Project Requirements and Features

Requirement 1: User Authentication & Role Management

Handles secure login, registration, and user role-based access control.

Features:

- User Signup & Login using email and password.
- Third-Party Login Support via OAuth (Google) using the `Provider` field.
- Role-based Access Control (Admin, Member, Leader).
- Unique Email Validation with server-side checks.
- User Profile Customization, including avatar and name updates.

Requirement 2: Workspace & Team Collaboration

Enables organizations to manage multiple teams and workspaces for different projects.

Features:

- Create and Manage Workspaces with admin assignment.
- Invite Users to Workspaces or Teams via many-to-many relationships.
- Team Creation Within Workspaces, with assigned team leaders.
- Manage Workspace Settings like description and chat group assignment.
- Visualize and Manage Relationships between users, teams, and projects.

Requirement 3: Project & Task Management

Core functionality for tracking and organizing work items and projects.

Features:

- Create Projects Linked to Workspaces and assign to teams.
- Create, Assign, and Update Tasks with status, assignee, reporter, and team.
- Comment System on Tasks, including threaded replies.
- Kanban-like Views (frontend) for task progression.
- Task Status and Filtering Options like To-Do, In Progress, Done.

Requirement 4: AI-Assisted Productivity

Enhances user experience and decision-making using AI integrations.

Features:

- AI Chat Assistant within a chat group for quick help and suggestions.
- AI-Powered Task Suggestions while creating tasks (e.g., auto title or description).
- Smart Task Assignment Recommendations based on workload and history.
- Predictive Project Status Updates based on task trends.
- AI-Powered Comment Summarization in long discussions.

Requirement 5: Real-Time Communication & Notifications

Facilitates user interactions and keeps teams informed.

Features:

- Group Chat Functionality through `ChatGroup` and `ChatMessage` .
- Multiple Users per ChatGroup (many-to-many relation).
- Real-time Notifications for task updates, mentions, and assignments.
- Mention System in Comments and Messages (`@email`).
- Task Activity Log and Email Alerts for critical changes.