
WEB-BASED EVENT ADMINISTRATION USING DATA ANALYTICS

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ABSTRACT

The digital era demands tools that simplify traditionally complex processes, and event platform that streamlines the planning, promotion, and management of diverse events. Our platform integrates real-time data analysis, predictive analytics, and mobile accessibility to enhance user experience and efficiency. Additionally administration is no exception. This paper presents an in-depth review of a web-based event administration, vendor integration and budget management tools centralize event organization, creating a robust and comprehensive solution. This paper discusses the platform's problem-solving approach, design methodology, technological components, and its broader impact on event planning.

Keywords: Web-Based Platform, Event Administration, QR Code Check-Ins.

I. INTRODUCTION

Event planning is a complex task involving multiple stages, from initial organization to post-event analysis. The conventional approach to event planning, particularly for large scale events like weddings, corporate functions, or public gatherings, involves multiple tools and manual oversight. This fragmentation leads to inefficiency and higher chances of errors.

The rise of digital tools has eased some of these challenges, but most platforms cater to specific types of events or focus on isolated aspects like RSVPs or vendor booking. Our platform aims to provide a comprehensive solution that supports a wide range of event types—from personal gatherings to large corporate functions—through an all-in-one web based system. By integrating predictive analytics, real-time monitoring, mobile accessibility, and vendor management, our platform enhances the efficiency and accessibility of event planning for both individuals and organizations.

Ultimately, the platform will provide event organizers with the tools to improve operational efficiency, increase attendee satisfaction, and enhance the overall success of events by making data-driven decisions. By leveraging data analytics, this web-based event administration system has the potential to transform traditional event management into a more personalized, efficient, and responsive process.

II. LITERATURE SURVEY

A. "Data-Driven Approaches for Optimizing Event Scheduling and Resource Allocation" by S. M. Raza et al. (2019)

This research applies machine learning algorithms to optimize event schedules based on historical data and real-time attendee feedback. It focuses on resource management and session scheduling as key areas that benefit from data-driven decisions.

B. "Event Management Systems: Design, Application, and Future Directions" by L. D. Xu et al. (2016)

This paper explores the different types of event management systems, categorizing them into software suites and cloud-based platforms. The study highlights the growing importance of user-centered designs and automated event logistics.

C. "Application of Real-Time Analytics in Large-Scale Events" by M. J. James and M. A. Seitz (2019)

This paper discusses the benefits of using real-time analytics to track event progress, identify bottlenecks, and dynamically adjust resources and schedules.

D. "Predicting Attendee Engagement in Large-Scale Conferences Using Data Analytics" by J. P. Sharma et al. (2021)

This study uses historical event data to train machine learning models to predict attendee engagement. It focuses on optimizing speaker selection, session topics, and audience interaction.

E. "Social Media and Web-Based Tools for Event Engagement: A Case Study" by M. K. Patel et al. (2020)

This paper investigates how social media tools and event-specific mobile apps are used to boost engagement before, during, and after an event. It also highlights the use of data analytics to monitor social media interactions.

F. "Web-Based Marketing and CRM Systems for Event Promotion" by E. N. Habib (2021)

This paper discusses how CRM tools and web-based marketing platforms can be integrated with event management systems to enhance customer relationship management, targeting, and outreach.

G. "Privacy and Security in Web-Based Event Management Systems" by J. D. Thompson et al. (2019)

This paper discusses the importance of ensuring data security in online event management systems, with a focus on encryption, secure payment gateways, and GDPR compliance.

H. "Data Protection Regulations and Their Impact on Event Management Systems" by L. W. Meyer et al. (2020)

This study covers the legal requirements (e.g., GDPR) for handling event data, particularly sensitive personal information.

III. MOTIVATION AND OBJECTIVES

A. Motivation

The event management industry has seen tremendous growth in recent years, driven by the increasing complexity and scale of events across various sectors, such as conferences, exhibitions, trade shows, concerts, and festivals. Despite this growth, many event organizers still rely on traditional, manual processes or fragmented software tools to manage their events. These approaches often lead to inefficiencies, poor attendee experiences, and missed opportunities for optimization. This presents a clear need for more advanced, data-driven solutions that can streamline event planning, improve resource allocation, and enhance attendee satisfaction.

B. Objectives

1. Implement real-time data collection and analytics to enable event organizers to monitor attendee behavior, session popularity, and resource utilization, allowing for dynamic adjustments during the event.
2. Create an integrated, user-friendly platform that streamlines the entire event management process, from attendee registration and ticketing to scheduling, session management, and resource allocation.
3. Apply machine learning and predictive analytics to analyze historical event data, predict attendee preferences, session attendance, and resource needs, optimizing event schedules and logistics.
4. Use data analytics to provide personalized recommendations for sessions, networking opportunities, and exhibitors based on attendee preferences, improving engagement and overall satisfaction.
5. Automate the collection and analysis of post-event data (feedback, engagement metrics, and financial performance) to deliver comprehensive reports that help organizers assess event success and identify areas for future improvement.

IV. ARCHITECTURE

EVENT ADMINISTRATION SYSTEM

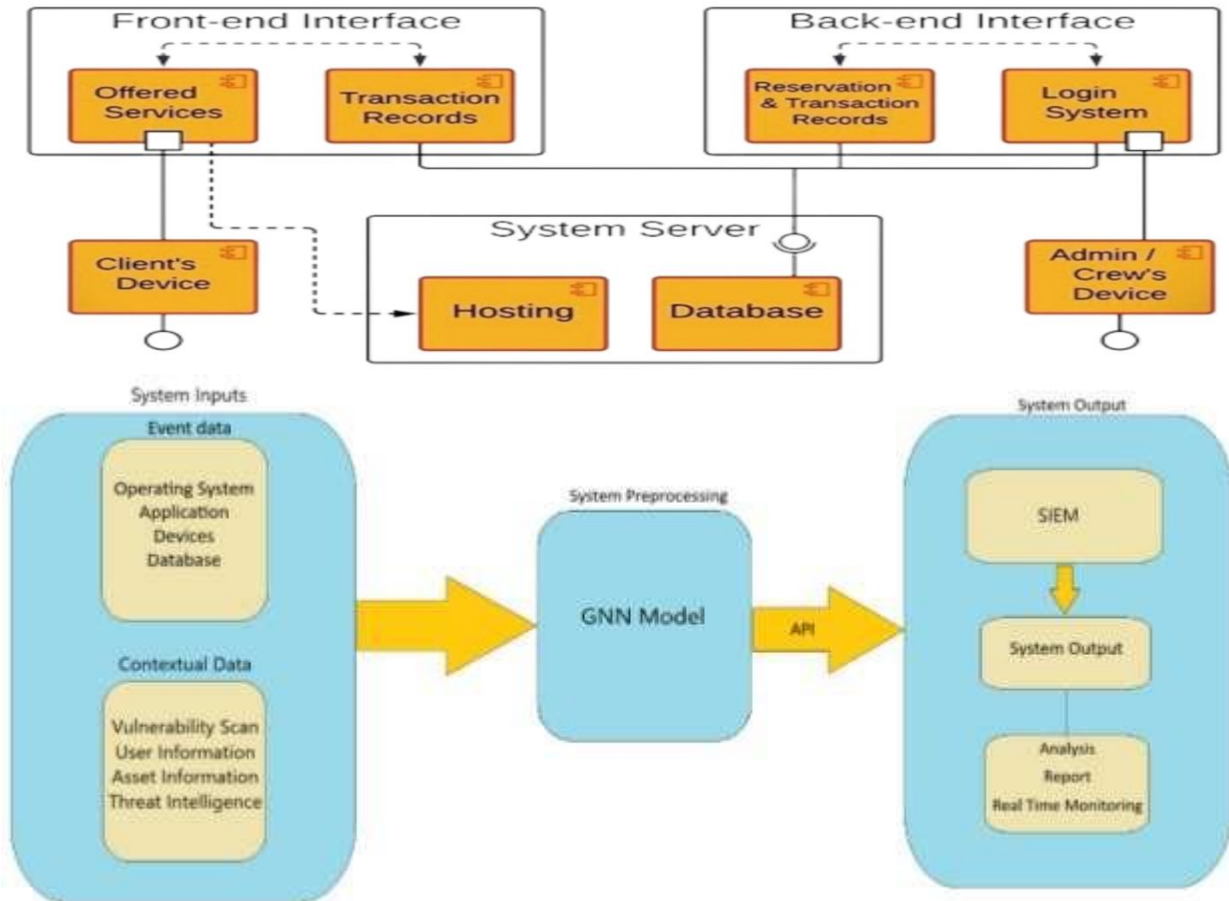


Fig 1: Architecture Event Administration System

V. FEASIBILITY AND SCOPE

A. Feasibility

- 1. Technical Feasibility:** The project leverages widely-used web development technologies and data analytics tools, making it technically achievable with existing resources.
- 2. Operational Feasibility:** The platform can streamline event management processes, improving efficiency and scalability for events of various sizes.
- 3. Economic Feasibility:** The project has high potential for ROI by reducing event management costs and can generate recurring revenue through a SaaS model.
- 4. Legal and Ethical Feasibility:** The platform can be built to comply with data privacy regulations (e.g., GDPR) and ensure secure handling of personal data.

B. Scope

The scope of the project is extensive, covering all aspects of event planning and management. Key features include:

- **Comprehensive Event Management:** The platform serves as a one-stop solution for various event types, from weddings to corporate functions. Users can manage every aspect of their event, from guest lists to schedules and vendor bookings.
- **Data Analytics Integration:** Predictive analytics allow for better planning and resource management, offering insights into budget needs, potential issues, and optimization strategies.
- **Mobile and Vendor Integration:** The platform offers mobile accessibility for easy event management on the go. Additionally, it includes a vendor marketplace, simplifying the process of comparing and booking

vendors for various event needs.

VI. CONCLUSION

The web-based event administration platform offers a comprehensive solution for event planning, integrating predictive analytics, real-time monitoring, and mobile accessibility. Its versatility makes it ideal for managing a wide range of events, from personal gatherings to large corporate functions. By simplifying the event planning process and providing centralized management tools, the platform empowers users to plan and execute events more efficiently and successfully.

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