Sardar Patel Institute of Technology

Department of Computer Engineering

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COLLABNEST – SYNC UP, SKILL UP

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Abstract

CollabNest is a mobile application designed to help students stay informed about all college events through a centralized master calendar, ensuring clear visibility of ongoing and upcoming activities. The platform allows students to view profiles, communicate through real-time chat, and form teams by sending and accepting invitations.

By combining event accessibility with easy team coordination, CollabNest enhances participation across campus. The system is developed using Android (Kotlin) for the frontend, Spring Boot for backend APIs, and Firebase for authentication, data storage, and real-time communication.

Introduction

College events often face issues like difficulty in finding teammates, poor coordination, and schedule clashes. Students struggle to manage multiple activities using scattered tools.

CollabNest offers a single platform where students can explore events, form teams, communicate, and manage schedules efficiently, improving overall event organization.

Objectives

- Provide an easy platform for event discovery and registration.
- Enable smooth team creation and joining.
- To enhance communication between team members through in-app interaction features.
- To integrate a master calendar that minimizes schedule conflicts and improves event planning.

Problem Definition

1. Students face difficulties in finding teammates, coordinating responsibilities, and keeping track of multiple college events.
2. Existing methods such as WhatsApp groups or word-of-mouth communication lead to confusion, schedule clashes, and inefficient participation.
3. The project aims to solve these issues by providing a structured way to discover events, form teams, and manage schedules in one unified system.

Contribution

Key Features

- Centralized, modular productivity ecosystem
- Centralized platform for all college events
- Easy event discovery and registration
- Team creation and joining for multi-member events
- In-app communication between team members

Design

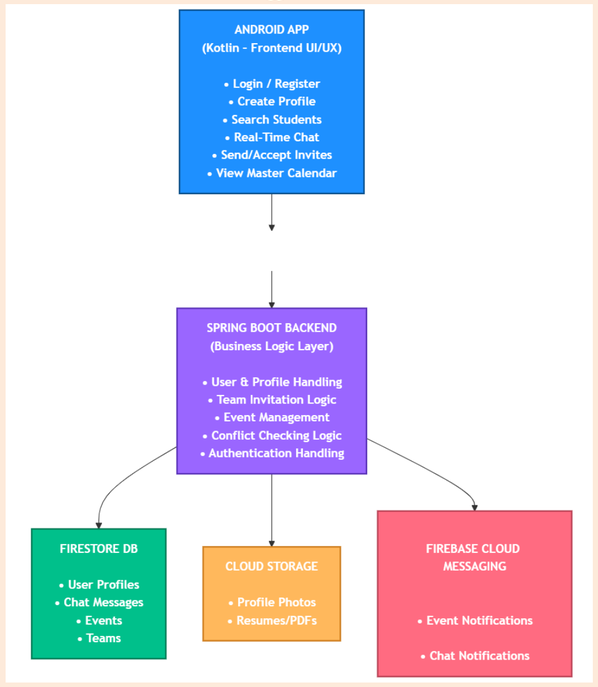

Figure 1: CollabNest Architecture

Methodology

CollabNest is developed using a structured, user-centered approach focused on simplicity, real-time interaction, and smooth event coordination. The project is built in stages—starting with authentication and profile creation, then adding chat, team invitations, and event calendar integration. Each phase involves implementation, testing, and refinement to ensure the features match student needs.The system applies concepts learned from mobile development, database design, and client–server architecture. Firebase Firestore provides real-time syncing for chats, invitations, and events, while Spring Boot APIs handle user actions and event logic. This iterative method keeps the app responsive, reliable, and easy to use, enabling clear event visibility, smooth communication, and efficient team formation.

Results

1. The app successfully displays all event details, team information, and user profiles in a clean, centralized interface.
2. Real-time updates allow users to instantly see new events, team changes, and admin announcements.
3. Push notifications work reliably for event updates, team invitations, and important alerts.
4. The interface is responsive, easy to navigate, and consistent across all modules.
5. All components-events, teams, profiles, chat, and admin functions-operate smoothly without conflicts.

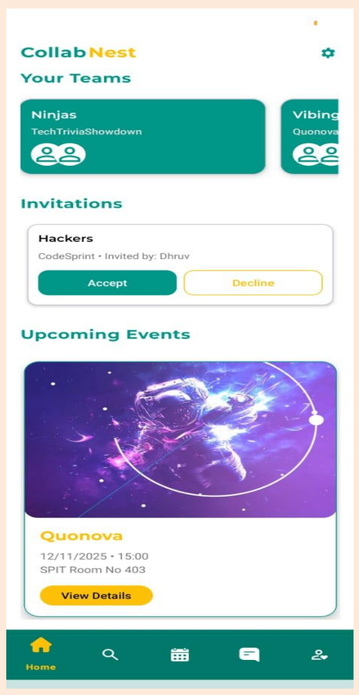

Figure 2: User Dashboard showing upcoming events, teams joined, invitations received.

Figure 3: Event details pushed by Admin

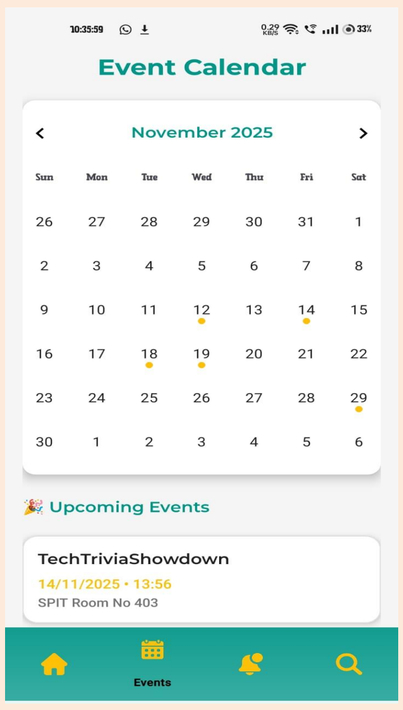

Figure 4: Calendar Showing dots on Upcoming Events and Event Details

- GitHub Repository Link:- https://github.com/Patil-Kalpak/CollabNest.git

Conclusion

The project successfully delivers CollabNest, a unified platform that simplifies event participation, team formation, and schedule management for college students. By integrating secure authentication, organized event listings, and a master calendar, the system improves coordination and reduces confusion during campus activities. The results demonstrate that a centralized digital solution enhances communication, streamlines event workflows, and supports better student collaboration.

References

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