

Leave Management System

This presentation introduces a comprehensive Leave Management System designed to streamline and automate employee leave processes.

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Introduction to the Leave Management System

The Leave Management System utilizes a robust and scalable architecture, featuring a user-friendly web interface built with modern front-end technologies. It leverages a powerful back-end infrastructure powered by a robust database to securely store and manage employee leave information.

The system is deployed on a secure cloud platform, ensuring high availability and accessibility for users. Integration with existing HR systems and other business applications is also supported, enabling seamless data exchange and process automation.

System Architecture

Frontend

React.js with TypeScript

Backend

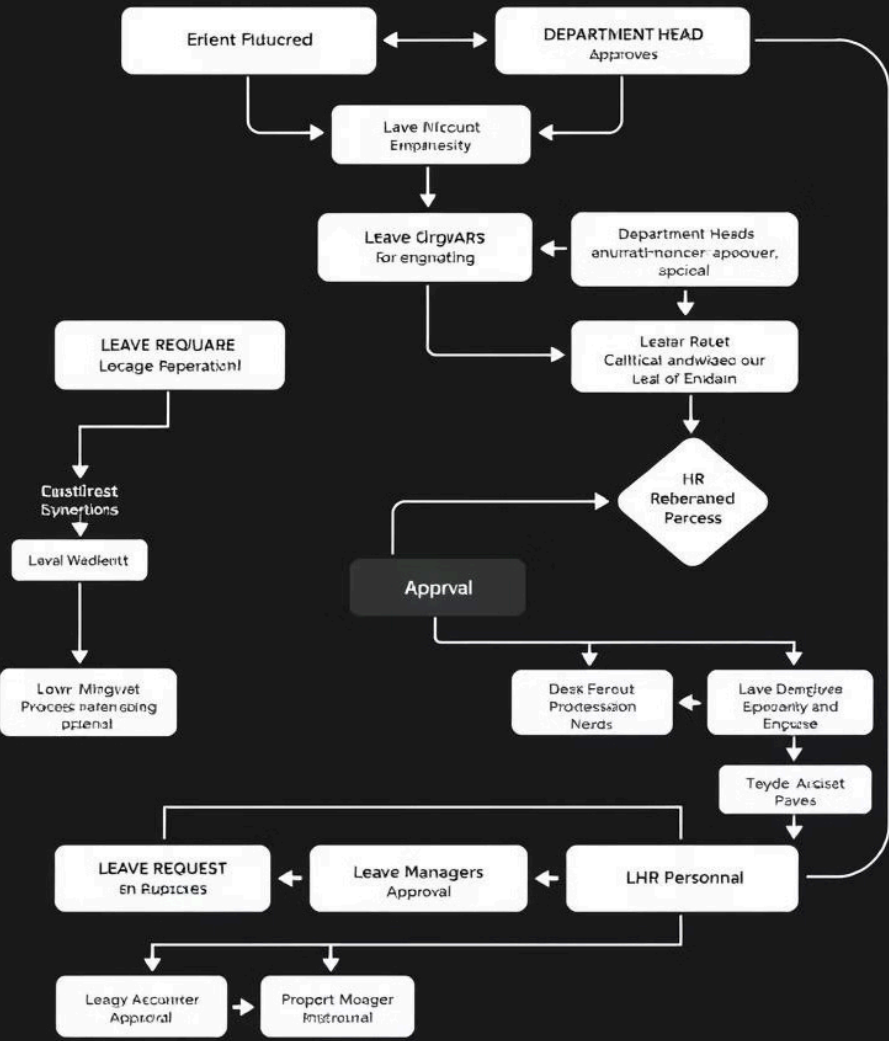
Node.js with Express.js

Database

MongoDB

Leave Request:

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User Roles and Functionalities

- 1 Applicant
Submit, view, cancel, and modify leave requests.
- 2 Department Head
Approve or deny requests, view statistics.
- 3 Process Manager
Finalize approved requests with digital signatures.
- 4 HR Personnel
Generate reports, view system-wide statistics.

Technologies Used



- **Frontend:** React.js with TypeScript
- **Backend:** Node.js with Express.js
- **Database:** MongoDB
- **Authentication:** JSON Web Tokens (JWT)
- **UI Components:** Custom components using Tailwind CSS, shadcn UI
- **Charts and Graphs:** Recharts library
- **Icons:** lucide icons
- **React signature canva**
- React CSV



Login

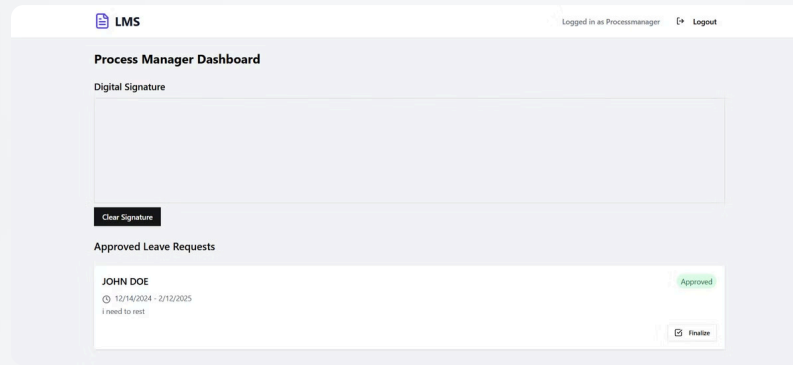
Username

Password




Login

Login Page

The login page is the entry point for all users, with email and password authentication, role-based redirection, and error handling for invalid credentials.



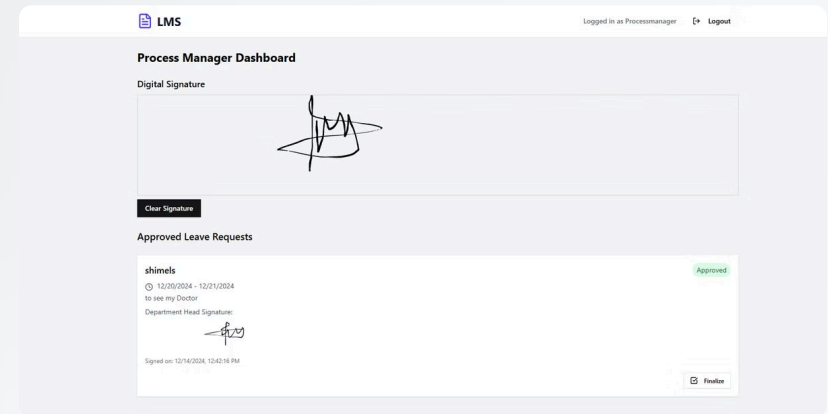
Applicant Dashboard

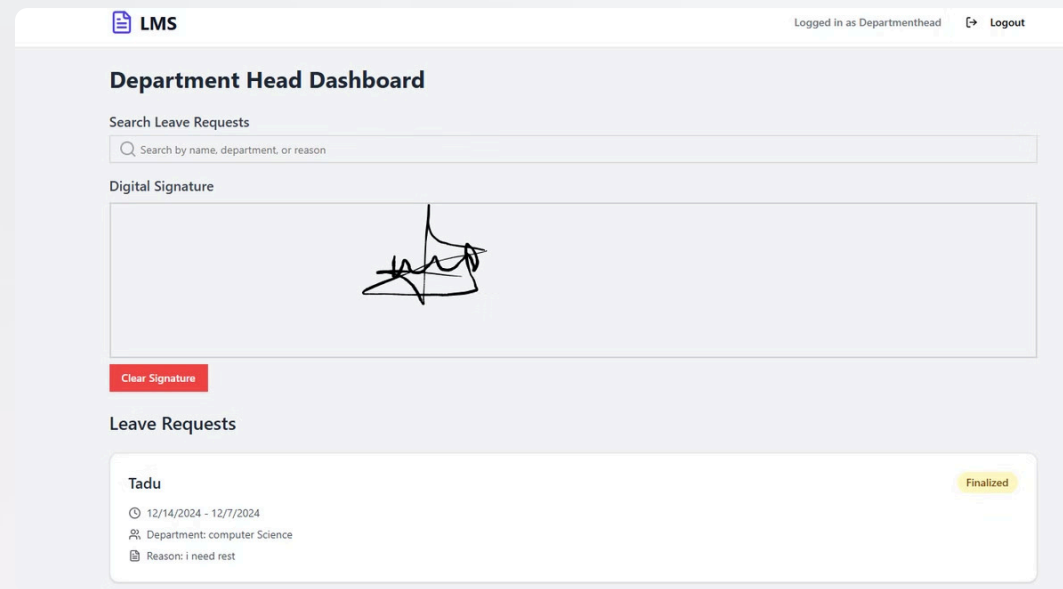
-  **Leave Request Form**
Submit new leave requests.
-  **Calendar View**
Visualize leave days.
-  **Leave Request List**
Track status of requests.

Process Manager Dashboard

The process manager dashboard is designed to finalize approved leave requests. This dashboard allows the process manager to review and approve leave requests that have been approved by department heads.

The dashboard provides a list of pending requests, a digital signature pad for final approval, and an overview of processed requests. This ensures that leave requests are handled efficiently and promptly.





Department Head Dashboard

Pending Requests

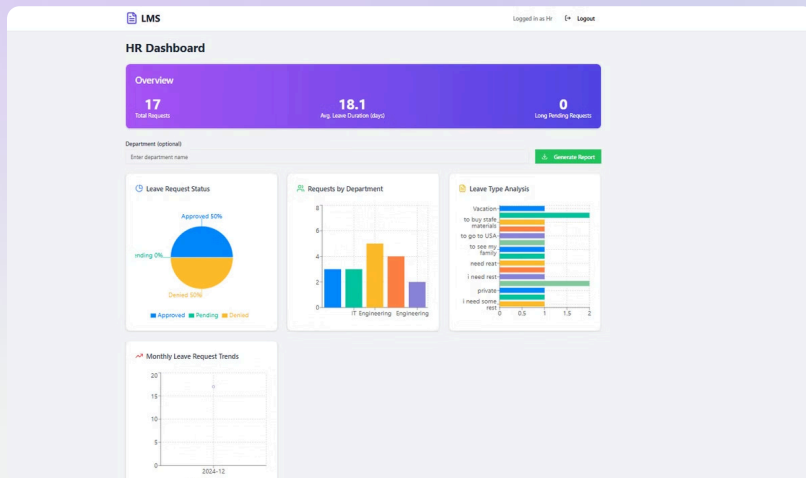
Review and approve or deny requests.

Statistics Overview

Gain insights into department leave patterns.

Digital Signatures

Approve requests with digital signatures.



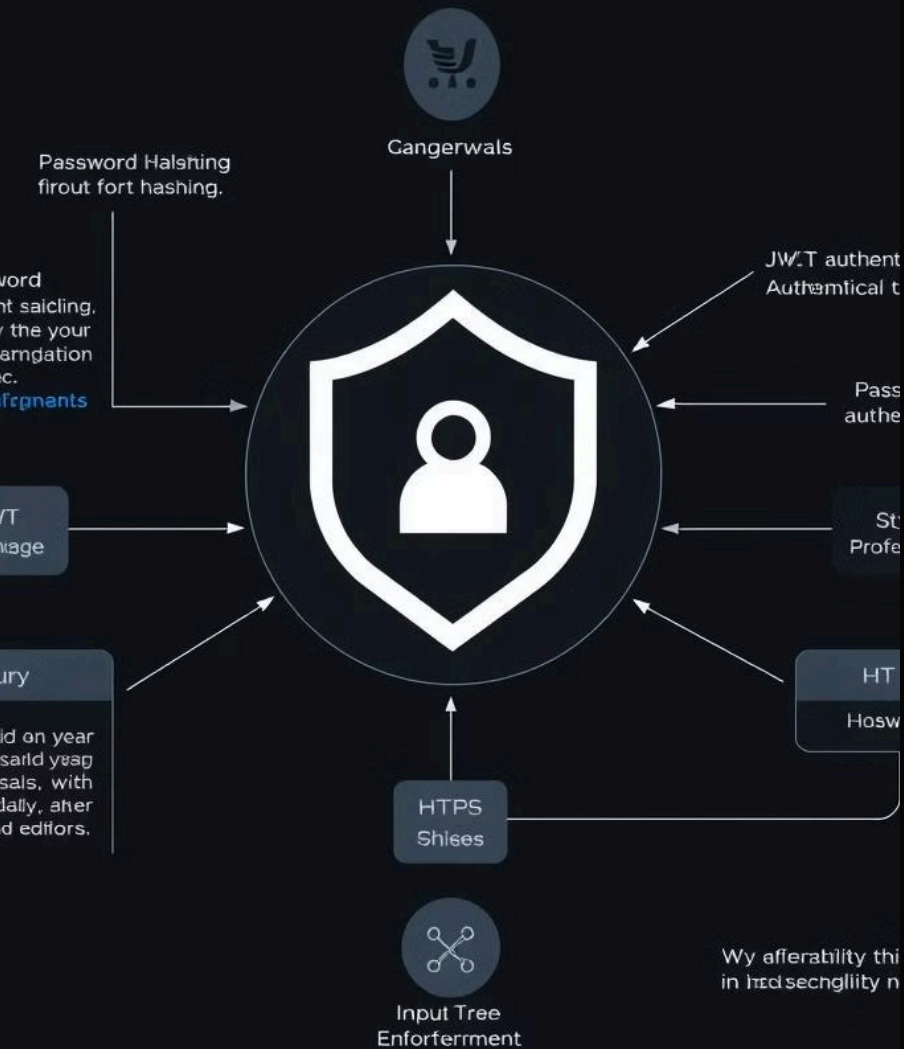
HR Dashboard

The HR dashboard provides a comprehensive view of the organization's leave management, enabling analysis of leave patterns and trends across departments.

Technical Implementation Highlights

- React Hooks manage state and side effects, improving component reusability.
- Custom UI components, built with Tailwind CSS, provide a consistent and visually appealing user experience.
- Server-side data validation and error handling ensure data integrity and prevent unexpected errors.
- JWT-based authentication secures API access, protecting sensitive data.
- MongoDB aggregation pipelines enable complex data queries, providing insights into leave patterns.

Security security



Security Measures

- Secure password hashing using bcrypt
- JWT for stateless authentication
- Role-based access control (RBAC) for API endpoints
- Input validation and sanitization to prevent injection attacks
- HTTPS enforcement for all communications

Conclusion

This Leave Management System streamlines leave processes, minimizes paperwork, and offers valuable data-driven insights into leave trends, benefiting organizations of all sizes with its user-friendly design and reliable backend.