**CHAPTER ONE**

**1.1 Background of the Study**

In today's fast-paced digital era, the management and coordination of events ranging from conferences and seminars to concerts and weddings have become increasingly complex. The traditional methods of event planning, which often rely on manual processes and fragmented tools such as flyers, text messages, and spreadsheets, are no longer sufficient to meet the demands of modern organizers and participants. These methods are typically time-consuming, prone to error, and offer limited opportunities for interaction and feedback (Davidson, 2017). In a world where user expectations are shaped by instant digital experiences, the need for a more integrated and efficient approach to event management is more pressing than ever.

Mobile applications have emerged as transformative tools in various domains, and event management is no exception. By leveraging mobile technologies, it is possible to offer real-time access, automation, and enhanced communication throughout the event lifecycle from planning and registration to engagement and follow-up. Mobile apps provide organizers with the ability to manage logistics, track attendance, and send instant updates, while giving attendees easy access to event details, schedules, notifications, and interactive features. These capabilities significantly enhance the overall user experience, contributing to the success and effectiveness of the event (Getz & Page, 2020).

The proliferation of smartphones and mobile internet access has radically changed how people discover, engage with, and attend events. According to Statista (2023), over 6.8 billion people worldwide use smartphones, making mobile platforms the primary digital interface for most users. In this context, a mobile-based Event Management System (EMS) allows users to create, customize, manage, and monitor events in a flexible and scalable manner. Attendees, in turn, benefit from features such as mobile registration, real-time reminders, digital ticketing, and post-event surveys all accessible from their devices. These innovations not only improve operational efficiency but also expand the reach and inclusivity of events by making them more accessible to a broader audience.

In regions like Nigeria and other parts of sub-Saharan Africa, the adoption of mobile technology has grown rapidly, driven by increased affordability of smartphones and wider internet coverage. Yet, many institutions and event organizers in these areas still rely on manual or semi-digital processes. This gap presents a valuable opportunity to implement mobile-first solutions that can address local challenges such as poor infrastructure, limited manpower, and communication barriers. A tailored EMS mobile application can serve as a bridge, empowering organizers to coordinate events more effectively and enabling attendees to participate more conveniently (Oyelude & Bamigbola, 2018).

The COVID-19 pandemic further highlighted the need for digital tools in the event space. With restrictions on physical gatherings, many events had to transition to virtual or hybrid formats, requiring platforms that could support digital interactions and real-time updates. Mobile applications played a vital role during this period by facilitating contactless check-ins, live streaming, push notifications, and virtual networking opportunities. These features have since become standard expectations, even in post-pandemic scenarios, reinforcing the relevance and necessity of a comprehensive EMS mobile solution (Buhalis et al., 2020).

From an educational perspective, schools and universities often host numerous academic and extracurricular events, yet struggle with organizing them effectively due to limited resources or communication breakdowns. Similarly, businesses face logistical challenges when coordinating product launches, trade shows, or staff training sessions. A dedicated EMS mobile app can streamline these processes, allowing institutions to manage invitations, track attendance, collect feedback, and store event data for future use.

In addition to solving existing problems, a mobile EMS app introduces new opportunities for innovation. Features such as AI-powered event recommendations, gamified participation, and real-time analytics can enhance user engagement and data-driven decision-making. By adopting modern mobile development frameworks like React Native and backend technologies such as FastAPI, it becomes possible to create robust, scalable, and cost-effective applications that deliver both utility and user satisfaction.

In summary, the development of a mobile Event Management System is both timely and necessary. It responds to the evolving digital landscape, addresses real-world organizational challenges, and aligns with global trends in mobile-first development. This project aims to contribute to this transformation by providing a practical solution that can be deployed across different sectors, including education, business, and social enterprises.

**1.2 Statement of the Problem**

In an age dominated by digital innovation, it is surprising that many event organizers continue to manage events using outdated and inefficient methods. Whether in academic institutions, business environments, or community organizations, the lack of a centralized, automated, and user-friendly platform for event planning and coordination is a common issue. This gap has serious implications for both organizers and attendees, ranging from miscommunication and poor scheduling to reduced engagement and unsuccessful event execution (Tum, Norton, & Neale, 2011).

One major problem is **communication breakdown**. Events often involve multiple stakeholders—organizers, speakers, performers, attendees, sponsors, and vendors—who need to stay informed in real time. Traditional communication tools such as posters, text messages, or social media posts can be disjointed, inconsistent, and unreliable. In the absence of a streamlined system, important announcements may be missed, and last-minute changes may fail to reach participants, leading to confusion and dissatisfaction (Silvers, 2012).

Another significant issue is the **manual registration process**. For many events, registration still involves physical sign-up sheets or web forms that are not mobile-optimized. These methods are not only time-consuming but also prone to data entry errors, loss of information, and lack of real-time tracking. Attendees may face difficulties when trying to confirm their participation or receive tickets, especially when registration systems are fragmented or inaccessible on mobile devices (Fenich, 2015). This inefficiency can discourage participation and hinder the planning of resource allocation, such as seating, catering, and materials.

**Feedback collection** is yet another area where traditional systems fall short. After events, collecting structured feedback from participants is often neglected or poorly executed. Surveys may be handed out in person or sent via email, and response rates tend to be low. Without timely and actionable feedback, organizers lose the opportunity to evaluate the success of their events or make informed improvements for future editions. An integrated mobile solution could solve this by prompting attendees with in-app feedback forms or notifications right after the event ends, increasing participation and the quality of insights collected (Berridge, 2012).

Furthermore, in environments like Nigeria where mobile adoption is high but access to specialized software is limited, event management faces unique constraints. While smartphones are widely used, few local event organizers leverage mobile platforms for planning and execution. The result is a heavy reliance on WhatsApp groups, unverified online forms, or direct phone calls—methods that are not scalable, secure, or organized. This fragmented approach not only leads to errors but also creates a poor user experience for attendees who expect seamless digital interactions (Ogunyemi & Okolie, 2018).

The absence of **centralized event management platforms** also prevents organizers from benefiting from automation and analytics. Without a digital system to track registrations, monitor attendance, or analyze participant behavior, it becomes difficult to optimize future events or report outcomes to stakeholders. In contrast, modern EMS platforms offer dashboards with real-time metrics, insights into user engagement, and the ability to export event data for review.

**Security and data privacy concerns** further compound the issue. In systems where user data is managed manually or across unsecured platforms, the risk of information leakage is high. Attendees entrust their personal information—names, emails, phone numbers, sometimes even payment details—to organizers. Without robust digital systems to manage and protect this data, there is an increased risk of breaches and reputational damage for the organizing body (Kelley, 2014).

These challenges collectively hinder the overall success and professionalism of events. They lead to missed opportunities for growth, reduce the potential for networking and collaboration, and in some cases, result in financial losses. With the growing importance of events as platforms for education, innovation, marketing, and community engagement, these problems can no longer be ignored.

Therefore, there is a **clear and urgent need** for a comprehensive mobile application that addresses these pain points. Such a solution should provide centralized communication, mobile registration, push notifications, analytics, and secure feedback channels. It must be designed to function efficiently in mobile-first environments, particularly in developing regions where access to full desktop platforms may be limited but mobile usage is high.

This project seeks to solve these pressing challenges by developing a mobile-based Event Management System that is scalable, intuitive, and user-focused. It will bridge the communication gap, eliminate manual inefficiencies, enhance participant engagement, and equip organizers with tools for continuous improvement—all in a single, integrated platform.

**1.3 Aim and Objectives of the Study**

The aim of this project is to develop a mobile application for Event Management.

The Objectives are:

* To develop a user-friendly interface
* To implement secure user registration and authentication
* To enable event creation and customization

**1.4 Significance of the Study**

The development of a mobile-based Event Management System (EMS) is highly significant in today’s digitally driven environment, where mobile devices are central to everyday communication, organization, and decision-making. This study is particularly relevant due to the increasing need for efficient, accessible, and real-time solutions to event planning and participation challenges in academic institutions, corporate environments, and social settings.

One of the primary contributions of this study is the **enhancement of event organization efficiency**. Traditional event planning methods are often manual, fragmented, and prone to errors. Organizers face recurring problems such as tracking attendees, updating schedules, sending notifications, and collecting feedback. This study addresses these limitations by providing an integrated mobile application that automates these processes. The EMS allows event organizers to manage all aspects of their events from a single platform, reducing the time, effort, and cost associated with manual coordination. This system streamlines workflow, reduces reliance on paper-based methods, and facilitates data-driven decision-making.

The study is also significant in promoting **real-time interaction and communication** between event organizers and attendees. Mobile push notifications, in-app updates, and live RSVP tracking ensure that users are kept informed and engaged before, during, and after the event. In this regard, the EMS increases transparency and responsiveness two critical factors for delivering high-quality events that meet participant expectations (Buhalis et al., 2020).

From the perspective of the end-user the event attendee the study enhances **accessibility and convenience**. By providing a mobile application that allows users to discover events, register instantly, receive updates, and submit feedback from anywhere at any time, the EMS improves the overall user experience. This is especially important in developing regions, such as Nigeria and other parts of Africa, where mobile phones are often the primary means of internet access. As highlighted by Oyelude and Bamigbola (2018), the increasing penetration of smartphones in these areas presents a valuable opportunity for mobile-first solutions that promote digital inclusion and participation.

In the educational sector, the significance of the EMS lies in its ability to support and manage seminars, workshops, orientations, and extracurricular events. Educational institutions often struggle with organizing and tracking these events due to the absence of dedicated tools. This study contributes to resolving these challenges by providing a platform where events can be easily created, students can RSVP, and attendance data can be securely recorded. Moreover, feedback features help institutions assess the success of programs and improve future activities.

In the corporate environment, businesses can leverage the EMS to coordinate training sessions, staff meetings, product launches, and client interactions. Timely communication and structured management of participants are essential for business productivity and brand professionalism. By using a centralized mobile tool, companies can not only save resources but also provide a more organized experience to employees and stakeholders.

Socially, the EMS can be used for weddings, religious programs, concerts, reunions, and community gatherings. These types of events often require fast distribution of information and quick RSVP collection. The app’s intuitive interface and real-time features make it suitable even for non-technical users. As a result, the system supports inclusivity and strengthens community engagement.

From a technical standpoint, this project also contributes to the **body of knowledge in mobile software engineering**, particularly through the use of React Native for frontend development and FastAPI for backend services. These tools represent modern industry standards for building scalable and maintainable applications. The project can serve as a reference or template for future developers and researchers working on similar mobile solutions, especially those targeting low-resource environments.

In summary, the significance of this study is multifaceted. It improves efficiency in event management, enhances user experience, promotes digital inclusion, and contributes to academic and technical advancement. The mobile EMS system developed through this study can be adapted and scaled to different use cases, making it a versatile and impactful tool for a wide range of audiences.

**1.5 Scope of the Study**

This study focuses on the design, development, and implementation of a mobile-based Event Management System (EMS) using React Native for the frontend and FastAPI for the backend. The primary goal is to create a user-friendly mobile application that empowers users both event organizers and attendees to manage and participate in events efficiently and conveniently from their smartphones.

The motivation for choosing a mobile-first approach stems from the increasing reliance on mobile devices for both personal and professional activities. In many parts of the world, particularly in developing regions like Nigeria, mobile phones are more accessible than computers. According to Statista (2023), over 6.8 billion people globally use smartphones, making mobile platforms the most practical and inclusive solution for delivering event-related services. With this in mind, the application is designed to be lightweight, responsive, and optimized for Android and iOS platforms using React Native, a cross-platform development framework. React Native allows developers to build apps that run on both major mobile platforms using a single codebase, which significantly reduces development time and ensures consistency in the user experience (Gargenta & Nakamura, 2014).

The backend of the application is built using FastAPI, a modern Python-based web framework known for its speed, simplicity, and automatic API documentation. FastAPI is well-suited for building RESTful services and supports asynchronous programming, making it ideal for mobile applications that require real-time interactions, such as instant RSVP confirmations and push notifications (Tiangolo, 2019). The backend will handle tasks such as user authentication, event creation, RSVP tracking, feedback management, and secure data storage using a relational database like PostgreSQL or a NoSQL alternative such as Firebase Firestore.

Functionally, the application will allow users to register and log in, browse a list of upcoming events, view detailed event information, RSVP, receive real-time updates, and provide feedback after attending events. Organizers will be able to create and customize events by entering titles, descriptions, dates, times, venues (physical or virtual), and ticket limits. Attendees can filter events based on location, date, or category and confirm their participation with a single tap. Push notification functionality will ensure that attendees are kept up to date on schedule changes, venue modifications, and other important announcements. Firebase Cloud Messaging or OneSignal will be integrated for this purpose, enabling timely communication between organizers and participants (Moroney, 2017).

Feedback collection is another key feature of the application. After an event concludes, attendees will receive an in-app prompt requesting feedback through short surveys or rating systems. This information will be stored and presented to organizers in summarized form to help them assess performance and improve future events. Incorporating feedback mechanisms aligns with best practices in user-centered design and event evaluation (Berridge, 2012).

The project also considers the real-world context in which the application will be used. In Nigeria and similar environments, internet connectivity may be inconsistent, and devices may have limited storage or processing power. As such, the app will be developed with optimization in mind: small asset sizes, minimal battery usage, and offline caching of essential data such as event details. Additionally, the user interface will be designed for simplicity and accessibility, using intuitive navigation and minimalistic layouts to accommodate users of all ages and technical proficiencies.

However, the scope of this study is intentionally limited in order to focus on core functionalities and ensure successful implementation within the available timeframe and resources. Certain features are excluded from the initial version, including full payment integration, advanced analytics, AI-powered event recommendations, and multilingual support. For example, while ticketing may be supported through RSVP tracking, financial transactions using platforms like Paystack, Stripe, or Flutterwave will not be fully implemented due to regulatory, security, and development considerations. Instead, a placeholder mechanism will simulate ticket confirmation, with future versions potentially integrating payment APIs.

Another limitation is the absence of a web-based portal or administrative dashboard. While these tools can enhance event control and data management, the project is limited to mobile platforms in order to maximize accessibility and simplify the system architecture. Future iterations may include a web admin interface for better scalability and control.

Additionally, the app is designed for single-organizer use, meaning that each event is managed by an individual or single account rather than a multi-organizer team or collaborative admin system. Expanding the app to include team-based event management or role-based access control is a potential area for future enhancement but falls outside the scope of the current study.

This project is expected to benefit a wide variety of users. For event organizers, the mobile application will serve as an all-in-one tool for managing attendees, communicating updates, and evaluating event outcomes. For attendees, it offers a streamlined way to discover events, register, receive updates, and offer feedback without needing to visit multiple websites or deal with cumbersome forms. In educational institutions, it could be used for organizing seminars, workshops, and departmental events; in corporate settings, for internal training, product launches, or conferences; and in social circles, for weddings, festivals, and community meetings.

The project serves as a foundation for a fully functional EMS and can be expanded as needed. While current features are relatively basic, the app’s architecture will be modular and scalable to allow for future integrations, such as analytics dashboards, third-party APIs, and internationalization. The long-term goal is to provide a customizable EMS platform that can adapt to the evolving needs of users and the dynamic nature of event planning in a digital age.

**1.6 Definition of Terms**

These are certain technical terms used during the course of my study.

**API (Application Programming Interface):** An API is a set of rules and protocols that allow different software applications to communicate with each other. APIs enable the frontend and backend of the EMS to exchange data in a structured way. For example, when a user RSVPs to an event on the frontend, the API sends that data to the backend, which then stores it in the database. FastAPI is used to build RESTful APIs for this mobile app.

**Authentication:** Authentication refers to the process of verifying the identity of a user before granting access to the system. This typically involves inputting login credentials such as an email and password. In the context of the EMS, authentication is implemented to protect user data and ensure that only authorized users can access sensitive information or perform certain actions like creating events. Firebase Authentication or similar services may be used to secure this process.

**Backend:** The backend is the server-side portion of an application responsible for processing data, executing logic, managing databases, and handling client-server communication. It is invisible to users but essential for powering the application’s core functions. In this study, the backend is developed using FastAPI—a modern Python framework known for its speed, scalability, and automatic API documentation. The backend stores user credentials, manages event data, tracks RSVPs and feedback, and ensures secure data transmission between the client and server.

**Database:** A database is an organized collection of structured data that can be accessed, managed, and updated electronically. In this project, a database is used to store essential data such as user profiles, event details, RSVP statuses, and feedback entries. PostgreSQL or Firebase Firestore may be used as the database engine due to their scalability, security, and real-time data capabilities.

**Event Management System (EMS):** An Event Management System (EMS) is a digital platform designed to support the planning, organization, execution, and post-event analysis of various types of events, such as conferences, seminars, workshops, concerts, and social gatherings. It typically includes tools for creating event schedules, managing invitations and registrations, sending notifications, and collecting feedback. In this study, EMS refers specifically to a mobile-based software solution aimed at providing an efficient, centralized system for both event organizers and attendees.

**Frontend:** The frontend is the part of a software application that users interact with directly. It includes the visual layout, design elements, buttons, forms, and navigation tools that facilitate interaction with the backend. In this study, the frontend is developed using React Native, a JavaScript framework that enables the building of responsive and native-like mobile applications for Android and iOS devices. The frontend connects with the backend via APIs to fetch and display data in real-time, such as event details, RSVP status, and feedback forms.

**Mobile Application:** A mobile application, or mobile app, is a software application specifically developed to operate on smartphones and other portable devices such as tablets. Mobile apps are designed with touch interfaces and are optimized for small screen sizes and limited processing power compared to desktop applications. In this project, the mobile application is developed using React Native, which allows for cross-platform development, meaning the same codebase can be used for both Android and iOS versions of the EMS. Mobile apps offer portability, accessibility, and convenience, making them ideal for on-the-go event engagement.

notifications are implemented using services like Firebase Cloud Messaging or OneSignal to help maintain user awareness and participation.

**UI/UX (User Interface/User Experience):** UI refers to the visual elements through which users interact with the application—such as buttons, menus, and screens. UX encompasses the overall experience a user has while interacting with the app, including ease of navigation, satisfaction, and usability. A well-designed UI/UX is critical for the adoption and success of the EMS mobile app, as it ensures that users can efficiently perform tasks such as registering for events or submitting feedback.