

Software Requirements Specification

Internal Workflow ERP Portal

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1 Introduction

1.1 Purpose

Managing organizational workflows using traditional paperwork is inefficient. This ERP portal digitizes hierarchical approvals and messaging using a role-based system. Features include inbox routing, notice publishing with summarization and Hindi translation, and LDAP authentication.

1.2 Intended Audience and Reading Suggestions

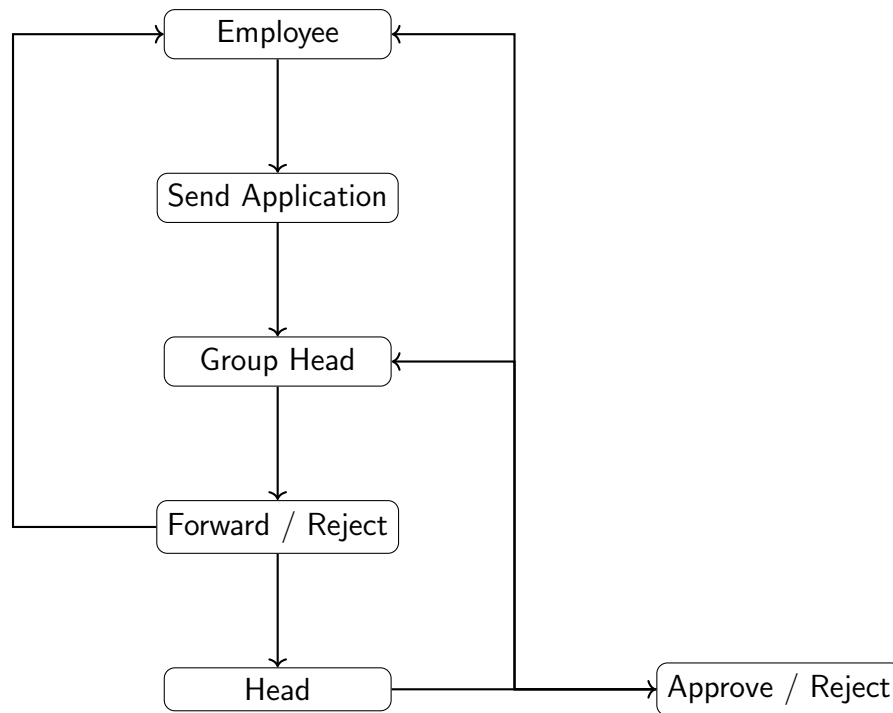
This SRS is intended for developers, testers, and institutional stakeholders. It outlines the functional and non-functional requirements of the ERP portal.

1.3 Project Scope

The Internal Workflow ERP Portal aims to create a centralized, secure, and role-driven digital platform to replace traditional, manual, and email-based organizational workflows. The system is built to streamline hierarchical communication, document approvals, notice distribution, and internal messaging within an enterprise or institution. It introduces a multi-role structure including Admin, Head, Group Head, Employee, and optionally Staff, where each role is granted specific capabilities based on its responsibilities. At the heart of the system lies a robust application workflow engine that allows Employees to send applications to their respective Group Heads, who may forward them to Heads or reject them, and the Heads, in turn, may approve or reject the forwarded applications. Every decision is tracked and logged with timestamps and user identities, ensuring transparency and accountability at each step.

To further modernize internal operations, the system integrates an automatic Hindi translation mechanism for notice titles and an AI-based summarization engine that condenses the core content of applications or notices for easier readability. All notices, library resources, and flash alerts are accessible based on role, with Admins maintaining full control over content creation, deletion, and user management. Centralized authentication is achieved using LDAP, ensuring seamless integration with existing organizational infrastructure and reducing redundant identity handling. The system's architecture emphasizes modularity and scalability, paving the way for future modules such as leave requests, task tracking, and attendance management. In essence, the ERP Portal provides a comprehensive, traceable, and intelligent digital backbone for internal organizational communication and operational workflows.

Figure 1.1: Entire Work-flow



2 Overall Description

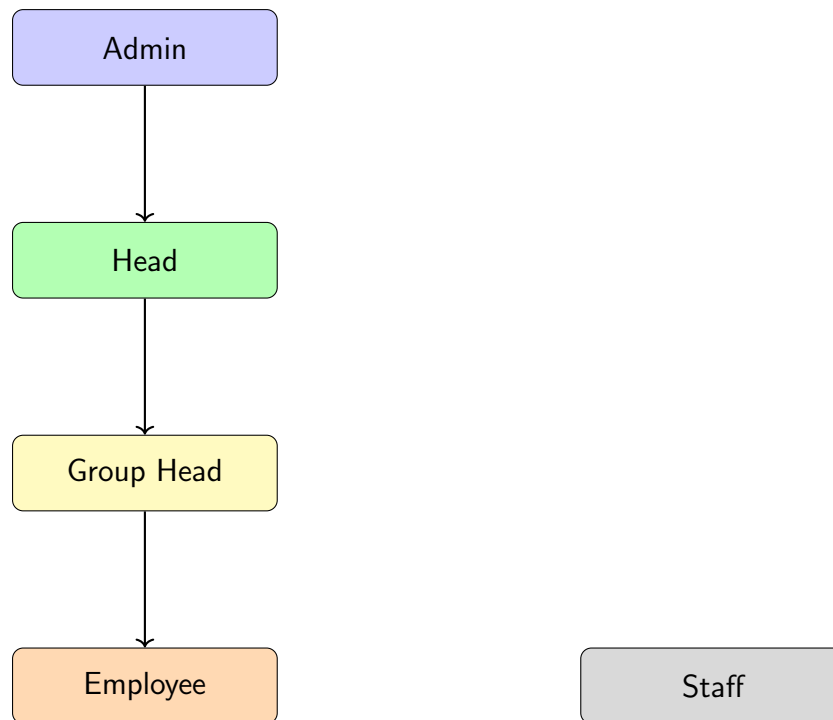
2.1 Product Perspective

The system replaces internal manual workflows with a digital solution. Employees no longer need to submit paper applications or rely on emails — instead, every step is logged and tracked with accountability.

2.2 User Classes and Characteristics

- **Admin:** Full access to manage users (add/delete/reset password), assign roles, post and delete notices/alerts, manage books.
- **Head:** Approves/rejects applications, posts notices
- **Group Head:** Forwards/rejects employee applications, posts notices, sends their own applications to Head.
- **Employee:** Sends applications/mails, views replies, notices, alerts, and library
- **Staff:** Limited access. May view or post notices (as assigned by Admin).

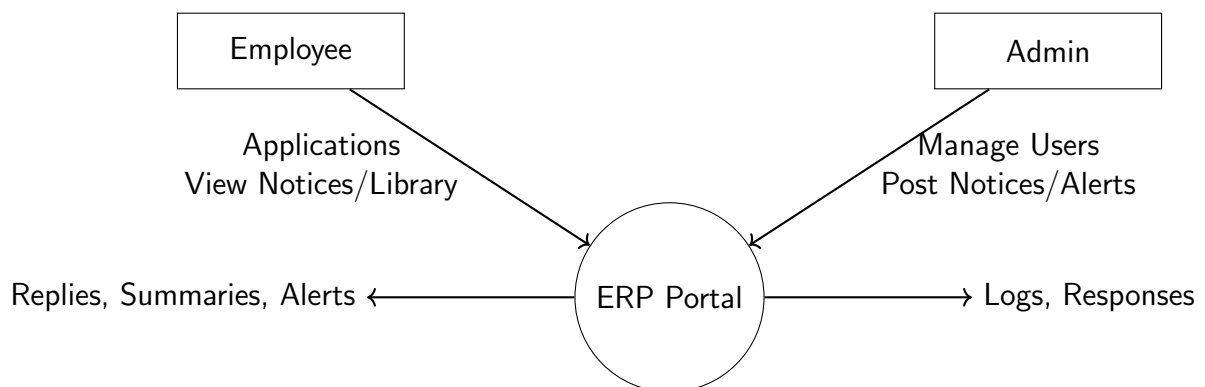
Figure 2.1: Types of Users



2.3 Product Functions

- LDAP login with JWT-based sessions
- Hierarchical inbox system with status updates (forwarded/rejected/approved)
- Tool for summarization
- Role-based routing and dashboards
- Library management and flash alert system
- Notice upload with auto translation (title to Hindi)

Figure 2.2: Level 0 DFD – Context Diagram



2.4 Operating Environment

- Frontend: React + Tailwind CSS
- Backend: Node.js + Express
- Database: MongoDB
- Auth: LDAP + JWT
- Browser: Chrome, Firefox, Edge

2.5 Design

- Role-based dashboards
- Application history with timestamps
- Admin control for books, alerts, and users

Figure 2.3: Employee Activities

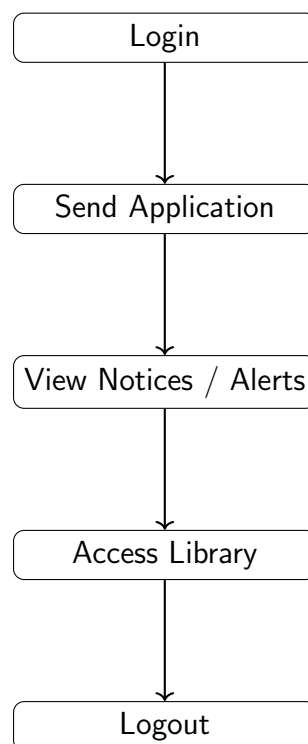


Figure 2.4: Group Head and Head Activities

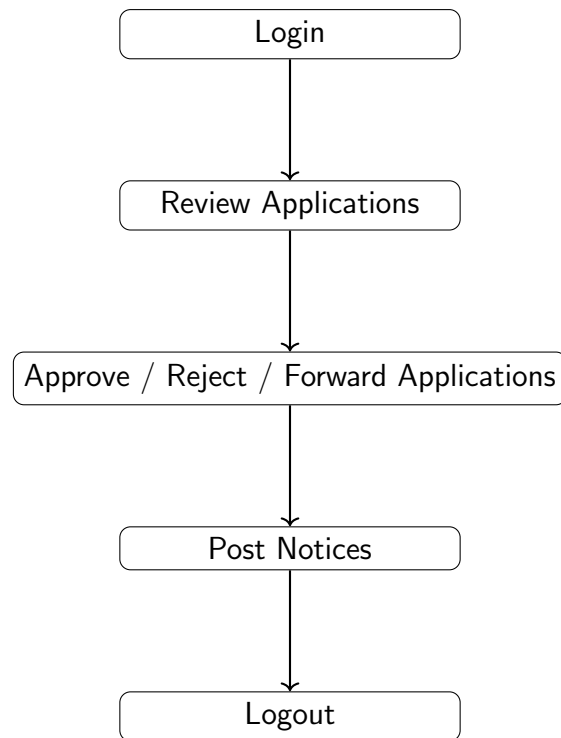


Figure 2.5: Admin Activities

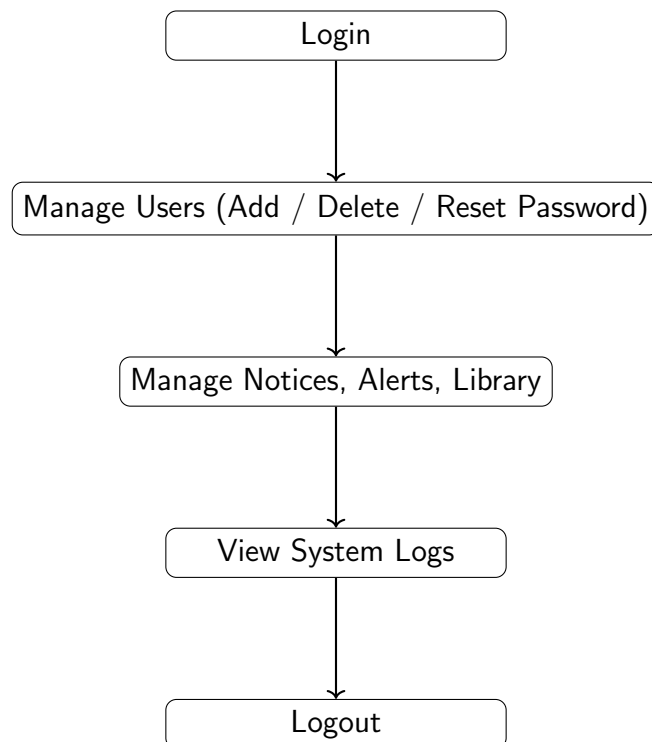
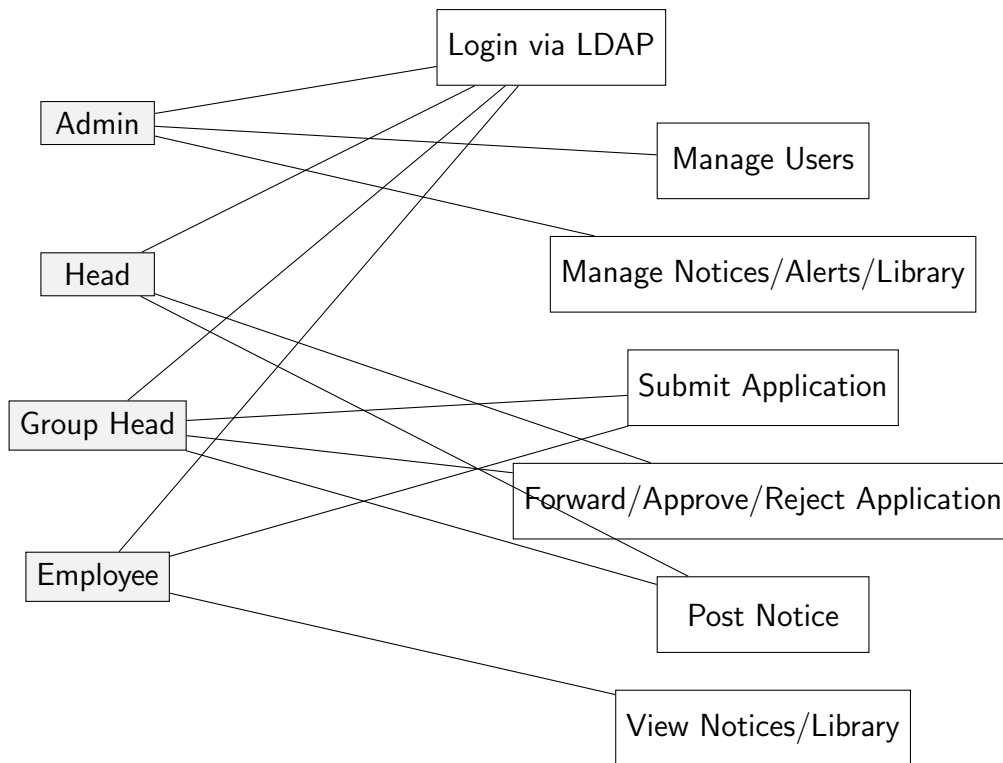


Figure 2.6: Use Case Diagram for Internal Workflow ERP Portal



3 System Features

3.1 Description and Priority

- LDAP Authentication - High
- Inbox Workflow - High
- Role-based Dashboard - High
- Notice Translation and Summary - High
- Flash Alerts - Medium
- Summarization - Medium
- Library Management - Medium

3.2 Functional Requirements

- System verifies users via LDAP
- Admin can manage users, books, alerts, and notices
- Employees can submit applications and view replies
- Group Heads can forward or reject employee submissions and post notices
- Heads can approve/reject forwarded requests and post notices
- Notices are translated (title)

- Summarization of
- Flash alerts are viewable by all users
- Library is viewable by all users and editable only by Admin

4 Other Nonfunctional Requirements

4.1 Performance Requirements

- Response time < 2 seconds
- Support for 1000+ users
- NLP/translation tasks are asynchronous

4.2 Security Requirements

- LDAP-based login
- JWT sessions
- Role-based access enforcement

4.3 Software Quality Attributes

- Scalable backend
- Testable and modular design
- Responsive frontend UI
- Audit logs maintained for each action

4.4 Business Rules

- Employees must route all applications through their assigned group heads
- Only admins can create new user accounts or modify roles
- Notices go through translation and summarization automatically

5 Other Requirements

- Extendable modules: Attendance, Reports
- Admin logs and system usage stats
- Versioning and regular maintenance