

## Innovative Event Management Platform Design with Integrated Ticketing and Networking Features

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### Abstract

*University of Logistics and International Business (ULBI) by using ticketing features and integrated networks. The focus is on enhancing the efficiency of event planning and execution within the ULBI campus environment, as well as improving participation and transparency. Ticketing features are integrated to synchronize timing and facilitate participant access, while an integrated network is implemented to enhance communication and reduce barriers during planning. By employing software design methodology and action research, this study analyses user needs, expectations, and designs ticketing features and integrated networks. It is hoped that this design will significantly contribute to improving event management within the campus environment, creating a platform that is not only efficient but also capable of enhancing student engagement and information transparency. In conclusion, this proposal provides a foundation for designing technology that can enhance event management at ULBI campus.*

**Keywords:** *Event management platform design; Student participation; Information transparency; Innovative; Ticket Features*

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### INTRODUCTION

Amidst the dynamics of campus life full of various activities, event management is a crucial element in creating a quality learning environment and can provide valuable experiences for students in it. The academic community of the University of Logistics and International Business (ULBI) needs an innovative event management platform to support the smooth implementation of various campus activities. According to (Herlambang and

Susanto, 2021) in their research, the event management process in general in an organization is not carried out centrally and there is no reference in sharing information that can be seen by all parties involved. The documentation and data management processes are also often still done manually and mixed between online and offline.

Based on the problems explained above, by presenting this innovative event management platform, ULBI can create a dynamic, interactive campus ecosystem and enrich the student experience. This platform is expected to improve the quality and efficiency of event management, support student participation in campus activities, strengthen transparency of information related to events held, and create business value through event ticket sales, subscription fees, or premium feature offerings such as top news, discounts on ticket purchases or ULBI merchandise to platform users. This allows the ULBI App to generate direct revenue and expand the potential for sustainable revenue sources. The design of this platform is expected to be a strategic step to support ULBI's vision and mission in providing higher education that becomes a "World Class Entrepreneurial University in Supply Chain Management and Logistics Business in 2047".

The distribution of questionnaires to several academicians of the University of Logistics and International Business (ULBI) has been carried out to strengthen the data and ask for their opinions regarding the procurement of events held at ULBI. One of the results of the questionnaire is as follows:

1. Apakah anda selalu mengetahui setiap event event acara kampus yang diadakan di kampus ULBI?  
50 jawaban

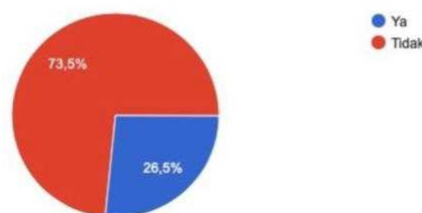


Figure 1. Questionnaire Results

According to the results of the questionnaire conducted, it can be concluded that the majority of ULBI academics choose not to always know about every event held on campus. Based on the background that has been described previously, the identification of problems in this study is as follows:

1. The event management process is still carried out manually and not centrally, causing difficulties in buying and selling ULBI tickets and merchandise between the transaction users involved.

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2. Lack of efficiency in organizing events and sales *merchant*ULBI due to lack of system.
3. The majority of ULBI academics are not always aware of every event held on campus, indicating a deficiency in information dissemination.

Based on the identification of the problems above, the following are the objectives to be achieved in this study, namely improving the management of ULBI campus events by providing an innovative platform. In detail, the objectives are as follows:

1. Improve the ULBI event management system to be automated and centralized, so that it can provide better solutions and experiences for the transaction users involved.
2. Increase efficiency by reducing errors by event organizers and participant users and providing easy access to merchant purchases by creating a system.
3. Increase the participation of ULBI academic community in ongoing events by providing comprehensive information dissemination.

### **Event Management**

Event Management is the science of developing, planning, and implementing activities or events with the aim of gathering a group of people in one place. According to (Anggoro, et al., 2023), event management is needed to organize everything during the event. (Herlambang & Santoso, 2021), added that the event management process in general in an organization is not carried out centrally, and often there is no reference in the distribution of information that can be seen by all parties involved. In this theory, event management on the ULBI App is explained as management that ensures that everything goes according to plan. The purpose of event management on the ULBI App is to create a memorable and successful experience for all ULBI academics involved: organizers, participants, sponsors, and others. With good planning and effective implementation, existing event management can grow to be better so that it can provide a significant positive impact for ULBI.

### **Understanding Information Systems**

According to Gani (2023), an information system is a collection of interconnected elements that function to process, collect, distribute, and overwrite useful information to support decision-making and supervision in business endeavours. In this theory, a system is a collection of interconnected parts that work together to achieve a goal. Each part of the ULBI App system has a specific role and function, and they work together in

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a structured manner to achieve the desired result. The system can be a physical structure such as a machine or computer network, or it can also be a process consisting of specific steps carried out to achieve a goal.

## **Understanding Databases**

Database Management System is a software system that will maintain, control, and access data in storage media practically and efficiently. All access to the database will be handled by the Database Management System. And the main purpose of the Database Management System is to provide an intuitive overview of the data on the interface (Abubakar, 2023). In this theory, UiLBI App uses MySQL, an intuitive processing database. MySQL can handle large workloads with good throughput and response time, making it a suitable choice for large-scale web applications (Anasya, 2023). UiLBI App requires a database to organise structured and stored information in a computer system; therefore, this theory uses MySQL to intuitively support various features such as transactions, data integrity, and excellent scalability. In addition, MySQL has the intuitive ability to handle large data volumes and multiple requests simultaneously, ensuring that applications can operate smoothly and responsively even under high workload conditions.

## **METHOD**

### *1. Problem Identification and Objective Definition*

The first stage of the research involves identifying the key problems that event organizers, attendees, and other stakeholders face in the context of event management. A thorough literature review is conducted to understand existing event management solutions, their limitations, and opportunities for innovation. Key problems identified include:

- Difficulty in managing event logistics, ticket sales, and attendee engagement.
- Lack of seamless integration between event schedules, ticketing, and networking opportunities.
- Challenges in personalizing attendee experiences, especially in large-scale events.

The objective is to design a platform that consolidates event management tools into a unified system with features like integrated ticketing, real-time event updates, and networking capabilities to enhance attendee interaction and event success.

### *2. User-Centered Design (UCD)*

The development of the mobile application follows a User-Centered Design (UCD) methodology, ensuring the platform is built around the needs of both event organizers and attendees. This phase involves:

- **User Research:** Conducting interviews, surveys, and focus groups with event organizers, participants, and exhibitors to collect data on user

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preferences, pain points, and desired features. This data informs the functional specifications and user interface (UI) design.

- **Personas Creation:** Based on the user research, personas representing various stakeholders (event organizers, exhibitors, and attendees) are created. These personas help to tailor the app's features and functionality to meet the expectations of different user groups.

The UCD approach ensures that the design decisions, feature prioritization, and overall development process align with the target users' needs, resulting in a more intuitive and useful application.

### 3. System Architecture Design

After defining the app's functionality, the next step is to design a robust system architecture that supports seamless integration of multiple features. The system will be built on a modular architecture to enable flexibility and future scalability. Key components of the architecture include:

- **Frontend Development:** A mobile-first approach is adopted, ensuring the app is optimized for smartphones and tablets. The frontend is developed using frameworks like React Native for cross-platform compatibility (iOS and Android).

- **Backend Development:** A cloud-based backend is designed to handle event data, ticket sales, user profiles, and networking features. Technologies like Node.js and Firebase are used to manage real-time data and ensure high scalability.

The architecture ensures efficient data flow between ticketing, event schedules, and user interactions, enabling smooth operation even during high-demand events.

### 4. Prototype Development and Testing

Once the architecture and UI/UX design are finalized, a prototype of the mobile app is developed. The prototype serves as an initial version of the platform with core functionalities such as event registration, ticket purchasing, and attendee networking features like social profile integration and real-time messaging.

- **Usability Testing:** A group of selected users, including event organizers and attendees, is invited to test the prototype. They are asked to perform tasks such as purchasing tickets, interacting with the event schedule, and networking with other attendees. Feedback is collected through both qualitative methods (user interviews) and quantitative methods (task success rate, time on task).

- **Iteration:** Based on the feedback from usability testing, the app undergoes multiple iterations to refine the user interface, enhance usability, and fix any bugs or issues. Features like personalized agendas, ticket scanning, and social media integration are refined for optimal user experience.

## RESULTS AND DISCUSSION

According to the results of the questionnaire conducted, with the question "Is it necessary to have a campus event management application to increase

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awareness of events held on campus?" as many as 50 respondents answered "Necessary". Therefore, they agreed that the events held need to be developed through a special platform, and they welcomed the existence of a platform as a forum for managing campus events for the ULBI academic community. From these results, it can be seen to realize the importance of increasing the accessibility of information about campus events and support the design of technological solutions to achieve these goals.

4. Menurut anda apakah perlu hadir sebuah aplikasi pengelolaan manajemen acara kampus untuk meningkatkan awareness terhadap event event yang diadakan kampus ULBI?  
50 responses

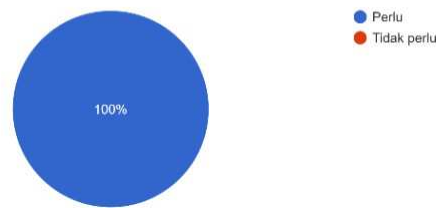


Figure 2. Questionnaire Result

### Business Model



Figure 3. Business Model Canvas (BMC) ULBI App

### Business Development



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Figure 4. Business development for the next 3 (three) years

1. Year 2024:
  - a. Design Process: UiLBI App will initiate the design mature with the way of identifying the market and competitors, the creation of an intuitive BMC is more in tune with the business model can create better research and conduct surveys that are disseminated to the entire UiLBI academic community.
  - b. Implementation Process: The UiLBI App will be implemented in accordance with the planned activities and budget usage.
2. Year 2025: The UiLBI App will need to be regularly maintained and updated to improve functionality, add new features, or adapt to changing environmental and technological needs.
3. Year 2026: UiLBI App is expected to be balanced and can run well so that UiLBI App can expand its reach so that it can be much more well-known. The expansion of this reach area is expected to be achieved starting from around Bandung City to outside the city which can create awareness that UiLBI App is a quality platform in the University of Logistics and International Business (UiLBI) environment.

#### Analysis of the Running System

The ongoing system analysis at the University of Logistics and International Business (UiLBI) is intuitive to understand the skills needed to design and balance the UiLBI App system.

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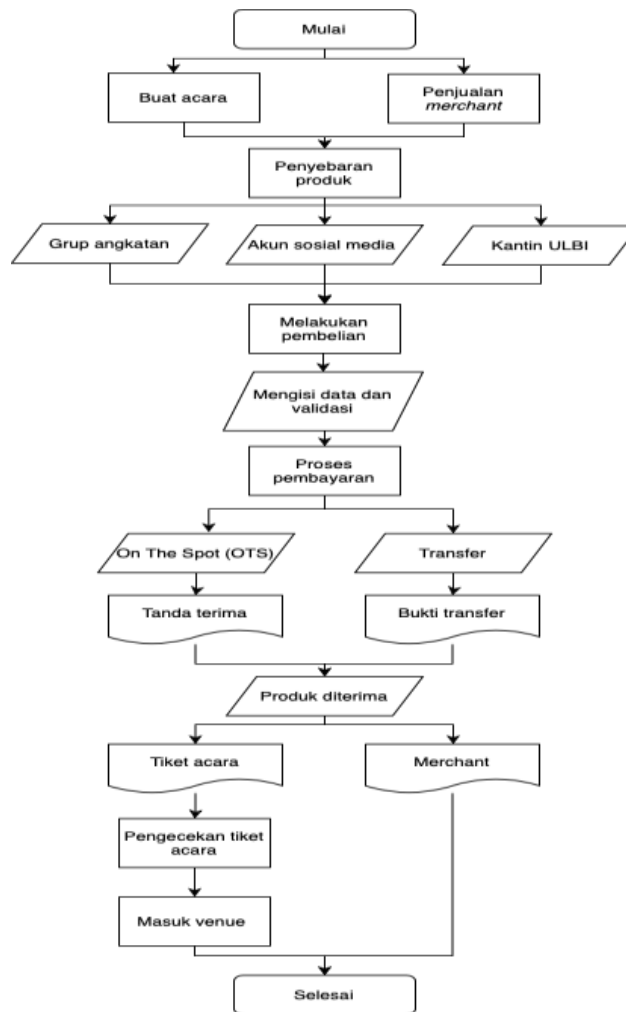


Figure 5. Flowchart of the running system

### Digital Design / Mockup

The following is a design of the ULBI App display using Figma software:

#### 1. Homepage and media:



Figure 6. ULBI App homepage and media

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2. Schedule and event creation page:

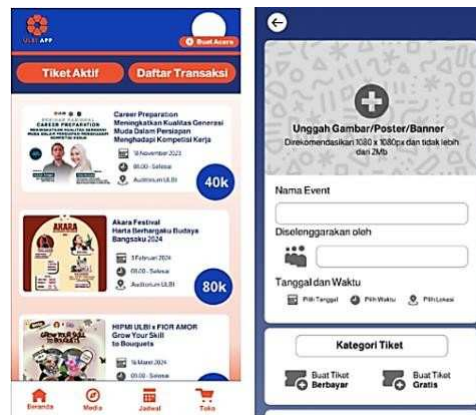


Figure 7. ULBI App schedule and event creation page

3. Event creation ticket detail page:

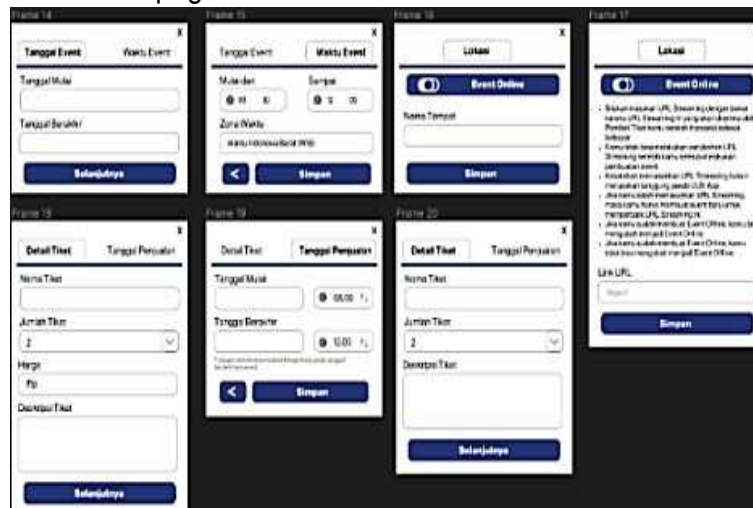


Figure 8. ULBI App event creation details page

4. Page program and contact person



Figure 9. Page of one of the ULBI App events and contact person

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5. Event ticket purchase page:



Figure 10. ULBI App event ticket purchase page

6. Successful ticket payment transaction page:



Figure 11. Successful ticket payment transaction page

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## Admin Page

### 1. Admin homepage:

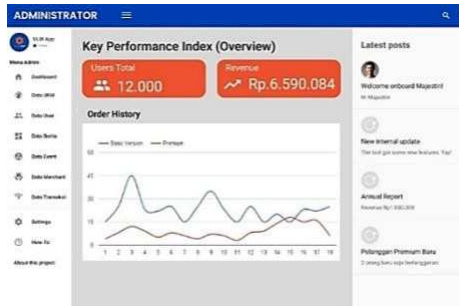


Figure 12. ULBI App admin main page

### 2. Event list page:

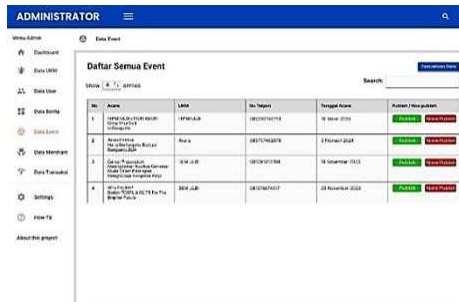


Figure 13. ULBI App event list page

### 3. Detail user page:



Figure 14. ULBI App user details page

The result of this study supports previous research of Aggarwal and Ansari's (2014) that the mobile app provides a detailed analysis of the emerging trends in event management applications, emphasizing their transformative impact on the event industry. It identifies several ways in which mobile apps have enhanced the event management process, from simplifying event logistics to improving attendee experiences. This study highlights key functionalities in modern event apps, such as real-time event updates, ticketing, social interaction, and attendee engagement features. It discusses how apps have enabled event organisers to streamline processes, improve attendee

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interaction, and collect valuable data for post-event analysis. This study result replicates the previous study (Lavanaia et al., 2022) which aims to address the logistical challenges often faced by educational institutions when organizing events, ensuring efficiency and better communication among stakeholders. This study demonstrates how mobile apps can enhance event management within academic environments, offering a tailored solution for colleges and universities.

It also supports the previous research of da Silva & Renzi (2020) that explore the role of social features in event management systems, with a particular focus on user recommendations. The study provides insights into how social aspects such as networking, user-generated content, and peer recommendations can be integrated into event management platforms to enhance attendee experiences. This study has implemented the previous study steps (Deepika et al., 2016) that present the development of an Android application for event management, focusing on providing a solution for both event organisers and participants. The paper describes the app's core features, including event scheduling, attendee registration, and real-time notifications, highlighting its role in reducing manual effort and improving the overall efficiency of event management. The authors also discuss the app's user interface and how it was designed to ensure ease of use, thereby enhancing user experience. To improve the mobile app, the further development of mobile app can streamline the entire event management process, from event creation and registration to attendee management. For example, by leveraging Firebase for backend services, to ensures real-time data synchronization and seamless updates. The app supports features such as event scheduling, ticketing, push notifications, and attendee feedback collection. The use of Flutter allows the app to be cross-platform, making it accessible on both Android and iOS devices. Hence, this research will highlight the potential of modern technologies to improve event organization and enhance user experience (Juliana et al., 2021).

## **CONCLUSION**

Based on the results and discussions, it can be concluded that the ULBI application designed is expected to be a new breakthrough in managing events, campus news, and ULBI merchants so that it can help students, lecturers, or other staff who are interested in participating in events held in the ULBI campus environment. The ULBI application designed prioritizes the quality of comfort so that all users of this application platform can be interested and happy to use this application. With integrated ticketing and networking features, this application will have a positive impact on the ULBI

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campus event industry and enrich the experience for all campus parties involved. Thus, this research can make the ULBI App design activity run well and smoothly, besides that we also hope that the design of this ULBI application can contribute and be useful for the author and the ULBI campus. The research and development of the ULBI application were primarily focused on a specific user base, namely students, lecturers, and staff within the ULBI campus environment. As a result, the findings and the app's design may not be fully generalizable to other universities or event environments with different needs and user demographics. The sample size of test users may also limit the breadth of feedback gathered during the development process. It is essential for future research to focus on testing the app's performance under real-world conditions with a large volume of users. This could involve load testing to ensure the app can handle high traffic, particularly during major campus events, and ensuring seamless integration with other campus systems.

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