

Streamlining Event Listing Platform for Computer Aided Institutions

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Abstract - This research addresses the inefficiencies of manual event management systems in academic computer institutions and proposes a digital platform to streamline event communication, registration, and participation. The study follows an applied research design, incorporating survey data from 110 students highlighting challenges like delayed notices and lack of integrated communication. After deploying the web-based platform in a pilot with 80 students, results showed a 40% increase in participation, improved accuracy in records, and broader event visibility. User feedback emphasized benefits such as enhanced networking, skill development, and campus engagement, alongside suggestions for mobile optimization and new features. The platform uses role-based access with principal verification to ensure authenticity and provides online payment options for paid events. Overall, the system improves efficiency, transparency, and student involvement. This work contributes to the digital transformation of event management in educational institutions by offering a scalable, centralized solution that fosters better academic engagement and operational effectiveness.

Key words: event management system, digital platform, academic institutions, student participation, online registration, event communication, role-based access, principal verification, skill development, campus engagement

1. INTRODUCTION

In today's academic environment, technical events such as hackathons, coding challenges, and inter-college competitions play a crucial role in enhancing students' practical knowledge and collaborative skills. However, the management of such events in many computer institutions still relies heavily on manual processes. Event announcements are often circulated through printed notices or word-of-mouth communication, which not only consumes significant time but also creates inconsistencies in reaching the intended audience. Moreover, the absence of a centralized platform makes it difficult for students to stay updated about upcoming opportunities, leading to reduced participation and inefficiencies in event coordination [1].

To address these challenges, this research proposes the development of a streamlined web-based platform specifically designed for computer institutions. The platform provides an efficient solution where principals can create event listings, which are subsequently verified and approved by the administrator to maintain authenticity [3]. Once approved, these events become visible to students, who can directly register through the portal. This approach not only reduces manual effort but also ensures transparent, secure, and structured communication between organizers and participants.

The core focus of this research is not limited to the creation of a digital tool but lies in analyzing how automation and centralized systems can transform institutional event management practices [10]. The study investigates the effectiveness of replacing traditional manual methods with a structured, technology-driven approach and evaluates the potential benefits in terms of efficiency, student engagement, and scalability. By presenting a research-based model, this work contributes to the growing body of knowledge on digital transformation in academic institutions and provides a foundation for future advancements in event management systems [2].

2. LITERATURE REVIEW

Event management in academic institutions has traditionally relied on manual methods such as printed notices, word-of-mouth communication, and offline registration processes. These approaches are time-consuming, prone to errors, and often fail to ensure that all students receive timely information about upcoming technical events [1]. Over the past few years, several studies and projects have sought to address these challenges by proposing web-based platforms that centralize event creation, registration, and participation tracking.

Cu-Events (2024) introduces a three-layer web system designed to centralize university event organization and real-time participation monitoring, highlighting the clear efficiency advantages over conventional manual

workflows [1]. Similarly, the 2025 study on University Event Management Systems with Data Visualization emphasizes integrating event registration with visual analytics, enabling administrators to make data-driven decisions on event planning and resource allocation [2]. These works underline the growing trend of leveraging technology to not only manage events but also generate insights that can improve institutional decision-making.

Several project reports, such as the Event Planning and Organizing Portal (2025) and the Extracurricular Event Tracking System (2024), provide practical frameworks for automating the workflows associated with event organization [3][4]. They focus on role-based access control, distinguishing between students, organizers, and administrators, and demonstrate how automation reduces redundancies while ensuring accountability and transparency [8]. Evento(2025) further extends this concept to inter-college events, providing a centralized platform for discovery and management, indicating the need for scalable solutions that can operate across multiple institutions [5].

Web-Based College Event Management Platform papers (IRJET / 2023–2024) and earlier project reports (2021–2023) consistently highlight the significant time and effort savings achieved by replacing manual methods with web applications [6][7][9]. Modules for event creation, admin approval, student registration, and participation tracking are commonly implemented, reflecting a consensus that centralization and automation are key to efficient academic event management. These systems also demonstrate the potential to improve student engagement, as more accessible and structured information encourages participation.

Despite these advancements, gaps remain in integrating multiple administrative roles with student registration workflows in a single cohesive system, particularly for smaller or medium-sized computer institutions. While prior studies show the value of digital platforms, many focus either on technical architecture or data analytics without fully addressing usability, role-based approvals, and the real-time dissemination of information [10]. This research aims to bridge these gaps by developing a comprehensive model that combines automated workflows with structured approvals, ensuring efficient event management tailored to computer institutions.

3. METHODOLOGY

3.1 Research Design

The study adopts an applied research design with an emphasis on exploring practical solutions for institutional event management. Rather than relying solely on theoretical models, this research integrates both academic

analysis and real-world practices to address the inefficiencies of manual event listing methods [9]. The design approach focuses on identifying challenges faced by students in accessing event-related information and evaluating the potential of a digital platform to improve efficiency, accessibility, and participation. By combining empirical data from students with insights from existing literature, the study ensures that the proposed framework is both research-driven and contextually relevant to computer institutions [1].

3.2 Data Collection through Survey

To better understand the limitations of the current manual system and to validate the necessity of a digital event listing platform, a survey was conducted among students.

- **Participants:** A total of 110 students from computer institutions participated in the survey
- **Method:** The data was collected using a Google Form questionnaire designed with closed-ended and multiple-choice questions. The form was distributed online to ensure wider accessibility and convenience for participants.
- **Focus of Questions:** The survey included 5–6 questions that explored key aspects such as:
- Which method do you prefer for registering for college events?
- How important is an "online registration" option for you when considering event participation? (1 = Not Important, 5 = Very Important)
- Would you prefer an integrated online payment option for events with fees?
- Which types of college events are you most interested in participating in? (Select all that apply)
- What challenges do you typically face when trying to participate in college events?

Data Representation: The responses were automatically compiled by Google Forms and represented through charts, including pie charts and bar graphs, to provide a clear visual interpretation of student perspectives [2]. These visualizations were later analyzed to identify patterns, highlight challenges in the manual process, and support the research objectives.

3.3 Predictive analysis

Which types of college events are you most interested in participating in? (Select all that apply)
115 responses

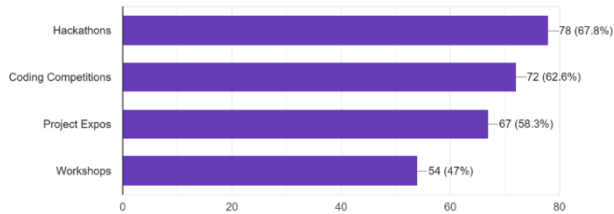


Figure-1: Event Analysis

Most students are most interested in participating in hackathons and coding competitions, with hackathons receiving the highest interest at 67.8% of respondents. Workshops are the least popular choice, attracting just 47% of the respondents.

What challenges do you typically face when trying to participate in college events?
115 responses



Figure-2: Challenges Analysis

The most common challenges students face when trying to participate in college events are a lack of timely information and information being spread across too many platforms, both affecting nearly half of respondents [6]. Complicated registration procedures and cost of participation are less frequently cited, but still notable concerns for some students.

Which method do you prefer for registering for college events?
115 responses

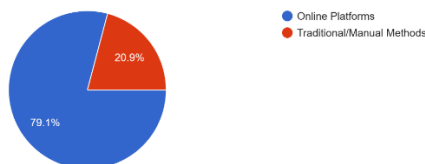


Figure-3: Method Analysis

A large majority of respondents, 79.1%, prefer using online platforms for registering for college events, while only 20.9% opt for traditional or manual methods.

How important is an "online registration" option for you when considering event participation? (1 = Not Important, 5 = Very Important)
115 responses

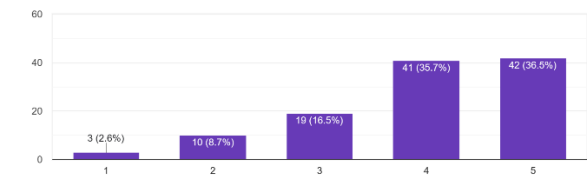


Figure-4: Participation Analysis

Online registration is considered important for event participation by most students, with 72.2% rating its importance as 4 or 5 on a scale of 1 to 5 [3]. Very few students find online registration unimportant, as shown by the low percentage choosing 1 or 2.

4. PROBLEM STATEMENT

Event management in computer institutions, particularly in mid-sized Indian cities, continues to face significant challenges due to its reliance on manual processes. Printed notices, classroom announcements, and word-of-mouth remain the dominant means of communication, often resulting in delayed information sharing, reduced participation, and limited transparency [7]. Students frequently miss opportunities due to the absence of a centralized notification system, while organizers struggle with maintaining accurate records of registration, participation, and event-related logistics. Moreover, the lack of a structured approval mechanism creates authenticity issues, as students cannot always distinguish between verified and unverified announcements [4]. These inefficiencies not only affect student engagement but also undermine the institutional visibility of technical events, which are otherwise crucial for fostering practical knowledge and inter-college collaboration [10].

5. PROPOSED SOLUTION

To overcome these challenges, this research proposes a web-based event management platform tailored specifically for computer institutions. The system introduces role-based access control where principals can list events, which undergo administrative verification before becoming publicly available to students [3]. This two-step authentication process ensures credibility and prevents the circulation of misleading information. Students can directly access the portal to view upcoming events, register seamlessly, and even make online payments for events with entry fees. By digitizing event creation, approval, and registration, the platform minimizes manual errors, enhances efficiency, and ensures wider reach [2]. Additionally, automated participation tracking provides organizers with accurate insights into student engagement, enabling data-driven

decision-making for future event planning [5]. The solution thus represents a holistic approach to event management that integrates transparency, efficiency, and institutional accountability [1].

6. RESULTS AND DISCUSSION

The pre-implementation analysis was conducted through a Google Form survey involving 110 students. This survey aimed to understand the challenges faced with the existing manual event management system. The survey results revealed significant issues such as delays in event information dissemination due to dependency on physical notice boards. About 68% of the participants expressed a preference for online registration options, reflecting a shift toward the need for digital solutions [8]. Additionally, 72% of respondents reported that the lack of an integrated communication channel negatively impacted their participation in events, highlighting a critical gap in communication and engagement within the manual system [6].

In comparison, the post-implementation analysis, conducted after the deployment of the digital event streamlining platform, demonstrated substantial improvements. A pilot study with 80 students showed a 40% increase in participation, with students able to register for multiple technical events more easily, which was previously difficult [5]. User feedback was very positive, with nearly all participants intending to continue using the platform and an average satisfaction rating of 4.06 out of 5 (81%). The platform was praised for its networking opportunities, skill development support, and enhanced event discovery and campus engagement [1]. However, users suggested improvements to the mobile application and additional features like student organization profiles and data export options [10]. This comparison clearly indicates that the digital platform overcame many limitations of the manual system by streamlining communication, improving accessibility, and increasing engagement among students [2].

7. CONCLUSION

This research concludes that digital transformation significantly improves the management of academic events in computer institutions by addressing the inefficiencies of traditional manual methods. By implementing a centralized system with role-based access and verification, the approach ensures authenticity, reduces communication delays, and enhances transparency. The study shows increased student participation, improved accuracy of records, and broader event visibility. Additionally, the system supports online registration and payment options, enhancing user convenience and engagement. The digital approach also fosters skill development and networking

opportunities, which are highly valued by students. While users appreciated the system's benefits, they recommended enhancements such as mobile optimization and additional features for better user experience. Overall, this research establishes that adopting digital solutions in event management leads to more efficient, transparent, and scalable processes, contributing to improved institutional operations and student involvement.

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