Software Requirements Specification (SRS)

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1 Introduction

1.1 Purpose

This document defines the functional and non-functional requirements for the **Project and Task Management System**. The system will allow managers, team leaders, and employees to collaborate on projects, track progress, and communicate effectively.

1.2 Scope

The system will enable:

- Managers to oversee projects, teams, and schedules.

- Team leaders to manage their assigned teams and communicate with team members.

- Employees to view and complete their tasks, collaborate with colleagues, and update their progress.

The system will include a **role-based dashboard**, a project tracking system, a messaging feature, and a calendar view for better task management.

2 Overall Description

2.1 Product Perspective

The system will be a **web-based** platform, optimized for desktop and mobile use, with a **role-based interface**. It will integrate with **Google Authentication**, and **real-time messaging**.

2.2   Product Functions

- User management (registration, login, role-based access, profile management).

- Project and task management (creating projects, assigning tasks, setting deadlines, tracking progress).

- Team management (assigning team members, tracking work progress, checklist management).

- Communication and notifications (role-based messaging, real-time updates).

- Graph visualization of project dependencies.

- Calendar and scheduling for tasks.

3   Specific Requirements

3.1   Functional Requirements

ID	Requirement Description
FR1	Users shall be able to register and log in.
FR2	Users shall be assigned roles (Admin, Manager, Team Leader, Employee).
FR3	Managers shall create projects, assign tasks, and set priorities.
FR4	Team Leaders shall manage team tasks and track progress.
FR5	Employees shall be able to view, update, and mark tasks as completed.
FR6	The system shall provide a real-time messaging feature based on roles.
FR7	The system shall offer a role-based dashboard with relevant data.
FR8	The system shall visualize project dependencies using a graph.
FR9	Managers and Team Leaders shall view a **calendar of tasks** for teams.
FR10	Employees shall see their personal task calendar.
FR11	Employees shall be able to communicate with colleagues and team leaders.
FR12	The system shall restrict messaging so that employees cannot message other team leads.

3.2   Non-Functional Requirements

ID	Requirement Description
NFR1	The system shall support at least 500 concurrent users.
NFR2	The response time for graph rendering shall be <2 seconds.
NFR3	The UI shall be responsive for both desktop and mobile devices.
NFR4	The system shall use **OAuth 2.0** for authentication.
NFR5	The database shall be backed up daily.

4 Role-Based Features

4.1 Manager View

- Assign and monitor projects (Upcoming, Ongoing, Completed).

- Track deadlines, descriptions, and priorities.

- View teams: Members, tasks, progress checklist.

- Company-wide calendar with all employee tasks.

- Communicate with team leaders & employees.

4.2 Team Leader View

- Manage team tasks (assign, update, track progress).

- Be assigned to multiple teams by the manager.

- Message employees in their teams, other team leads, and the manager.

- View only projects from the teams they manage.

4.3 Employee View

- See individual tasks and mark them as completed.

- View colleagues' contact information.

- Communicate with team leads and teammates (not other team leads).

- View only assigned projects and tasks.

5 Pages in the Web Application

Page	Description
Register/Login Page	User authentication using email & Google OAuth.
User Profile Page	Displays user info (name, email, profile picture, role).
Dashboard (Role-Based)	Different dashboards for Managers, Team Leaders, and Employees.
Project Detail Page	Detailed view of project info, tasks, and team members.
Admin Panel (Admins Only)	Manage users, teams, and system settings.

6 Other Requirements

- **Security**: Passwords stored securely using **hashing**.

- **Scalability**: Supports large organizations with multiple teams.

- **Performance**: Optimized rendering for graphs and dashboards.