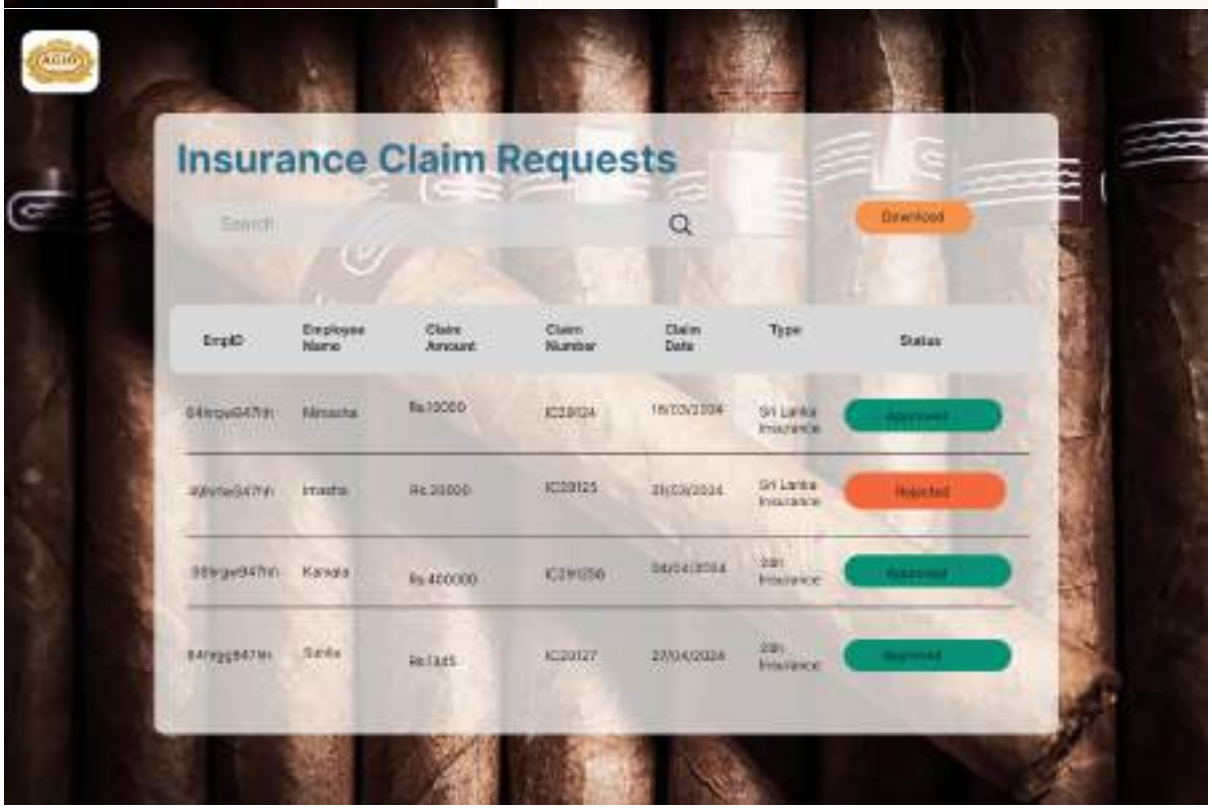

Create Announcement
First Name
Last Name
Type
Description
Multimedia
Submit


Create Leave
First Name
Last Name
Type
Description
Multimedia
Submit


Announcements
Search
Download
EmpID
Employee Name
Job role
Leave From
Leave To
Action
Manager
Sales Associate
Approve
Reject

Employee Leave
Search
Download
EmpID
Employee Name
Job role
Leaves From
Leaves To
Action
Manager
15/03/2024
16/03/2024
Sales Associate
18/03/2024
21/03/2024
Manager
02/04/2024
04/04/2024
Sales Associate
26/04/2024
27/04/2024

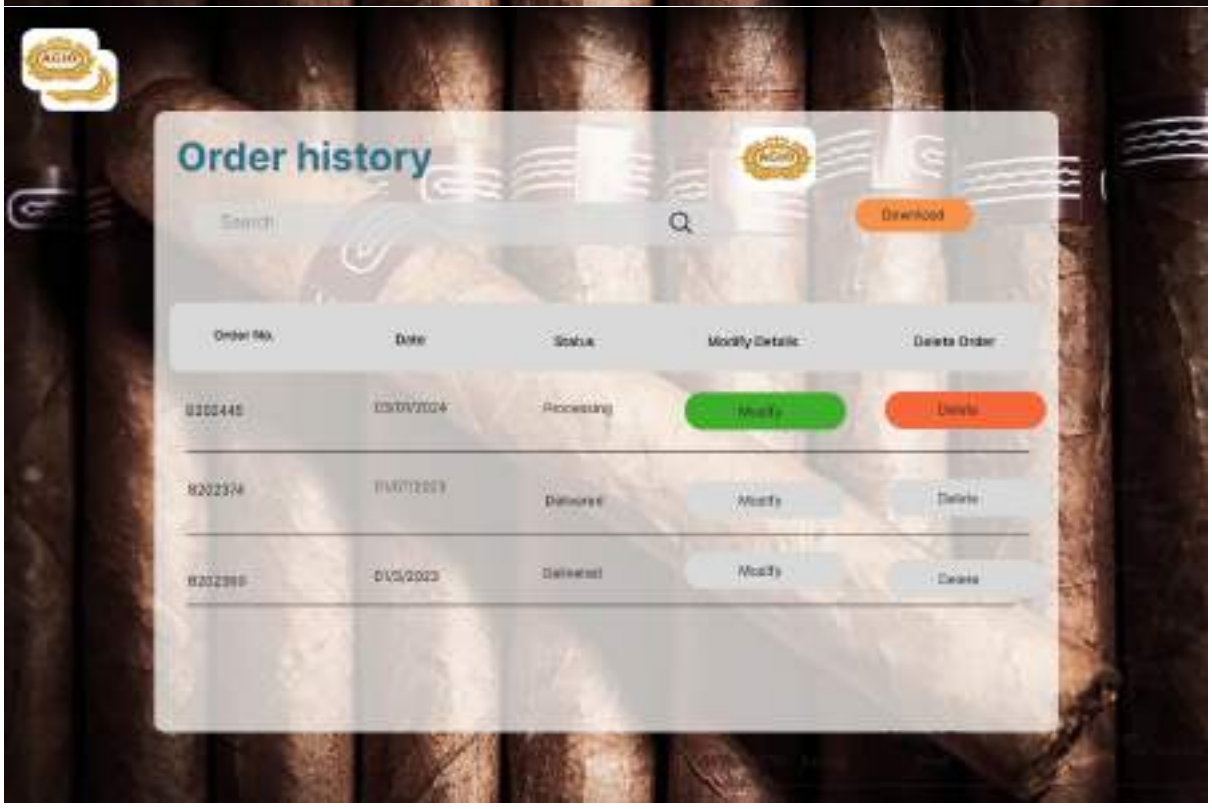

Insurance Claim Request
Employee Name
EmployeeID
Claim Amount
Medical Documents
Submit


Insurance Claim Requests
Search
Download
EmpID
Employee Name
Claim Amount
Claim Number
Claim Date
Type
Status

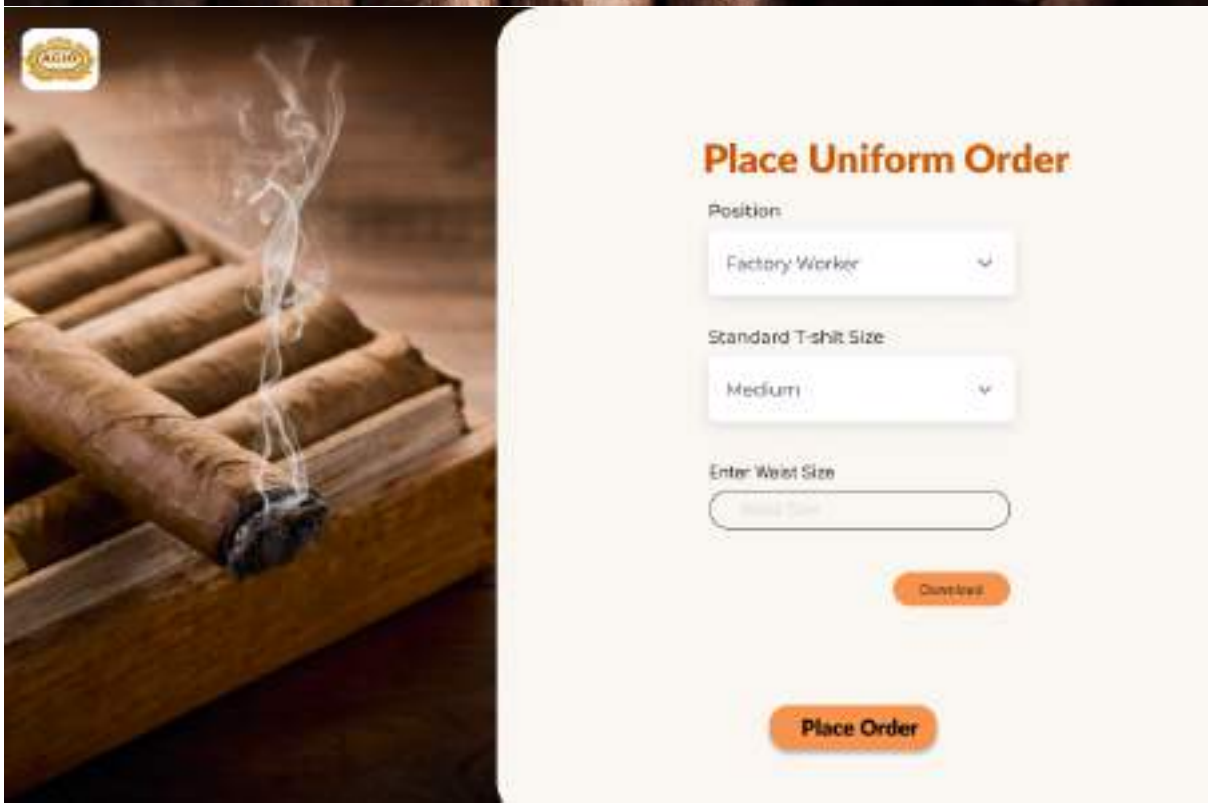
Insurance Claim History
Download
Claim Number
Date
Status
Modify Details
Delete Request
Processing
Modify
Delete
Completed
Modify
Delete
Completed
Modify
Delete

Sri Lanka Insurance
24-h Insurance

Uniform Management
Insurance Management


Order history
Search
Download
Order No.
Date
Status
Modify Details
Delete Order
Processing
Modify
Delete
Delivered
Modify
Delete
Delivered
Modify
Delete

Uniform Orders
Search
Download
Emp ID
Employee Name
T-shirt Size
Waist Size
Order Date
Status


Place Uniform Order
Position
Factory Worker
Standard T-shit Size
Medium
Enter Waist Size
Place Order

Enter Performance Records

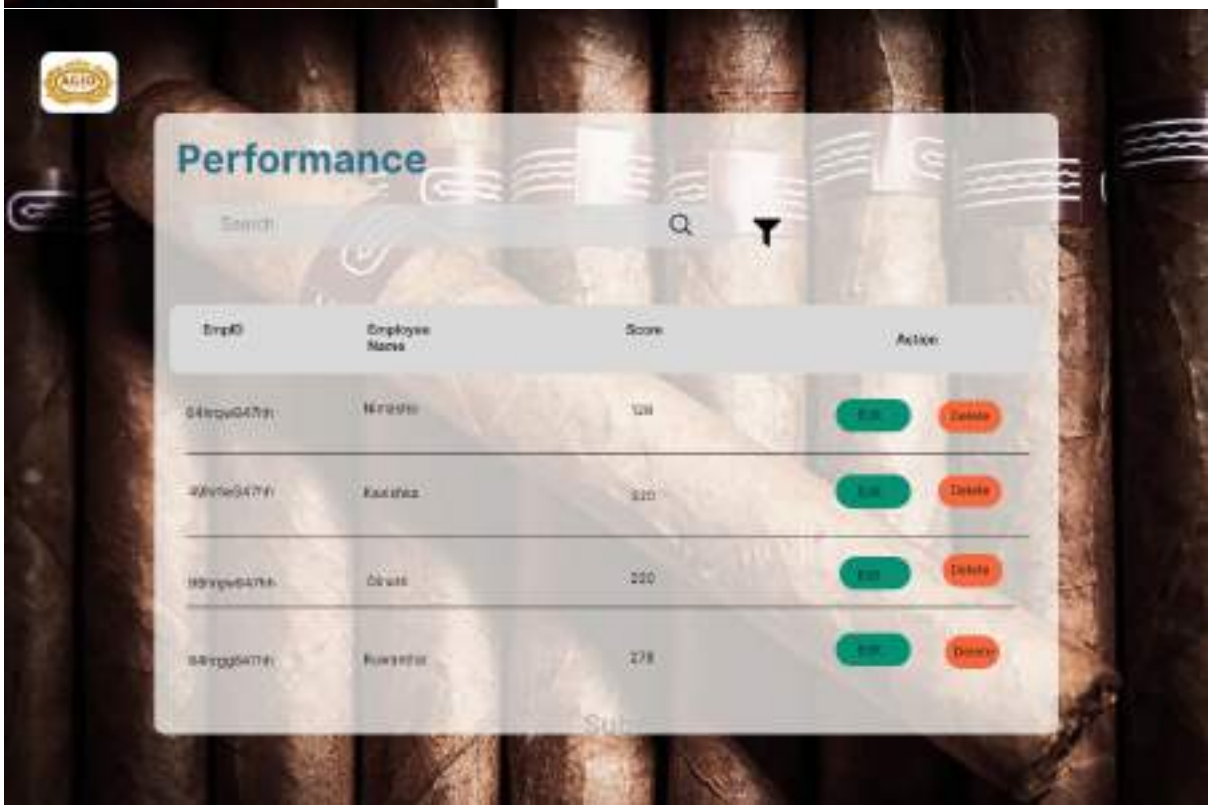
Employee Id

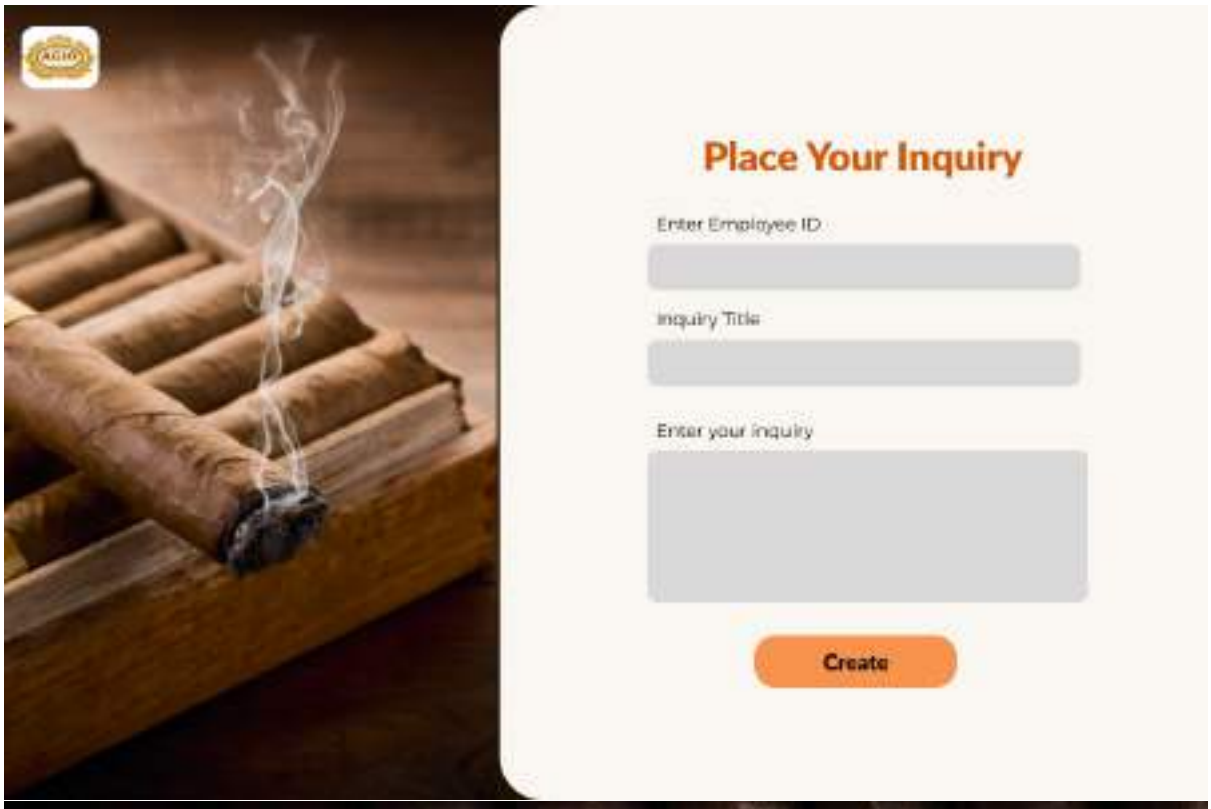
Amount of Cuts

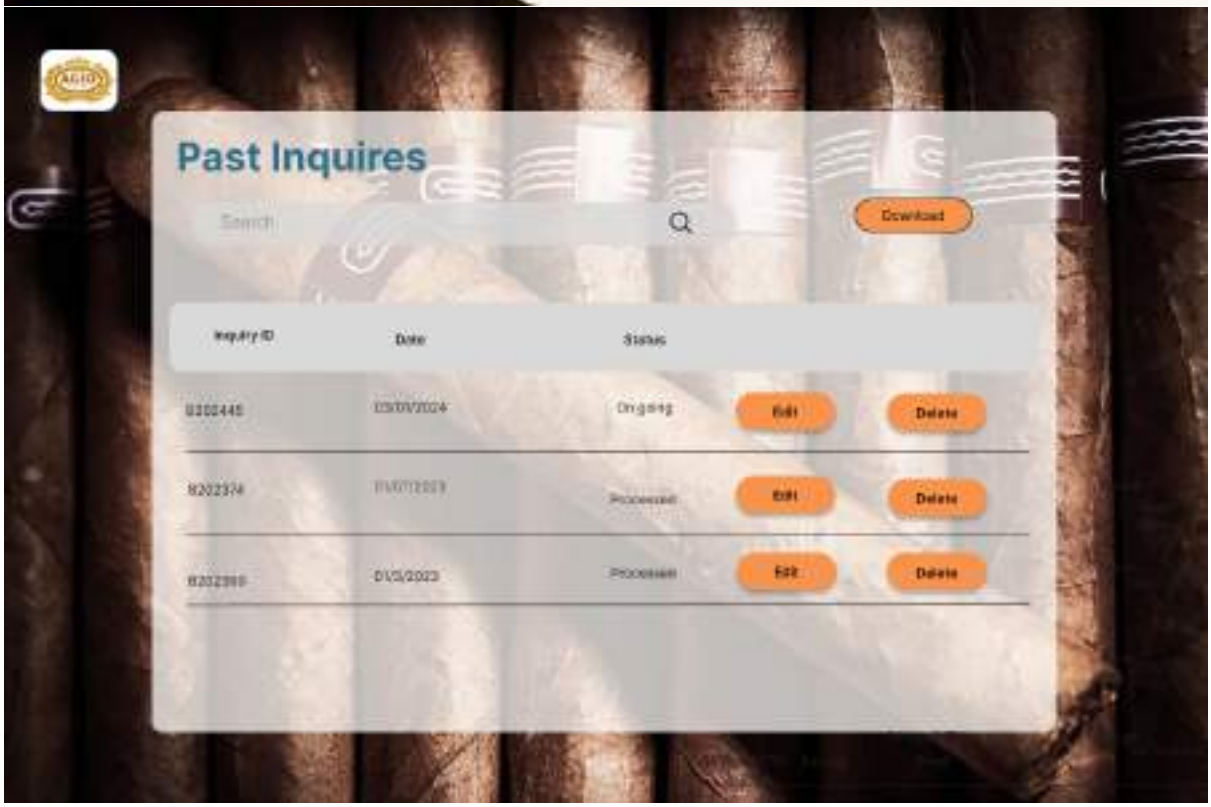
Grade	Amount
A	
B	
C	
D	

Date 2024-03-14

Submit

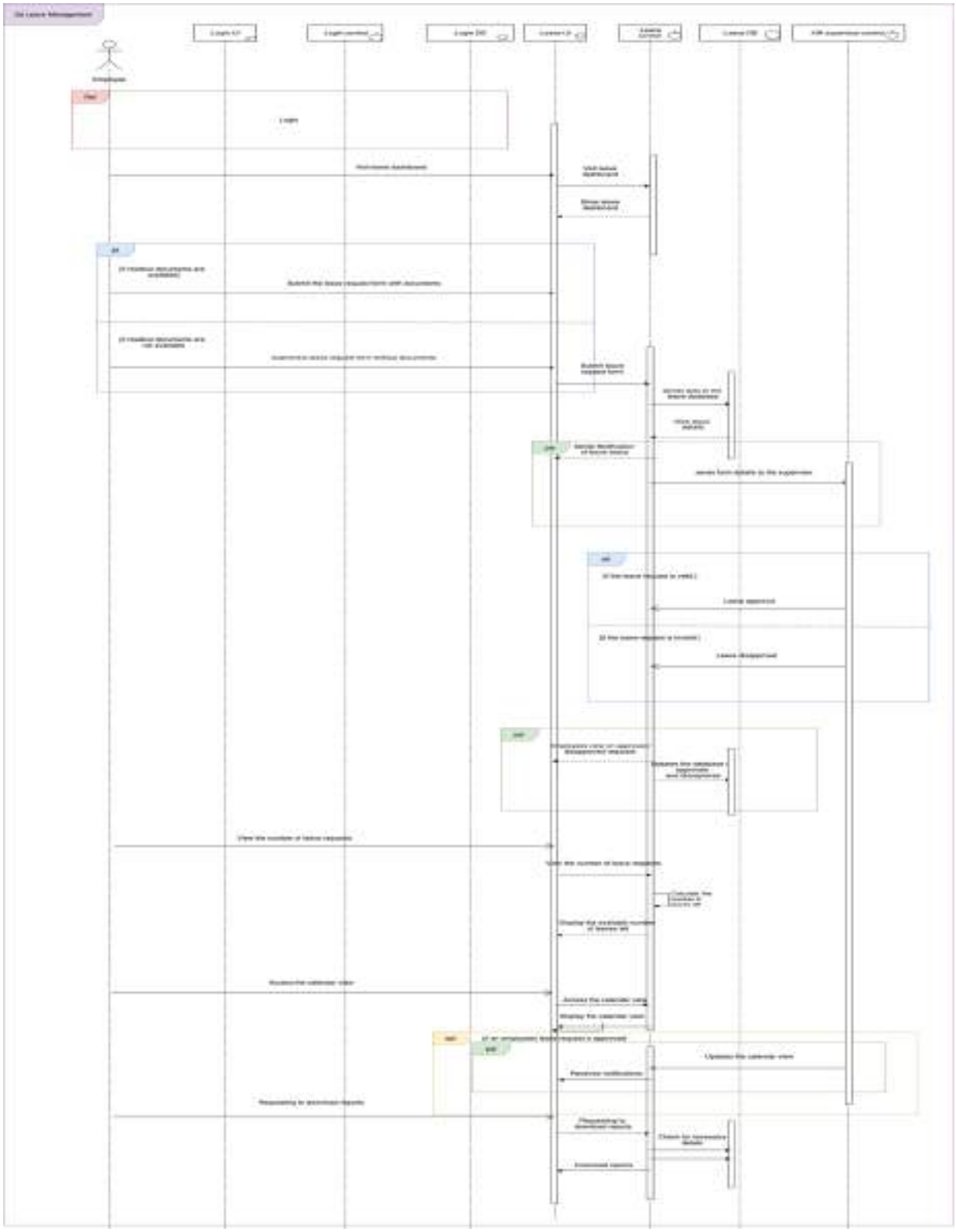



Place Your Inquiry
Enter Employee ID
Inquiry Title
Enter your inquiry
Create

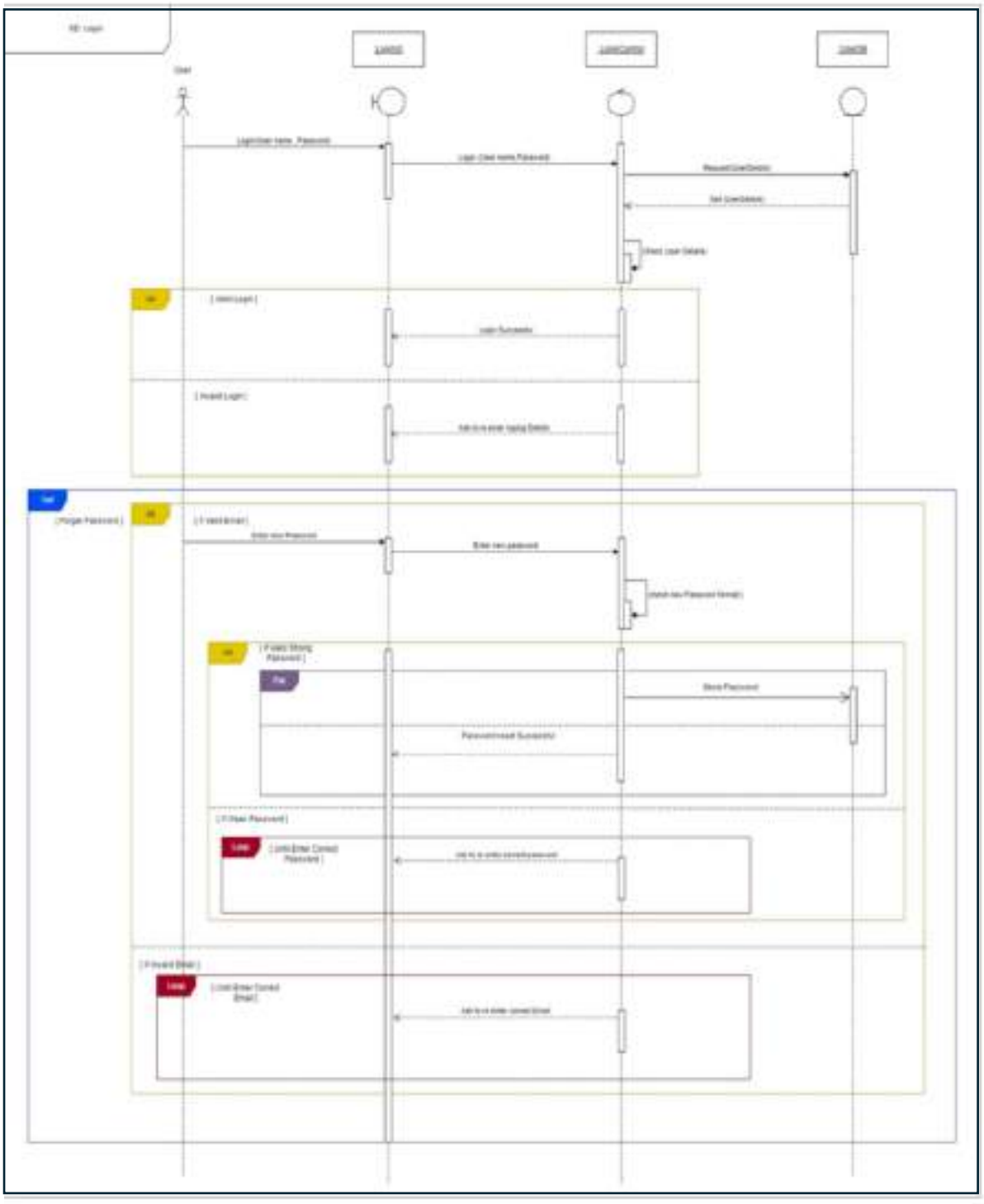

Past Inquires
Search
Download
Inquiry ID
Date
Status
Edit
Delete
Edit
Delete
Edit
Delete

Sequence Diagrams

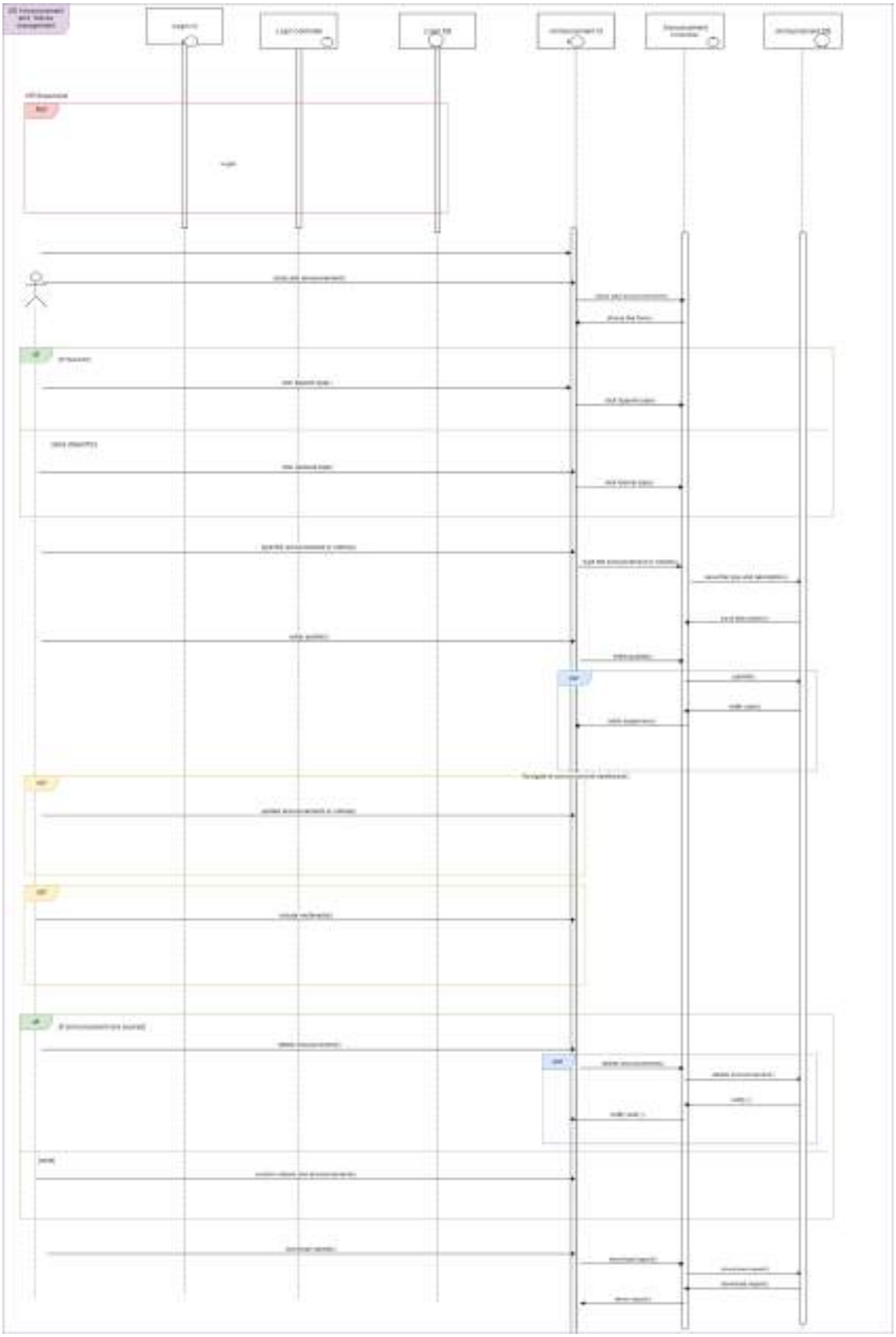
Leave Management



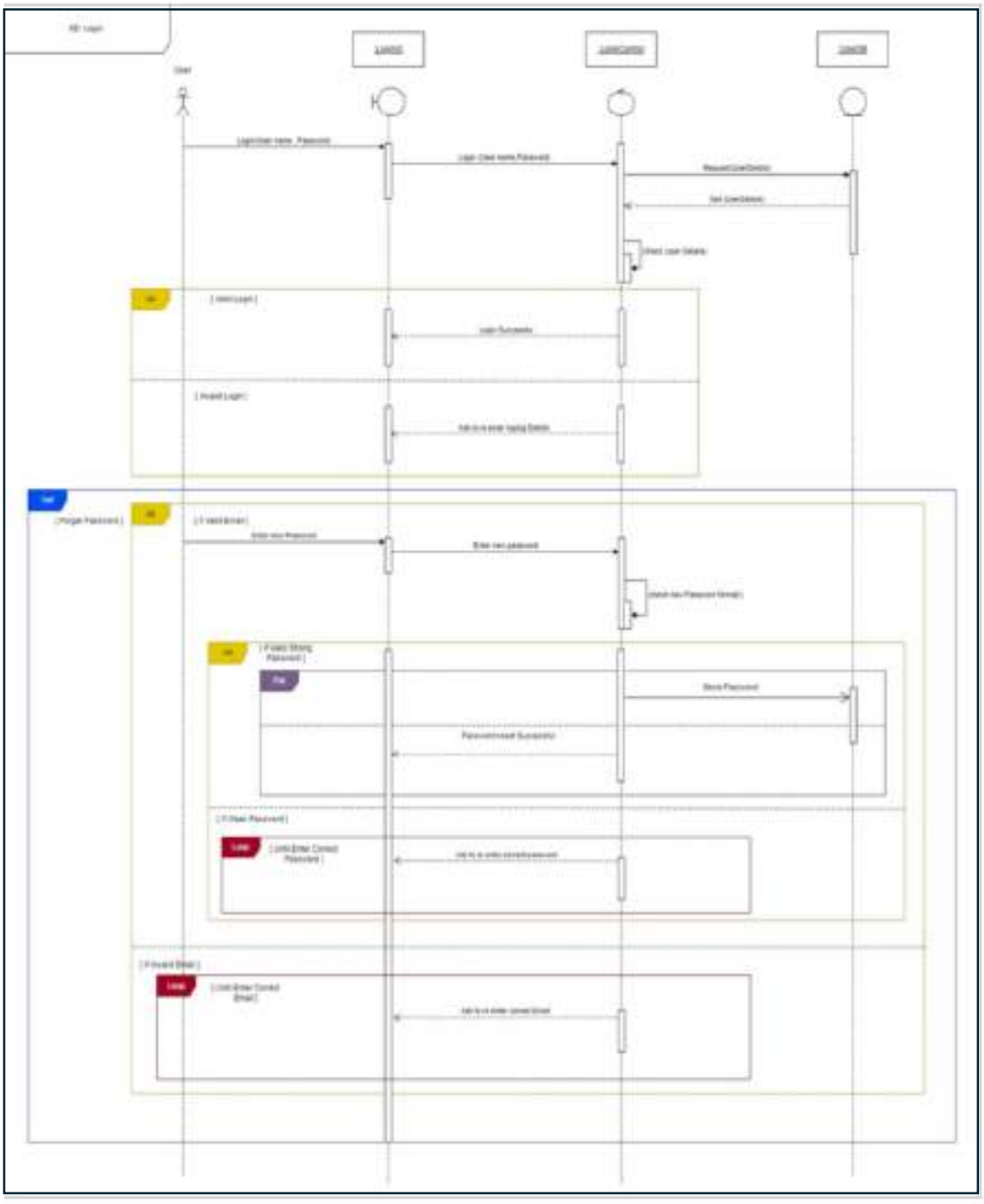
Login



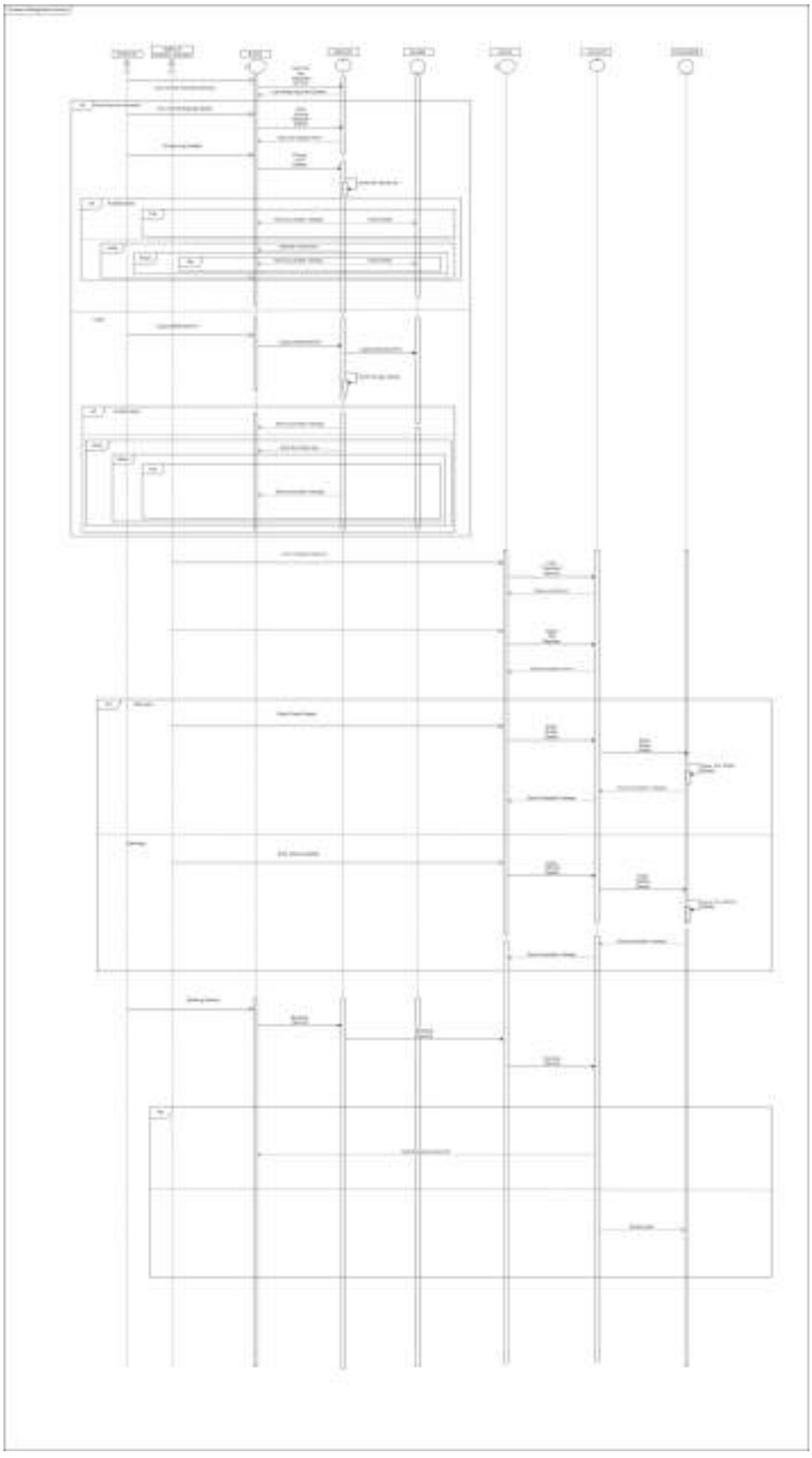
Announcement and Notices Management



Login

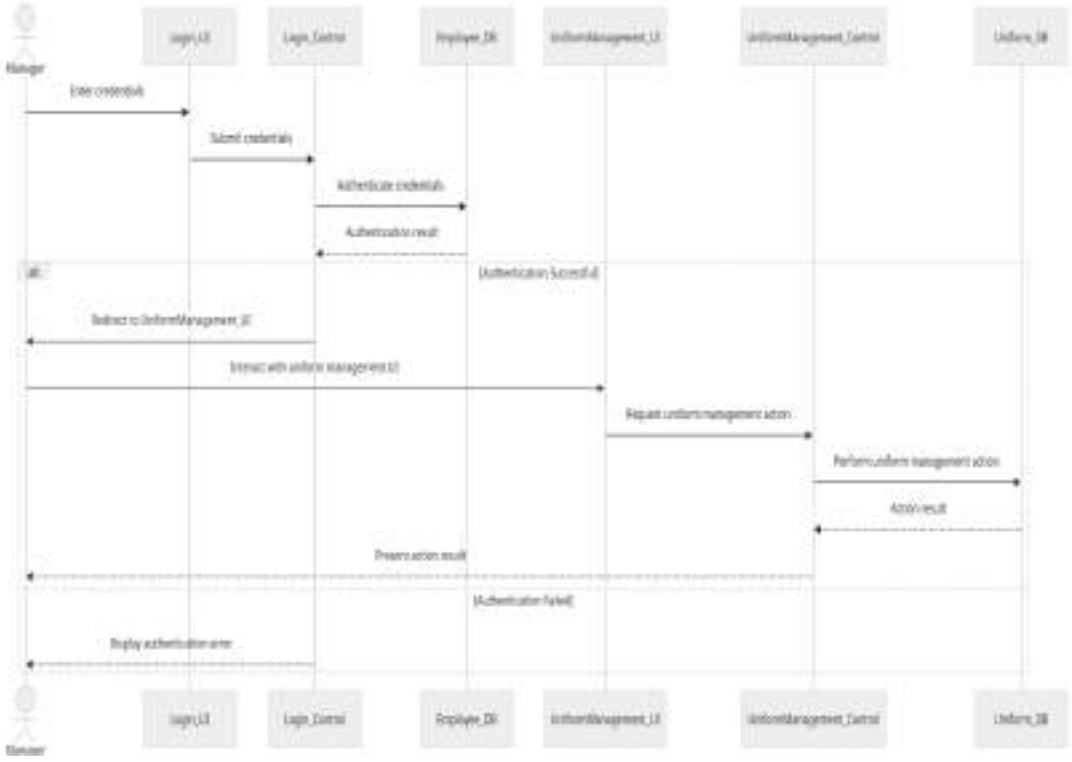


Tranport Management System

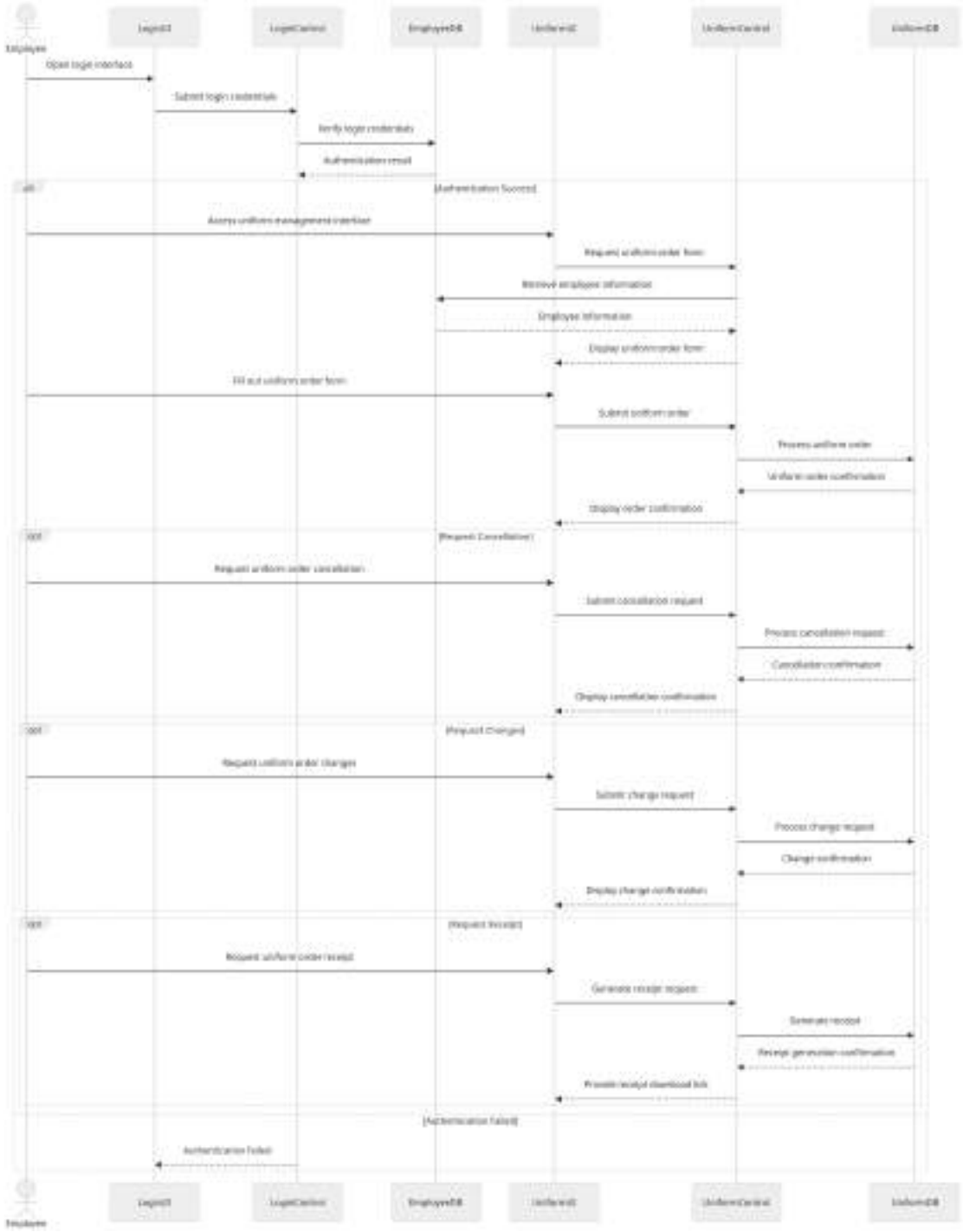


Uniform Management System

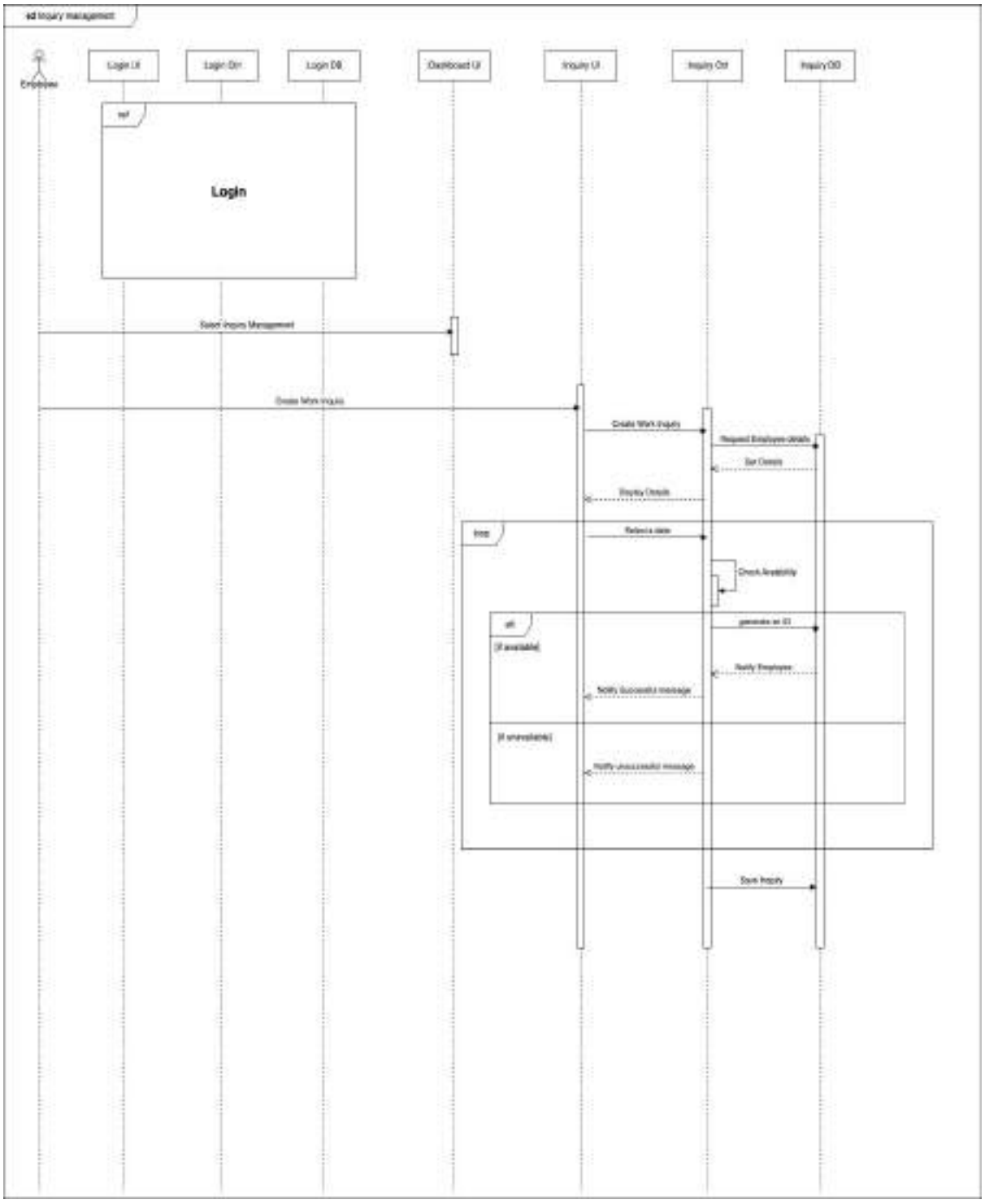
Manager



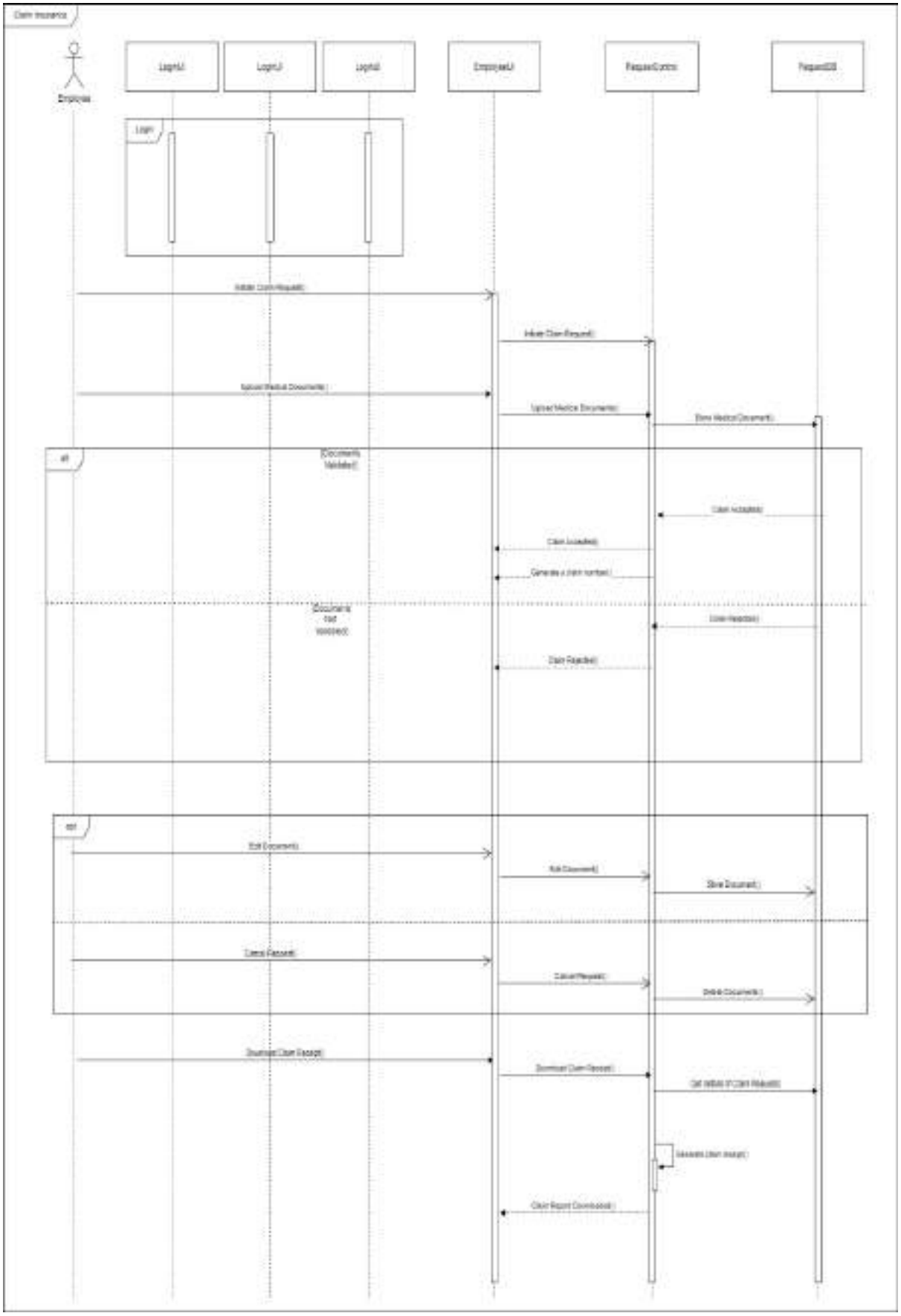
Employee



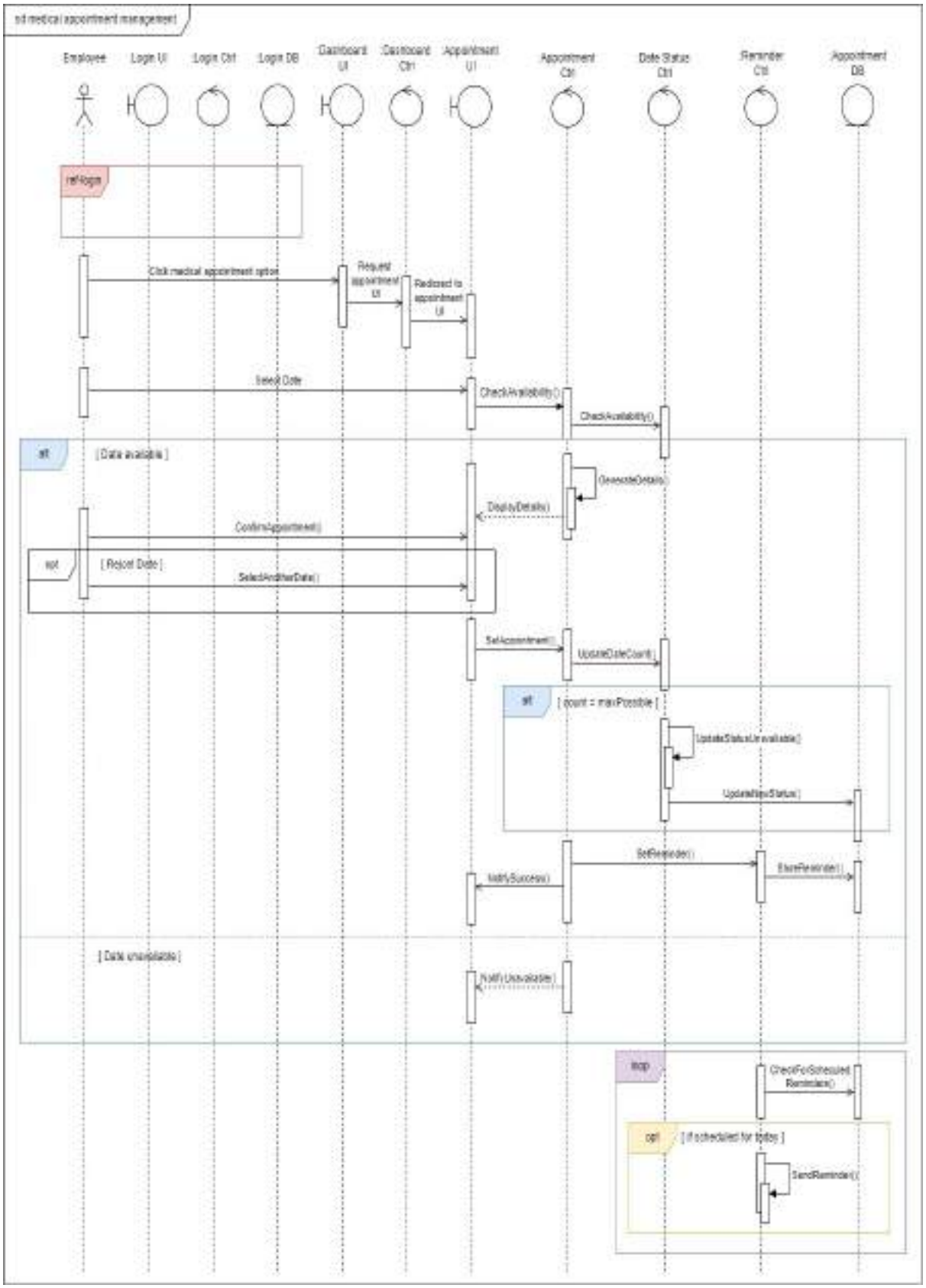
Inquiry Management



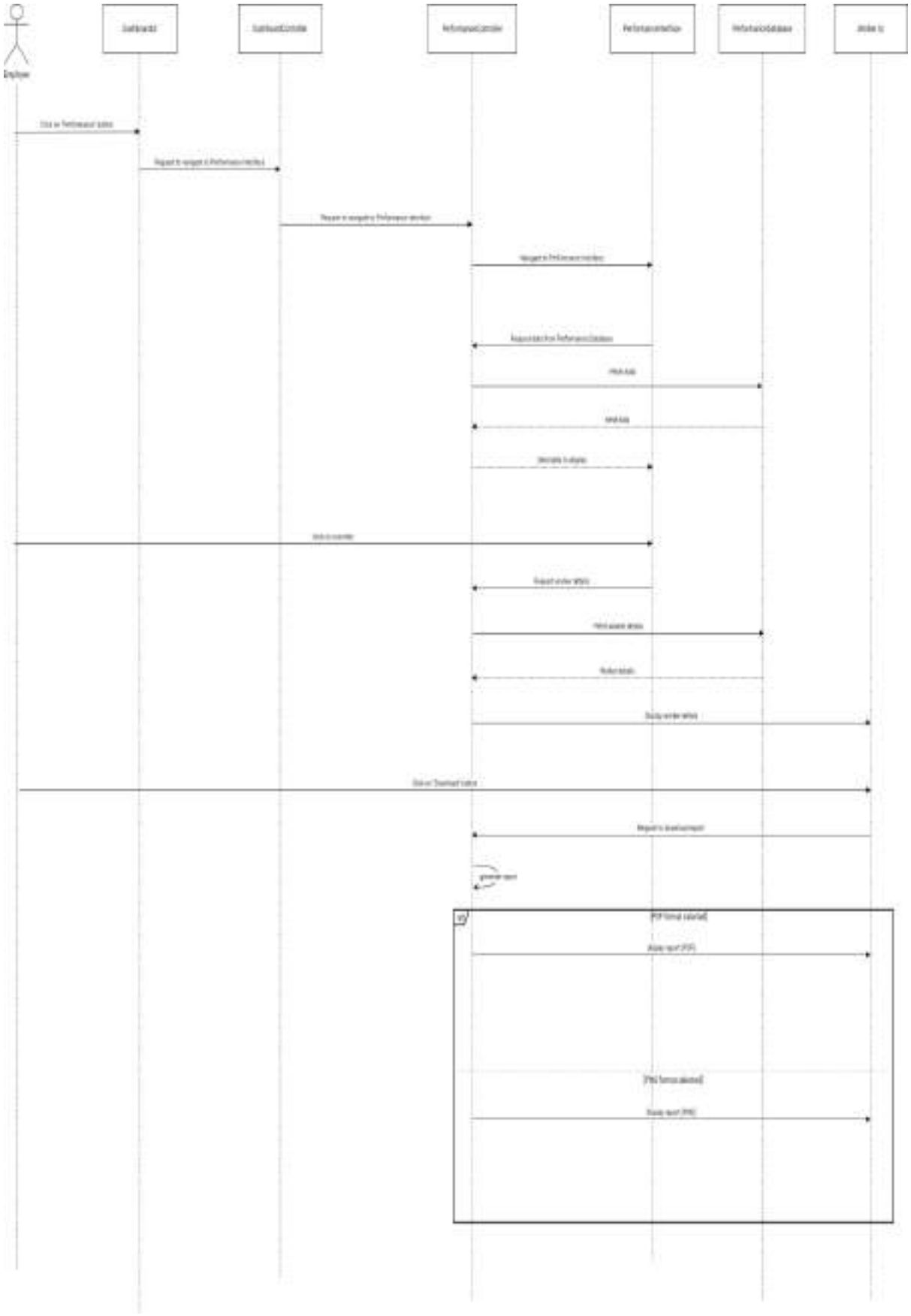
Insuarance Management



Medical Appointments Management

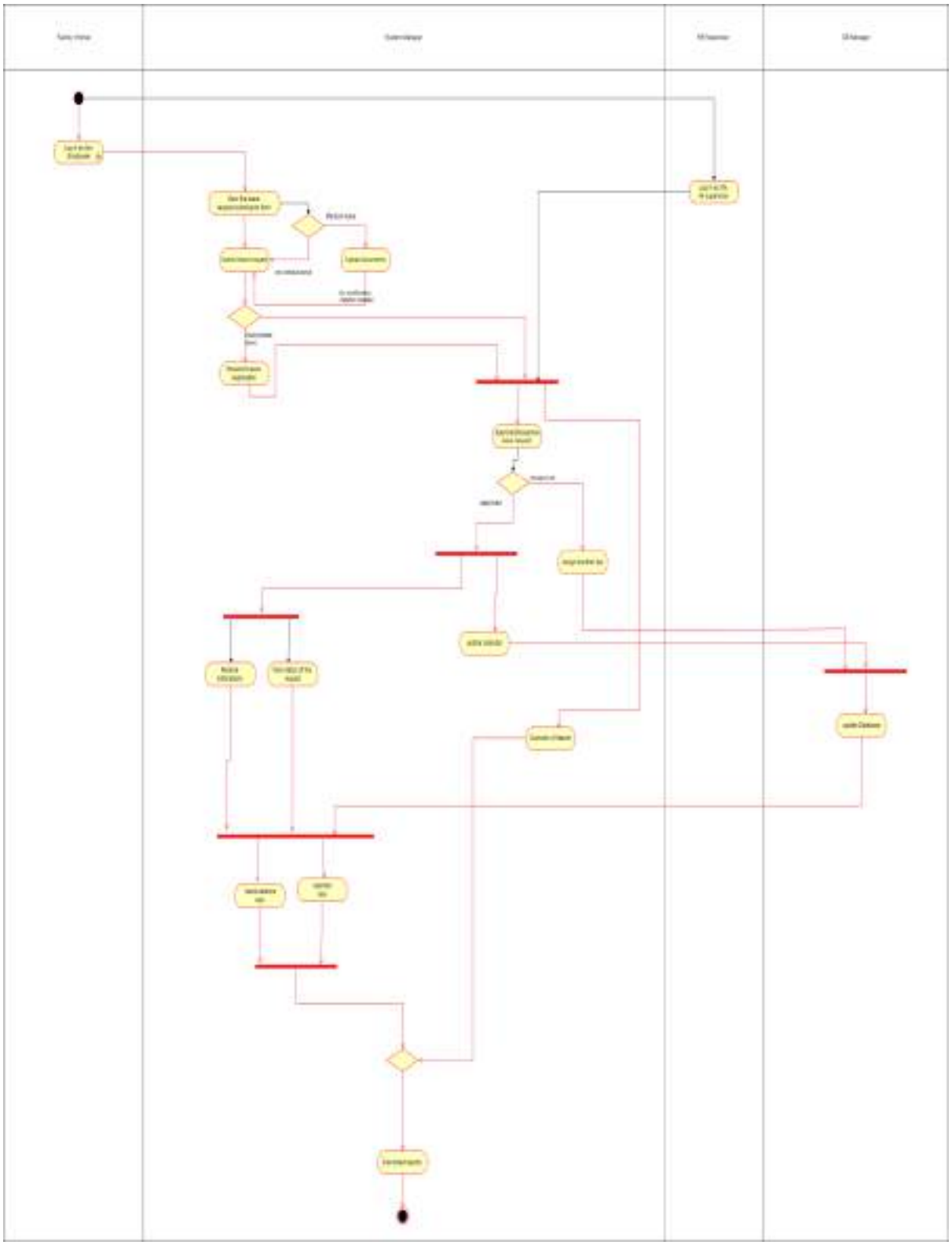


Performance management

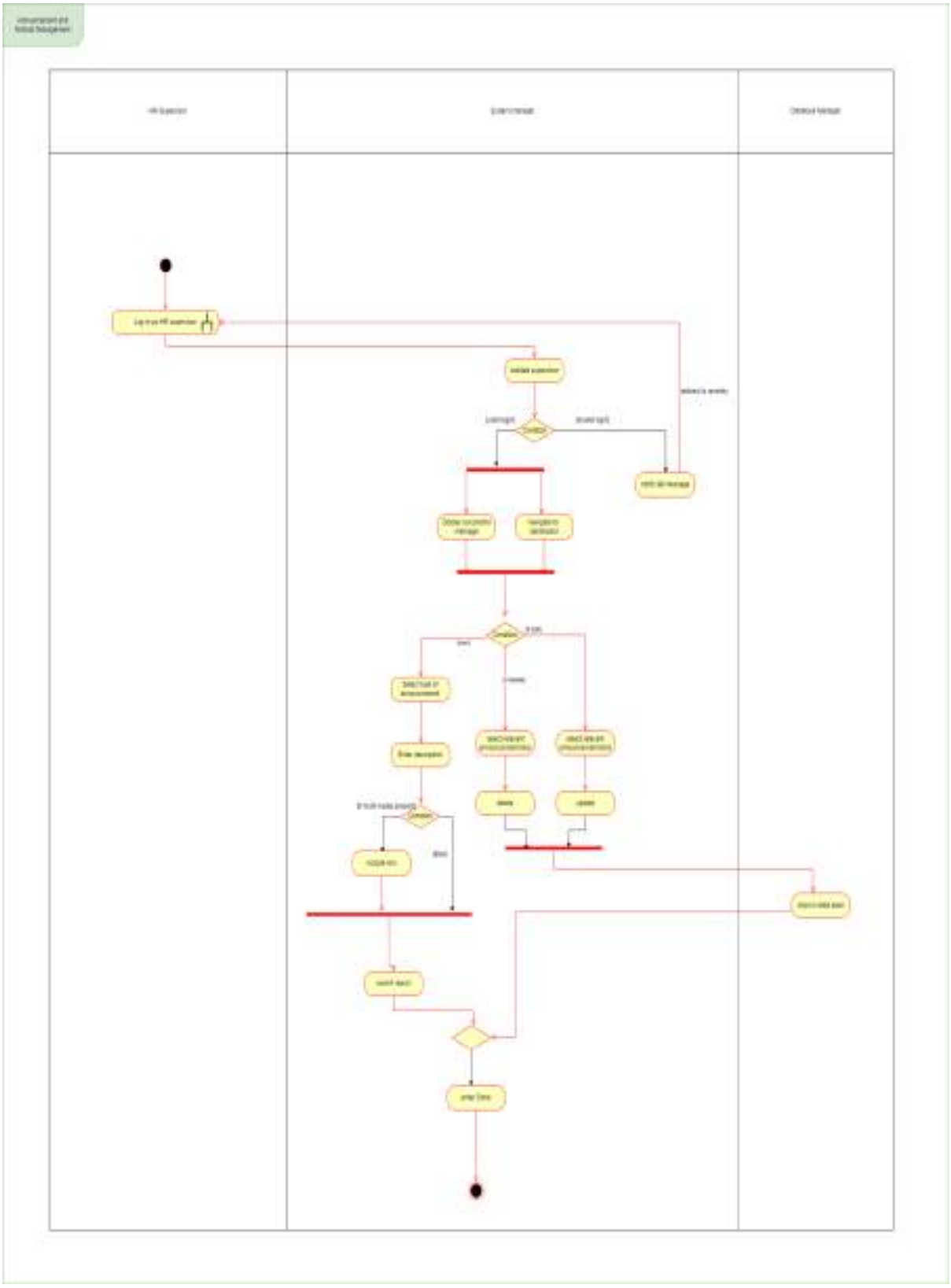


Activity Diagrams

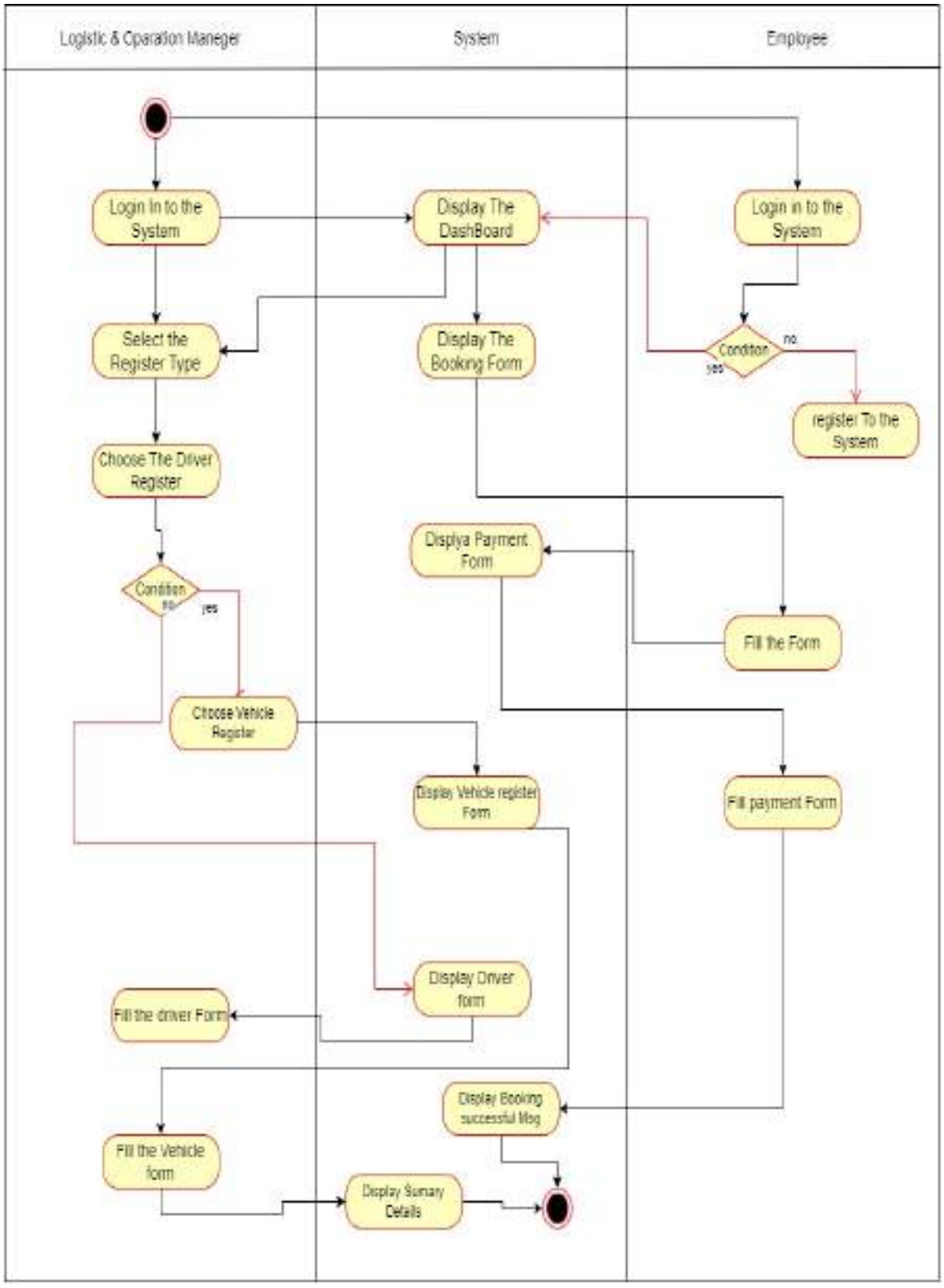
Leave Management



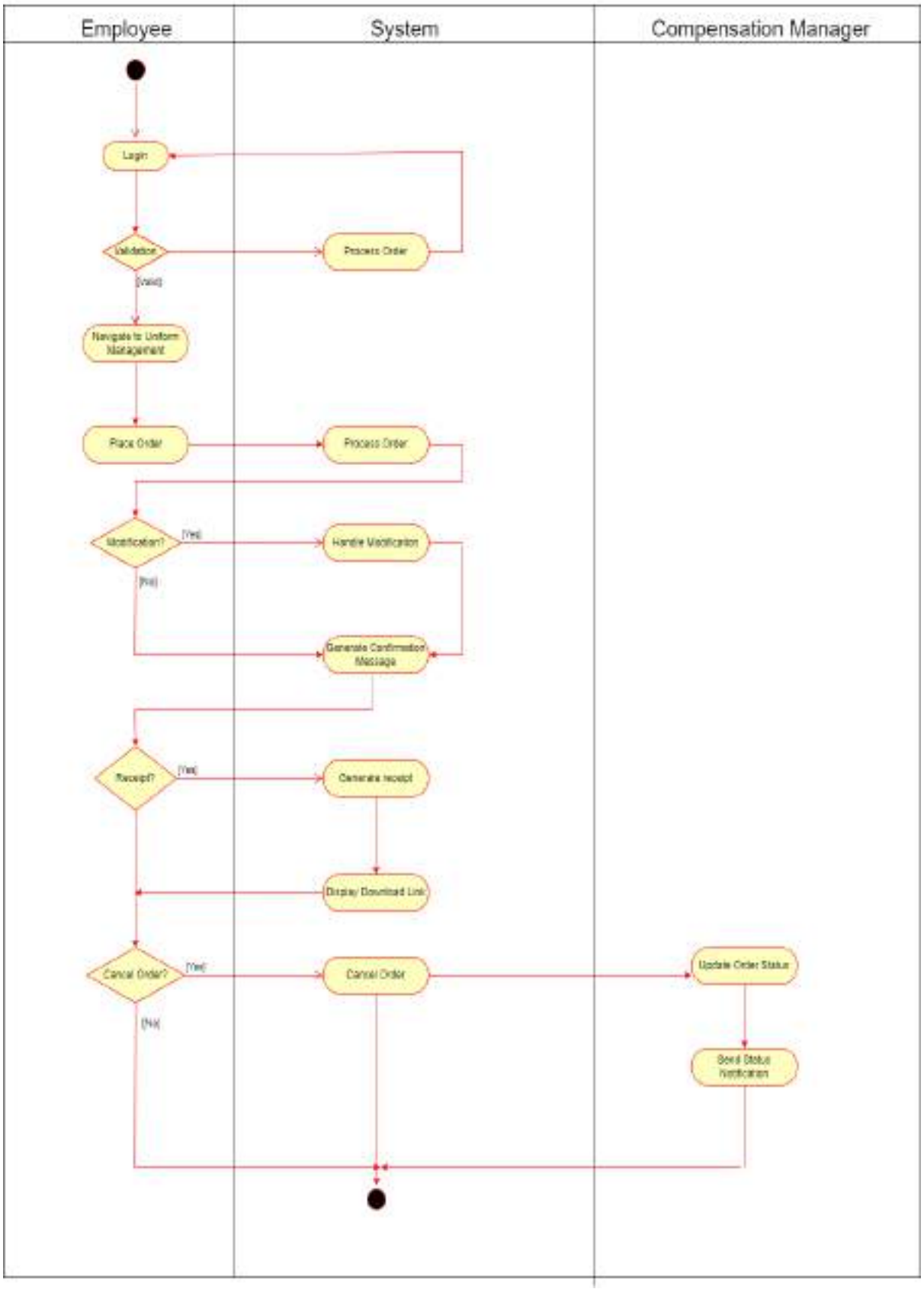
Announcements and notices Management



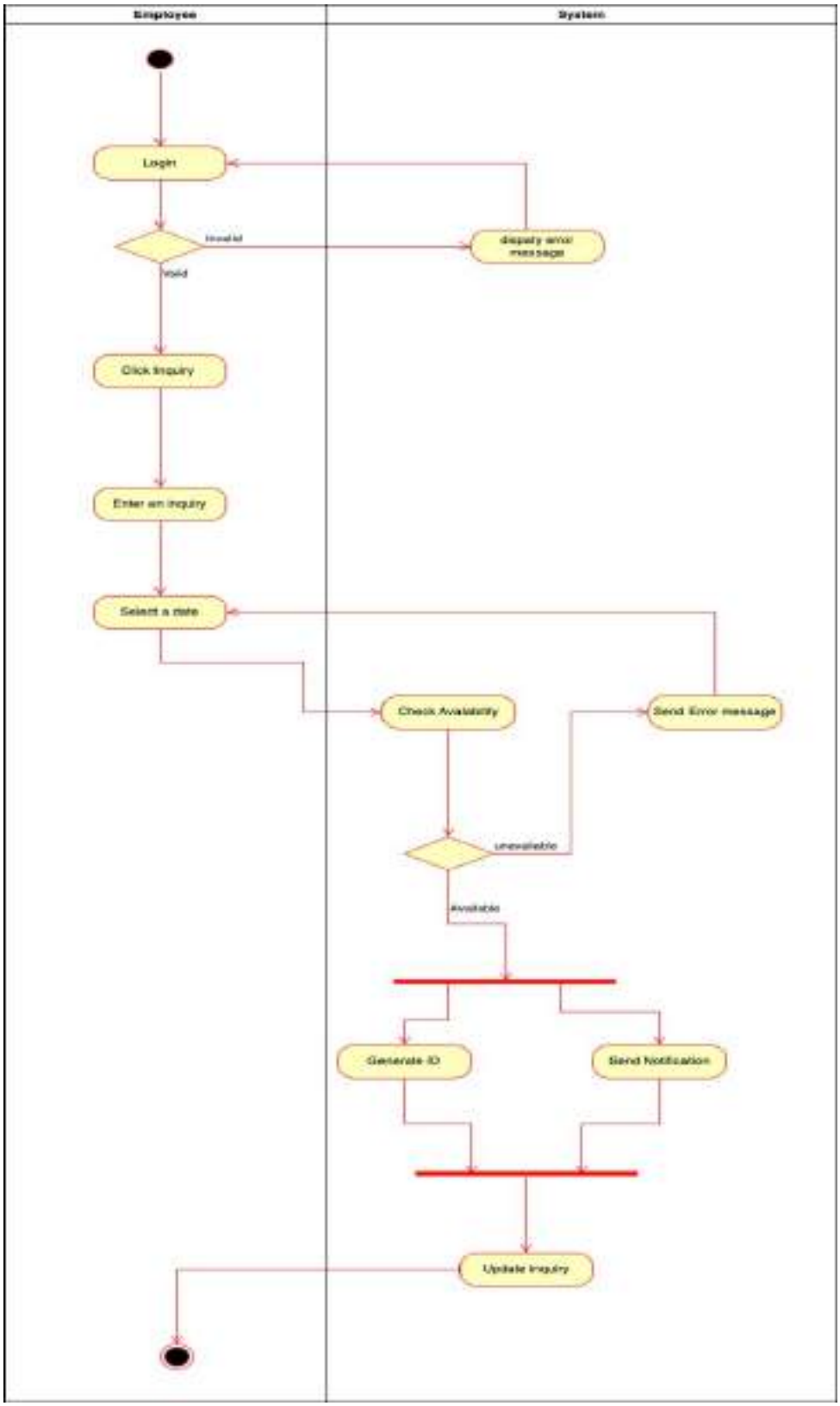
Transport Management



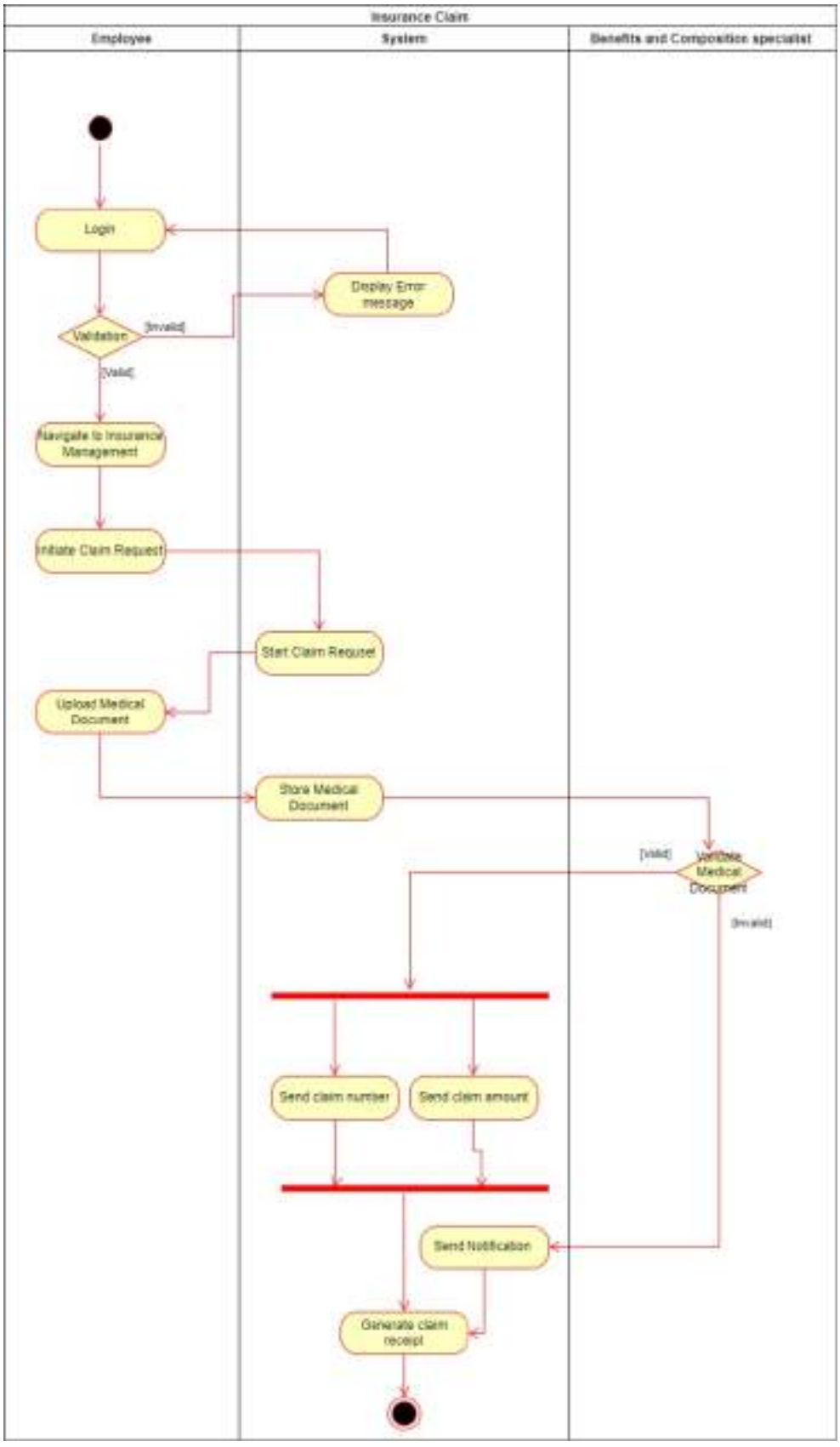
Uniform Management



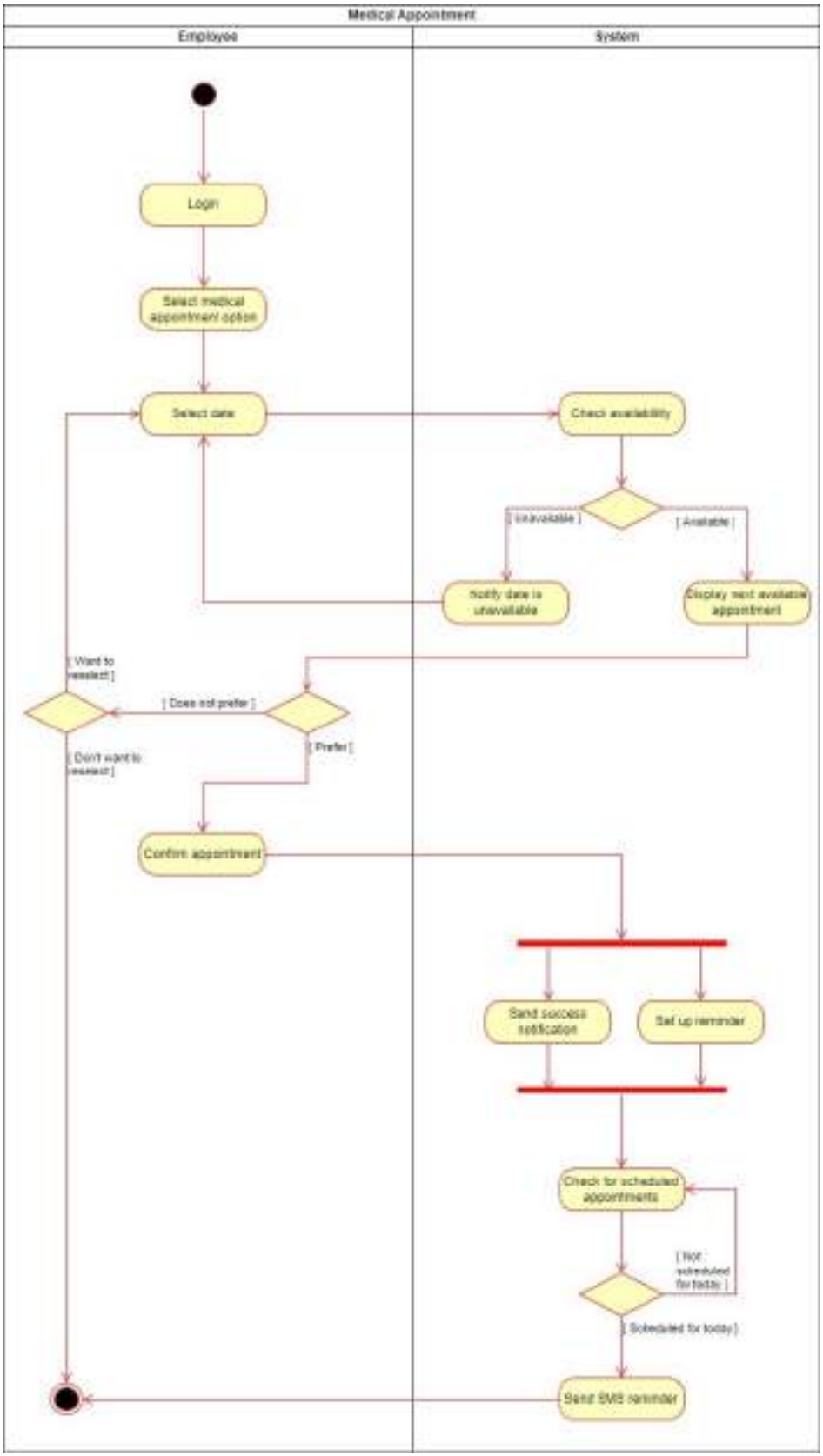
Inquiry Management



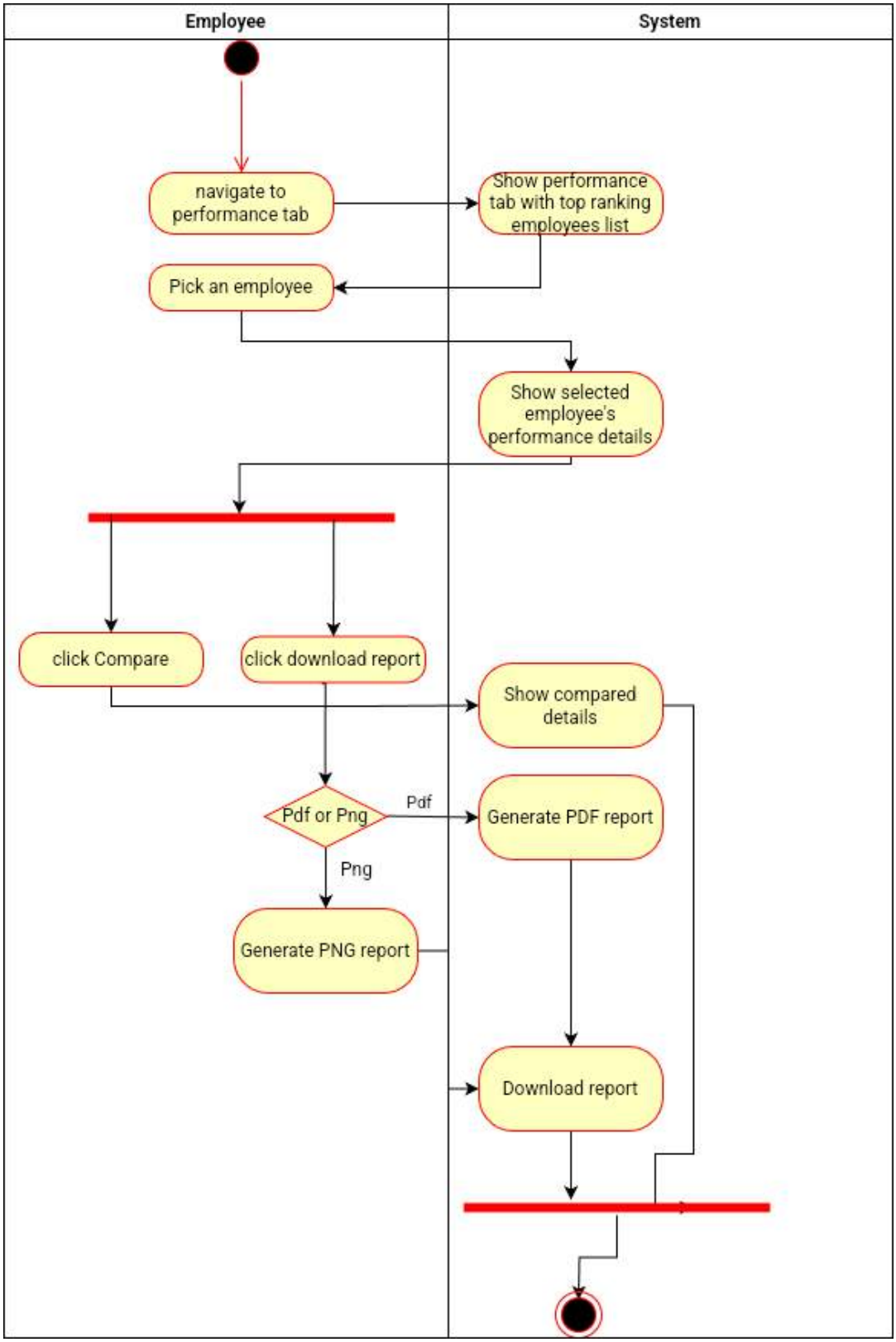
Insuarance management



Medical Appointments

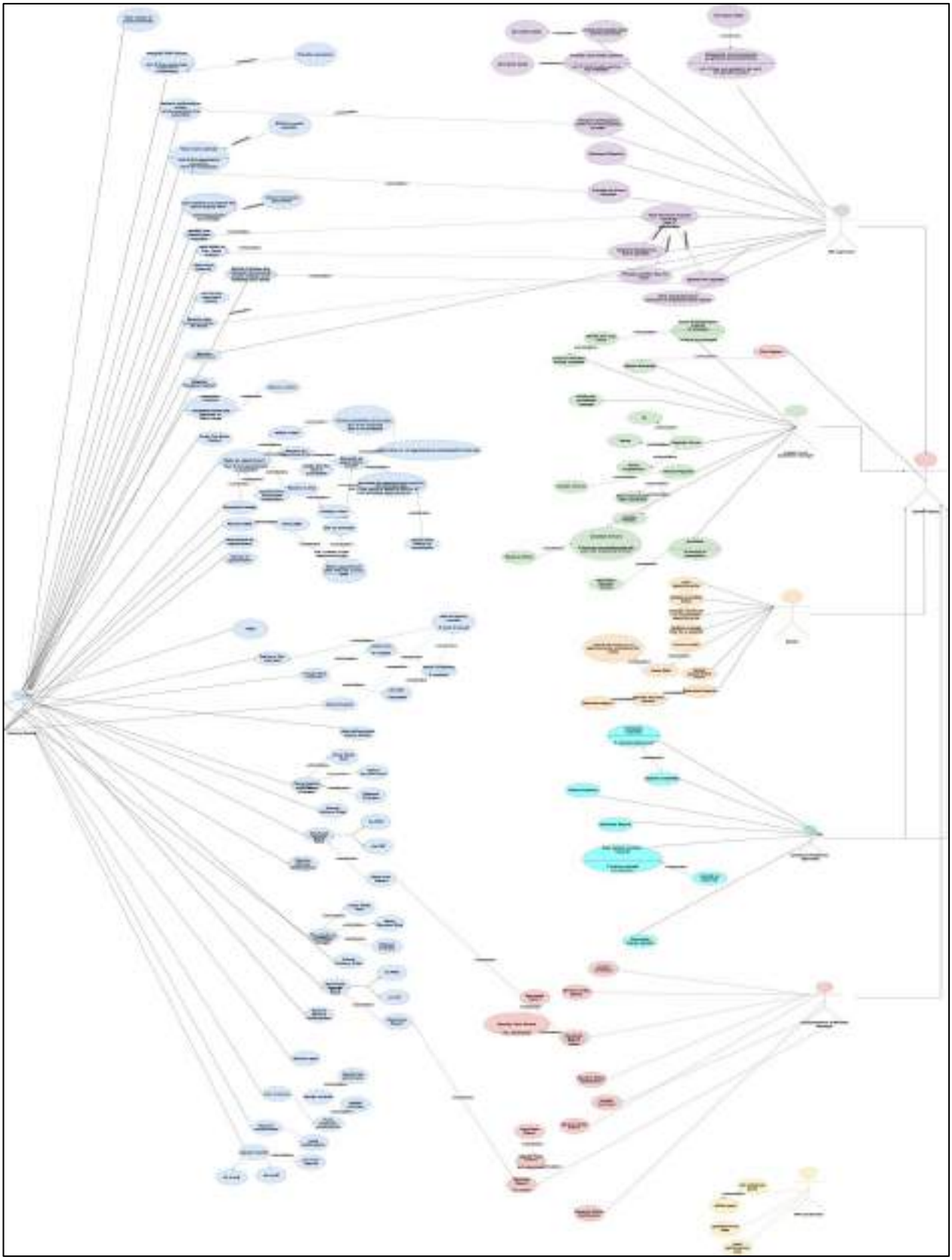


Peformance management

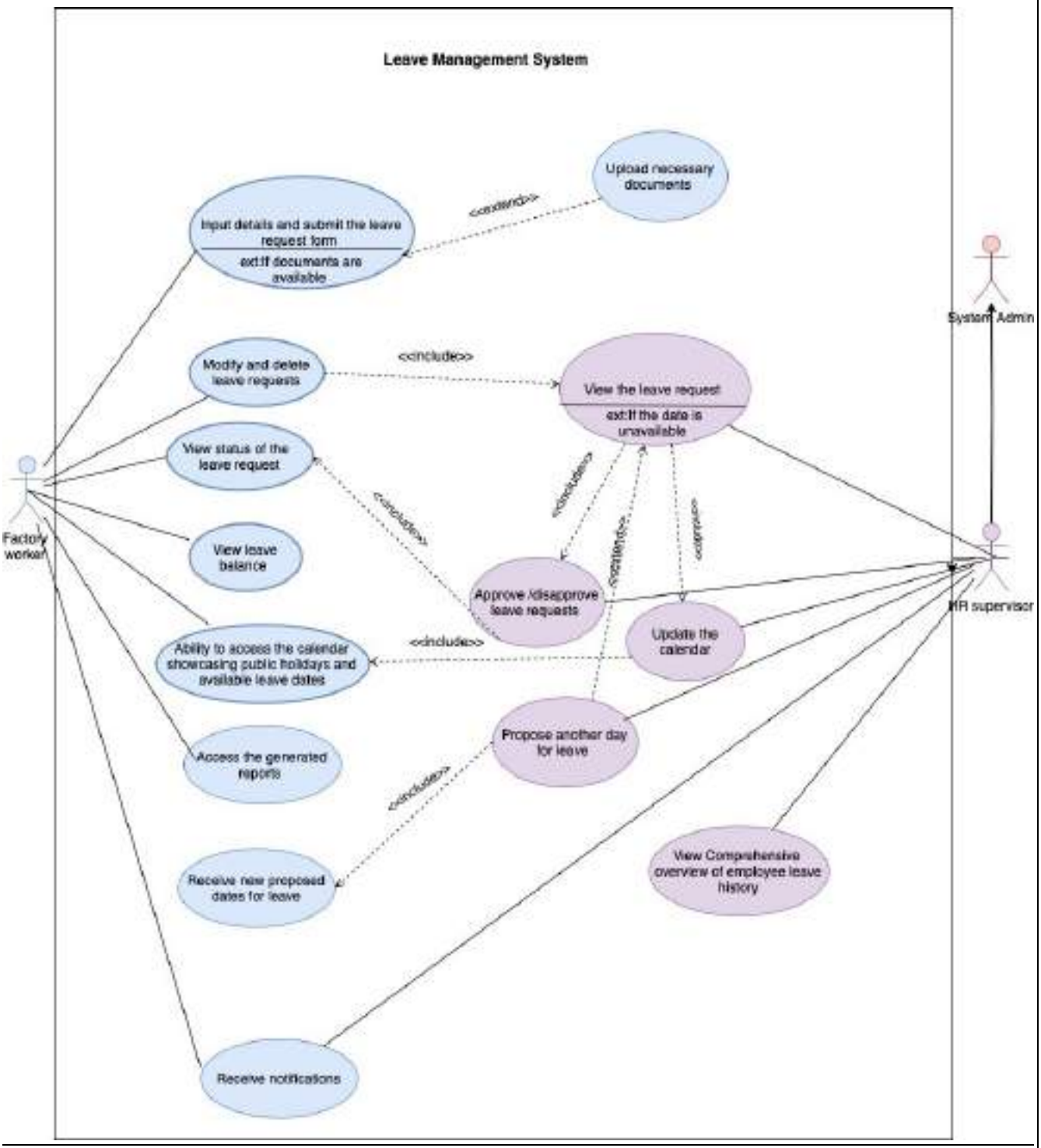


UML Diagrams

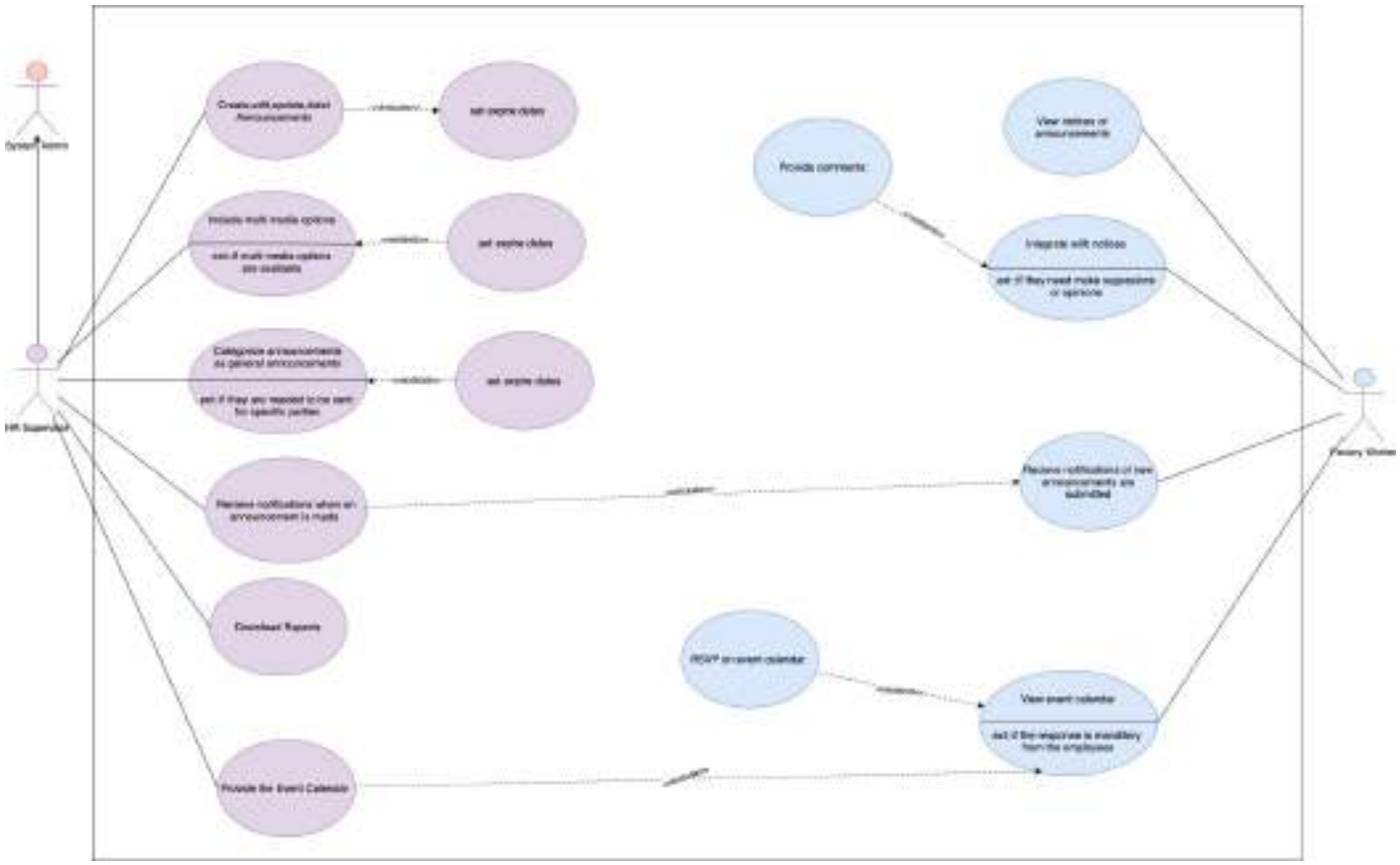
Use case diagram



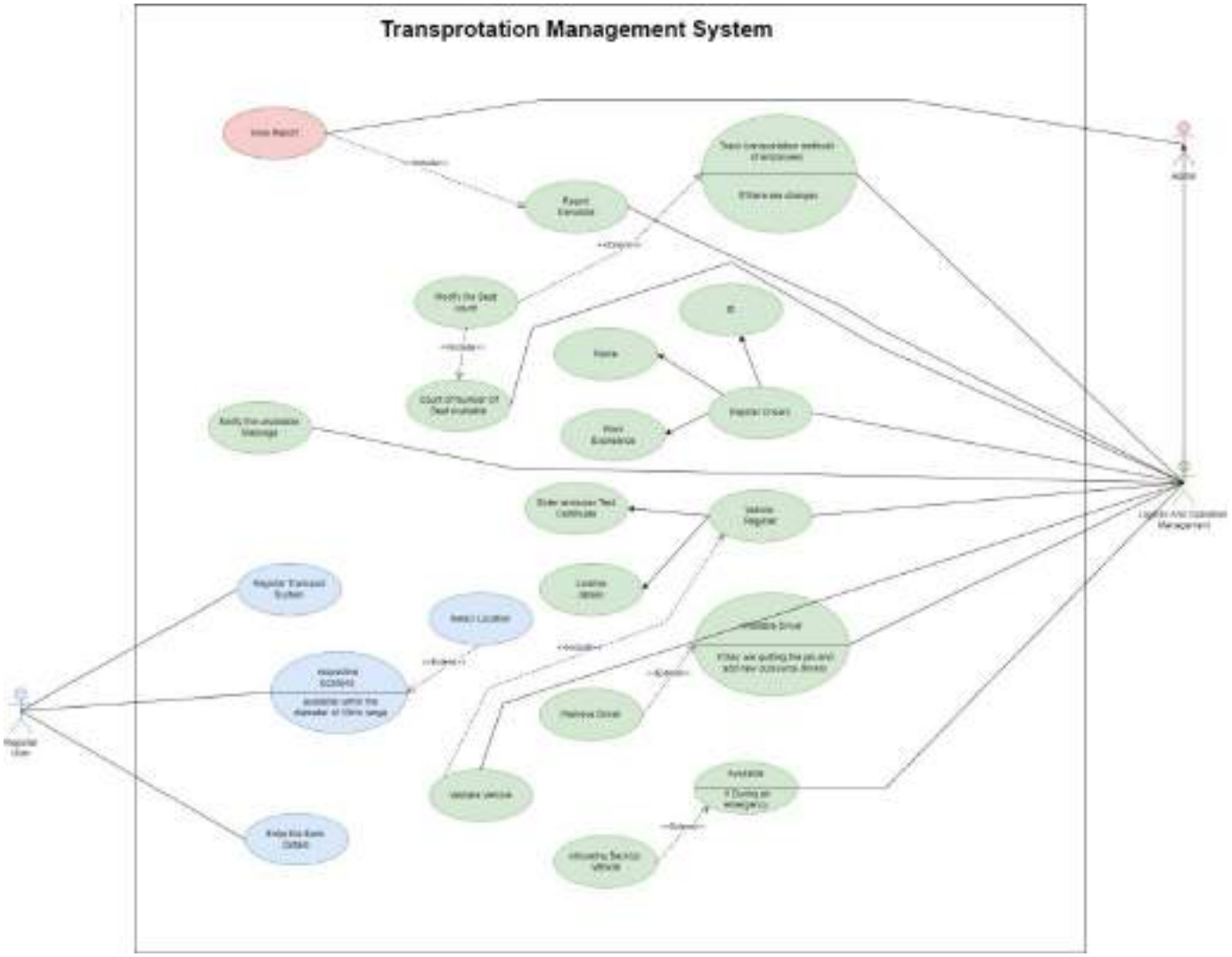
Leave Management



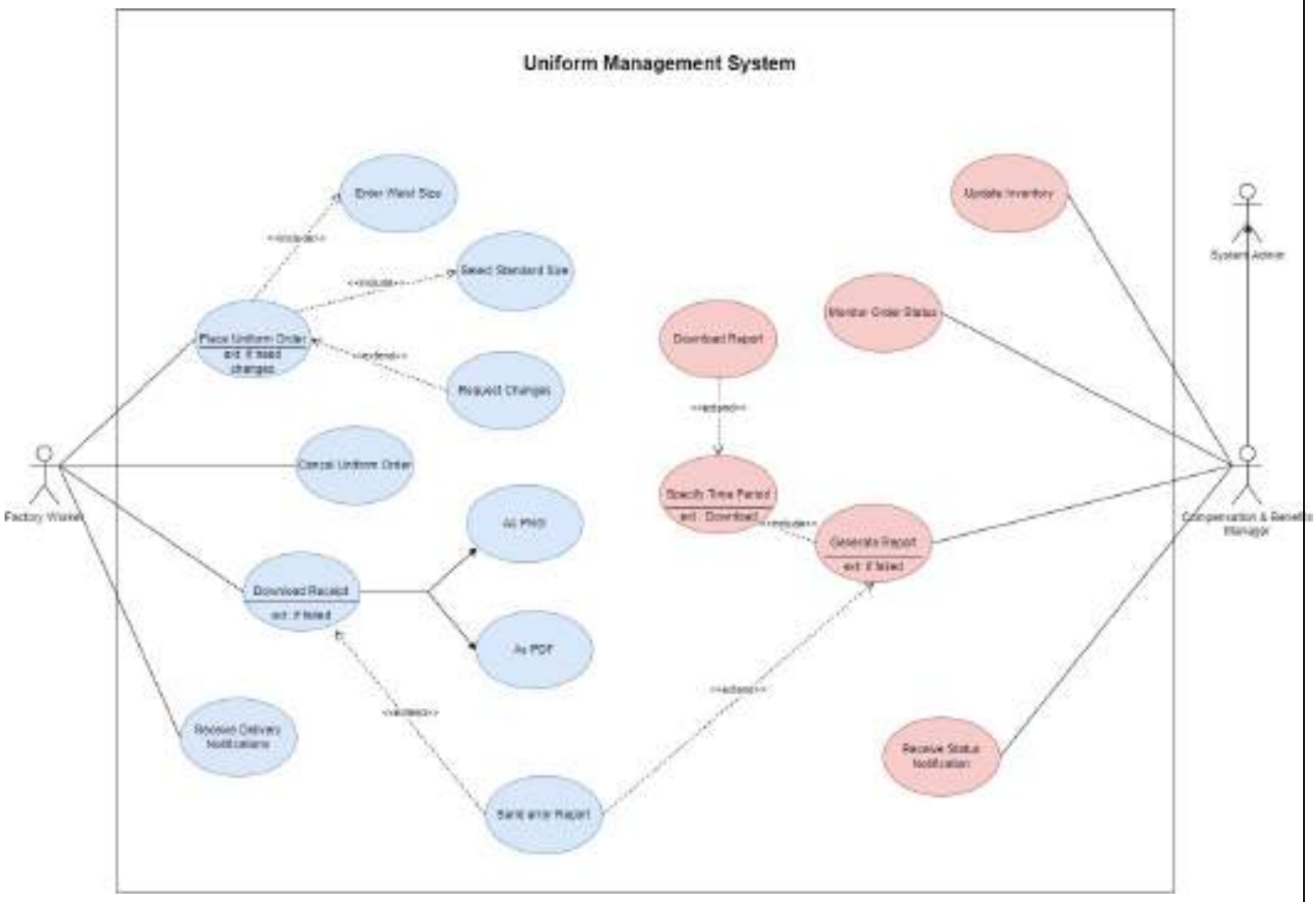
Announcements and noUces management



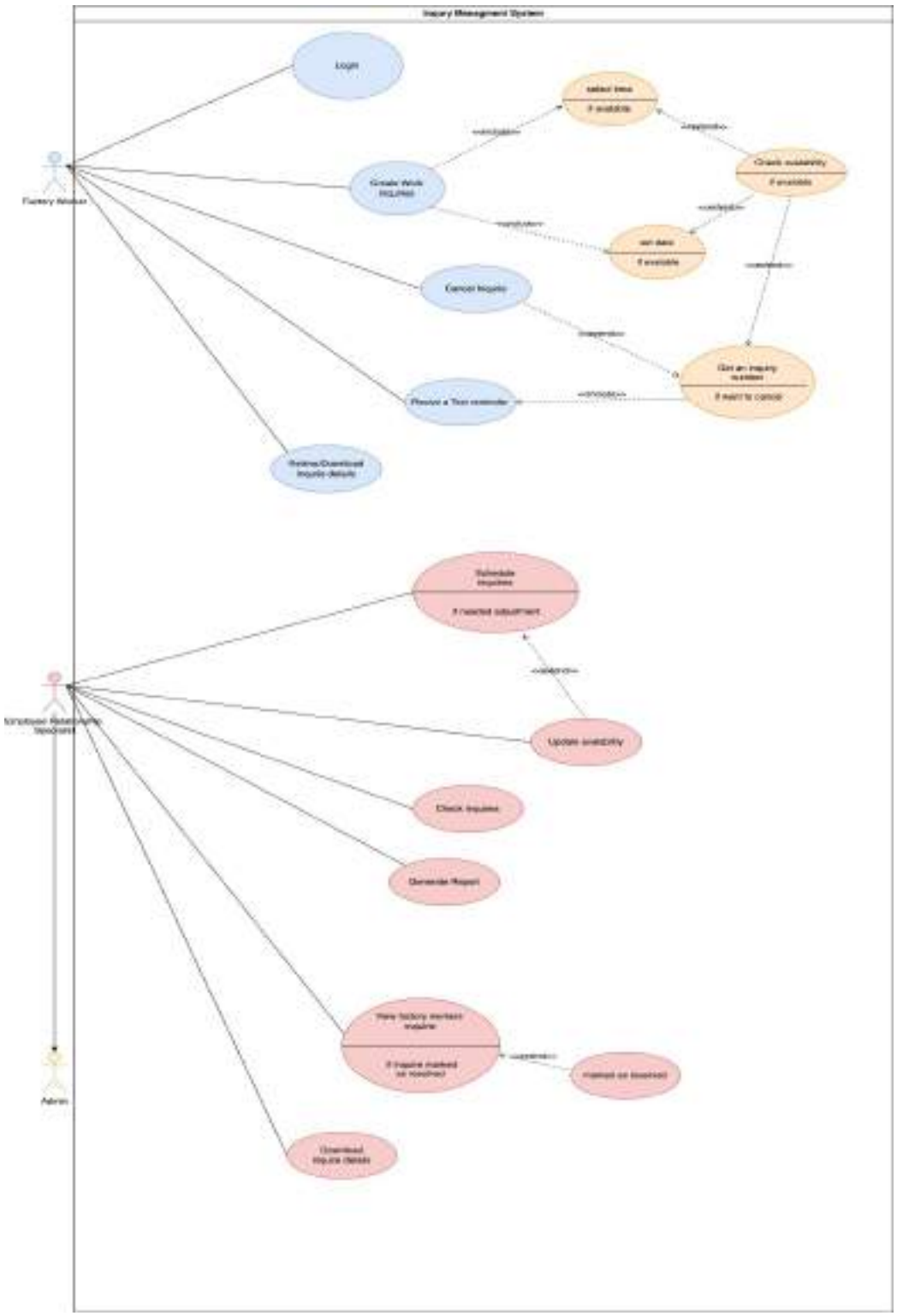
Transportation management



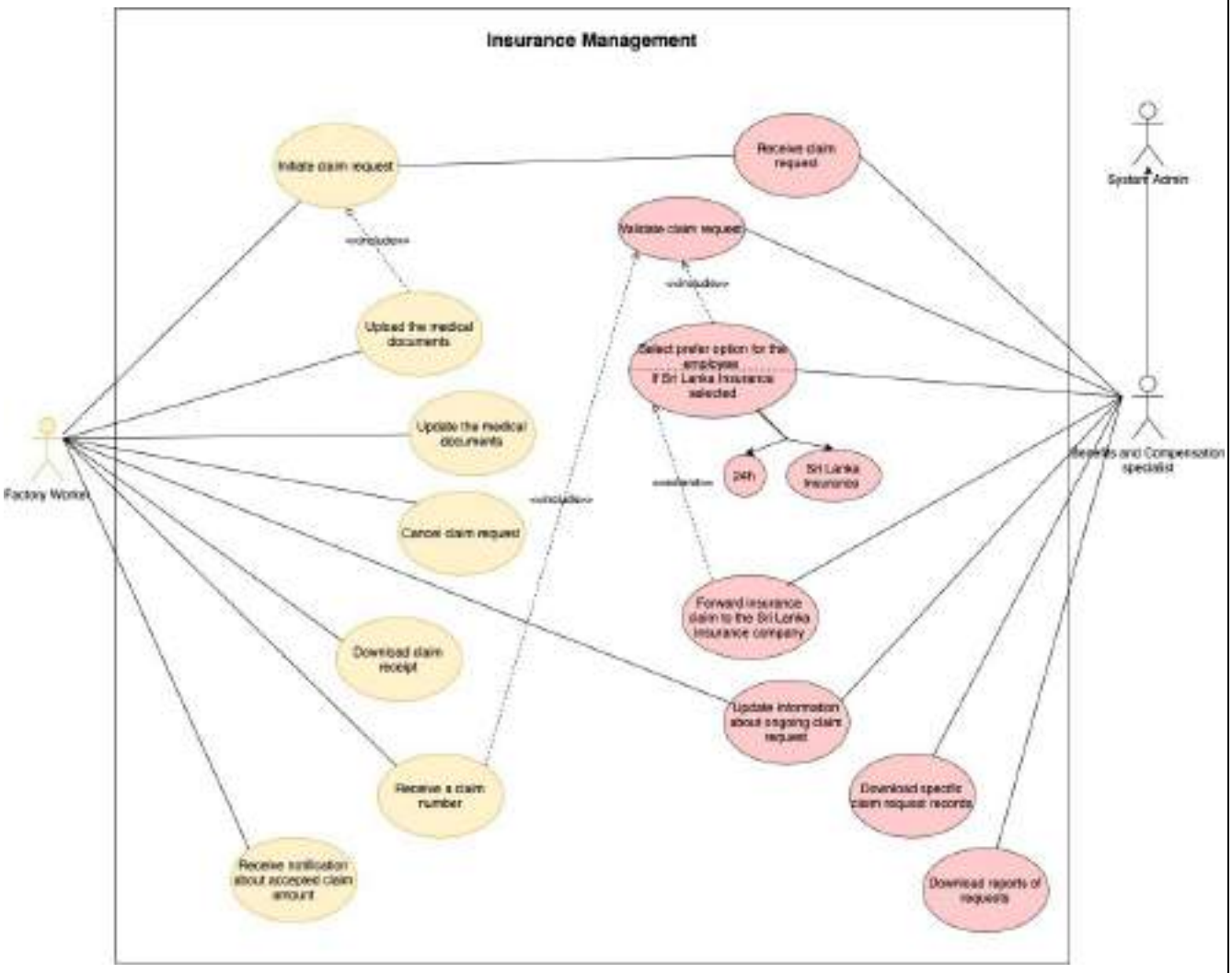
Uniform Management



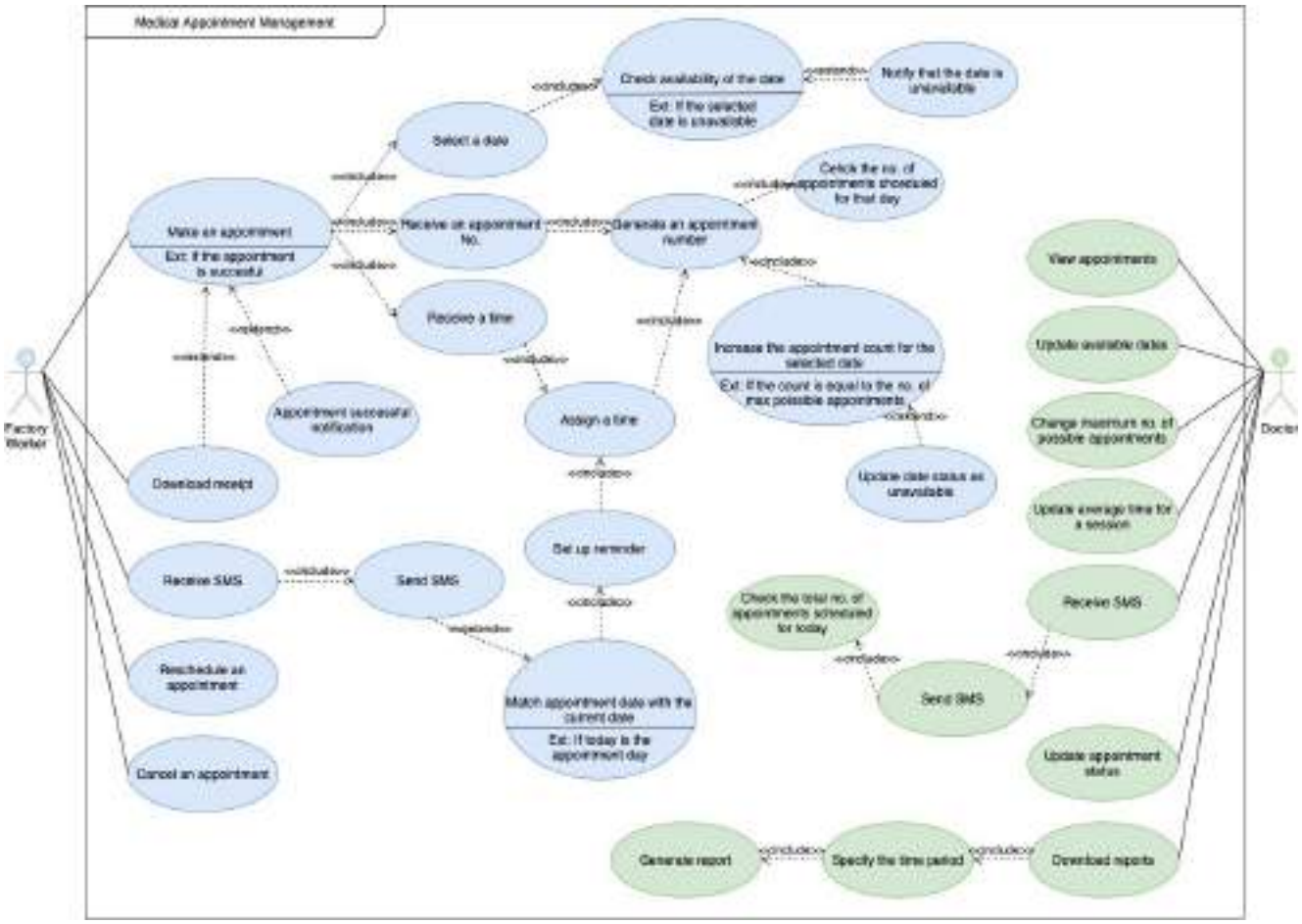
Inquiry Management



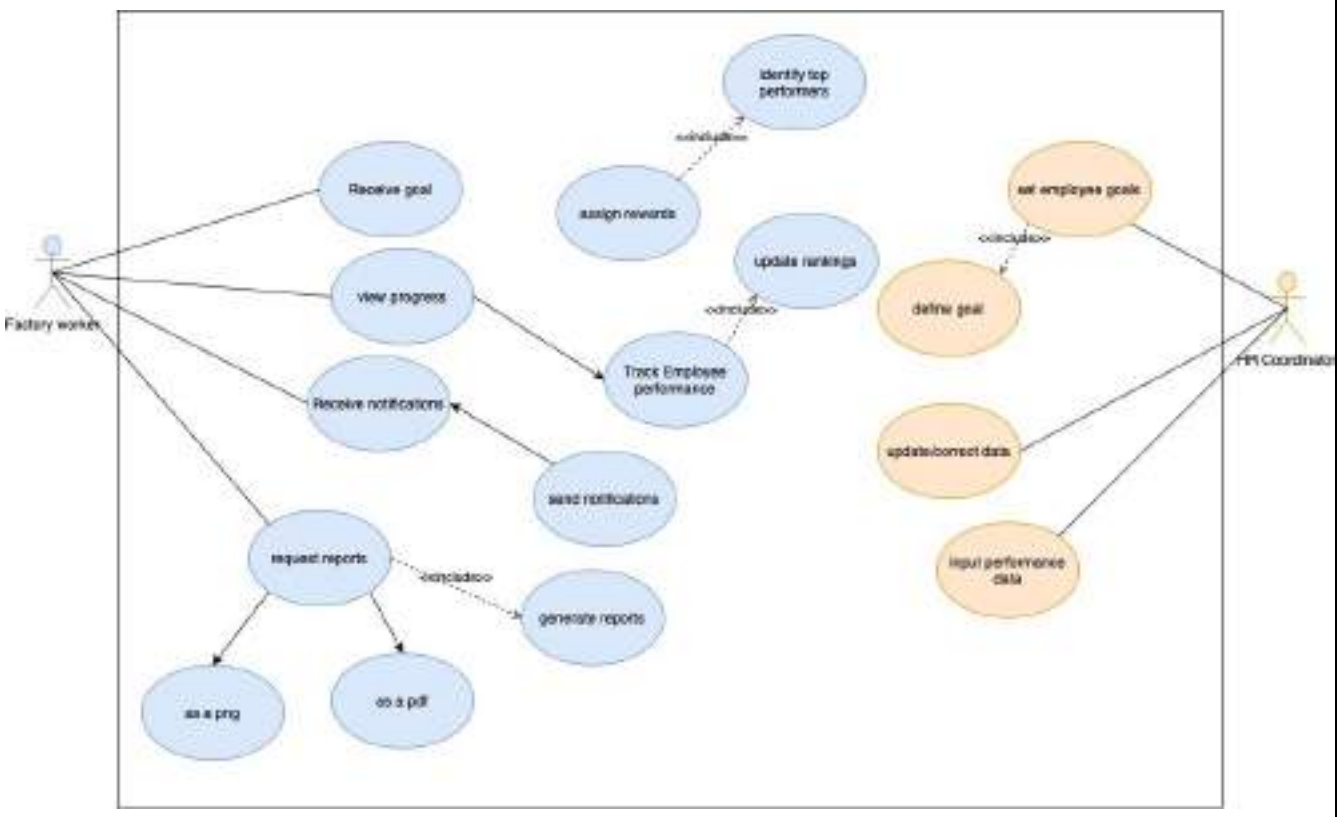
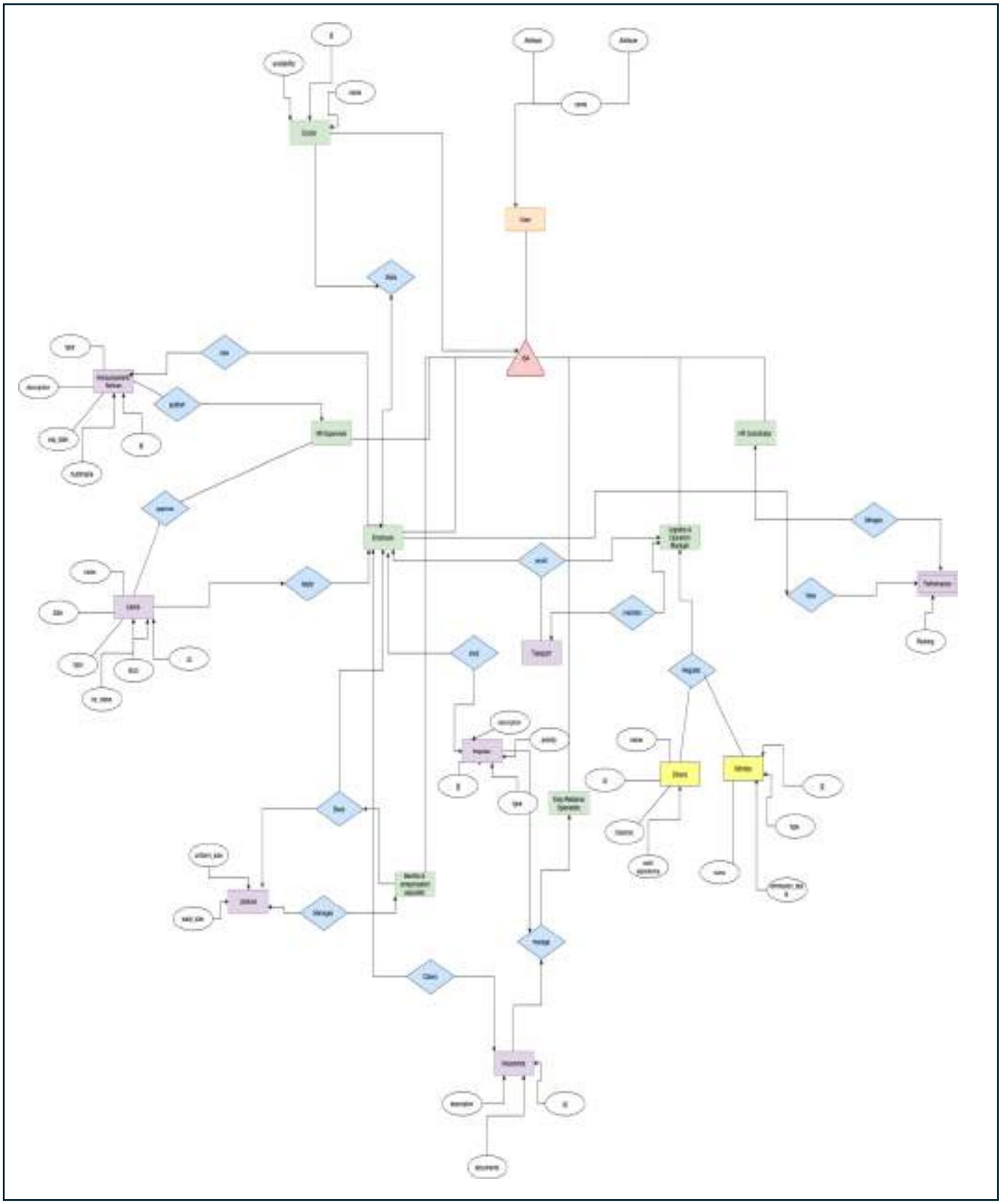
Insurance Management



Medical Appointment Management



Performance Management



Er Diagram