

# 3

## Requirements Overview

### 3.1 Stakeholders

STT	Stakeholder	Description
1	Project Manager	The primary user is responsible for initiating projects, adding team members, assigning roles, and overseeing the overall workflow.
2	Team Member	Users assigned specific projects. They work on tasks, move them across the Kanban board, comment, upload attachments, and log their working hours.
3	Individual Users	Create accounts, manage tasks, track personal progress.
4	Organization / Premium Subscribers	Uses paid subscription plan for full system features. Typically, it includes multiple teams working collaboratively.
5	System Administrator	The super-admin responsible for maintaining the platform, managing the subscription tiers, and ensuring system uptime and security.
6	Payment Gateway	External systems (Momo, PayPal, Credit Card providers) that process transactions for Premium subscription upgrades.
7	Email/Notification Services	Sends system alerts, 2FA codes, and project notifications. Integrates with SMTP or cloud-based messaging services.

### 3.2 Requirements

#### 3.2.1. Functional Requirements Specification

##### A. User Management

- FR-1: The system shall allow users to register via email and password.
- FR-2: The system allow users to log in using email and password.
- FR-3: The system shall support two-factor authentication (2FA) for login security.

- FR-4: The system shall allow users to update their profile information and change passwords.
- FR-5: The system shall assign roles (Admin, Project Manager, Team Member) with different permission levels.
- FR-6: The system allow users to manage notifications and choose which alerts to receive.
- FR-7: The system shall allow Admin to manage user accounts (activate, deactivate, or delete).

### **B. Project Management**

- FR-8: The system allow users to create new projects with name, description, start/end dates, and member list.
- FR-9: The system shall automatically generate a Kanban board for each project.
- FR-10: The system shall allow Project Manager to add, remove, or update project members.
- FR-11: The system allow users to edit project details or close a project when completed.
- FR-12: The system shall allow users to search projects by name, manager, or status.

### **C. Task Management (Kanban)**

- FR-13: Members shall be able to create tasks containing title, description, assignee, deadline, priority, and status.
- FR-14: The system shall allow tasks to include file attachments, images, and sub-checklists.
- FR-15: Users shall be able to comment on tasks and tag (@mention) other team members.
- FR-16: The system shall support a drag-and-drop interface to move tasks between Kanban columns.
- FR-17: The system shall allow users to filter and search tasks by name, priority, due date, or assignee.

### **D. Progress & Performance Tracking**

- FR-18: The system shall display a progress bar (%) for each task based on checklist completion or status.
- FR-19: (Premium Feature) The system shall generate Gantt charts to visualize timelines and dependencies.
- FR-20: The system shall allow users to log working hours for specific tasks.

- FR-21: (Premium Feature) The system shall provide individual performance analytics (weekly/monthly).
- FR-22: The system must send automatic alerts to assignees when a task deadline is approaching or overdue.

#### **E. Reporting & Notifications**

- FR-23: The system shall maintain an Activity Log recording all actions (Task creation, status changes, comments).
- FR-24: The system must send real-time notifications via Web and Email for significant updates.
- FR-25: (Premium Feature) The system shall generate comprehensive reports (Project progress, Completed/Ongoing tasks) exportable to PDF or Excel.

#### **F. Security & Subscription Management**

- FR-28: The system shall allow users to choose between Free and Premium plans.
- FR-29: The system shall process payments via Momo, PayPal, or credit cards.
- FR-30: The system shall limit Free plan users to 3 active projects.
- FR-31: The system shall provide Premium features such as unlimited projects, advanced analytics, and Gantt charts.

#### **3.2.2. Non-Functional Requirements Specification**

- NFR-01 (Security): All data transmission must be encrypted using HTTPS protocols.
- NFR-02 (Security): User authentication must be stateless and verified using JWT (JSON Web Tokens).
- NFR-03 (Reliability): The system must perform regular automatic backups of all project data, attachments, and activity logs.
- NFR-04 (Performance): The system must support real-time updates (via WebSocket or similar technology) so that changes to the Kanban board are instantly visible to all active users without refreshing.
- NFR-05 (Usability): The user interface must be intuitive, supporting drag-and-drop interactions for task management.
- NFR-06 (Scalability): The database design must support the specific limitations of Free plans vs. the unlimited nature of Premium plans without performance degradation.
- NFR-07 (Compatibility): The reports generated must be compatible with standard PDF readers and Microsoft Excel.