

Web-Based Event Management with Service Customization and Online Payment

Dr.T.Amalraj Victoire¹, Mrs.M.Vasuki², S Padmaja³, S Padmashri⁴

¹Professor, Department of Computer Applications, Sri Manakula Vinayagar Engineering College, Puducherry, India

²Associate Professor, Department of Computer Applications, Sri Manakula Vinayagar Engineering College, Puducherry, India

^{3,4}PG Student, Department of Computer Applications, Sri Manakula Vinayagar Engineering College, Puducherry, India
 amalrajvictoire@gmail.com, vasukimca@smvec.ac.in, shrisrinivasan22@gmail.com, jasrinivasan22@gmail.com

Abstract:

The Web-Based Event Management with Service Customization and Online Payment is a centralized web application developed to simplify the planning, booking, customization, scheduling, billing, communication, and payment activities involved in event management. The system is implemented using Flask as the web application framework and SQLite as the relational database. It provides separate interfaces for customers and administrators, enabling each user to perform activities according to their role. Customers can register and securely log in, select an event type, choose the event date, enter the number of guests, specify venue and timing details, and customize the event according to their requirements. The proposed system supports multiple event-related services, including photography, videography, catering, makeup, decoration, invitation, gift, and music. Service-specific choices, quantities, event days, timing requirements, and applicable prices are maintained during the booking process. The system provides automatic price calculation based on selected services and also includes a price negotiation facility through which customers and administrators can communicate and finalize the service amount before billing. After confirmation, the administrator generates the bill and sends it to the customer. The customer can make an online advance payment of 20% and subsequently pay the remaining balance. Payment records, receipts, QR-based verification, booking status, and financial information are stored in the database. The customer dashboard provides access to bookings, event schedules, bills, payments, messages, notifications, reviews, profile information, and cancellation or refund details. The administrator dashboard provides facilities to manage users, events, services, vendors, bookings, negotiations, billing, payments, messages, reports, and refunds. The system therefore brings the major activities of event management into one centralized platform and provides a structured workflow from event selection and service customization to final payment and booking management.

Keywords — Event Management, Service Customization, Event Booking, Automatic Pricing, Price Negotiation, Online Payment, Billing, Refund Management.

I. INTRODUCTION

Event management involves planning and coordinating several activities such as selecting an event type, fixing the event date, choosing a venue, estimating the number of guests, selecting service providers, scheduling services, calculating costs,

confirming bookings, and managing payments. In a conventional approach, these activities may be handled through telephone calls, direct meetings, paper records, spreadsheets, or separate communication channels. Such an approach can make it difficult to maintain consistent booking information and may increase the possibility of

communication errors, scheduling conflicts, incomplete records, and delays in payment processing.

A centralized web-based event management platform can provide a more organized method for handling these activities. Instead of communicating separately with different service providers, customers can enter their requirements through a single application and select the services required for their event. The proposed Web-Based Event Management with Service Customization and Online Payment is designed around this concept. The application connects customers and administrators through a common platform where event details, service requirements, pricing information, negotiations, billing and payments can be maintained systematically.

The system begins with customer registration and authentication. After successful login, the customer can select the required event type and provide event information such as function date, number of guests, venue and timing. The application then allows the customer to customize the event by choosing individual services such as photography, videography, catering, makeup, decoration, invitation, gift and music. Instead of forcing the customer to select one fixed package, the service-customization approach allows the required services to be selected according to the actual event needs. Service-related options, quantities, event days, timing and prices can be considered during booking.

Another important feature is automatic pricing. When the customer selects services, the application uses the stored service information and selected quantities or options to calculate the applicable cost. This provides a clear basis for the booking amount. Where price discussion is required, the negotiation module allows the customer and administrator to communicate and finalize a mutually accepted amount. After the final amount is confirmed, the administrator generates the bill. The customer can then make an online advance payment of 20% and subsequently settle the remaining amount. Payment and receipt information is maintained for future reference.

The system begins with customer registration and authentication. After successful login, the customer

can select the required event type and provide event information such as function date, number of guests, venue and timing. The application then allows the customer to customize the event by choosing individual services such as photography, videography, catering, makeup, decoration, invitation, gift and music. Instead of forcing the customer to select one fixed package, the service-customization approach allows the required services to be selected according to the actual event needs. Service-related options, quantities, event days, timing and prices can be considered during booking.

The system also provides separate customer and administrator dashboards. Customers can monitor their bookings, schedules, bills, payments, messages and notifications. Administrators can manage users, events, services, vendors, bookings, billing, payments, negotiations, reports and refunds. Cancellation and refund information can also be handled according to the configured cancellation policy.

The main objective of the proposed system is therefore to integrate event planning, service customization, scheduling, pricing, negotiation, billing, payment and communication into a single web-based environment. The system is intended to improve organization, reduce manual work, provide better visibility of booking information and make the overall event-management process more convenient for both customers and administrators.

II. OBJECTIVES OF THE PROPOSED SYSTEM

- To provide a centralized web-based platform for event planning and booking.
- To allow customers to select event types and enter event-specific requirements.
- To provide service customization for photography, videography, catering, makeup, decoration, invitation, gift and music.
- To calculate service costs automatically based on the selected requirements.
- To support price negotiation between customers and administrators.
- To generate bills after the final amount is confirmed.

- To support online advance payment and subsequent balance payment.
- To maintain booking, payment, communication and refund information in a centralized database.
- To provide separate dashboards for customers and administrators.
- To reduce dependency on disconnected manual event-management processes.

III. LITERATURE SURVEY

Existing event-management studies demonstrate the importance of centralized booking, scheduling, communication, supplier coordination and digital record management. However, several systems concentrate on a particular domain or provide only selected event-management functions. Table 1 summarizes the studies considered for the proposed system.

TABLE I

Author (Year)	Title	Technology Used	Findings	Limitation
Pinjari & Nur (2016) [1]	Smart Event Management System	.NET Framework	Managed staff, customer, location and transport-related event activities and improved coordination through web access.	No integrated service customization or online payment described.
Mishra et al. (2019) [2]	Event Management System	Web-based application	Supported registration, event date/time/location/equipment selection, booking records and administrator coordination.	Focused on basic booking and administration; no integrated online payment or advanced service customization.
Izang et al. (n.d.) [3]	A Web-Based Project Management System	Web-based system; iterative methodology	Supported project monitoring, task allocation, milestones and stakeholder communication.	Project-management focus rather than event-service management; no online payment or event-service customization.
Goyal et al. (2026) [4]	Web-Based Event Management System for Academic Institutions	HTML, CSS, JavaScript, PHP, MySQL	Automated event creation, registration, attendance, notifications and reports; reduced paperwork and improved data access.	Academic-institution focus; no integrated service customization and online payment.
Pasha (2026) [5]	Development of a Wedding Organizer Information System to Improve the Efficiency of Wedding Service Management	CodeIgniter; web-based database system	Integrated customers, packages, vendors, booking, scheduling, payment recording and reporting; 16 black-box scenarios passed.	Payment was recorded/verified rather than implemented as a complete online payment gateway.
Valdez (2026) [6]	EVENTWISE: Development of an Integrated Event Planning and Coordination Management Information System	React, Tailwind CSS, PHP, MySQL, Firebase/Pusher	Improved communication, task tracking, vendor coordination, scheduling and real-time updates.	Payment gateway excluded; advanced security and mobile capabilities also limited.
Chin Lee Kian (2004) [7]	Event Management System	Java, JSP, SQL Server 2000; Waterfall with prototyping	Supported hotel/restaurant reservations, meal packages, scheduling, invitations, seating, reminders and reports.	Mainly hotel/restaurant focused; online rental/deposit payment not included.
Galay & Encarnacion (2024) [8]	Evaluating the Event Industry for a Web-Based Event Supplier Management System	Web-based supplier management; surveys/interviews and real-time requirements	Emphasized centralized supplier data, real-time availability, automated notifications and customizable booking preferences.	Supplier-management focus; payment processing was not a central implemented feature.
Reyes et al. (2023) [9]	Event Management System with SMS Notification for Mindanao People's Care Foundation, Inc.	Microsoft Visual Studio 2013, Microsoft SQL Server, GSM modem	Improved event communication and paperless records through SMS notifications; usable without internet.	No SMS scheduling/cancellation; scalability, mobile app and multimedia messaging limitations.
Raiyetunbi, Alih & Jimoh (2022) [10]	Development of a Reinforcement Ubiquitous Real-Time Church Management System	HTML, CSS, JavaScript, PHP, MySQL, XAMPP, Apache	Automated attendance, event information, registration and information dissemination in a centralized system.	Church-specific scope; security and user-needs limitations; no customizable commercial services or online payment.

From the reviewed studies, it can be observed that event-management applications commonly address registration, scheduling, booking, supplier coordination or communication. However, the reviewed limitations show opportunities for a more

integrated platform. The proposed system combines event booking with individual service customization, automatic pricing, price negotiation, billing, online payment, communication and cancellation/refund handling in one workflow. This

combination forms the main functional focus of the proposed application.

IV. PROPOSED SYSTEM

The proposed system is a centralized web-based application intended to manage the complete event-booking workflow. It consists of a customer side and an administrator side. The customer side is responsible for registration, event selection, service customization, booking review, negotiation communication, billing, payment and monitoring. The administrator side is responsible for maintaining users, events, services, vendors, bookings, prices, bills, payments, negotiations, messages, reports and refunds.

The application uses Flask to implement the web application and SQLite to store the relational data. The database provides persistent storage for customer accounts, event information, service selections, bookings, billing records, payment records and communication data. The architecture connects the presentation layer, application logic and database layer so that information entered by customers can be processed and stored systematically.

The proposed system differs from a simple event-booking application because it does not stop at event registration. It continues through customized service selection, pricing, negotiation, billing and payment. This creates a complete workflow from the initial event requirement to the financial and booking confirmation stages.

V. METHODOLOGY

The methodology follows a modular web-application development approach. The application is divided into functional modules and each module contributes to the overall event-management workflow. The development process begins with identifying the requirements of customers and administrators, followed by database design, interface development, backend implementation, module integration and functional testing.

A. Customer Registration and Authentication

The customer first creates an account by providing the required registration information.

After registration, the customer can log in using the registered credentials. Authentication ensures that customer-specific booking and payment information is associated with the correct account. The application provides separate access for customer and administrator roles.

B. Event Selection and Event Details

After successful login, the customer selects the required event type and enters the event information. The booking process includes the function date, number of guests, venue and event timing details. These values provide the basic requirements used by subsequent service and pricing modules.

C. Service Customization

The customer selects the services required for the event. The proposed application includes photography, videography, catering, makeup, decoration, invitation, gift and music. Service-specific selections can include options, quantities, photographers, event days and timing requirements. This approach enables the customer to construct a customized service combination instead of depending only on a predefined package.

D. Automatic Pricing

The selected services and their applicable quantities or options are processed by the application to calculate the service cost. The calculated value provides an initial amount for the booking. Automatic calculation reduces repeated manual calculations and provides a consistent basis for billing and negotiation.

E. Price Negotiation

When the customer requires a price discussion, the negotiation module provides communication between the customer and administrator. The proposed price and final agreed amount can be maintained as part of the booking workflow. Once the price is finalized, the confirmed amount is used for billing.

F. Billing and Online Payment

After final price confirmation, the administrator generates the bill. The customer can make an online advance payment of 20% and subsequently pay the remaining balance. Payment information and

receipt details are stored in the database. QR-based payment verification and payment status support the maintenance of financial records.

G. Booking, Notification and Refund Management

The system maintains booking status and provides customer access to booking-related notifications and messages. Cancellation and refund processing is handled according to the configured cancellation policy. These functions allow the application to manage the booking lifecycle beyond the initial payment stage.

VI. SYSTEM MODULES

A. Customer Module

Provides registration, login, profile management, event selection, service customization, booking monitoring, billing, payment, messages, notifications, reviews and cancellation/refund information.

B. Administrator Module

Provides centralized management of users, events, services, vendors, bookings, negotiations, bills, payments, messages, reports and refunds.

C. Event Management Module

Maintains event types and event-related details such as dates, guest count, venue and timing.

D. Service Customization Module

Allows customers to select individual services and service-specific options according to their requirements.

E. Timing and Scheduling Module

Maintains event timing and service-related scheduling information so that the selected service requirements can be associated with the appropriate event schedule.

F. Pricing and Negotiation Module

Calculates the selected service cost and supports communication between customer and administrator when price negotiation is required.

G. Billing and Payment Module

Generates bills after final price confirmation and maintains advance and balance payment information, receipts and payment status.

H. Communication Module

Supports messages and notifications between customers and administrators throughout the booking process.

I. Cancellation and Refund Module

Maintains cancellation and refund processing according to the configured policy.

J. Vendor Management Module

Allows administrators to maintain vendor/service-related information required for event-service management.

VII. DATABASE DESIGN

SQLite is used as the relational database for the application. The database is designed to maintain the information generated by the different modules. Core data categories include users, events, services, vendors, bookings, booking services, negotiations, bills, payments, messages and notification-related information. Relationships between booking records and selected services allow the system to determine which services belong to a particular customer booking. Billing and payment records provide the financial history associated with the booking.

TABLE II

Database Table	Purpose
Users	Stores customer and administrator account information.
Events	Stores event type and event-related details.
Services	Stores available event services and pricing information.
Vendors	Stores vendor/service-provider information.
Bookings	Stores customer booking and event details.
Booking Services	Associates selected services with a booking.
Negotiations	Maintains price negotiation information.
Bills	Stores finalized billing information.
Payments	Stores advance/balance payment and receipt information.
Messages	Stores communication between customer and administrator.
Notifications	Maintains booking and system notification information.
Reviews	Stores customer feedback related to completed services/bookings.

VIII. RESULTS AND DISCUSSION

The developed event-management system successfully integrates event planning, service selection, pricing, negotiation, billing, and payment into a unified platform. The Flask-based backend and SQLite database support efficient interaction between customer and administrator modules. Customers can customize event requirements and monitor bookings, payments, bills, messages, and notifications, while administrators can manage bookings, services, negotiations, billing, and reports. The results demonstrate that the proposed system simplifies event-management activities, improves transparency in pricing and communication, and provides a centralized and user-friendly solution for managing events.

A. Screenshots-Based Result Verification

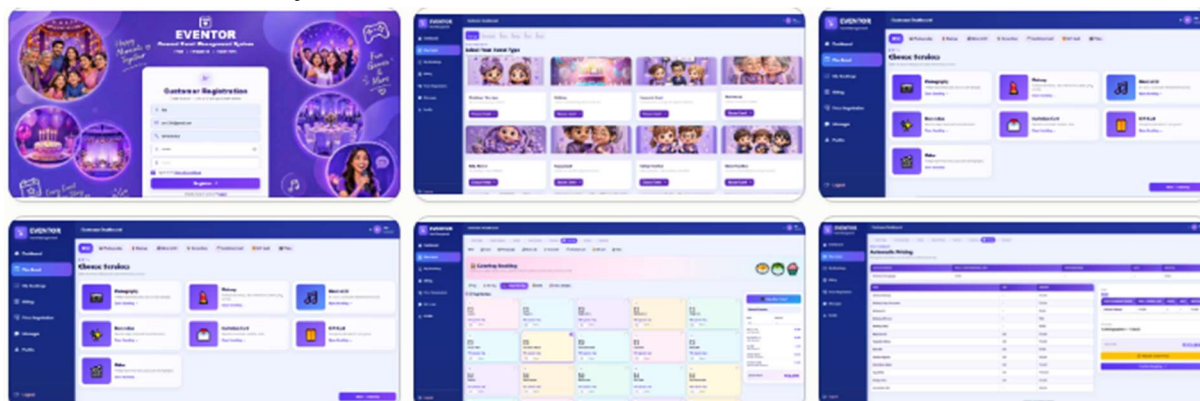


Fig. 1 Customer Registration, Select Your Event Type, Choose Service, Catering Booking, Automatic Pricing

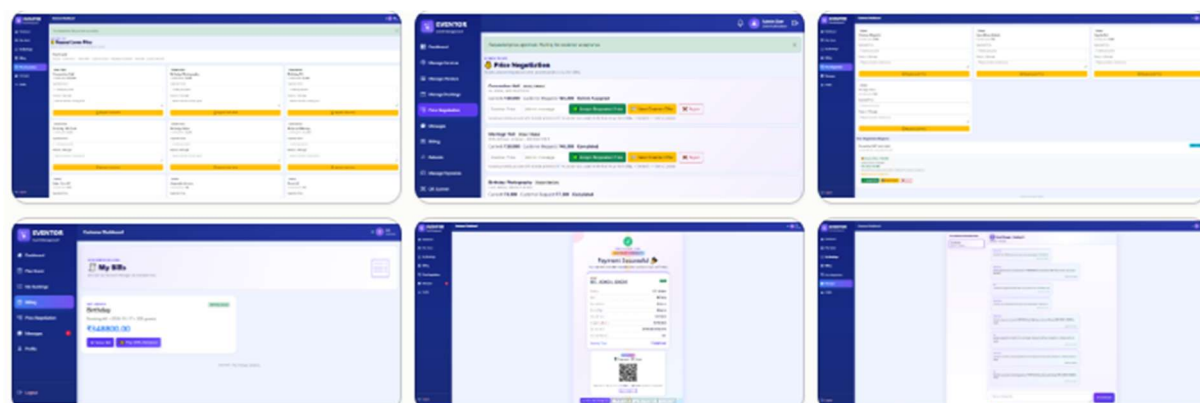


Fig. 2 Price Negotiation, Admin Price Negotiation, Customer Accept Offer, My Bills, Payment Advance Successfully, Customer and Admin Message

B. Expected Result Achievement

Based on the implemented workflow, the expected result is to provide a centralized system in which a customer can complete the major stages of event booking without maintaining separate manual records. The implemented modules support the intended sequence of registration, event selection, service customization, pricing, negotiation, billing and payment. The administrator can monitor and manage the associated records through the administrative interface. The screenshots inserted above should be used as direct visual evidence of each implemented function in the final journal submission.

IX. CONCLUSION

The Web-Based Event Management with Service Customization and Online Payment provides an integrated solution for managing the major activities involved in event planning and booking. The application combines customer registration, event selection, service customization, timing, automatic pricing, price negotiation, billing, online payment, communication, booking management and cancellation/refund processing within a centralized platform.

The use of Flask and SQLite provides a suitable foundation for implementing the web application and maintaining the required relational information. Separate customer and administrator dashboards provide role-based access and improve the organization of event-related operations. The service-customization approach allows customers to select services according to their individual event requirements, while automatic pricing and negotiation provide a structured transition toward final billing. The payment module further extends the workflow by maintaining advance and balance payment information.

Overall, the proposed system addresses the need for a more organized and centralized approach to event management. It reduces dependence on disconnected manual processes and provides a clear digital workflow from initial event requirements to booking and payment management.

X. FUTURE WORK

The system can be further enhanced in several directions. A dedicated mobile application can be developed to provide convenient access from smartphones. A production-level payment gateway can be integrated to automate payment confirmation and transaction handling. Stronger authentication, authorization and security mechanisms can be introduced to protect customer and financial information.

The system can also be enhanced with automated email and SMS notifications for registration, booking confirmation, payment reminders, schedule changes and cancellation updates. Real-time vendor availability can be integrated so that customers and administrators can identify available service providers before confirming a booking. Calendar integration can help prevent scheduling conflicts.

Artificial intelligence can be considered as a future enhancement for recommending suitable services based on event type, guest count, budget and previous selections. Analytics and reporting can also be expanded to provide information about booking trends, service popularity, revenue and customer feedback. Finally, performance and scalability testing can be conducted with larger numbers of users, bookings and service records to evaluate the system for wider deployment.

REFERENCES

- [1] Pinjari, K., & Nur, K. (2016). Smart Event Management System. *International Journal of Computer Science Trends and Technology (IJCSST)*, 4(2).
- [2] Mishra, V., Dubey, M., Banarjee, P., Jumle, A., Raipure, P., & Wankhede, P. (2019). Event Management System. *International Research Journal of Engineering and Technology (IRJET)*, 6(1).
- [3] Izang, A. A., Ihesiulo, C. C., Ofuru, M., & Okafor, C. (n.d.). A Web-Based Project Management System.
- [4] Goyal, A., Choudhary, S., Shukla, A. K., & Sahu, A. (2026). Web-Based Event Management System for Academic Institutions. *International Journal of Creative and Open Research in Engineering and Management*, 2(6).
- [5] Pasha, D. (2026). Development of a Wedding Organizer Information System to Improve the Efficiency of Wedding Service Management. *Journal of Computer and Data Science*, 1(1), 69-87.
- [6] Valdez, G. C. (2026). EVENTWISE: Development of an Integrated Event Planning and Coordination Management Information System. Undergraduate Capstone Project, Davao Central College.
- [7] Chin, L. K. (2004). Event Management System. *Student Works (2000-2009)*, University of Malaya.
- [8] Galay, J. L., & Encarnacion, R. (2024). Evaluating the Event Industry for a Web-Based Event Supplier Management System. *International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)*, 4(3).
- [9] Reyes, F. M., Abdulgani, M. A., Aliuden, M. F. M., Mantikayan, J. M., Guiamalon, T. S., Dilna, S. G., Mohamad, H. A., & Nawal, S. Z. D. (2023). Event Management System with SMS Notification for

- Mindanao People's Care Foundation, Inc. Psychology and Education:
A Multidisciplinary Journal.
- [10] Raiyetunbi, O. J., Alih, D. M., & Jimoh, F. O. (2022). Development of a Reinforcement Ubiquitous Real-Time Church Management System. Proceedings of the 2022 Conference of the Society for the Advancement of ICT & Comparative Knowledge (SOCTHADICKconf22).
- [11] Pallets Projects. (n.d.). Flask Documentation. Retrieved from <https://flask.palletsprojects.com>
- [12] SQLite Consortium. (n.d.). SQLite Documentation. Retrieved from <https://www.sqlite.org/docs.html>