



Cse 299 - Junior Design Project Proposal

**Title: A Modern Task Management
Platform for Corporate Teams**

Section : 4

Group : 3

Faculty : Dr. Mohammad Shifat-E-Rabbi (MSRB)

Team members

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Introduction and Motivation:

Problem Statement : In large corporate teams, managing daily tasks and keeping everyone on the same page is often challenging. Miscommunication, unclear responsibilities, and limited visibility of progress reduce efficiency and create bottlenecks in workflow which result in inefficiency of workflow and thus missing deadlines causing harm to companies. Traditional project management tools are either too generic or overly complex for enterprise-scale collaboration.

Solution : Our project aims to create a modern task management platform built specifically for corporate teams to organize, track, and complete their work more efficiently. The main objective of this web-app will be to make a user-friendly interface for teams to track their tasks and assign tasks and meet deadlines on time. The platform will make collaboration smoother and progress tracking more transparent.

Motivation : The motivation behind this project is to help organizations monitor key performance indicators (KPIs), ensure accountability, and improve productivity through a structured and visually engaging system. By designing a workspace where roles, tasks, and deadlines are clearly defined, our project will bring both clarity and control to large-scale teamwork.

Similar Solutions:

Older systems like **Trello**, **Microsoft Project**, **Wrike**, **Jira** or legacy internal dashboards are known for their outdated UI and lack of intuitive progress visualization. They have :

1. **Cluttered and outdated UI:** Dense interfaces overloaded with menus, tabs, and data tables made even simple tasks feel complicated.
2. **Poor visual hierarchy:** Important project metrics were buried under unnecessary details, leading to confusion and decision fatigue.
3. **Limited real-time collaboration:** Most relied on manual updates instead of live syncing or shared editing, causing version conflicts.
4. **Slow performance:** Legacy frameworks and server-side rendering caused frustrating delays during updates or navigation.
5. **Rigid workflow structures:** Adapting to team-specific processes required heavy configuration or wasn't possible at all.

Besides these, **Trello** uses a Kanban-style board for task tracking but lacks detailed time tracking and reporting in the free version. **Asana** and **Jira** provides advanced project and task tracking but can be overwhelming for new users and is not open source.

Proposed Solution :

Our platform will provide a digital workspace that allows corporate teams to plan, assign, and monitor their projects from start to finish. The focus is on usability and efficiency, reducing the friction that large teams face while coordinating complex projects.

Key Features:

1. **Workspace Creation:** Create a workspace, choose an industry type, and personalize settings.
2. **Team Management:** Add or remove members, assign roles (admin, manager, contributor, viewer), and manage hierarchy.
3. **Project Management:** Create projects, set start and end dates, assign members, and track progress visually with status indicators.
4. **Task Workflow:** Tasks can be dragged between *To Do*, *In Progress*, and *Done* columns with progress bars and priority levels.
5. **File and Link Support:** Attach files and add link previews to task cards.
6. **Activity Feed:** View chronological updates, such as “Farhan added a new file to Project Alpha,” for better awareness.
7. **Collaboration Tools:** Comment on tasks, react to comments, create subtasks, and add watchers or archive tasks.
8. **Invitations and Permissions:** Invite members via email or shared link, manage permissions, and transfer workspace ownership.
9. **Dashboard:** A central dashboard displaying all task updates, progress graphs, and performance metrics.
10. **User Profiles and Security:** User profiles include name, email, and profile photo, with password protection and two-factor authentication.
11. **Notifications:** Real-time notifications for mentions, updates, and new assignments.

Project Environment:

Technology Stack and Purpose

1. **MongoDB:**

Used as the database layer to store project data, user profiles, and activity logs with a flexible, scalable NoSQL structure.

2. **Express.js:**

Serves as the backend framework, managing server logic, API routes, and middleware for communication between the client and server.

3. **Node.js:**

Provides the runtime environment, enabling fast, asynchronous server-side operations and handling multiple concurrent requests efficiently.

4. **React.js:**

Powers the frontend interface, enabling dynamic, interactive, and component-based UI development for real-time updates.

5. **React Router v7:**

Manages navigation and routing within the application, allowing smooth transitions between pages without reloading.

6. **TypeScript:**

Adds static typing and type safety to the codebase, improving reliability, maintainability, and reducing runtime errors.

7. **Shadcn UI:**

Offers reusable, pre-built UI components that ensure consistency and speed up interface development.

8. Tailwind CSS v4:

Handles styling with a utility-first approach, providing a sleek, responsive, and easily customizable design system.

Outcome:

Together, these technologies create a **robust, scalable, and visually consistent platform** optimized for modern development and a seamless user experience across devices.

Timeline :

Update	Tasks / Deliverables	Description
Update-1	Project Setup, Sign-In, Sign-Up, User Authentication, Email Verification, Reset User Password	Set up project structure, configure backend and frontend environments, implement secure authentication system, and enable user account recovery through email verification and password reset.
Update-2	Dashboard Layout, Create Workspace	Design and implement the main dashboard interface. Add functionality to create and manage workspaces for project organization.
Update-3	Workspace Details, Create Project	Develop workspace detail pages to display associated projects. Implement project creation functionality with title, description, and deadline inputs.
Update-4	Project Details, Create Task	Build project detail pages to view and manage project-specific data. Implement task creation with assignment and due date options.
Update-5	Task Details, Task List, Task Update	Develop detailed task views, enable task updates (status changes, edits), and display tasks in list layout.
Update-6	Workspace Members, Workspace Member Invites	Implement member management features, allowing workspace owners to invite, view, and manage members with different access roles.

Update-7 (Project Demonstration)	Fully Deployed Web App	Implement member management features, allowing workspace owners to invite, view, and manage members with different access roles.
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Roles and Responsibilities:

- **Farhan Karim - 2311790642** : Responsible for UI/UX design, dashboard layout, and frontend integration using React.js and Tailwind CSS. Focuses on creating an intuitive and visually appealing user experience.
 - **Safat Uddin - 2311966642** : Handles backend development, authentication logic, and database operations using Node.js, Express, and MongoDB. Ensures data security and API reliability. Connects frontend components with backend APIs and ensures overall design consistency.
 - **Faizur Rahman Zunayed - 2312137642** : Works on frontend component integration using shadcn/ui and React.js, focusing on implementing reusable UI components and enhancing user interactivity like form handling.
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Conclusion :

Corporate teams often struggle with managing multiple projects, members, and timelines efficiently. Our proposed task management platform is designed to solve these problems by bringing structure, clarity, and simplicity to large-scale teamwork.

With real-time collaboration tools, a clean interface, and advanced analytics, the system offers a new standard for enterprise productivity. It improves upon outdated task management tools and provides organizations with an intelligent way to plan, track, and achieve their goals effectively.
