

# EmpLeaveHub: Project Documentation

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## 1. Introduction

**EmpLeaveHub** is a web-based Employee Leave Management System designed to simplify and digitize the leave application and approval process within an organization. The system provides role-based dashboards for both employees and administrators, ensuring a smooth workflow for leave management.

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## 2. Background of the Project

### Problem Statement

Many organizations still rely on manual or outdated methods to manage employee leave records, which leads to errors, delays, and a lack of transparency.

### Motivation

Our goal was to build a digital platform that automates leave-related tasks, saves time, improves accuracy, and provides a user-friendly interface for both employees and administrators.

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## 3. Objectives

- To digitize the leave application and approval process.
  - To allow employees to easily apply for leave and view history.
  - To enable administrators to manage departments, leave types, and employee records.
  - To reduce manual errors and improve efficiency.
  - To maintain secure role-based access control.
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## 4. Scope

### Covered:

- Employee dashboard and leave application
- Admin dashboard with department-wise stats
- Leave type creation and quota settings
- Employee and department management
- Leave approval/rejection by admin
- Leave history and reporting
- Profile and password management
- Email notifications via PHPMailer

### Not Covered:

- Online salary management
- Real-time notifications or mobile app version
- Integration with external HRMS tools

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## 5. Literature Review / Related Work

- **HRM Software (Zoho People, BambooHR):** Offer leave and attendance tracking.
- **Open-source HRM Systems:** Focus on general HR processes, often complex.
- **Our Focus:** Simplicity, easy navigation, and practical leave tracking features.

**Relevant Concepts:**

- Role-Based Access Control (RBAC)
  - CRUD operations
  - Secure user authentication
  - Email integration (PHPMailer)
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## 6. Methodology

**Technologies Used****Frontend:**

- HTML5
- CSS3
- Bootstrap 5
- JavaScript
- Material Icons

**Backend:**

- PHP 7+
- MySQL
- PDO for secure database connections

**Email System:**

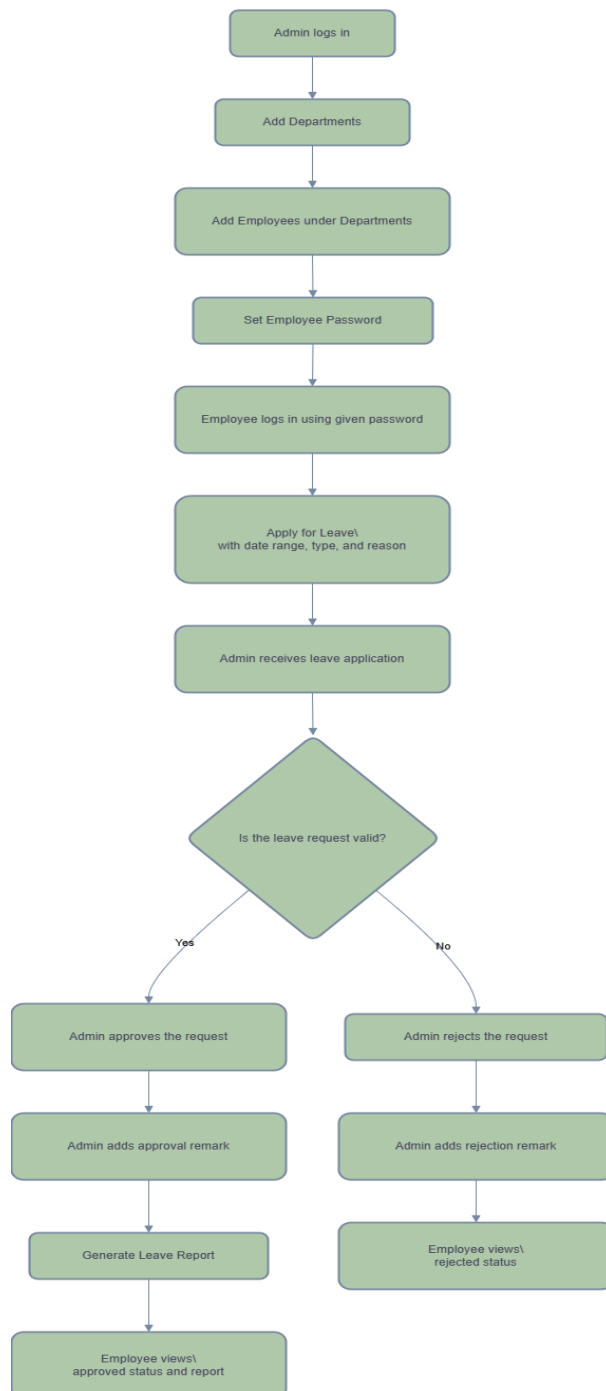
- PHPMailer
-

## **Development Workflow**

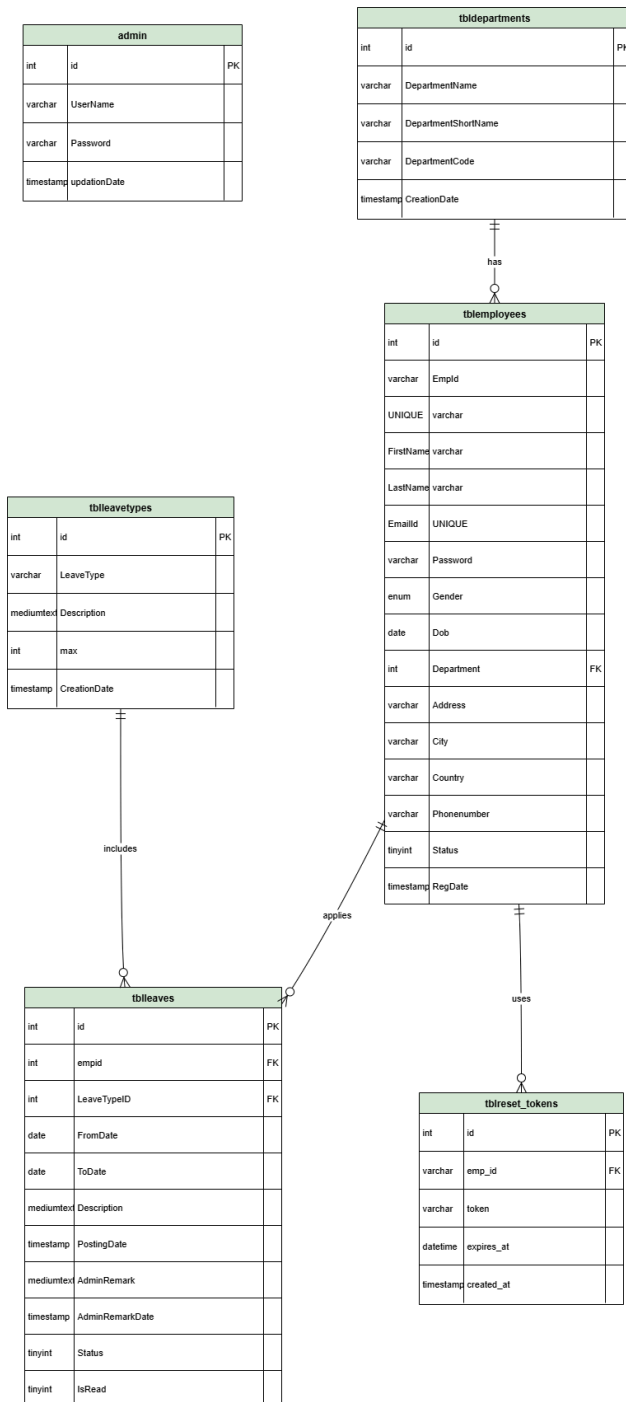
1. Requirement Analysis
  2. UI Design and Wireframing
  3. Database Design
  4. Module-wise Development
  5. Testing and Debugging
  6. Final Deployment
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## Design Models

- **Flowchart:** Leave request flow from employee to admin decision.



- ER Diagram:



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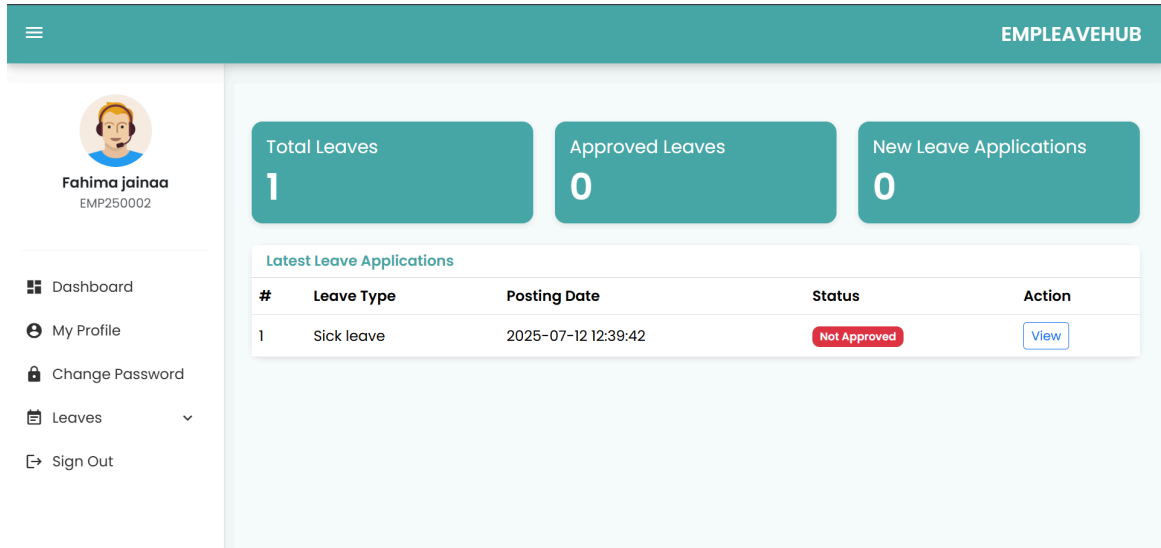
## 7. Implementation / Development

### Development Process

- Role-based login for employees and admins
  - Separate dashboards with conditional views
  - Modular pages for leave, profile, and management
  - Form validation and secure password handling
  - Email integration for password resets
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## Screenshots & Snippets

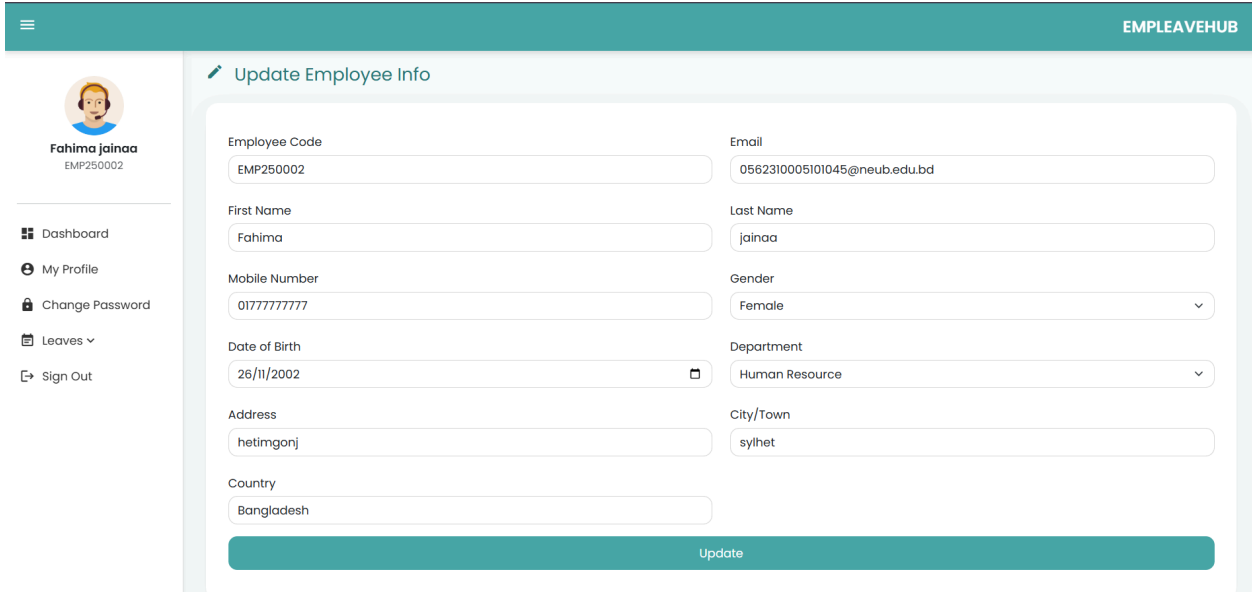
- Employee Dashboard



The screenshot shows the Employee Dashboard for Fahima jainaa (EMP250002). The dashboard features a sidebar with navigation links: Dashboard, My Profile, Change Password, Leaves, and Sign Out. The main content area displays three summary cards: Total Leaves (1), Approved Leaves (0), and New Leave Applications (0). Below these cards is a table titled 'Latest Leave Applications' with columns for #, Leave Type, Posting Date, Status, and Action. The table contains one entry: Sick leave, posted on 2025-07-12 12:39:42, with a status of 'Not Approved' and a 'View' button.

#	Leave Type	Posting Date	Status	Action
1	Sick leave	2025-07-12 12:39:42	Not Approved	<a href="#">View</a>

- Employee profile



The screenshot shows the 'Update Employee Info' form for Fahima jainaa (EMP250002). The form includes fields for Employee Code, Email, First Name, Last Name, Mobile Number, Gender, Date of Birth, Department, Address, City/Town, and Country. The 'Update' button is at the bottom.

Field	Value
Employee Code	EMP250002
Email	0562310005101045@neub.edu.bd
First Name	Fahima
Last Name	jainaa
Mobile Number	01777777777
Gender	Female
Date of Birth	26/11/2002
Department	Human Resource
Address	hetimgonj
City/Town	sylhet
Country	Bangladesh



- Employee Change Password

EMPLOYEEHUB

Fahima jainaa  
EMP250002

Dashboard

My Profile

Change Password

Leaves

Sign Out

Change Password

Current Password

New Password

Confirm New Password

Change Password

- Apply Leave

EMPLOYEEHUB

Fahima jainaa  
EMP250002

Dashboard

My Profile

Change Password

Leaves

Sign Out

Apply for Leave

Leave Type

Select leave type...

From Date

dd/mm/yyyy

To Date

dd/mm/yyyy

Description

Enter the reason for leave...

Apply

• Leave history

Fahima jainaa  
EMP250002

Dashboard

My Profile

Change Password

Leaves

Sign Out

Leave History

Leave Records

Search...

#	Leave Type	From	To	Posting Date	Status	Action
1	Sick leave	2025-07-12	2025-07-15	2025-07-12 12:39:42	Not Approved	<a href="#">View</a>

• Leave Report

Admin

Dashboard

Department

Leave Type

Employees

Leave Management

Change Password

Sign Out

Leave Information

Employee Name:

fahima jaina

Emp ID:

EMP250001

Gender:

Female

Emp Email ID:

fahima@gmail.com

Emp Contact No.:

01765921728

Leave Type:

Sick leave

Leave Date:

21/05/2025 - 29/05/2025

Posting Date:

2025-05-21 08:14:48

Max Allowed (per year)

8

Requested So Far

1

Remaining

7

Leave Description:

i am too weak to walk

Leave Status:

Approved

Admin Remark:

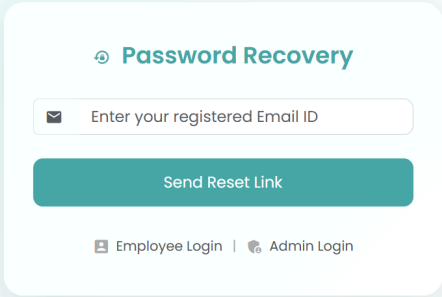
hdff

Admin Action Taken Date:


2025-05-21 11:01:00


Action Already Taken

- Password Recovery





The Password Recovery form is centered on a light blue background. It features a title 'Password Recovery' with a circular arrow icon. Below the title is a text input field with an envelope icon and the placeholder text 'Enter your registered Email ID'. A teal button labeled 'Send Reset Link' is positioned below the input field. At the bottom, there are two links: 'Employee Login' with a user icon and 'Admin Login' with a key icon.

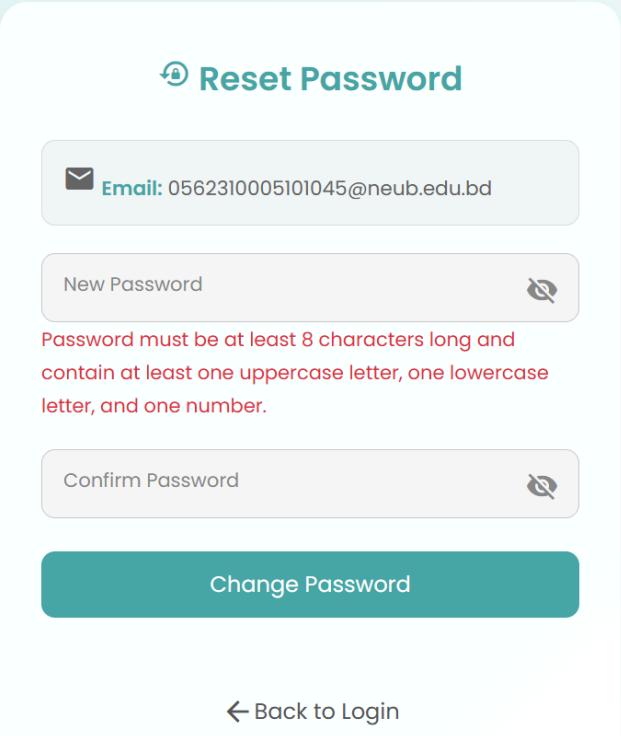
 **Password Recovery**

 Enter your registered Email ID


**Send Reset Link**


 Employee Login |  Admin Login


- Password reset




The Reset Password form is centered on a light blue background. It features a title 'Reset Password' with a circular arrow icon. Below the title is a text input field with an envelope icon and the placeholder text 'Email: 0562310005101045@neub.edu.bd'. Below this is a 'New Password' input field with a toggle icon. A red text message states: 'Password must be at least 8 characters long and contain at least one uppercase letter, one lowercase letter, and one number.' Below this is a 'Confirm Password' input field with a toggle icon. A teal button labeled 'Change Password' is positioned below the input fields. At the bottom, there is a link '← Back to Login'.

 **Reset Password**

 Email: 0562310005101045@neub.edu.bd

New Password 

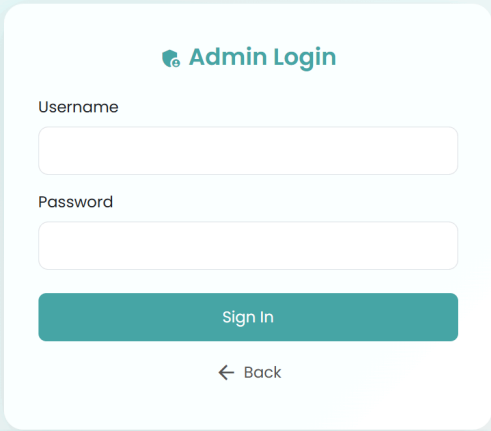
Password must be at least 8 characters long and contain at least one uppercase letter, one lowercase letter, and one number.

Confirm Password 

**Change Password**

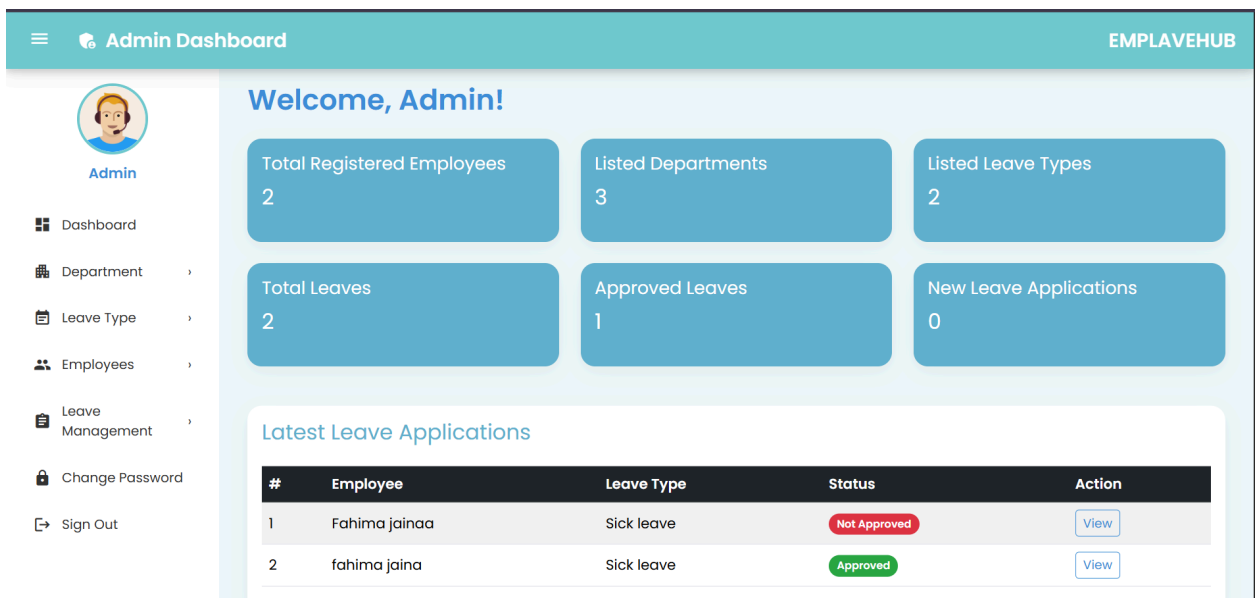
[← Back to Login](#)

- Admin Login



The Admin Login form is centered on a light blue background. It features a title 'Admin Login' with a gear icon. Below the title are two input fields: 'Username' and 'Password'. A teal 'Sign In' button is positioned below the password field. At the bottom, there is a 'Back' link with a left-pointing arrow.

- Admin Dashboard



The Admin Dashboard interface features a teal header with a menu icon, 'Admin Dashboard', and 'EMPLAVEHUB'. A left sidebar contains a user profile for 'Admin' and a list of navigation items: Dashboard, Department, Leave Type, Employees, Leave Management, Change Password, and Sign Out. The main content area displays a 'Welcome, Admin!' message, followed by six summary cards for employee and leave statistics. Below these is a 'Latest Leave Applications' table with columns for ID, Employee, Leave Type, Status, and Action.

#	Employee	Leave Type	Status	Action
1	Fahima jainaa	Sick leave	Not Approved	<a href="#">View</a>
2	fahima jaina	Sick leave	Approved	<a href="#">View</a>

- Add Employee

Admin

Dashboard

Department

Leave Type

Employees

Leave Management

Change Password

Sign Out

EMPLAVEHUB

Add employee

Employee Info

Employee Code(Must be unique)

EMP250003

Email

First Name

Last Name

Mobile Number

Gender

Male

Date of Birth

dd/mm/yyyy

Department

comp sci

Address

City/Town

Country

Password

Confirm password

Add

- Manage Employee

Admin

Dashboard

Department

Leave Type

Employees

Leave Management

Change Password

Sign Out

EMPLAVEHUB

Manage Employees

Employees Info

Search employees...

#	Emp Id	Full Name	Department	Status	Reg Date	Action
1	EMP250002	Fahima jainaa	Human Resource	Active	2025-07-12 12:09	<div>EditDeactivate</div>
2	EMP250001	fahima jaina	Information Technology	Active	2025-05-21 08:13	<div>EditDeactivate</div>

Showing 1 to 2 of 2 entries

- Add Department

Admin

Dashboard

Department

Leave Type

Employees

Leave Management

Change Password

Sign Out

Add Department

Department Name

Department Short Name

Department Code

Add Department

- Manage Department

Admin

Dashboard

Department

Leave Type

Employees

Leave Management

Change Password

Sign Out

Manage Departments

Departments Info

Search departments...

#	Dept Name	Short Name	Code	Created At	Action	
1	comp sci	cs	cs01	2025-05-31 16:10:01	Edit	Delete
2	Human Resource	HR	HR01	2025-05-13 20:19:18	Edit	Delete
3	Information Technology	IT	IT01	2025-05-12 15:02:02	Edit	Delete

Showing 3 entries

- Add Leave type

Admin

Dashboard

Department

Leave Type

Employees

Leave Management

Change Password

Sign Out

EMPLAVEHUB

Add Leave Type

Leave Type

Description

Maximum Times Allowed

Add Leave Type

- Manage Leave Type

Admin

Dashboard

Department

Leave Type

Employees

Leave Management

Change Password

Sign Out

EMPLAVEHUB

Manage Leave Type

Leave Type Info

Search...

#	Leave Type	Description	Max Times	Created At	Action
1	Casual leave	if someone wants to take a random leave	10	2025-05-21 08:10	<div>EditDelete</div>
2	Sick leave	sick leave	8	2025-05-21 08:11	<div>EditDelete</div>

Showing 2 entries

- Leave History

Admin

Dashboard

Department

Leave Type

Employees

Leave Management

Change Password

Sign Out

EMPLAVEHUB

Leave History

Leave Records

Search...

#	Employee Name	Leave Type	Posting Date	Status	Action
1	<a href="#">Fahima Jainaa(EMP250002)</a>	Sick leave	2025-07-12 12:39:42	Not Approved	<button>View</button>
2	<a href="#">fahima jaina(EMP250001)</a>	Sick leave	2025-05-21 08:14:48	Approved	<button>View</button>

- Change Password

Admin

Dashboard

Department

Leave Type

Employees

Leave Management

Change Password

Sign Out

Change Password

Current Password

New Password

Confirm New Password

Change Password

Change Password

Current Password

New Password

Confirm New Password

Change Password

Dashboard

Department

Leave Type

Employees

Leave Management

Change Password

Sign Out

Admin

Password must be at least 6 characters long and contain at least one uppercase letter, one lowercase letter, and one number.



## System Architecture

### 1. Architecture Style

Three-Tier Architecture:

**Client (Frontend) ↔ Server (PHP Backend) ↔ Database (MySQL)**

### 2. Layers Overview

- **Presentation Layer (HTML/CSS/JS/Bootstrap)**  
Handles UI and user interaction.
  - **Application Layer (PHP)**  
Processes logic, routes requests, handles database operations.
  - **Data Layer (MySQL)**  
Stores all records with relationships and constraints.
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## 8. Results / Analysis

- Fully working web-based leave management system
  - Separate dashboards for employees and admins
  - Leave history and statistics working correctly
  - Admin can manage departments, leave types, and employees
  - Password reset via email is functional
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## 9. Challenges Faced

Challenge	Solution
Designing user-friendly UI	Used Bootstrap and Material Icons
Handling secure login and roles	Applied session-based role control
Email setup for password reset	Integrated PHPMailer
Managing data relations	Used proper foreign keys and database normalization

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## 10. Conclusion

EmpLeaveHub simplifies the leave management process by providing a modern, easy-to-use platform for employees and admins.

Through this project, we learned full-stack web development, secure coding practices, and the value of teamwork.

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## 11. Future Scope

- Add real-time notifications for leave updates
  - Create a mobile app version
  - Integrate attendance tracking and salary management
  - Generate analytics and visual reports for HR insights
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