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Phase 1 TECHNOLOGY PROJECT

NAME : CHAT APPLICATION UI

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Phase 1 – Problem Understanding & Requirements

1.1 Problem Statement

In today's fast-paced environment, effective task management is crucial for collaboration and productivity. Many student organizations, small teams, and clubs still rely on informal methods such as WhatsApp messages, spreadsheets, or verbal communication to manage tasks. While these methods are convenient, they lack structure, accountability, and transparency.

For example, when multiple people work on a college event, it becomes difficult to track **who is responsible for what task**, whether the task is completed, and if deadlines are being met. As a result, delays occur, tasks are forgotten, and miscommunication increases.

To address this problem, we propose the development of a **Task Management Web Application** built using a **React.js frontend** and a **Node.js REST API backend**. The application will provide features such as user authentication, task creation and assignment, progress tracking, and dashboards for better visibility. This solution will streamline collaboration, improve accountability, and ensure timely task completion.

1.2 Users & Stakeholders

Primary Users

1. **Regular Users (Members)** – They are responsible for receiving assigned tasks and updating their status.
2. **Task Creators** – Individuals who create and assign tasks to themselves or others.
3. **Administrators/Moderators** – Users with additional privileges to update or delete any task and oversee project progress.

Stakeholders

1. **Club Leaders / Project Managers** – Need insights into progress and accountability.
2. **Team Members** – Want a simple, distraction-free way to see their responsibilities.
3. **Faculty/External Mentors** – May require access to task summaries and progress updates.

Each stakeholder has different levels of involvement. For instance, a regular team member only interacts with their assigned tasks, while an administrator has control over the entire workflow.

1.3 User Stories

The application will follow the Agile methodology of defining **user stories**. These represent features from the perspective of end-users:

1. As a **member**, I want to log in securely so that I can access my tasks.
2. As a **member**, I want to view my assigned tasks so that I don't forget deadlines.
3. As a **member**, I want to update the status of my tasks so that others can see my progress.
4. As a **task creator**, I want to assign tasks to specific users so that responsibilities are clear.
5. As an **admin**, I want to update or delete tasks so that the system stays clean and accurate.
6. As an **admin**, I want to view the dashboard of all tasks so I can monitor overall progress.
7. As a **user**, I want to receive deadline reminders so I don't miss important work.
8. As a **user**, I want the system to be mobile-friendly so that I can use it on the go.

Prioritization of Stories:

- **Must-Have:** Login/Signup, Create Task, Assign Task, Update Status.
 - **Should-Have:** Delete Task, Dashboard Summary.
 - **Nice-to-Have:** Deadline Notifications, Search/Filter Tasks.
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1.4 MVP Features

For the **Minimum Viable Product (MVP)**, the following features will be implemented:

Feature	Description	Priority
User Authentication	Secure login/signup using JWT	High
Task Creation	Create a task with title, description, assignee, due date	High
Task Assignment	Assign tasks to users from the registered list	High
Task Status Update	Mark tasks as "To Do", "In Progress", or "Done"	High
Dashboard	View tasks assigned to me and tasks I created	Medium
Admin Controls	Admins can delete or update any task	Medium

This MVP ensures that the system delivers essential value immediately while allowing room for future enhancements such as notifications and reporting.

1.5 Wireframes / API Endpoint List

Wireframes (Text Representation):

1. Login Page

| Login Form |

| [Email] [Password] |

| [Login Button] |

2. Dashboard

| My Tasks | Assigned Tasks |

| Task 1: Pending | Task 5: Done |

| Task 2: In Prog | Task 6: To Do |

[Create Task Button]

3. Create Task Form

| Create New Task |

| [Title] |

| [Description] |

| [Assignee Dropdown] |

| [Due Date Picker] |

API Endpoints (with Purpose):

- POST /auth/signup → Register a new user.
- POST /auth/login → Login and get JWT token.
- GET /tasks → Fetch all tasks assigned to logged-in user.
- POST /tasks → Create new task.
- PUT /tasks/:id → Update task details/status.
- DELETE /tasks/:id → Delete a task.

1.6 Acceptance Criteria

The following acceptance criteria ensure the requirements are testable and verifiable:

1. A user can register with a valid email and password.
2. After logging in, a JWT token must be generated and stored.
3. Users without a token cannot access /tasks.
4. Creating a task requires **title, status, assignee, due date**.
5. A user should only see tasks assigned to them or created by them.
6. Admins can view all tasks and delete/update them.
7. Status options must be restricted to: **To Do, In Progress, Done**.
8. UI should render correctly on desktop and mobile browsers.
9. API responses should follow JSON format with proper error messages.

Phase 1 Summary :

This phase thoroughly documents the **problem, users, requirements, MVP, wireframes, endpoints, and acceptance criteria**. It lays a strong foundation for moving into design and implementation.