



Swami Keshvanand Institute of Technology, Management & Gramothan, Jaipur

Student Kit

Objective

The objective of a Leave Management System is to streamline the process of applying, tracking, and approving employee leaves. It ensures accurate leave balances, reduces paperwork, improves transparency, and maintains compliance with company policies.

Requirements Specification (RS)

The requirement specifications of a Leave Management System include user management, leave application, approval workflow, leave balance tracking, attendance monitoring, reports generation, notifications, policy management, secure access, scalability, and cross-platform support to ensure efficiency, transparency, and seamless operations.

Sr No.	Requirement	Essential/Desirable	Description	Remarks
RS1	User Management	Essential	Admin can manage employees	
RS2	Leave Application	Essential	Employees can apply for leave by specifying type, dates, and reason.	
RS3	Approval Workflow	Essential	Managers review and approve or reject leave requests	

RS4	Leave Balance Tracking	Essential	System tracks leave balances, displays available leaves, and auto-deducts used leaves.	
RS5	Reports and Analytics	Desirable	Generate reports on leaves for analysis by HR or management.	
RS6	Usability	Essential	Provides a simple, user-friendly interface for employees and managers.	
RS7	Performance	Essential	Ensures smooth operation with multiple users and requests processed efficiently.	
RS8	Security	Essential	Implements encryption, secure login, and role-based access control.	
RS9	Availability	Desirable	Ensures high uptime with backup and recovery systems in place.	
RS10	Scalability	Desirable	Supports future growth, allowing more users and departments.	

Database Fields Specification:

Employee Table

No.	Field Name	Range of valid values for the field	Remarks
1	Employee id	Alphanumeric (e.g., E001, E002)	Unique ID for each employee.
2	Name	Alphabetic (max 50 chars)	Full name of the employee.
3	Email	Valid email format	Used for login and notifications.
4	Role	"Admin", "Manager", "Employee"	Defines the access level of the user.
5	Leave id	Numeric (Auto-increment)	Unique identifier for each leave request.
6	Leave type	"Sick", "Casual", "Paid", etc.	Type of leave being requested.
7	Leave start date	Date (YYYY-MM-DD)	Start date of the leave.
8	Leave end date	Date (YYYY-MM-DD)	End date of the leave.
9	Leave reason	Text (max 200 chars)	Reason for applying for leave.
10	Leave status	"Pending", "Approved", "Rejected"	Tracks the approval status of the request.
11	Leave balance	Integer (0 to 365)	Remaining leave days available for the employee.
12	Approval manager	Alphanumeric (e.g., M001)	ID of the manager responsible for approval.
13	Created at	Timestamp	Automatically records when the entry was created.

Organization Table

No	Field Name	Range of Valid Values	Remark
1	Org-ID	1 to 10000	Unique identifier for each organization.
2	Org-Name	String	Name of the organization.
3	Org-Address	String	Address of the organization.
4	Contact Email	Valid email address format (e.g., example@example.com)	Contact email for the organization.

Leave Allocation Table

No	Field Name	Data Type	Remark
1	Allocation id	Integer (Primary Key)	Unique identifier for allocation.
2	Employee id	Integer (Foreign Key)	Associated employee.
3	Leave type id	Integer (Foreign Key)	Type of leave allocated.
4	Total allocated days	Integer	Total leave days allocated.
5	Remaining days	Integer	Remaining leave days.
6	Allocated date	Date	Date of allocation

High Level/Detailed Design (HLD/DD)

Overview of the system



Design Components

The system is based on various screens based on the role of the employee in an organization

Employee:

1. Login Page
2. Registration Page
3. Password Recovery/Reset
4. User Profile Management
5. Leave Application Form
6. Leave Balance Overview
7. Leave Request Tracking
8. Logout Functionality
9. Notification System
10. Leave History View
11. Document Uploads (for supporting documents)
12. Feedback Submission
13. Work Schedule Overview
14. Access to Company Policies

Organization:

1. Login Page
2. User Registration Management
3. Role Management (Assigning roles to users)
4. Employee Management
5. Leave Type Management
6. Leave Policy Configuration
7. Report Generation (Leave utilization, attendance)
8. System Settings Management
9. Notifications Configuration
10. Audit Trail Management
11. Feedback Review and Management
12. Access Control Management
13. Logout Functionality

Test-Plan (TP)

The test-plan is basically a list of test cases that need to be run on the system. Some of the test cases can be run independently for some components (report generation from the database, for example, can be tested independently) and some of the test cases require the whole system to be ready for their execution. It is better to test each component as and when it is ready before integrating the components.

It is important to note that the test cases cover all the aspects of the system (ie, all the requirements stated in the RS document).

Se No.	Test Case Title	Description	Expected Result	Requirement in RS Table	Results
1	User Login Test	Test the login functionality with valid credentials.	User is logged in successfully and redirected to the dashboard.	RS-1	Passed

2	User Registration Test	Test the registration process for a new user.	User is registered successfully and receives a confirmation email.	RS-2	Passed
3	Leave Application Test	Test submitting a leave application.	Leave request is submitted and confirmation is displayed.	RS-3	Passed
4	Leave Balance Check	Verify the leave balance is displayed correctly.	Correct leave balance is shown for the logged-in user.	RS-4	Passed
5	Leave Approval Test	Test manager's ability to approve a leave request.	Leave request status changes to 'Approved'	RS-5	Passed
6	Leave Rejection Test	Test manager's ability to reject a leave request.	Leave request status changes to 'Rejected'.	RS-5	Passed
7	Password Recovery Test	Test the password recovery functionality.	User receives a password reset email.	RS-6	Passed

8	Notification Functionality Test	Check if notifications are sent for leave approvals.	User receives a notification when leave is approved.	RS-7	Passed
9	Report Generation Test	Test the report generation feature for HR.	Reports are generated successfully without errors	RS-8	Passed
10	User Logout Test	Test the logout functionality.	User is logged out and redirected to the login page.	RS-9	Passed