

Project Title:

NexusBoard – Collaborative Task and Team Management System

Team Composition:

Role	Name	Responsibility Area
Team Lead	Abhilash B	Database Design & Integration
Team member	G. Anil Kumar	Backend Development (APIs & Business Logic)
Team member	H. M. Yashodhara	Database Management & Query Optimization
Team member	Karthik R G	Frontend Design & Dashboard Styling
Team member	Teju D	Testing, Debugging & Validation
Team member	Shivakumar S N	Frontend Functionality & UI Integration
Team member	Kamalakanta Behera	Backend User Authentication
Team member	Shine S	Real-Time Synchronization
Team member	Sachin U	Frontend Enhancements & Navigation Logic
Team member	Sudeep R. G	System Testing & Quality Assurance
Team member	Santhosh B R	Backend CRUD Operations
Team member	Harish	Frontend Styling & Animation
Team member	Nagendra N	Responsive Web Layout
Team member	Sachin Gowda K S	Board Page Layout & Interface Design

Identifying the Business Problem

In the modern workplace, teams often struggle with managing multiple projects, maintaining transparency, and ensuring timely communication. Traditional methods like emails and spreadsheets are inefficient for collaborative work and lead to poor task visibility and miscommunication.

The main problem identified was the lack of a unified and interactive digital workspace that allows team members to create, assign, and manage tasks effectively.

NexusBoard was designed to solve these issues by providing a collaborative environment where teams can manage boards, assign roles, monitor progress, and stay connected efficiently.

Project Requirements

Functional Requirements

1. **User Authentication:** Secure registration and login system.
2. **Board Management:** Users can create boards and invite members.
3. **Task Management:** Add, update, and delete tasks with due dates and assigned members.
4. **Real-Time Collaboration:** Changes made by one user update instantly across the system.
5. **Responsive UI:** Works smoothly across mobile, tablet, and desktop devices.

Technical Requirements

- **Frontend:** HTML, CSS, JavaScript
- **Backend:** Python (Flask Framework)
- **Database:** SQLite
- **Real-Time Communication:** Socket.IO
- **Testing:** Manual & Automated Testing

Work Done by Each Team Member

Member	Contribution
Abhilash B	Designed and managed the database structure including users, boards, and tasks tables, and handled backend–database integration.
G. Anil Kumar	Developed backend routes using Flask for task and board operations, and linked them with database queries.
H. M. Yashodhara	Assisted in SQL query design, ensured data consistency, and worked on database maintenance.
Karthik R G	Designed frontend dashboards and forms using modern CSS styling and layout design.

Teju D	Conducted testing for backend modules, identifying and resolving functional issues.
Shivakumar S N	Worked on user-facing frontend components and form interactions.
Kamalakanta Behera	Implemented user authentication modules like registration and login with secure session handling.
Shine S	Integrated Socket.IO for real-time synchronization between users across browsers.
Sachin U	Improved navigation between pages and optimized frontend
Sudeep R. G	Handled quality assurance and end-to-end testing across modules.
Santhosh B R	Developed backend CRUD functionalities for tasks and board management.
Harish	Enhanced UI with CSS effects, gradients, and transitions for an improved user experience.
Nagendra N	Focused on mobile responsiveness and adaptive layouts for multiple devices.
Sachin Gowda K S	Created the board page interface and implemented frontend logic for member displays.

Solving the Business Problem

The NexusBoard project effectively streamlined team collaboration and task tracking. By integrating secure authentication, centralized board creation, and live updates, it eliminated communication gaps and manual tracking issues. Teams could manage their workflow, assign responsibilities, and track completion within one unified system.

This approach improved efficiency, transparency, and accountability across all members of a project team.

Collaboration of Team

The team collaborated efficiently through clear role distribution and version control.

- Used GitHub for code sharing and updates.
- Conducted regular team meetings to assign tasks and track progress.
- Maintained coordination between frontend and backend teams for seamless data flow.
- Testers validated each completed module to ensure system stability.

Team communication and responsibility-sharing played a crucial role in completing the project successfully and on time.

Result and Conclusion

The completed NexusBoard project resulted in a well-structured and interactive platform that supports user authentication, board and task management, and real-time updates.

Users can now efficiently organize team activities, create boards, and manage work without confusion.

The interface is visually appealing, easy to use, and fully responsive across devices.

Conclusion:

NexusBoard successfully met its objectives of enhancing team productivity and collaboration.

The clear division of work, strong teamwork, and consistent effort from all members made the project efficient, scalable, and ready for real-world use.