Online Leave Management System (Leavesync)

Bachelor of Technology
Computer Science and Engineering

Submitted By

Ravi Kumar Gupta (13000123069)

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Techno Main
EM-4/1, Sector-V, Salt Lake
Kolkata- 700091
West Bengal
India

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1. Introduction

The **LeaveSync – Online Leave Management System** is a web-based application designed to automate the entire leave approval workflow within an organization. It enables employees to apply for leave, managers to approve or reject requests, and administrators to maintain leave policies and holiday calendars. The system replaces traditional manual processes with a fast, transparent, and user-friendly digital solution. LeaveSync improves accuracy, reduces paperwork, and helps organizations maintain a structured leave record for all employees.

I. Project Overview

LeaveSync is developed to streamline leave management by providing a centralized, automated environment. The system supports multiple user roles—Employee, Manager, and Administrator. Employees can apply for leave and track their status, Managers can review and approve/reject requests, and Admins manage users, leave types, workflows, and reports.

The application will be developed using a modern web stack (Python/Django, MySQL, HTML/CSS/JS) and will include responsive UI, automated email notifications, real-time leave balance tracking, and analytics dashboards.

II. Project Deliverables

1. Preliminary Project Plan	12.11.2025
2. Requirements Specification	18.11.2025
3. Analysis [Object model, Dynamic model, and User interface]	27.11.2025
4. Architecture Specification	03.12.2025
5. Component/Object Specification	15.12.2025
6. Source Code	15.12.2025 – 31.12.2025
7. Test Plan	01.01.2026 – 15.01.2026
8. Final Product Demo	16.01.2026 – 17.01.2026

III. Evolution of this Document

This SPMP document will evolve throughout the lifecycle of the Online Payroll Management System project. As the project progresses, updates are expected in the following sections:

1. **References** – Will be updated as new sources or supporting documents are added.
2. **Definitions, Acronyms, and Abbreviations** – Updated whenever new terms or technical terminology are introduced.
3. **Organizational Structure** – Will be revised as project roles and team leaders are formally assigned for each development phase.
4. **Technical Process** – This section will be refined as requirements become more detailed and design decisions are finalized.
5. **Schedule** – Will be adjusted based on project progress, delays, or changes in task dependencies.

REVISION HISTORY

REVISION	DATE	UPDATED BY	UPDATED COMMENTS
0.1	12.11.2025	Ravi Kumar Gupta	First Draft
0.2	16.11.2025	Ravi Kumar Gupta	Second draft/ Final draft

IV. References

- IEEE 1058-1998 – Standard for Software Project Management Plans
- Django Documentation – backend development guidelines
- MySQL Documentation – relational database reference
- Pressman, R. S., *Software Engineering: A Practitioner's Approach*
- W3Schools – HTML/CSS/JavaScript learning resources

V. Deffinitions, Acronyms, and Abbrevations

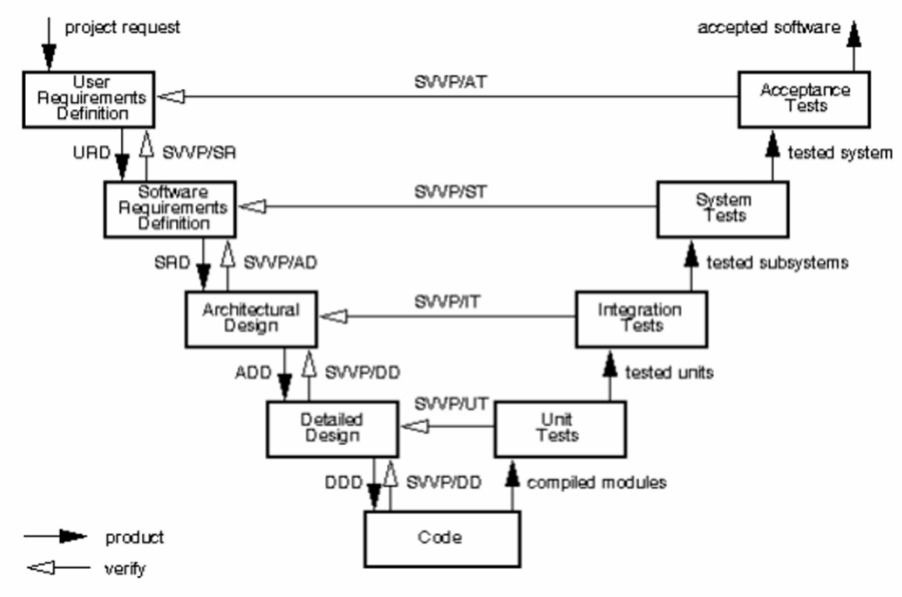
UML – Unified Modeling Language
AD – Architectural Design
ADD – Architectural Design Document
DD – Detailed Design
DDD – Detailed Design Document
PM – Project Manager
QAM – Quality Assurance Manager
SM – Senior Management

SPMP – Software Project Management Plan (this document)
SRS – Software Requirements Specification
OPMS – Online Payroll Management System
UI – User Interface
PF – Provident Fund
ESI – Employee State Insurance
TDS – Tax Deducted at Source
RBAC – Role-Based Access Control
CRUD – Create, Read, Update, Delete (basic operations used in the system)

2. Project Organization

I. Process Model

The LeaveSync project will follow the **V-Model**, where each phase has a corresponding test phase. This ensures early identification of defects and systematic validation of each component.



II. Organization Structure

Team Members –

- Ravi Kumar Gupta – Project Manager
- Aditya Sharma – Analyst
- Priya Das – Designer
- Ritu Kumar – Developer

- Arjun Patel – Tester

Name	Organization/ Position	Contact Information
Ravi Kumar Gupta	Project Manager	ravigupta@tmsl.com
Aditya Sharma	Analyst	adityasharma@tmsl.com
Priya Das	Designer	priyadas@tmsl.com
Ritu Kumar	Developer	Ritu.kumar@tmsl.com
Arjun Patel	Tester	Arjun.patel@tmsl.com

DAYS	DELIVERABLE	TEAM LEADER	DELIVERABLE DESCRIPTION
9	1	Ravi Kumar Gupta	Project Plan
7	2	Ragyam Sinha	Requirements Specification
9	3	Aditya Kumar Gupta	Analysis
13	4	Surbhi Kumari	Architecture Specifications
9	5	Viasnavi	Component/Object Specification
14	6	Sumit Kumar	Source Code
7	7	Shubham Singh	Test Plan
5	8	Arnab Mondal	Final Deliverable

III. Organizational Boundaries and Interfaces

Team leaders throughout each development of the phases will be responsible for coordinating team meetings, updates, communications, and team deliverables.

IV. Project Responsibilities

For the most vital responsibilities per phase of each team members, please refer to segment 2.2. Ultimately the project team is responsible for the successful delivery of the product. The team member tasks per deliverable according to expertise and the phases are as given below:

1. Project Plan – Whole Team

2. Requirements Specification – Ravi Kumar Gupta

3. Analysis – Ravi Kumar Gupta

4. Architecture Specification – Ravi Kumar Gupta
5. Component/Object Specification – Ravi Kumar Gupta

6. Source Code – Ravi Kumar Gupta

7. Final Deliverable – Entire Team

Name	**Organization/Position**	**Role/Responsibilities**
Ravi Kumar Gupta	Project Manager	• Managing and leading the project team. • Developing and maintaining a detailed project plan. • Monitoring project progress and performance. • Managing project evaluation and dissemination activities. • Develop corrective actions when necessary

Aditya Sharma	Business Analyst	• Prepare reports on project plans, status, progress, risks, deadlines and resource requirements. • Develop and perform work flow analysis to find out the difficulties in reaching goals. • Provide project cost estimates.
Priya Das	Designer	• Propose effective design solutions to meet project goals. • Prepare design layouts and sketches according to company design standards. • Keeping of records and files.
Ritu Kumar	Staff	• Documentation of daily activities. • Making kick-off meeting reports. • In-charge of materials needed for team building activities.

3. Managerial Process

I. Management Objective and Priorities

The management objective is to deliver the product in time and of high quality. The PM and QAM work together to achieve this by respectively checking that progress is made as planned and monitoring the quality of the product at various stages.

II. Assumptions, Dependencies and Constrains

In this project plan, a number of factors are taken into account. The following list shows the way milestones on various project phases have been scheduled:

- The team budget of 5 persons x 365 hours = 1825 hours
- The project deadline of August 12th.
- The final presentation is on August 12th.
- The peer evaluation deadline is on August 8th.

• Other days the weekends holiday is closed (June 5th, June 12th, June 19th, June 26th, July 3rd, July 10th, July 17th, July 24th, July 31th, August 7th).

NOTE: Due to the deadline of 12th August 2016, running out of time will have its reflection on the product, and not on the duration of the project. By assigning a priority to every user requirement, a selection can be made of user requirements that may be dropped out if time runs out.

III. Risk Management

This section mentions any potential risks for the project. Also, schedules or methods are defined to prevent or to reduce the risks as below:

i. Technology risk
ii. People risk
iii. Financial risk
iv. Market risk
v. Structure/process risk

The following are the possible risks to be encountered during the development of the project and how they can be prevented.

1.Miscommunication

Prevention: Team members should not hesitate to ask and re-ask questions if things are unclear. Team members should have a written copy of the tasks assigned to them every meeting.

Correction: When it becomes clear that miscommunication is causing problems, the team members should gather in a meeting to clear things up.

2. Time shortage

Prevention: Care is taken to plan enough spare time.

Correction: When tasks fail to be finished in time or when they are finished earlier than planned the project planning is adjusted

3. Illness or absence of team members

Prevention: Team members should warn their team leader or the PM timely before a planned period of absence.

Correction: Work can be taken over quickly by someone else or be distributed among the team members if a person gets ill.

4. Monitoring and Controlling Mechanisms:

The monitoring of progress is done by the PM using the following means:

Project Kick-off Meetings -The project group meetings take place within the class room or through chat. These meetings are meant to inform each other of the progress made on various tasks and to assign new tasks.

Progress Report- Progress report is done every Friday. This is meant to inform and show the progress in the development of the project and how things are going.

IV. Monitoring and Controlling Mechanisms

The monitoring of progress is done by the PM using the following means:

i. Weekly project status meetings
ii. Shared document repository
iii. Project tracking by MS project plan
iv. Tracking utilizing baselines in MS project

4. Technical Process

I. Methods, Tools, and Techniques

The project will be implemented using an Iterative Waterfall methodology, ensuring a structured flow through requirements, design, development, and testing phases. The tools used for the project include Visual Studio Code for coding, XAMPP and MySQL for backend and database operations, and StarUML for UML modeling. The system will be developed using HTML, CSS, JavaScript, PHP, and MySQL.

Testing will be conducted through manual functional testing, browser testing, and database validation.
Risks related to tools, technology, and methodology will be identified, and for each risk a brief description, probability, impact, and mitigation action will be documented to ensure successful project completion.

II. Software Documentation

Project documentation for the Online Payroll Management System will include the Software Requirements Specification (SRS), System Analysis and Design documents, Technical Specification document, Detailed Design Document, Test Plan, Implementation Plan, User Manual, and the Final Project Report. These documents will support the development, testing, and deployment of the system.

5. WORK ELEMENTS, SCHEDULE AND BUDGET

a) Work Elements

The project accounts for all required resources, technologies, and development tools necessary for completing the analysis, design, implementation, testing, and deployment of the application.

b) Team Responsibilities

The project lead role will rotate among the **three team members**, with each member leading one or more phases to ensure equal participation and balanced workload.

c) Documentation

All documents generated in each phase (requirements, design, development, testing) will be reviewed and updated in later phases whenever changes occur.

Budget and Resource Allocation

Salary	80,000.00
Office Operations/Supplies/Equipment/Consumables	50,000.00
Miscellaneous	10,000.00
Total	**Rs. 140,000.00**

		Name	Duration	Start	Finish
1		**Project Initialization**	**11 days?**	**12/11/25, 8:00am**	**26/11/25, 5:00pm**
2		Feasibility Study	4 days?	12/11/25, 8:00am	17/11/25, 5:00pm
3		Requirement Gathering	3 days?	18/11/25, 8:00am	20/11/25, 5:00pm
4		Requirement Analysis	4 days?	21/11/25, 8:00am	26/11/25, 5:00pm
5		**Design**	**12 days?**	**27/11/25, 8:00am**	**12/12/25, 5:00pm**
6		System Design	4 days?	27/11/25, 8:00am	02/12/25, 5:00pm
7		Database Design	4 days?	03/12/25, 8:00am	08/12/25, 5:00pm
8		GUI Design	4 days?	09/12/25, 8:00am	12/12/25, 5:00pm
9		**Coding**	**16 days?**	**15/12/25, 8:00am**	**05/01/26, 5:00pm**
10		Frontend	5 days?	15/12/25, 8:00am	19/12/25, 5:00pm
11		Backend	8 days?	22/12/25, 8:00am	31/12/25, 5:00pm
12		Database Model	3 days?	01/01/26, 8:00am	05/01/26, 5:00pm
13		**Testing**	**9 days?**	**06/01/26, 8:00am**	**16/01/26, 5:00pm**
14		Unit Testing	3 days?	06/01/26, 8:00am	08/01/26, 5:00pm
15		Integration Testing	3 days?	09/01/26, 8:00am	13/01/26, 5:00pm
16		System Testing	3 days?	14/01/26, 8:00am	16/01/26, 5:00pm