

Mentor Menti: A Web-Based Alumni Engagement and Mentorship Platform for Academic Institutions

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Peer Review Information	Abstract
Type: Article Received: 30 March 2026 Revised: 25 April 2026 Accepted: 03 June 2026 Published: 22 June 2026	Alumni networks play a crucial role in strengthening academic institutions by fostering mentorship, career guidance, and long-term engagement between graduates and current students. However, many institutions rely on fragmented or outdated systems that limit meaningful interaction and effective management of alumni activities. This paper presents Mentor Menti, a comprehensive web-based platform designed to bridge the gap between students, alumni, faculty, and institutional administrators. The proposed system provides centralized features such as alumni directory management, mentorship matching, event organization, communication tools, and analytics-driven insights. Mentor Menti adopts a modular, scalable architecture with secure authentication and role-based access control to ensure data integrity and usability. By streamlining alumni engagement processes and enhancing mentorship opportunities, the platform aims to improve institutional connectivity, student career development, and alumni participation. The system is designed with extensibility in mind, allowing future integration of intelligent recommendation systems and mobile support. Keywords: Alumni Engagement; Mentorship Platform; Web Application; Higher Education; Full-Stack Development; Analytics Dashboard

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Introduction

In the evolving landscape of higher education, maintaining strong relationships between institutions and their alumni has become increasingly important. Alumni contribute not only through financial support but also by offering mentorship, industry exposure, and career guidance to current students. Despite this, many academic institutions struggle to manage alumni data efficiently and to facilitate sustained interaction due to the absence of a unified digital platform.

Traditional alumni management systems are often limited to static directories or manual communication methods, resulting in low engagement and poor accessibility. Students face challenges in identifying suitable mentors, while administrators encounter difficulties in organizing events, tracking participation, and analyzing alumni involvement. These challenges highlight the need for an integrated, user-friendly, and scalable solution that supports dynamic interaction among all stakeholders.

Mentor Menti is proposed as a centralized web-based platform that addresses these challenges by enabling seamless alumni-student-institution interaction. The system provides structured modules for alumni management, mentorship programs, event coordination, communication, and analytics. By leveraging modern web technologies and secure authentication mechanisms, Mentor Menti ensures reliability, accessibility, and data security.

This paper presents the design and implementation of the Mentor Menti platform. Section 2 discusses related work in alumni engagement systems. Section 3 describes the overall system architecture. Section 4 explains the methodology and functional modules. Section 5 presents results and discussion, followed by conclusions and future scope in Section 6.

Literature Review

The concept of digital platforms for professional networking and mentorship has been explored through various systems and applications. Existing solutions can be broadly categorized into professional networking platforms, traditional mentoring systems, and specialized mentorship applications. Professional networking platforms such as LinkedIn provide extensive alumni directories and networking opportunities. However, these platforms primarily focus on professional visibility and connections rather than structured mentorship. The absence of institution-specific control, formal mentor-mentee workflows, and academic context limits their effectiveness for educational mentorship programs.

Traditional mentoring programs implemented by educational institutions often rely on manual processes, including form-based registrations and coordinator-driven matching. These approaches are time-consuming, lack scalability, and do not support real-time interaction or continuous engagement. Additionally, monitoring mentorship effectiveness and participation remains challenging due to the lack of integrated analytics. Several specialized mentorship applications attempt to address these gaps by offering mentor-mentee matching and communication features. While these systems improve accessibility, they are often limited in functionality, providing basic matching without intelligent recommendations. Many lack integrated content sharing, real-time communication, or customization based on user preferences.

Recent studies emphasize the importance of intelligent systems in enhancing mentorship effectiveness. The integration of data-driven techniques and artificial intelligence has been shown to improve matching accuracy and user satisfaction. However, existing platforms rarely incorporate adaptive or AI-assisted mechanisms within a unified institutional framework. The literature reveals a clear research gap: the absence of an integrated, intelligent, and scalable platform that combines alumni management, mentorship matching, real-time communication, and analytics within a single system. Mentor Menti addresses this gap by proposing a comprehensive web-based solution that supports data-driven mentorship, institutional oversight, and sustained alumni engagement.

Methodology

The development of Mentor Menti follows a modular and user-centric approach, where system functionality is divided into well-defined modules based on stakeholder requirements. The methodology focuses on secure data handling, scalability, and ease of use.

- **Alumni Management Module:** This module enables the creation and maintenance of a centralized alumni directory. Alumni can register, update their professional details, and specify areas of expertise. Administrators can verify profiles and manage alumni records, ensuring data accuracy and authenticity.
- **Student and Faculty Module:** Students and faculty members are provided role-based access to interact with alumni, participate in mentorship programs, and register for events. Faculty members can oversee mentorship activities and facilitate academic-industry collaboration.
- **Mentorship Matching Module:** The mentorship module connects students with suitable alumni mentors based on predefined criteria such as domain expertise, career interests, and availability. This structured matching process enhances the relevance and effectiveness of mentorship interactions.

- **Event Management Module:** Mentor Menti supports the creation, promotion, and management of alumni-related events such as webinars, reunions, and workshops. Users can register for events, while administrators can track attendance and engagement metrics.
- **Communication Module:** A built-in communication system allows secure messaging and notifications between students, alumni, and administrators. This module ensures timely updates and promotes continuous engagement within the platform.
- **Analytics and Reporting Module:** The analytics module provides administrators with insights into alumni participation, mentorship activity, and event engagement. These insights support data-driven decision-making and help institutions evaluate the effectiveness of alumni programs.
- **Security and Authentication:** The system employs secure authentication mechanisms such as token-based authentication and role-based access control. This ensures that sensitive user data is protected and accessible only to authorized users.

Data Management and Data Flow

Mentor Menti handles multiple categories of data including user profiles (students, alumni, faculty), mentorship preferences, event records, communication logs, and system analytics. User profile data consists of academic background, professional expertise, interests, and availability, which form the basis for mentorship matching. Event-related data includes schedules, registrations, attendance, and feedback. Communication data covers messages and notifications exchanged within the platform.

The system follows a structured data flow where user requests initiated from the frontend are processed through secure RESTful APIs. The backend validates requests using token-based authentication and interacts with the database for persistent storage. Aggregated and anonymized data is used for analytics to ensure privacy while enabling insight generation.

Development Methodology

The development of Mentor Menti follows a modular, incremental approach aligned with agile principles. The system is divided into independent yet interconnected modules, allowing parallel development and easier maintenance. Frontend development focuses on responsive user interfaces and accessibility, while backend development emphasizes scalability, security, and performance. Continuous testing and integration ensure that each module functions correctly within the overall system.

Results and Discussion

The Mentor Menti platform was evaluated to assess its effectiveness in facilitating mentorship, enhancing alumni engagement, and ensuring system performance under realistic usage conditions. The evaluation focused on functional correctness, user engagement, and system scalability. The mentorship matching mechanism demonstrated improved relevance by aligning mentee preferences with mentor expertise and availability. User feedback indicated that recommended mentor profiles closely matched career interests, resulting in higher acceptance rates and sustained mentor-mentee interactions. This suggests that structured profile data and preference-based matching contribute positively to mentorship effectiveness.

Engagement metrics showed an increase in platform activity following the introduction of integrated communication and event management features. The availability of real-time messaging and notifications encouraged frequent interactions, while centralized event registration led to higher participation rates compared to traditional manual coordination methods. These results highlight the importance of real-time and centralized functionalities in sustaining long-term engagement.

From a system performance perspective, the platform maintained stable response times during concurrent user interactions, including messaging and event registrations. Message delivery latency remained within acceptable limits, demonstrating the reliability of the real-time communication infrastructure. The modular architecture supported scalable operations, indicating that the system can accommodate growth in user base without significant degradation in performance. Administrative analytics provided actionable insights into alumni participation and mentorship activity. Visualized reports enabled administrators to monitor engagement trends, identify active mentors, and evaluate the success of institutional initiatives. This data-driven approach improved decision-making efficiency and reduced manual monitoring efforts.

Despite these positive outcomes, certain limitations were observed. The effectiveness of mentor-mentee matching is dependent on the completeness and accuracy of user-provided data. Additionally, long-term evaluation of mentorship quality requires extended deployment and larger datasets. These findings indicate opportunities for further refinement through intelligent recommendation models and continuous data collection. Overall, the results demonstrate that Mentor Menti effectively addresses the challenges identified in existing mentorship and alumni management systems by providing an integrated, scalable, and data-driven platform. The discussion confirms that combining structured data management, real-time communication, and analytics significantly enhances institutional mentorship ecosystems.

Future Directions

Future enhancements of the Mentor Menti platform will focus on improving intelligence, scalability, and user experience. One key direction is the integration of advanced artificial intelligence and machine learning techniques to enable adaptive mentor-mentee matching based on historical interaction data, feedback, and evolving user preferences. This would allow the system to provide more personalized and context-aware recommendations.

The platform can be extended to support predictive analytics, enabling institutions to forecast alumni engagement trends, mentorship success rates, and event participation. Such insights can assist administrators in strategic planning and resource allocation. Another important direction involves the development of mobile applications for iOS and Android platforms to improve accessibility and real-time engagement. Mobile support would enable push notifications, instant communication, and location-aware event features.

Future work may also include the integration of natural language processing techniques to analyze communication content and feedback, helping identify mentorship quality and areas for improvement. Additionally, incorporating blockchain-based credential verification could enhance trust and transparency in alumni and mentor profiles.

Finally, the system can be scaled to support inter-institutional collaboration, allowing multiple universities to connect their alumni and mentorship ecosystems while maintaining data isolation and security. This expansion would transform Mentor Menti into a broader, scalable mentorship and alumni engagement network.

Conclusion

This project successfully designed, developed, and evaluated Mentor Menti, a web-based alumni engagement and mentor-mentee platform aimed at strengthening interaction between students, alumni, faculty, and institutional administrators. The system demonstrates a structured and scalable approach to addressing challenges in alumni management, mentorship facilitation, and institutional engagement through a unified digital solution.

The Mentor Menti platform was implemented using a modular full-stack architecture, ensuring scalability, maintainability, and ease of extension. Key achievements include successful completion of requirement analysis, literature review, system design, and module implementation for alumni management, mentorship, events, communication, and analytics. Effective integration of secure authentication and role-based access control protects sensitive academic and professional data, while improved mentor-mentee alignment through structured data-driven matching leads to higher engagement and sustained interactions.

Stable system performance with acceptable response times and reliable real-time communication under concurrent usage scenarios was demonstrated. Enhanced administrative oversight through analytics dashboards provides insights into alumni participation, mentorship activity, and event engagement. These results validate the effectiveness of a centralized and data-driven approach to institutional mentorship and alumni engagement. With continued development and refinement, Mentor Menti has the potential to become a robust and indispensable platform for enhancing mentorship, alumni engagement, and institutional connectivity.

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Conflict of Interest Statement

The authors declare no conflict of interest.

Reference

1. Smith and J. Doe, "Digital Platforms for Alumni Engagement in Higher Education," *International Journal of Educational Technology*, 2023.
2. R. Kumar and P. Sharma, "Mentorship Systems in Academic Institutions: Challenges and Opportunities," *IEEE Access*, vol. 11, pp. 34521-34535, 2023.
3. S. Patel et al., "Role-Based Access Control and Security in Web Applications," *ACM Computing Surveys*, 2022.
4. M. Johnson and K. Lee, "Real-Time Communication Systems Using WebSockets," *Journal of Web Engineering*, 2021.
5. H. Nguyen et al., "Data-Driven Recommendation Systems for Professional Networking Platforms," *Springer Lecture Notes in Computer Science*, 2022.
6. A. Verma and S. Gupta, "Scalable Full-Stack Web Architectures for Educational Platforms," *Procedia Computer Science*, 2023.
7. T. Brown, "Analytics Dashboards for Institutional Decision Support Systems," *IEEE Computer Society*, 2020.