UTAR EVENT MANAGEMENT SYSTEM

By

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ABSTRACT

This project focuses on web application development and event management within a university setting, addressing challenges related to student engagement and communication. The primary issue is that students often miss crucial event notifications due to the high volume of emails they receive, leading to lower attendance and participation in campus events. To address this, the UTAR Event Management System was developed using PHP and Python for backend operations, HTML, CSS, and JavaScript for frontend design, and MySQL for database management. The system features include user registration, event browsing, event creation, a notification system, and user feedback mechanisms.

The research process involved designing a user-friendly interface, implementing backend functionalities, and integrating a local notification system to ensure timely updates and simplify the registration process. User acceptance testing was conducted to evaluate the system's effectiveness in enhancing engagement and improving event management. Results indicate that the system significantly improves notification visibility and streamlines the registration process, leading to increased student participation and operational efficiency for event organizers. User feedback confirms that the platform effectively reduces the likelihood of missing important event notifications.

In conclusion, the UTAR Event Management System successfully addresses the problem of overlooked notifications and enhances campus event management. Its main contribution lies in improving communication and engagement through a user-friendly platform. Future enhancements could include upgrading to push notifications and integrating QR code or ticket validation features to further optimize the user experience.

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LIST OF ABBREVIATIONS

UTAR	University Tunku Abduk Rahman
OEMS	Online Event Management System
CRM	Customer Relationship Management
HTTP	Hypertext Transfer Protocol
PHP	Hypertext Preprocessor
RDBMS	Relational Database Management System
IDE	Integrated Development Environment
HTML	HyperText Markup Language
CSS	Cascading Style Sheets
ERD	Entity-Relationship Diagram
UAT	User Acceptance Testing

CHAPTER 1: Introduction

Prior to delving into the details of this project, it is crucial to understand the contextual framework of event organisation within Universiti Tunku Abdul Rahman (UTAR). UTAR, a prominent educational institution, takes great pleasure in providing a well-rounded student experience by organising a wide array of activities that cover academic, cultural, and extracurricular aspects. These events are essential elements of UTAR's dedication to comprehensive student growth and involvement in the community. Nevertheless, the existing method for event notification mostly depends on email communication, which presents significant difficulties in effectively reaching and involving all students. As UTAR expands and broadens its student body, it becomes more important to establish efficient communication channels for promoting events.

1.1 Problem Statement and Motivation

According to the findings of Kushlev and Dunn (2015), reducing the frequency of email checking can decrease stress but might also contribute to students missing out on important notifications if these are communicated primarily through email [7]. This insight is crucial for institutions like Universiti Tunku Abdul Rahman (UTAR), as it suggests that relying heavily on email for event notifications could indeed result in low engagement and attendance at events due to irregular email checking habits among students. This reliance on emails results in a limited reach, scattered event information, and reduced student engagement. Consequently, not all students regularly check their emails, which means they may miss timely notifications about events. This inconsistency can lead to low attendance and participation. Moreover, students often receive a high volume of emails daily, including encompassing announcements, event notifications, academic information, and personal messages. This overwhelming volume of information can cause crucial event notifications being overlooked or lost in the clutter.

The motivation behind the "UTAR Event Management System" project stems from the imperative to bridge the communication gap between event organizers and students within the university community. The project seeks to address the existing

inefficiencies in event management, promote active involvement in campus activities, and ultimately enhance the overall university experience for students and faculty members alike.

1.2 Objectives

The primary aim of this project is to develop a user-friendly web application designed to streamline the dissemination of information about university events at Universiti Tunku Abdul Rahman (UTAR). The web application aims to serve as a central hub where all UTAR students and faculty members can access comprehensive details about campus events, including schedules and updates. By centralizing this information, the platform will significantly enhance communication within the UTAR community, making it easier for everyone to stay informed about upcoming activities and opportunities for involvement.

One of the critical sub-objectives of the project is to increase engagement among the university community. By providing easy access to event details and simplifying the registration process, the web application encourages more active participation from students and faculty. This increased involvement can lead to a more vibrant campus atmosphere and stronger community bonds. Additionally, the application will include local notifications, which aim to reduce the likelihood of information disparity that often occurs with traditional communication methods such as emails. These features ensure that users receive timely and relevant notifications, reducing the chances of missing important events.

Moreover, the project seeks to improve the operational efficiency of managing university events. For event organizers, the web application will automate various administrative tasks, such as event creation, attendee registration, and tracking and analysis. This automation will free up valuable time for organizers, allowing them to focus on more strategic aspects of event planning and execution. By streamlining these processes, the application not only enhances the experience for organizers but also ensures that events are executed more smoothly and successfully.

It's important to note that while the project addresses the communication challenges related to event management at UTAR, it does not encompass broader issues such as curriculum development or infrastructure enhancements. Additionally, while the proposed web application aims to streamline event management processes, it does not seek to replace existing university systems or overhaul administrative structures. Instead, its scope is specifically tailored to improving communication and engagement surrounding university events.

1.3 Project Scope

The scope of this project involves the development and deployment of the UTAR Event Management System, a web application designed to address communication challenges in event notifications within Universiti Tunku Abdul Rahman (UTAR). The end result is a fully functional online platform accessible to UTAR students, faculty, and staff. This system will streamline event planning and management through features such as user registration, event browsing, creation, and management tools for organizers, tracking and analysis, a local notification system, integration with Google Calendar for registered events, and mechanisms for user feedback. The solution aims to enhance campus engagement, reduce information disparity, and improve administrative efficiency by providing a centralized hub for accessing event information and fostering greater participation in university activities.

The UTAR Event Management System seeks to bridge the gap in event communication by offering a user-friendly interface and comprehensive functionalities. By delivering this solution, the project aims to create a vibrant campus community where students and faculty can easily discover, participate in, and organize events. Ultimately, the project endeavours to enhance the overall campus experience at UTAR by promoting collaboration, communication, and active engagement among its members through efficient event management and communication channels.

1.4 Contributions

The UTAR Event Management System has significant potential to transform the organization and communication of university events not only within UTAR but also across other educational institutions. By addressing the limitations of traditional email-based notification systems, this web application offers a centralized platform that enhances communication, boosts engagement, minimizes information gaps, and streamlines event management processes. Its impact extends beyond the university campus, fostering a more vibrant and connected community within UTAR while potentially inspiring similar initiatives worldwide.

The problem tackled by this project is compelling given its broad relevance in educational settings. In an era where digital communication is essential, reliance solely on email notifications poses considerable challenges in effectively reaching and engaging students. This project's solution leverages modern technology to provide a user-friendly platform that enhances communication and involvement within the university community. Offering a tangible solution to a common global challenge faced by universities, this project has the potential to significantly enhance the overall event experience for students, faculty, and staff, making it a worthwhile endeavour for readers seeking to improve campus engagement and communication.

1.5 Report Organization

This report is organized into 7 chapters: Chapter 1 Introduction, Chapter 2 Literature Review, Chapter 3 System Methodology/Approach, Chapter 4 System Design, Chapter 5 System Implementation, Chapter 6 System Evaluation and Discussion, and Chapter 7 Conclusion and Recommendation. The first chapter introduces the project, covering the problem statement and motivation, project objectives, project scope, contributions, and the organization of the report. Chapter 2 reviews the relevant technologies and existing systems/applications. Chapter 3 discusses the system methodology, including design diagrams and use case descriptions. Chapter 4 details the system design, including block diagrams and component specifications. Chapter 5 covers the system implementation, including hardware and software setup, system operation, and

challenges faced. Chapter 6 evaluates the system's performance through testing, discusses project challenges, and assesses whether the objectives were met. Finally, Chapter 7 concludes the report and provides recommendations for future work.

CHAPTER 2: Literature Review

2.1 Review of the Technologies

2.1.1 Hardware Platform

In the development and deployment of web applications, hardware platforms play a critical role in ensuring both development efficiency and application performance. The primary hardware platforms typically involved in this process are cloud-based servers and client devices.

Cloud-Based Servers: For the deployment of web applications, cloud-based servers are often utilized due to their scalability, reliability, and cost-effectiveness. Cloud services like Amazon Web Services (AWS), Microsoft Azure, and Google Cloud Platform provide robust infrastructures that can dynamically adjust resources based on application demand. This scalability is essential for managing varying loads and ensuring high availability, as these platforms offer distributed computing power and redundant storage solutions.

Client Devices: On the client side, users access web applications through various devices such as desktops, laptops, tablets, and smartphones. These devices generally do not require specialized hardware for interacting with web applications, as long as they support modern web browsers. The use of standard hardware across different client devices ensures that web applications are broadly accessible and can reach a wide audience without necessitating significant hardware upgrades on the user end.

Development Hardware: During the development phase, a local hardware setup is typically used to build and test applications. A laptop or desktop computer equipped with necessary development tools and software provides an environment for coding, testing, and debugging. For example, XAMPP, a free and open-source software package, is often installed on these local machines to simulate a web server environment. This allows developers to test their applications locally before deploying them to a production server.

2.1.2 Firmware/OS

The operating systems (OS) used in web development and deployment environments play a crucial role in supporting the stability and functionality of web applications.

Server-Side OS: Linux-based operating systems are commonly chosen for server environments due to their robustness, security, and cost advantages. Distributions like Ubuntu, CentOS, and Debian provide a stable and efficient platform for hosting web applications. They offer excellent support for web servers, databases, and development tools, and are known for their strong performance and low cost of ownership.

Client-Side OS: Web applications need to be compatible with various client-side operating systems to ensure accessibility across different devices. Major operating systems such as Windows, macOS, iOS, and Android are supported by modern web browsers, allowing users to interact with web applications regardless of their device's OS. This cross-platform compatibility is essential for reaching a diverse user base and providing a consistent user experience.

2.1.3 Database

Databases are fundamental for storing and managing structured data in web applications. The choice of database technology impacts the performance, scalability, and integrity of data management.

Relational Databases: MySQL is a widely used relational database management system (RDBMS) that provides a reliable solution for handling structured data. It is known for its performance, ease of use, and support for SQL (Structured Query Language), which enables complex queries and data manipulation. MySQL supports features such as data indexing, transaction management, and security measures to ensure data integrity and efficient access.

Database Management Practices: Effective database management involves optimizing queries, indexing data for faster retrieval, and ensuring data consistency and security. MySQL provides various tools and techniques to manage database performance, such as query optimization and database normalization. Cloud-based

databases also offer additional benefits like automatic scaling, backup solutions, and high availability.

2.1.4 Programming Language

Backend Development:

PHP is widely used in backend development for web applications due to its ability to generate dynamic content, handle user interactions, and interface with databases. The use of PHP frameworks like Laravel or Symfony is common in modern web systems for added functionality and streamlined development processes.

Python has gained significant traction for tasks involving data processing, machine learning, and API development. Its simplicity and extensive libraries, such as TextBlob for natural language processing and scikit-learn for machine learning, make it a strong choice for incorporating advanced functionalities like sentiment analysis and predictive modeling. Flask, a micro-framework in Python, is often used to create APIs that can integrate seamlessly with other systems, providing flexibility and scalability.

Frontend Development:

HTML, CSS, and JavaScript remain the foundation of frontend development. They are essential for structuring, styling, and adding interactivity to web applications. Modern JavaScript frameworks and libraries, such as React.js and Angular, are widely used to develop dynamic and responsive user interfaces, significantly enhancing the user experience.

2.1.5 Algorithm

Search and Filtering Algorithms: Search and filtering algorithms are fundamental in web applications, enabling efficient query processing and delivering relevant results to users.

Notification Scheduling Algorithms: These algorithms are critical for managing when and how notifications are sent to users, ensuring effective communication by taking into account factors like event timing and user preferences.

Capacity Management Algorithms: Capacity management algorithms ensure that participant registrations adhere to predefined limits, maintaining system efficiency and preventing overbooking.

Sentiment Analysis Algorithms: Natural language processing algorithms, such as those implemented with libraries like TextBlob, are used to analyse user feedback and determine sentiment. These algorithms are crucial in understanding user satisfaction and identifying areas for improvement in web applications.

Predictive Modelling Algorithms: Machine learning algorithms, including techniques like Random Forest Regression, are commonly employed to predict outcomes such as participant numbers for events. These predictive models aid in better resource management and planning.

2.1.6 Summary of the Technologies Review

The review of technologies highlights the critical components necessary for the development and deployment of web applications. Cloud-based servers continue to be preferred due to their scalability and reliability, while local hardware setups, such as laptops, remain integral for development and testing phases. Linux-based operating systems provide a stable and secure environment for server-side operations, ensuring robust performance. Ensuring client-side compatibility with major operating systems is essential for broad accessibility.

MySQL remains a powerful relational database management system, capable of efficiently handling structured data. The backend and frontend development are driven by a combination of programming languages, including PHP for server-side scripting and HTML, CSS, and JavaScript for creating and enhancing user interfaces. Additionally, Python has become increasingly important in modern web applications, particularly for tasks involving sentiment analysis and predictive modeling, often facilitated through APIs built with frameworks like Flask.

Algorithms play a pivotal role in enhancing the functionality of web applications, with search, notification scheduling, capacity management, sentiment analysis, and predictive modeling algorithms being key to ensuring efficient operation and improved user experience. This understanding of various technologies and their respective roles is crucial for selecting the most appropriate tools and practices to build effective and high-performing web applications.

2.2 Review of the Existing Systems /Applications

2.2.1 EVENT MANAGEMENT SYSTEM FOR EDUCATIONAL INSTITUTIONS

2.2.1.1 Overview

The suggested system functions as a centralised hub for comprehensive event administration, enabling smooth coordination and communication among administrators, associations, and regular users. Administrators possess the power to create, update, and delete events, guaranteeing streamlined organisation and implementation. This facilitates efficient event management procedures and guarantees correct representation of events in the system.

Both registered users and guests have the advantage of being able to browse event information, register for events, and give feedback [2]. By differentiating user access, they ensure that event management duties are assigned appropriately and that users may use functions that are specifically customised to their tasks. Authenticated users may effortlessly explore the platform, enrol in events, and interact with event organizers, hence boosting user experience and satisfaction.

By incorporating a feedback mechanism, users have the opportunity to share their experiences and provide comments after events have ended. This provides event organizers with vital information to better future event planning and execution, promoting a culture of ongoing enhancement. The solution attempts to optimise the

event management process and boost overall user happiness and engagement by incorporating user feedback.

2.2.1.2 Strengths

1. **Efficiency:** The system enhances efficiency by digitizing event management operations, hence minimizing the need for human labor and optimizing administrative chores, resulting in time and resource savings.
2. **Accessibility:** The system's web-based structure enables users to access event information at any time and from any location, thereby improving convenience and fostering greater involvement.
3. **User-Friendly Interface:** The system showcases a user-friendly interface that includes functions such as event categorization, registration, and profile management, facilitating effortless navigation and interaction for users.

2.2.1.3 Weaknesses

1. **Dependency on Email Notifications:** The system's event management platform is dependent on email alerts for communication. This may not completely address the problem of restricted outreach, as individuals who do not frequently monitor their email may still fail to get crucial updates.
2. **Limited Event Tracking:** While the system allows for event creation, registration, and feedback, it doesn't mention advanced features like analytics or detailed tracking of user engagement. Without these metrics, it may be challenging for organizers to assess the effectiveness of their events fully.

2.2.1.4 Recommendations

1. **Diversify Communication Channels:** Incorporate supplementary communication channels such as local notifications or in-app alerts to reach users who may not regularly read their emails.
2. **Enhance Analytics:** Integrate functionalities for event analytics to thoroughly monitor attendance, engagement metrics, and user comments. This data can

assist organizers in making evidence-based decisions and enhancing future events.

2.2.2 Online Event Management System

2.2.2.1 Overview

An Online Event Management System (OEMS) has been implemented by the developers to tackle the issues related to inefficient event notifications. Functioning as a centralised hub, this system provides thorough supervision of all event management components. Administrators has comprehensive authority, allowing them to compile a comprehensive list of available venues, efficiently oversee event audiences, establish new events, provide perceptive reports, govern user access, and tailor system settings to accommodate special requirements. Administrators are able to exert a high level of control, which allows them to simplify event planning processes and guarantee seamless implementation.

However, users enjoy the advantages of easy access to crucial event information through OEMS. They may easily navigate through event information, examine venue possibilities, and become acquainted with the different packages and goods available. OEMS streamlines the event planning process by integrating these features into one platform, enhancing productivity and accessibility for administrators and consumers alike.

In summary, OEMS functions as a helpful instrument for improving the efficiency of event management. It offers administrators powerful control capabilities and ensures clients have effortless access to event-related information and services.

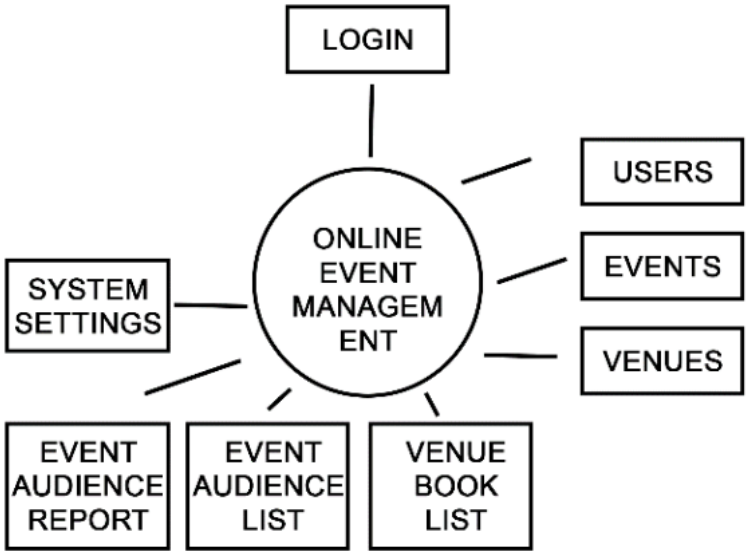

Figure 2.2.1: DFD Diagram from Mohana. S and Mr. P. Anbumani [8]

2.2.2.2 Strengths

1. **Centralization:** The OEMS gathers event-related information onto a single platform, resolving the problem of scattered event information.
2. **Accessibility:** The system's internet platform expands the possible audience for event alerts beyond email, addressing the issue of limited reach.
3. **Streamlined Booking Process:** The streamlined booking procedure allows clients to reserve venues online, making the event planning process simpler and more convenient.

2.2.2.3 Weaknesses

1. **Engagement:** The system offers a platform for event management, but it does not naturally tackle the problem of student participation. Simply having event information centralized does not ensure an increase in student participation.
2. **Adaptability:** The system may have limited capacity to adjust and accommodate different sorts of events that have distinct planning and execution processes.

2.2.2.4 Recommendations

1. **Engagement Features:** Incorporate engagement features within the system to promote student participation, including event notifications, interactive calendars, and feedback tools.
2. **Customization:** Enable the system to be customized and flexible, accommodating various event types and adapting to a wide range of event management requirements.

2.2.3 TOWARD A GENERIC EVENT MANAGEMENT SYSTEM FOR ACADEMIA

2.2.3.1 Overview

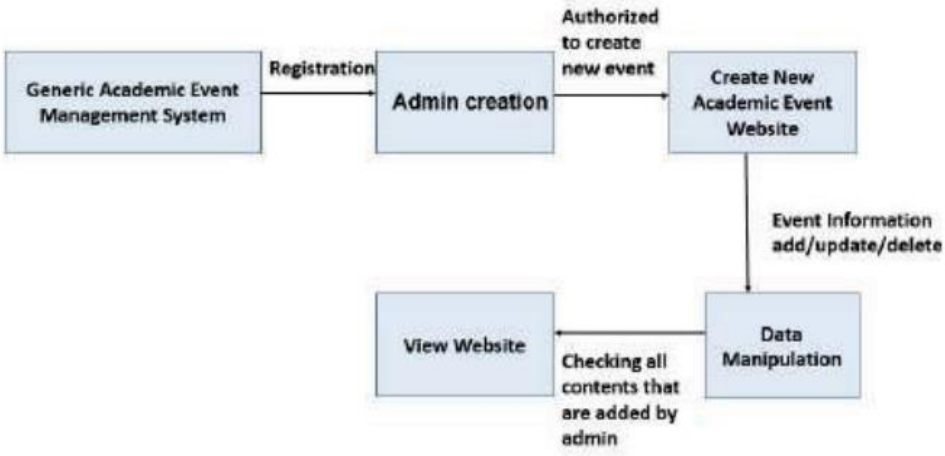

Figure 2.2.3: System Workflow from S. Islam, et. al. [11]

The researchers and developers have created an integrated system to overcome deficiencies in event notification processes, providing a solution that allows people to register as administrators and establish event websites. These administrators have a crucial role in entering event information, overseeing event-related data, and curating website content. This decentralised method provides administrators with authority in managing events, assuring precise representation and convenient accessibility for students.

Furthermore, the system offers a centralised platform for retrieving event information. Administrators have the ability to gather all the required information on the event websites, making it easier for students to remain updated about upcoming activities. This centralised approach minimises the necessity for students to go through disorganised emails, providing a more effective method of getting pertinent information.

In addition, the system prioritises user involvement by offering comprehensive event webpages. Administrators have the ability to provide these platforms with detailed event information, which promotes increased student participation in campus activities. The system's objective is to enhance participation in a variety of activities by providing readily available event information, hence enhancing the campus experience for all individuals involved.

2.2.3.2 Strengths

1. **Centralized platform:** The system provides a unified platform for managing events and distributing information, simplifying the process for administrators and users alike.
2. **User-friendly interface:** The system appears to offer an intuitive interface, enabling administrators to rapidly develop and administer event websites.
3. **Customization options:** Admins have the ability to personalize event websites based on their preferences, which has the potential to enhance user engagement.

2.2.3.3 Weaknesses

1. **Lack of real-time updates:** The system fails to provide real-time updates or notifications to users, potentially causing some students to miss out on events if they do not frequently check the event website.
2. **Limited interaction:** Although users have the ability to access event details, there appears to be a limited opportunity for interaction or participation beyond viewing information.

2.2.3.4 Recommendations

1. **Implement automated event notifications:** Establish a notification mechanism that dispatches automated alerts to users through email, SMS, or push notifications on a dedicated mobile application whenever new events are created, updated, or approaching their scheduled commencement. This feature guarantees that users remain updated on forthcoming events without the necessity of constantly monitoring the event website.
2. **Interactive Features:** Incorporate interactive elements into the event website to promote user participation and involvement. This may involve incorporating social media integration to facilitate effortless event sharing and enable users to connect with their peers. Additionally, questionnaires can be utilized to collect input from consumers regarding their preferences, hobbies, and level of satisfaction with previous events.

2.2.4 EVENT MANAGEMENT SYSTEM

2.2.4.1 Overview

The paper presents a comprehensive description of a web-based event management system designed to streamline and digitize the process of managing events. The system is tailored to automate critical functions such as event booking, updates, cancellation, and participant management through an intuitive online portal.

The event management system allows administrators to efficiently manage event logistics by adding and removing events, viewing participant lists, and managing event details. This system aims to reduce the administrative burden traditionally associated with event management, such as paperwork and manual coordination, by providing a centralized platform where all aspects of event management can be handled remotely and securely.

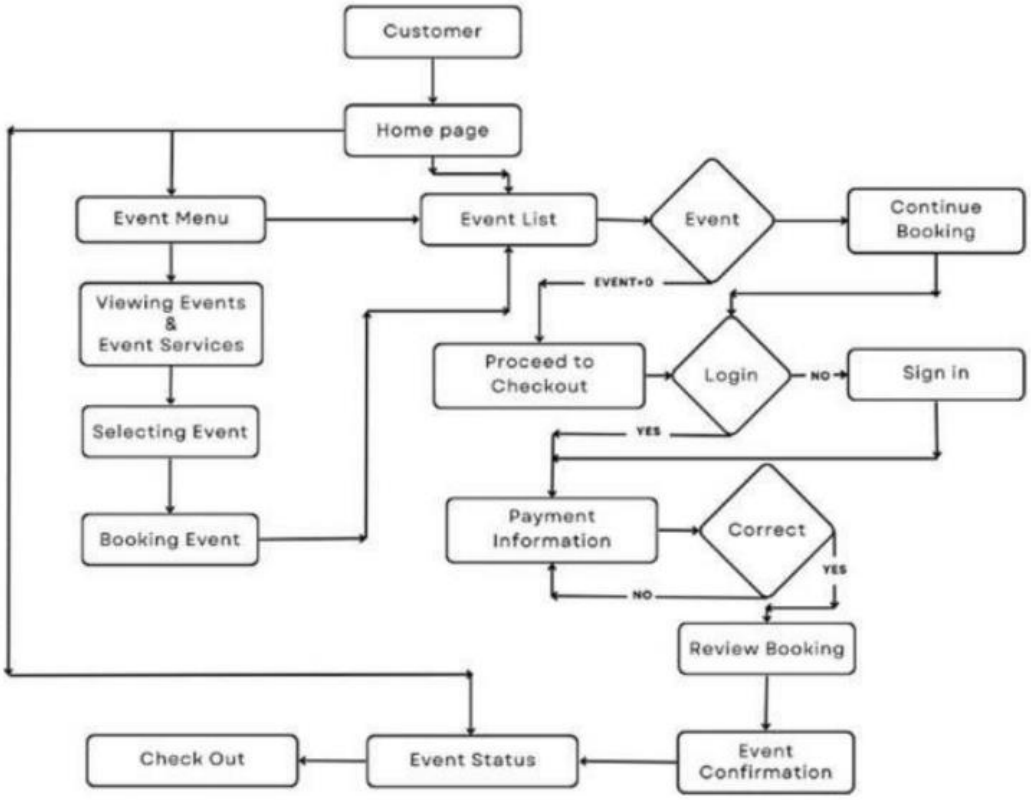

Figure 2.2.4: System Workflow from C. Navamani, et. al. [3]

Key functionalities of the system include:

1. **User Registration and Profile Management:** Users can register and create profiles to manage their events. The system allows for detailed customization according to the user's needs, ensuring that all relevant information is accessible.
2. **Event Requisition and Approval Process:** Events are added to the system as requisitions which are then approved by administrators, ensuring availability and avoiding scheduling conflicts.
3. **Notification and Alerts System:** Upon approval of events, notifications and alerts are automatically sent to users' registered IDs, ensuring they are kept up to date with the latest information regarding their events.
4. **Comprehensive Event Management:** The platform supports various event types, including marriages, conferences, and birthday parties, with detailed

management options for date, time, location, required arrangements, and participant details.

The existing system workflow closely aligns with my UTAR Event Management System project by providing a structured, user-friendly process for event browsing, selection, and registration. This workflow will be utilized in my project to streamline event management, automate notifications, and ensure a seamless user experience from event discovery to confirmation. By adopting similar steps, such as user registration, event selection, and payment processing, the system will reduce administrative burden, enhance user engagement, and ensure efficient management of event logistics within the university context.

2.2.4.2 Strengths

1. **Comprehensive Administrative Control**: The system offers extensive capabilities for administrators, including the ability to add or delete events, manage participant lists, and alter event details. This allows for a high degree of control over the logistics and execution of events.
2. **Automation of Routine Tasks**: By automating routine administrative tasks, the system reduces the potential for human error and frees up time for event organizers to focus on more strategic aspects of event management, such as attendee engagement and program quality.
3. **Centralized Data Management**: With all event-related information centralized in one platform, the system ensures that data is easily accessible and manageable. This centralization helps in better data analysis and decision-making, improving the effectiveness of events.

2.2.4.3 Weaknesses

1. **User Experience Considerations**: The documentation provided in the paper lacks specifics on the user interface and overall user experience design. For a

system that handles complex tasks, ease of use is crucial for user adoption and operational efficiency.

2. **System Integration**: The absence of details on integration with other existing digital tools (like CRM software, email marketing platforms, and financial systems) may hinder the system's ability to function seamlessly within an organization's broader technology ecosystem.

2.2.4.4 Recommendations

1. **User Interface Improvements**: Future updates should prioritize the development of a user-friendly interface that caters to the needs of all users, including those with limited technical expertise. A focus on intuitive navigation and clear, concise information presentation can greatly enhance the system's usability.

2. **Enhanced Integration Features**: The system should be designed to integrate seamlessly with other business and management tools. Providing APIs and support for popular platforms will ensure that the event management system can connect with existing databases and services, facilitating a more unified operational approach.

2.2.5 Fact Finding

A fact-finding interview was conducted with the Department of Student Affairs on 5th March 2024 to gather detailed insights into the current event management processes at UTAR. The interview aimed to understand the existing workflow, identify challenges, and gather requirements for the proposed UTAR Event Management System. This interview was crucial for ensuring that the system would meet the specific needs of both the department and the students. By engaging directly with the department's personnel, the interview provided valuable information on key processes, such as event proposal submission, approval criteria, and logistical support. These insights directly contributed to the system's development by helping to shape features like event creation and management, participant registration, logistical coordination, and feedback collection, ensuring the system is tailored to address the actual needs and challenges

faced in managing university events. Detailed findings from this interview are extensively documented in Appendix A of the report.

CHAPTER 3: System Methodology/ Approach

3.1 System Design Diagram/Equation

3.1.1 System Architecture Diagram

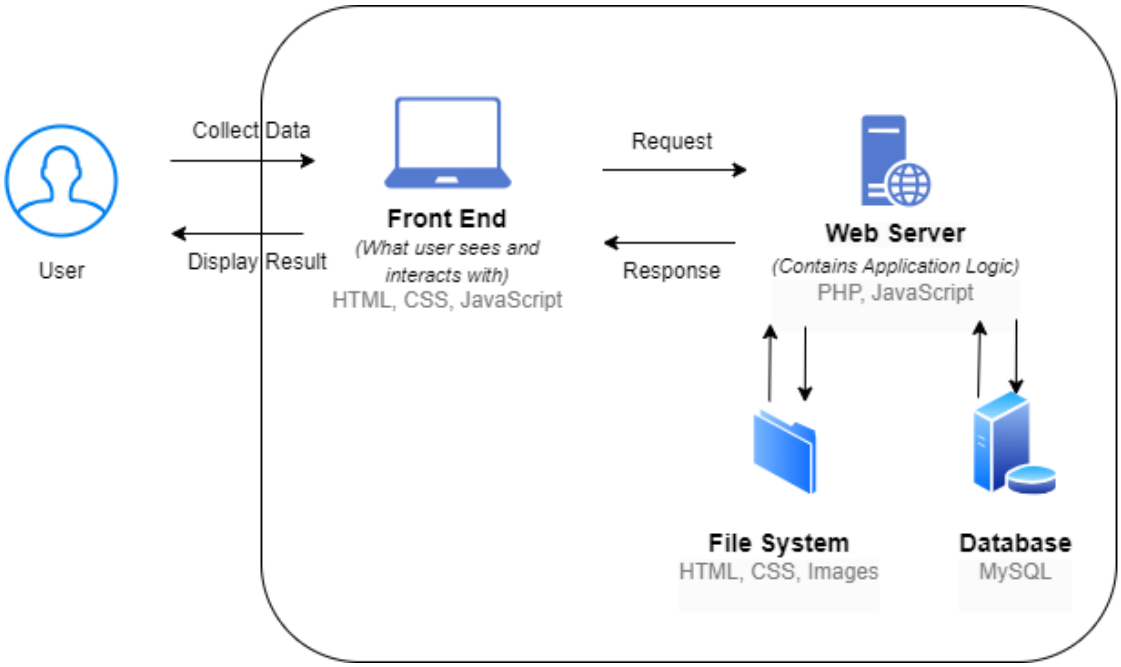

Figure 3.1.1: System Architecture Diagram

This diagram illustrates the basic structure of a web application, breaking it down into three primary components:

1. **Front End (Client-Side)**: This is what the user interacts with. It is composed of technologies like HTML, CSS, and JavaScript. The front end collects data from the user, sends it to the server, and displays the result of the server's response.
2. **Web Server (Back End)**: The web server handles the application logic and processes the user's requests. The server uses technologies like PHP and JavaScript for server-side scripting. Upon receiving a request from the front end, it processes the logic, retrieves or saves data, and sends back a response.
3. **Database and File System**: The web server interacts with the database (e.g., MySQL) and file system to store and retrieve information. The database holds

structured data (like user information), and the file system manages static assets such as HTML, CSS, and image files.

The process involves the user making a request via the front end, which is processed by the web server, and the necessary data is retrieved from either the file system or the database. The server then returns the result to the front end, which displays it to the user.

3.1.2 Use Case Diagram and Description

Figure 3.1.2: Use Case Diagram

This diagram represents the interaction between two types of users—**User** and **Admin**—within the **UTAR Event Management System**. It shows how both roles interact with different functionalities provided by the system.

User Interactions:

- **Sign Up/Sign In:** Users can create an account or log into their existing account.
- **Event Management:** Users can view upcoming events, filter events, register as either a helper or an attendee, receive notifications, view registered events, and set event reminders.
- **Profile and Feedback:** Users have access to their profile and can provide feedback after participating in events.

Admin Interactions:

- **Event Management:** Admins have the ability to add, modify, and delete events.
- **Data and Analytics:** Admins can retrieve attendee and helper lists, view user feedback, and perform advanced analysis such as sentiment analysis, participant graph analysis, and prediction of future participation using various analytical tools.

The diagram illustrates how users and admins perform different functions, with users focusing on event registration and participation, while admins handle event creation, management, and data-driven insights.

3.1.3 Activity Diagram

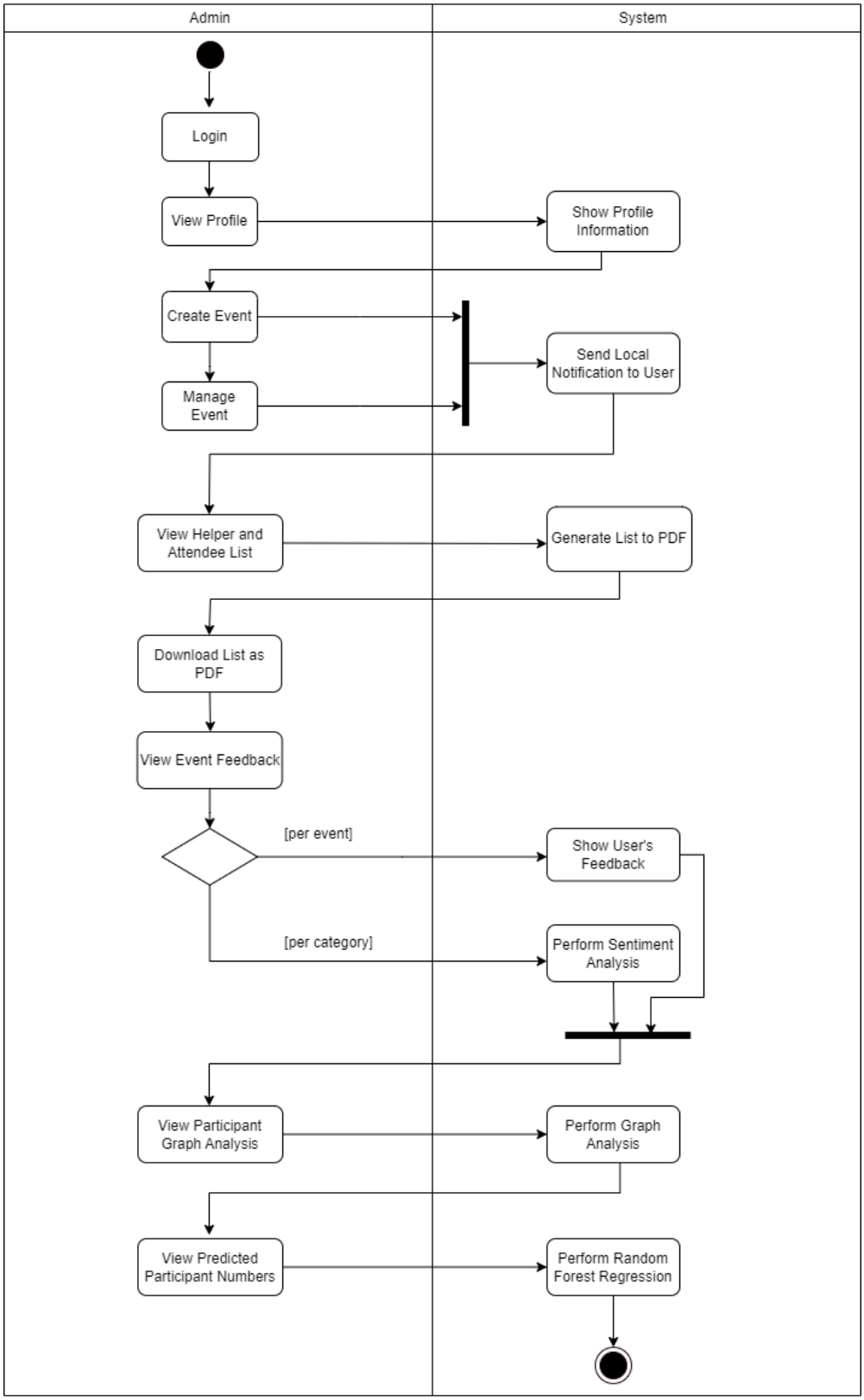

Figure 3.1.3.1: Activity Diagram (Admin)

This diagram illustrates the workflow for an **Admin** user interacting with an event management system. It represents a sequence of actions that the admin performs and how the system responds. The key processes are:

1. **Login and View Profile**: The admin logs in to the system and can view their profile, with the system displaying profile information.
2. **Create and Manage Events**: The admin can create events and manage them. Upon creating an event, the system sends notifications to users. The admin can also view lists of event helpers and attendees.
3. **Download Helper/Attendee List**: The admin has the option to download these lists in PDF format, which the system generates.
4. **View Event Feedback**: The admin can view feedback from users. This is analysed by the system through sentiment analysis. Based on this feedback, different types of analysis can be performed:
    - **Sentiment Analysis**: Feedback is categorized based on the event or specific feedback types.
    - **Graph Analysis**: Visual representations of event participation or other statistics.
    - **Random Forest Regression**: Predictive analytics are performed, possibly to forecast future participation trends.

The diagram depicts how the system supports the admin in managing events and analysing feedback through various data-processing and analysis tools.

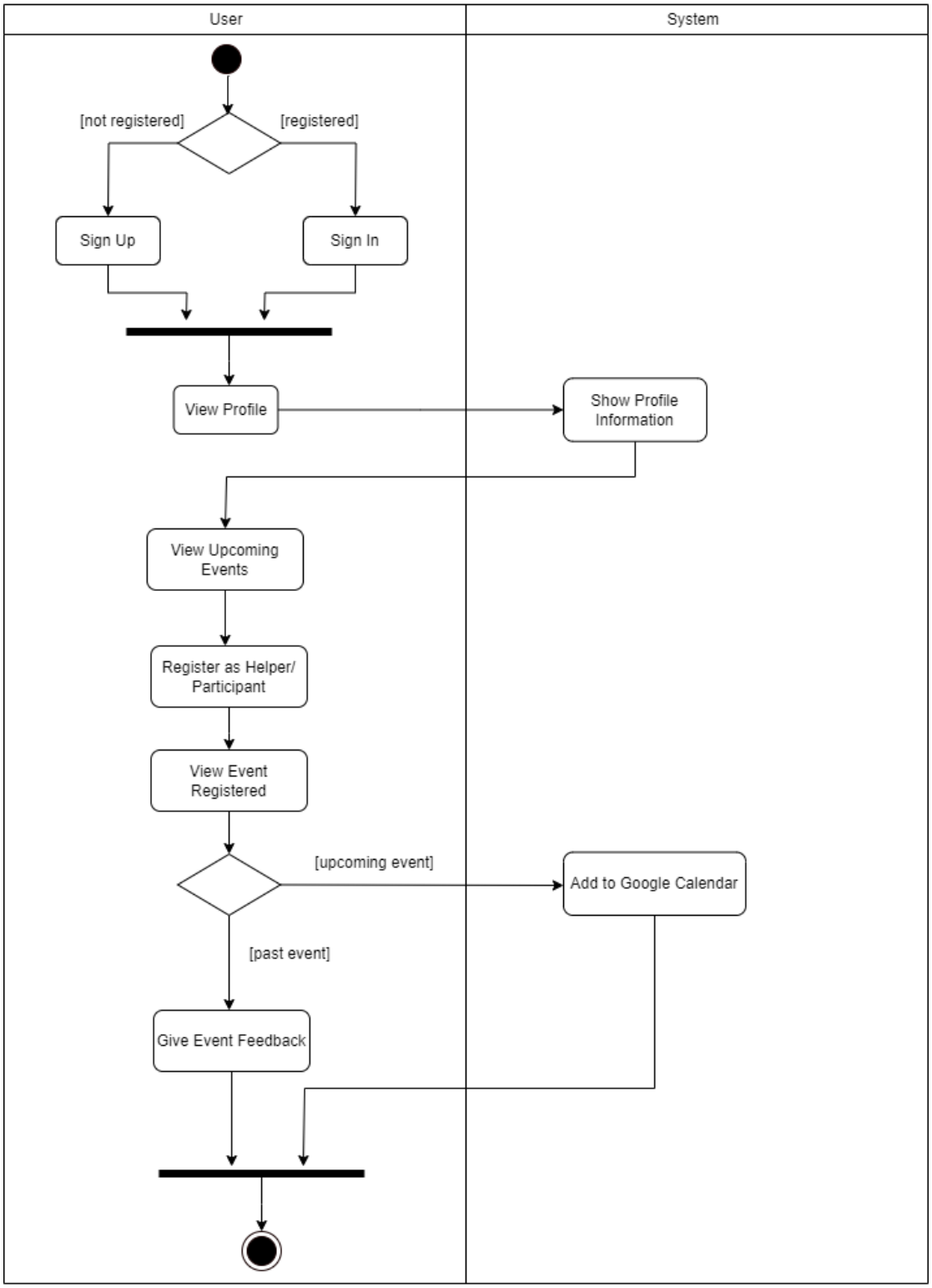

Figure 3.1.3.2: Activity Diagram (User)

This diagram illustrates the workflow for a general **User** interacting with an event management system. It represents a sequence of actions that the user performs and how the system responds. The key processes are:

User Registration and Login: The user begins by either signing up if they are new or signing in if they already have an account. The system verifies their credentials and provides access to their profile information.

View Profile: After logging in, the user can view their profile details. The system retrieves and displays this information.

View and Register for Events: The user can browse upcoming events and register as a helper or participant. The system logs the user's registration and ensures they are enrolled for the selected event.

Event Management: Once the user registers, they can view the details of the event they have signed up for. If it is an upcoming event, the system provides the option to add the event to the user's Google Calendar for easy tracking.

Provide Event Feedback: After attending the event, the user can submit feedback. The system collects this feedback for further analysis and potentially to improve future events.

The diagram shows how the system facilitates the user in managing their profile, registering for events, and providing feedback, while ensuring smooth interaction between the user and system at each stage.

CHAPTER 4: System Design Diagram

4.1 Entity Relationship Diagram (ERD)

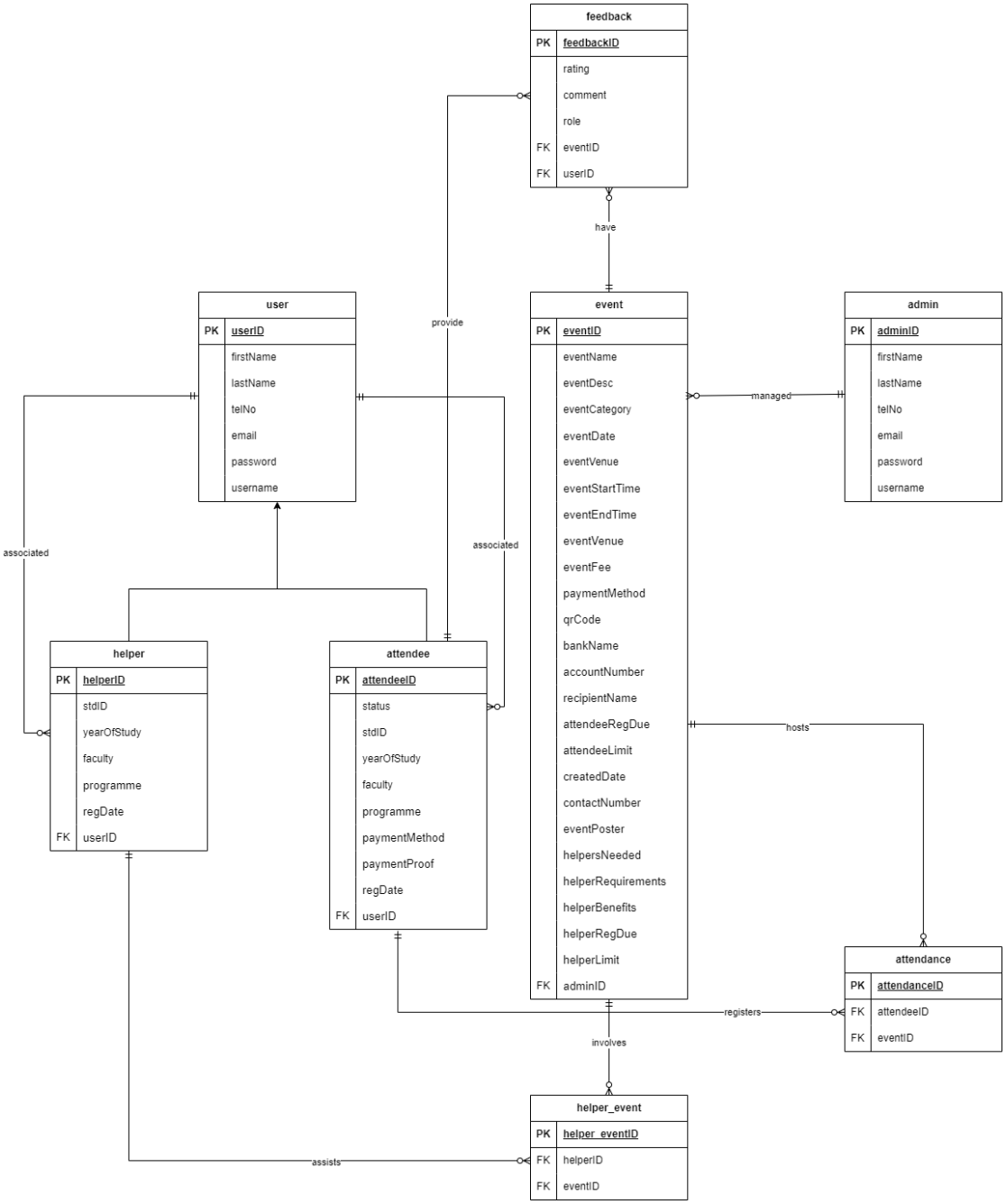

Figure 4.1: Entity Relationship Diagram (ERD)

The provided diagram is an Entity-Relationship Diagram (ERD) that visually represents the relationships between various entities in UTAR Event Management System. The system consists of entities such as user, admin, event, attendee, helper, attendance,

helper_event, and feedback. Each entity has a set of attributes, and primary keys (PK) are defined for uniquely identifying records within each entity.

- **Users** can be either attendees or helpers, and they are associated with events either as participants or assistants.
- **Admins** manage events and have attributes like personal details and login credentials.
- The event entity holds information about each event, including its details, venue, and requirements for attendees and helpers.
- **Feedback** is provided by users for specific events, and this feedback is linked back to the users and the events.
- The system tracks attendance and helper involvement through the attendance and helper_event entities, respectively.

This diagram outlines the structural blueprint of the UTAR Event Management System, detailing how different components of the system interact with each other to manage events, users, and feedback effectively.

4.2 Context Diagram

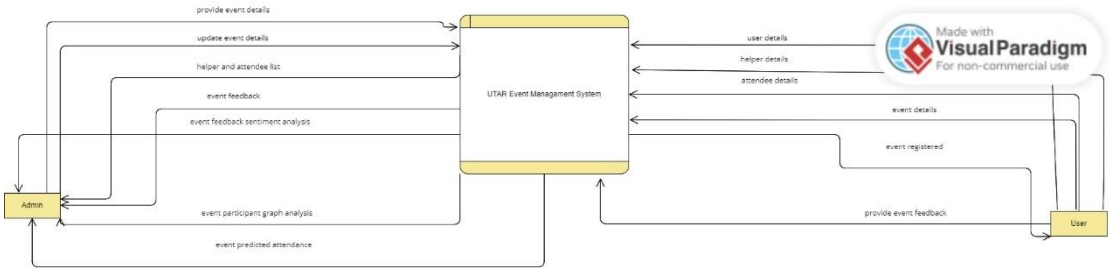

Figure 4.2: Context Diagram

This diagram illustrates the overall structure and interactions within the UTAR Event Management System. It highlights how the Admin and User roles interact with the central system. Admins provide and update event details, manage helper and attendee lists, and analyse event feedback through sentiment and participant graph analysis, including attendance predictions. Users, on the other hand, input user details, register for events as helpers or attendees, and provide feedback after events. The system acts as the core processor, managing all event-related data and facilitating smooth

communication and operations between the Admin and User, ensuring effective event organization and analysis.

4.3 Data Flow Diagram (DFD) Level 1

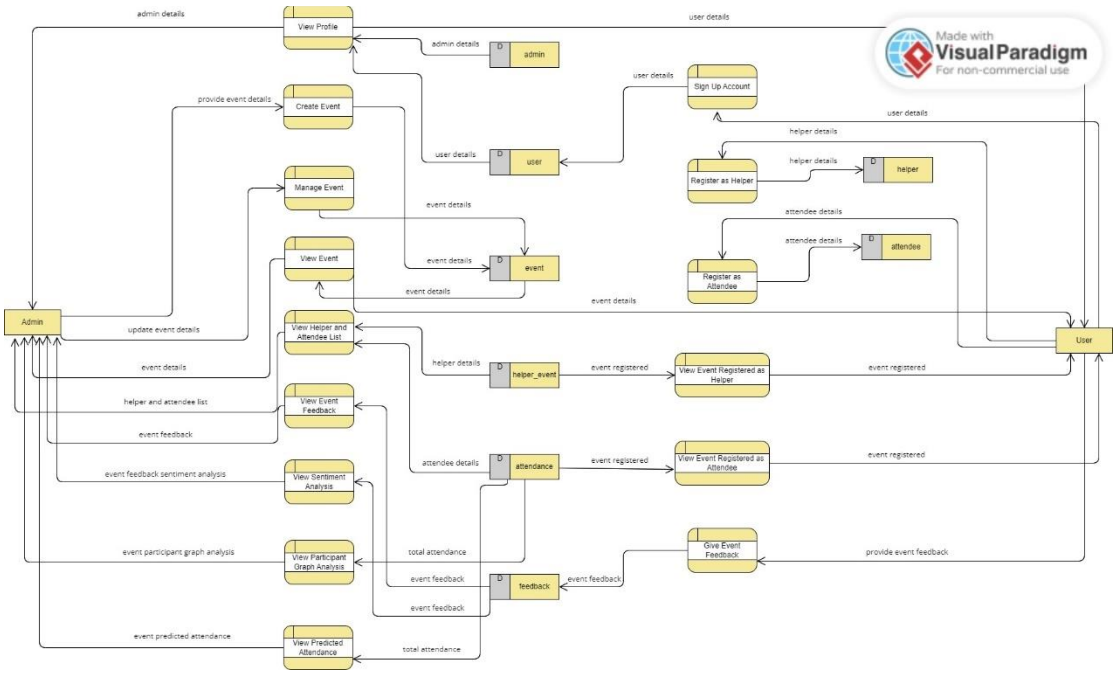

Figure 4.3: Data Flow Diagram (DFD) Level 1

This diagram outlines the interactions between different roles—Admin, User, Helper, and Attendee—showcasing key processes such as event creation, management, and participation. The admin oversees event creation, management, and analysis, with the ability to view helper and attendee lists, perform sentiment analysis on event feedback, and predict attendance using participant graph analysis. Users can sign up, register as helpers or attendees, view available events, and provide feedback, which then feeds into the system's analytics tools for deeper insights. Helpers and attendees have designated registration flows, linking them to specific events. The feedback loop informs both event sentiment and attendance trends, supporting the admin in optimizing future events. The diagram highlights how data moves between these roles and processes, illustrating an efficient system for organizing, participating in, and analysing events.

CHAPTER 5: System Implementation

5.1 Hardware Setup

Laptop

A conventional desktop or laptop computer will serve as the primary development machine for coding, testing, and debugging the web application. The installation of XAMPP on the development machine will establish a local server environment specifically designed for the purposes of testing and development. This environment comprises the Apache HTTP Server, MariaDB (MySQL), and interpreters for PHP and Perl. The local server environment allows developers to simulate the production environment locally without the need for internet connectivity.

Table 5.1 Specifications of laptop

Description	Specifications
Model	OMEN by HP Laptop 15-dc0xxx
Processor	Intel(R) Core (TM) i7-8750H CPU @ 2.20GHz 2.21 GHz
Operating System	Windows 11
Graphic	NVIDIA GeForce GTX 1050
Memory	4GB DDR4 RAM
Storage	1TB HDD

5.2 Software Setup

XAMPP

XAMPP is a free and open-source solution stack package for web servers that is compatible with multiple operating systems. Created by Apache Friends, it includes the Apache HTTP Server, MariaDB database, and interpreters for PHP and Perl. XAMPP

offers a localized server environment well-suited for the development and testing of web applications before deployment to a production server [8].

MySQL

MySQL is a widely used open-source relational database management system (RDBMS) that provides a scalable and reliable database for storing and managing structured data. Its exceptional performance, user-friendly interface, and robust security features make it ideal for handling event-related data in web applications [10].

Microsoft Visual Studio

Microsoft Visual Studio is an integrated development environment (IDE) created by Microsoft for Windows operating systems. It supports a wide range of programming languages and offers tools for code editing, debugging, version control, and project management. This makes it particularly useful for frontend development using HTML, CSS, and JavaScript.

Python and Flask

Python, a versatile programming language, was integrated into the system to perform tasks like sentiment analysis and participant number prediction. The Flask micro-framework was utilized to create APIs that handle these tasks, offering a lightweight yet powerful solution for extending the functionality of the core web application. Flask's simplicity and ease of integration with Python's extensive library ecosystem make it a valuable addition to the development environment.

5.3 Setting and Configuration

Server Configuration

The local server for the UTAR Event Management System was configured using XAMPP, a cross-platform web server solution. The key configurations included:

- **Apache HTTP Server:** The Apache server was configured to handle multiple concurrent connections. Adjustments to the httpd.conf file optimized server performance, such as increasing MaxClients and KeepAlive settings to efficiently manage multiple requests.
- **MySQL Database:** The MySQL configuration included setting up the database schema to store user data, event details, and feedback. The my.ini file was adjusted for optimal database performance, including modifications to buffer sizes and query cache settings.
- **PHP Configuration:** The php.ini file was customized to meet the application's needs, such as increasing the maximum file upload size to accommodate large files like event posters, and adjusting the memory limit to support complex operations.
- **Flask API Setup:** Python’s Flask framework was set up to run alongside XAMPP, handling tasks such as sentiment analysis and participant number predictions. The Flask server was configured to communicate with the main application via RESTful APIs, ensuring seamless integration of these advanced features.

Database Configuration

The database setup involved several key configurations to ensure data integrity, security, and performance:

- **Database Schema:** The schema was designed with normalized tables to manage different types of data, such as user profiles, events, and attendance records. Foreign keys were implemented to maintain relational integrity between tables.
- **User Privileges:** MySQL user accounts were created with specific privileges to ensure only authorized users could access and modify the database. A root user with full privileges was established, along with additional users who have limited access based on their roles.
- **Backup and Recovery:** Regular backups were scheduled using MySQL's mysqldump utility to safeguard data. A daily backup routine was implemented to minimize the risk of data loss.

Network and Security Settings

Security was a critical aspect of the configuration process to protect the system against potential threats:

- **Data Encryption:** Sensitive data, such as user passwords, was encrypted using hashing algorithms before being stored in the database. PHP's password_hash() function was employed to ensure that user credentials are securely stored.
- **API Security:** The Flask API was secured using token-based authentication to prevent unauthorized access. This was crucial for protecting the data exchanged between the frontend, backend, and the APIs.

5.4 System Operation (with Screenshot)

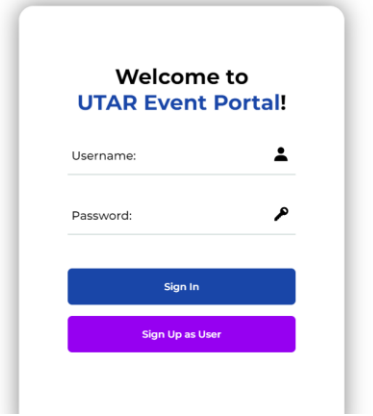

Figure 5.4.1: Sign In Interface

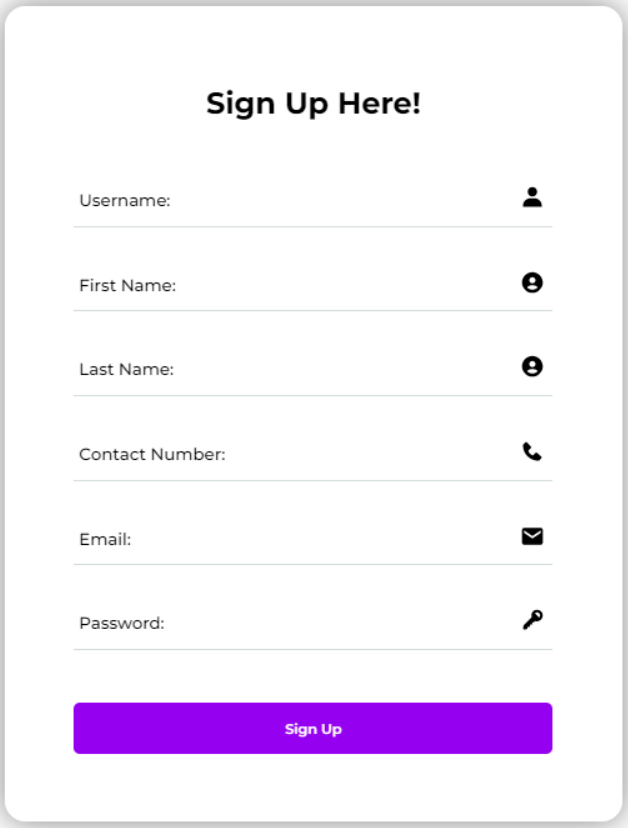

Figure 5.4.2: User Sign Up Interface

Users are first presented with a sign-in interface, as shown in Figure 5.4.1. For users who do not yet have an account, they can sign up as a new user. The registration process requires users to enter personal information to create an account. The system will verify the email address; if the email already exists, an error message will prompt the user to input a different one. This ensures that each user can only have one account. For password security, the system requires a complex password with at least 8 characters, including one uppercase letter, one lowercase letter, and other criteria to enhance security.

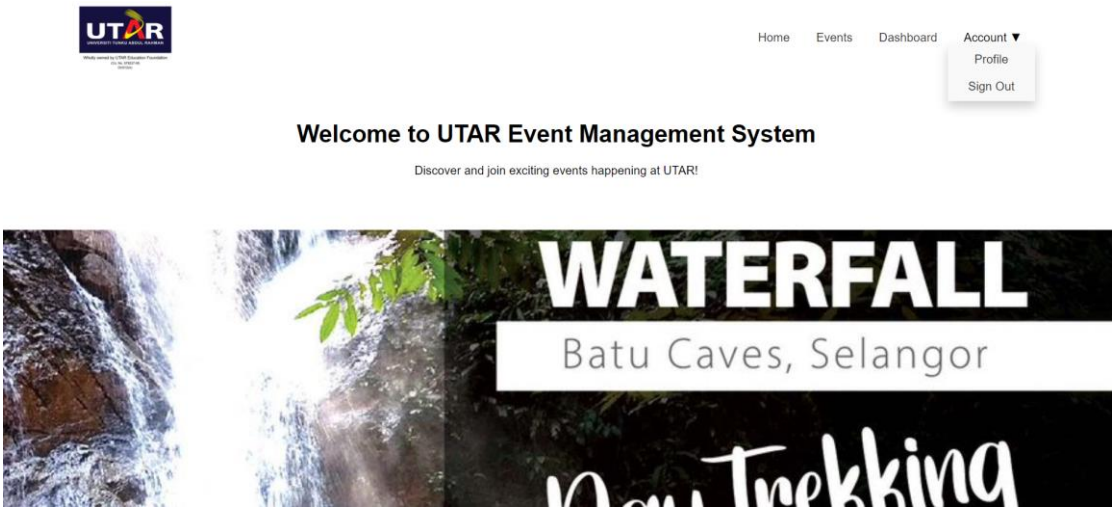

Figure 5.4.3: Home Page Interface 1

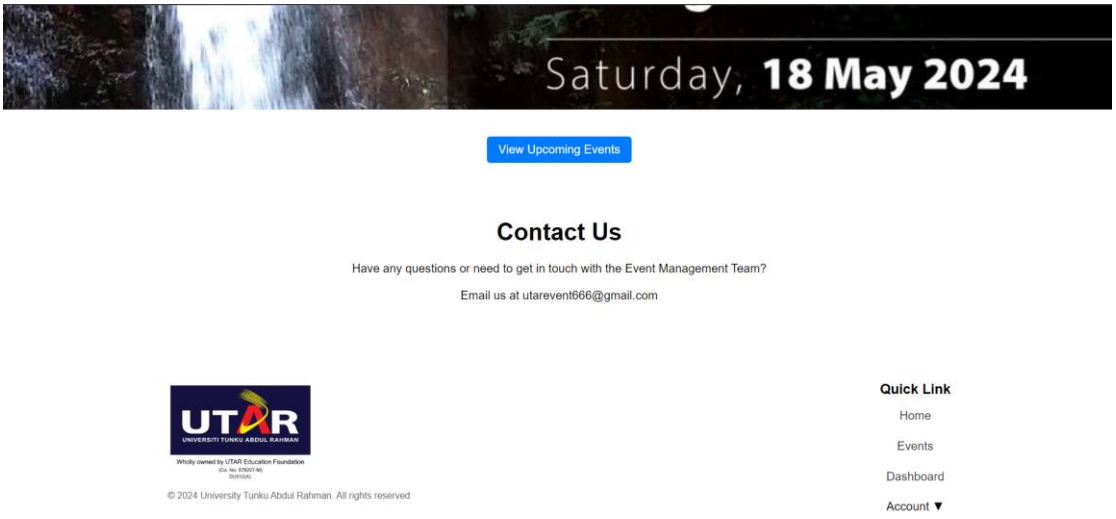

Figure 5.4.4: Home Page Interface 2

After successfully logging in, users are taken to the home page, which displays an event poster slider along with a button leading to the upcoming events page. The home page also provides contact information for easy communication.

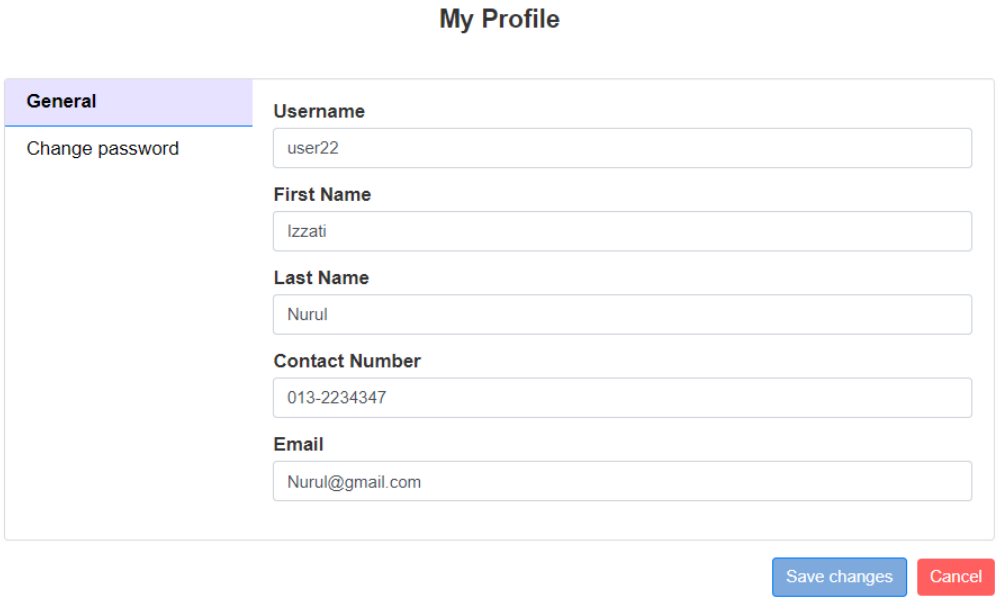

Figure 5.4.5: Profile Interface 1

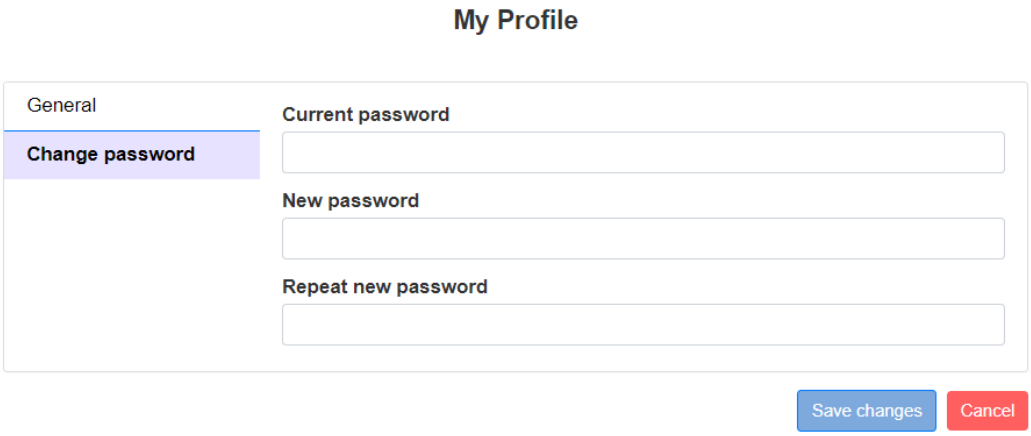

Figure 5.4.6: Profile Interface 2

The profile page displays all of the user's profile information. Users can update their details here and change their password if needed.

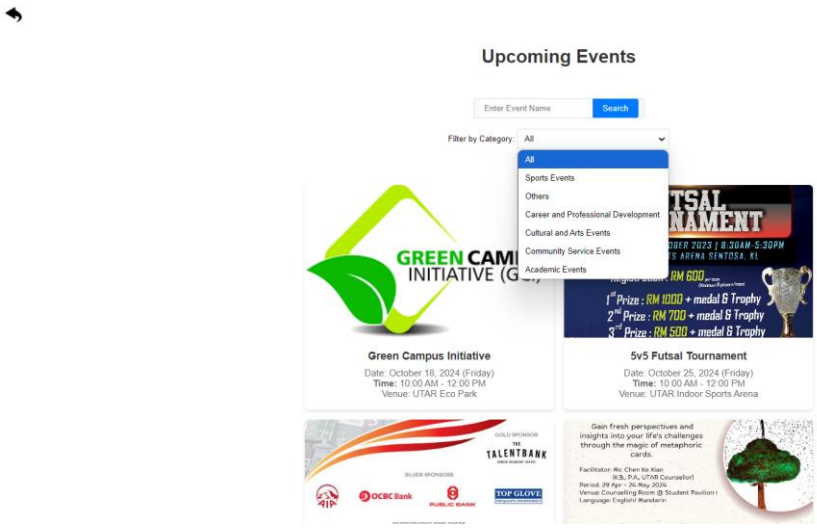

Figure 5.4.7: Upcoming Events Interface

The upcoming events page shows events in ascending order by date. Users can filter events by category or search for an event by name, making it easier to find specific events.

Figure 5.4.8: Event Details Interface

On the event details page, users can view event information and have the option to register as a helper or a participant.

Figure 5.4.9: Helper Registration Form

The helper registration form displays helper requirements, benefits, registration deadlines, and contact information. Users need to fill in their details to register.

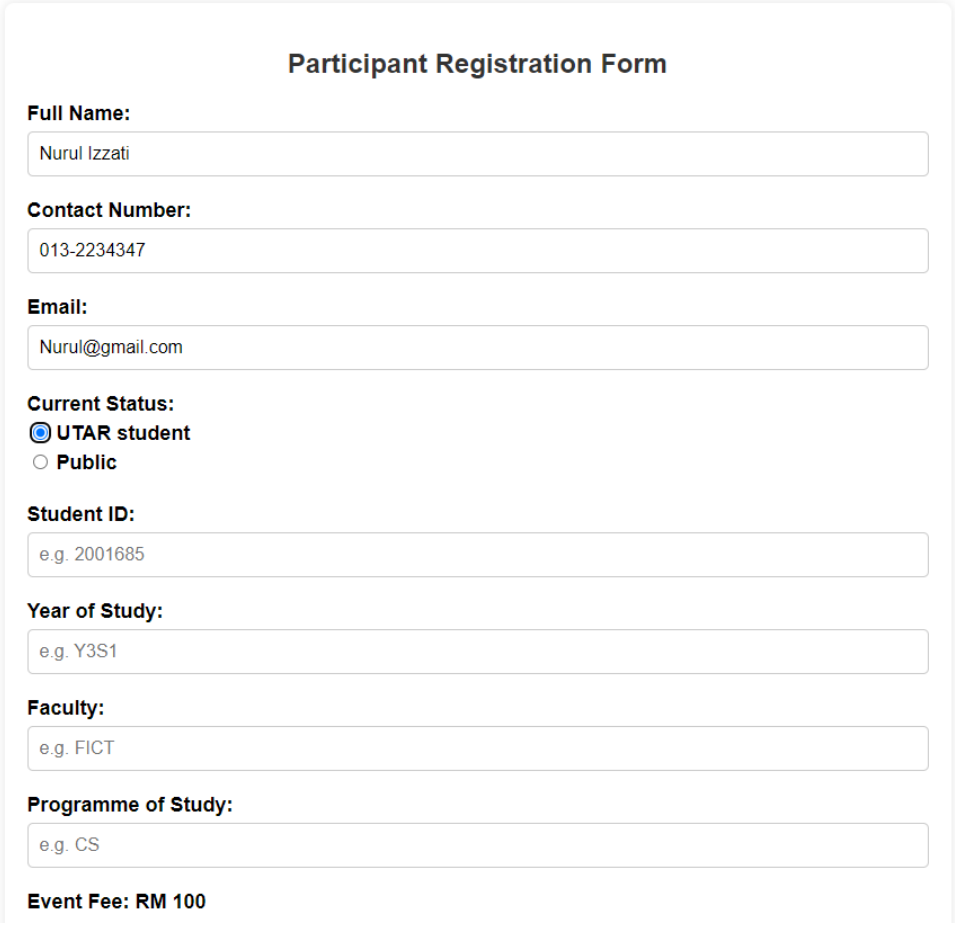

Figure 5.4.10: Participant Registration Form

The participant registration form requires users to select their current status, either as a public attendee or a UTAR student. If they are students, they must also provide their student details.

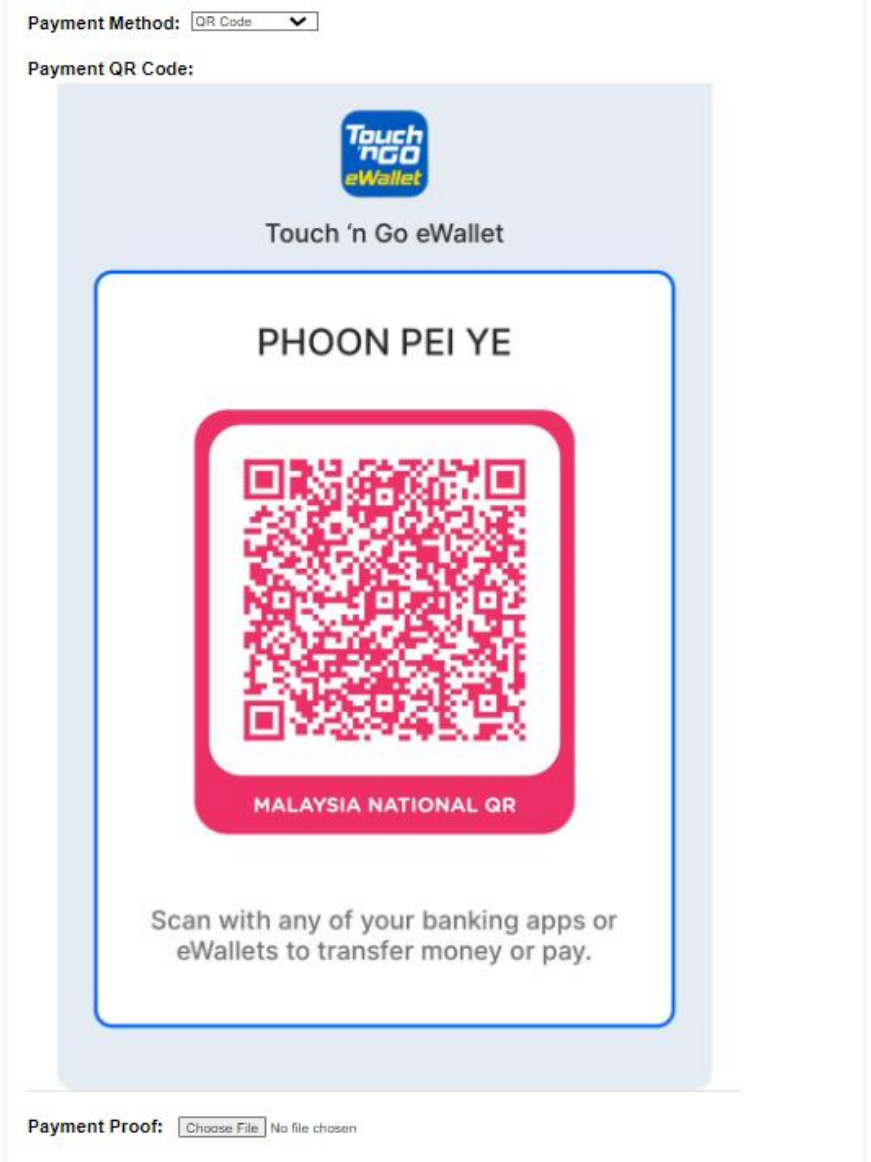

Figure 5.4.11: Display of Payment QR Code for QR Code Payment Option

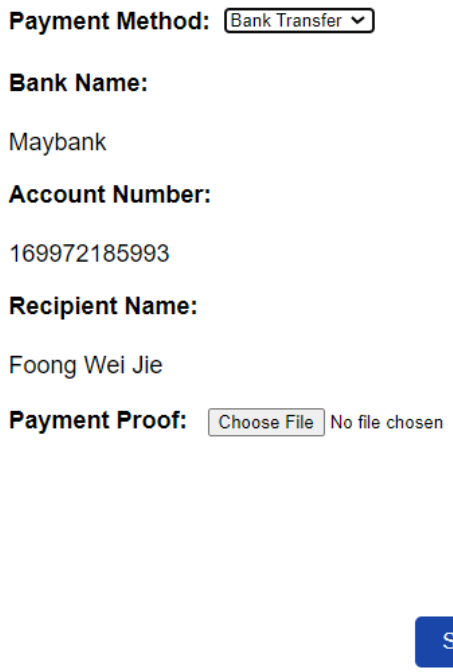

Figure 5.4.12: Display of Bank Details for Bank Transfer Payment Method

During the registration process, users can select their preferred payment method for event fees. If they choose QR code payment, a Touch 'n Go code will be displayed for payment. If they select bank transfer, the relevant bank details will be provided. Users must upload their payment proof before they can proceed.

Description:

Get ready for an action-packed weekend of basketball! Join us on the courts at Grand Kampar Sports Complex for the most exciting 3x3 basketball tournament of the year!

Date: January 30, 2025 (Thursday)
Time: 06:00 PM - 08:00 PM
Category: Sports Events
Venue: Grand Kampar Sports Complex
Fee: RM 100
Attendee Registration Deadline: January 10, 2025 (Friday) 11:59 PM
Attendee Limit: 30
Contact Number: 016-7728785

You are already registered as a participant for this event.

Figure 5.4.13: Displaying Successfully Registered Message

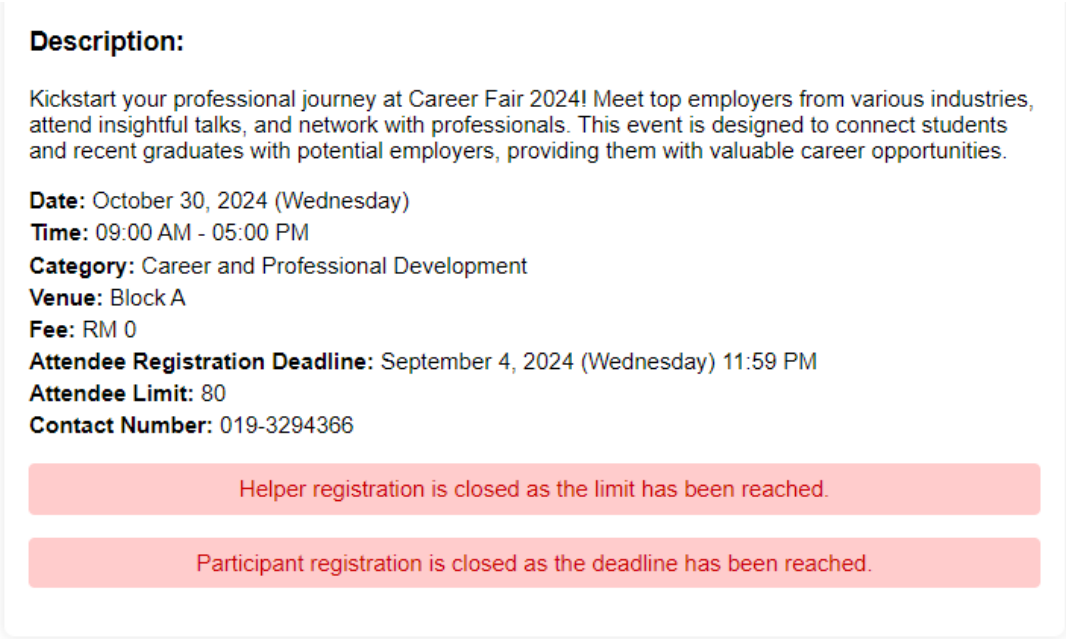

Figure 5.4.14: Displaying Registration Closed Message

After successfully registering as a participant or helper, the system displays a confirmation message under the event details. If the limit for helpers or participants has been reached, the system will automatically calculate and display a message indicating that the registration limit has been met. The system will also notify users when the registration deadline for participants or helpers has passed.

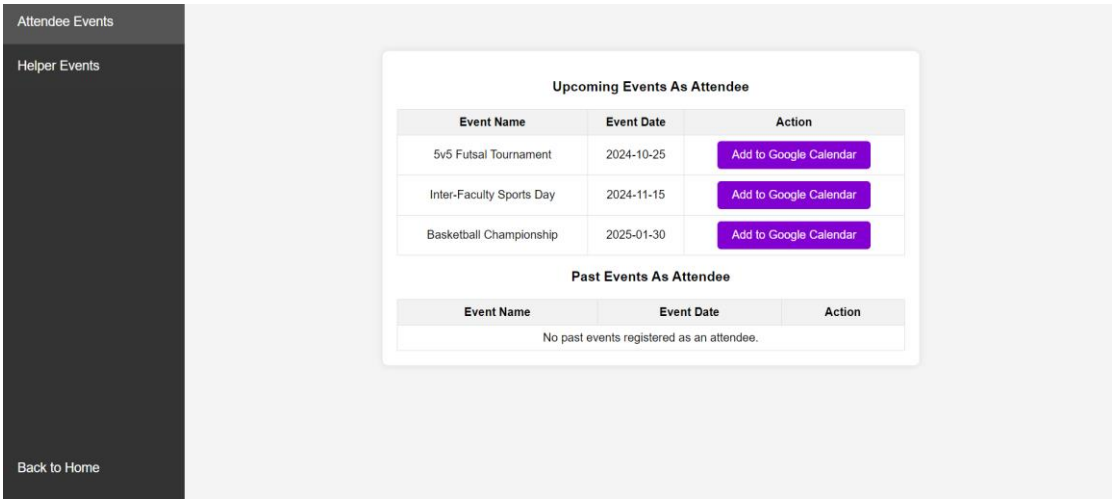

Figure 5.4.15: Attendee Event Interface

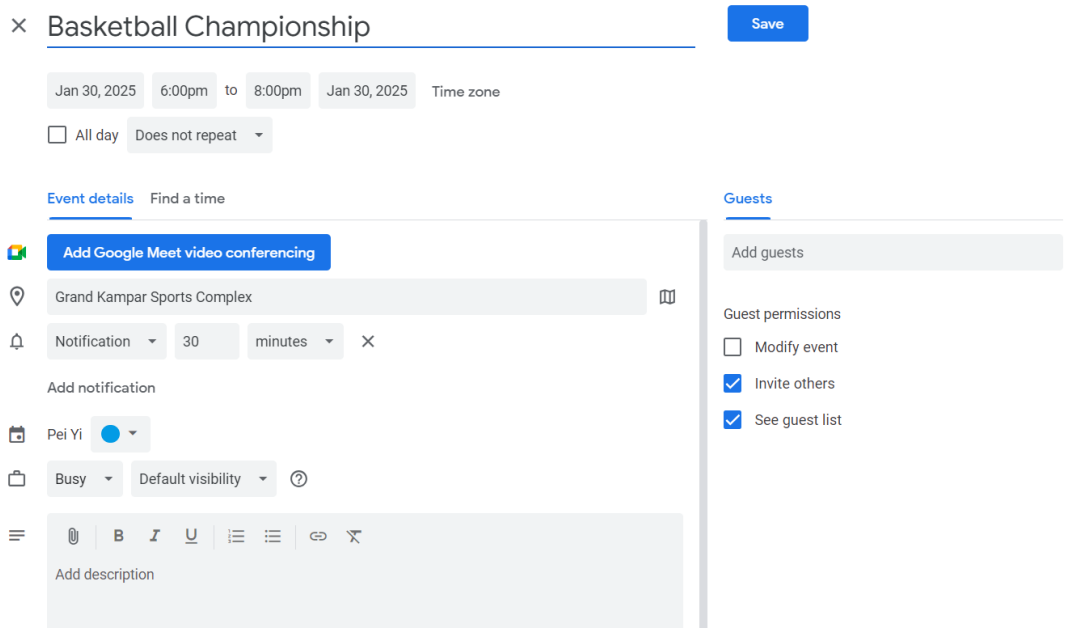

Figure 5.4.16: Add Event to Google Calendar Interface

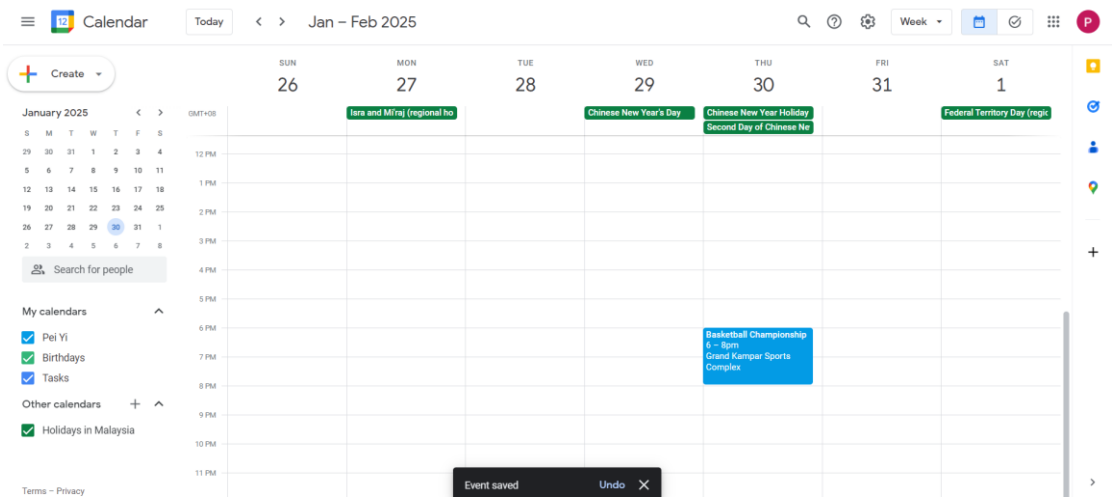

Figure 5.4.17: Event Reminder Added to Google Calendar

The user dashboard shows both upcoming and past events the user has attended. Users can add upcoming events to their Google Calendar by clicking a button, which automatically fills in the event information. Once saved, the event will appear in the user's Google Calendar.

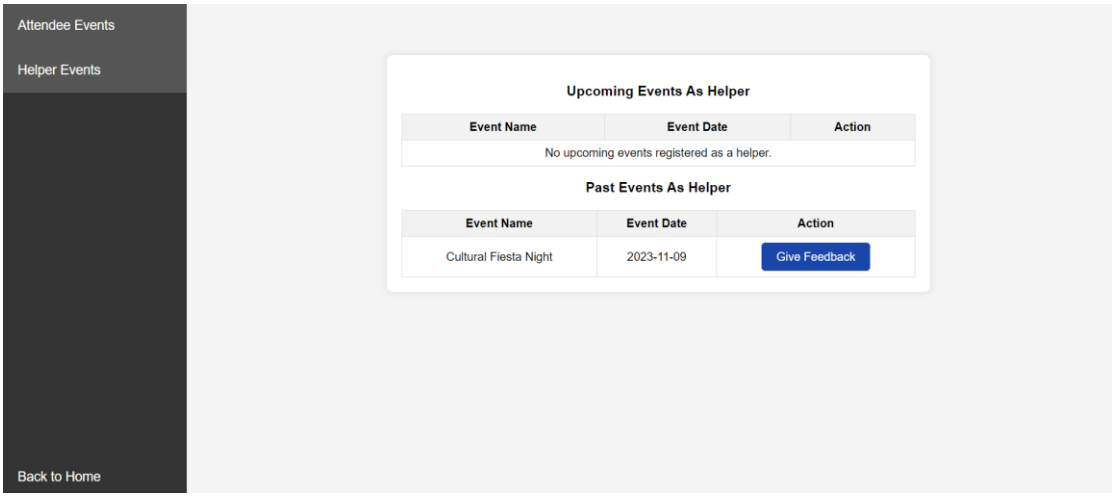

Figure 5.4.18: Helper Event Interface

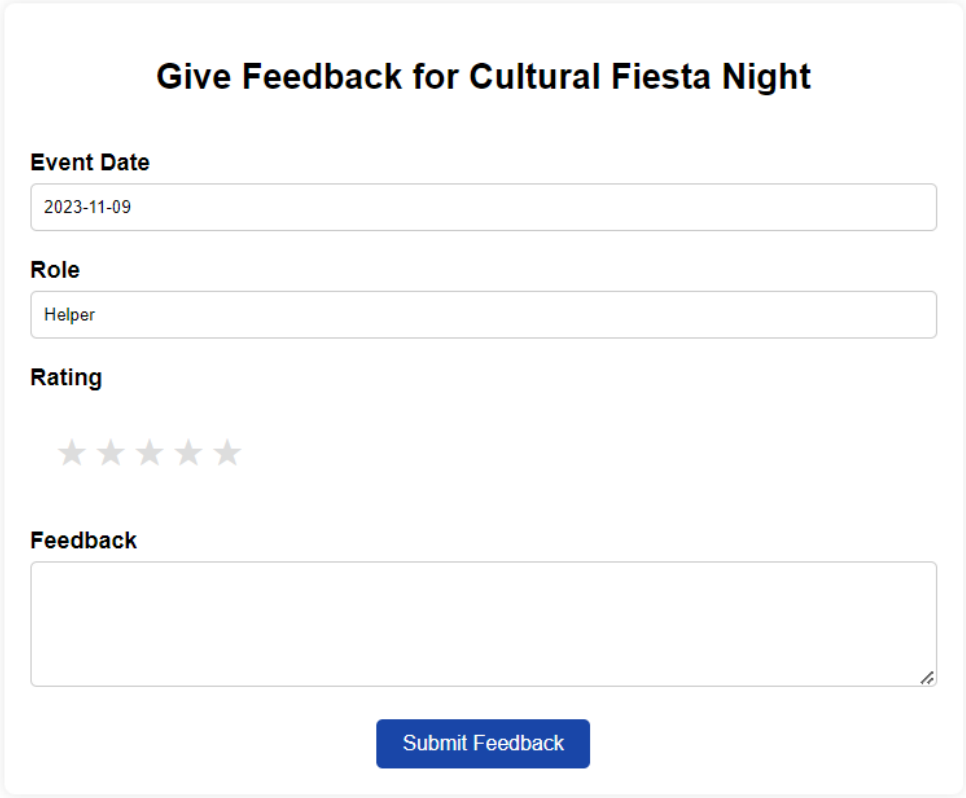

Figure 5.4.19: Give Feedback Interface

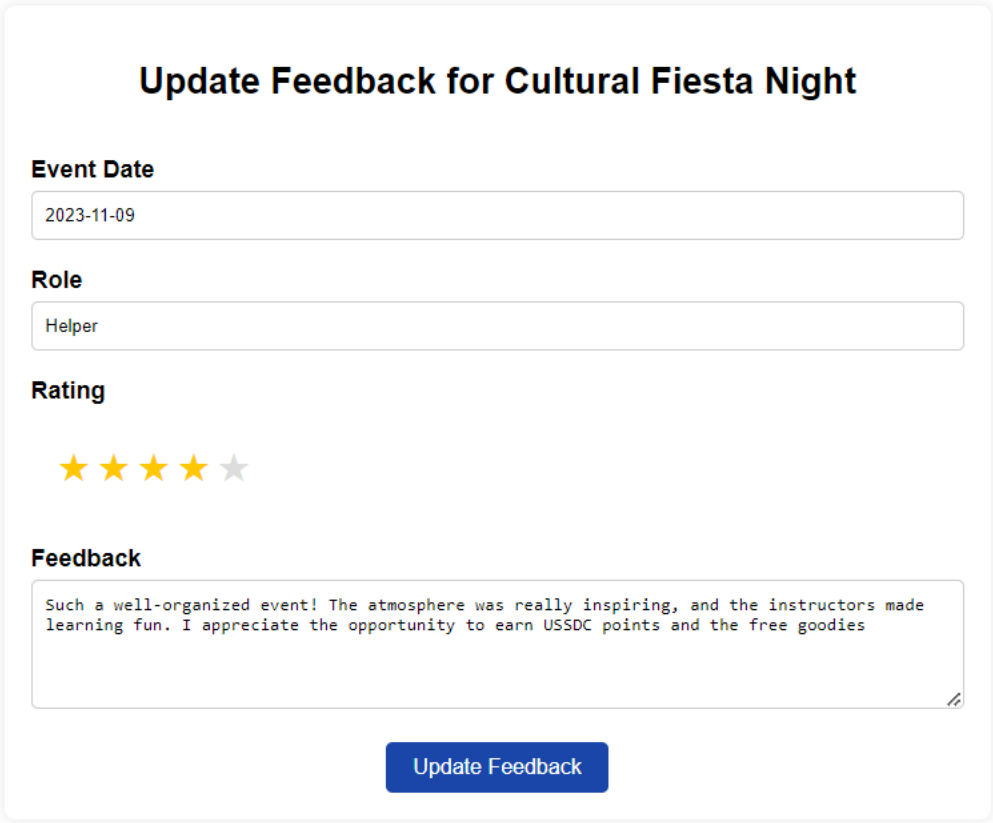

Figure 5.4.20: Update Feedback Interface

For past events, they can provide feedback by rating the event and leaving comments. Users can also update their feedback if necessary.

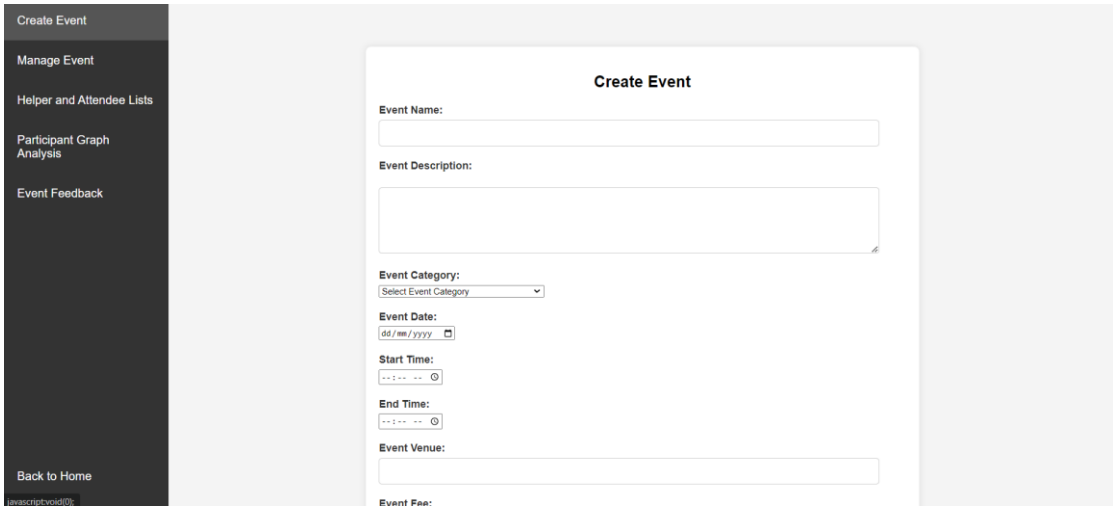

Figure 5.4.21: Create Event Interface

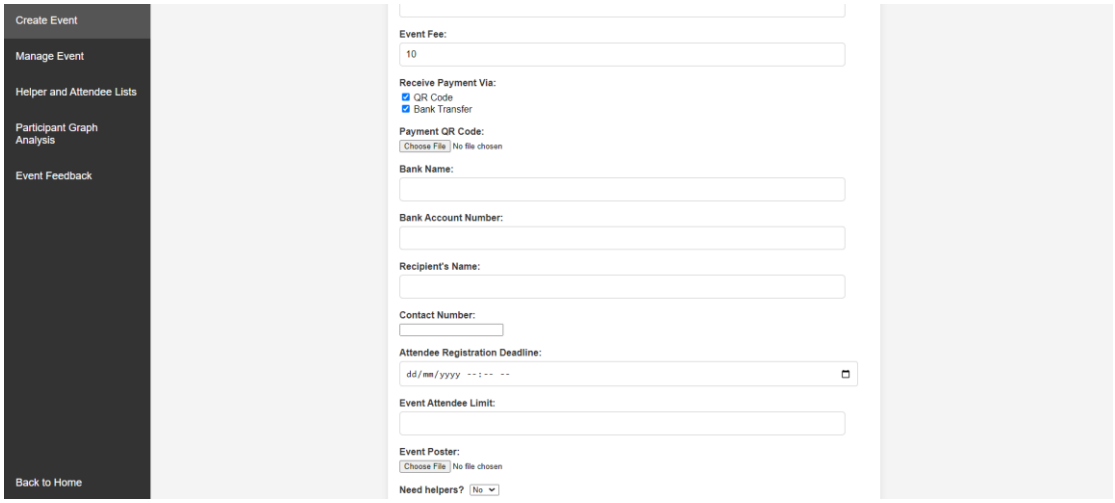

Figure 5.4.22: Displaying Payment Options for Events with Non-Zero Fees

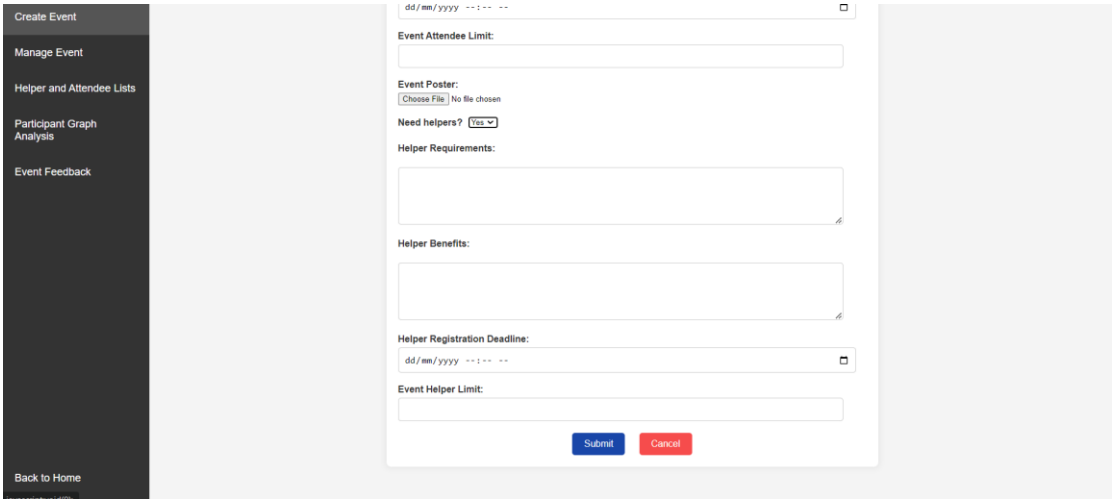

Figure 5.4.23: Input Fields Displayed for Events Requiring Helpers

The admin dashboard includes a form to create events. If an event fee is more than 0, the system will display options to receive payment via QR code, bank transfer, or both, and the admin must provide the payment method details. Admins can also specify whether the event requires helpers, and if so, they must fill in the relevant helper information. The system performs data validation, ensuring that event dates do not exceed six months from the current date and that registration deadlines for attendees and helpers are before the event date.

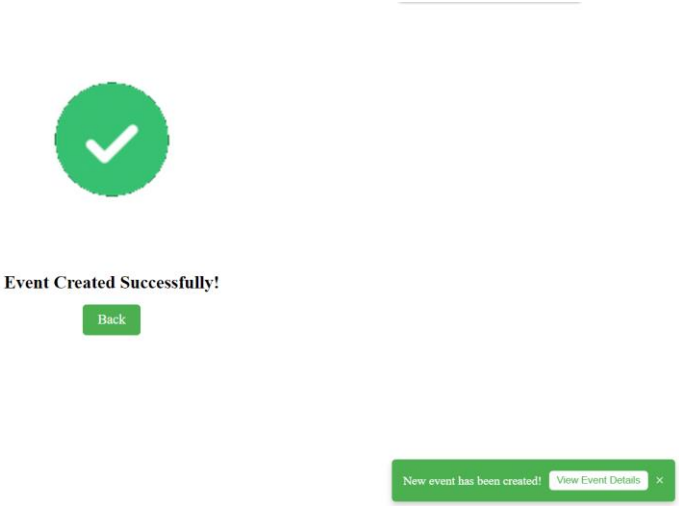

Figure 5.4.24: Event Created Notification

Figure 5.4.25: Event Created Details

The system displays local notifications to users when an event is created, allowing them to click the notification to view event details so that they can quickly access important information and stay informed about new events.

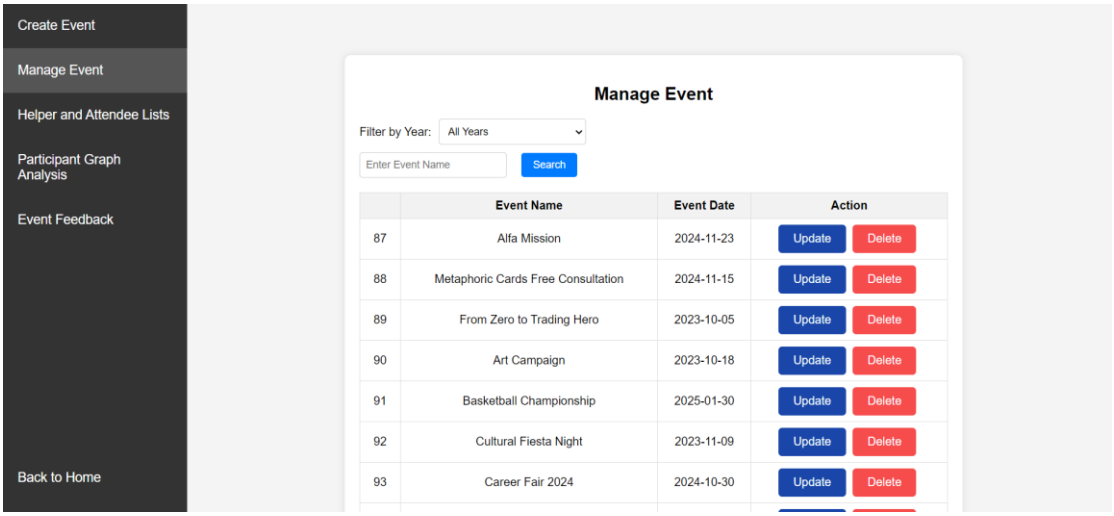

Figure 5.4.26: Manage Event Interface

Admins can manage events by updating or deleting them. They can also filter events by year and search for specific event names in the search box to make event management easier.

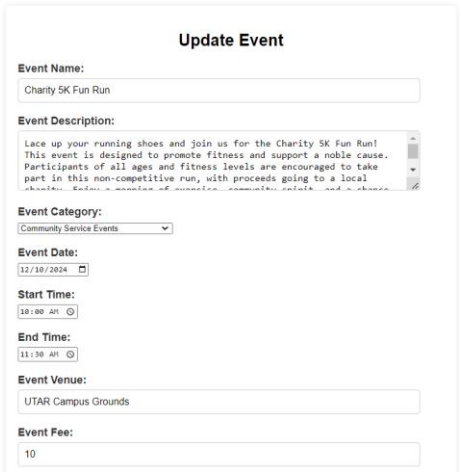

Figure 5.4.27: Update Event Interface

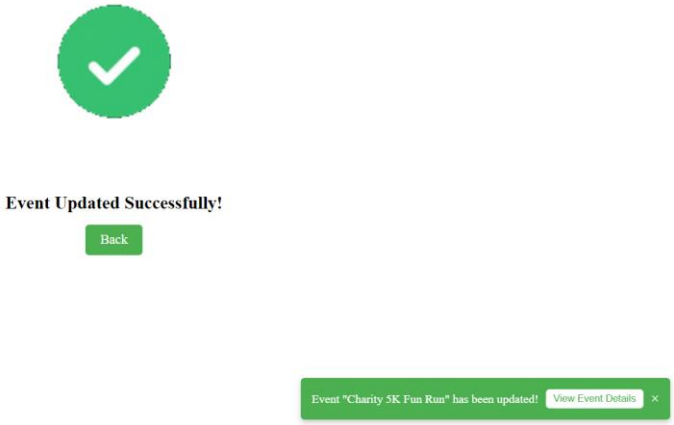

Figure 5.4.28: Event Updated Notification

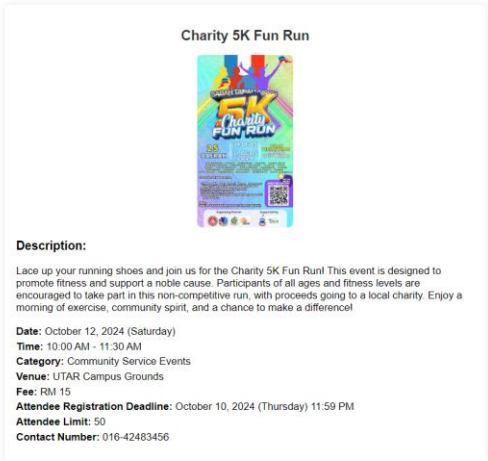

Figure 5.4.29: Updated Event Details

When an admin successfully updates an event, the system will display a local notification to users. Users can click on the notification to view the updated event details, ensuring they are kept informed.

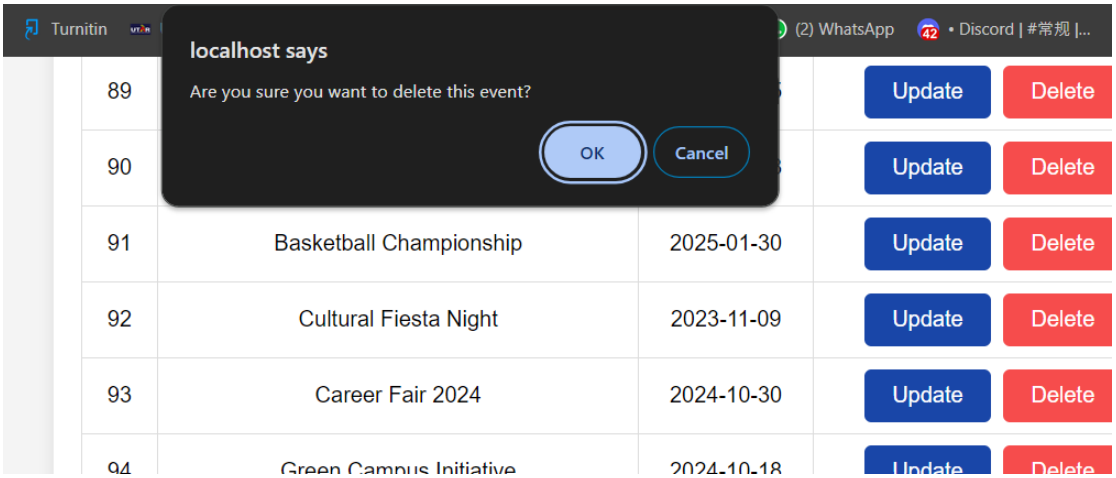

Figure 5.4.30: Confirmation Prompt for Event Deletion

Deleting an event triggers a confirmation prompt to prevent accidental deletions, as shown in Figure 5.4.30.

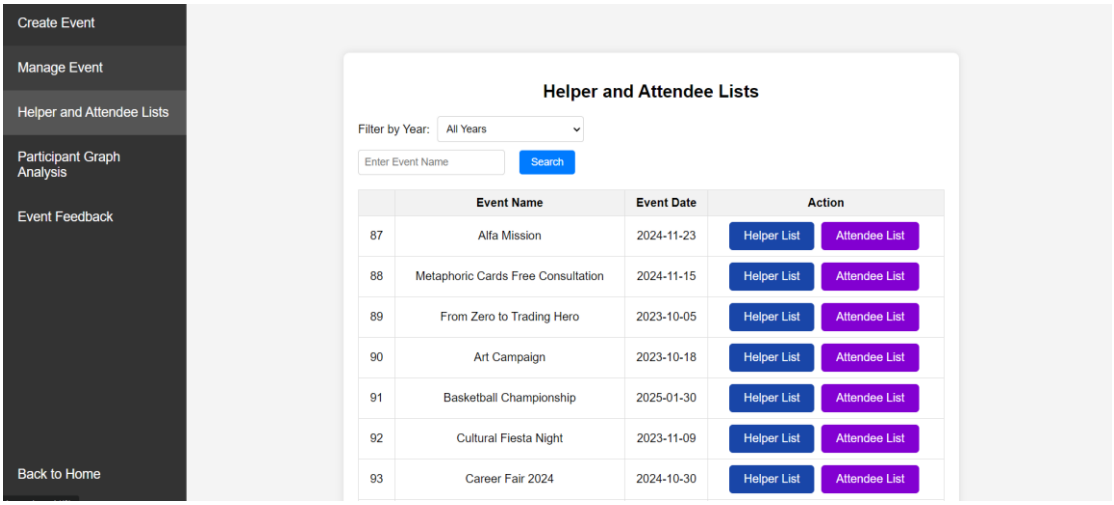

Figure 5.4.31: Helper and Attendee Lists Interface

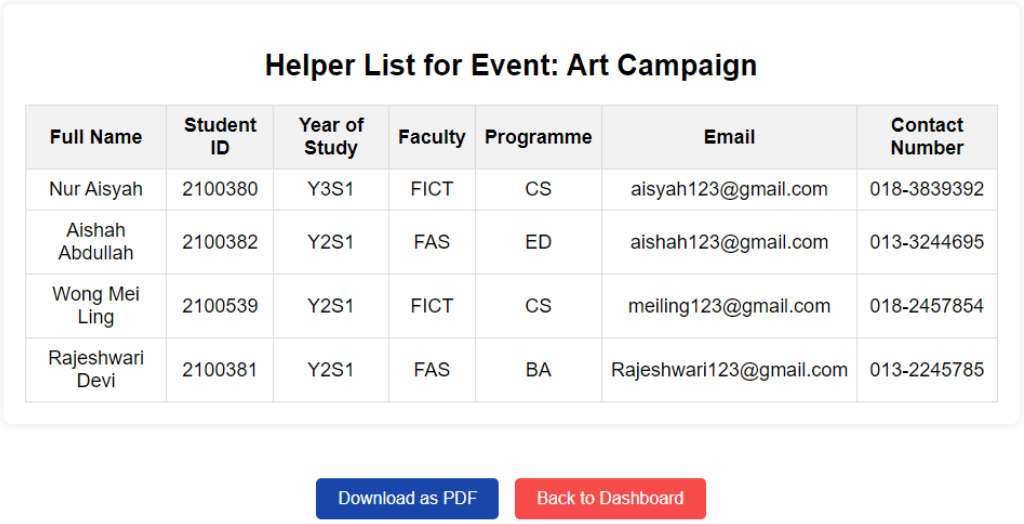

Figure 5.4.32: Helper List

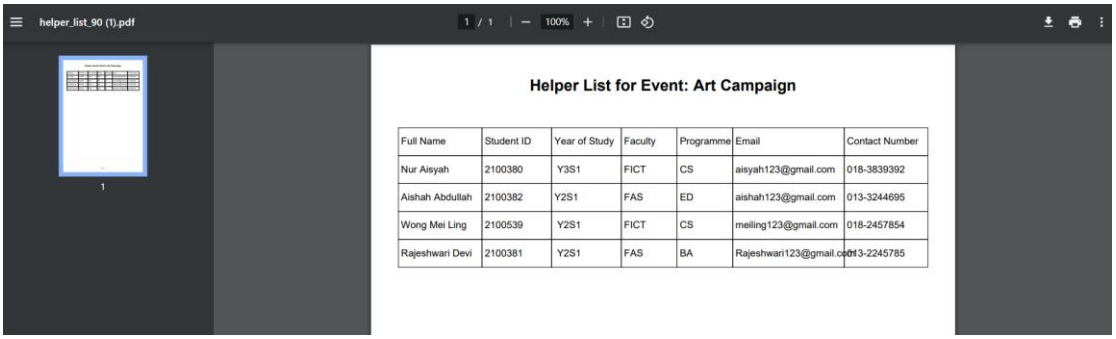

Figure 5.4.33: Helper List in PDF

Attendee List for Event: Art Campaign

Full Name	Student ID	Year of Study	Faculty	Programme	Email	Contact Number
Ahmad Zulkifli	2100539	Y3S1	FICT	CS	ahmad123@gmail.com	011-21855595
Lim Wei Sheng	N/A	N/A	N/A	N/A	weisheng123@gmail.com	012-3342442
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Tan Siew Ling	N/A	N/A	N/A	N/A	tan123@gmail.com	017-4234517
Muhammad Irfan	N/A	N/A	N/A	N/A	irfan123@gmail.com	011-22394756

Download as PDF Back to Dashboard

Figure 5.4.34: Attendee List

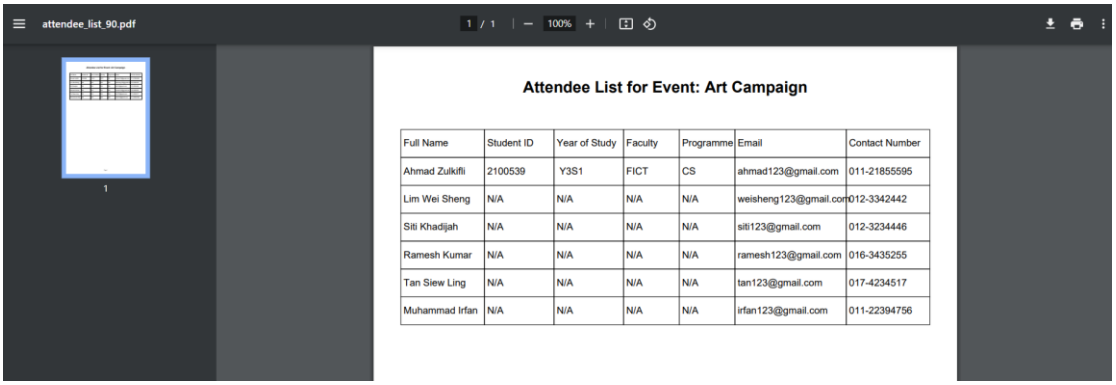


Figure 5.4.35: Attendee List in PDF

Admins can view the list of helpers and attendees for each event, making tracking easier. They can download these lists as PDFs using the FPDF library, which is useful for sharing with others or printing.

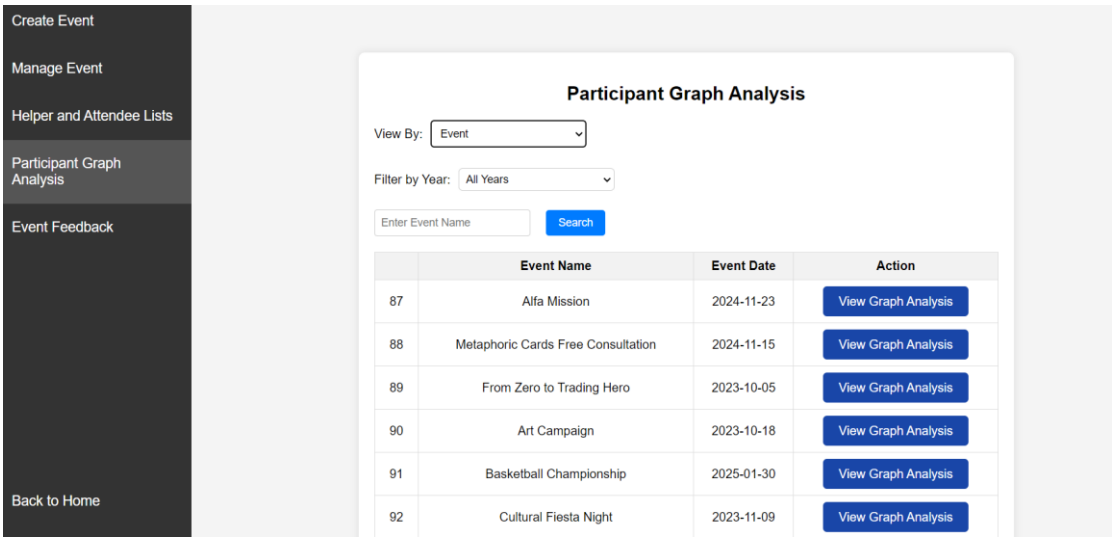


Figure 5.4.36: Event Graph Analysis Interface

Figure 5.4.37: Event Graph Analysis

The participant graph analysis feature allows users to view data by individual events or by event categories. When viewing by event, the graph displays the number of participants from different faculties, providing admins with insights into which faculties show the most or least interest in specific events. This information can be leveraged to better plan future events and target promotions effectively. The data for this analysis is extracted from the "attendance" table in the database, which records participant information for each event. This functionality is implemented using the Chart.js library, enabling a visual representation of the participation trends that helps in strategic decision-making.

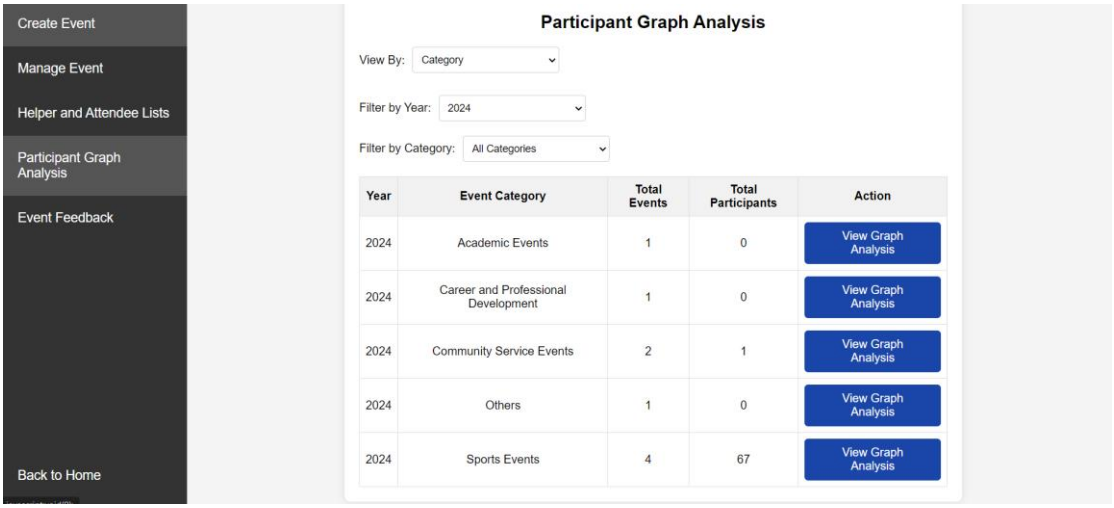


Figure 5.4.38: Event Category Graph Analysis Interface

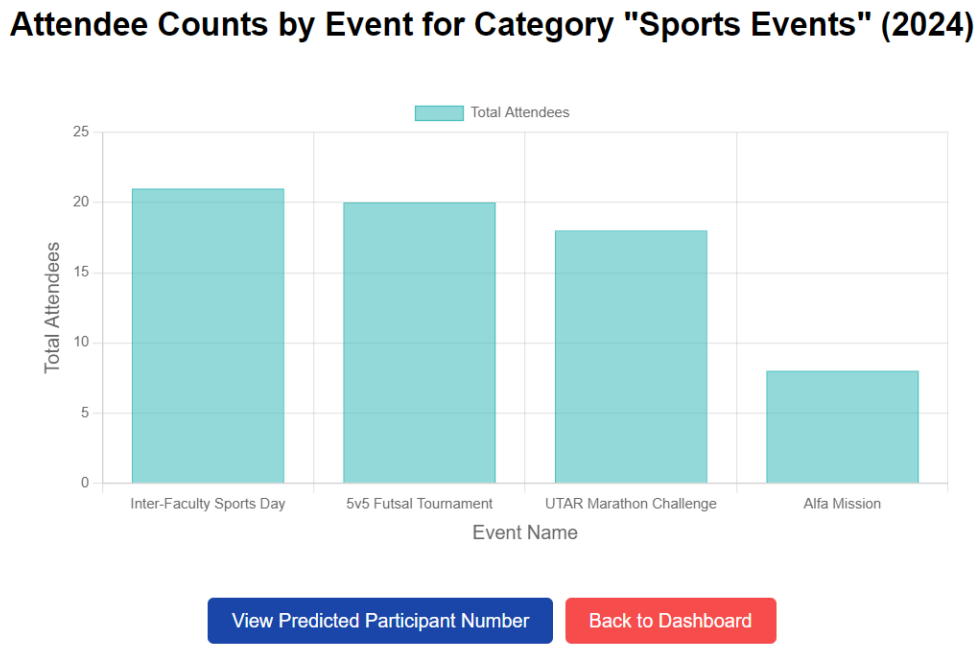
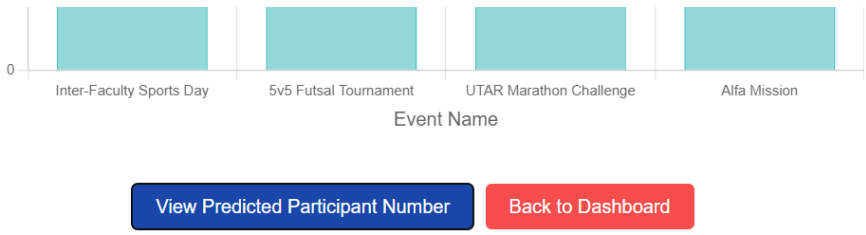


Figure 5.4.39: Event Category Graph Analysis

When viewing graph analysis by event category, the system displays the total number of events and participants within each category. This feature provides users with insights into which event categories are most popular, helping them understand the distribution of participants and the frequency of events in each category. This information is valuable for deciding which types of events to organize more frequently. The data for this analysis is extracted from the "attendance" table, which tracks participant information for all events. By analysing this data, users can make informed decisions to enhance event planning and optimize engagement in different categories.



View Predicted Participant Number | Back to Dashboard

Category Name	Predicted Number of Participants
Sports Events	12

Figure 5.4.40: Predicted Participant Number Table

Additionally, there is a button to view the predicted number of participants for an event category. Clicking this button displays a table with predictions generated by a Random Forest Regression model. The predictions are based on historical data extracted from the "attendance" table, which includes information about past event participation. This feature aids admins in planning event logistics and allocating resources effectively to ensure well-organized events. If the predicted number of participants is small, admins can adjust their strategies accordingly to enhance event engagement and management.

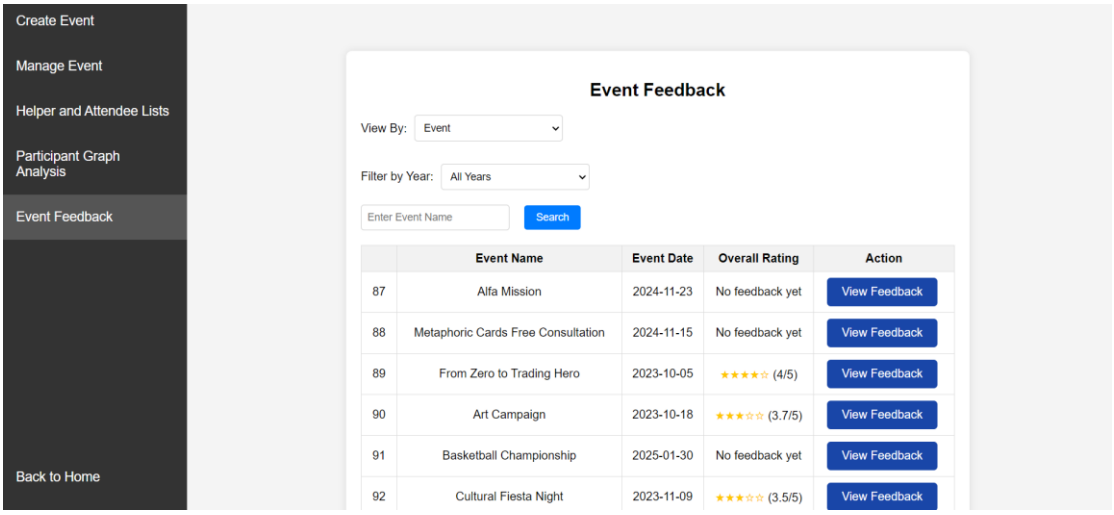


Figure 5.4.41: Event Feedback Interface

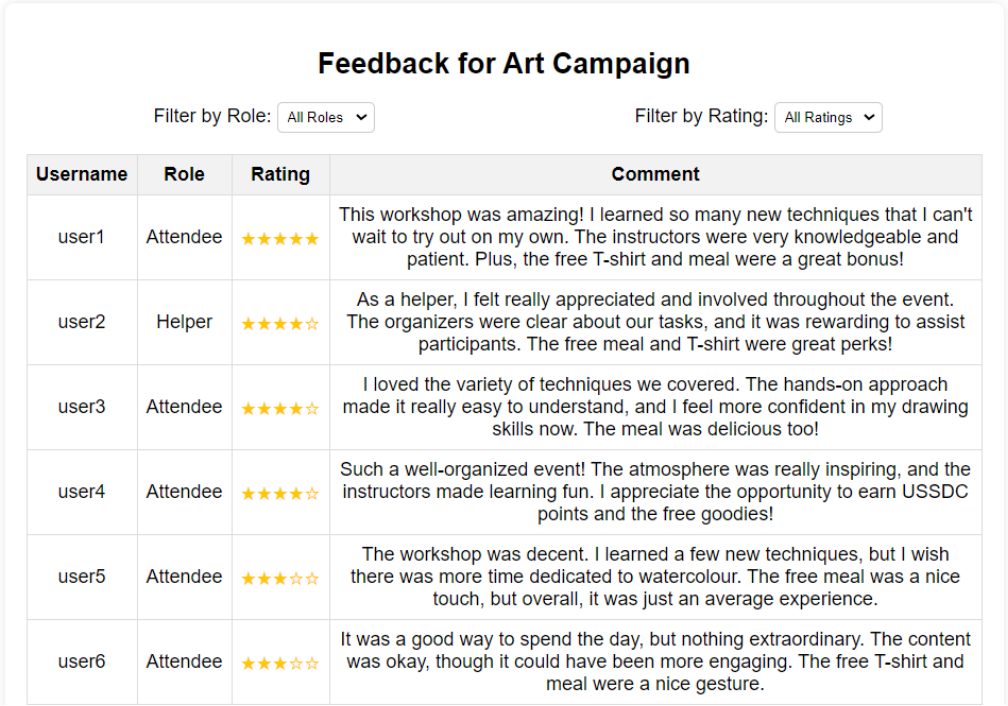


Figure 5.4.42: Detailed Feedback of Event

The event feedback section allows admins to view feedback by individual events or by event categories. When viewing feedback by event, the system shows the average rating and detailed feedback, which can be filtered by role and rating.

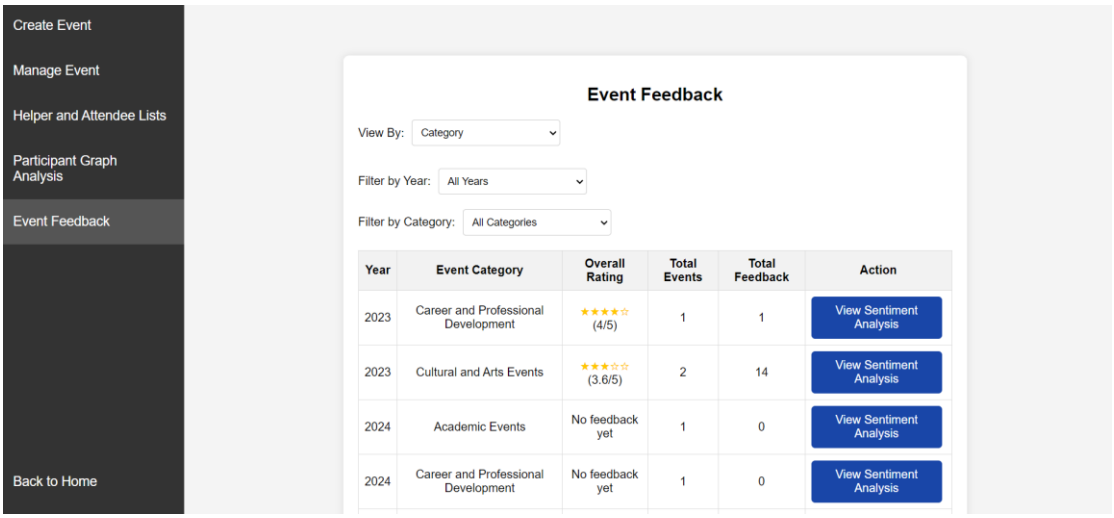
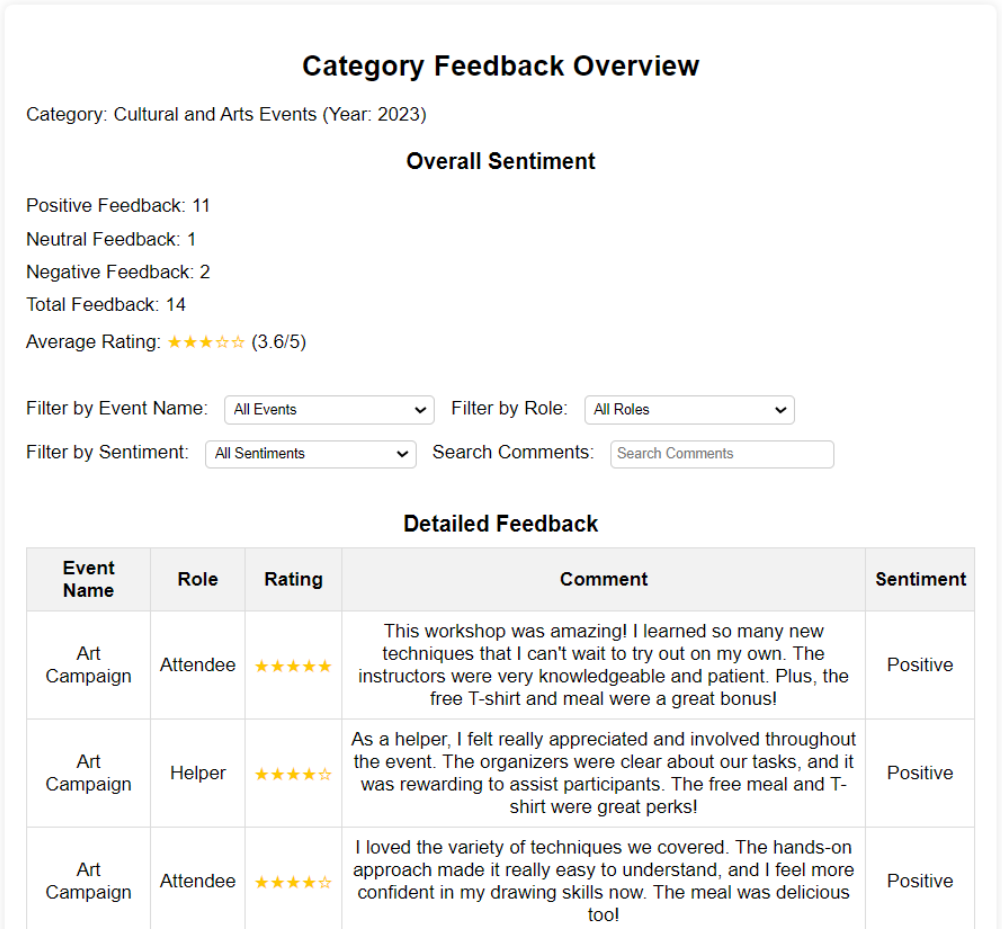


Figure 5.4.43: Event Category Feedback Interface



Category Feedback Overview

Category: Cultural and Arts Events (Year: 2023)

Overall Sentiment

Positive Feedback: 11

Neutral Feedback: 1

Negative Feedback: 2

Total Feedback: 14

Average Rating: ★★★☆☆ (3.6/5)

Filter by Event Name: All Events Filter by Role: All Roles

Filter by Sentiment: All Sentiments Search Comments: Search Comments

Detailed Feedback

Event Name	Role	Rating	Comment	Sentiment
Art Campaign	Attendee	★★★★★	This workshop was amazing! I learned so many new techniques that I can't wait to try out on my own. The instructors were very knowledgeable and patient. Plus, the free T-shirt and meal were a great bonus!	Positive
Art Campaign	Helper	★★★★☆	As a helper, I felt really appreciated and involved throughout the event. The organizers were clear about our tasks, and it was rewarding to assist participants. The free meal and T-shirt were great perks!	Positive
Art Campaign	Attendee	★★★★☆	I loved the variety of techniques we covered. The hands-on approach made it really easy to understand, and I feel more confident in my drawing skills now. The meal was delicious too!	Positive

Figure 5.4.44: Event Category Feedback Overview

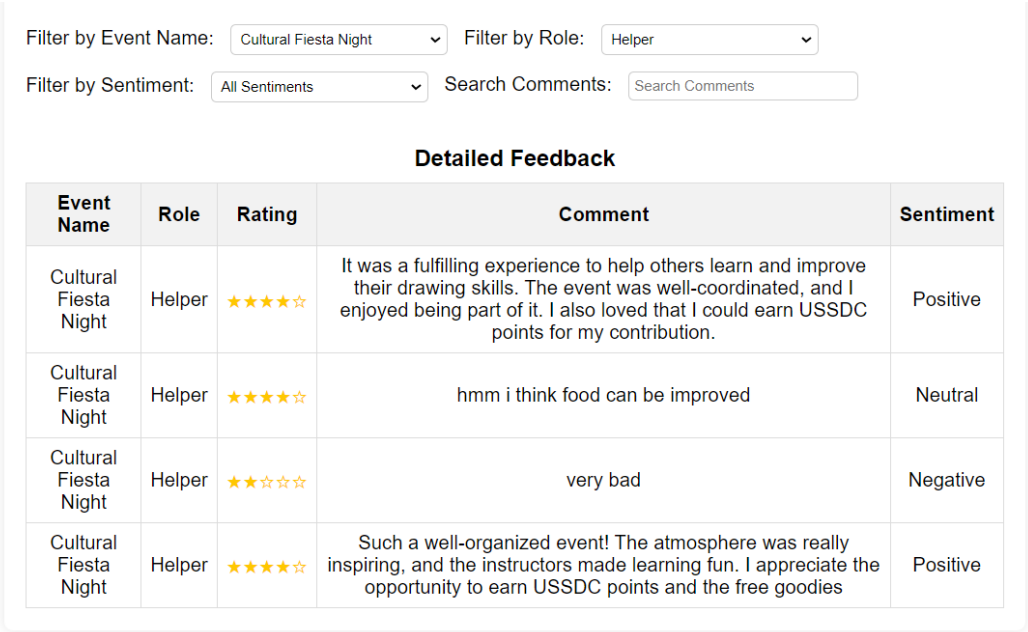


Figure 5.4.45: Example Feedback Filter by Event Name and Role

When viewing feedback by event category, the system calculates the overall rating for each category, helping admins gauge participant satisfaction across different types of events. For more detailed insights, admins can access sentiment analysis performed using the TextBlob library. This analysis, which is extracted from the "feedback" table, displays the overall sentiment of the feedback, categorizing it as positive, neutral, or negative. Admins can further filter the feedback by event name, sentiment, role, and search terms, facilitating the identification of key areas for improvement and enabling more effective planning for future events.

5.5 Implementation Issues and Challenges

During the implementation of the UTAR Event Management System, several challenges were encountered that required careful problem-solving and adjustments.

These challenges spanned technical, and resource-related issues, each impacting the overall development process.

Technical Problems:

One of the primary technical challenges was configuring the local XAMPP environment to handle multiple concurrent connections efficiently. As the system was intended to support a large number of users, it was essential to ensure that the local server could manage this load without performance degradation. Additionally, compatibility issues arose between the version of PHP installed on the XAMPP server and certain libraries required for the system's functionality. These compatibility issues necessitated either downgrading some libraries or finding alternative solutions that were compatible with the current PHP version.

Resource Limitations:

Resource limitations also posed a challenge, particularly regarding the hardware used during development. The development laptop, while sufficient for general coding tasks, struggled with performance issues when running multiple services simultaneously, such as the local server, database, and development environment. This occasionally slowed down the development process and required careful management of resources to ensure smooth operation during testing and debugging phases.

5.6 Concluding Remark

The implementation of the UTAR Event Management System represented a pivotal step in developing a robust platform tailored to efficiently manage university events. The process began with the meticulous setup of a local development environment using XAMPP, which was instrumental in creating a stable testing ground that closely mirrored a real-world production environment. This setup involved configuring the Apache server to handle web requests, integrating MySQL to manage and store event-related data, and ensuring that PHP was properly configured to execute server-side scripts effectively.

Several key accomplishments were realized throughout the implementation process. The integration of the frontend and backend components was executed smoothly, resulting in a system that offered a seamless user experience. Users could easily navigate through event listings, register for events, and provide feedback, while the backend reliably processed and stored this data. The system's successful deployment on a local server confirmed its operational viability in a controlled environment, setting a strong foundation for future enhancements and scalability.

Nevertheless, the implementation phase also brought to light several challenges that underscored the importance of thorough preparation and testing. One of the major challenges was ensuring compatibility between various software components, particularly when different versions of PHP and MySQL introduced potential conflicts. This situation emphasized the need for comprehensive testing protocols to identify and resolve compatibility issues early in the development process. Additionally, resource constraints during development highlighted the need for efficient system configuration and optimization to ensure smooth operation under varying loads.

In conclusion, the implementation of the UTAR Event Management System was not only successful in delivering a functional application but also provided significant learning opportunities. The challenges encountered and overcome during this phase emphasized the importance of rigorous testing, careful configuration, and strategic planning. These experiences will be invaluable in guiding future projects, contributing to more efficient development processes and more resilient system designs. The successes achieved in this project serve as a testament to the hard work and dedication involved, while the lessons learned will help ensure that future endeavors build on this strong foundation.

CHAPTER 6: System Evaluation and Discussion

6.1 System Testing and Performance Metrics

The UTAR Event Management System underwent a comprehensive User Acceptance Testing (UAT) phase to rigorously evaluate its readiness for deployment across the university community. UAT was essential in ensuring that the system not only met the technical requirements but also fulfilled the expectations of its end-users, which include students, faculty members, and administrative staff from various departments.

The UAT process involved selecting a representative sample of 20 students from various faculties and year groups to participate in testing the system, ensuring a broad perspective on the system's usability and functionality. Conducted over a two-week period in August 2024, the UAT was designed to simulate real-world use cases that students would typically encounter, such as registering for events, submitting feedback, and accessing event information. The testing was carried out in a controlled environment that closely mirrored actual usage scenarios, allowing participants to execute a series of predefined tasks. These tasks were aimed at verifying that the system performed as intended and identifying any potential issues that could impact user satisfaction or operational efficiency.

In addition to functional testing, performance metrics were meticulously collected to assess various aspects of the system's performance. Key performance indicators included:

- **Response Time:** The time taken for the system to respond to user actions, such as loading event details or processing registration requests. The goal was to ensure that the system provides timely feedback and operates within acceptable speed limits to maintain user engagement and satisfaction.

- **System Reliability:** The consistency with which the system performs its functions without errors or crashes. Reliability was tested under different

conditions, including peak usage periods, to evaluate the system's stability and robustness.

- **Accuracy of Data Processing:** Verification of the correctness of data retrieval, processing, and storage. This involved checking that user registrations, event updates, and feedback submissions were accurately recorded and reflected in the system.

Throughout the UAT phase, feedback was gathered from participants regarding their experience with the system. This feedback was crucial for identifying areas where the system performed well and areas that required improvement. Performance metrics were analyzed to ensure that the system met the established benchmarks for accuracy, response time, and reliability.

Overall, the UAT phase provided valuable insights into the system's readiness for deployment. The successful completion of testing and the positive feedback from users underscored the system's capability to meet the needs of the UTAR community effectively. The collected performance metrics confirmed that the system operates within acceptable performance thresholds, making it ready for broader adoption and use within the university.

6.2 Testing Setup and Result

The User Acceptance Testing (UAT) for the UTAR Event Management System was meticulously organized to ensure a thorough evaluation of the system's functionality and user experience. A carefully selected group of students, representing various faculties and year groups within the university, participated in this phase. By involving a diverse cross-section of students, the testing aimed to capture a wide range of user perspectives on the system's usability and effectiveness, providing valuable insights into how well the system meets the needs of its primary user base.

Testing Setup:

1. **UserSelection:** Participants were selected through a combination of volunteer recruitment and targeted invitations sent to students from different faculties and year groups. This selection ensured that the testing encompassed a broad spectrum of potential users, including those who would primarily use the system for event registration and feedback, as well as those responsible for administrative tasks and event management.

2. **Controlled Environment:** The UAT was conducted in a controlled environment that closely mirrored real-world conditions. Participants accessed the system through a replica of the live system environment hosted on a local server using XAMPP. The XAMPP environment was configured to simulate typical load conditions and user interactions, including peak usage scenarios. To ensure accurate results, the XAMPP setup replicated the same hardware and software specifications as the final deployment. This setup allowed for a realistic testing experience while maintaining a controlled and consistent environment for evaluating system performance and usability.

3. **Task Scenarios:** Participants were provided with detailed instructions and predefined scenarios to guide their interaction with the system. These scenarios included tasks such as registering for an event, submitting feedback, accessing event details, and adding events to Google Calendar. Administrative users were also tasked with updating event information, reviewing participant registrations, analysing feedback, performing sentiment analysis, and conducting faculty participation analysis and prediction. The scenarios were designed to reflect common and critical use cases to ensure comprehensive testing.

4. **Feedback Mechanism:** A structured feedback form was used to capture participants' impressions and any issues encountered during their interaction

with the system. The feedback form included both quantitative questions (e.g., rating system usability on a scale of 1 to 5) and qualitative questions (e.g., comments on user interface design). Participants filled out these printed forms during or after their testing sessions. The completed forms were then collected and manually analysed to identify trends and areas for improvement. This approach ensured comprehensive feedback covering various facets of the user experience.

Results:

1. **User Experience:** The results from the UAT indicated that the system was generally well-received by users. Most participants were able to complete their assigned tasks successfully, demonstrating that the system was intuitive and easy to navigate. The user interface was found to be user-friendly, with clear instructions and accessible features. For example, 85% of participants rated the system's ease of use as "excellent".

2. **Identified Issues:** Users reported various UI inconsistencies, such as misaligned buttons and text fields, which led to difficulties in navigation and affected overall usability. These issues made it challenging for users to interact with the system efficiently and detracted from their overall experience.

3. **Resolution and Updates:** To address these issues, a comprehensive review of the UI was conducted. Misalignments were corrected, and design elements were standardized to ensure visual consistency. These updates improved the layout and functionality, resulting in a more intuitive and seamless user experience, making navigation and interaction more straightforward and enjoyable.

4. **Overall Performance:** The system’s performance during testing was consistent with the expected benchmarks. It demonstrated reliable functionality and

maintained stability across various scenarios and user interactions. The system successfully handled simulated peak loads without performance degradation, affirming that it met the core functional requirements and was ready for deployment to the broader UTAR community.

In summary, the UAT phase provided valuable insights into the system's usability and performance. The feedback collected was instrumental in refining the system and ensuring that it effectively meets the needs of its users. The positive results from testing highlighted the system's strengths while guiding necessary improvements for an optimal user experience. Five sample UAT feedback forms are documented in Appendix B of the report.

6.3 Project Challenges

The development and testing phases of the UTAR Event Management System were marked by several substantial challenges, each of which required careful management and resolution.

A primary issue encountered was the integration of various system components. As the project involved multiple elements, including frontend interfaces, backend services, and database interactions, achieving seamless integration was complex. This often led to unexpected errors and system glitches that needed meticulous debugging. Each component had to be tested in isolation and in combination to ensure they worked harmoniously. This iterative testing process was crucial in identifying and resolving compatibility issues between different modules, which were often nuanced and required targeted adjustments.

Another significant challenge was gathering and analyzing comprehensive feedback during the User Acceptance Testing (UAT). The UAT involved a select group of student testers, each bringing their own perspective on the system’s functionality and usability. Coordinating with these testers required detailed planning and effective

communication to ensure their feedback was both collected and acted upon efficiently. The feedback process highlighted several areas for improvement, particularly concerning user interface preferences and navigational ease. Addressing these areas necessitated careful refinement of the user interface and additional development work to enhance the overall user experience.

These challenges provided invaluable insights that led to significant enhancements in the system's functionality and reliability. The experience underscored the importance of a comprehensive approach to testing, clear and ongoing communication with users, and the necessity of iterative refinement based on real-world feedback. Each challenge served as a learning opportunity, contributing to a more robust and user-centric final product.

6.4 Objectives Evaluation

The evaluation of the UTAR Event Management System demonstrates that the project's objectives were successfully achieved. Here's how each objective was met:

1. Develop a User-Friendly Web Application:

- **Evaluation:** The system was designed to serve as a centralized hub for accessing event details at UTAR. User feedback from the User Acceptance Testing (UAT) indicated that the platform was intuitive and easy to navigate. The centralized access to event information significantly enhanced communication and information dissemination within the university community. Users reported that they could easily find event schedules, updates, and other relevant details, fulfilling the objective of providing a user-friendly web application.

2. Increase Engagement by Simplifying Access and Registration:

- **Evaluation:** The system successfully increased user engagement by simplifying both access to event information and the registration process. The design

incorporated features that made it easy for users to locate events and register with minimal effort. The simplified interface and streamlined registration process encouraged higher participation rates among students and faculty. UAT results demonstrated that the objective of increasing engagement through an easy-to-use website was met, as users reported a positive experience with finding and signing up for events.

3. Reduce Information Disparity Through Notification System:

- **Evaluation:** The notification system was implemented using local notifications to ensure timely and effective communication of event information. This approach aimed to address the objective of reducing information disparity by delivering alerts in a manner that is accessible and immediate. User feedback indicated that the local notifications were effective in keeping them informed about university events. While local notifications provided reliable updates, the implementation showed that they were well-received and fulfilled the objective of bridging communication gaps within the system. The successful application of this notification system demonstrated that it effectively contributed to maintaining user engagement and ensuring timely event awareness.

4. Improve Operational Efficiency:

- **Evaluation:** The system's ability to automate administrative tasks, such as event creation, attendee registration, and tracking, was a significant success. This automation streamlined the event management process, allowing organizers to allocate their time to more strategic tasks rather than administrative duties. UAT results and system performance metrics showed that the application effectively managed these tasks, leading to smoother event execution and improved operational efficiency. The objective of enhancing

operational efficiency was achieved, as evidenced by the reduction in manual administrative work and the improved organization of events.

In summary, the UTAR Event Management System effectively met its primary objectives of developing a user-friendly web application, increasing engagement by simplifying access and registration, reduce information disparity through notification system, and improving operational efficiency. The positive feedback from users and the successful integration of key features validates the project's success in achieving its goals.

6.5 Concluding Remark

The evaluation of the UTAR Event Management System underscores the project's success in achieving its core objectives and delivering a functional, user-centered platform for managing university events. The comprehensive User Acceptance Testing (UAT) phase, coupled with rigorous performance metrics, provided valuable insights into the system's effectiveness and areas for improvement.

The development of a user-friendly web application was a primary goal, and the system met this objective by offering a centralized platform that simplified access to event information. Users found the interface intuitive and easy to navigate, which significantly enhanced communication and information dissemination within the UTAR community. This achievement aligns with the project's aim to provide a seamless user experience.

Increasing engagement among students and faculty was another critical objective. The system succeeded in this regard by streamlining event registration and providing an accessible way for users to interact with the platform. Feedback from the UAT phase

highlighted the ease of use and efficiency of the registration process, which contributed to higher participation rates and a more vibrant campus atmosphere.

The implementation of local notifications to reduce information disparity proved effective in delivering timely updates to users. They effectively bridged communication gaps and ensured users remained informed about upcoming events. This approach met the objective of reducing information disparity and maintaining user engagement.

Improving operational efficiency for event organizers was achieved through the automation of administrative tasks. The system's ability to handle event creation, attendee registration, and tracking allowed organizers to focus on strategic planning and execution, enhancing the overall management of campus events.

In conclusion, the UTAR Event Management System successfully fulfilled its primary and sub-objectives, demonstrating that the project effectively addressed the needs of its users and stakeholders. The positive outcomes from the UAT phase, combined with the system's performance metrics, affirm the project's success and provide a solid foundation for future enhancements and broader deployment. The lessons learned from this project will inform ongoing development efforts and contribute to the continued improvement of event management solutions within the university community.

CHAPTER 7: Conclusion and Recommendation

7.1 Conclusion

The UTAR Event Management System has effectively addressed the issues identified in the problem statement. Students frequently receive a high volume of emails, leading to important event notifications being overlooked. Additionally, irregular email checking by students has resulted in missed notifications and lower attendance at events. By developing this system, we have provided a comprehensive solution that tackles these challenges.

The primary objective of creating a user-friendly web application has been met through a well-designed interface that centralizes event management. The system simplifies access to event information and registration processes, making it easier for students to engage with campus events. With features such as intuitive event filters and seamless Google Calendar integration, students are more likely to stay informed and participate actively.

In addition, the system has achieved its goal of reducing information disparity through an effective notification system. Local notifications ensure that students receive timely updates about new and updated events, thereby reducing the likelihood of crucial information being missed. This approach helps maintain high levels of engagement and ensures that students are aware of all relevant events.

The system also contributes to operational efficiency for event organizers. It streamlines event creation, participant registration, and feedback collection, allowing for more efficient management and planning. Admins can easily track participant numbers, monitor registration limits, and analyze feedback, leading to improved event organization and execution.

Overall, the UTAR Event Management System is a valuable asset for both students and event organizers. It not only improves student engagement by ensuring timely communication and simplifying access to events but also enhances the efficiency and effectiveness of event management. The system's contributions to both engagement and operational efficiency make it a significant advancement in the management of campus events

7.2 Recommendation

To further enhance the UTAR Event Management System and address evolving needs, several improvements and additional features are recommended:

1. **Transition to Push Notifications**: While the current system uses local notifications to alert users about events and updates, transitioning to push notifications could offer several advantages. Push notifications can reach users even when they are not actively using the application, ensuring timely and consistent communication. This shift would help capture the attention of students more effectively, especially for urgent updates or last-minute changes, thereby increasing the likelihood of higher engagement and attendance.
2. **QR Code or Ticket Integration**: Implementing a feature to send QR codes or electronic tickets to participants could significantly enhance the event management process. By providing QR codes or tickets, the system can streamline the check-in process at events, allowing for efficient validation of participant identities. This feature would not only facilitate smoother event entry but also improve security by ensuring that only registered participants can access the events. The system could generate and send QR codes or tickets via email or through the application, and event organizers could use scanners or mobile devices to validate them on-site.

3. **Enhanced Registration and Verification Processes**: Adding functionality for more detailed participant verification and registration could further improve the system. For instance, integrating additional verification steps, such as uploading identification documents or using biometric authentication, can help ensure the integrity of the registration process. This would be particularly useful for events that require higher levels of security or specific attendee credentials.

These enhancements would contribute to a more robust and user-friendly system, improving both the user experience and operational efficiency. Adopting push notifications would ensure that important updates are not missed, while QR codes or tickets would streamline event management and enhance security. Together, these recommendations would address current limitations and support the ongoing success of the UTAR Event Management System.

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Appendix A (Interview QNA)

1. **Event Proposal Submission:**

    - How do students currently submit event proposals to the Department of Student Affairs?
    - Are there any specific forms or documents required for the proposal submission?

    Answer: Students typically submit event proposals through an online portal or by filling out specific forms provided by the Department of Student Affairs (DSA). These forms may require details such as event name, proposed date and time, expected attendance, budget and any special requirements.

2. **Proposal Review and Approval:**

    - Once a proposal is submitted, what is the process for reviewing and approving it?
    - What criteria are considered when evaluating event proposals?

    Answer: The submitted proposals are reviewed by a committee within the Department of Student Affairs. Criteria for evaluation may include relevance to the student body, feasibility, alignment with university values and policies, budget considerations and potential impact on campus life. Once reviewed, proposals are either approved, rejected or may require revisions before approval.

3. **Event Planning and Coordination:**

    - After approval, what are the next steps in planning and coordinating the event?
    - How do students communicate with the Department of Student Affairs during the planning process?

    Answer: Upon approval, students proceed with detailed planning, which may involve securing venues, arranging equipment rentals, coordinating with vendors for catering (if necessary), organising volunteers and

obtaining any required permissions. Communication with the DSA can be facilitated through designated DSA staff via email for queries and updates.

4. **Logistics and Resources:**

    - How are logistics such as venue booking, equipment rental, and catering arranged for approved events?
    - Are there any specific resources or facilities available to students for organizing events?

    Answer: Logistics such as venue booking, equipment rental and catering arrangements are typically managed by students with guidance from the DSA. The Department may provide access to certain resources or facilities on campus for organising events such as event spaces, sound systems, etc.

5. **Promotion and Marketing:**

    - Is there any assistance provided by the Department of Student Affairs for event promotion?

    Answer: The DSA may offer assistance with event promotion through various channels such as social media, posters and announcements.

6. **Event Execution:**

    - On the day of the event, what support or supervision is provided by the Department of Student Affairs?

    Answer: On the day of the event, the DSA may provide logistical support such as ensuring venue readiness, overseeing setup and addressing any last-minute issues.

7. **Post-Event Evaluation:**

    - Are students required to submit any reports or feedback following their events?

Answer: Following the events, students may be required to submit reports or feedback to the Department of Student Affairs. This could include

attendance numbers, income statement, lessons learned and suggestions for improvement.

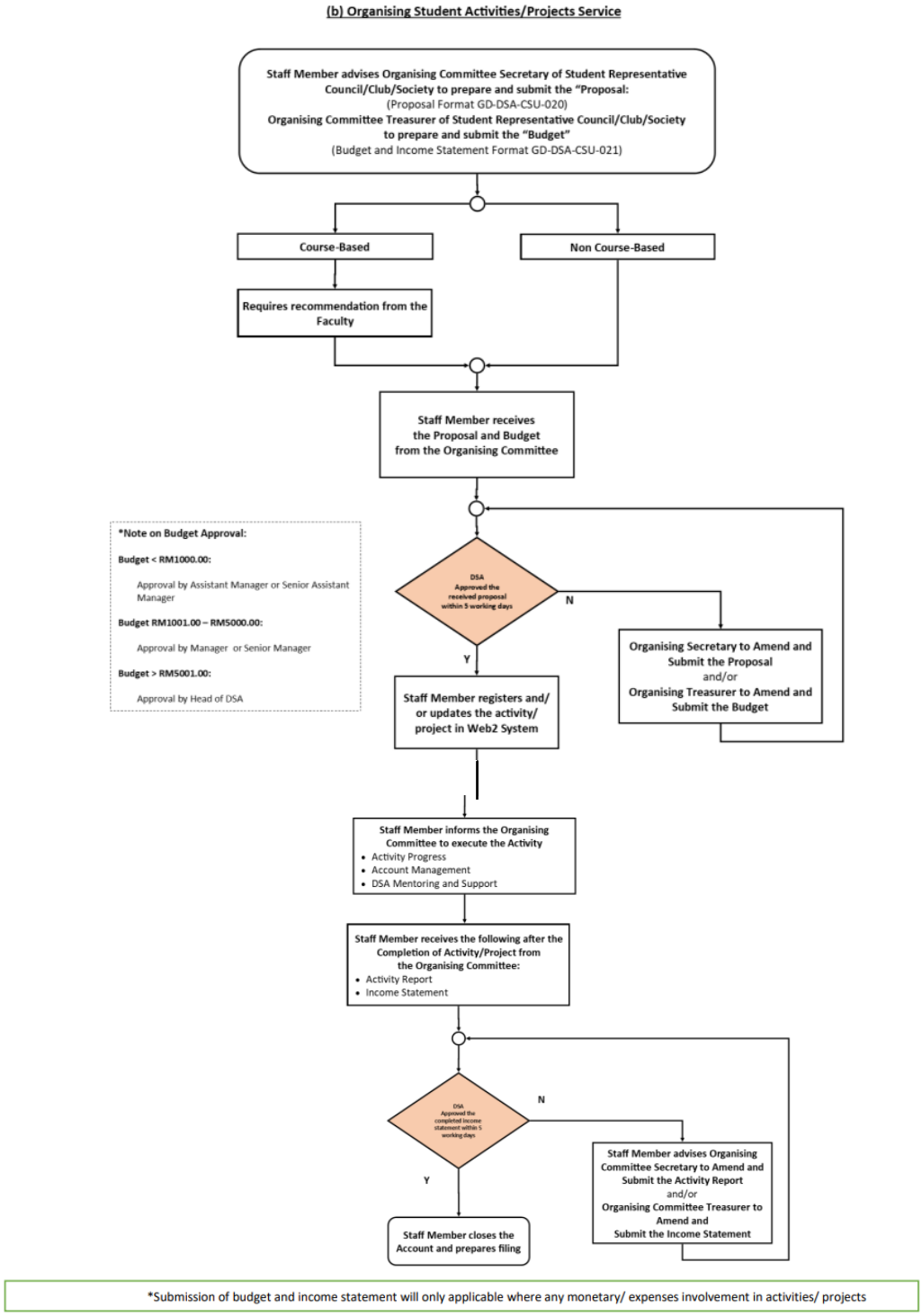


Figure A-1: Flowchart of the SOP for Organising Student Activities

Appendix B (User Acceptance Testing (UAT) Feedback Form)

UTAR Event Management System - User Acceptance Testing (UAT) Feedback Form

Date of Testing: 19/8/2024

Tester Name: Leong Yu Ying

Role:

- ☑ Admin
- ☐ User

Section 1: Quantitative Feedback

Please rate the following aspects of the system on a scale from **1 (Poor)** to **5 (Excellent)**.

Criteria	Rating (1-5)
1. System Usability (Ease of Navigation)	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☑ 5
2. Event Creation and Management (For Admins)	☐ 1 ☐ 2 ☐ 3 ☑ 4 ☐ 5
3. Event Registration Process (For Users)	☐ 1 ☐ 2 ☐ 3 ☒ 4 ☐ 5
4. Helper Registration Process	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
5. Attendee Registration Process	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
6. Feedback Submission Process	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
7. User Interface Design (Overall Look and Feel)	☐ 1 ☐ 2 ☐ 3 ☑ 4 ☐ 5
8. System Responsiveness and Performance	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☑ 5
9. Event Feedback Analysis (For Admins)	☐ 1 ☐ 2 ☐ 3 ☑ 4 ☐ 5
10. Overall Satisfaction with the System	☐ 1 ☐ 2 ☐ 3 ☑ 4 ☐ 5

Section 2: Qualitative Feedback

1. **What do you like most about the system?**
   (e.g., ease of use, design, specific features)
   The overall ease of use and clean design. System is user-friendly, and key functions are easy to access.

2. **What issues or challenges did you encounter?**
   (e.g., difficulty navigating, system errors)

Figure B-1: UAT Form 1

Not really. Everything is smooth.

3. **Do you find the user interface (UI) design intuitive? Why or why not?**

Yes. Because the layout is quite organized, which is easier to understand everything.

4. **Do you have any suggestions for improving the system's overall functionality?** (e.g., additional features, better performance)

It might be helpful to add notifications from the website itself. to remind participants it's starting

5. **If you are an Admin, did you find the event management and feedback analysis useful? What could be improved?**

It's helpful. Nothing is needed to be improved.

Section 3: Additional Comments

Please provide any other feedback or suggestions you may have for improving the UTAR Event Management System.

Overall quite impressed. Well thought out and makes event management and participation effortless.

Thank you for your valuable feedback!

Figure B-2: UAT Form 1

UTAR Event Management System - User Acceptance Testing (UAT) Feedback Form

Date of Testing: 21/8/2024

Tester Name: Ooi Wei Jun

Role:

- ☑ Admin
- ☐ User

Section 1: Quantitative Feedback

Please rate the following aspects of the system on a scale from **1 (Poor)** to **5 (Excellent)**.

Criteria	Rating (1-5)
1. System Usability (Ease of Navigation)	☐1 ☐2 ☐3 ☐4 ☑5
2. Event Creation and Management (For Admins)	☐1 ☐2 ☐3 ☐4 ☑5
3. Event Registration Process (For Users)	☐1 ☐2 ☐3 ☐4 ☐5
4. Helper Registration Process	☐1 ☐2 ☐3 ☐4 ☐5
5. Attendee Registration Process	☐1 ☐2 ☐3 ☐4 ☐5
6. Feedback Submission Process	☐1 ☐2 ☐3 ☐4 ☐5
7. User Interface Design (Overall Look and Feel)	☐1 ☐2 ☐3 ☑4 ☐5
8. System Responsiveness and Performance	☐1 ☐2 ☐3 ☐4 ☑5
9. Event Feedback Analysis (For Admins)	☐1 ☐2 ☐3 ☑4 ☐5
10. Overall Satisfaction with the System	☐1 ☐2 ☐3 ☐4 ☑5

Section 2: Qualitative Feedback

1. **What do you like most about the system?**
   (e.g., ease of use, design, specific features)

   I like the graph analysis. It is very useful.

2. **What issues or challenges did you encounter?**
   (e.g., difficulty navigating, system errors)

Figure B-3: UAT Form 2

So far so good.

3. **Do you find the user interface (UI) design intuitive? Why or why not?**

Yes, it is easy to navigate

4. **Do you have any suggestions for improving the system's overall functionality?** (e.g., additional features, better performance)

Can have more analysis features.

5. **If you are an Admin, did you find the event management and feedback analysis useful? What could be improved?**

Yes, very useful. It can be improved by summarize the key area improvements for the event.

Section 3: Additional Comments

Please provide any other feedback or suggestions you may have for improving the UTAR Event Management System.

Overall is good, if have more analysis features it will be more better.

Thank you for your valuable feedback!

Figure B-4: UAT Form 2

UTAR Event Management System - User Acceptance Testing (UAT) Feedback Form

Date of Testing: 23/8/2024

Tester Name: Chin Ci Ying

Role:

- ☑ Admin
- ☐ User

Section 1: Quantitative Feedback

Please rate the following aspects of the system on a scale from **1 (Poor)** to **5 (Excellent)**.

Criteria	Rating (1-5)
1. System Usability (Ease of Navigation)	☐1 ☐2 ☐3 ☐4 ☑5
2. Event Creation and Management (For Admins)	☐1 ☐2 ☐3 ☐4 ☑5
3. Event Registration Process (For Users)	☐1 ☐2 ☐3 ☐4 ☐5
4. Helper Registration Process	☐1 ☐2 ☐3 ☐4 ☐5
5. Attendee Registration Process	☐1 ☐2 ☐3 ☐4 ☐5
6. Feedback Submission Process	☐1 ☐2 ☐3 ☐4 ☐5
7. User Interface Design (Overall Look and Feel)	☐1 ☐2 ☐3 ☑4 ☐5
8. System Responsiveness and Performance	☐1 ☐2 ☐3 ☐4 ☑5
9. Event Feedback Analysis (For Admins)	☐1 ☐2 ☐3 ☑4 ☐5
10. Overall Satisfaction with the System	☐1 ☐2 ☐3 ☐4 ☑5

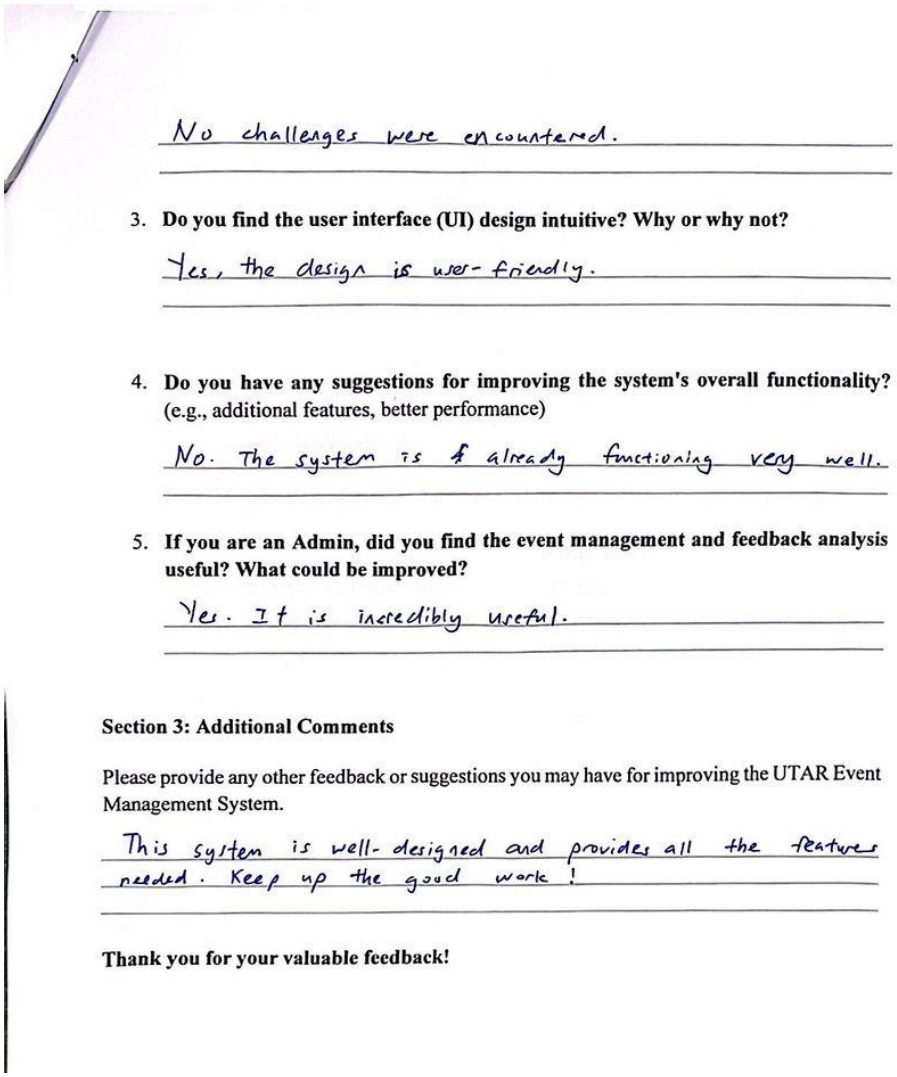
Section 2: Qualitative Feedback

1. **What do you like most about the system?**
   (e.g., ease of use, design, specific features)

   I like the view predicted participant numbers feature.

2. **What issues or challenges did you encounter?**
   (e.g., difficulty navigating, system errors)

Figure B-5: UAT Form 3



No challenges were encountered.

3. **Do you find the user interface (UI) design intuitive? Why or why not?**

Yes, the design is user-friendly.

4. **Do you have any suggestions for improving the system's overall functionality?** (e.g., additional features, better performance)

No. The system is already functioning very well.

5. **If you are an Admin, did you find the event management and feedback analysis useful? What could be improved?**

Yes. It is incredibly useful.

Section 3: Additional Comments

Please provide any other feedback or suggestions you may have for improving the UTAR Event Management System.

This system is well-designed and provides all the features needed. Keep up the good work!

Thank you for your valuable feedback!

Figure B-6: UAT Form 3

UTAR Event Management System - User Acceptance Testing (UAT) Feedback Form

Date of Testing: 24/8/2024

Tester Name: Kow Chee Cheng

Role:

- ☐ Admin
- ☑ User

Section 1: Quantitative Feedback

Please rate the following aspects of the system on a scale from **1 (Poor)** to **5 (Excellent)**.

Criteria	Rating (1-5)
1. System Usability (Ease of Navigation)	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☑ 5
2. Event Creation and Management (For Admins)	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
3. Event Registration Process (For Users)	☐ 1 ☐ 2 ☐ 3 ☑ 4 ☐ 5
4. Helper Registration Process	☐ 1 ☐ 2 ☐ 3 ☑ 4 ☐ 5
5. Attendee Registration Process	☐ 1 ☐ 2 ☐ 3 ☑ 4 ☐ 5
6. Feedback Submission Process	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☑ 5
7. User Interface Design (Overall Look and Feel)	☐ 1 ☐ 2 ☐ 3 ☑ 4 ☐ 5
8. System Responsiveness and Performance	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☑ 5
9. Event Feedback Analysis (For Admins)	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
10. Overall Satisfaction with the System	☐ 1 ☐ 2 ☐ 3 ☑ 4 ☐ 5

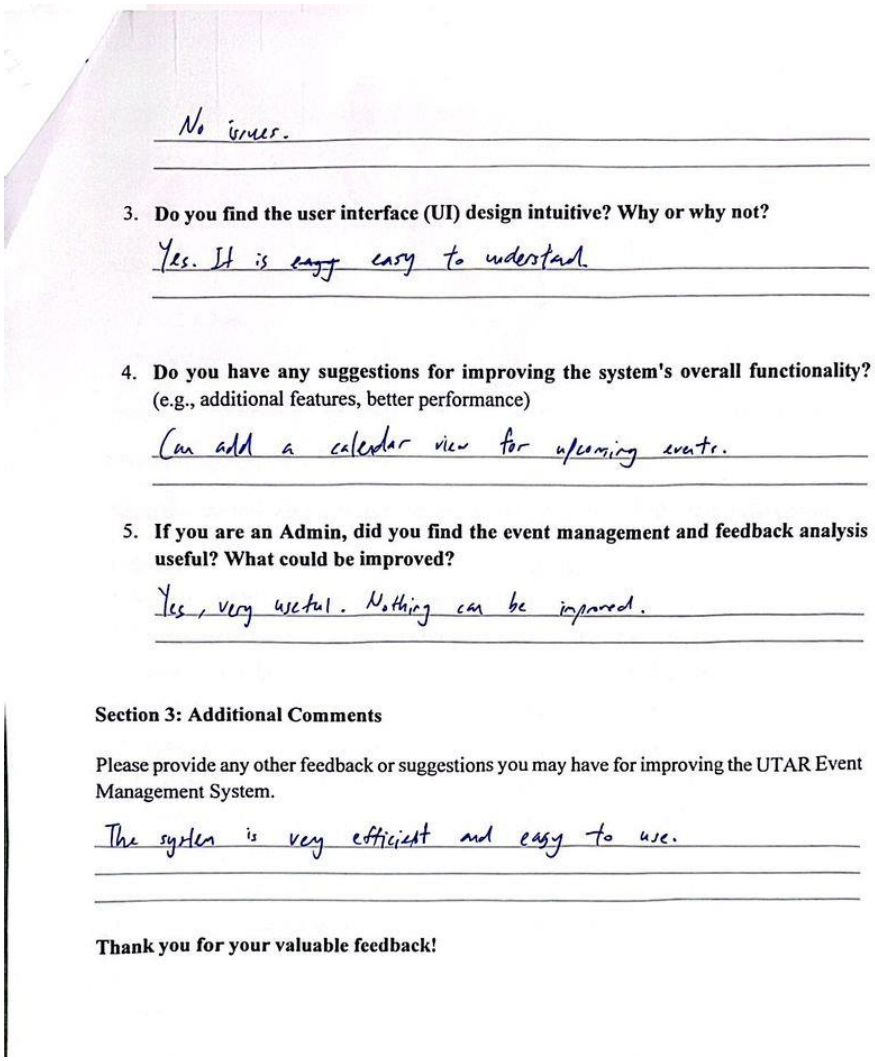
Section 2: Qualitative Feedback

1. **What do you like most about the system?**
   (e.g., ease of use, design, specific features)

   The "Add to Google Calendar" feature. It is very convenient.

2. **What issues or challenges did you encounter?**
   (e.g., difficulty navigating, system errors)

Figure B-7: UAT Form 4



No issues.

3. **Do you find the user interface (UI) design intuitive? Why or why not?**

Yes. It is ~~easy~~ easy to understand.

4. **Do you have any suggestions for improving the system's overall functionality?** (e.g., additional features, better performance)

Can add a calendar view for upcoming events.

5. **If you are an Admin, did you find the event management and feedback analysis useful? What could be improved?**

Yes, very useful. Nothing can be improved.

Section 3: Additional Comments

Please provide any other feedback or suggestions you may have for improving the UTAR Event Management System.

The system is very efficient and easy to use.

Thank you for your valuable feedback!

Figure B-8: UAT Form 4

UTAR Event Management System - User Acceptance Testing (UAT) Feedback Form

Date of Testing: 25/8/2024

Tester Name: Lee Mei Xuan

Role:

- ☐ Admin
- ☑ User

Section 1: Quantitative Feedback

Please rate the following aspects of the system on a scale from **1 (Poor)** to **5 (Excellent)**.

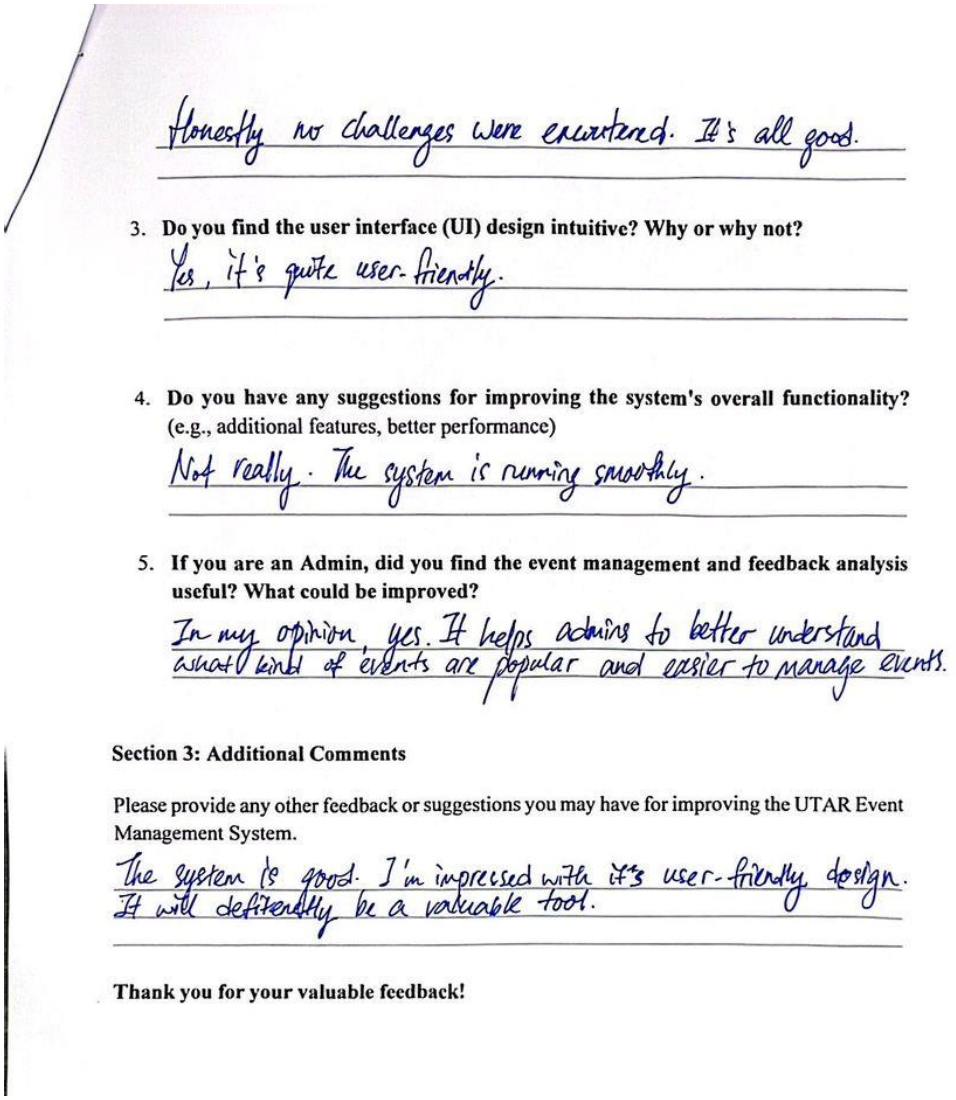
Criteria	Rating (1-5)
1. System Usability (Ease of Navigation)	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☑ 5
2. Event Creation and Management (For Admins)	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
3. Event Registration Process (For Users)	☐ 1 ☐ 2 ☐ 3 ☑ 4 ☐ 5
4. Helper Registration Process	☐ 1 ☐ 2 ☐ 3 ☑ 4 ☐ 5
5. Attendee Registration Process	☐ 1 ☐ 2 ☐ 3 ☑ 4 ☐ 5
6. Feedback Submission Process	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☑ 5
7. User Interface Design (Overall Look and Feel)	☐ 1 ☐ 2 ☐ 3 ☑ 4 ☐ 5
8. System Responsiveness and Performance	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☑ 5
9. Event Feedback Analysis (For Admins)	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
10. Overall Satisfaction with the System	☐ 1 ☐ 2 ☐ 3 ☑ 4 ☐ 5

Section 2: Qualitative Feedback

1. **What do you like most about the system?**
   (e.g., ease of use, design, specific features)
   The system's responsiveness is very good. There were no delays.

2. **What issues or challenges did you encounter?**
   (e.g., difficulty navigating, system errors)

Figure B-9: UAT Form 5



Honestly no challenges were encountered. It's all good.

3. **Do you find the user interface (UI) design intuitive? Why or why not?**

Yes, it's quite user-friendly.

4. **Do you have any suggestions for improving the system's overall functionality?** (e.g., additional features, better performance)

Not really. The system is running smoothly.

5. **If you are an Admin, did you find the event management and feedback analysis useful? What could be improved?**

In my opinion, yes. It helps admins to better understand what kinds of events are popular and easier to manage events.

Section 3: Additional Comments

Please provide any other feedback or suggestions you may have for improving the UTAR Event Management System.

The system is good. I'm impressed with it's user-friendly design. It will defitenitly be a valuable tool.

Thank you for your valuable feedback!

Figure B-10: UAT Form 5

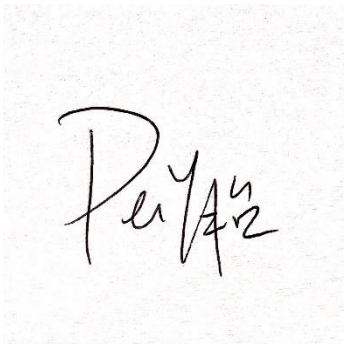
Appendix C (Weekly Report)

FINAL YEAR PROJECT WEEKLY REPORT

(Project II)

Trimester, Year: Year 3 Trimester 2	**Study week no.: Week 1**
Student Name & ID: Phoon Pei Yi 2001685	
Supervisor: Cik Nur Athirah Nabila Binti Mohd Idros	
Project Title: UTAR Event Management System	

1. WORK DONE Drafted Chapter 1: Introduction.
2. WORK TO BE DONE Start Chapter 2: Literature Review.
3. PROBLEMS ENCOUNTERED None at this stage.
4. SELF EVALUATION OF THE PROGRESS Initial work is progressing well.



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Supervisor's signature Student's signature

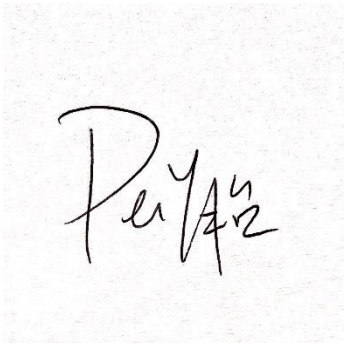
APPENDIX C

FINAL YEAR PROJECT WEEKLY REPORT

(Project II)

Trimester, Year: Year 3 Trimester 2	**Study week no.: Week 2**
Student Name & ID: Phoon Pei Yi 2001685	
Supervisor: Cik Nur Athirah Nabila Binti Mohd Idros	
Project Title: UTAR Event Management System	

1. WORK DONE Completed Chapter 2: Literature Review.
2. WORK TO BE DONE Begin Chapter 3: System Methodology/Approach.
3. PROBLEMS ENCOUNTERED Minor delays in gathering all references.
4. SELF EVALUATION OF THE PROGRESS Good progress with comprehensive literature coverage.



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Supervisor's signature Student's signature

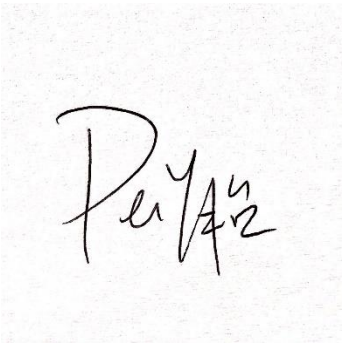
FINAL YEAR PROJECT WEEKLY REPORT

(Project II)

Trimester, Year: Year 3 Trimester 2	**Study week no.: Week 3**
Student Name & ID: Phoon Pei Yi 2001685	
Supervisor: Cik Nur Athirah Nabila Binti Mohd Idros	
Project Title: UTAR Event Management System	

1. WORK DONE Drafted Chapter 3: System Methodology/Approach..
2. WORK TO BE DONE Start coding for admin participant list and PDF download.
3. PROBLEMS ENCOUNTERED None indicated.
4. SELF EVALUATION OF THE PROGRESS Progress is steady with a clear direction.

athirah



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Supervisor's signature Student's signature

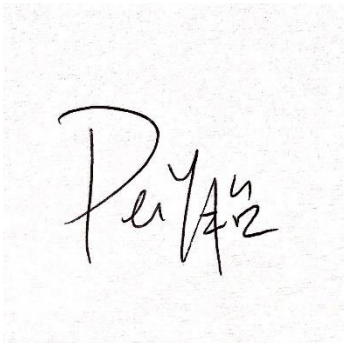
APPENDIX C

FINAL YEAR PROJECT WEEKLY REPORT

(Project II)

Trimester, Year: Year 3 Trimester 2	**Study week no.: Week 4**
Student Name & ID: Phoon Pei Yi 2001685	
Supervisor: Cik Nur Athirah Nabila Binti Mohd Idros	
Project Title: UTAR Event Management System	

1. WORK DONE Implemented PDF download for participant lists.
2. WORK TO BE DONE Continue with Chapter 4: System Design.
3. PROBLEMS ENCOUNTERED None indicated.
4. SELF EVALUATION OF THE PROGRESS Features and documentation are well-aligned.



Supervisor's signature

Student's signature

FINAL YEAR PROJECT WEEKLY REPORT

(Project II)

Trimester, Year: Year 3 Trimester 2	**Study week no.: Week 5**
Student Name & ID: Phoon Pei Yi 2001685	
Supervisor: Cik Nur Athirah Nabila Binti Mohd Idros	
Project Title: UTAR Event Management System	

1. WORK DONE Drafted Chapter 4: System Design.
2. WORK TO BE DONE Implement local notifications.
3. PROBLEMS ENCOUNTERED None reported.
4. SELF EVALUATION OF THE PROGRESS Solid progress on both documentation and features.

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Supervisor's signature Student's signature

FINAL YEAR PROJECT WEEKLY REPORT

(Project II)

Trimester, Year: Year 3 Trimester 2	**Study week no.: Week 6**
Student Name & ID: Phoon Pei Yi 2001685	
Supervisor: Cik Nur Athirah Nabila Binti Mohd Idros	
Project Title: UTAR Event Management System	

1. WORK DONE

Implemented local notifications.

2. WORK TO BE DONE

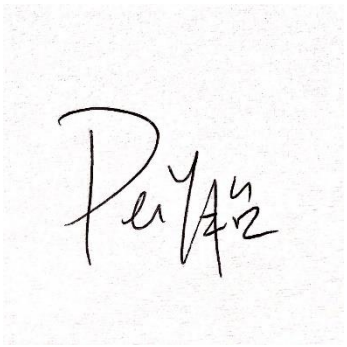
Begin Chapter 5: System Implementation.

3. PROBLEMS ENCOUNTERED

Difficulty in configuring local notifications to function consistently across different browsers.

4. SELF EVALUATION OF THE PROGRESS

The local notification configuration took more time than expected, but the persistence paid off, and the feature is now functioning as intended.



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Supervisor's signature Student's signature

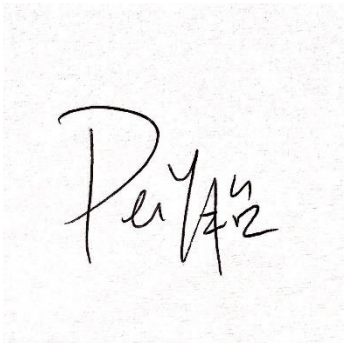
APPENDIX C

FINAL YEAR PROJECT WEEKLY REPORT

(Project II)

Trimester, Year: Year 3 Trimester 2	**Study week no.: Week 7**
Student Name & ID: Phoon Pei Yi 2001685	
Supervisor: Cik Nur Athirah Nabila Binti Mohd Idros	
Project Title: UTAR Event Management System	

1. WORK DONE Drafted Chapter 5: System Implementation.
2. WORK TO BE DONE Integrate Google Calendar event addition.
3. PROBLEMS ENCOUNTERED None at this stage.
4. SELF EVALUATION OF THE PROGRESS Integration tasks are well-managed.



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Supervisor's signature Student's signature

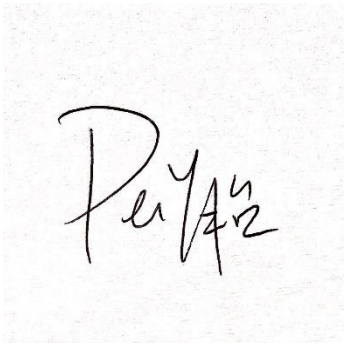
APPENDIX C

FINAL YEAR PROJECT WEEKLY REPORT

(Project II)

Trimester, Year: Year 3 Trimester 2	**Study week no.: Week 8**
Student Name & ID: Phoon Pei Yi 2001685	
Supervisor: Cik Nur Athirah Nabila Binti Mohd Idros	
Project Title: UTAR Event Management System	

1. WORK DONE Implemented Google Calendar event addition.
2. WORK TO BE DONE Continue with Chapter 6: System Evaluation and Discussion.
3. PROBLEMS ENCOUNTERED None indicated.
4. SELF EVALUATION OF THE PROGRESS Feature implementation aligns with project milestones.



Supervisor's signature

Student's signature

APPENDIX C

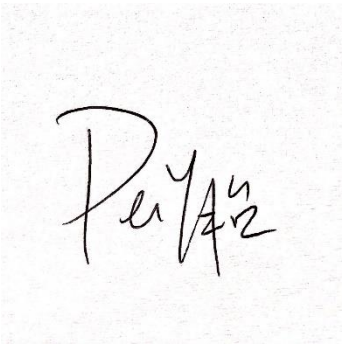
FINAL YEAR PROJECT WEEKLY REPORT

(Project II)

Trimester, Year: Year 3 Trimester 2	**Study week no.: Week 9**
Student Name & ID: Phoon Pei Yi 2001685	
Supervisor:Cik Nur Athirah Nabila Binti Mohd Idros	
Project Title: UTAR Event Management System	

1. WORK DONE Drafted Chapter 6: System Evaluation and Discussion.
2. WORK TO BE DONE Develop user feedback and sentiment analysis
3. PROBLEMS ENCOUNTERED Encountered API integration difficulties during the development of the feedback sentiment analysis feature, causing delays.
4. SELF EVALUATION OF THE PROGRESS The API integration delays were a setback, but the successful implementation of sentiment analysis has added significant value to the project

athirah



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Supervisor's signature Student's signature

APPENDIX C

FINAL YEAR PROJECT WEEKLY REPORT

(Project II)

Trimester, Year: Year 3 Trimester 2	**Study week no.: Week 10**
Student Name & ID: Phoon Pei Yi 2001685	
Supervisor: Cik Nur Athirah Nabila Binti Mohd Idros	
Project Title: UTAR Event Management System	

1. WORK DONE Implemented user feedback and sentiment analysis.
2. WORK TO BE DONE Start Chapter 7: Conclusion and Recommendations.
3. PROBLEMS ENCOUNTERED None indicated.
4. SELF EVALUATION OF THE PROGRESS Key features are in place, with documentation near completion.

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Supervisor's signature Student's signature

APPENDIX C

FINAL YEAR PROJECT WEEKLY REPORT

(Project II)

Trimester, Year: Year 3 Trimester 2	**Study week no.: Week 11**
Student Name & ID: Phoon Pei Yi 2001685	
Supervisor: Cik Nur Athirah Nabila Binti Mohd Idros	
Project Title: UTAR Event Management System	

1. WORK DONE Drafted Chapter 7: Conclusion and Recommendations.
2. WORK TO BE DONE Finalize and review all chapters.
3. PROBLEMS ENCOUNTERED None reported.
4. SELF EVALUATION OF THE PROGRESS The project is nearing completion, with most tasks completed successfully.

athirah

Pei Yi 4/12

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Supervisor's signature Student's signature

APPENDIX C

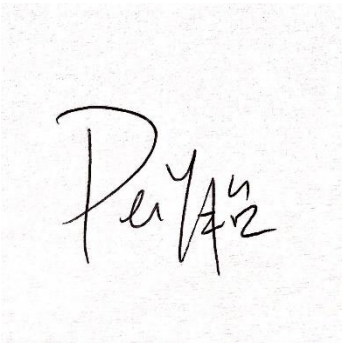
FINAL YEAR PROJECT WEEKLY REPORT

(Project II)

Trimester, Year: Year 3 Trimester 2	**Study week no.: Week 12**
Student Name & ID: Phoon Pei Yi 2001685	
Supervisor: Cik Nur Athirah Nabila Binti Mohd Idros	
Project Title: UTAR Event Management System	

1. WORK DONE Completed review and final edits of all report chapters.
2. WORK TO BE DONE Conduct final system testing and prepare for deployment.
3. PROBLEMS ENCOUNTERED None indicated
4. SELF EVALUATION OF THE PROGRESS Ready for final submission, with all requirements met.

athirah



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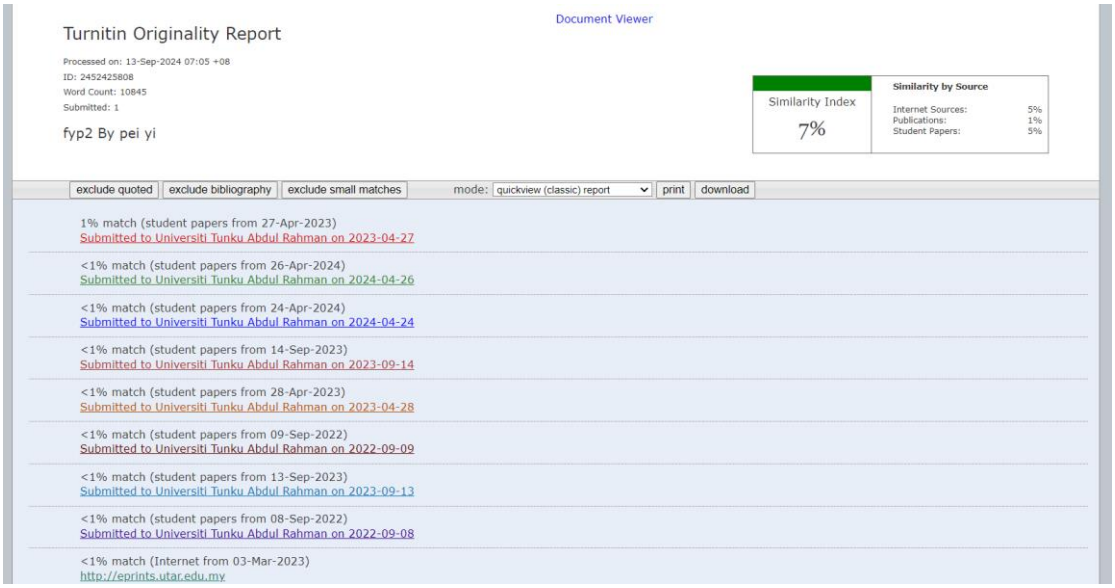
Supervisor's signature Student's signature

Appendix D (Poster)

Appendix E (Plagiarism Check Result)



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APPENDIX F

Universiti Tunku Abdul Rahman			
Form Title : Supervisor's Comments on Originality Report Generated by Turnitin for Submission of Final Year Project Report (for Undergraduate Programmes)			
Form Number: FM-IAD-005	Rev No.: 0	Effective Date: 01/10/2013	Page No.: 1of 1

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY

Full Name(s) of Candidate(s)	Phoon Pei Yi
ID Number(s)	2001685
Programme / Course	FICT/CS
Title of Final Year Project	UTAR Event Management System

Similarity	**Supervisor's Comments** **(Compulsory if parameters of originality exceeds the limits approved by UTAR)**
Overall similarity index: **7_____ % Similarity by source** Internet Sources: _____5_____% Publications: ____1_____ % Student Papers: _____5_____ %	

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Number of individual sources listed of more than 3% similarity: 0	

Parameters of originality required and limits approved by UTAR are as Follows:

(i) Overall similarity index is 20% and below, and

(ii) Matching of individual sources listed must be less than 3% each, and

(iii) Matching texts in continuous block must not exceed 8 words

Note: Parameters (i) – (ii) shall exclude quotes, bibliography and text matches which are less than 8 words.

Note Supervisor/Candidate(s) is/are required to provide softcopy of full set of the originality report to Faculty/Institute

Based on the above results, I hereby declare that I am satisfied with the originality of the Final Year Project Report submitted by my student(s) as named above.

athirah

_____ _____

Signature of Supervisor

Name: Cik Nur Athirah Nabila Binti Mohd Idros _____

Date: _9/9/2024_____

Signature of Co-Supervisor

Name: _____

Date: _____

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Check Lists

UNIVERSITI TUNKU ABDUL RAHMAN

FACULTY OF INFORMATION & COMMUNICATION TECHNOLOGY
(KAMPAR CAMPUS)

CHECKLIST FOR FYP2 THESIS SUBMISSION

Student Id	2001685
Student Name	Phoon Pei Yi
Supervisor Name	Cik Nur Athirah Nabila Binti Mohd Idros

TICK (√)	DOCUMENT ITEMS Your report must include all the items below. Put a tick on the left column after you have checked your report with respect to the corresponding item.
/	Title Page
/	Signed Report Status Declaration Form
/	Signed FYP Thesis Submission Form
/	Signed form of the Declaration of Originality
/	Acknowledgement
/	Abstract
/	Table of Contents
/	List of Figures (if applicable)
/	List of Tables (if applicable)
	List of Symbols (if applicable)
/	List of Abbreviations (if applicable)
/	Chapters / Content
/	Bibliography (or References)
/	All references in bibliography are cited in the thesis, especially in the chapter of literature review
/	Appendices (if applicable)
/	Weekly Log
/	Poster
/	Signed Turnitin Report (Plagiarism Check Result - Form Number: FM-IAD-005)
/	I agree 5 marks will be deducted due to incorrect format, declare wrongly the ticked of these items, and/or any dispute happening for these items in this report.

*Include this form (checklist) in the thesis (Bind together as the last page)

I, the author, have checked and confirmed all the items listed in the table are included in my report.

__ _____

(Signature of Student)

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Date: 9/9/2024