INDIAN INSTITUTE OF INFORMATION TECHNOLOGY SONEPAT

OS LAB

(CSL-408)

Final Lab Assignment

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ASSIGNMENT-1

AIM

Easy Leave: This project is aimed at developing a web-based Leave Management Tool, which is of importance to either an organization or a college.

User Stories

- As an employee, I want to be able to log in to the leave application system with my username and password so that I can access my leave balance and submit leave requests.
- As an employee, I want to see my current leave balance displayed prominently on the dashboard so that I can easily check how many leave days I have available.
- As an employee, I want to be able to submit a leave request by specifying the type of leave (e.g., vacation, sick leave), the dates, and a brief reason for my absence.
- As an employee, I want to receive a confirmation email after submitting a leave request so that I know it has been received and is being processed.
- As a manager, I want to receive notifications when my team members submit leave requests so that I can review and approve or deny them in a timely manner.
- As a manager, I want to be able to view a calendar that shows the leave schedule for my team so that I can plan work assignments accordingly.
- As an employee, I want to be able to view the status of my leave requests (e.g., pending, approved, denied) at any time.
- As an administrator, I want the system to generate reports on leave usage and balances for payroll and auditing purposes.

- As a manager, I want the system to provide me with an overview of my team's overall leave usage and balances so that I can effectively manage workload distribution.

Functional Requirements

- <u>User Authentication and Authorization:</u>

  The system must provide secure user authentication, including the ability to reset passwords. Users must have appropriate roles and permissions (e.g., employee, manager, HR administrator).

- <u>Leave Request Submission:</u>

  Employees should be able to submit leave requests specifying leave type, dates, and a reason.

- <u>Leave Approval Workflow:</u>

  Managers should receive notifications and be able to approve or deny leave requests.

- <u>Leave Balances and Deductions:</u>

  Leave balances should be updated automatically upon approval or denial of leave requests. The system should prevent employees from requesting more leave than their available balance.

- <u>Leave Tracking and Reporting:</u>

  Employees and administrators should be able to track the status of leave requests. The system should generate reports on leave usage and balances.

- Calendar Integration:

  The system should integrate with company calendars and email systems, displaying approved leave on work calendars and sending notifications.

- Mobile Accessibility:

  The system should be accessible via a mobile app, allowing employees to submit and track leave requests on the go.

- Reminders:

  Employees should receive reminders about upcoming leave days to help them plan their work schedules.

- Leave Modification and Cancellation:

  Employees should have the ability to modify or cancel pending leave requests before approval.

Non-Functional Requirements:

- Security:

  The system must ensure data security and privacy, including encryption of sensitive information. Access to sensitive data should be protected through role-based access control.

- Performance:

  The system should have low response times, even during peak usage periods. It should be able to handle a large number of simultaneous users.

- Reliability:

  The system should be available and reliable, with minimal downtime for maintenance.

- Scalability:

  The system should be able to scale to accommodate the growing number of users and leave requests.

- Usability:

  The user interface should be intuitive, easy to use, and accessible on multiple devices (desktop, mobile).

- Compliance:

  The system should comply with relevant labor laws and company policies.

- Notifications:

  Notifications, including emails and mobile app alerts, should be timely and reliable.

- Integration:

  The system should integrate with existing HR and payroll systems for data synchronization.
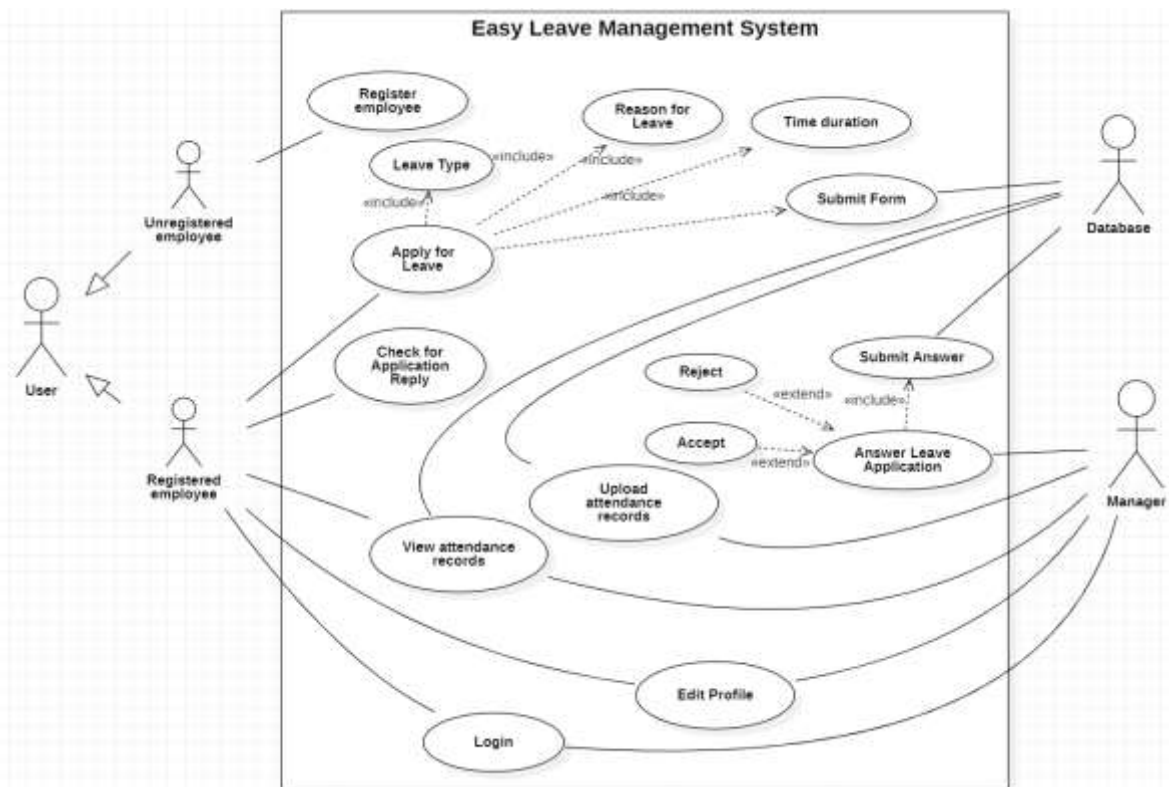
- Audit Trail:

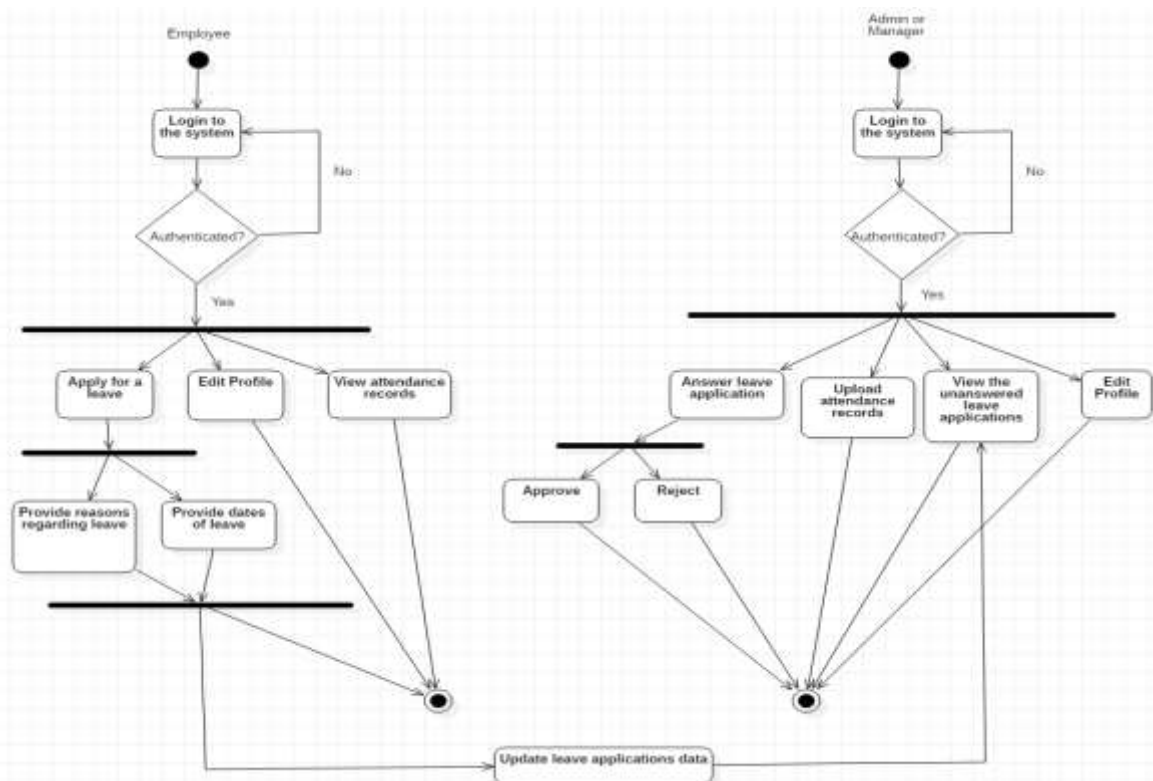 The system should maintain an audit trail to track all changes and actions related to leave requests.

- Backup and Recovery:

  Regular data backups and a robust recovery mechanism should be in place to prevent data loss.
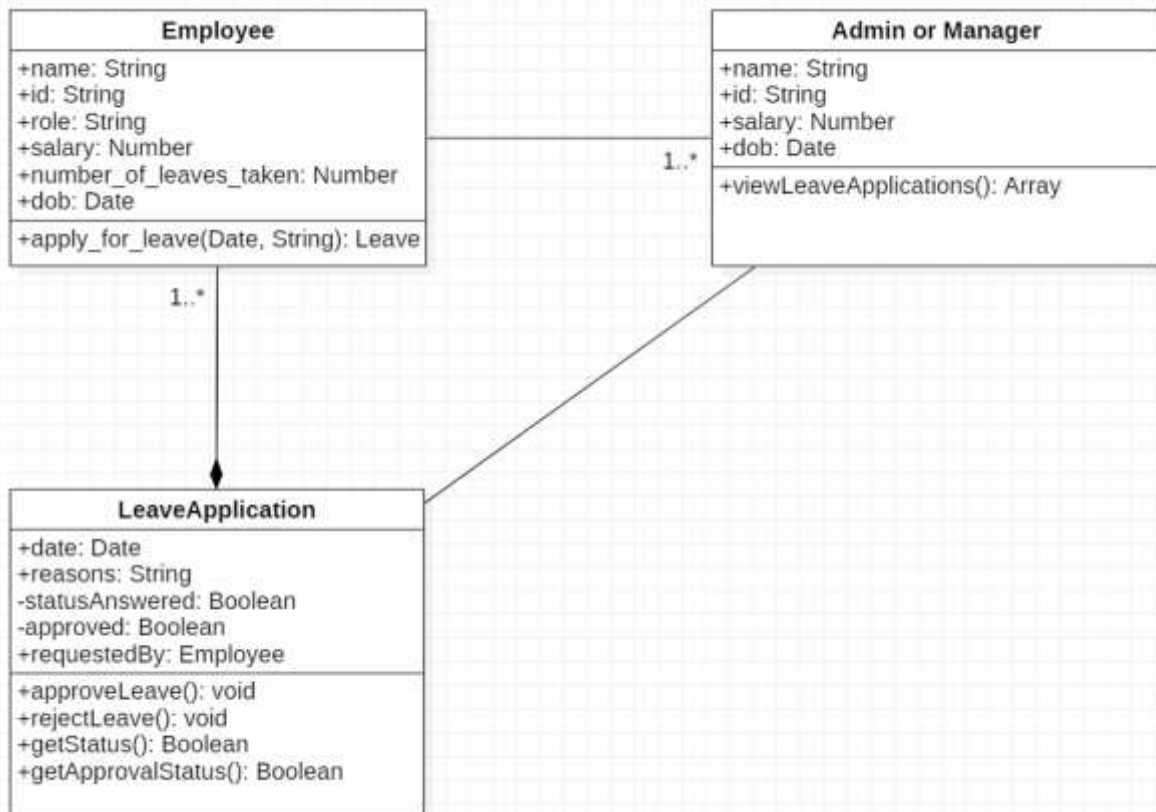
Use Case-diagram:

Activity Diagram:

Class Diagram:

Sequence diagram: