KalpManch: Redefining College Fest Dynamics Through Technology and Innovation

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Abstract- This research presents the development of KalpManch, an internet based event management system exclusively for university fests. Developed with the technology stack of MERN (MongoDB, Express.js, React.js, Node.js), KalpManch provides the solution to the drawbacks in the conventional fest management by offering features such as user-friendliness, dynamicity and scalability. One is that it works closely with Google Forms, allowing for instant updates to event websites for the organizers and club heads, as the information displayed is always accurate. In complex scenarios KalpManch deals with the regular updates of the event, manages collaboration and makes a work of event seamless.

Keywords - College Fest Management, Event Scheduling, Event Registering, Role based access control, EMS

I. INTRODUCTION

Event management also plays a central role in organizing events, festivals or programmes and in managing communication and interaction between stakeholders. On the other hand, expandability poses a great challenge for traditional processes in large events like college fests, which need flexibility, real-time update and customization according to the needs of the user. In response to these challenges, a novel event management platform called KalpManch has been created for management and operation of events, which is based on the MERN stack (MongoDB, Express.js, React.js, Node.js). It is an innovative and highly portable product set especially tailored to bring about a dramatic change for the better management of events both for participants as well as the organizers and administrators in the organization. Our website, KalpManch has additional features of real time webpage design, participant registration, conflict-free scheduling and auto-telecast result options. These features automate processes and improve users' engagement in an effective and engaging way. Including Google Forms ensures that information presented on the website of the event, coordinators or club leaders is up to date in the event period. This enhances coordination and shared information as it allows for instance making updates such as to schedules, speakers or detail without using up time from the attendees. KalpManch also switches back to the college's default site after the event, thereby not having any unprofessional content displayed after the fest is over. It also doesn't allow the event time clashes, and deals with a change, cancellation or any other alterations instantly and provides the notification for the same in a rather convenient way. Whether it is about event timings or whether a participant has been duly registered for an event, the participants or users get an automated email reminder immediately; Similarly, administrators can make and send changes in real-time, which notify the concerned learners immediately. Specially for managing various types of events, KalpManch provides a perfect safety and proper coordination. A new concept to manage the event in the digital world has brought the best solution of digital event management for the era suited to the modern needs of event management. KalpManch provides end to end services to redefine event management, with operational efficiency, flexibility and usability. It asserts the factor of timely communication and interrelation aimed at event stakeholders and makes KalpManch look like a revolutionary platform. It encourages smooth

operations of communications between the organisers, heads of the clubs, the participants and the administrators thus ensuring accountability. People will be able to monitor event registrations and will be immediately notified when changes to the schedule occur or when results are in, keeping them both informed and interested. Similarly, organizer to club heads and administrators to better manage numerous activities such as dynamic changes like rescheduling, changing venues or canceling. The major characteristic of KalpManch is the automated e-mail notification which does not interfere with appointment alerts. This is especially important in conditions where large groups of people are involved and information exchange results in time-consumption. Notifications on event timings, participants' status, and announcements are all sent immediately so that event proceedings run smoothly. Regarding usability, mobile responsiveness of KalpManch is improved making it easier for users to perform tasks related to the events from any device. This application allows users easy navigation through multiple platforms, thereby increasing engagement. The adaptability is also supported by the fact that KalpManch is aimed at users' feedback. Stakeholders' feedback can be provided after each event and then utilize such feedback in order to apply changes that would make the platform more suitable to its users' needs as they develop. Since KalpManch is aimed at proving an enhanced feature set, guaranteeing security and reliability, and improving users' experience, it opens the gap between traditional approaches and modern requirements. It has become a new indispensable model for effective, adjustable, easy and highly-scalable digital event management.

The rest of the paper is organized as follows: literature review followed by methodology, result and discussion, conclusion, acknowledgment and references.

II. LITERATURE REVIEW

[1] Event Management System for Universities (IJRESM), this paper introduces a robust event management system designed specifically for universities, addressing challenges in organizing academic and co-curricular events. The system automates various processes such as event registration, attendance tracking, and certificate generation. By leveraging real-time notifications, it ensures participants are kept informed about event schedules and updates. The authors emphasize the significance of centralized platforms in reducing manual workloads and improving operational efficiency. The system's user-friendly interface caters to students, faculty, and administrators, providing personalized dashboards for different roles. The research also highlights how digital transformation in event management fosters better engagement and streamlined communication between organizers and attendees. [2] Online Event Management System (IJITCE) This paper focuses on an online event management system developed to overcome inefficiencies in traditional event organization methods. It introduces a modular approach, including features like query handling where users can post inquiries and receive responses directly from the admin. The system also facilitates seamless updates and notifications, ensuring all stakeholders remain informed. An additional focus is placed on database management, allowing admins to efficiently update, add, or remove event details. The authors propose future enhancements such as chatbot integration to address frequently asked questions, which would reduce response times. The study concludes by emphasizing how such systems can significantly reduce administrative burdens while enhancing user satisfaction. [3] Campus Event Management System (IJMRSET) This paper highlights a web-based event management system tailored for campus activities. It provides tools for event creation, participant registration, and post-event feedback collection. The authors detail the system's architecture, which includes separate modules for event organizers and participants. Features like real-time notifications and automated attendance tracking enhance usability. The study explores how centralized digital solutions can address common challenges in campus events, such as lack of coordination and manual errors. The proposed system improves interaction between students, faculty, and event organizers while fostering a collaborative environment. Future development includes mobile app support to further enhance accessibility. [4] Event Management Systems (Atlantis Press) This paper provides a comprehensive analysis of event management systems across industries, exploring their architecture and implementation. The authors discuss features such as real-time data synchronization, multi-role dashboards, and advanced analytics. The study emphasizes the role of automation in reducing repetitive tasks and streamlining operations. Additionally, it addresses the challenges of scalability and proposes solutions such as cloud-based architectures for handling large-scale events. The paper also highlights the importance of user-centric design, ensuring that interfaces are intuitive for all stakeholders, including organizers, attendees, and vendors. Insights from this study underscore the transformative potential of EMS in creating efficient and engaging event experiences.[5] College Event Management System (IRJET) The authors present a collegespecific event management system that automates several aspects of event organization. Key features include personalized dashboards, real-time attendance tracking, and automated notification systems. The paper discusses how the system reduces the reliance on paper-based processes, making it an environmentally friendly solution. It also enables real-time interaction between students and organizers through dedicated communication modules. The study highlights how digital solutions foster collaboration and improve transparency in college events. Future improvements suggested by the authors include integration with social media platforms to increase event visibility

and participation. [6] Event Management System: A Review (IRJMETS) this review paper explores the evolution of event management systems, focusing on their functionalities and impact. The paper discusses how EMS has transformed event planning by automating repetitive tasks and centralizing information. Future advancements like AI-powered chatbots and multi-language support are proposed to enhance accessibility and engagement. The study concludes by emphasizing the importance of continuously updating EMS to align with technological advancements and user expectations. [7] CU-Events: A Comprehensive Event Management System (IJCRT) The paper introduces CU-Events, a comprehensive event management system designed for universities. It features tools for real-time tracking, automated notifications, and dynamic scheduling. The system also includes a query resolution module for improved communication between participants and organizers. The authors highlight how the integration of advanced technologies such as AI and analytics enhances operational workflows. The study provides case studies showcasing how CU-Events has successfully improved event organization in universities, leading to increased participation and satisfaction among stakeholders. Future updates are suggested to include VR-based event previews and multilingual support. [8] Event Management Systems (ResearchGate) this paper provides a detailed overview of event management systems, focusing on their applications in various sectors. The study highlights innovative features such as virtual reality integration for immersive event experiences, AI-driven assistance for real-time query resolution, and live streaming for remote accessibility. The authors emphasize the importance of modular design, allowing customization based on the specific needs of different events. The paper also explores challenges like data security and suggests implementing blockchain for secure data handling. Insights from this study showcase the potential of EMS to revolutionize event management through technological advancements. [9] An Overview of Event Management Systems (IJITCE) This paper discusses the implementation of event management systems in educational institutions. It highlights the challenges of traditional event planning, such as miscommunication and manual errors, and how digital solutions address these issues. The authors detail features like participant tracking, feedback collection, and analytics for decision-making. They also propose integrating AI for automated scheduling and VR for enhanced user engagement. The study underscores the importance of EMS in improving efficiency and fostering a collaborative environment within institutions. [10] Event Management Systems for Academic Institutions (UITM Journal. This paper investigates the role of event management systems in academic settings. It elaborates on features like participant tracking, real-time notifications, and post-event feedback collection. The authors discuss how EMS transforms traditional event planning by automating tasks and centralizing information. The study emphasizes the potential of EMS to enhance communication, improve user engagement, and provide actionable insights through advanced analytics. Future enhancements suggested include integrating IoT for smarter attendance tracking and AI for personalized recommendations.

III. METHODOLOGY

KalpManch, in fact, has been specifically designed with a view to sparing most of the configuration imposed students and faculty in charge of the event management going to college fests. The idea is to develop a network solution that will help to track, register and manage events for all the stakeholders. During the research phase, we found a number of shortcomings in currently existing systems most notably in regards to user interactions and accessibility. Specifically, the guidelines of the system design under consideration were to create a system that would respond to the size of an event and handle different users. We identified some of these are customized event registration, tracking of attendance of the faculty, scheduling of events, which do not overlap, and sending out of automated e-mails. Front End modular framework of our choice was React while the CSS of our front-end used the framework of Tailwind CSS It is a mobile-first responsive design of simplicity. As it has already been mentioned, the platform architecture was thought with non-professional user in mind. On the backend side, we used the MERN stack to build a fast, highly flexible, highly scalable application. This supports event creation: a place to create new events, assignments for students and tracking live updates. We implemented JWT for user authentication where we used role-based access control (RBAC) for any access of feature which depends on the user's role whether they are students, teachers, club heads or admins. For increased security and easier interaction with the users, we incorporated the status notification by email or SMS. We also emphasized on performance and scalability aspects of web site; guery and API optimization to handle large traffic during peak event time. Cross-device and cross-browser testing were done to make the experience as comfortable on one device or the other. The next step is to launch its own event management solution, KalpManch- free and easy to access. Our goal is to add features based on the users that would keep the platform valid in the upcoming college festivals and reach a large number of people. In addition, in an effort to help the reader appreciate the flow of the Kalpmanch system, a flowchart (Figure 1) has been developed to present the different stages and how they interconnect to form the whole workflow. This flowchart is a strategic method that demonstrates the process of analysis; where user interaction initiates the sequence, and the result produced by the system concludes the process. It singles out the components of users' inputs, system outputs, decision options and further subsequent activities of the system as well as the overall interdependent structure of

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these components. In the same way, the flowchart not only distils the functionality of the Kalpmanch application into easily digestible parts through the will-made layout but also makes the logical characteristics of the application comprehensible. The representation is particularly helpful when one would like to understand the fundamental operations of the system and as a result facilitates the discussions made throughout this paper.



Figure 1 Flow Chart

3.1 User

The user in this system involves people involved in college fest event such as students, faculties, heads of clubs and officials from the college. Every user has his own id, and simple data are registered in the system. The platform is also developed with the concept of users and their roles and authorities on the platform. Students are able to sign up for events, club leaders control the event information, teachers monitor and record attendance and the administrators control the entire system.

3.2 Event

Event is considered as one of the crucial elements in the proposed system which is KalpManch. Every event gets an ID and involves information on event name, description, timing, venue and whether registration is open or not. Club heads and admins are able to create event, edit the event information and even delete events. The system is designed in a way that it will not allow scheduling of two or more events at the same occasion. Event registration status, time of occurrence of an event and time when the results of an event are available etc., are changed and alerted to users.

3.3 Registration

It makes it possible for students to register in activities they would like to attend. Every registration has an ID, and it is associated with the student, as well as the particular event for which the student registered. Depending on the type of event, the registration status is marked as confirmed, pending or canceled and the participants are notified of changes in the registration status and results by emails/SMS. Additional features of the tool are event registration in which admins and club heads can review the participant list and can opt to close the registration if necessary.

3.4 Techniques in Event Scheduling & Conflict Management

This module makes sure that no two events are booked at the same period of time. I found that the system is able to identify when there are two events planned for the same time of the day and does not allow for this to happen. The event schedule can be edited instantly by the admins and club heads and as soon as the changes are saved, they are visible. Time change alerts also are conveyed to the participants through email or SMS after registration for the event. Its utility is to provide better event management and exclude misunderstandings connected with the college fest.

3.5 Authentication Module

The authentication module controls which user is allowed to perform operations in the system. Realising the security JWT (JSON Web Tokens), the platform authorise the credential of the users which includes students, faculty, club heads and admins. For enhanced security, OAuth 2.0 procedure is incorporated with options for the users to log in using their Google or Facebook account, which makes the process more easy going and convenient. This module also has rights of session management where users are allowed to remain logged in until they explicitly log out.

3.6 A practical concept that separates access control at the application level into two main models: discretionary Access Control and Mandatory Access Control.

For that, the system uses the role-based access control where the user has access to only the features of his/her role. The students can merely register for events, confirm their participation status and receive notifications only. Event information and registration can be organizable by club heads, as well as tracking attendance by teachers. Super gained full control on the entire concept, including events, users, and configuration. This assures that the system has a secure structure where every user communicates in the platform in different ways as a result of their roles.

3.7 Reporting & Analytics

KalpManch has reporting that offers comprehensive data on events, people's attendance, registration, and more. This means that the admins and the club heads are able to create reports that can be used to measure the effectiveness of events, the level of participation and other aspects of the operation as well. This is useful when planning for future events since better or more efficient ways of handling such events are developed through analysis of data.

3.8 Feedback System

The ability to make to give feedback enables users (students, faculty, and club heads) to give feedback on events in this module. The system gathers information on all forms of the agenda of the event, organization, timing aspect, and experience gained. Managers are also able to monitor feedback from the participants to provide appropriate recommendations to enhance subsequent occasions. This feature assists in the improvement of the user experience, and increases the refinement of organizing concern events.

IV. RESULT AND DISCUSSION

KalpManch a college fest management platform has solved many important or big problems of the event management organizations in giving a smooth and coherent interface. It has brought significant changes in registration to many events, the involvement of schedules and result tracking in events among students, faculties and administrative staffs. Initial reception to the application is positive with response emphasizing on the straightforward interface, real time event scheduling and the notification feature. Among those, the highly effective event management system has enhanced the flow of coordination and sorted out the major problem of event management system, which is lack of schedulability. Custom features like Role Based Access Control for the user and added features to follow user attendance, Auto Notifications which make the user experience much better than earlier models have been the added features which will go a long way in making the model successful. Ideally, KalpManch has provided certain benefits such as event calendar without overlap, timely and versatile updation and high level of

user participation. Some evidence from the pilot testing illustrated that KalpManch has the potential to increase the rate of college event attendance by about 50 percent of the users within the first seventy days of registration and tracking. However, there is some indication of the difficulties that exist, even in these favourable circumstances. Long-term user retention is another major challenge as is adapting to changing requirements. Furthermore, the platform grows and is effective only with the support of college administrations and faculty for more widespread use. These aspects shall be taken into consideration in order to lay the foundation into effective strategies for KalpManch to leverage in the future.

V. CONCLUSION

The management platform for college fest created in this project, named KalpManch, solves the issues associated with college events organizing and participating. The designed platform helps to provide simple and real-time interface of events, event registration, and information flow for students, faculty, and administrators. Ignores some of the barriers that include schedule conflict and communication challenges hence enhancing the management of events. Subsequently, with the help of the above mentioned features of KalpManch more co-ordinate and active participation is seen in colleges events. It also makes time attendance and other related features to announce users, which enrich the user experience and keep them aware. From testing, there is a positive feedback with users enjoying the interface and how the platform deals with events without overlaps. Nevertheless, there are certain issues which are being experienced by KalpManch, such as sustaining user interest on the site and guaranteeing that the platform continues to be useful to its users as they grow older and require different things from the site. Its further development and utilization will thus need support from college administrators and instructors to become more widespread. But there exist specific obstacles that should be eventually overcome in this regard, through constant enhancement and in response to above mentioned challenges, KalpManch has a remarkable capability to revolutionize the process of college fest management, contributing to the enhanced satisfaction level of the groups of stakeholders. In sum, KalpManch is a progressive step towards efficient management and organization of college events, better co-ordination among enhanced students-teacher and student-administrator interactions.

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