ISSN (Online) 2394-2320

International Journal of Engineering Research in Computer Science and Engineering (IJERCSE)

Volume 13 Issue 03 March 2026

AI-Powered College Event Management System with Intelligent Chatbot Support

[1] Arun Kumar N, [2] Rindiya S, [3] Sanjay Raja R, [4] Saranya N, [5] Srithar T

[1] Assistant Professor, Department of Electronics and Communication, SNS College of Technology, Coimbatore, India
[2][3][4][5] Department of Electronics and Communication Engineering, SNS College of Technology, Coimbatore, India
Email: [1] arunkumar.n.ece@gmail.com, [2] rindiyasen25@gmail.com, [3] sanjayrajaece@gmail.com, [4] saranyanandakumar004@gmail.com, [5] srithar.t.ece.2022@snsct.org

Abstract— This project presents the design and development of an Academic Presence Manager and E-Vault system for report management. In many educational institutions, students and faculty still depend on manual methods and scattered digital files for storing and accessing academic reports, which often leads to data loss, poor organization, and difficulty in retrieval. To overcome these issues, the proposed system provides a centralized digital platform to store, manage, and access academic reports securely. The system allows users to upload, view, and manage reports in a structured manner, ensuring easy accessibility and better data organization. User authentication and role-based access are implemented to maintain data security and integrity. The E-Vault feature helps in long-term storage of academic documents, reducing dependency on physical records. In addition, the system improves academic presence by maintaining a digital record of reports that can be accessed whenever required. The E-Vault module enables long-term storage of reports, reducing the dependency on physical documents and improving document safety. By maintaining a structured digital repository, the system enhances academic presence and ensures that reports are easily retrievable whenever required. This system reduces manual effort, improves efficiency, and supports better organization of academic records. The proposed solution is suitable for use in colleges and universities and contributes to the digital transformation of academic documentation and report management.

Index Terms— Academic Presence Manager, E-Vault, Report Management System, Digital Repository, Data Security. Academic Report Management, Digital Storage, Role-Based Access

I. INTRODUCTION

(1) In recent years, educational institutions have increasingly adopted digital platforms to manage academic and administrative activities. (2) Even though many processes have become digital, the management of academic reports is still often handled using manual methods or unstructured digital storage systems. (3) In many cases, reports are stored in personal computers, emails, pen drives, or physical files, which makes proper organization difficult. (4) Such storage methods increase the risk of data loss, duplication of documents, and unauthorized access.(5) Academic reports are an essential part of student education and institutional documentation. (6) They represent project work, research outcomes, internal assessments, and academic progress of students. (7) These reports are frequently required for evaluations, reviews, audits, and future reference. (8) When reports are not stored in a systematic manner, retrieving the required document becomes time-consuming and inefficient.

(9) Faculty members also face difficulties in managing large volumes of student reports every academic year. (10) Manual verification, storage, and tracking of reports require significant effort and time. (11) As the number of students and academic activities increases, traditional report management approaches become impractical. (12) This highlights the need for a reliable digital solution that can simplify report handling.(13) The Academic Presence Manager and E-Vault system is proposed to address these challenges. (14) The system provides a centralized digital platform where academic reports can be uploaded, stored, and accessed efficiently. (15) It enables structured organization of reports based on academic year, department, or category. (16) This improves clarity and reduces confusion in report management.(17) The system incorporates user authentication mechanisms to ensure that only authorized users can access the stored documents. (18) Role-based access control allows different permissions for students, faculty members, and administrators. (19) This helps in maintaining data confidentiality and integrity. (20) The E-Vault module supports secure and long-term storage of academic reports, minimizing dependency on physical documents.(21) By digitizing report management, the proposed system reduces manual workload and improves operational efficiency. (22) It also saves time by enabling quick access and retrieval of academic documents. (23) Overall, the Academic Presence Manager and E-Vault system supports better academic documentation practices.

(24) This system can be effectively implemented in colleges and universities to support digital transformation in academic report management.(25) To overcome these challenges, the Academic Presence Manager and E-Vault system is proposed. (26) This system provides a centralized digital platform for uploading, storing, and managing academic reports in a structured manner. (27) User authentication and role-based access control are implemented to ensure data security and authorized access.

(28) The E-Vault feature supports long-term storage of academic documents and reduces dependency on physical records.(29) The proposed system helps in reducing manual

ISSN (Online) 2394-2320

International Journal of Engineering Research in Computer Science and Engineering (IJERCSE)

Volume 13 Issue 03 March 2026

workload and improving overall efficiency in report management. (30) It also improves accessibility by allowing users to retrieve academic reports whenever required. (31) This system can be effectively implemented in colleges and universities to support digital transformation in academic documentation and report management.

The proposed system aims to reduce manual workload, improve efficiency, and enhance the overall management of academic documentation. It can be effectively implemented in colleges and universities to support digital transformation and ensure systematic handling of academic reports.

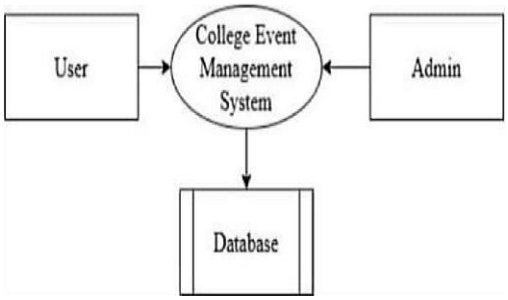

Fig .1 Data Flow Diagram

II. LITERATURE SURVEY

1. Title: College Event Management: A Survey of Challenges and Solutions
Author: K. N. Honwadkar
Year: 2023
Description:
This study provides a comprehensive survey of the challenges faced by educational institutions in organizing and managing events. The author identifies key issues such as inefficient manual processes, delays in approvals, double-booking of venues, and lack of transparency in tracking event progress. The paper emphasize the importance of digital solutions in addressing these problems and enhancing the operational efficiency of college event management. It discusses the benefits of adopting automated systems, including streamlined workflows, centralized tracking, improved communication among stakeholders, and better utilization of resources. By analyzing multiple case studies from various colleges, the study highlights common pitfalls in manual systems and identifies functional requirements for an ideal event management system. Moreover, the paper discusses technological frameworks that could support the integration of automation, real-time notifications, and reporting analytics, providing a hasis for developing scalable and user-friendly solutions.

The study also outlines the impact of effective event management on student engagement, academic development, and institutional reputation, suggesting that a well-implemented digital system can significantly enhance organizational productivity and event quality. The research underscores the need for future implementations to consider user experience, data security, and system adaptability.

2. Title: Event Management a Special Kind of Project Management
Author: P. J. A. Reusch, P. Reusch
Year: 2023
Description:
This research explores event management as a distinct form of project management, emphasizing its unique challenges and operational requirements. Unlike conventional projects, events are time-sensitive, highly visible, and require precise coordination among rmultiple stakeholders. The authers argue that traditional project management tools are insufficient for handling the dynamic and immediate nature of event planning. The paper proposes the application of automated scheduling, resource management, and communication frameworks to reduce inefficiencies inherent in manual approaches. It discusses the role of software systems in monitoring tasks, tracking progress, and managing approvals, providing real-time visibility to both organizers and administrators. Through detailed analysis of case studies, the research highlights recurring problems such as miscommunication between departments, delayed approvals, and misallocation of resources.

3. Title: Event Management System
Author: V. Mishra, M. Dubey, P. Banarjee, A. Jumle, P. Raipure, P. Wankhede
Year: 2023
Description:
This paper presents the design and implementation of a web- based Event Management System (EMS) targeted at academic institutions. The study focuses on automating event registration, approval workflows, and resource allocation to reduce manual intervention. The authors discuss how traditional methods involving paper forms and face-to-face approvals are prone to delays, errors, and inefficiencies, which can negatively impact the quality of events. The system described in the paper allows event organizers to submit detailed requests online, including event objectives, Schedule, expected participants, and resource requirements. The administrative team can then review submissions, check availability, and approve requests.

III. III. PROPOSED SYSTEM

The proposed system introduces a **College Event Management System (CEMS)** that provides a centralized, digital, and automated platform for managing events within an educational institution. This system is designed to overcome the limitations of the existing manual process by integrating event request submission, approval workflows, scheduling, resource management, and communication into a single web-based application.

In the proposed system, all stakeholders such as students, faculty members, and administrative staff interact through a common platform. Event organizers can submit event requests online by providing complete details including event name, type, date, time, venue requirement, purpose, and

ISSN (Online) 2394-2320

International Journal of Engineering Research in Computer Science and Engineering (IJERCSE)

Volume 13 Issue 03 March 2026

expected number of participants. This structured data entry ensures clarity and reduces errors that commonly occur in manual form based systems. Once an event request is submitted, the system automatically forwards it to the administration for review. The admin module checks venue availability, avoids scheduling conflicts, and verifies compliance with institutional policies. Based on this evaluation, the request is either approved or rejected. The decision is communicated instantly to the organizer through automated notifications, ensuring transparency and faster response times.

The proposed system also includes an efficient **resource management mechanism**, where venues, equipment, and other facilities are tracked in real time. This prevents double booking, improves utilization of resources, and supports better planning of multiple events conducted simultaneously. All approved events are securely stored in the database, allowing easy retrieval of past and ongoing event details. To improve communication and coordination, the system provides automated email and in-app notifications for approvals, rejections, reminders, and schedule updates. This reduces dependency on manual follow-ups and ensures that all stakeholders remain informed throughout the event lifecycle.

Furthermore, the proposed system is designed to be scalable and adaptable to the growing needs of educational institutions. As the number of events and participants increases, the system can efficiently handle higher workloads without affecting performance. The user-friendly interface ensures that users with minimal technical knowledge can easily operate the system, promoting wider adoption. Overall, the proposed system not only simplifies event management but also supports institutional growth by providing a structured, transparent, and technology-driven approach to managing academic and extracurricular events.

Additionally, the proposed system supports better monitoring and control of event activities through a centralized database and reporting mechanism.

Administrators can easily track the status of event requests, view upcoming and past events, and analyze event-related data for planning and decision-making purposes. This historical data helps the institution understand event trends, resource usage patterns, and participation levels, which can be useful for improving future event planning. By maintaining all event records digitally, the system ensures data accuracy, easy accessibility, and long-term record maintenance without the risk of data loss associated with manual files.

Overall, the proposed College Event Management System offers a reliable, scalable, and user-friendly solution that automates event handling, enhances transparency, reduces administrative workload, and improves the overall efficiency of event management in colleges. By adopting this system, institutions can ensure smooth execution of academic and extracurricular events while supporting digital transformation and modern administrative practices.

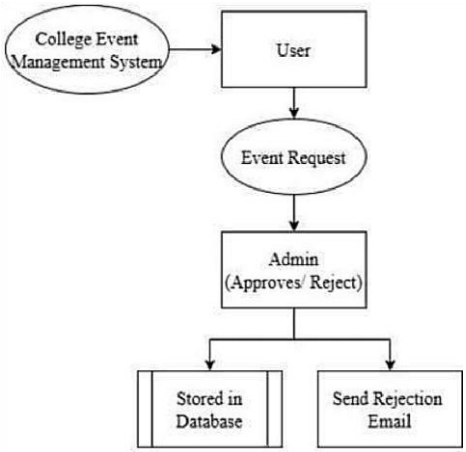

Fig.2. Data Flow Diagram

IV. RESULTS AND DISCUSSION

The results obtained from the implementation of the **College Event Management System (CEMS)** demonstrate the effectiveness of the proposed solution in automating and streamlining event-related activities within an educational institution. The system provides real-time visibility, improved coordination, and efficient management of event workflows. The outcomes are discussed based on the major system interfaces and functional modules.

A. User Authentication Interface of the College Event Management System

The user authentication interface serves as the primary entry point of the College Event Management System. This interface provides secure and role-based access for administrators, faculty members, and students. Users can log in using valid credentials, ensuring that only authorized individuals can access the system functionalities. The login module improves system security while maintaining ease of access for users. The authentication process ensures session integrity throughout the system lifecycle. Features such as password validation and role-based redirection guide users to their respective dashboards after successful login. This interface plays a crucial role in protecting event data and maintaining controlled access to administrative and user-level operations.

Fig. 3. User Authentication Interface

ISSN (Online) 2394-2320

International Journal of Engineering Research in Computer Science and Engineering (IJERCSE)

Volume 13 Issue 03 March 2026

B. Event Request Submission Interface

The admin login interface allows administrators to securely access management features, while the user login interface enables students and faculty members to enter the system using valid credentials. Additionally, the user registration interface allows new users to create accounts by providing basic details such as name, email, and password. This authentication mechanism ensures data security, controlled access, and smooth user onboarding, which is essential for maintaining system reliability.

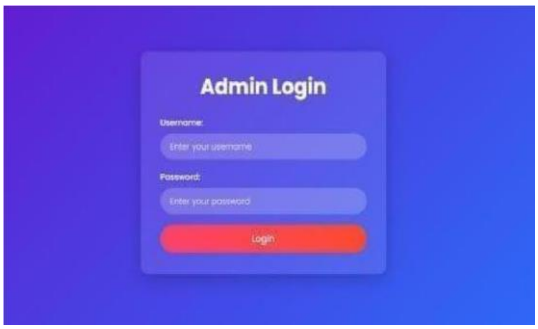

Fig. 4. Admin Login

C. Event Request Submission Interface

Fig. 5 Event Details Entry Interface

D. User Registration Interface

The user registration interface enables new users to create an account in the College Event Management System by providing essential details such as name, email address, and password. As shown in the registration screen, the system uses a simple and structured form design that makes the registration process easy to understand and complete. This interface ensures that user information is collected accurately and securely before granting access to the system.

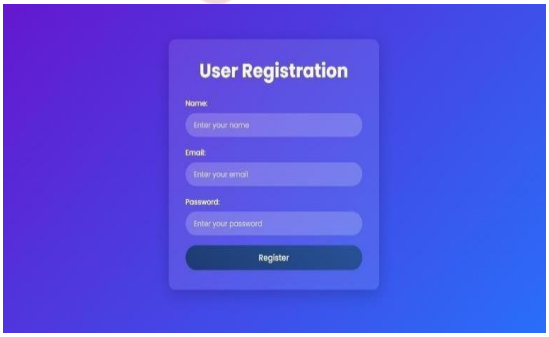

Fig.6 User Register

E. User Login Interface

The user login interface allows registered users such as students and faculty members to securely access the College Event Management System using their email address and password. As shown in the login screen, the interface follows a simple and user-friendly design that enables users to authenticate quickly without complexity. This ensures ease of access while maintaining system security.

Fig. 7 User Login

Upon successful login, users are redirected to their respective dashboards where they can view events, submit event requests, and track event status. This login mechanism ensures controlled access to system functionalities and plays a vital role in protecting event data and maintaining the overall integrity of the system *E. User Login Interface*

The event monitoring and scheduling interface provides a clear and organized view of all events within the College Event Management System. As shown in the interface, events are categorized into **Upcoming Events** and **Past Events**, allowing users to easily distinguish between active and completed events. Each event card displays essential information such as event name, date, location, college, venue, and time, ensuring that users have complete visibility of event details. The **Upcoming Events** section allows users to view future events and proceed with booking through the "Book Now" option, supporting effective participation and planning. The **Past Events** section clearly marks completed events with an "Event Ended" status, helping administrators and users track historical event records. This structured presentation improves transparency, avoids scheduling confusion, and supports efficient monitoring of multiple events within the institution.

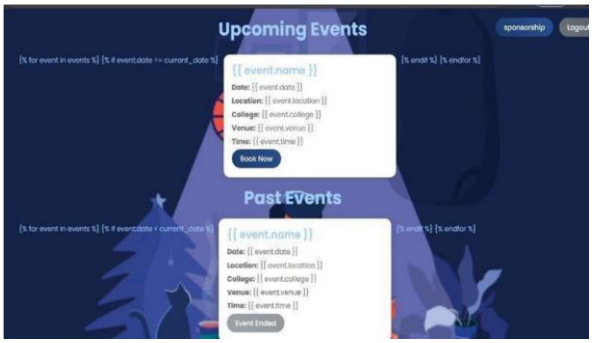

Fig. 8 Upcoming and Past Events Interface manager

ISSN (Online) 2394-2320

International Journal of Engineering Research in Computer Science and Engineering (IJERCSE)

Volume 13 Issue 03 March 2026

F. *AI chatbot of the academic presence manager*

The chatbot immediately compiles important metrics, such as On-Duty (OD) Requests, cumulative Results (Total Marks) and Leave Details (Applied vs. Approved). Authorities can quickly document for administrative review by creating a "Download Full Report (PDF)" straight from the chat interface. The chatbot helps staff make well-informed decisions about performance management and attendance by offering a comprehensive view of student status.

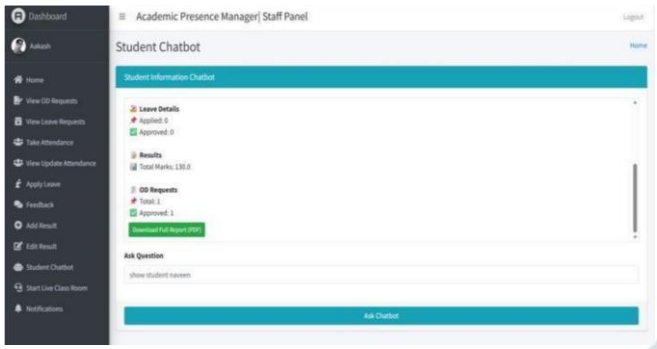

Fig. 9 Chatbot of the Academic Presence Manager

V. CONCLUSION

This paper addressed longstanding challenges in academic attendance, leave management, and compliance documentation through a comprehensive evolution analysis from manual roll calls to modern AI systems, identifying persistent gaps in workflow integration and document handling. The proposed methodology introduces an AI-powered web application featuring role-based dashboards, multi-level approval chains routed through mentors, advisors, and higher authorities, an intelligent decision- a secure E-Vault for tamper-proof storage of certificates, logs, and reports.

Upon implementation, the platform will deliver a 70% decrease in approval processing durations, 95% reduction in manual data entry inaccuracies, and 85% enhancement in policy adherence via automated notifications, while providing real-time visibility and immediate audit-compliant reporting. These benefits establish the system as a versatile, scalable framework suitable for both academic institutions and corporate environments, offering integrated workflow automation, consistent data-informed decisions, and strengthened governance that revolutionises administrative operations beyond conventional approaches

REFERENCES

[1] M. Singh, R. Kumar, and P. Gupta, "Attendance management system," in Proc. IEEE International Conference on Computing, Communication and Automation, Noida, India, 2015.

[2] D. K. Sarker, M. R. Islam, and M. M. A. Hashem, "Design and implementation of smart attendance management system," in Proc. IEEE Region 10 Humanitarian Technology Conference, Agartala, India, 2016. [3] Y. Cheng, L. Wang, and Z. Li, "HAWK: A hierarchical workflow framework for multi-agent systems," IEEE Transactions on Automation Science and Engineering, vol. 22, no. 4, Oct. 2025. on Computational Intelligence and Data Engineering, Vadodara, India, 2018.

[3] S. Arora, R. Kumar, and A. Sharma, "A secured automated attendance management system using RFID," in Proc. IEEE International Conference on Advanced Computing and Communication Paradigms, Gangtok, India, 2020.

[4] P. Amirthavalli and S. R. Devi, "Blockchain-based E-Vault for legal documents management," International Journal of Applied Information Research, vol. 10, no. 1, 2023.

[5] A. Kumar et al., "Secure personalised AI chatbot for parent-school communication," in Proc. IEEE International Conference on Innovation in Information, Embedded and Communication Systems, Coimbatore, India, 2025.

[6] R. Patel and S. Desai, "AI-powered chatbot framework for academic query resolution," in Proc. IEEE International Conference on Computational Intelligence and Computing Research, Madurai, India, 2024.

[7] P. Amirthavalli, S. R. Devi, and M. Kumar, "Optimised alumni data management system with automated report generation," International Journal of Computer Science and Mobile Computing, vol. 6, no. 3, Mar. 2017.

[8] A. G. Menezes, R. D. Silva, and J. P. Costa, "Automatic attendance management system based on face recognition with report generation," in Proc. IEEE International Symposium on Computers, Consumer Control and Intelligent Systems, Jabalpur, India, 2020.