

UNIFORUM: Centralized College Forum & Event Management App

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Abstract- Student forums and academic clubs are fundamental drivers of extracurricular engagement in higher education institutions, facilitating events that cultivate creativity, leadership, and collaborative skills among students. Nevertheless, the event management practices adopted by most colleges remain largely paper-based and fragmented, frequently giving rise to scheduling conflicts, delayed authorizations, poor stakeholder coordination, and inadequate documentation. This paper introduces UNIFORUM, a purpose-built, centralized web application for college forum and event management that systematically resolves these institutional challenges. The platform incorporates a structured hierarchical approval mechanism, live administrative dashboards, an event-specific dynamic calendar, and a persistent archive of completed events. Access to the system is governed through role-based PIN authentication, and every submitted event traverses a defined chain of authorization encompassing the forum president, faculty coordinator, department head, and principal. By digitizing this workflow, UNIFORUM markedly curtails administrative overhead, strengthens inter-stakeholder communication, and promotes institutional transparency and accountability. This paper details the system design, functional modules, operational workflow, and outcomes observed during deployment and testing at Jhulelal Institute of Technology, Nagpur. Prospective enhancements include automated notification services, cloud infrastructure migration, and AI-assisted scheduling capabilities.

Keywords — Centralized Event Management, College Forum System, Web-Based Application, Event Approval Workflow, Role-Based Access Control, Multi-Level Approval, Digital Event Tracking, Campus Event Platform, Student Organisation Management

I. INTRODUCTION

Higher education campuses are vibrant environments that host a wide variety of activities throughout the academic calendar, encompassing technical seminars, inter-collegiate hackathons, cultural festivals, sports tournaments, and discipline-specific club events. Such activities are pivotal to students' overall development, nurturing qualities like critical

thinking, collaborative work, and effective leadership [1]. Student forums and clubs form the organizational backbone of this extracurricular ecosystem, consistently driving engagement and enriching campus culture.

Despite the recognized importance of these activities, the processes through which events are planned, submitted, and approved at most institutions remain largely informal and decentralized. Proposals are typically conveyed through paper-based forms, email correspondences, or face-to-face interactions with faculty coordinators—all methods that are susceptible to significant inefficiencies [2]. The consequences of such practices include prolonged authorization timelines, misalignment of stakeholder expectations, inadvertent scheduling overlaps among multiple forums, and a general lack of decision-making transparency.

The absence of a unified digital platform means that no single administrator can gain a consolidated, real-time perspective on all events unfolding across the institution. Academic staff encounter ongoing challenges in maintaining accurate records, monitoring event progress, or generating retrospective reports for institutional planning purposes [3]. Furthermore, the layered approval hierarchies characteristic of educational institutions—where proposals must obtain sequential endorsement from a forum president, faculty coordinator, department head, and principal—are rarely accommodated by existing software tools.

To address these systemic limitations, this paper presents UNIFORUM, a centralized web-based platform engineered specifically for the academic event management context. UNIFORUM furnishes a single integrated environment through which student forums can digitally submit event proposals, while designated administrators at each hierarchical tier can evaluate, endorse, decline, or redirect proposals with feedback. The system further integrates live dashboards, an approval-driven event calendar, and a structured archive for historical event records.

The key contributions of this work are: (i) the design and deployment of a structured multi-level approval workflow adapted to college governance norms; (ii) a unified real-time dashboard enabling administrators to monitor event status across all forums; (iii) a dynamic calendar restricted to fully authorized events; and (iv) a multimedia-capable archive capturing post-event data including attendance, guest details, and participant feedback. The remainder of this paper is organized as follows: Section II reviews relevant prior literature; Section III critiques existing systems and their shortcomings; Section IV describes UNIFORUM's working methodology; Section V elaborates the system architecture; and Section VI presents conclusions and future directions..

II. LITERATURE SURVEY

A wide-ranging body of academic work has examined digital approaches to event management across various domains. This section surveys the most pertinent prior studies that motivated the development and design choices of UNIFORUM.

A. Web-Based Event Management Platforms

Shah et al. [4] introduced a web-based Event Management System (EMS) that offered organizers a centralized interface for creating events, managing schedules, and maintaining participant records. Their findings confirmed that digital platforms can substantially reduce manual workloads while enabling real-time event monitoring. However, the proposed system was not tailored for academic environments—it lacked forum-specific submission pipelines, hierarchical authorization flows, and the role-differentiated access controls essential in institutional settings.

Ahmad et al. [5] constructed a web-based conference management tool for higher education institutions, supporting abstract submission, reviewer assignments, and schedule dissemination. While the academic targeting was appropriate, the tool's applicability was restricted to formal conferences and failed to accommodate broader student forum activities such as cultural events, club-specific programs, or general intra-college engagements.

B. AI and Automation in Event Management

Abdul Halim et al. [6] investigated the impact of artificial intelligence on event planning operations. Their research highlighted how predictive analytics and intelligent scheduling could optimize event outcomes by forecasting optimal time windows, estimating attendance, and recommending efficient resource deployment based on past event data. Notwithstanding these theoretical contributions, the work did not produce a deployable implementation applicable to college-specific event management contexts.

Maheswari et al. [7] developed an AI-assisted web tool focused on automated event inspection and reporting, leveraging natural language processing and cloud-based metadata extraction to

streamline documentation. Though it successfully reduced administrative burden in post-event processes, the system entirely omitted front-end workflows for event submission, role management, or multi-tier approvals—all of which are indispensable in academic settings.

Maurya et al. [8] proposed an intelligent event planning platform employing machine learning algorithms to optimize scheduling and resource allocation based on venue availability and participant priorities. Despite demonstrating efficiency improvements through centralized monitoring, the platform was conceived for general event planning scenarios and did not cater to the multi-forum, hierarchical governance structures found in educational institutions.

C. Campus and Academic Event Platforms

Nandakishore [9] developed CampusConnect, a campus-oriented digital tool designed to enhance coordination across departments, student bodies, and administrative offices. The system offered event creation, scheduling, and record maintenance functionalities, and research findings confirmed that digital platforms meaningfully improve transparency and coordination on campus. However, CampusConnect's capabilities were constrained by the absence of advanced analytics, predictive attendance features, and intelligent event scheduling recommendations.

Islam et al. [10] introduced EvenZer, a generic academic event management system enabling both technical and non-technical users to configure event websites via a guided multi-step process. While EvenZer was notable for its accessibility and adaptability, it was fundamentally oriented toward website creation for individual events rather than institutional lifecycle management, and it provided no support for structured approval or rejection processes.

Pungaonkar and Shete [11] presented an Android-integrated web system that facilitated communication between students and institutional authorities, disseminated study material notifications, and conveyed placement drive information. Nonetheless, this solution was primarily communicative in nature and lacked structured mechanisms for event submission, approval routing, or status tracking across multiple forums.

D. Cloud-Based and Mobile Event Systems

Bhuva et al. [12] proposed a cloud-hosted event management application emphasizing scalability, remote accessibility, automated task management, and improved data security. Despite the advantages of cloud deployment, the system incorporated neither forum-based submission workflows nor multi-tier authority hierarchies, rendering it unsuitable for institutional academic event management.

Mishra et al. [13] developed a mobile-based Android application allowing users to specify event requirements remotely, forwarding these to administrators for action. While improving accessibility, the system's interaction model remained linear and single-directional, lacking sequential approval chains, real-time status visibility, or role-differentiated dashboards.

Pinjari and Nur [14] presented a Smart Event Management System employing modern technology to coordinate staffing, customer needs, logistics, and service delivery across diverse event types. Although the platform demonstrated breadth of applicability, its architecture was oriented toward commercial event scenarios and could not accommodate the institutional requirements specific to academic settings.

E. Research Gaps Identified

A synthesis of the reviewed literature reveals several persistent shortcomings: (i) existing systems are predominantly designed for corporate or general-purpose events and lack support for multi-forum academic ecosystems; (ii) none of the reviewed tools implements structured multi-tier approval workflows that mirror the hierarchical decision-making in educational institutions; (iii) unified dashboards providing administrators a consolidated, real-time view of events across all forums are absent; (iv) structured post-event archiving inclusive of multimedia content, attendance metrics, and guest records remains inadequately addressed; and (v) role-differentiated PIN-based authentication for hierarchical stakeholders has not been implemented in existing academic event tools. UNIFORM has been purposefully designed to bridge each of these identified gaps.

III. EXISTING WORK

Contemporary event management tools available commercially and in academic practice are predominantly aimed at large-scale corporate functions, conferences, or public gatherings. Widely used platforms such as Cvent, WIX, Eventzilla, EVITE, 123FormBuilder, and ConfTool have been assessed and compared in earlier literature [10]. Although these solutions differ in their feature sets for event creation, registration management, and scheduling, they uniformly exhibit critical deficiencies when benchmarked against the specific operational requirements of college forum event management.

A fundamental limitation is the absence of multi-tier approval mechanisms reflective of academic authority structures—where an event proposal must sequentially obtain sign-off from a forum president, faculty coordinator, department head, and principal. Most tools either bypass approval processes entirely or rely on a single administrator, which is inadequate for institutional governance.

Equally significant is the inability of existing platforms to host multiple concurrent student forums on a shared environment while preserving independent event pipelines. Academic institutions commonly operate dozens of active clubs and committees, each necessitating its own distinct submission and authorization pathway—a requirement unmet by current offerings.

The absence of real-time, categorized status dashboards presents another critical gap. Administrators overseeing a high volume of simultaneous event requests across multiple forums currently have no efficient mechanism for tracking which proposals are pending, approved, or rejected at any given time.

Historical event documentation in most existing tools is similarly deficient. Structured retention of post-event data—such as participant statistics, guest speaker information, photographic records, and feedback summaries—is rarely supported, limiting institutional capability to evaluate forum performance or leverage historical insights for future planning.

Finally, the user interface designs of most existing tools either over-complicate workflows for non-technical users or oversimplify them to the point of inadequacy for managing nuanced institutional processes. Delivering a simultaneously accessible yet functionally comprehensive interface for students, faculty, and administrators remains an unresolved design challenge. UNIFORM has been purpose-built to comprehensively address each of these shortcomings through a role-aware, hierarchically structured, and academically tailored event management architecture.

IV. SYSTEM ARCHITECTURE

UNIFORM is architected using a layered, modular design paradigm that clearly delineates responsibilities across presentation, business logic, and data management tiers. This separation of concerns facilitates system scalability, simplifies maintenance, and supports incremental future enhancements. Figure 1 depicts the high-level architecture of the system.

A. Frontend Layer

The presentation layer is constructed using HTML5, CSS3, and JavaScript, producing a responsive and accessible interface compatible with both desktop and mobile environments. Distinct views are dynamically rendered for each user role—including forum members, forum presidents, faculty coordinators, department heads, and principals—ensuring that individual users interact only with information and functionalities relevant to their designated role. The interface incorporates modern design elements such as card-based event displays, modal-driven approval dialogs, and animated transitions to deliver a polished and intuitive user experience.

B. Business Logic Layer

The application logic layer governs the core behavioral workflows of the platform, including event submission validation, sequential authorization routing across hierarchical levels, automatic status reversion upon post-submission edits, dynamic counter updates across dashboards, and calendar data population rules. This layer enforces the policy that an event must secure approval from every authorized tier in sequence before being classified as fully approved and rendered visible on the public-facing calendar.

C. Data Management Layer

The data layer manages persistent storage of all event records, approval histories, user credentials, historical event archives, and associated multimedia content. The database schema adheres to relational design principles, ensuring data integrity, normalization, and optimized query performance. Real-time synchronization between the backend data store and frontend dashboards is maintained, enabling approval status updates to be reflected instantaneously without requiring manual page reloads.

D. Authentication and Access Control

System-wide access governance is enforced through a role-differentiated, PIN-based authentication framework. Each hierarchical role is associated with a unique credential set granting access exclusively to role-appropriate dashboards and permissible actions. This mechanism prevents unauthorized system access, ensures accountability at every approval stage, and preserves the integrity of the end-to-end authorization chain.

V. PROPOSED SYSTEM: UNIFORM

A. System Overview

UNIFORM is a centralized, web-based platform purpose-built to manage the complete lifecycle of college forum events—from initial digital proposal through final post-event archiving. The system consolidates event submission, tiered approval processing, real-time tracking, calendar integration, and historical event management within a single, cohesive interface, eliminating the need for disparate tools or manual coordination mechanisms.

B. Event Submission

Forum members initiate the event lifecycle by completing a structured digital proposal form that captures essential details, including event name, proposed date and time, venue selection, anticipated attendance, resource requirements, and a comprehensive event description. Upon submission, the system automatically assigns the event a 'Pending' status and initiates its progression through the approval workflow. Input validation mechanisms ensure that all mandatory fields are complete and properly formatted prior to acceptance of the submission.

C. Multi-Level Approval Workflow

The tiered authorization mechanism constitutes the operational core of UNIFORM and is modeled directly on the authority

hierarchies prevalent in academic institutions. Following submission, each event proposal is routed for sequential review through: (1) the Forum President, who evaluates the event's contextual relevance and organizational readiness; (2) the Faculty Coordinator, who assesses academic suitability and resource availability; (3) the Head of Department, who provides administrative endorsement; and (4) the Principal, who grants definitive institutional authorization.

At each tier, the reviewing authority may take one of three actions: approve and advance the proposal to the subsequent level, reject the proposal with a documented rationale, or return it to the submitting forum with specific revision instructions. In instances where a forum member modifies an event following its initial submission, the system automatically resets the event status to 'Pending', ensuring that all authorities conduct a fresh review of the revised proposal and that the integrity of the authorization chain is preserved.

D. Authority Dashboard

Each authority-level user is presented with a role-specific, dynamically rendered dashboard offering a categorized overview of all events within their review jurisdiction. Events are organized across three status categories: Pending, Approved, and Rejected, with live numeric counters enabling administrators to rapidly assess workload distribution and prioritize pending reviews. The dashboard updates in real time as decisions are recorded, ensuring administrators always operate from current data without requiring manual page refreshes.

E. Dynamic Event Calendar

An integrated dynamic calendar within UNIFORM selectively displays events that have successfully completed all stages of the authorization workflow. This ensures that only fully sanctioned events are visible to the student community, preventing premature announcements or scheduling confusion. Users may browse the calendar date by date and select any date to access detailed information for events scheduled on that day, including venue, time slot, organizing forum identity, and event synopsis.

F. Past Event Archive

Upon conclusion of an approved event, authorized users may enrich its digital record with post-event documentation, including final participant counts, guest speaker profiles, aggregated feedback summaries, event photographs, and supplementary multimedia materials. These records are stored persistently within the system and presented through an organized, visually appealing gallery interface. This archival function serves as a structured institutional memory, empowering administrators to assess forum performance longitudinally and draw upon historical event data when planning future activities.

G. Responsive User Interface

The UNIFORM interface is developed in accordance with contemporary UX design principles, adopting a mobile-first philosophy that ensures seamless accessibility across a broad range of device types. Navigation is structured intuitively, incorporating clear visual indicators for event status progression, prominent action buttons tailored to each user role, and unambiguous labeling throughout. Card-based content layouts, color-coded status indicators, and smooth modal transitions collectively contribute to a professional and

approachable user experience for students, faculty, and administrators alike.

VI. RESULTS AND DISCUSSION

The UNIFORUM platform was fully implemented and subjected to comprehensive testing within the operational context of Jhulelal Institute of Technology, Nagpur. Functional testing was conducted across all system modules, encompassing event submission, sequential approval routing, dashboard status updates, calendar population, and post-event data recording. All workflows executed as specified, with event status transitions performing accurately at each authorization level.

A comparative assessment against the institution's prior manual event management workflows revealed measurable improvements across several key performance dimensions: (i) overall approval turnaround time was substantially reduced by eliminating the physical circulation of paper-based forms among offices; (ii) incidents of miscommunication were minimized through centralized status visibility and the system's structured comment mechanism for rejections and revision requests; (iii) scheduling conflicts declined due to the calendar's institution-wide view of all approved events; and (iv) the accuracy of administrative records improved markedly through systematic digital archiving of all event-related data.

Feedback gathered from student forum representatives indicated that the digital submission interface was intuitive and significantly lowered the effort required to initiate an event proposal. Administrative personnel expressed appreciation for the consolidated dashboard view, which enabled them to process multiple authorization requests efficiently without losing oversight of pending items. The PIN-based authentication mechanism was evaluated as both operationally straightforward and sufficiently robust for role-based access control within a college environment.

The automatic status reversion upon event editing was particularly commended by faculty coordinators and department heads, as it ensured that no amended proposal could circumvent the full review chain—directly addressing a common accountability gap observed in manual workflows where revised event proposals often bypassed formal reapproval processes.

While the current implementation demonstrates a complete and fully operational event management lifecycle, the system's scalability under conditions of significantly higher event volumes and a larger number of concurrent forums will necessitate backend optimization, including database indexing and query performance tuning. These enhancements are planned for subsequent development phases.

VII. CONCLUSION

This paper has presented UNIFORUM, a centralized web-based platform engineered to transform college forum and event management by addressing the fundamental limitations of both traditional manual processes and existing digital solutions in academic environments. Through the introduction of a structured multi-level approval workflow, role-specific real-time dashboards, a fully authorized event calendar, and a comprehensive multimedia-capable post-event archive,

UNIFORUM delivers measurable gains in institutional transparency, operational efficiency, and administrative accountability.

The system demonstrably reduces reliance on paper-based processes, accelerates the authorization lifecycle, mitigates scheduling conflicts, and equips all institutional stakeholders—students, forum representatives, faculty, and administrators—with a unified platform for the complete management of campus events. Its role-differentiated access control, automated status management upon event revision, and responsive interface position it as a practically viable and immediately deployable solution for academic institutions of varying scale.

Future development efforts will concentrate on integrating more robust authentication protocols such as email-based OTP or OAuth 2.0, deploying automated notification systems via email and SMS for real-time approval status updates, constructing an advanced analytics module for institution-level reporting and performance benchmarking, incorporating AI-driven scheduling recommendations, and transitioning the platform to a scalable cloud-based infrastructure capable of supporting concurrent multi-institution deployments.

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