Functional Requirements

User Authentication

Administrators can log in to the system.

Proper authentication mechanisms (e.g., JWT) to protect sensitive employee data.

Employee Management

Create Employee: Administrators can add new employee records.

Read Employee: Administrators can view a list of all employees and detailed information of individual employees.

Update Employee: Administrators can update existing employee information.

Delete Employee: Administrators can delete employee records.

Leave Management

Apply for Leave: Employees can apply for leave.

Approve/Reject Leave: Administrators can approve or reject leave applications.

View Leave Status: Employees can view the status of their leave applications.

Leave History: Administrators can view the leave history of all employees.

Data Requirements

Employee Record

employee-id: Unique identifier for each employee (auto-generated).

firstName: First name of the employee.

lastName: Last name of the employee.

email: Email address of the employee (unique and validated).

phoneNumber: Phone number of the employee (validated).

position: Job position of the employee.

department: Department the employee belongs to.

dateOfJoining: Date the employee joined the company.

salary: Salary of the employee.

User Authentication

email: email of the administrator.

password: Password for the administrator (hashed).

Leave Record

leaveId: Unique identifier for each leave application (auto-generated).

employeeId: Reference to the employee applying for leave.

startDate: Start date of the leave.

endDate: End date of the leave.

leaveType: Type of leave (e.g., sick leave, vacation, personal leave).

reason: Reason for the leave.(attachemt if there is any)

status: Status of the leave application (e.g., pending, approved, rejected).

Flow for Each Activity

User Authentication

Login

The administrator navigates to the login page.

Inputs email and password.

The system validates credentials and generates a JWT token.

Upon successful login, the administrator is redirected to the dashboard.

Employee Management

Create Employee

The administrator navigates to the 'Add Employee' page.

Inputs the employee's details (first name, last name, email, phone number, position, department, date of joining, salary).

Clicks the 'Submit' button.

The system validates the input data.

Upon successful validation, the system saves the employee record to the database.

The administrator is notified of the successful creation.

Read Employee

The administrator navigates to the 'Employee List' page.

The system fetches and displays a list of all employees.

The administrator clicks on an employee to view detailed information.

The system displays detailed information of the selected employee.

Update Employee

The administrator navigates to the 'Employee List' page.

Clicks on the employee they want to update.

The system displays the employee's current information in an editable form.

The administrator updates the necessary fields.

Clicks the 'Submit' button.

The system validates the updated data.

Upon successful validation, the system updates the employee record in the database.

The administrator is notified of the successful update.

Delete Employee

The administrator navigates to the 'Employee List' page.

Clicks on the employee they want to delete.

The system asks for confirmation.

Upon confirmation, the system deletes the employee record from the database.

The administrator is notified of the successful deletion.

Leave Management

Apply for Leave

The employee navigates to the 'Apply for Leave' page.

Inputs the leave details (start date, end date, leave type, reason).

Clicks the 'Submit' button.

The system validates the input data.

Upon successful validation, the system saves the leave application to the database with a status of 'pending'.

The employee is notified of the successful application.

Approve/Reject Leave

The administrator navigates to the 'Leave Applications' page.

The system fetches and displays a list of all leave applications with their current status.

The administrator clicks on a leave application to view detailed information.

The administrator approves or rejects the leave application.

The system updates the status of the leave application in the database.

The employee is notified of the decision.

View Leave Status

The employee navigates to the 'Leave Status' page.

The system fetches and displays the status of all leave applications submitted by the employee.

Leave History

The administrator navigates to the 'Leave History' page.

The system fetches and displays the leave history of all employees.

Updated Non-Functional Requirements

Security

Use HTTPS for all communications.

Store passwords securely using hashing algorithms like bcrypt.

Implement role-based access control (RBAC) to ensure only administrators can perform CRUD operations on employee records and manage leave applications.

Performance

Ensure the application can handle concurrent requests efficiently.

Optimize database queries for faster data retrieval.

Usability

Provide a user-friendly interface for administrators and employees.

Include input validation and error messages for better user experience.

Scalability

Design the application to handle a growing number of employee records and leave applications without performance degradation.

Ensure the system can be scaled horizontally if needed.