



Smart Campus Club Platform for Event Coordination and Student Engagement

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Peer Review Information	Abstract
<i>Submission: 12 April 2026</i> <i>Revision: 02 May 2026</i> <i>Acceptance: 23 May 2026</i> Keywords <i>Campus Club Platform, Microservices, Spring Boot, Flutter, Kafka, Event Scheduling, Automated Certificate Generation.</i>	Campus clubs play a vital role in fostering student engagement, leadership, and extracurricular development. However, traditional campus club platforms primarily focus on basic event coordination and lack intelligent features for personalised user interaction and efficient scheduling. As the number of events increases, students often face difficulty in identifying relevant activities, while organizers struggle with scheduling conflicts and low participation rates. This paper proposes an intelligent campus club platform that integrates artificial intelligence techniques to enhance user experience and optimize event coordination. The platform also includes features such as QR code-based attendance tracking, automated certificate generation, real-time notifications, and analytics dashboards. The system is developed using Spring Boot, Flutter, machine learning algorithms, and PostgreSQL, ensuring scalability and efficiency. Experimental analysis demonstrates improved student engagement and better event organization compared to conventional systems.

Introduction

There is a lack of intelligent, scalable, and centralized platforms that can efficiently manage campus club activities while providing personalized user experiences.

In modern educational institutions, campus clubs serve as an essential medium for promoting student involvement in co-curricular and extracurricular activities. These clubs organize various events such as workshops, seminars, cultural programs, and competitions that contribute to the overall development of students. However, with the increasing number of clubs and events, traditional systems face challenges in efficiently coordinating activities and ensuring active participation.

Most existing platforms provide only basic functionalities such as event listing and registration. They lack intelligent capabilities to personalize user experience or assist organizers in planning events effectively. As a result, students often miss relevant opportunities, and event schedules frequently overlap, reducing participation and efficiency.

To address these limitations, this research introduces an AI-based intelligent campus club platform. The proposed system enhances traditional platforms by incorporating machine learning techniques for personalized event recommendations and smart scheduling algorithms to prevent conflicts. The platform aims to improve student engagement, optimize

event planning, and provide a seamless digital experience.

Methodology

- **Authentication & Authorization:**

The system uses role-based login with OAuth2 for security. Users like Admins, Coordinators, and Students get access based on their roles. This helps protect data and ensures proper system usage.

- **Club Dashboard:**

Each club has its own dashboard to view event details, member activity, and basic financial information. It helps coordinators easily track what is happening in their club. This improves planning and decision-making.

- **Event Module:**

Coordinators can create and manage events through this module. Events go through an approval process before they are published. The system also shows event status like upcoming or completed.

- **Student Registration & QR Code Module:**

Students can register for events online. After registration, a QR code is generated for each student. This QR code is used for quick and easy entry during the event.

- **Certificate Generator:**

Certificates are automatically created after the event is completed. Students can download or receive them by email. This saves time and reduces manual work.

- **Payment Integration:**

The system supports online payments using services like Razorpay. Students can pay event fees securely. This makes the payment process simple and safe.

- **Admin Dashboard:**

Admins can monitor all activities from one place. They can track clubs, users, and system performance. This helps in managing the entire platform smoothly.

- **Budget Tracker:**

Coordinators can manage event budgets using this feature. They can track expenses and upload bills or receipts. This helps maintain financial transparency.

- **AI Agent:**

The AI Agent helps users by answering questions about events and registrations. It understands user queries and gives quick responses. This improves user experience and saves time.

System Architecture

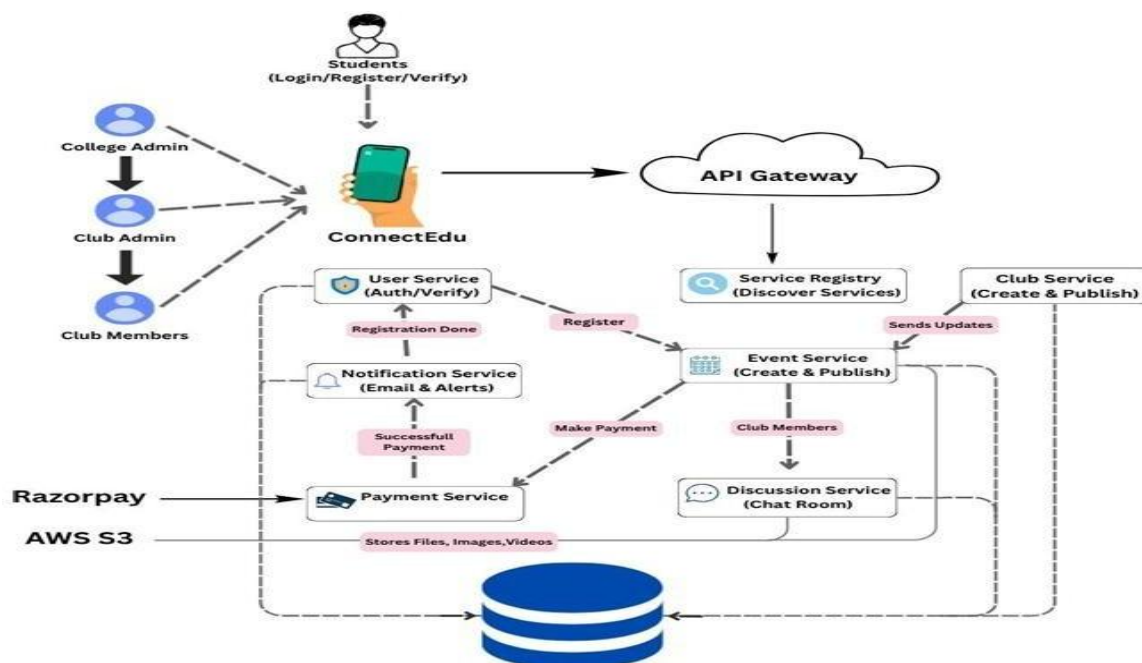


Fig 1: System Architecture

Results And Discussion

The graphical user interface (GUI) of the proposed campus club platform is designed to provide a simple, user-friendly, and interactive

experience for both students and coordinators. The interface focuses on easy navigation and clear presentation of information to improve overall usability.

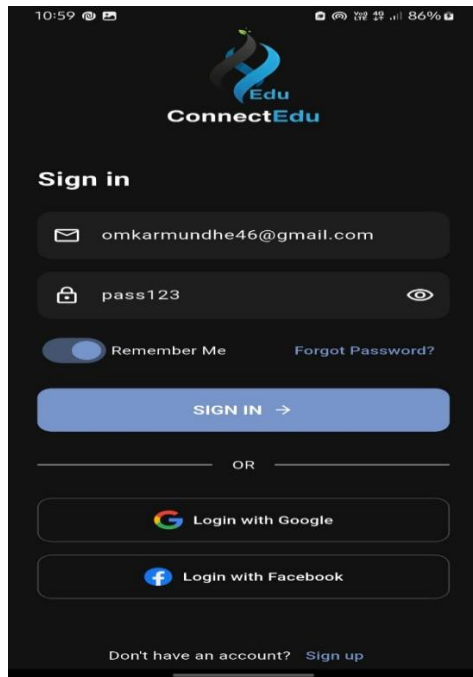


Fig 2: Login Screen

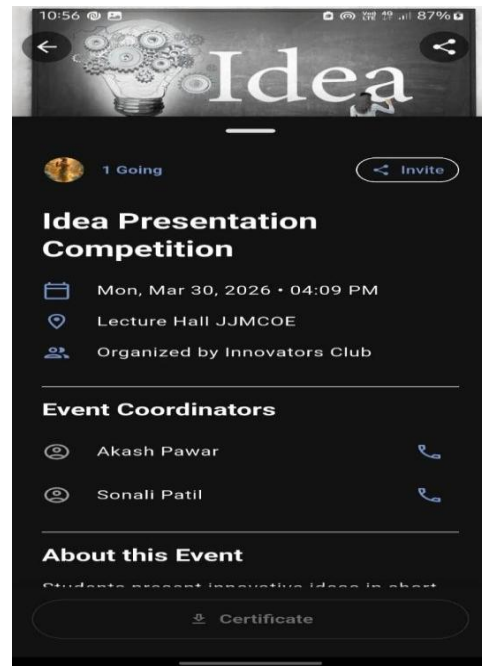


Fig 3: Event Registration Screen

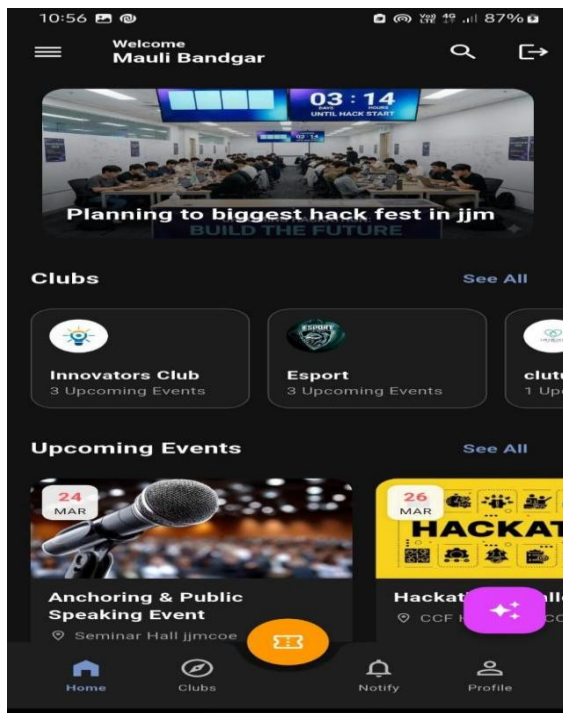


Fig 4: Home Screen

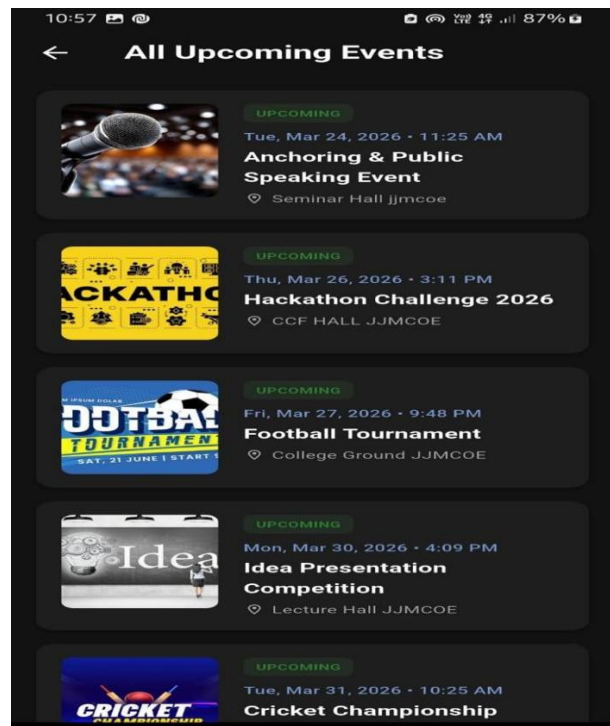


Fig 5: Event List Screen

In Fig 2 login interface is designed with clarity and ease of use in mind, offering fields for email and password along with a convenient “Remember Me” option. It also supports essential actions such as password recovery and new account creation, ensuring smooth accessibility for all users. Additionally, the

inclusion of Google sign-in provides a faster and more seamless login experience, enhancing overall user convenience.

In Fig 3 shows a mobile app screen for an “Idea Presentation Competition” event. It includes key details like date, venue, organizers, and coordinators. The interface highlights a simple,

user-friendly event management design.

Fig. 4 represents the Home Screen, where users are welcomed with a personalized greeting. The screen displays recommended clubs based on user interests, followed by a list of upcoming events. Each event is shown using a card layout that includes important details such as event name, category, and date. A QR-based option is also available for quick registration. A bottom navigation bar is provided to easily switch between Home, My Events, and Profile sections. Fig. 5 shows the Event Details Screen, which opens when a user selects an event. This screen provides complete information about the event, including the title, organizing club, date, time, venue, and a short description. Additional details such as registration deadline, number of available seats, and participation fees are clearly displayed. A "Register Now" button is placed at the bottom to allow quick and easy registration.

Conclusion

This paper presents an intelligent campus club platform that integrates artificial intelligence techniques to enhance event coordination and student engagement. By incorporating features such as personalized event recommendations, smart scheduling, and automated certificate generation, the system addresses the limitations of traditional platforms.

The proposed solution improves the overall experience for students, coordinators, and administrators by providing a centralized and intelligent platform. Future work may focus on enhancing the recommendation model using deep learning techniques and integrating real-time chat and collaboration features.

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