Tuijin Jishu/Journal of Propulsion Technology
ISSN: 1001-4055
Vol. 44 No. 6 (2023)

Hadath Platform: Supporting Academic Event Management

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Abstract:- The "Hadath" platform is a pioneering web-based solution designed to transform event management within university settings, specifically tailored for students and administrators. By integrating key functionalities such as event discovery, registration, real-time notifications, and advanced analytics, "Hadath" significantly improves the ease and efficiency of organizing and participating in campus events. Developed over the academic year 2023-2024, this platform acts as a centralized hub for campus events, leveraging the dynamic and diverse nature of university life to enhance student engagement and administrative operations. Through a systematic development approach, including rigorous requirement analysis, user-centric design, and robust system architecture, "Hadath" ensures a seamless, scalable, and intuitive user experience. Furthermore, extensive testing phases underscore its reliability and performance. By focusing on the educational sector, "Hadath" aims to redefine campus event management, fostering a more vibrant, connected, and productive university community.

Keywords*:* Event management, university platform, student engagement, administrative efficiency, digital solution.

1. Introduction

The "Hadath" platform emerges as a groundbreaking web-based event management solution, meticulously crafted to offer a unique and professional experience tailored for both event organizers and attendees within the university setting. This platform is conceived with the diversity of university community needs in mind, facilitating a seamless integration of functionalities designed to enhance the organization and participation of campus events. By providing distinct account types, "Hadath" addresses the specific requirements of colleges, clubs, event organizers, and individual participants, ensuring a customized event management experience for each user category.

At the heart of "Hadath" lies a suite of comprehensive event management tools. These tools empower users to add, edit, and manage events effortlessly, incorporating features such as setting participation limits, detailing event schedules, locations, and presenter information. This level of detail and control translates into highly organized events that cater to the varied interests and logistical needs of the campus community.

The scalability of the "Hadath" platform is a testament to its thoughtful design, enabling it to serve not just college clubs but also to expand and adapt to the broader spectrum of university activities. This adaptability ensures that "Hadath" remains an invaluable resource as the scope of events and user needs evolve over time.

Furthermore, "Hadath" prioritizes user engagement and information accessibility. Through secure login options, users can access detailed event schedules, participate in feedback mechanisms for event improvement, and immerse themselves in the event experience with captivating visual elements like the event slider. The platform also emphasizes effective communication, employing a variety of channels to update users with notifications, maintain a registered event log, and engage participants in surveys. This holistic approach to event management is complemented by the provision of attendance certifications, enriching participants' profiles and experiences.

Envisioned as a comprehensive ecosystem for event management, the "Hadath" platform is dedicated to redefining the landscape of campus events. It stands as a transformative digital solution, aimed at creating memorable

experiences and fostering a vibrant community engagement. By elevating the standard for event management within the educational sector, "Hadath" not only streamlines administrative processes but also significantly enhances student life, making it a cornerstone of the university experience.

2. Background

Amidst the myriad challenges and opportunities presented by university life, events play a crucial role in enriching the educational experience. Beyond academic pursuits, these activities facilitate networking, personal development, and a well-rounded education. Recognizing the importance of student engagement, the "Hadath" platform is engineered to empower students to discover, participate in, and stay informed about campus events. As a centralized hub for event information and participation, "Hadath" aims to revolutionize student interaction and community engagement on campus.

The platform acknowledges the vital role of extracurricular activities in student development, promoting life skills, social connections, and innovation. By participating in campus events, students experience tangible benefits in well-being, mental health, and satisfaction with their educational journey. "Hadath" seeks to address these needs through a user-friendly interface, providing a comprehensive database for event discovery, registration, and engagement, ultimately enhancing the campus community's vibrancy and cohesion.

3. Technology and Business Impact

The "Hadath" platform innovatively merges technology with business efficiency to revolutionize university event management, enhancing engagement for students and administrators. It simplifies access to campus events, fostering personal and social development, and improving community well-being. By streamlining event management processes, "Hadath" not only elevates the university's reputation through operational excellence but also promotes a more connected and inclusive campus culture. Leveraging cutting-edge software methodologies, it offers a scalable and user-friendly solution that addresses the evolving needs of the educational sector. The platform's analytical capabilities further enable data-driven decision-making, optimizing resource utilization and strategic planning. Overall, "Hadath" represents a transformative approach to educational event management, setting new standards for efficiency, engagement, and community building in the university setting.

4. Related Work

Recent advancements in event management systems (EMS) underscore a pivotal shift towards the integration of hybrid methodologies that merge content-based, collaborative, and knowledge-based filtering techniques. This evolution aims to revolutionize the event planning experience, as evidenced by significant contributions in the literature [1-2]. Notably, the studies "User-Review Oriented Social Recommender System for Event Planning" and "A Social Recommender System for Event Planning" [3] demonstrate a marked trend towards personalized, user-centric systems. These works underscore the efficacy of hybrid frameworks in offering customized vendor recommendations for specific events, such as weddings, by harnessing user preferences and social networking data [3]. Furthermore, they emphasize the critical role of user reviews and social contextual information in enhancing the precision of recommendations. This approach addresses the complex needs of event planning, significantly improving user engagement and satisfaction [6].

Empirical evidence from trials in social settings, particularly on platforms like Facebook, has underscored the effectiveness of event management systems (EMS), revealing a high level of user satisfaction and underscoring their practical applicability in real-world scenarios [3]. Concurrently, research, including the "Smart College Event Management System Using MERN Stack" [7] and H.S.G.A. Weerakoon's thesis [10], expands the application of EMS to cover not only social gatherings but also institutional and large-scale events. These studies highlight the flexibility of EMS by incorporating modern technologies such as the MERN stack (MongoDB, Express, React, Node.js) [7] and employing methodologies like Rapid Application Development. This approach facilitates the streamlining of event management processes across a variety of contexts, ranging from academic environments to corporate events and extensive festivals [10]. The practical deployment of the "Event Planner" project [2] further exemplifies the versatility and real-world utility of these systems across diverse settings.

The scholarly consensus highlights the diverse advantages of utilizing Event Management Systems (EMS), which extend to improved operational efficiency, cost-effectiveness, and elevated customer satisfaction [6]. These systems excel in streamlining the logistical components of event planning, enhancing communication, and fostering collaboration among stakeholders [5]. The automation of key tasks, including event registration, scheduling, and reporting, empowers planners to allocate their focus towards the strategic elements of event management. This shift not only augments the quality of events but also aligns with the evolving expectations of participants [5]. The contributions of Goyal, Ali, and Haider in the domain of online event management systems exemplify these technological progresses, showcasing the capacity of digital platforms to efficiently orchestrate events [1]. This body of work collectively underscores the transformative impact of EMS on the landscape of event management, offering a blueprint for future innovations in the field.

Implementing advanced Event Management Systems (EMS) is not without its challenges. The research underscores the need for significant modifications to existing processes and the importance of comprehensive staff training to harness new technological tools effectively [10]. Ensuring the scalability of EMS to accommodate various event sizes and types, as well as their integration with existing systems, presents critical challenges [9]. Furthermore, the adoption of user-friendly technologies that facilitate ease of use for all stakeholders is emphasized as essential for widespread acceptance and optimal functionality [8]. The Oruc article on "Tools for Organizing an Effective Virtual Academic Conference" [4] provides insights into the practical implementation of such technologies in educational settings.

A user-centered design approach is highlighted as crucial for aligning the final EMS product with user needs and preferences, suggesting that extensive frameworks and methodologies for the development and deployment of EMS are necessary for their success across different event management scenarios [10]. This strategy ensures that EMS can effectively meet the diverse requirements of event management, emphasizing the importance of technology that is not only advanced but also accessible and relevant to its users.

The collective research points towards a promising horizon for event management and planning, driven by the synergy of advanced filtering algorithms, user-centric design principles, and modern technological frameworks [7]. The adaptability and user-friendliness of these systems suggest a future where event management can seamlessly cater to a broad spectrum of events, from intimate social gatherings to large-scale international conferences, significantly transforming the landscape of event planning and administration [3]. The ongoing evolution of these technologies underscores a commitment to innovation and enhancement within the field of event management [5].

This transformative journey in event management systems (EMS) is marked by a shift towards a more user-oriented and holistic approach, integrating cutting-edge technologies and methodologies [10]. The objective of this evolution is to redefine the event management process, making it more accessible, intuitive, and responsive to diverse needs [8]. This paradigm shift not only aims to improve the efficiency and effectiveness of event management but also to ensure that these systems are adaptable and inclusive, meeting the evolving demands of users and the dynamic nature of events.

The evolution of Event Management Systems (EMS) towards more nuanced, user-focused solutions is exemplified by research such as "A Social Recommender System for Event Planning" and "User-Review Oriented Social Recommender System for Event Planning" [3]. These studies showcase the shift towards leveraging sophisticated algorithms and social media integration to provide personalized event recommendations, moving away from one-size-fits-all approaches to embrace systems that cater to individual user preferences [3]. The effectiveness of these approaches is validated by high levels of user satisfaction, demonstrating their ability to meet and exceed expectations [3].

Further explorations, such as the “Smart College Event Management System Using MERN Stack” [7] and H.S.G.A. Weerakoon's thesis [10], underscore the adaptability and versatility of EMS in different environments. The adoption of contemporary technology stacks like MERN (MongoDB, Express, React, Node.js) highlights the potential for developing robust, scalable, and efficient EMS solutions [7]. These systems prioritize technological advancement while maintaining user-friendliness and accessibility, ensuring a broad spectrum of users—from

professional event planners to educational staff and volunteers—can easily utilize them [7]. This focus on intuitive interfaces and ease of use significantly reduces the complexity of event management, democratizing access to sophisticated event planning tools across various settings [8].

The research consistently highlights the comprehensive advantages of Event Management Systems (EMS) in enhancing operational efficiency, reducing costs, and elevating customer satisfaction [5]. By simplifying numerous event management processes, EMS transforms event planning into a more efficient and manageable endeavor, delivering significant benefits such as time savings, lowered operational costs, and improved outcomes for all stakeholders [5].

Yet, fully unlocking the capabilities of EMS presents notable challenges. A prominent issue is the necessity for organizational change management to accommodate the integration of EMS into existing operational frameworks [10]. This integration often mandates substantial adjustments to workflows and processes, underscoring the importance of thorough training and education for users to maximize the benefits of the new systems [10].

Additionally, the seamless integration of EMS with current systems poses a challenge, critical for establishing an efficient and unified operational ecosystem [9]. Scalability and flexibility also emerge as essential factors, reflecting the need for EMS to adapt to the wide range of event types and specific requirements, ensuring the system remains effective across varying scales and contexts [9].

Looking forward, the prospects for Event Management Systems (EMS) are exceptionally bright [5]. The rapid pace of technological advancements, including the integration of artificial intelligence, machine learning, and big data analytics, promises to catalyze a transformative shift in this domain [5]. These cutting-edge technologies are poised to introduce advanced features like predictive analytics for gauging event success, the automated tailoring of event elements to match attendee profiles, and real-time feedback mechanisms to facilitate ongoing enhancements [5].

The scholarly discourse on EMS delineates a sector on the verge of a profound metamorphosis [5]. Propelled by technological innovation, a commitment to user-centric design, and an intricate comprehension of event dynamics, EMS is transitioning into a more complex, agile, and potent suite of tools [5]. This transformation transcends mere facilitation of event management tasks; it aims to redefine the boundaries of what is achievable in event planning and execution [5]. As the field progresses and matures, it promises to deliver unparalleled levels of efficiency, customization, and user satisfaction, significantly reshaping the event management landscape for the foreseeable future [5].

5. Methodology and Requirement Engineering

Purpose and Scope

The "Hadath" platform aims to transform the campus event experience for students and streamline event management for administrators. As a comprehensive web-based solution, it enables easy event discovery, registration, and participation for the student body, while providing organizers with effective tools for event oversight and communication. Targeting a wide range of academic and extracurricular activities, "Hadath" facilitates a more engaged, informed, and connected campus community by offering a centralized platform for all event-related needs. Its scope is to enhance the university experience by making event management more efficient and accessible.

Product Perspecitve

"Hadath" is a standalone, web-based event management platform designed specifically for educational environments. It integrates securely with university systems for user authentication, ensuring access is restricted to authorized individuals. The platform combines event management, user authentication, and communication tools to facilitate the efficient organization and participation in campus events. "Hadath" enhances event management without the need for external systems, streamlining operations uniquely for the academic community.

System Features and Overview

The "Hadath" platform offers a comprehensive suite of features designed to enhance the experience of both event organizers and attendees. Key functionalities include a straightforward sign-up and login process, enabling users to create and access their accounts with ease. Attendees can reset passwords, update profiles, register for events, receive notifications, rate events, and claim certificates for participation. Organizers, on the other hand, are equipped to create, edit, and delete events, ensuring that they have full control over event management. Additionally, the system supports organizers in reviewing event statistics, providing valuable insights into attendee feedback and event performance. This robust feature set, underpinned by high priority on user experience and security, positions "Hadath" as a versatile and user-friendly platform for managing a wide range of event types, from small gatherings to large-scale conferences.

Figure 1. Attendee Flowchart

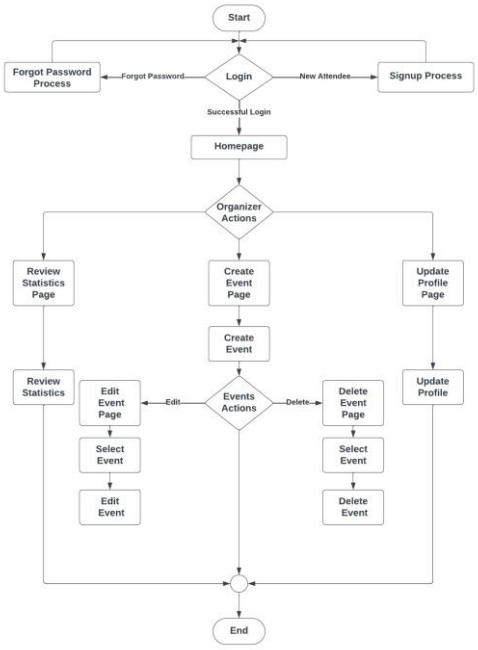

Figure 2. Organizer Flowchart

System Architecture

This part covers systems interaction to different events

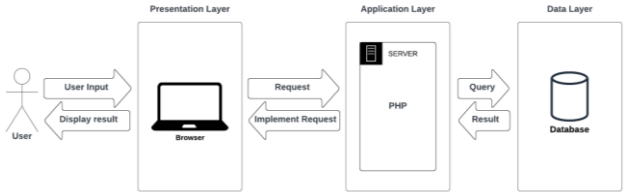

Figure 3. System architecture for "Hadath" platform in general

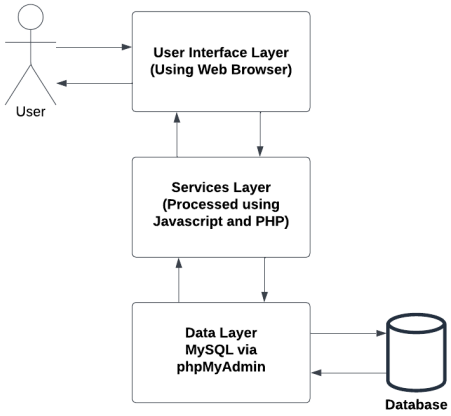

Figure 4. System architecture for "Hadath" platform in details

Figure 5. Data Flow Diagram Level Zero

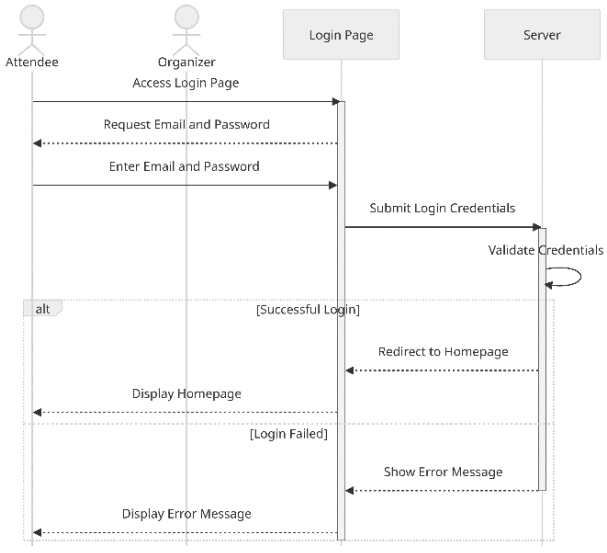

Figure 6. Login Sequence Diagram

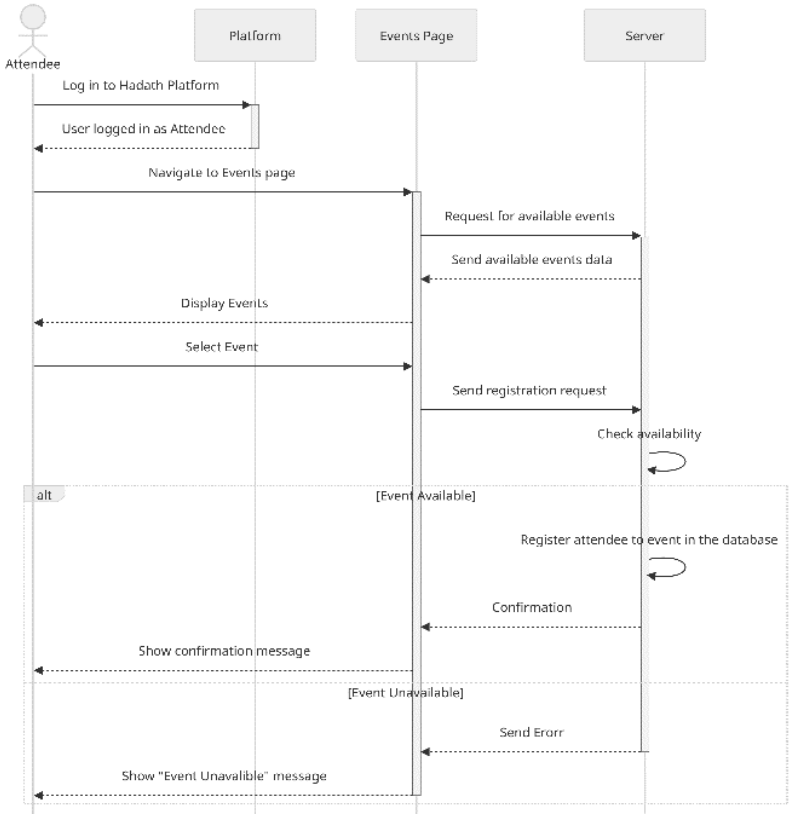

Figure 7. Event Registration Sequence Diagram

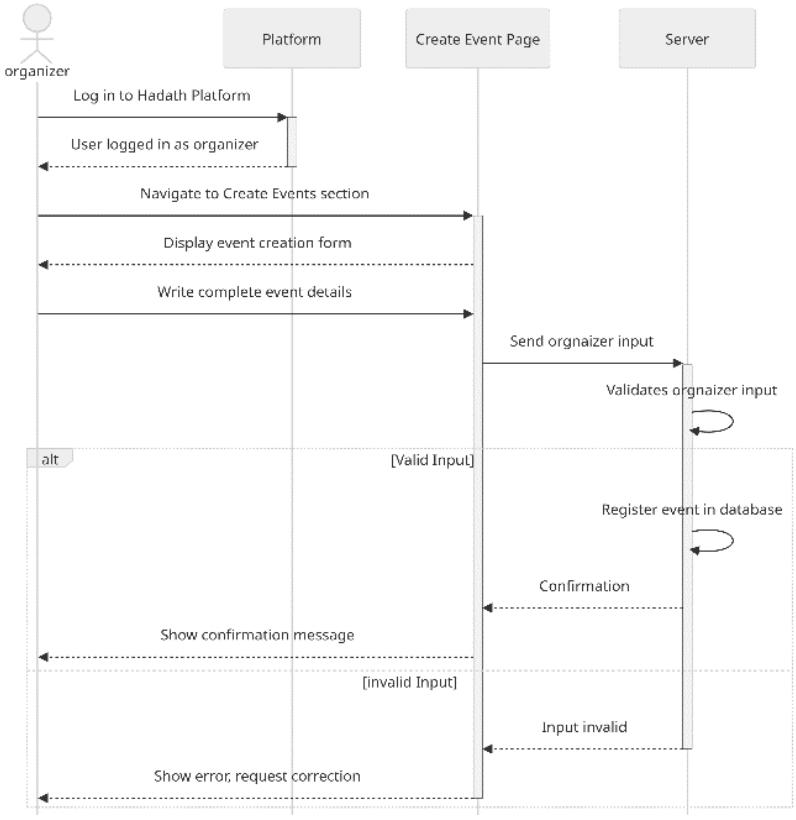

Figure 8. Create Event Sequence Diagram

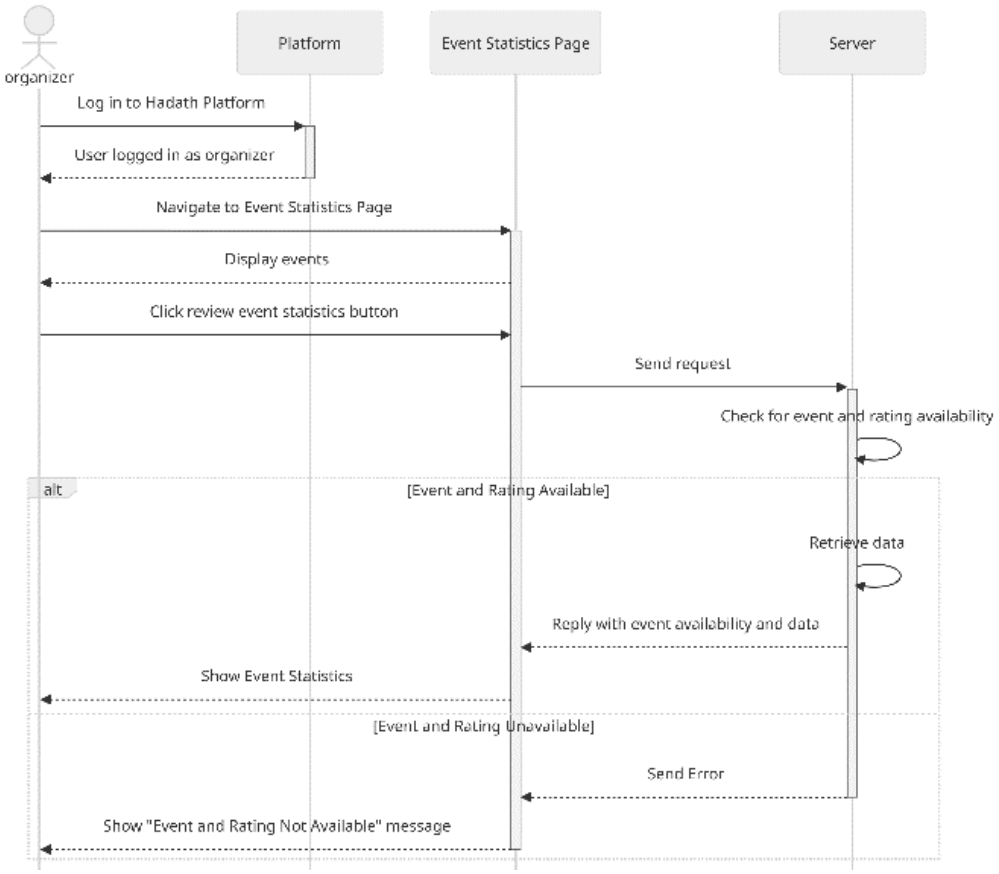

Figure 9. Review Statistics Sequence Diagram

6. Conclusion and Future Work

The "Hadath" platform project, by merging strategic planning with user-centered design, signifies a major advancement in university event management, tailored to the intricate needs of both students and administrators. As it gears up for real-world deployment in the next academic term, this crucial phase will test and refine the platform through direct user interaction, marking a pivotal moment for practical validation and enhancement. This step not only aims to elevate event management efficiency within academia but also signals the start of an ongoing journey of innovation. Future enhancements will focus on adapting to evolving user feedback and technological advancements, ensuring "Hadath" continues to redefine educational digital solutions and campus connectivity.

References

[1] D. Goyal, A. Ali, and M. N. Haider, "Project report and research on Online Event Management System," Turkish Journal of Computer and Mathematics Education, vol. 12, no. 6, pp. 5297-5303, Apr. 2021.

[2] V. Mishra, M. Dubey, P. Banerjee, P. Wankhede, P. Raipure, and A. Jumale, "Implementation of Event Planner," International Journal on Recent and Innovation Trends in Computing and Communication, vol. 5, no. 3, pp. 204-212, 2018.

[3] "User-Review Oriented Social Recommender System for Event Planning," Ingénierie des systèmes d'information, Sep. 2020, DOI: 10.18280/isi.250514.

[4] A. Oruc, "Tools for Organizing an Effective Virtual Academic Conference," Serials Review, vol. 47, nos. 3-4, pp. 231-242, 2021, DOI: 10.1080/00987913.2022.2050615.

[5] "Event Management Systems (EMS)," Journal of Applied Research and Technology, Jun. 2023.

[6] "Impact Factor: 6.252," International Journal of Advanced Research in Science Communication and Technology, vol. 2, no. 2, Dec. 2022.

[7] A. Pansare, A. Patil, N. Patil, Y. Patil, and A. Bhonde, "Smart College Event Management System Using MERN Stack," International Journal for Research in Applied Science & Engineering Technology, vol. 11, no. 3, Mar. 2023, Available at www.ijraset.com.

[8] V. Mishra, M. Dubey, P. Banarjee, A. Jumle, P. Raipure, and P. Wankhede, "Event Management System," International Journal of Trend in Research and Development, vol. 3, no. 6, ISSN: 2394-9333, www.ijtrd.com.

[9] P. Mounika, S. Divya Sree, T. Sushmitha, G. Harsha Sree, and A. Medha, "College Event Management System Using Web Technologies," International Journal of Engineering Applied Sciences and Technology, vol. 8, no. 2, pp. 257-260, Jun. 2023, Published online in IJEAST.

[10] H.S.G.A. Weerakoon, "Event Management System for Conference & Workshop," dissertation for the Degree of Master of Information Technology, University of Colombo School of Computing, 2018.