LEAVE MANAGEMENT SYSTEM

Computer Science Project for COMPX576

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Project Proposal

Introduction

The Leave Management System (LMS) is a critical aspect of any organisation, allowing seamless management of employee leave requests, attendance tracking, and leave calculations. In the present-day technological age, the adoption of manual leave management systems can lead to inefficiencies, errors, and delays. Therefore, the proposed project aims to develop an automated Leave Management System that will significantly enhance the leave management process for organisations.

Objective

The primary objective of this project is to design and implement a comprehensive Leave Management System that offers a user-friendly interface for employees to request leaves while providing administrators with efficient tools to manage and process these requests. The key goals of the system include:

1. **Automation of Leave Requests**: Allow employees to submit leave requests through the system, eliminating the need for manual paper-based requests.
2. **Accurate Leave Calculations**: Automate the calculation of leave balances, taking into account factors such as earned leaves, sick leaves, and unpaid leaves.
3. **Streamlined Approval Workflow**: Implement a well-structured approval process to ensure timely and appropriate responses to leave requests.
4. **Real-time Leave Tracking**: Provide employees and administrators with real-time access to leave records and attendance data.

Requirement Overview

There are three types of users to the system, which is administrator, employee and manager. Each type of user completes different business activities.

The Action of Administrator

Action Name	Action Description
Create Leave Policy Group	Admin can create a new leave policy group and define its parameters.
Manage Approver for individual Policy Group	Admin can assign specific approvers to each leave policy group.
Add Employee to respective Policy Group	Admin can add employees to their respective leave policy groups.

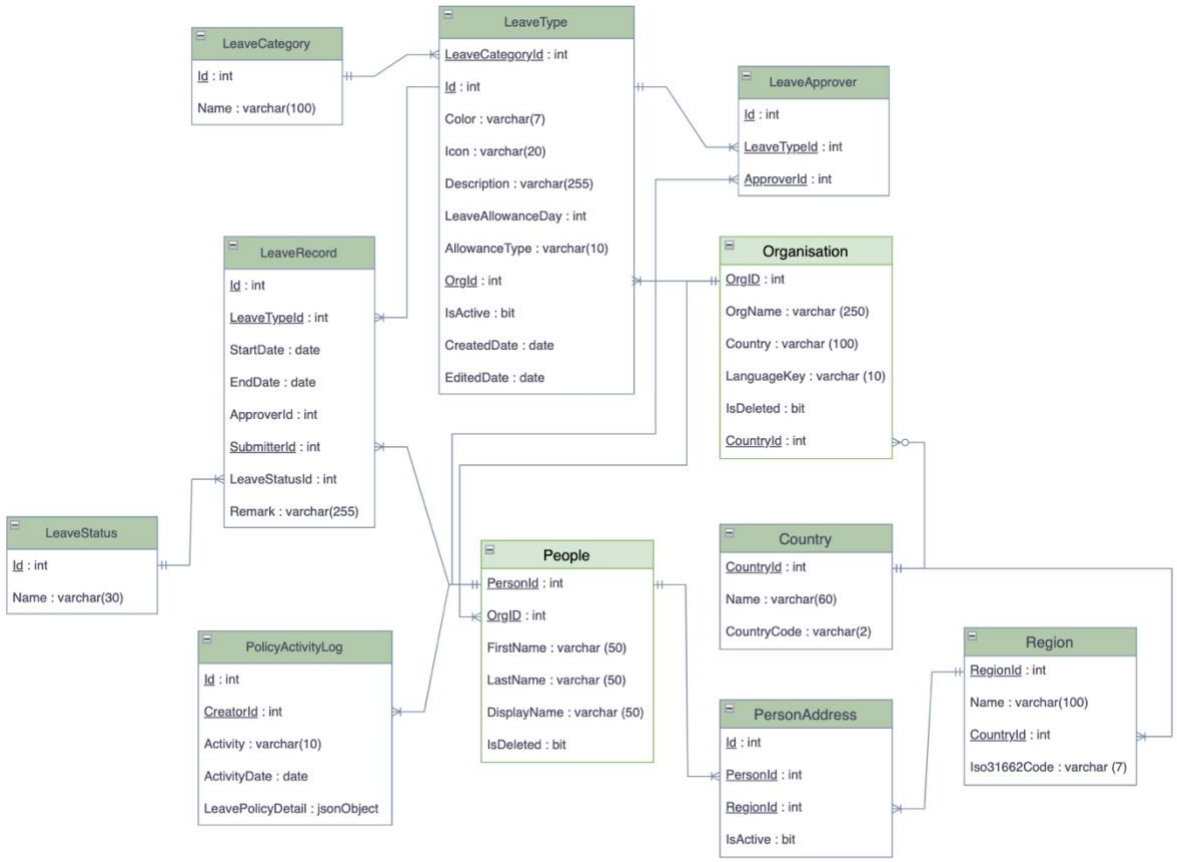
The Action of Employee

Action Name	Action Description
Request Leave to Manager	Employees can submit leave requests to their respective managers.
View Leave Calendar Dashboard	Employees can access the leave calendar dashboard to view schedules.
Check Leave Status and Records	Employees can check the status of their leave requests and history.
Modify Denied Leave Request	Employees can recreate or modify leave requests that were denied.

The Action of Manager

Action Name	Action Description
Approve/Reject Leave Requests	Managers can review and approve or reject leave requests.
Leave Denied Process with Comment	Managers can deny leave requests and provide comments for feedback.
View Leave Calendar Dashboard	Managers can access the leave calendar dashboard to manage schedules.

The Properties of Objects



Functionality Overview

The Leave Management System will comprise the following core functionalities:

1. **Employee Dashboard**: Employees will have access to a personalized dashboard to view their leave balances, submit new leave requests, and track the status of pending and approved leaves.
2. **Leave Request Submission**: Employees can submit leave requests by specifying the type of leave, duration, reason, and any additional remarks.
3. **Approval Workflow**: Upon submission, the leave request will be automatically routed to the respective supervisor for approval. The supervisor will have the option to approve, reject, or forward the request.
4. **Leave Balance Calculation**: The system will automatically calculate and update leave balances based on the leave policies of organisation and the attendance records of employees.
5. **Leave Calendar**: A centralized leave calendar will display the availability of employees, making it easier for managers to plan work schedules.

Technology

The proposed Leave Management System will be developed using the following technologies:

- **Backend**: C#
- **Frontend**: React.js
- **Database**: SQL Server

Architecture

The system will follow a three-tier architecture:

1. **Presentation Layer**: This layer will be responsible for handling the user interface using React.js
2. **Application Layer**: The business logic and application functionalities will be implemented in C# to process leave requests, manage leave balances, and handle the approval workflow.
3. **Data Layer**: SQL Server will serve as the robust database management system to store employee information, leave records, and system configuration data.

By adopting this architecture, the goal is to achieve a scalable and maintainable Leave Management System that efficiently caters to the needs of various organisations.

Conclusion

The proposed Leave Management System intends to revolutionize the way organisations handle employee leaves, replacing the manual and error-prone processes with an automated and efficient solution. By leveraging C# for backend development, React.js for frontend, and SQL Server for the database, we ensure a modern, reliable, and user-friendly system. With a streamlined approval workflow and accurate leave calculations, the system aims to enhance productivity, employee satisfaction, and overall organisational efficiency.