

Prepared By: Jessica Eldo

Project: Employee Management System

Technology Stack: Nuxt.js, Rust (Actix Web), PostgreSQL

Submission Date: 22/06/2026

Employee Management System – Project Completion Report

Project Overview

An Employee Management System was developed using Nuxt.js for the frontend, Rust (Actix Web) for the backend, and PostgreSQL as the database. The application was designed with a scalable folder structure and clean code organization to support future enhancements and additional modules.

The project was completed according to the provided requirements and further enhanced with additional functionality to improve security, usability, and workflow management.

Technology Stack

Frontend

- Nuxt.js
- Vue.js
- Tailwind CSS

Backend

- Rust
- Actix Web

Database

- PostgreSQL

Additional Tools

- Postman for API Testing
- Git & GitHub for Version Control

Environment Setup

The development environment was configured successfully with:

- Frontend project initialization and configuration
- Backend project setup using Rust and Actix Web
- PostgreSQL database setup
- Environment variable configuration
- Project folder structure organization
- Database migration setup

Authentication Module

Implemented a secure authentication system with role-based access control.

Features Implemented

- Login page for system users
- Role-based login functionality
- Admin authentication
- Employee authentication
- JWT (JSON Web Token) based authentication
- Protected routes
- Session validation
- Secure logout functionality
- Access restriction based on user roles

Admin Dashboard

Developed a dedicated Admin Dashboard that serves as the central management portal.

Dashboard Features

- Employee management access
- Leave management access
- Employee statistics overview
- Administrative controls and navigation
- Secure role-based dashboard access

Employee Management Module

Implemented complete CRUD operations for employee records.

Employee Creation

The Admin can create employee records with:

- Full Name
- Mobile Number
- Email Address
- Address
- Username
- Password
- ID Proof 1 (PDF Upload)
- ID Proof 2 (PDF Upload)
- Profile Image Upload

Employee Operations

The Admin can:

- Create Employee
- View Employee List
- View Individual Employee Details
- Edit Employee Information
- Delete Employee Records

Additional Features

- File upload validation
- Employee profile viewing
- Secure file storage
- File viewing functionality
- File download functionality
- Employee-specific profile management

Employee Dashboard

Implemented a dedicated Employee Dashboard with restricted access.

Features

- Employee Login
- View Personal Profile Information

- View Uploaded Documents
- View Leave Information
- Access Restricted to Own Data Only

Employees are not permitted to modify or delete employee records, ensuring proper role-based control.

Leave Management Module

An additional Leave Management System was implemented to support employee leave workflows.

Employee Features

- Apply Leave Requests
- View Leave History
- Track Leave Status
- Withdraw Pending Leave Requests

Admin Features

- View All Leave Requests
- Approve Leave Requests
- Reject Leave Requests
- Monitor Leave History
- Review Withdrawn Leave Requests

The leave workflow was designed to maintain complete request history while allowing employees to withdraw requests before administrative action.

File Management System

Implemented secure document and image handling functionality.

Supported Uploads

- ID Proof 1 (PDF)
- ID Proof 2 (PDF)
- Profile Image

Features

- File Upload
- File Storage
- File View

- File Download
- Edit-Time File Preservation
- Secure File Access

Issues related to automatic file downloads and file preview handling were resolved and tested successfully.

Database Design

The database layer was implemented using PostgreSQL with proper schema management.

Database Features

- Structured Tables
- Relationships Between Entities
- Migration Files
- Data Validation
- Persistent Storage
- Secure Data Handling

Testing & Validation

Comprehensive testing was performed across all implemented modules.

Tested Areas

- Authentication Flow
- JWT Validation
- Role-Based Access Control
- Employee CRUD Operations
- Employee Dashboard Access
- Leave Application Workflow
- Leave Approval Workflow
- Leave Rejection Workflow
- Leave Withdrawal Workflow
- File Upload Functionality
- File View Functionality
- File Download Functionality
- Database Operations
- User Interface and Navigation

All major workflows were tested successfully and verified to be functioning as expected.

Version Control

The project source code has been committed and pushed to GitHub.

Repository Contents

- Frontend Source Code
- Backend Source Code
- Database Migrations
- Environment Configuration Templates
- Project Documentation
- README Documentation

Challenges Resolved

During development, several issues were identified and resolved, including:

- Resolved file preview and file download handling issues within the Employee Management module.
- Fixed employee-specific dashboard routing to ensure users access only their respective dashboards.
- Implemented JWT-based route protection and role-based authorization.
- Ensured uploaded files are preserved during employee profile update operations.
- Implemented leave withdrawal functionality while maintaining complete leave history for administrative review.
- Improved user interface consistency, alignment, responsiveness, and overall user experience.
- Created and managed database migrations along with schema updates to support new features and enhancements.

GitHub Repository

The complete source code, documentation, database migrations, and project structure have been committed and pushed to GitHub for review and future development.

Repository Link:

<https://github.com/Jessicaeldo-StackL/employee-management-system>

Conclusion

The project was completed successfully according to the provided requirements. Additional enhancements were implemented to improve functionality, security, and user experience. All major workflows were tested and verified, and the source code has been documented and pushed to GitHub for review.

Project Status

The Employee Management System has been successfully developed, tested, documented, and pushed to GitHub. All primary requirements specified in the assignment have been completed successfully, including authentication, employee management, file handling, employee dashboard functionality, and leave management workflows. Additional enhancements such as JWT Authentication, route protection, leave withdrawal functionality, database migrations, and UI improvements were also implemented to improve security, usability, and scalability. The project is currently ready for review and further deployment instructions.