Signos

A Project Management Application

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1. Problem Statement

Managing projects, tasks, and team collaboration effectively is a critical challenge for smaller organizations and inexperienced teams. Existing tools often lack a simple implementation that integrates team management, task tracking, community engagement, and seamless communication through video meetings. This gap results in decreased productivity,improper time management, and difficulty in maintaining project transparency. The goal of this project, **Signos**, is to address these challenges by providing an integrated platform to implement project management in simple models, efficient task tracking, ease in team collaboration, and community engagement.

2. Functional Requirements

The system must include the following key functionalities:

1. **User Management:**
    - User registration and login with secure authentication.
    - Role-based access control (e.g., Admin, Team Member, Guest).
    - Profile management for updating user details.
2. **Team Management:**
    - Create and manage teams.
    - Assign roles within teams.
    - Add and remove team members.
3. **Task Management:**
    - Create, assign, and prioritize tasks.
    - Update task status (To Do, In Progress, Done).
    - Add task dependencies (like Jira).
    - Notify users of task updates or deadlines.
4. **Project Management:**
    - Create and manage projects.
    - Assign teams to projects.
    - Track project progress.
5. **Community Features:**
    - Create and join communities for discussions.
    - Share posts and updates.
    - Comment, like, and interact with posts.
6. **Video Meetings:**
    - Schedule and host video meetings.
    - Real-time video conferencing with screen sharing.
    - Notify team members of scheduled meetings.

7. **Notifications:**

    - Notify users about task updates, deadlines, and meetings.
    - Provide in-app and email notifications.

8. **Reporting and Analytics:**

    - Display progress dashboards for tasks and projects.
    - Generate team productivity reports.

3. Non-functional Requirements

1. The system should be accessible via web browsers and mobile devices.
2. The application must support at least 100 concurrent users.
3. Ensure data security using encryption for sensitive information.
4. Provide a user-friendly interface with minimal learning curve.
5. The system must be highly available, with a downtime of less than 0.1% per month.
6. The response time for key actions (e.g., loading tasks, initiating video calls) should not exceed 2 seconds.

4. Modules

The project will consist of the following modules:

1. **User Management Module:** Manages user authentication, roles, and profiles.
2. **Team Management Module:** Handles team creation, member management, and role assignment.
3. **Project Management Module:** Manages projects, including team assignment and tracking progress.
4. **Task Management Module:** Supports task creation, assignment, prioritization, and dependency management.
5. **Community Management Module:** Facilitates the creation and participation in communities for discussions.
6. **Video Meeting Module:** Allows users to schedule and conduct video meetings with additional features like screen sharing.
7. **Notifications Module:** Provides real-time updates for tasks, meetings, and com- munity activity.
8. **Reporting and Analytics Module:** Generates progress reports and visual dash- boards for better project insights.

5. Technologies Used

- **Frontend:** React.js, tailwind css, UI library, redux
- **Backend:** Node.js with Express.js
- **Database:** MySql
- **Library for sockets:** Socket.io
- **Video Conferencing:** WebRTC and library based on it.
- **Version control:** Git and Github

- **Deployment: not sure**
- **Version Control:** Git with GitHub