iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 14 **Issue:** III **Month of publication:** March 2026

DOI: https://doi.org/10.22214/ijraset.2026.78685

www.ijraset.com

Call: 08813907089 | E-mail ID: ijraset@gmail.com

International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 14 Issue III Mar 2026- Available at www.ijraset.com

UNIFEST: An Intelligent Fest Buddy Powered by AI/ML

Sanj Prashant Bari[1], Roshan Vijay Singh[2], Adiba Tasleem Khan[3], Tanzeel Shaikh[4], Monika Samir Pathare[5]
Computer Department, Theem College of Engineering, Boisar

Abstract: ***Events play a crucial role in college life, fostering student engagement in various activities, learning opportunities, and social interactions. However, relying on traditional methods like spreadsheets to manage numerous events, coordinators, venues, and participants often results in inefficiencies and communication breakdowns. To address these issues, this project introduces a Smart Event Management System built using the MERN stack (MongoDB, Express.js, React, and Node.js). This system offers a centralized web platform for efficiently creating, updating, and managing event details. Key features include real-time event listings, role-based administrative controls, coordinator information, and an online registration interface for students. Furthermore, the platform incorporates Artificial Intelligence (AI) through a chat-bot for automated query resolution and Machine Learning (ML) techniques to deliver personalized event recommendations, enhancing event discovery, participation, and the overall user experience at campus events.***

Index Terms: ***Event Management System, MERN Stack, Artificial Intelligence (AI), Machine Learning (ML), Chatbot, Recommendation System, Web Application.***

I. INTRODUCTION

This is a Smart College Event Management System, a web development project. The Events Management System is extremely useful for events. The event management system is used to keep track of all the activities associated with the event. An event may be thought of as a collection of events to which some visitors or participants are invited for a specific period. Various sorts of events may be distinguished, such as sport events, cultural festivities like poster making and drama, technical festivities like conferences and roborace, college activities, and other similar occasions on a college level. When it comes to an event management system, it can be thought of as a platform for event administrators to administer events and a gateway for participants to access information. That's where the Smart Event Management System comes in. This project introduces a modern, web-based platform built to simplify and improve the entire event process from start to finish. It's designed with all key stakeholders in mind: the central administration, the event coordinators, and the students who participate. With a clean, intuitive interface and a powerful backend, the system replaces scattered processes with a centralized hub that helps everyone stay connected and informed. It's all about making event management more efficient, more transparent, and ultimately, more enjoyable. The platform is structured around three main panels:

1) The General Secretary Panel: This panel acts as thecommand center. It gives a full overview and control over all events, helping administrators allocate resources, manage schedules, and ensure everything runs according to plan.
2) The Coordinator Panel: This panel is tailored for thosein charge of specific events or sub-events. It offers detailed tools for planning, tracking progress, and handling logistics—bringing clarity and accountability to their roles.
3) The Student Panel: This panel is built for ease andengagement. Students can browse upcoming events, register with just a few clicks, and receive real-time updates so they're always in the loop.

More than just a management tool, the Smart Event Management System is designed to transform how events are planned and experienced. It gives administrators better 1 control, helps coordinators work more effectively, and ensures students have a seamless, engaging experience. By adopting this system, institutions can move from managing events reactively to orchestrating them with precision, creativity, and impact.

II. SYSTEM ARCHITECTURE

The proposed system architecture follows a secure and modular design that connects users, backend services, a database, and external systems through structured flow. The main objective is to manage user or student interactions, event activities, and data processing efficiently while ensuring security. The system begins with the user interface, where users such as administrators(General Secretary) of the overall events, students, and event coordinator(organizers) log into the system.

©IJRASET: All Rights are Reserved

Each user is assigned a specific role, and the authentication process uses role-based access control to ensure that users can only access features permitted for their role. This helps maintain data privacy and prevents unauthorized access. After successful login, requests from the front-end are sent to the backend, which acts as the central communication layer. It validates requests, routes them to the appropriate backend modules, and returns secure responses. It also handles tasks such as load balancing, monitoring, and error management to improve system performance. The backend contains different modules such as the Event Management Module, Role Management Module, and Registration Module. These modules perform specific tasks such as managing events, defining user roles and permissions, and storing or updating user or student details. All modules communicate with the database, which stores information related to users, events, roles, and registrations, ensuring data consistency and reliability. The architecture also supports external services such as email notifications, payment gateways, and third-party APIs.

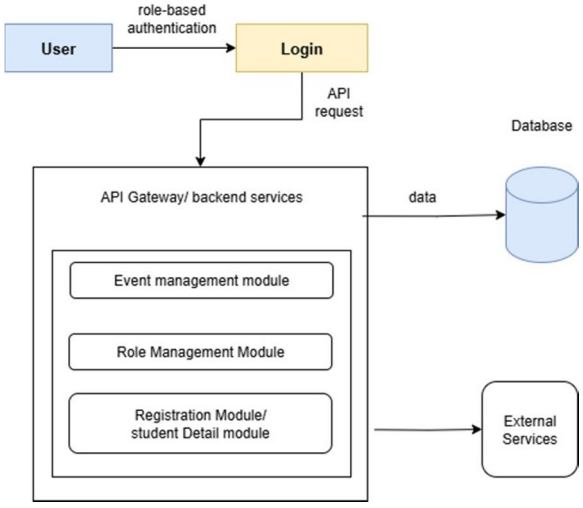


Figure 1: Proposed System Architecture

A. User Authentication Module

The User Authentication Module manages the login and identity verification of all users in the system. The platform follows role-based authentication, which allows different users to access features according to their responsibilities. The system contains three main user roles: Admin, Student, and Coordinator. Each role has specific permissions and dashboards within the application.

1) Admin: The Admin is responsible for managing the overall system. The admin verifies newly created events submitted by coordinators before they are displayed on the main platform. The admin also manages student accounts and coordinator accounts, ensuring that only authorized users can access the system. Additionally, the admin monitors event registrations and maintains the smooth functioning of the platform.

2) Student: The Student is the primary user of the system who participates in events. After logging in, students can view all the available event categories such as cultural, technical, sports, and stage events. Students can click on any event to view details and register for participation. Once a student successfully participates in an event, the system generates a participation certificate automatically.

3) Coordinator: The Coordinator is responsible for organizing and managing specific events. Coordinators can create and submit new event details through their dashboard. The system provides two-step verification using Gmail OTP to ensure secure login for coordinators. After creating an event, it is sent to the admin for verification. Only after the admin approves the event does it become visible to students on the main page.

B. Event Management Module

The Event Management Module is responsible for organizing, creating, updating, and displaying events on the platform. It ensures that all events are managed in a structured and systematic manner. This module allows coordinators to submit events, administrators to verify them, and students to view and participate in them.

1) Event Creation: Event coordinators can create new events by entering details such as event name, category, venue, description, date, and time. These events are submitted to the system for approval.

2) Event Verification: All newly created events are first reviewed by the admin. The admin verifies the event details to ensure authenticity and accuracy. Only verified events are published on the main platform.
3) Event Categories: Events are organized into different categories such as cultural events, technical events, sports events, and stage events. This classification helps students easily browse and discover events according to their interests.
4) Event Display: Once an event is approved, it appears on the main page of the platform under its respective category. Students can view event details and register directly through the system.
5) Event Registration: Students can register for a specific event by clicking on the event page and submitting their participation details. The system records all registrations and maintains the data for event management.
6) Participation Certificate: After successful participation in an event, the system automatically generates a participation certificate using Node.js-based libraries.
7) Payment Integration: For events that require a registration fee, the system integrates the Razorpay payment gateway. After successful payment, an invoice is generated automatically for the student.

C. *Data Flow*

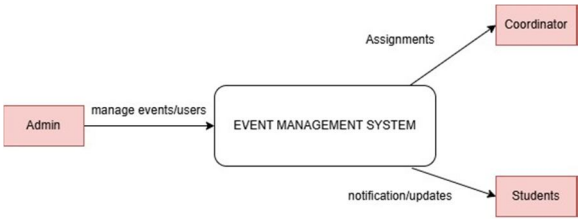


Figure 2: DFD Level-0

The Level-0 Data Flow shows the main entities interacting with the system, such as Admin, Coordinator, and Students. The admin manages events and users, the coordinator handles event assignments, and students receive event notifications and updates. The system acts as the central platform that processes information and connects all users.

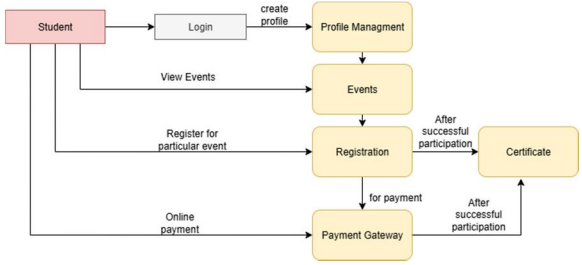


Figure 3: DFD Level-1 for Student

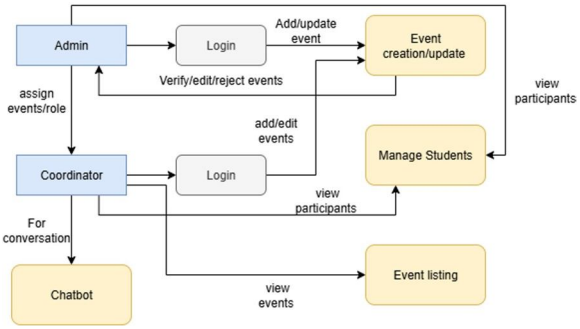


Figure 4: DFD Level-1 for Admin and Coordinator

The Level-1 Data Flow explains how different modules such as login, profile management, event creation, event listing, registration, payment gateway, and certificate generation work together. Students can view and register for events, coordinators can create and manage events, and the admin verifies and manages event details. The diagram shows how data flows between users and system modules to manage events efficiently.

©IJRASET: All Rights are Reserved | SJ Impact Factor 7.538 | ISRA Journal Impact Factor 7.894 |

ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 14 Issue III Mar 2026- Available at www.ijraset.com

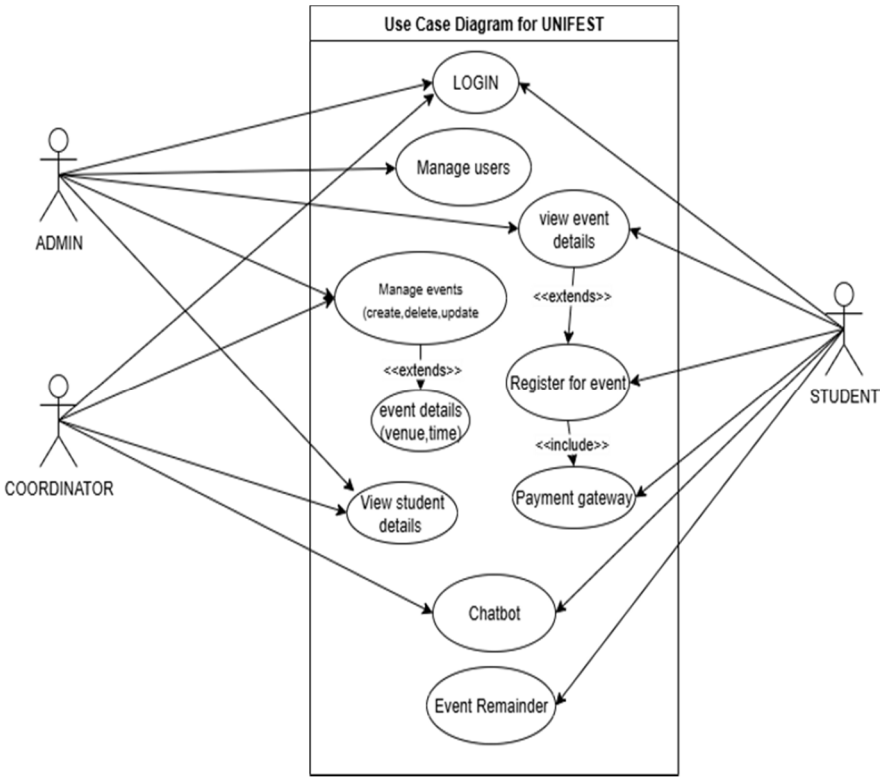


Figure 5: Use Case Diagram

III. LITERATURE SURVEY

A. CampusConnect: A Digital Solution for Campus Event Management

CampusConnect is a mobile app programmed to automate and digitize event scheduling and event room booking for students in educational institutions. Conventionally, event planning is full of paperwork, lengthy approvals, and poor communication, causing delays and administrative headaches. CampusConnect revolutionizes conventional event management by allowing students to easily book spaces, make requests, get instant approval, and cancel events - all based on their verified institutional ID. The platform provides real time status, automatic alerts, and an integrated dashboard for end-to-end event management, practically eradicating the inefficiencies associated with paper based processes. The electronic method provides transparency, shortens processing from days to minutes. They include: •Digital Booking System – Students can view venue availability and book rooms in real time. •Automated Approvals – Institutes can view and approve requests online, reducing delays. •Event Cancellation: Users can cancel booked events, with notifications sent to all parties. •UserFriendly Interface – Smooth experience for students and administrators. •Secure Authentication – Institute-verified IDs allow only authorized users to make bookings. By making the shift from manual to electronic processes, CampusConnect increases efficiency, transparency, and convenience in campus event management, leading to improved student engagement and resource optimization.[1]

B. AI-Powered Event Management System

The event coordination landscape is constantly evolving, and there is a growing need for a dynamic and versatile platform that can help organizations plan, execute, and experience events more seamlessly. This project introduces an event management system that is designed to help managing the events. The system integrates with Stripe to ensure secure payments and real-time revenue tracking, enhancing financial management. Attendee experiences are elevated through ticket generation and verification via QR codes, supported by a dedicated mobile app. Security is paramount, with Role-Based Access Control (RBAC) facilitating secure collaboration among stakeholders. The incorporation of AIdriven event materials generation, event suggestions, and event insights further enriches engagement and visibility. The system is built as a cloud-based platform that leverages serverless technology for scalability and reliability. It also features Single Sign-On (SSO) to simplify user authentication, and WhatsApp and email notifications to keep users informed.[2]

©IJRASET: All Rights are Reserved | SJ Impact Factor 7.538 | ISRA Journal Impact Factor 7.894 |

C. Event Management System for Webinars and Surveys

Webinars and surveys have been widely used. Popular applications such as ezTalks, Zoom, Demio, Google Meet, LiveStorm have been used in seminars and online meetings. For every webinar activity, the organizers often carry out survey activities to see feedback from participants, google forms applications, survey monkeys, typeforms, zoho surveys, and gizmo surveys are used to see responses from all participants. In addition, several organizers also gave appreciation in the form of certificates. However, the management of many webinars is often an obstacle to seeing the results of each activity and the participants who take part in the activity. Although the use of google forms has been very good and effective, the lack of features in the management of webinar activities is a problem in itself in making reports in a short time. Therefore, we need a service application that can assist in the management of webinar activities and has survey features from registration, attendance to certificates. Where later application users (organizations, committees) can fill out webinar activities and can propose surveys for each activity carried out.

In software development, Agile Development Methods (ASD) are used, Event Management System for Webinars and Survey applications that the researchers built using CodeIgniter and React-Js. In the test, we plan the data analysis to be divided into three parts, namely Demographic Analysis Results, Reliability Test Results Analysis, Validity, and Data Processing Analysis. Analysis Data processing includes ImportancePerformance Analysis (IPA). So far, webinar and survey management applications have completely fulfilled needs such as making a number of questions in the form of multimedia and sharing research data, but webinar management applications with survey services in an application have not been carried out.[3]

D. Event Management System (EMS)

This study aims to develop an Event Management Systems (EMS), a web-based application that makes use of a digital event management planning system. EMS enables the customers to organise events on a single console, removing the need to travel to a different console and therefore making the process more convenient. There are four strategies to conduct the research which are technical research, EMS development, mixed method data collection, and data analysis. In addition, this study also presented the system architecture, project plan and implementation of the EMS. Then, the EMS has been tested by 2 users in both client and admin side.[4]

E. Innovative Event Management Platform Designed with integrated ticketing and networking features.

University of Logistics and International Business (ULBI) by using ticketing features and integrated networks. The focus is on enhancing the efficiency of event planning and execution within the ULBI campus environment, as well as improving participation and transparency. Ticketing features are integrated to synchronize timing and facilitate participant access, while an integrated network is implemented to enhance communication and reduce barriers during planning. By employing software design methodology and action research, this study analyses user needs, expectations, and designs ticketing features and integrated networks. It is hoped that this design will significantly contribute to improving event management within the campus environment, creating a platform that is not only efficient but also capable of enhancing student engagement and information transparency. In conclusion, this proposal provides a foundation for designing technology that can enhance event management at ULBI campus.[5]

F. VCET Event Management

In real time work of event management this website would help the organization to interact or communicate the event efficiently not only with the member or participant but also with would spread awareness between students about the event. The portal has two logs activity and news which will give overall updates of all the event that will occur an that have occurred or happened successfully through this portal the members would be able to upload all the snaps and videos of the event directly to the event and would be able to book auditorium ,seminar halls for the event and make event successful. The portal would give an platform to make more people aware of the event happening in college in different department. The admin login who will add the faculty of specific department who will assign an event co coordinator for every event. The event co coordinator then appoint the organizing head of the event and marketing head of the event .the people book auditorium, seminar or refreshment and do marketing of the event through social media and by writing report. The organizing head first book the auditorium and then the passkey is generated after generating passkey the passkey is transfer to event co coordinator secretly and the event co coordinator ten adds the event tot the portal and then the marketing head take snaps of the event successfully and post it Vidyaardhini's college of Engineering and Technology,Vasai before actually start of the event.

©IJRASET: All Rights are Reserved | SJ Impact Factor 7.538 | ISRA Journal Impact Factor 7.894 |

The process of planning the event is usually way to as event planning and which can include budge scheduling, venue selection, accomodation necessary permits, transportation and parking, arranging for entertainers, arranging decor, event security, catering, coordinating with vendors, and emergency plans. 1.1. SURVEY The literature studied several papers based on event management system. The paper which we studied is on social media through the portal directly. All the students can review the events any department through this portal and can get updates of the event happening in the college.[6]

IV. METHODOLOGY

The proposed system simplifies and organises college event management by providing a unified platform where students can easily find and join various college events. The homepage displays categories including cultural, technical, sports, and on- stage events. Students browse these tabs to view events added by coordinators, and selecting an event reveals full details, with an option to register. Registered events are accessible via the student' s personal page for tracking participation. When students actively participate, the system automatically generates a participation certificate using Node Mirrors.

The system supports three user roles: Admin, Student, and Event Coordinator, each with role- specific login options. Students mainly explore and register for events. Coordinators create and manage events, while the admin oversees the whole system. To enhance security, coordinators must complete a two- step verification process with Gmail OTP before logging in, ensuring only authorized personnel manage events.

Event coordinators submit new event details- such as name, category, description, and date- for review. These are not shown immediately; instead, they are sent to the admin panel for approval. Once verified, events appear under the relevant category on the main page, maintaining authenticity and preventing unverified events from being displayed.

Some events may require a fee. The system integrates Razorpay for secure online payments during registration. After successful payment, an invoice is automatically generated and stored for transparency and record- keeping.

To enhance user engagement, the platform includes a recommendation system that suggests events based on past participation, analyzing previous activities to recommend similar interests. A chatbot is also integrated, offering quick responses to common questions about events, registration, payments, and certificates, making navigation easier.

The admin maintains the platform by managing user records, verifying events before publication, and ensuring smooth operation. Through proper verification and management, the system keeps event activities organized, secure, and reliable.

The system supports three types of users: Admin, Student, and Event Coordinator. Each of them has a separate login option based on their role. Students mainly use the platform to explore events and register for them. Event coordinators are responsible for creating and managing events, while the admin oversees the entire system. For better security, coordinators are required to complete a two-step verification process using Gmail OTP before accessing their account. This ensures that only authorized coordinators can create or manage events.

Event coordinators can create new events by providing necessary details such as the event name, category, description, and date. However, the event does not appear immediately on the main page. Instead, it is first sent to the admin panel for verification. The admin carefully reviews the event details and approves it only if everything is appropriate. Once the event is verified, it becomes visible to students under the relevant category on the main page. This process helps maintain authenticity and prevents unverified events from being displayed.

Some events may require a participation fee. In such cases, the system uses the Razorpay payment gateway to handle online payments securely. Students can complete the payment while registering for the event. After a successful transaction, an invoice is automatically generated and stored in the system as proof of payment. This helps maintain proper financial records and transparency.

To make the platform more engaging, a recommendation system is included. This system suggests events to students based on the events they have participated in earlier. By analyzing their previous activities, the platform recommends similar events that may match their interests.

In addition, a chatbot is integrated into the system to help users with common questions related to events, registration, payments, and certificates. The chatbot provides quick responses and helps users navigate the system more easily.

The admin plays a key role in maintaining the overall functioning of the platform. The admin manages student and coordinator records, verifies events before they are published, and ensures that the system operates smoothly. With proper verification and structured management, the platform keeps all event-related activities organized, secure, and reliable.

©IJRASET: All Rights are Reserved | SJ Impact Factor 7.538 | ISRA Journal Impact Factor 7.894 |

V. RESULT

The proposed system successfully provides an organized platform for managing and participating in college events. Through the developed interface, students are able to easily browse different categories of events, view event details, and register for the events of their interest. Coordinators can create and manage events through their dashboard, while the admin verifies and approves events before they are displayed on the main page. The system also supports secure login, OTP verification for coordinators, and role-based access, ensuring that all users interact with the platform according to their responsibilities.

The implementation also demonstrates additional features such as automatic certificate generation for participants, secure online payments using the Razorpay payment gateway, and invoice generation after successful transactions.

The following are some results based on our project:

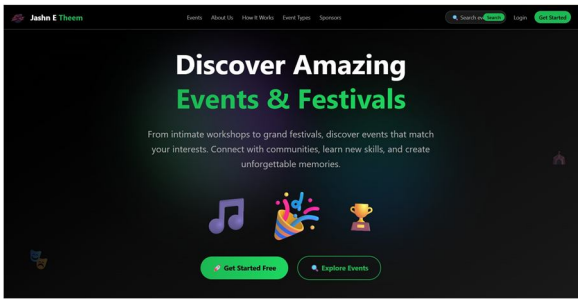


Figure 6: Project Dashboard

The image shows the homepage of the UNIFEST event management website with a navigation bar and a main banner titled “Discover Amazing Events and Festivals.” It encourages users to explore events and includes options like Get Started Free and Explore Events for easy participation.

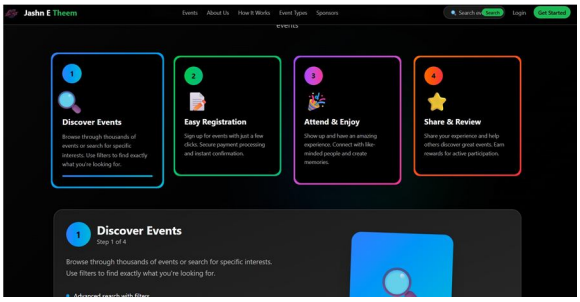


Figure 7: Project Dashboard *continue*

This image displays a four-step user guide for the ”Jashn E Theem” platform, presented in a clean, colorful grid. It outlines the platform’s workflow: Discover Events (search and filter), Easy Registration (secure payment), Attend and Enjoy (social connection), and Share and Review (earning rewards). The bottom section begins a deeper dive into ”Step 1” with illustrative graphics and a bulleted list of features.

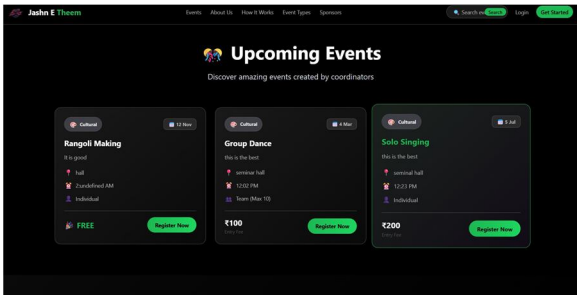


Figure 8: Event Listing

The image shows a list of upcoming events with details like event name, category, venue, time, participation type, and entry fee. Students can view event information and register directly through the “Register Now” button.

©IJRASET: All Rights are Reserved

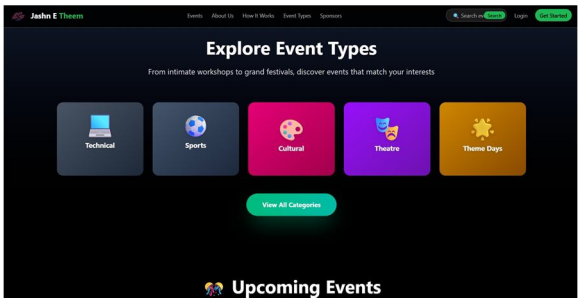


Figure 9: Event Types

The image presents different event categories available on the platform, such as Technical, Sports, Cultural, Theatre, and Theme Days. This section helps students easily explore events based on their interests.

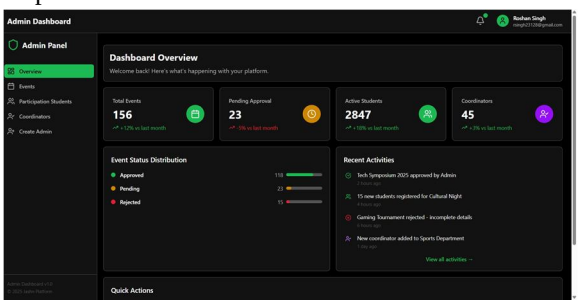


Figure 10: Admin Panel

The Admin Panel gives a high-level summary of the events, students and coordinators in the platform. It uses a card-based layout to track and list events, active students, and coordinators, alongside a log that details the latest approvals, rejections, and registrations.

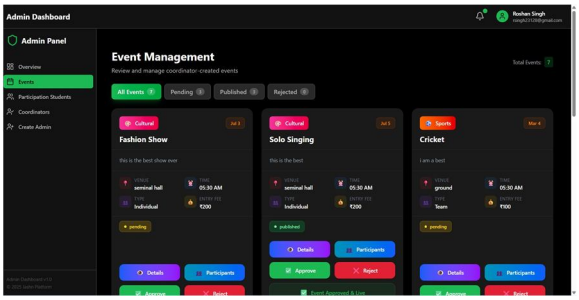


Figure 11: Admin Panel *continue*

This screen displays the coordinator-created events awaiting administrative action. It uses a three-column layout showing ”Fashion Show,” ”Solo Singing,” and ”Cricket” with status labels (Pending/Published) and action buttons for ”Approve” or ”Reject,” allowing the admin to manage the event lifecycle directly.

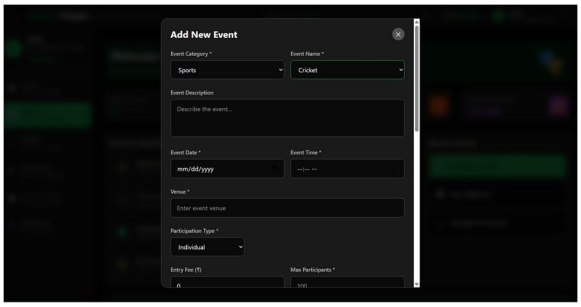


Figure 12: coordinator Panel *for event creation*

The image shows a form where the event coordinator can add a new event by entering details such as event category, name, description, date, time, venue, and participation type. This interface allows coordinators to submit event information for further verification by the admin.

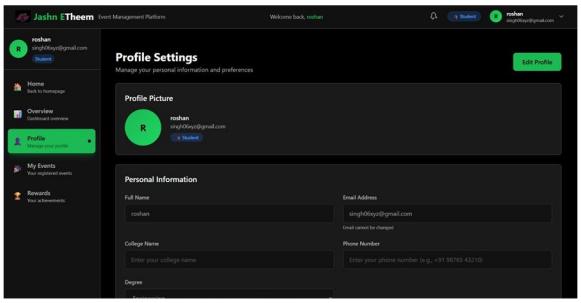


Figure 13: Student Dashboard

The image displays the student profile settings page where users can manage their personal information. It includes details like name, email, college name, phone number, and options to edit the profile.

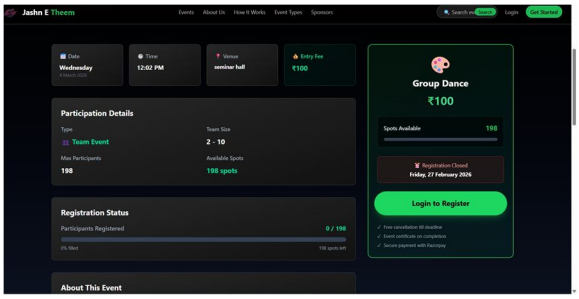


Figure 14: Student payment page

The image shows the payment page where students can complete the event registration by paying the required entry fee. The system integrates the Razorpay payment gateway to ensure secure and smooth transactions. After successful payment, an invoice is automatically generated for the user.

VI. ACKNOWLEGEMENT

The authors, Sanj Bari, Roshan Singh, Adiba Tasleem, and Tanzeel Shaikh express their sincere gratitude to the researchers whose contributed to the foundation of this study. Special thanks are extended to N. A. Nandakishore for the development of CampusConnect, which provided valuable insights into digital campus event solutions [1].

The authors also acknowledge the contributions of H. John et al. for their work on AI-powered event management platforms [2], and S. Ismail, A. Salam, and R. Hajriyanti for their research on webinar-based event systems [3]. We further recognize the efforts of D. A. Shah and colleagues [4], as well as D. S. P. Feliza et al. for their innovative platform design [5]. Additional appreciation goes to P. Parikh et al. [6], G. Sanyal [7], A. Khan et al. [8], and P. Pabba et al. [9] for their contributions to college event management systems. Finally, we acknowledge M. Dahiya for insights into chatbot technology, which supports modern event interaction systems [10].

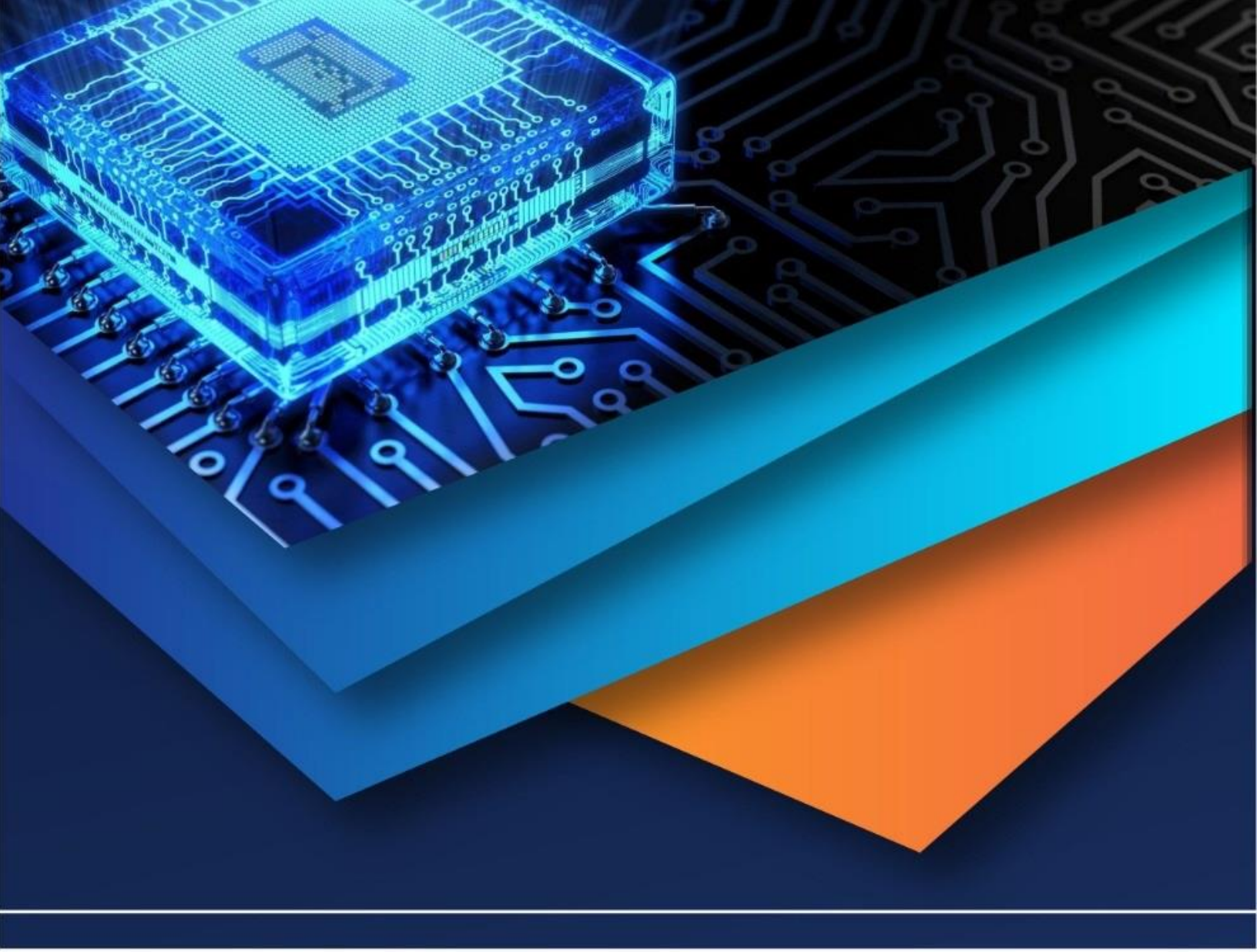
VII. CONCLUSION

The proposed system offers a clear way to manage and take part in college events. It lets students explore different types of events, such as cultural, technical, sports, and on-stage activities. Coordinators can create and manage events, which the admin must verify before they appear on the main page. The system ensures secure access with separate login tabs for admin, students, and coordinators, along with OTP verification for coordinators. Students can easily sign up for events and receive participation certificates if they take part successfully. There is also a payment gateway for paid events, and invoices are generated automatically. The system includes a recommendation feature that suggests events based on students' participation history. Additionally, chatbots help users by answering questions and providing support. Overall, the platform provides an organized, secure, and user-friendly way to manage events at colleges. It makes communication simpler between students, coordinators, and administrators while keeping a clear flow of event creation, verification, and participation. By including features like payment processing, certificate generation, and smart recommendations, the system improves efficiency and boosts student involvement in college activities. Therefore, the proposed system offers a trustworthy and modern solution for effective college event management.

REFERENCES

[1] N. A. Nandakishore, ”CampusConnect: A digital solution for campus event management,” Unpublished Project Work, Reg. No: 223143010016, Dept. Computer Science, Bharata Mata College (Autonomous), Mahatma Gandhi University, Kottayam, Kerala, India, Mar. 2025.
[2] H. John, H. M. Melton, S. MB, N. Anbarasu, and M. Sajal, ”AI Powered Event Management Platform,” International Research Journal of Modernization in Engineering Technology and Science, vol. 6, no. 2, pp. 977–979, Feb 2024.
[3] S. Ismail, A. Salam, and R. Hajriyanti, ”Event Management System for Webinars and Survey,” International Journal of Software Engineering and Computer Science (IJSECS), vol. 2, no. 1, pp. 9–17, 2022.
[4] D. A. Shah, H. Vasudavan, and N. F. Razali, ”Event Management System (EMS),” Journal of Applied Technology and Innovation, vol. 7, no. 2, pp. 45–53, 2023.
[5] D. S. P. Feliza, M. Ammadienta, and N. G. Ginasta, ”Innovative Event Management Platform Design with Integrated Ticketing and Networking features,” JDBIM (Journal of Digital Business and Innovation Management), vol. 3, no. 2, pp. 114–133, Dec. 2024.
[6] P. Parikh, K. Paatil, and R. Yadav, ”VCET Event Management,” International Journal of Engineering Research & Technology (IJERT), vol. 9, no. 3, pp. 25–27, 2021.
[7] G. Sanyal, ”Online College Event Portal,” Industrial Training Seminar Report, Reg. No: 140209, Dept. Computer Science and Engineering, College of Engineering and Technology, Mody University of Science and Technology, Lakshmangarh, Rajasthan, India, Nov. 2017.
[8] A. Khan, A. Pundalik, T. Shinde, S. Gupta, and S. J. Patil, ”Event Management System,” International Research Journal of Engineering and Technology (IRJET), vol. 06, no. 01, pp. 1752–1754, Jan. 2019.
[9] P. Pabba, B. Viswadha, P. Srivani, P. Rajashree, and S. V. Kumar, ”Mobile Application for College Event Management,” International Research Journal of Engineering and Technology (IRJET), vol. 09, no. 12, pp. 201-207, Dec. 2022.
[10] M. Dahiya, ”A Tool of Conversation: Chatbot,” International Journal of Computer Sciences and Engineering, vol. 5, no. 5, pp. 158-161, May 2017.

©IJRASET: All Rights are Reserved | SJ Impact Factor 7.538 | ISRA Journal Impact Factor 7.894 |



10.22214/IJRASET

45.98

IMPACT FACTOR: 7.129

IMPACT FACTOR: 7.429

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Call : 08813907089 (24*7 Support on Whatsapp)