

Event Management Systems (EMS)

Gautam Arora¹(corresponding author)

UIE-CSE, Faculty of Chandigarh University, Mohali, India. Gautamkumar11352@gmail.com

Nitish Kumar²

UIE-CSE, Chandigarh University, Mohali, India. professoremitish@gmail.com

Aryan Mandal³

UIE-CSE, Chandigarh University, Mohali, India. aryanmandalkatihar@gmail.com

Ankit Yadav⁴

UIE-CSE, Chandigarh University, Mohali, India. ay4663@gmail.com

Aman Pratap Yadav⁵

UIE-CSE, Chandigarh University, Mohali, India. yamanpratap49@gmail.com

Ritik Kumar⁶

UIE-CSE, Chandigarh University, Mohali, India. rajritik9031@gmail.com

Abstract: This study aims to develop an Event Management Systems (EMS), a web-based application that makes use of a digital event management planning system. EMS enables the customers to organise events on a single console, removing the need to travel to a different console and therefore making the process more convenient. There are four strategies to conduct the research which are technical research, EMS development, mixed method data collection, and data analysis. In addition, this study also presented the system architecture, project plan and implementation of the EMS. Then, the EMS has been tested by 2 users in both client and admin side.

Keywords: - *Event Management Systems, mixed method, system architecture, project plan, web-based application.*

1. INTRODUCTION:

The event management system tracks all activities related to an event, addressing the challenge of managing multiple service providers. It is crucial for event organizers to have quick access to service providers' contact information. This study proposes an online event management portal to help organizers, participants, and stakeholders manage events efficiently. Successful event management relies on strong relationships with service providers, enabling quick coordination for any event (Saleem et al., 2017).

Events can be categorized as cultural, business, weddings, or other activities, with an event management system serving as a platform for administrators to manage and participants to access event details. This system includes budgeting, cost analysis, and post-event feedback. The proposed online system allows users to register, choose event details (e.g., time, location, equipment), browse venues, book catering, and check availability of decorators and DJs. Users can review ratings and prices before booking (Saleem et al., 2017). All information is stored in a database, and users receive a receipt number for reservations. Administrators are notified and can communicate with customers. This system helps event organizers promote events online, increasing registrations and participation, while addressing common challenges faced during event execution.

2. LITERATURE REVIEW

A. Analysing the Existing System:

The current system involves users interacting with businesses to plan events, detailing objectives, duration, and requirements. The event manager researches the event, collecting an advance charge and making reservations based on specifications (Kirui, n.d.).

B. System Gathering Requirement:

Functional Requirements: Features describing system behaviour in a clear and coherent manner.

Non-Functional Requirements: Constraints that define the system's quality, ensuring practical criteria are met.

C. Domain Research:

The Incident Response Plan at Flinders University ensures quick restoration of IT services (Walker, 2011). ITIL enhances IT administration quality through its five components (Sharifi, 2013). COBIT aids IT method prediction (Goldblatt, 2000), while BSM solutions help IT organizations manage incidents efficiently. NUIT's service continuity management focuses on administrative recovery and event evaluation (Nuit, 2011). Privacy and information security are key concerns in information systems (Ganciu, n.d.).

D. Similar Systems:

Evolution Events: Offers event planning but lacks online booking. Clients must contact the company via phone or email.

Swoogo: A platform for managing physical, hybrid, and online events with personalized registration and compliance with regulations.

EventMobi: An end-to-end system used globally for event planning, offering features for registrations, audience engagement, and real-time tracking of participant involvement.

3. PROBLEM STATEMENT:

Event management software helps plan and organize events. The proposed project involves budgeting, cost analysis, and post-event analysis for ROI. Currently, most companies require customers to visit offices for event planning, which is time-consuming (Goyal et al., 2021; Waida, n.d.).

Many web applications offer service packages but lack variety and direct communication with providers. This causes confusion for customers (Ganciu, n.d.). The 'EVENT MANAGEMENT' app simplifies event planning by allowing users to manage everything from one platform.

4. AIMS AND OBJECTIVE

DEVELOP A WEB-BASED EVENT MANAGEMENT SYSTEM THAT ENABLES USERS TO PLAN EVENTS ON A SINGLE PLATFORM, IMPROVING CONVENIENCE.

E. Objectives:

- Help users plan and coordinate events.
- Increase satisfaction with the online event planning approach.
- Compile system requirements.
- Design and model the system.

5. RESEARCH METHOD

A. Technical Research:

The system uses React JS for the front end, Express.js for the back end, MongoDB for the database, and Visual Studio Code as the IDE.

F. Selected Tools:

React.js, Express.js, Visual Studio Code, Firebase, Node.js, Google Chrome

B. EMS Development:

Development follows RAD with four stages:

1. **Planning:** Define requirements with stakeholders.
2. **UI Design:** Build and test prototypes.
3. **Construction:** Turn prototypes into a functional model, with three levels of testing.
4. **Transition:** Finalize design and deliver the system.

G. C Data Collection:

Gather data via questionnaires and interviews to inform system design.

H. D. Data Analysis

Feedback shows users value system features, and issues identified during interviews will be addressed to improve the system.

6. IMPLEMENTATION:

The following includes screenshots of the event management system and a brief discussion of the HCI principles used in the web pages.

A. Register Page:

The register page (Fig. 1) allows new clients to sign up by entering their username (email) and password. Existing users can click "Have an account? Sign in." The page follows the HCI principle of "Aesthetic and minimalist design," focusing on necessary fields only.



Fig. Register.
1. Page

B. Log in Page:

The login page (Fig. 2) allows users to log in using their username and password. New users can click "Don't have an account? Sign up." The page follows the "Ease of use" HCI principle, ensuring a simple and intuitive login process.



I. Fig. 2. Log in Page.

C. Home Page for Clients:

The home page (Fig. 3) displays the website name, logo, and tagline with feature buttons like "New Booking," "Message Us," "Our Services," and "Logout." The page uses the "User control and freedom" HCI principle, allowing users to easily navigate and return to the home page.



Fig. 3. Home Page for Clients.

2. USER ACCEPTANCE TESTING (UAT):

Three target users tested the system: two clients and one admin. The UAT aimed to assess software quality and reliability before launch (Bajjouk et al., 2021).

J. TABLE I. USER ACCEPTANCE TESTING 1

TABLE I. USER ACCEPTANCE TESTING 1					
Name :	Mr. Rajat Madhu (Client)				
Occupation :	Student at Asia Pacific University (who wants to plan an event)				
Location :	Online	Mode :	Microsoft Teams		
Date :	17/07/2022	Start Time :	04:00 Pm	End Time :	04:20 Pm
Criteria :	Strongly Agree	Agree	Neither	Disagree	Strongly Disagree
GUI	✓				
Ease of Use	✓				
Functionality	✓				
Consistency	✓				
Performance	✓				
Comments from Tester :	The system is very user-friendly and straightforward. Adding a calendar to select date and a clock to add event time is a good thing to get users attention and make it easier for users. Great Work.				
Feedback from Developer :	Thank you so much for testing the system and giving such positive feedback				
TABLE II. USER ACCEPTANCE TESTING 2					

TABLE I. USER ACCEPTANCE TESTING 2

TABLE II. USER ACCEPTANCE TESTING 2

Name :	Mrs. Damandeep Kaur (Admin Test)				
Occupation :	Staff at Messefrankfurt (Event Management Company) 				
Location :	Online		Mode :	Google Meet	
Date :	18/07/2022	Start Time :	11:30 Am	End Time :	11:30 Am
Criteria :	Strongly Agree	Agree	Neither	Disagree	Strongly Disagree

3. CONCLUSION:

THIS PROJECT DEVELOPED A WEB-BASED EVENT BOOKING SYSTEM FOR VARIOUS EVENTS IN MALAYSIA, ALLOWING USERS TO CREATE ACCOUNTS, BOOK EVENTS, AND COMMUNICATE WITH PROVIDERS ONLINE. THE SYSTEM REMOVES THE NEED FOR FACE-TO-FACE MEETINGS, PROVIDING A SEAMLESS BOOKING EXPERIENCE.

The developer successfully addressed issues from previous studies, with the future of events leaning more toward digital solutions. Technologies like Visual Studio, Firebase, and React JS were used to create a high-performance web application.

Minor issues were resolved during testing, and UAT provided valuable feedback. The system is user-friendly, meeting its goals and offering an easy event booking process. However, the developer acknowledges some limitations due to time constraints and resources. Future improvements will focus on enhancing system functionality

4. REFERENCES:

1. Bajjouk, M., Rana, M. E., Ramachandiran, C. R., & Chelliah, S. (2021). Software testing for reliability and quality improvement. *J. Appl. Technol. Innov.*, 5(2).
2. Creatio. (2021). Rapid Application Development (RAD). [Link](#)
3. Evolution Events. (2014, March 18).
4. Ganciu, M. (n.d.). 5-PHASE PROJECT MANAGEMENT. [Link](#)
5. Goyal, D., Ali, A., & Haider, N. (2021). Online Event Management System. *Turkish J. Comput. Math. Educ.*, 12(6).