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Design and Development of Evently: An Event Management System

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Abstract: *Event management has become increasingly complex due to the growing scale and diversity of events. This project, Evently – An Event Management System, is designed to simplify and streamline the process of planning, organizing, and managing events through a centralized digital platform. The system enables users to create events, manage registrations, schedule activities, and monitor event details efficiently. It reduces manual effort, minimizes errors, and improves coordination between organizers and participants. By integrating user-friendly interfaces with efficient data handling, Evently enhances productivity and ensures a smooth event experience. The system is suitable for various types of events such as seminars, workshops, and social gatherings, providing a reliable and scalable solution for modern event management needs.*

Keywords: Event Management System, Event Planning, Online Registration, Scheduling, Data Management, Automation, Web Application

I. INTRODUCTION

Event management has become a crucial activity in today's fast-paced and digitally driven environment, where organizations, institutions, and individuals frequently organize seminars, workshops, conferences, cultural programs, and social events. Managing such events through traditional manual methods often leads to several challenges, including time consumption, human errors, poor coordination, and difficulty in handling large volumes of participant data and complex schedules [1]. As the scale and frequency of events continue to grow, these limitations become more prominent, creating a strong need for efficient and reliable solutions. With the rapid advancement of digital technologies and the widespread use of web-based platforms, there is an increasing demand for automated systems that can simplify, streamline, and optimize event management processes [2].

Evently – An Event Management System is designed and developed to overcome these challenges by offering a centralized and integrated platform for planning, organizing, and monitoring events effectively. The system allows organizers to manage event details, participant registrations, scheduling, and other essential activities in a structured and organized manner. By reducing dependency on manual paperwork and scattered tools, it enhances operational efficiency and ensures better data management [3]. In addition, the system improves communication between organizers and participants by providing timely notifications, updates, and confirmations, which helps in maintaining smooth coordination throughout the event lifecycle [4].

The growing adoption of web-based applications in event management highlights their importance due to features such as easy accessibility from anywhere, scalability to handle multiple users, and user-friendly interfaces that simplify interaction [5]. These systems play a vital role in minimizing human errors, saving valuable time, and ensuring accurate data handling, which are essential for successful event execution [6]. Furthermore, the integration of automation in event management supports better decision-making by providing real-time information, insights, and reports, enabling organizers to allocate resources more effectively and improve overall event performance [7].

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This project focuses on the design and development of a practical, efficient, and user-friendly system that caters to the evolving needs of modern event organizers. By combining key functionalities such as registration management, QR code-based attendance tracking, notifications, and reporting into a single platform, Evently aims to enhance the overall experience for both organizers and participants. The system not only improves operational efficiency but also ensures accuracy, reliability, and convenience, making it a suitable solution for managing events of various types and scales [8][9][10].

II. PROBLEM STATEMENT

In the current scenario, event management is often handled using manual methods or fragmented digital tools, which leads to inefficiencies in planning, coordination, and execution. Organizers face difficulties in managing event registrations, scheduling activities, tracking participant details, and ensuring smooth communication. These challenges become more significant as the size and complexity of events increase.

Manual processes are time-consuming, prone to errors, and lack real-time updates, resulting in poor organization and reduced productivity. Additionally, the absence of a centralized system makes it difficult to store, access, and manage event-related information efficiently.

Therefore, there is a need for a reliable and user-friendly system that can automate and integrate all event management activities into a single platform. The proposed system, Evently – An Event Management System, aims to address these issues by providing an efficient solution for organizing, managing, and monitoring events with improved accuracy and coordination.

III. OBJECTIVES

- To develop a centralized event management system that integrates all event-related activities into a single platform for better organization and control.
- To simplify the event planning process by enabling easy creation, scheduling, and management of events.
- To automate participant registration and data management in order to reduce manual work and minimize errors.
- To improve communication and coordination between event organizers and participants through timely updates and notifications.
- To enhance efficiency and user experience by providing a user-friendly interface and reliable system performance.

IV. LITERATURE SURVEY

Shah et al. (2023), in the paper *"Event Management Systems (EMS)"*, proposed a web-based platform designed to simplify and enhance the overall process of event planning and management. The system provides a unified interface where all event-related activities are integrated into a single platform, eliminating the need to use multiple separate tools. It enables organizers to efficiently handle tasks such as event creation, participant registration, scheduling, and coordination of various event services. The platform is designed with a user-friendly interface, making it accessible for both technical and non-technical users.

The proposed system also emphasizes real-time data handling, allowing organizers to monitor registrations, update event details, and manage schedules dynamically. This improves decision-making and ensures better control over event operations.

Mishra et al. (2016), in the paper "Event Management System", developed an online application that automates event-related tasks such as user registration, event booking, and data storage. The system enables users to select event type, date, venue, and other details while maintaining records in a centralized database. This approach improves accuracy and simplifies event handling processes .

Seelapareddy (2023), in the study "Event Management System", designed a web-based system using technologies like HTML, CSS, Java, and MySQL. The system focuses on efficient data management, user interaction, and structured architecture, providing a reliable solution for organizing and managing event information in a systematic manner .

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Sakeri et al. (2025), in the paper "Smart Event Management System (SmartEMS)", introduced a user-friendly system aimed at improving communication between organizers and participants. The study highlights issues in traditional communication tools and proposes an integrated platform that enhances coordination, usability, and overall event efficiency .

Kumar et al. (2025), in the paper "Centralized Event Management System", proposed a digital platform that automates administrative tasks such as registration, attendance tracking, and certificate generation. The system improves collaboration among stakeholders and reduces manual effort by providing a scalable and centralized solution for event coordination .

IJERT (2025), in the paper "Development of Events Management System", presented a system that integrates features like scheduling, reminders, vendor coordination, and real-time tracking. The model enhances event planning by enabling better communication, task monitoring, and efficient resource management, thereby improving overall event execution .

Comparison Table

I. Author & Year	II. Technology Used	III. Key Feature	IV. Limitation
V. Shah et al. (2023)	VI. Web-based system	VII. Integrated event management	VIII. Limited customization
IX. Mishra et al. (2016)	X. HTML, PHP, MySQL	XI. Online booking & registration	XII. Basic interface
XIII. Seelapareddy (2023)	XIV. HTML, CSS, Java, MySQL	XV. Structured data management	XVI. Limited scalability
XVII. Sakeri et al. (2025)	XVIII. Smart EMS platform	XIX. Improved communication	XX. Complex implementation
XXI. Kumar et al. (2025)	XXII. Web-based centralized system	XXIII. Automation of tasks	XXIV. Requires internet access
XXV. IJERT (2025)	XXVI. Web technologies	XXVII. Scheduling & tracking	XXVIII.Limited advanced features

V. WORKING OF SYSTEM

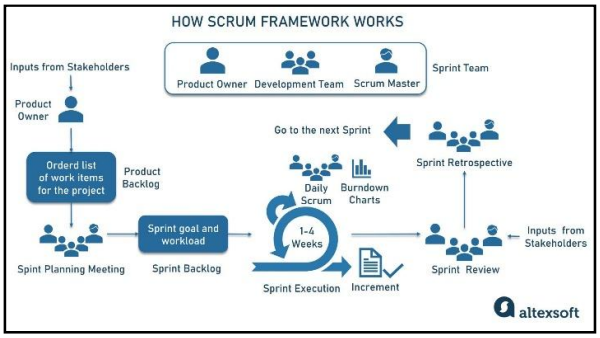

Fig 1: Design of the system

1. Roles in the System

- **Product Owner**: Defines system requirements and manages the product backlog (features like event management, registration, reports).
- **Scrum Master**: Ensures smooth workflow, removes obstacles, and manages the Scrum process.
- **Development Team**: Designs, develops, tests, and delivers system features.

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2. Product Backlog

- A prioritized list of features such as:
  - Event management
  - User registration
  - QR code generation
  - Feedback system
  - Reports & dashboards
- These are the core modules of the Evently system.

3. Sprint Planning

- The team selects important tasks from the backlog.
- Estimates time and effort.
- Defines a clear goal for the sprint.

4. Sprint Cycle (1–2 Weeks)

This is the main development phase:

- Development: Coding system modules
- Testing: Checking for errors
- Collaboration: Team coordination
- Continuous Improvement: Enhancing system quality

5. Daily Scrum

- Short daily meetings (15 minutes)
- Team discusses:
  - What was done yesterday
  - What will be done today
  - Any issues faced

6. Sprint Review

- Completed features (like registration or scheduling) are demonstrated.
- Feedback is collected from stakeholders.
- Backlog is updated if needed.

7. Sprint Retrospective

- Team evaluates:
  - What worked well
  - What needs improvement
- Action steps are planned for the next sprint.

8. Product Increment

- After each sprint, a working part of the system is delivered (e.g., registration module ready).
- Gradually, the full Evently system is built.

VI. SYSTEM DESIGN

1. Overview of System

The system design of Evently – Event Management System defines how different components interact to perform event-related operations efficiently. It focuses on the structured flow of data from user input to final output while ensuring accuracy, reliability, and ease of use.

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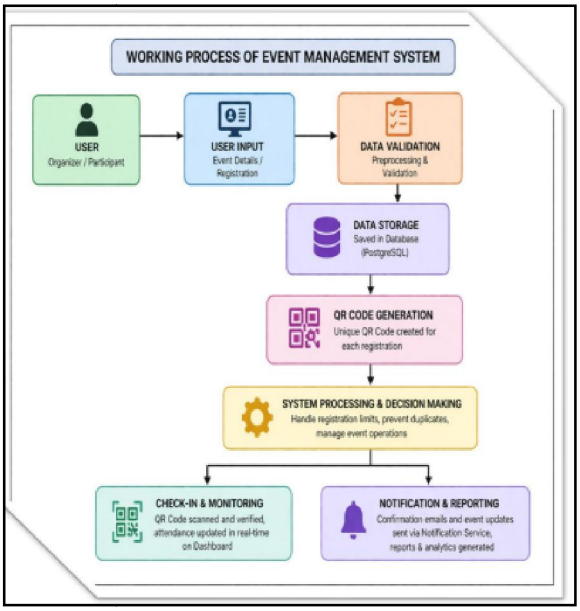

Fig.2.System architecture

1. Architecture Design

Evently follows a three-tier architecture:

Presentation Layer (Frontend):

Provides a user-friendly web interface where organizers and participants can create events, register, and view details.

Application Layer (Backend):

Handles business logic such as validation, QR code generation, check-in processing, and notification handling.

Data Layer (Database):

Stores all event and user-related data securely in PostgreSQL, enabling efficient retrieval and management.

2. Data Flow Design

The system follows a sequential data flow:

- User inputs event or registration details
- System validates and processes the data
- Data is stored in the database
- QR code is generated for participants
- System performs check-in verification and updates records
- Notifications and reports are generated

This flow ensures smooth communication between modules and maintains data consistency.

3. Module Design

The system is divided into key functional modules:

- **Event Management Module:**

Allows organizers to create, update, and manage events.

- **User Registration Module:**

Enables participants to register and submit their details.

- **QR Code Module:**

Generates unique QR codes for each participant for attendance tracking.

- **Check-in Module:**

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Verifies participant identity through QR scanning and updates attendance in real time.

- **Notification Module:**

Sends automated emails or alerts for confirmations and updates.

- **Reporting Module:**

Generates summaries such as total registrations, attendance, and event performance.

4. Database Design

The database is structured into tables such as:

- Events (event details)
- Users (participant information)
- Registrations (event-user mapping)
- Attendance (check-in records)

Relationships between tables ensure data integrity and reduce redundancy.

5. Input and Output Design

- **Input:** Event details, user registration data
- **Output:** QR codes, confirmation messages, attendance status, and analytical reports

The system ensures that inputs are validated and outputs are accurate and meaningful.

VII. RESULTS

The developed *Evently – Event Management System* demonstrates a clear improvement in the way events are planned, organized, and monitored compared to traditional manual methods. The system was tested with multiple event scenarios, including event creation, participant registration, QR code generation, and real-time check-in, and it performed consistently with accurate results. Users were able to easily create events and manage details through a simple and intuitive interface, which reduced the complexity usually associated with event planning. The registration process worked smoothly, allowing participants to submit their details without errors, while the system ensured that duplicate or incomplete entries were filtered through validation mechanisms.

One of the key outcomes of the system is the successful implementation of QR code-based attendance tracking. Each registered participant received a unique QR code, which was used during the event for quick and reliable check-in. This significantly reduced waiting time and eliminated the need for manual attendance records. The real-time updating of attendance data allowed organizers to monitor participation instantly, improving overall event control and decision-making. Additionally, the notification feature ensured that users received timely updates regarding registrations and event-related information, enhancing communication between organizers and participants.

The reporting module provided valuable insights by generating summaries such as total registrations, attendance count, and event status. These reports helped organizers evaluate the success of events and plan future activities more effectively. The system also maintained data securely within the database, ensuring easy access and retrieval without data loss or inconsistency. Overall, the results indicate that Evently is a reliable, efficient, and user-friendly solution that simplifies event management processes, minimizes manual effort, and improves the overall quality and coordination of events.

VIII. FUTURE SCOPE

The Evently – Event Management System can be further enhanced by incorporating advanced features and technologies to improve its functionality and user experience. In the future, the system can be developed into a mobile application to provide easier access and real-time updates for users on the go. Integration with online payment gateways can be added to support ticket booking and secure transactions.

The system can also be improved by including artificial intelligence for personalized event recommendations and automated scheduling. Advanced analytics and visualization tools can help organizers gain deeper insights into

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participant behavior and event performance. Additionally, integration with social media platforms can be implemented to promote events and increase user engagement.

Security features such as multi-factor authentication and data encryption can be strengthened to ensure data privacy and protection. The system can also be scaled to support large-scale events with cloud-based deployment, making it more flexible and reliable.

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