



Faculty of Computer Science and Information Technology

EventKamek: Event Vendor Management System

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ABSTRACT

The "EventKamek: Event Vendor Management System" is a web-based platform designed to streamline the event management process, particularly focusing on vendor slot booking. This system addresses inefficiencies in traditional methods, such as fragmented tools and manual workflows, by offering a centralized, user-friendly solution. With features like real-time slot updates, categorized vendor slots, and comprehensive event management tools, the platform fosters collaboration between organizers and vendors. The project employs the Rapid Application Development (RAD) methodology, ensuring iterative development and stakeholder involvement. Aligned with Sustainable Development Goal 8, the system promotes innovation, entrepreneurship, and economic growth. Its functionalities include event creation, vendor slot management, notifications, and an intuitive calendar/map view for better user experience. This platform enhances event organization, vendor engagement, and community connectivity, providing a scalable solution for the Kuching area and beyond.

ABSTRAK

"EventKamek: Sistem Pengurusan Vendor Acara" adalah platform berasaskan web yang direka untuk memperkemaskan proses pengurusan acara, khususnya dalam tempahan slot vendor. Sistem ini menangani ketidakefisienan dalam kaedah tradisional, seperti penggunaan alat yang terpisah dan alur kerja manual, dengan menyediakan penyelesaian berpusat yang mesra pengguna. Dengan fungsi-fungsi seperti kemas kini slot, slot vendor yang dikategorikan, dan alat pengurusan acara yang komprehensif, platform ini menggalakkan kerjasama antara penganjur dan vendor. Projek ini menggunakan metodologi Pembangunan Aplikasi Pantas (RAD), memastikan pembangunan secara iteratif dan penglibatan pihak berkepentingan. Selaras dengan Matlamat Pembangunan Mampan ke-8, sistem ini mempromosikan inovasi, keusahawanan, dan pertumbuhan ekonomi. Fungsinya termasuk penciptaan acara, pengurusan slot vendor, pemberitahuan, serta pandangan kalendar/peta yang intuitif untuk pengalaman pengguna yang lebih baik. Platform ini meningkatkan organisasi acara, penglibatan vendor, dan kesalinghubungan komuniti, menyediakan penyelesaian yang boleh diskalakan untuk kawasan Kuching dan seterusnya.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Event management systems have evolved significantly with the introduction of digital solutions that aim to simplify processes and improve efficiency. One critical aspect of event management is vendor participation, where organizers allocate booths to vendors based on categories and availability. Digital platforms have transformed industries by offering centralized, user-friendly tools for managing complex tasks, such as booth booking, scheduling, and data organization. These platforms enable automation and real-time updates, reducing manual errors and enhancing collaboration between stakeholders.

Vendors play an essential role in the success of events like trade fairs, food festivals, and expos. However, traditional methods of booth allocation often involve fragmented tools such as spreadsheets and social media posts, making it difficult for organizers to manage vendor participation efficiently. Vendors also face challenges in identifying suitable events and securing booths in a timely manner, which can hinder their business opportunities and growth potential.

To address these inefficiencies, this project proposes the development of a digital platform dedicated to events booth booking. This system aligns with Sustainable Development Goal 8: Decent Work and Economic Growth, which emphasizes promoting entrepreneurship, innovation, and productive employment. By providing vendors with a platform to easily access and secure event opportunities, the system encourages economic growth through greater participation in local and regional markets. Additionally, the system supports event organisers in efficiently managing their vendor allocation, fostering a more organized and inclusive ecosystem for economic activities.

The proposed system will feature real-time booth availability, semi-automated booking processes, and categorised booths, streamlining event organization and vendor participation. The development process will involve designing the platform, implementing backend and frontend functionalities, and testing the system for usability and reliability. By empowering both event organizers and vendors, this project contributes to sustainable economic activities and creates opportunities for productive collaboration.

1.2 Problem Statement

Event organisers face significant challenges in managing vendor booths effectively, from creating event-specific categories to ensuring that available booths are filled without errors or double bookings. The reliance on conventional tools, such as social media or basic spreadsheets, are not advanced enough to handle the complexities of managing events and vendor participation effectively. Similarly, vendors often encounter difficulties in finding suitable events, checking booth availability, and securing their participation in an organized manner. These challenges result in inefficiencies and missed opportunities for both parties. There is a pressing need for a specialized digital platform that focuses exclusively on vendor booth booking and event organization, eliminating reliance on fragmented systems and enhancing the overall management experience.

1.3 Scope

This project focuses on developing a web-based platform for vendor booth booking and management, catering to event organisers and vendors in Kuching. It has three main functionalities: event management for organisers, booth booking for vendors, and an event calendar/list view.

1. Event and Booth Management:

- Event organizers create events with required event details including the booking information for the event such as number of total booths for the event, booth fee, refundable deposit etc.
- Vendors book the available booth and make payment
- Event organizers assign vendors to booths of the event and may edit the assignments
- Event organizers can refund the refundable deposit after the event is completed

2. Event Calendar and List Views:

- Both organizers and vendors can view all events in a calendar or list format.
- Users can filter events to display only those they are involved in.
- Events can be sorted by date or other criteria for easy navigation.

3. Notifications:

- Email notifications for booth booking made to the event organizer, and email notifications to the vendors regarding the booth assignment and the refundable deposit payback.

4. User Authentication:

- Login functionality for event organisers and vendors to securely access their profiles and manage their interactions.

5. Map integration

- An interactive map allows all users to view event locations that caters in Kuching.

1.4 Aims and Objectives

This project aims to develop a digital booth booking platform that simplifies event management for event organisers and vendors, while promoting sustainable economic growth and innovation. The platform supports United Nations Sustainable Development Goal (SDG) 8: Decent Work and Economic Growth by fostering a more organised and accessible ecosystem for small businesses and event organisers. The objectives of the proposed project are:

- Developing a digital platform dedicated to booth booking, enabling event organisers to efficiently manage and publicize their events.
- Allow event organisers to create, track, and update vendor booths with booth category limits for events.
- Empower vendors to easily browse, book, and manage booths for events in an organised manner.

1.5 Brief Methodology

The development of the EventKamek will follow the Rapid Application Development (RAD) methodology. This approach emphasises iterative prototyping, user feedback, and quick delivery, ensuring a user-centric platform within a constrained timeframe (Glaschenko. A, 2023). The key phases are as follows:

Requirement Planning

- Conduct initial discussions with stakeholders (event organisers and vendors) to define core functionalities, such as booth booking, event creation, and filtering mechanisms.
- Focus on essential features like event management, booth booking workflows, and calendar and list views for event browsing.

User Design (Prototyping)

- Develop interactive prototypes or wireframes showcasing primary features, such as event creation and edit page, booth management interface, and calendar/list view layouts.
- Gather continuous feedback from event organisers and vendors to refine the prototypes and ensure the system meets user needs.
- Prioritize intuitive user interface (UI) and seamless user experience (UX) to enhance system usability.

Rapid Development

- Implement core functionalities in short development cycles, ensuring a functional system is available for testing at the end of each iteration.
- Integrate a calendar view for events, allowing users to switch between calendar and list views.
- Develop notifications using email or alternative notification systems.

Testing and Iteration

- Conduct iterative testing during each development cycle, involving stakeholders to validate functionality and gather improvement suggestions.
- Perform usability testing to ensure the platform is easy to navigate for both event organisers and vendors.
- Address bugs and refine features based on feedback to improve system performance and reliability.

Deployment

1. Deploy the platform to a staging environment for initial testing with a small group of event organisers and vendors.
2. Conduct a pilot phase to simulate real-world usage, gather user feedback, and make necessary adjustments before full deployment.

Implementation and Maintenance

- Launch the platform for public use by event organizers and vendors after addressing feedback from the pilot phase.
- Monitor system performance and gather ongoing feedback to address issues, add new features, and ensure continued alignment with user needs.

1.6 Significance of the Project

This project is significant to the local event management industry and community, providing an organised platform specifically designed for event organisers and vendors. Its key contributions include:

1. Efficient Event Management for Event Organisers:

- The platform empowers event organisers to create, manage, and monitor events seamlessly. The feature vendor booth management with category limits ensures a structured and balanced approach to event planning. This reduces reliance on disorganised tools like spreadsheets and social media.

2. Provides better opportunities for vendors:

- Vendors benefit from a dedicated booth booking system, enabling them to discover and participate in events relevant to their business. The calendar and list views offer a clear schedule of events, making it easier for vendors to plan and manage their engagements efficiently.

3. Streamlined Collaboration Between Event Organisers and Vendors:

- The system bridges communication gaps by offering notifications and real-time updates for booth approvals or rejections, fostering better collaboration between organisers and vendors.

4. Comprehensive Calendar View for Organisers and Vendors:

- The platform's calendar view serves as a central feature, allowing both organisers and vendors to view all events at a glance. They can filter events to display only those they are involved in, providing a personalised and user-friendly experience for managing schedules.

5. Enhanced Local Event Organisation with Potential Scalability:

- While the platform is tailored to Kuching area, it is designed with scalability in mind, enabling future expansion to other regions. This ensures the platform can meet the evolving needs of local users while growing to serve a broader audience.

1.7 Project Schedule

The Project Schedule is represented in the Table 1.1 and Figure 1.1 represents the project schedule in Gantt Chart.

Table 1.1: Project Schedule

Task	Start Date	Finish Date	Duration (days)
Concept Development	25 October 2024	31 October 2024	6
Project Proposal	1 November 2024	14 November 2024	13
Literature Review	15 November 2024	25 November 2024	10
Requirement Specification	26 November 2024	14 December 2024	18
UI/UX Design	15 December 2024	4 January 2025	20
Finalize System Design	5 January 2025	20 January 2025	20
Application development	21 January 2025	21 May 2025	120
Application testing	22 May 2025	11 June 2025	20
Report and Documentation	5 June 2025	30 June 2025	25

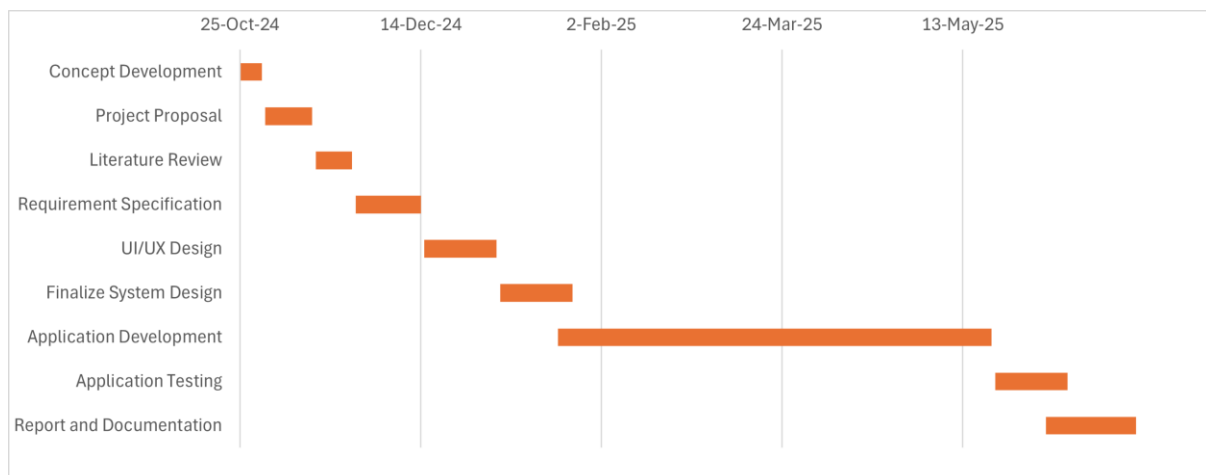


Figure 1.1: Gantt Chart

1.8 Expected Outcome

A fully functional event management platform where event organizers can efficiently manage events and streamline booth booking for vendors. The platform will feature advanced search and filtering capabilities, enabling users to quickly discover events based on categories, dates, and locations. It will provide an intuitive and user-friendly experience for all users, ensuring easy navigation and receive timely updates.

1.9 Chapter Summary

Chapter 1 introduces "EventKamek," a digital platform aimed at transforming event management and vendor booth booking for the Kuching region. The platform addresses inefficiencies in traditional systems, such as reliance on fragmented tools like spreadsheets and social media, by providing a centralized and user-friendly solution. EventKamek enhances collaboration, organization, and economic growth within the local event ecosystem.

The platform features advanced search and filtering capabilities, allowing users to quickly discover events based on categories, dates, and locations. Tools for event creation, categorized vendor booth management, and personalized recommendations for vendors further streamline the process. Notifications and real-time updates improve communication between event organizers and vendors. Map view integration is included as an additional feature, supporting users by offering an intuitive way to explore event locations.

The project employs the Rapid Application Development (RAD) methodology, emphasizing iterative prototyping and stakeholder feedback to ensure usability and reliability. Aligned with Sustainable Development Goal 8, EventKamek promotes entrepreneurship and innovation, contributing to sustainable growth in the local event management industry.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

In this chapter, a detailed review of three existing vendor event booth booking system is conducted. The review is mainly based on functionalities, efficiencies, advantages and disadvantages of all the existing system for event vendor management. Besides that, the tools and technology that are going to be used in the development will also be reviewed in this chapter

2.2 Review on Conventional Event Management System

The conventional way event organisers managing event booth booking is by using multiple or fragmented tools to manage different aspects of events, which could lead to inefficiencies and increased chances of errors. For instance, spreadsheets may be used for tracking vendor booths, while **social media**, like Facebook especially, is employed for promotion and communication, which creates disjointed workflow.

The use of fragmented tools has limited functionality that specifically tailored to event management. Managing a social media events strategy requires considerable time and effort, from content creation to audience engagement and analytics monitoring (Sam M., 2024). Hence, this event management workflow which uses fragmented tools is time-consuming and prone to error. One of the pros of using social media to manage and promote event is increased brand royalty and enhanced audience engagement (Bradley A. N., 2021). However, the use of structured event management process and centralised platform for event is essential and are able to improve the productivity of event management workflow ultimately (Waida M., 2020). Social media platforms algorithms are frequently updated, which impact how the content is distributed and seen by audience (Sam M., 2024). This could possibly result to inability to

reach target audiences especially for event organisers and could possibly results to difficulty for vendors searching preferred events for their businesses and leads to vendors missing out opportunities for securing places in particular events. Social media promotion relies on advertisements. Repeated exposure to advertising can effectively capture consumers' attention and encourage purchases and engagement. However, it is important to acknowledge that overly frequent advertising campaigns may lead to consumer fatigue, reduced engagement, or even irritation (Guo R. & Jiang Z., 2024).

Many event organisers rely on Excel spreadsheets. One of the primary reasons is its accessibility. Excel is installed on most office computers, eliminating the need for specialized integrations or additional costs often associated with SaaS tools. Additionally, Excel provides a wide range of functionalities for managing data and creating various types of tables, all within an intuitive and user-friendly interface. Excel appears to be a cost-effective solution with minimal learning requirements. However, despite its practicality, it lacks the capabilities of tools specifically designed for event planning. It's essential to recognize the potential challenges and limitations that may arise when using Excel to manage event-related data (“lab-event”, n.d.). The use of Spreadsheets lacks automation features for managing event booth booking process, which makes it difficult to manage real-time updates or track changes effectively. This can result in double bookings or miscommunication regarding vendor participation. One of the common Spreadsheet risks for businesses is it may lead to workflow inefficiency as their use can lead to repetitive manual processes, wasting time and resources Spreadsheets are also prone to data silos and result in data inconsistencies and errors (Gagliardi N., 2023). Furthermore, Errors and inconsistencies can lead decision-makers to doubt the reality of the information derived from spreadsheets (Gagliardi N., 2023). Another common problem of using spreadsheet for event management is limited scalability where spreadsheets struggle to keep up as businesses grow and data become more complex (Gagliardi N., 2023).

2.3 Review on Existing Event Management Systems

This section analyses three prominent event management platforms to discuss their functionalities and limitations.

2.3.1 OnePlan

OnePlan is an innovative event management platform that provides end-to-end solutions for planning, organizing, and executing events. It focuses on comprehensive tools for venue design, vendor management, and resource allocation, making it a robust choice for event organizers seeking a streamlined and collaborative approach. Its ability to integrate vendor management into a larger event planning framework makes it a strong candidate for organizers looking for a holistic solution. Its focus on visualization, resource allocation, and collaboration enhances its appeal, particularly for events requiring detailed planning and execution. By addressing vendor management challenges through dedicated tools, OnePlan stands out as an effective alternative to platforms that focus primarily on ticketing and attendee management.

Figure 2.1 shows the Venue Management Interface of OnePlan.

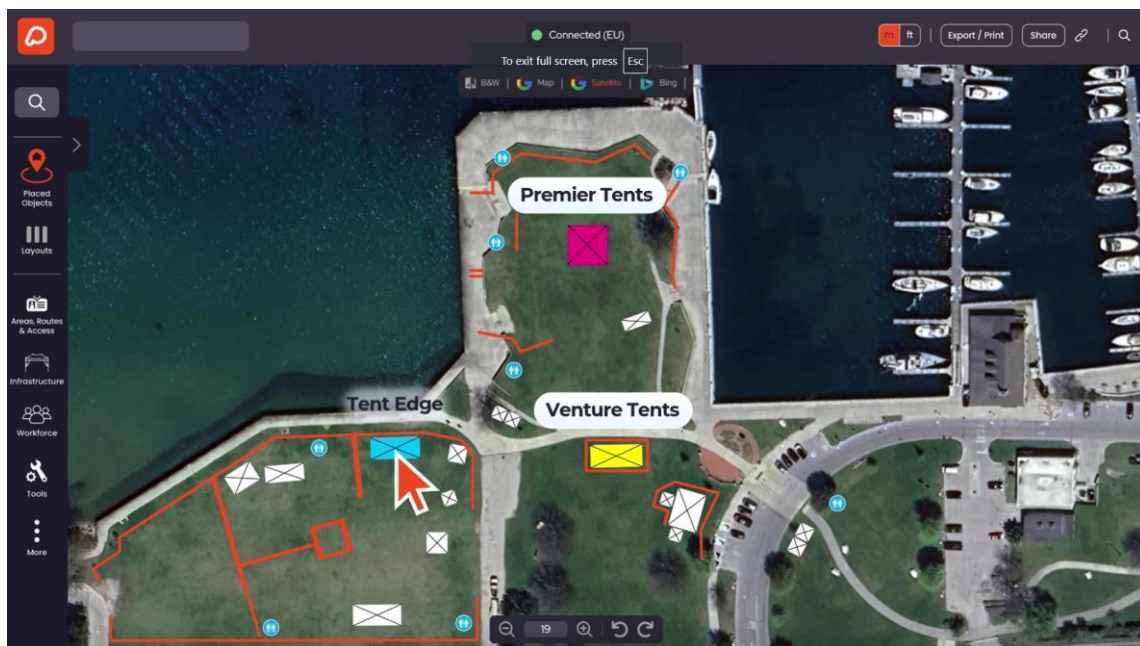


Figure 2.1: OnePlan Venue Management Interface

One of the standout features of OnePlan is its real-time collaboration capability. Organizers, vendors, and stakeholders can work together on a centralized platform to manage venue layouts, allocate resources, and assign booths with precision. The platform also includes geospatial mapping tools, allowing users to design event layouts and visualize vendor placement, attendee flow, and access points in detail. This integration ensures an organized and efficient setup for events of varying sizes and complexities.

Features:

1. Venue Design and Layout Management:

- Interactive tools for designing and visualizing event layouts with geospatial mapping.
- Collaboration features for teams to coordinate layouts, seating arrangements, and vendor booth placements in real time.

2. Vendor Management System:

- Dedicated tools for managing vendor registration, booth assignments, and real-time booth availability.
- Ensures compliance with vendor requirements, such as category limitations and logistical needs.

3. Resource Allocation:

- Centralized system for allocating resources like utilities, equipment, and staff assignments to various event components.

4. Analytics and Reporting:

- Provides detailed insights into resource utilization, attendee behavior, and vendor performance.
- Supports post-event analysis for improving future planning.

5. Integration and Scalability:

- Offers API capabilities for integrating with other tools and platforms.
- Scales effectively for small events, large festivals, and multi-day conferences.

Limitations:

1. Learning Curve:

- The advanced features may require a learning period for new users to fully utilize its potential.

2. Cost:

- While comprehensive, the platform's pricing may not suit small-scale organizers or those with limited budgets.

3. Reliance on Internet Connectivity:

- Its cloud-based nature requires a stable internet connection for optimal performance.

2.3.2 Cvent

Cvent is an industry-leading meetings, events, and hospitality technology provider. Since 1999, their technology has empowered event planners, marketers, hoteliers, and travel professionals around the world to deliver incredible experiences and accelerate their success. Renowned for its scalability and robust toolset, Cvent supports the entire event lifecycle, from planning and registration to post-event reporting and analysis. It is particularly recognized for its exhibitor and sponsorship management features, making it highly suitable for events that involve vendor booths and exhibitor coordination.

One of Cvent's standout innovations is its use of **AI-powered tools**, which streamline workflows and enhance user experiences. AI-driven features assist with tasks like content generation, data analysis, and attendee engagement. Additionally, Cvent integrates seamlessly with popular CRMs, marketing tools, and communication platforms, making it versatile for a variety of event management needs. However, its corporate focus and high pricing structure can be a barrier for smaller or low-budget events, limiting its accessibility for broader use cases.

Features

1. Event Registration and Attendee Management:

- Customizable registration forms and branded event pages.
- Automated attendee tracking, ticketing, and confirmations.
- Integrated payment processing supporting multiple currencies.

2. Exhibitor and Vendor Management:

- Exhibitor Portals for vendors to upload marketing materials, manage booth information, and track leads.
- Appointment scheduling tools that allow vendors, sponsors, and attendees to coordinate real-time meetings.

3. AI-Powered Tools:

- AI tools automate data analysis, attendee matchmaking, and meeting recommendations.
- Enhanced lead scoring and predictive analytics to help exhibitors identify high-quality leads.

4. Marketing and Promotion:

- Integration with platforms like Salesforce and Marketo for targeted email campaigns.
- Social media promotion features and attendee engagement tools.

5. Virtual and Hybrid Event Support:

- Virtual booths, live streaming, and audience engagement features like Q&A and polling for hybrid events.
- Virtual networking opportunities powered by AI to connect attendees with similar interests.

6. Analytics and Reporting:

- Advanced data analytics provide insights into attendee behavior, sponsorship ROI, and event performance.
- Post-event reporting to optimize strategies for future events.

7. Budget and Financial Management:

- Tools for tracking event budgets, forecasting expenses, and calculating ROI.

Limitations

1. High Fees and Complex Pricing:

- Cvent operates on a **quote-based pricing model**, with additional fees for premium features like badge printing and lead retrieval. This can make it prohibitively expensive for smaller events or organizations with limited budgets.

2. Complexity for New Users:

- The platform's extensive feature set and corporate focus result in a steep learning curve for new or less experienced users.

3. Corporate Focus:

- Cvent is heavily tailored for corporate events, making it less suitable for smaller, community-based, or university events that require simpler solutions.

2.3.3 ExpoPlatform

ExpoPlatform is a comprehensive event management platform tailored for professional and large-scale events such as exhibitions, trade shows, and conferences. It is designed to support event organizers with a range of advanced features, including exhibitor management, attendee engagement tools, and data analytics. A standout feature of ExpoPlatform is its ability to offer an integrated experience for physical, hybrid, and event virtual events, ensuring seamless interaction between in-person and virtual participants.

ExpoPlatform is equipped with sophisticated tools for event planning and execution, such as booth booking, personalized attendee journeys, and interactive floor maps. Its emphasis on automation and data-driven decision-making makes it a robust choice for organizing complex and large-scale events. Furthermore, ExpoPlatform supports integrations with external systems, such as CRM platforms, to enhance operational efficiency and deliver a personalized experience to participants. Figure 2.2 shows one of the user interface of ExpoPlatform

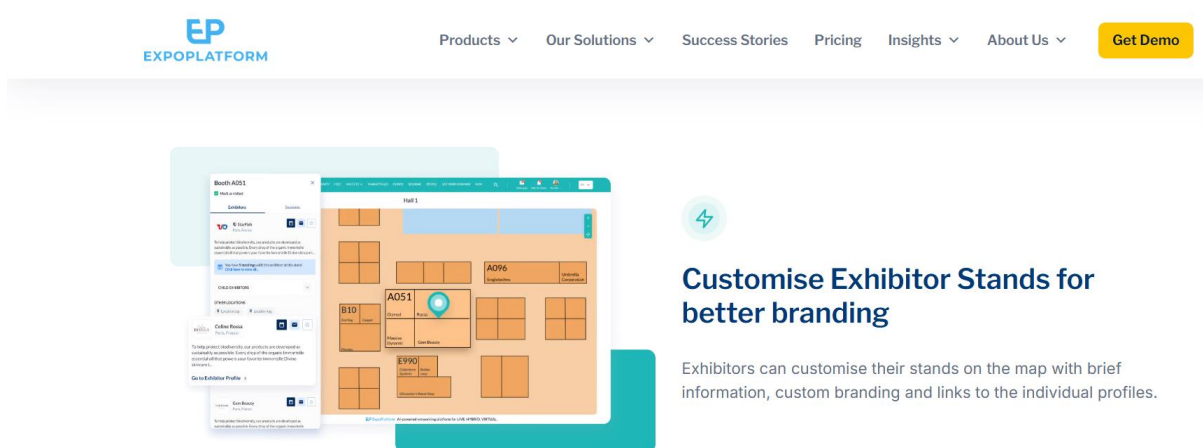


Figure 2.2: ExpoPlatform Interface

While ExpoPlatform is highly effective for structured and professional events, it is less suited for informal gatherings or small-scale community-based events due to its emphasis on advanced features and professional-grade tools.

Features

1. Event Creation and Management:

- ExpoPlatform enables organizers to create detailed event pages with rich customization options, such as branding, exhibitor lists, and interactive floor plans.

2. Vendor and Exhibitor Management:

- The platform provides tools for exhibitor registrations, booth booking, and exhibitor dashboards, making it ideal for trade shows and expos.

3. Hybrid Event Support:

- ExpoPlatform facilitates hybrid events, allowing attendees to participate both physically and virtually with real-time engagement tools like live streams, Q&A, and polling.

4. Data Analytics and Reporting:

- Organizers can leverage robust analytics tools to gain insights into attendee behavior, engagement metrics, and event performance, aiding in data-driven decision-making.

5. Networking and Engagement Tools:

- ExpoPlatform supports AI-driven matchmaking, attendee profiles, and networking opportunities, enhancing engagement and creating meaningful connections among participants.

Limitations

1. Not Suited for Informal Events:

- ExpoPlatform's advanced tools and features are optimized for structured and professional events, making it less ideal for casual gatherings or small-scale activities.

2. High Implementation Costs:

- The platform may not be cost-effective for small organizers or one-time events, as its advanced features and integrations often come with a higher price point.

3. Learning Curve for New Users:

- The platform's extensive capabilities can be overwhelming for new users, requiring time and training to leverage its full potential.

2.3.4 Comparison Table of Existing Platforms

Table 2.1: Comparison Table of Existing Event Management Platform

Aspect	OnePlan	Cvent	ExpoPlatform
Target Audience	Event organizers managing large-scale events requiring detailed planning, vendor management, and resource allocation.	Corporate event planners, conference organisers, and exhibitors managing large-scale events, trade shows, and meetings. Primarily focused on professionals in event industries.	Organizers of exhibitions, trade shows, and conferences focusing on attendee engagement and hybrid events.
Platform	Website with geospatial mapping and real-time collaboration capabilities.	Website and mobile app with responsive design	Website and mobile app with responsive design.
Search Functionality	Advanced search for booths, resources, and venue layouts.	Advanced search with filters for event types, sessions, speakers, and exhibitors.	Advanced search with filters for vendors list, attendee profiles, and hybrid event features.
Payment Integration	Integrates with external tools for payment management.	Integrated payment processing with Stripe and PayPal . Supports multiple payment methods, including credit cards.	Integrated payment solutions for ticketing and exhibitor payments.
Notifications	Real-time updates for vendor assignments and layout changes.	SMS and email reminders for events	Push notifications, email reminders, and in-app updates for exhibitors and attendees.
Event Discovery	Venue-focused discovery with interactive layouts and maps. Not intended for the discovery from attendee	Discovered by search and promotion in the Cvent platform	Discovered through AI-powered recommendations and interactive maps.
Booth-booking feature	Yes. Integrated with interactive venue layout	Yes	Yes
Unique Features	Real-time collaboration, geospatial mapping for layouts, and detailed vendor management tools.	interactive floor plan for large-scale events like trade shows for booth-booking	Hybrid event support, AI-powered networking, and advanced analytics.

2.4 Research on Tools and Technology Requirements

The development of the EventKamek platform requires a comprehensive understanding of tools and technologies to ensure a robust, scalable, and user-centric system. This section explores the technological requirements, focusing on event and vendor management and interactions in the platform.

2.4.1 Google Maps API

Google Maps API is essential for interactive mapping feature. Its versatility in geospatial visualization enables dynamic map rendering, real-time updates, and user interactivity. The API allows for integrating key features such as geocoding, routing, and location-based search, which are crucial for enabling users to discover events visually and navigate to venues effortlessly. The API's compatibility with various platforms, including web and mobile, ensures a seamless user experience across devices.

Key features of Google Maps API include:

- **Geocoding:** Enables event location mapping with latitude and longitude coordinates (Mehta H., Kanani P., & Lande, P., 2019).
- **Interactive Markers:** Facilitates the display of vendor booths and event details through tooltips and clickable icons.

2.4.2 Development Frameworks

Development frameworks play a pivotal role in streamlining the creation of modern web applications. They provide pre-built tools and components that allow developers to focus on building efficient and user-friendly software.

Front-End Frameworks

Front-end frameworks enable developers to build dynamic and interactive user interfaces and manage the interaction between users and the application (Minvielle L., 2024). Popular frameworks include:

- **React.js:** Widely regarded for its component-based architecture and strong ecosystem, React.js enables developers to create highly interactive web applications with efficient state management.
- **Vue.js:** Known for its user-friendly design, Vue.js combines the best features of other frameworks with its own enhancements. It employs a declarative programming style and is well-suited for both small-scale projects and large enterprise applications.
- **Angular:** A comprehensive framework maintained by Google, Angular employs a TypeScript-based approach, providing tools for building complex single-page applications.

Back-End Frameworks

Back-end frameworks simplify server-side development, offering features for database management, and server-side operations (Gadhavi M., 2024). Key frameworks include:

- **Node.js:** Built on JavaScript, Node.js excels in building scalable network applications, leveraging its extensive library ecosystem.
- **Laravel:** A PHP-based framework known for its elegant syntax and extensive built-in functionalities, including authentication, caching, and API support. Laravel is particularly suited for medium to large-scale applications.

2.5 Chapter Summary

This chapter provided a comprehensive review of existing event management and booth booking systems, focusing on both conventional and modern digital approaches. The analysis began with an evaluation of conventional methods such as spreadsheets and social media, highlighting issues like fragmented workflows, limited automation, error susceptibility, and scalability constraints. Despite their accessibility, these methods were found to be inefficient and prone to data inconsistencies, ultimately affecting event planning quality.

The chapter then explored three major digital platforms—**OnePlan**, **Cvent**, and **ExpoPlatform**—each offering various features such as real-time collaboration, vendor management, hybrid event support, and advanced analytics. A comparative analysis revealed their strengths and limitations in terms of usability, scalability, affordability, and suitability for different types of events. While these systems offer powerful functionalities, they often pose challenges in cost, complexity, and learning curve, especially for small-scale or community-based events.

Lastly, the chapter reviewed essential tools and technologies for developing the proposed EventKamek system. It covered the significance of Google Maps API for geospatial functionalities and discussed suitable front-end and back-end frameworks such as React.js, Vue.js, Angular, Node.js, and Laravel. These technologies were selected based on their flexibility, scalability, and compatibility with the system's goals. The insights gathered from this literature review form a critical foundation for the system design and development detailed in subsequent chapters.

CHAPTER 3

REQUIREMENT ANALYSIS AND DESIGN

3.1 Introduction

This chapter highlights the requirement analysis to develop EventKamek: Event Vendor Management System. The methodology used of this proposed system is Rapid Application Development (RAD).

3.2 Requirement Elicitation

The requirement elicitation process employed a combination of interviews and observations. Interviews were conducted with event organizers and vendors to understand their pain points, workflows, and desired features. Observations of current practices, such as the use of Excel sheets and social media platforms, provided additional context. The participants included 1 event organizer and 1 vendor operating in Kuching.

3.3 Event Organiser Interview

The interview was conducted with Muhammad Zulhilmi Bin Abang Muhammad Reduan, who active in event organising activities, to gather insights regarding the event management workflow, challenges, and possible innovations. The interview questions and responses can be referred to [Appendix A](#)

3.3.1 Vendor Interview

The interview was conducted with Awang Iskandar Bin Awang Jidon, the owner of Iskandar Catering, to gather insights regarding the from vendor perspective. Refer [Appendix B](#) for the interview questions and responses.

3.4 Requirement Analysis

3.4.1 Use Case Model

Figure 3.1 shows the Use Case Model of EventKamek. While Table 3.1 to Table 3.11 shows the use case specification of each use case.

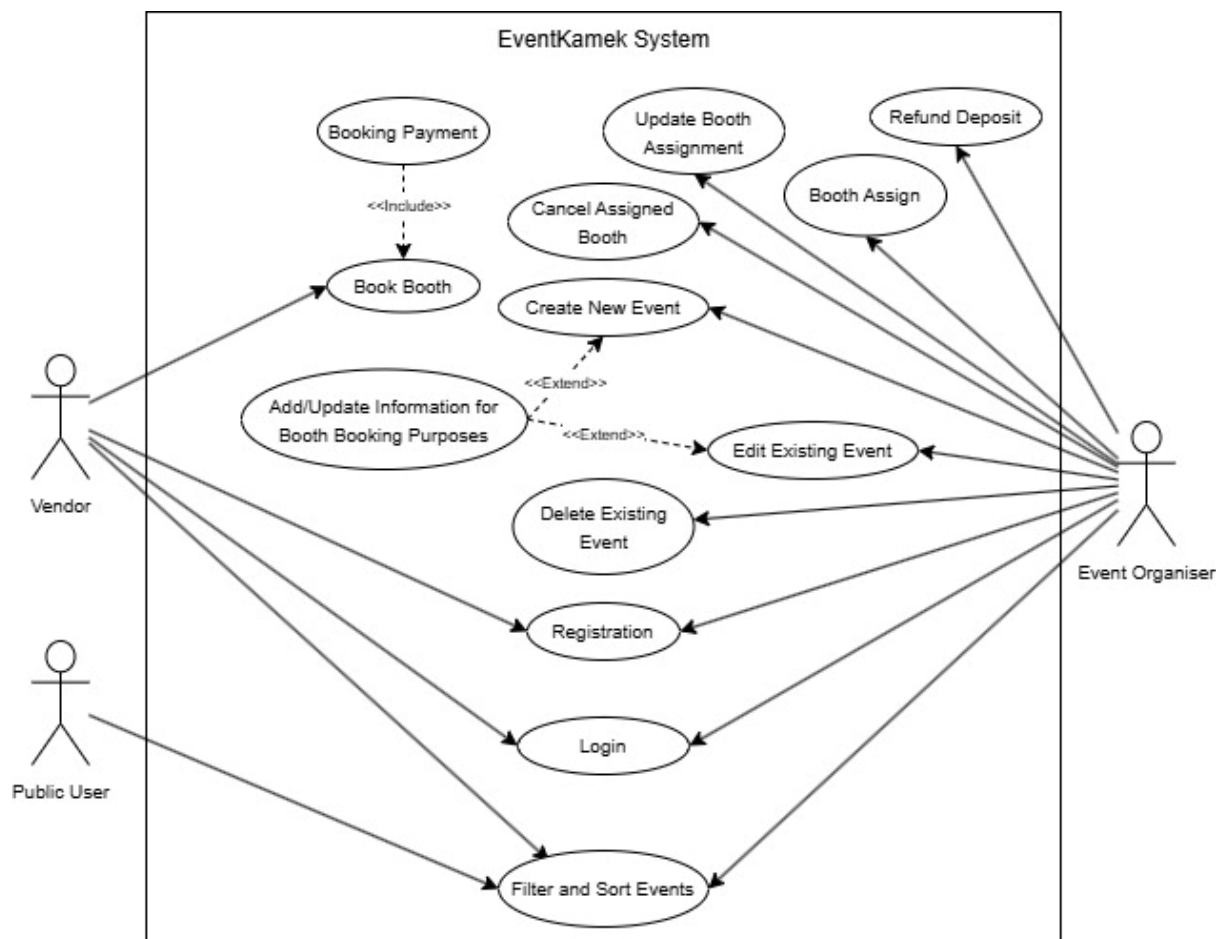


Figure 3.1: EventKamek Use Case Diagram

Table 3.1: Create Event Use Case Specification

Use Case	Create Event
Actors	Event Organiser
Description	Enables event organisers to add new event in the platform
Pre-condition	The event organiser must have an account and be logged into the system
Post-condition	The event is successfully created and visible to all users
Main flow	1. The event organiser logs into the platform 2. Navigates to “Create Event” page 3. Enters event details 4. Confirm event creation 5. The new event added into the system

Table 3.2: Edit Existing Event Use Case Specification

Use Case	Edit Existing Event
Actors	Event Organiser
Description	Enables event organisers to edit existing event in the platform
Pre-condition	• The event organiser must have an account and be logged into the system • The event selected exists and belongs to the organiser.
Post-condition	The event details are successfully updated and reflected in the system for all users.
Main flow	1. The event organiser logs into the platform 2. Navigates to the list of their events 3. Select an event to open the Event Details page 4. Clicks the “Edit Event” button to go to the “Edit Event” page 5. Updates any editable event fields 6. Clicks “Save Changes” 7. The system validates and updates the event in the database
Exception Flow: Booth slot conflict	• Condition: In the Info for Booking Purposes section in the “Edit Event” form, the organiser attempts to reduce the number of booths slots to a value lower than the number of bookings of the event selected • System Response: 5. A warning message is shown 6. The form submission is blocked. 7. Organiser is returned to the edit form to revise inputs.

Table 3.3: Delete Existing Event Use Case Specification

Use Case	Delete Existing Event
Actors	Event Organiser
Description	Allows the organiser to delete an event that they have previously created
Pre-condition	- The event organiser must be logged into the system. - The event selected exists and belongs to the organiser.
Post-condition	The selected event is removed from the system
Main flow	- The event organiser logs into the platform - Navigates to the list of their events - Select an event to open the Event Details page - Clicks the “Delete Event” button - Clicks “Confirm Deletion” - The deletes the event in the database
Exception Flow: Booth booked event cannot be deleted	Condition: The event selected by the organiser is already contain booth booking System Response: The “Delete Event” button in the Event Details page is disabled restricting the organiser to delete the event

Table 3.4: Filter and Sort Events Use Case Specification

Use Case	Filter Events and Sort Events
Actors	Public User, Vendor, Event Organiser
Description	Allows users to search, filter, and sort through listed events based on criteria such as event name, organiser, date range, location, newest to oldest and oldest to newest
Pre-condition	- The user is on the Events page (Homepage). - Events have been created and are visible to users.
Post-condition	The user views a refined list of events based on selected filters or sort order.
Main Flow	- The user navigates to the Events page. - The system displays all available events by default. - The user selects one or more filters (e.g., date, location, organiser). - The system updates the event list based on selected filters. - The user chooses a sort option (e.g., "Newest") - The system reorders the list according to the selected sort criteria. - The user views the updated, filtered, and sorted event list.
Alternate Flow: No matching results	Display “No events to display”

Table 3.5: Log in Use Case Specification

Use Case	Log in
Actors	Event Organiser, Vendor
Description	Allows event organisers and vendors to log into the system
Pre-condition	The user must already have a registered account
Post-condition	The users logged into the system and are able to access some functionality respective to their roles
Main Flow	1. The user navigates to the login page 2. The system prompts the user to enter their email and password 3. The user submits the login form 4. The system verifies the credentials 5. If valid, the system grants the user access to their account and redirects them to their dashboard
Exception Flow: Invalid credentials	1. The user enters incorrect credentials 2. The system displays an error message: “invalid username or password”

Table 3.6: Registration Use Case Specification

Use Case	Registration
Actors	Event Organiser, Vendor
Description	Allows event organisers and vendors to register for an account on the platform
Pre-condition	The user must provide a valid email address and other necessary details
Post-condition	The user’s account is created, and they can now log into the platform
Main Flow	1. The user navigates to the user registration page 2. The user fills in the user registration form 3. The user submits the registration form 4. The system validates the details 5. Prompts user with successful registration and redirects the user to the login page
Exception Flow:	1. The user fails to fill in mandatory fields with valid input criteria (e.g.: inputting email with invalid email format) 2. The system displays an error message and highlights the input field with invalid or empty input

Table 3.7: Book Booth Use Case Specification

Use Case	Book Booth
Actors	Vendor
Description	Enables vendors to book booths for events directly on the platform for events that enables booth booking
Pre-condition	There must be at least one available booth in the event
Post-condition	• Event organizer for the event is notified through email. • The booking details is saved in the platform for the event organiser to view
Main Flow	1. The vendor logs into the platform 2. Selects an event to go to the Event Details page 3. Click “Book Now” button to fill in the booking form 4. Enter booking details in the booking form including remark if applicable (e.g.: requesting booth near entrance) 5. Proceed to Payment to go to the Payment page 6. Enter payment details and click “Pay Now” 7. The system saves the booking and notifies the organiser
Exception Flow	Condition: The booths for the event selected by the organiser is fully booked • System Response: The “Book Now” button in the Event Details page is disabled restricting the vendor to book the fully booked event

Table 3.8: Booth Assign Use Case Specification

Use Case	Booth Assign
Actors	Event Organiser
Description	Enables Event Organiser to assign vendor to a booth of an event
Pre-condition	• The event organiser must be logged into the system • The vendor has made a confirmed booking (completed payment) of that event
Post-condition	• The vendor is assigned to a specific booth • The booth table is updated with the new assignment • The vendor receive email notifying the booth assignment
Main Flow	1. The organiser logs into the platform 2. Navigates to the event's booth management page 3. Selects a booking to be assigned to a booth in the booking table 4. View the booking details in the assign booth form 5. Select a booth to be assigned to this booking 6. Confirms the assignment 7. System saves the assignments and updates the booth table 8. The vendor that made the booking receives a notification of successful booth assignment
Alternate Flow: Auto-assign bookings to boots	Triggered at: Step 3 (organiser chooses auto-assign instead selecting a booking to be assigned) Steps: 1. The organiser clicks the “Auto-Assign” button. 2. The system automatically maps unassigned vendor bookings to available booths based on availability and predefined rules (e.g., first-come-first-served according to the Booking Date & Time). 3. A summary of assignments is shown for confirmation. 4. The organiser confirms the assignments. 5. The system finalises the assignments and notifies vendors.

Table 3.9: Update Booth Assignment Use Case Specification

Use Case	Update Booth Assignment
Actors	Event Organiser
Description	Enables the event organiser to update booth assignment details or reassign a vendor's existing booth assignment to a different booth within the same event, provided the target booth is unoccupied.
Pre-condition	• The event organiser is logged into the system. • The vendor has a confirmed booking for the event. • The vendor has already been assigned to a booth.
Post-condition	• The booth assignment table is updated accordingly. • The vendor receives an updated notification regarding their booth update or reassignment.
Main Flow	1. The organiser logs into the platform. 2. Navigates to the event's booth management page. 3. Selects a booth assignment to be updated in the booth table. 4. Clicks "Update Booth" to open the update assignment form. 5. Modifies any editable fields, such as assigned booth (dropdown of booths of the event) and remark 6. Confirms the changes. 7. System updates the booth assignment and reflects the changes in the booth table. 8. Vendor receives an email notification with updated booth details.
Exception Flow: Attempting to select occupied booth	Triggered at: Step 5 (when updating the booth number) Condition: The organiser attempts to select a booth that is already assigned to another vendor. System Response: 1. The occupied booth is disabled in the dropdown menu. 2. Tooltip appears: "occupied." 3. Organiser must select another available booth or skip reassigning

Table 3.10: Cancel Booth Assignment Use Case Specification

Use Case	Cancel Booth Assignment
Actors	Event Organiser
Description	Enables the event organiser to cancel a vendor's booth assignment. This action will mark the booth as available and remove the vendor's assignment from the event's booth table. A notification will be sent to the affected vendor.
Pre-condition	• The event organiser is logged into the system. • The vendor has a confirmed booking for the event. • The vendor has been assigned to a booth.
Post-condition	• The vendor's booth assignment is removed. • The booth associated will be available in the booth table. • The vendor receives a notification regarding the cancellation. • The assignment will be saved into another table "Removed Assignments" or "Cancelled Assignments" (Soft deletion)
Main Flow	1. The organiser logs into the platform. 2. Navigates to the event's booth management page. 3. Identifies the vendor's existing booth assignment in the booth table. 4. Clicks the "Cancel Assignment" button associated with the assigned booth. 5. Confirms the cancellation in a system prompt. 6. The system removes the assignment and marks the booth as available. 7. Vendor receives an email notification informing them of the cancellation.

Table 3.11: Refund Deposit

Use Case	Refund Deposit
Actors	Event Organiser
Description	Enables the event organiser to process a refund of the vendor's booth deposit payment, after event termination.
Pre-condition	• The organiser is logged into the system. • The vendor has a confirmed and paid booking. • The event is completed (Event Status: "Past")
Post-condition	• The vendor's deposit is refunded • The refund status is recorded in the booking record. • The vendor receives a notification of the successful refund.
Main Flow	1. The organiser logs into the platform. 2. Navigates to the event's booth management, selecting the past event 3. Selects an assignment that is not refunded yet 4. Clicks the "Refund Deposit" button. 5. Confirms the refund action. 6. Refund status is updated to "Refunded" For the selected assignment 7. Vendor receives an email confirmation of the refund.
Exception Flow: Forfeit deposit	Triggered at: Step 4 (organiser decides to forfeit the deposit) Steps: 1. Organiser clicks "Forfeit Deposit" instead of Refund Deposit. 2. System prompts for reason (optional). 3. Refund status is updated to "Forfeited" 4. Vendor is notified of refund rejection with reason (if provided).

3.4.2 Sequence Diagram

The sequence diagram of Create Event (Figure 3.2) illustrates the event creation process. It begins when the event organiser submits event details, which are received by the Event component. A check is performed to determine if booth booking is enabled for the event created. If enabled, the system proceeds to call AddBooths() to initialise booths. Once completed, a confirmation message is sent back to the organiser. This ensures booths are only created when required, streamlining the process.

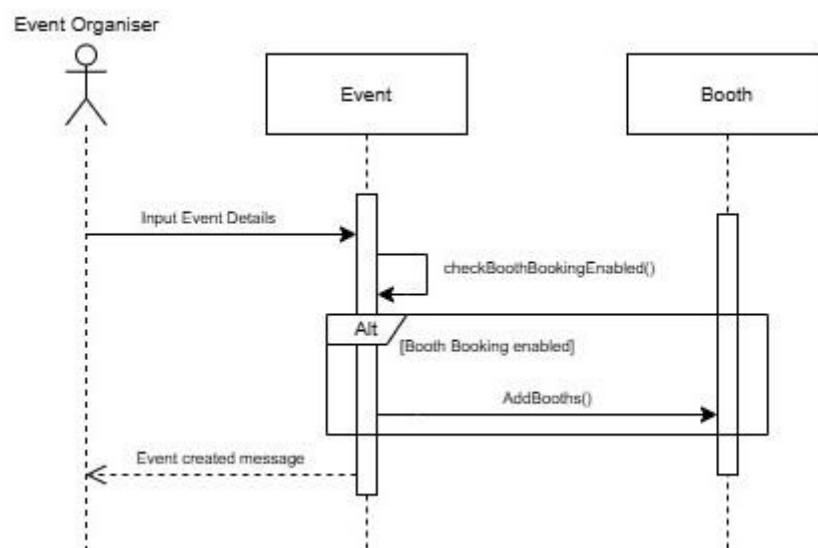


Figure 3.2: Sequence Diagram of Create Event

This sequence diagram of Edit Existing Event (Figure 3.3) outlines the process of editing an event, particularly focusing on booth slot adjustments. The event organiser selects an event, prompting the system to retrieve event details and the current number of bookings. When the organiser edits the event, the system compares the updated booth slots with the previous count. If the new count is higher, additional booths are added. If the count is lower, the system checks if the new value still accommodates existing bookings. If so, booths are deleted; otherwise, editing is restricted. Finally, a confirmation message is sent once the update is completed.

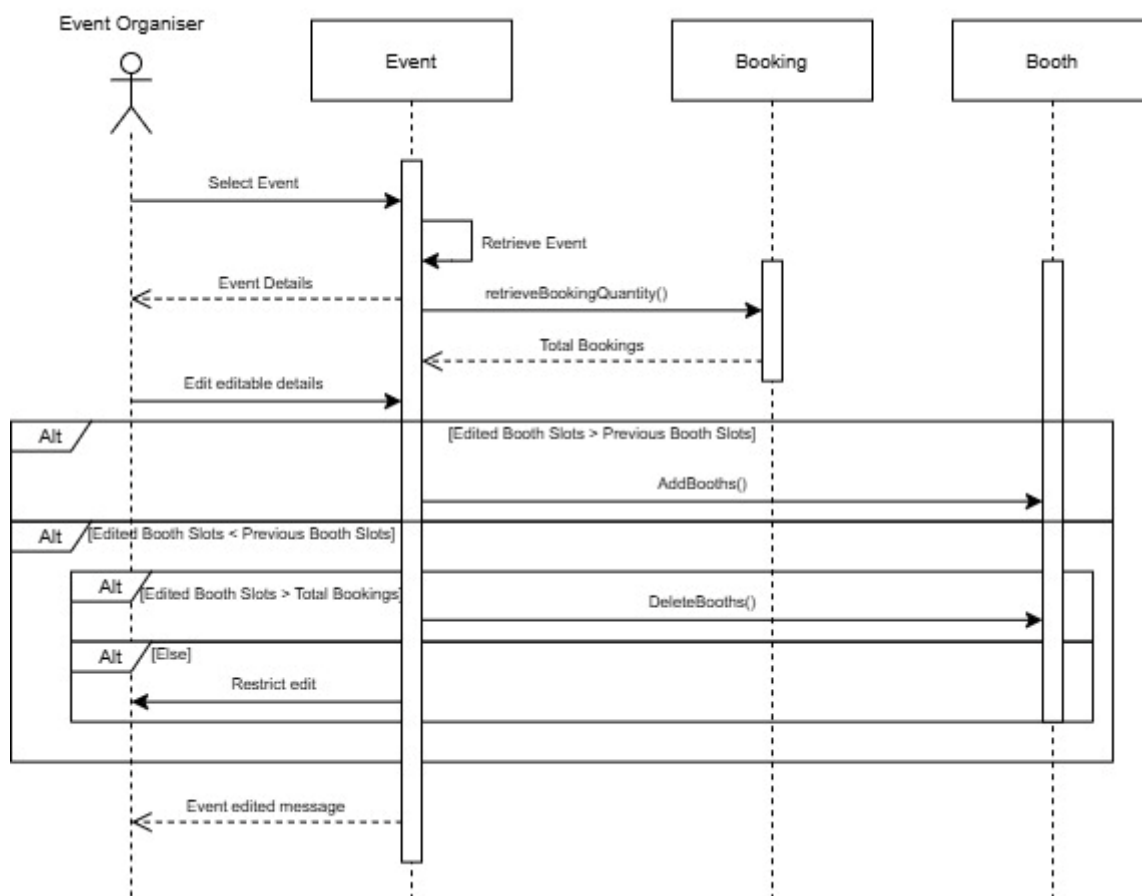


Figure 3.3: Sequence Diagram of Edit Existing Event

This sequence diagram of Delete Existing Event (Figure 3.4) outlines the process of deleting an event while checking for existing booth bookings. The organiser selects an event, prompting the system to retrieve event details and the total number of bookings. If bookings exist (Total Bookings > 0), deletion is restricted to prevent data loss. Otherwise, if the updated booth slots are fewer than before, the system allows deletion upon confirmation. A final message is then sent to the organiser confirming successful deletion. This ensures that deletions are safely handled without affecting ongoing bookings.

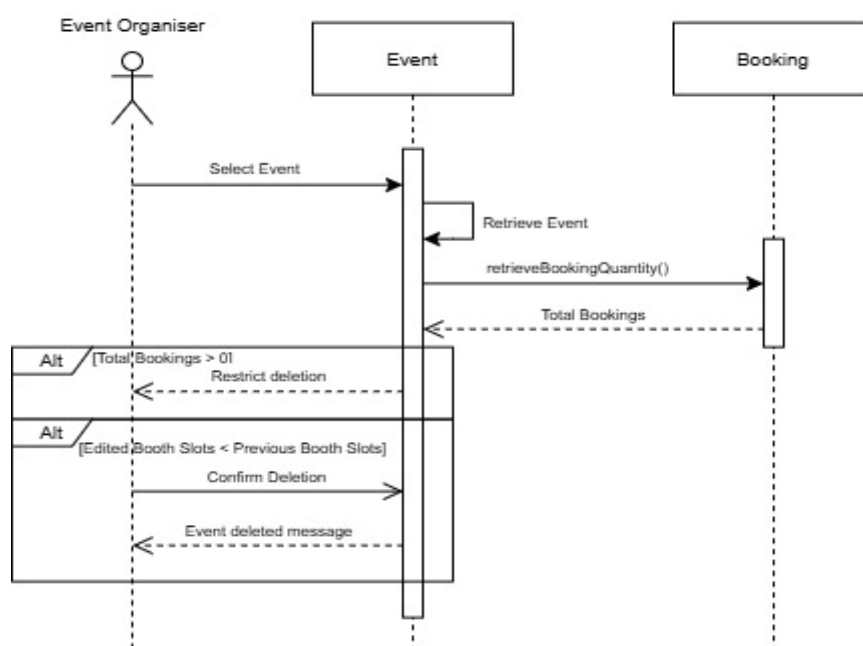


Figure 3.4: Sequence Diagram of Delete Existing Event

The sequence diagram of Booking (Figure 3.5) illustrates the booth booking process from a vendor's perspective. The vendor initiates the process by selecting an event, prompting the system to retrieve event details and current booking count. If the number of existing bookings is equal to or exceeds the total booth slots, the system restricts further bookings. Otherwise, the vendor submits booking details, which are then stored. A confirmation message is sent to the vendor, and an email notification is triggered for the organiser. This ensures bookings are only accepted when slots are available, maintaining system accuracy and communication.

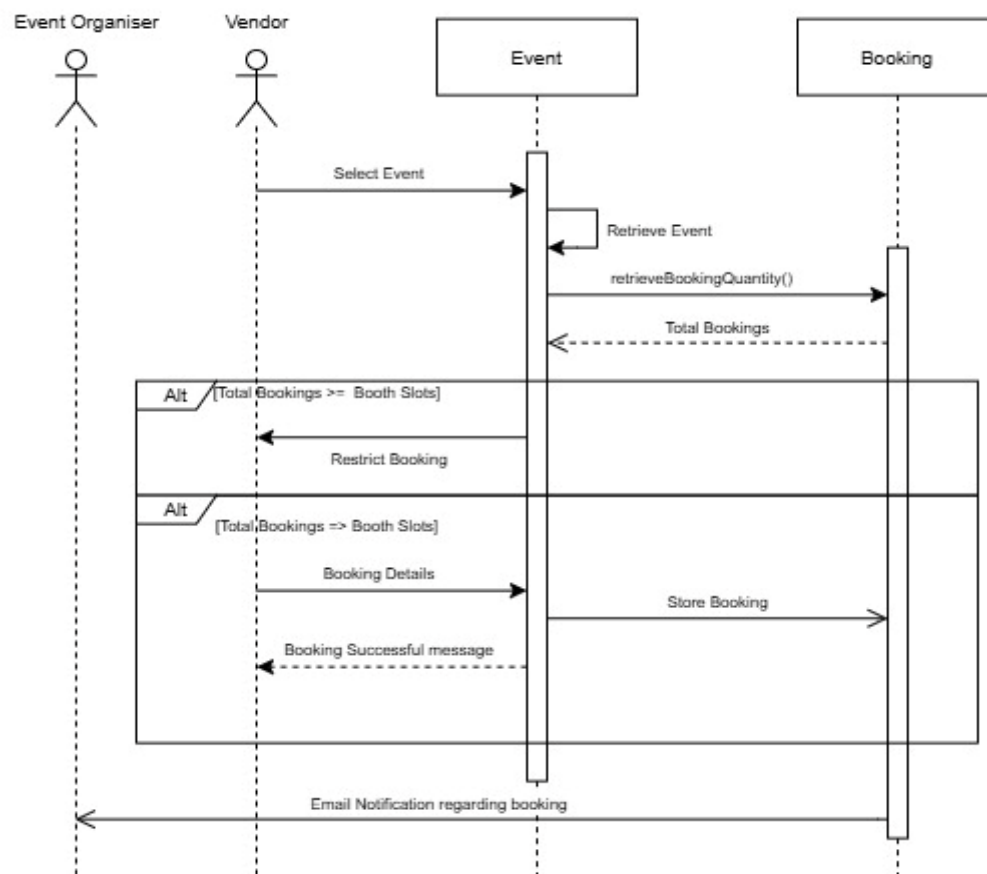


Figure 3.5: Sequence Diagram of Booking

The sequence diagram of Booth Assignment (Figure 3.6) illustrates the booth assignment process. The event organiser selects a vendor's booking, prompting the system to retrieve booking details and display available booths. Once a booth is selected, the assignment is created, and the corresponding booth status is updated to "occupied." The system then updates the booking status to "Assigned" and returns a confirmation message to the organiser. Finally, an email notification is sent to the vendor regarding the assignment. This flow ensures that each booking is accurately linked to an available booth, maintaining clear assignment records and booth availability status.

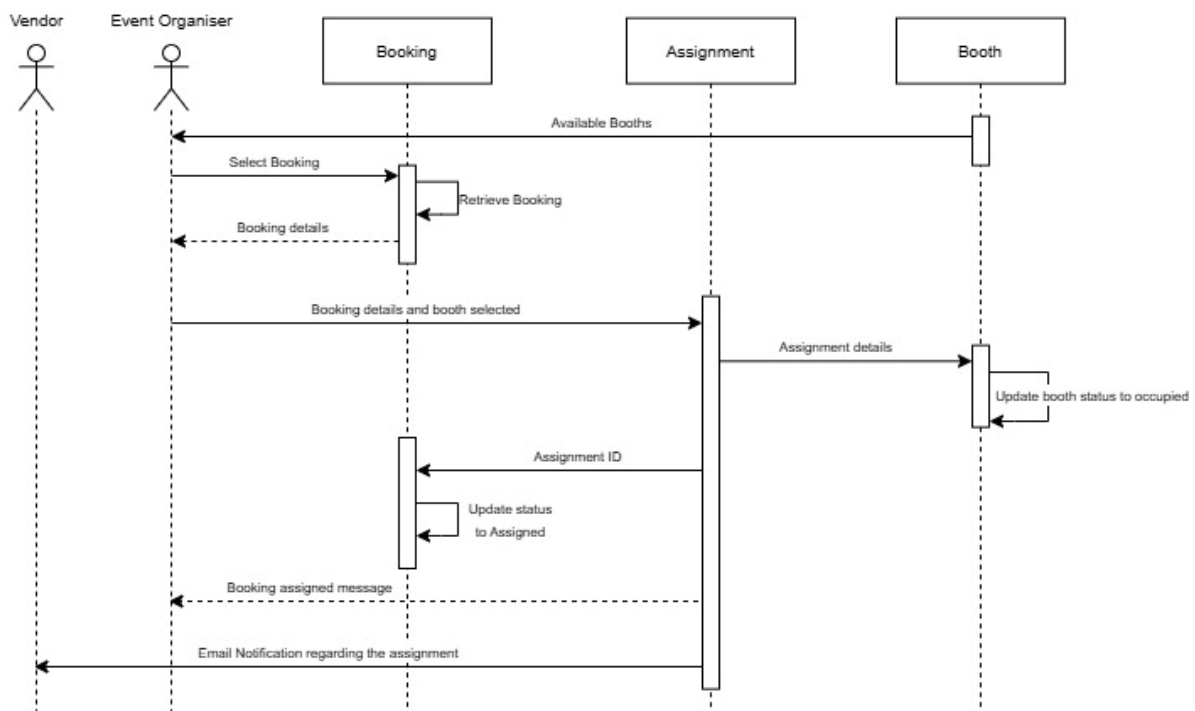


Figure 3.6: Sequence Diagram of Booth Assignment

The sequence diagram of Update Booth Assignment (Figure 3.7) represents the process of updating a booth assignment. The event organiser selects an existing assignment, prompting the system to retrieve its details and fetch the list of available booths. The organiser may choose to update the assignment, which can include reassigning the vendor to a different booth. If reassignment occurs, the system assigns the vendor to the new booth and marks the previous one as unoccupied. After the update, a confirmation message is shown, and an email notification is sent to the vendor. This process allows flexible updates while ensuring booth availability is properly managed.

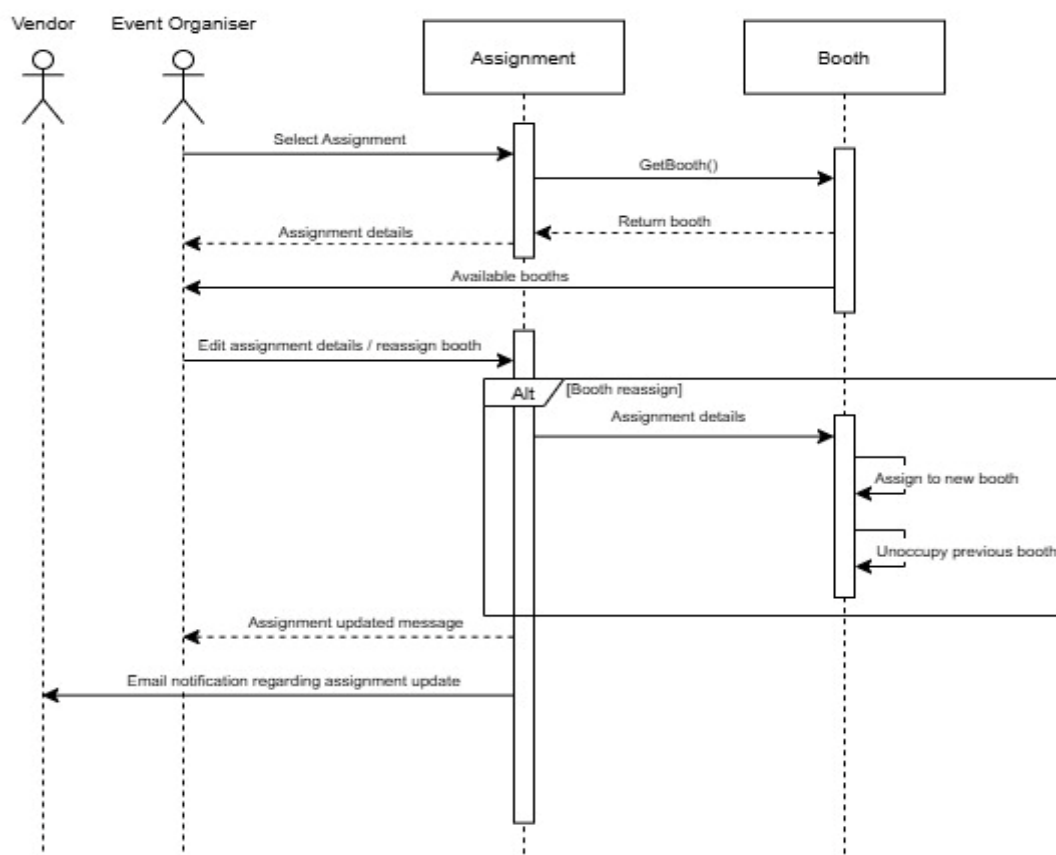


Figure 3.7: Sequence Diagram of Update Booth Assignment

The sequence diagram of Cancel Assigned Booth (Figure 3.8) outlines the process of cancelling a booth assignment. The event organiser selects an existing booking, and the system retrieves both the booking details and a list of available booths. Once the organiser confirms cancellation, the system updates the booking status back to unassigned and sends the assignment ID to remove the booth association. The Booth component then marks the booth as unoccupied. A confirmation message is sent to the organiser, followed by an email notification to the vendor. This process ensures that cancellations are properly handled, freeing up booth space for reassignment.

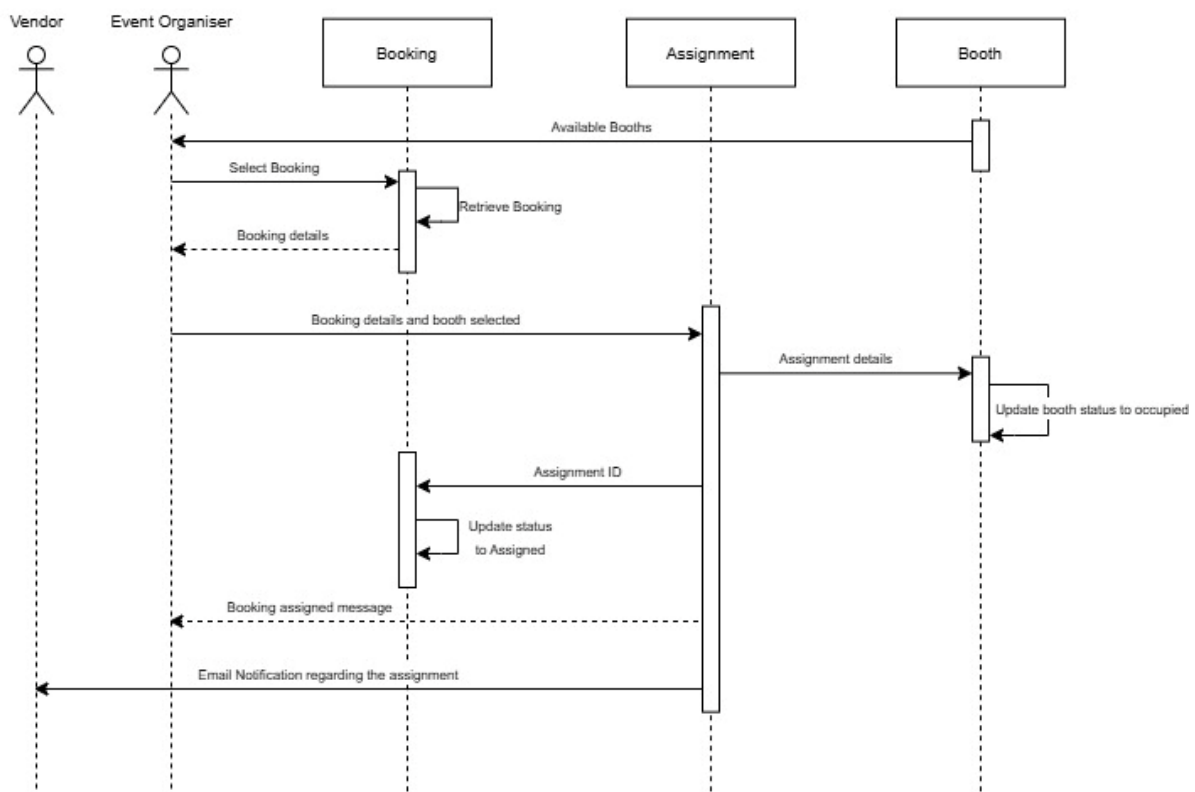


Figure 3.8: Sequence Diagram of Cancel Assigned Booth

The sequence diagram of Refund Deposit (Figure 3.9) illustrates the process of handling deposit refunds or forfeitures for past event assignments. The event organiser selects a past assignment, prompting the system to retrieve its details. Based on the organiser's decision, a refund or forfeiture action is initiated. The system then updates the deposit status accordingly and sends a confirmation message. Finally, an email notification is sent to the vendor informing them of the outcome. This ensures transparent and traceable handling of deposit-related actions after an event concludes.

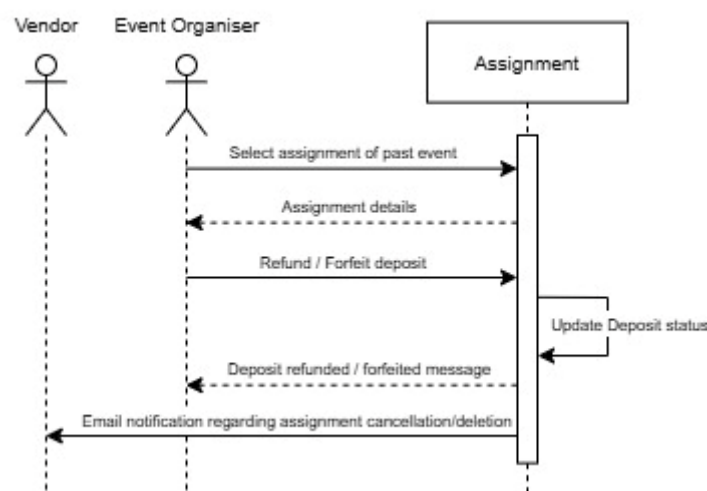


Figure 3.9: Sequence Diagram of Refund Deposit

3.4.3 Class Diagram

This class diagram shown in Figure 3.10 illustrates the structure of an event booth management system by defining the main entities, their attributes, operations, and relationships. At the top, the User class represents a generic user with common functionalities such as Login(), ViewEventDetails(eventID), and FilterEvents(). It is extended by two specific roles: the Event Organiser and the Vendor. The Event Organiser has additional functions to manage events, including adding, editing, and deleting events, assigning and updating booth assignments, cancelling assignments, processing refunds, and logging out. On the other hand, the Vendor can view and filter events, make booth bookings, and log out.

The Event class holds details such as event ID, description, location, start and end dates, and includes methods to retrieve associated booth, booking, and assignment lists. Each event is linked to multiple booths, bookings, and assignments. The Booth class represents individual booths with fields like booth number and occupancy status and is associated with an event and assignment. The Booking class records booth bookings by vendors and includes details such as booking ID, date, and remarks. It is connected to a specific vendor and event and contains methods for retrieving related data and processing payments.

Finally, the Assignment class manages the relationship between bookings and booths. It stores assignment details, remarks, and refund status, and provides methods to access related event, booking, booth, and vendor data. It also includes a method to process deposit refunds. The diagram uses one-to-many relationships to show that an event can have multiple bookings, booths, and assignments. Overall, this class diagram provides a clear overview of how user roles and system entities interact within the event management system.

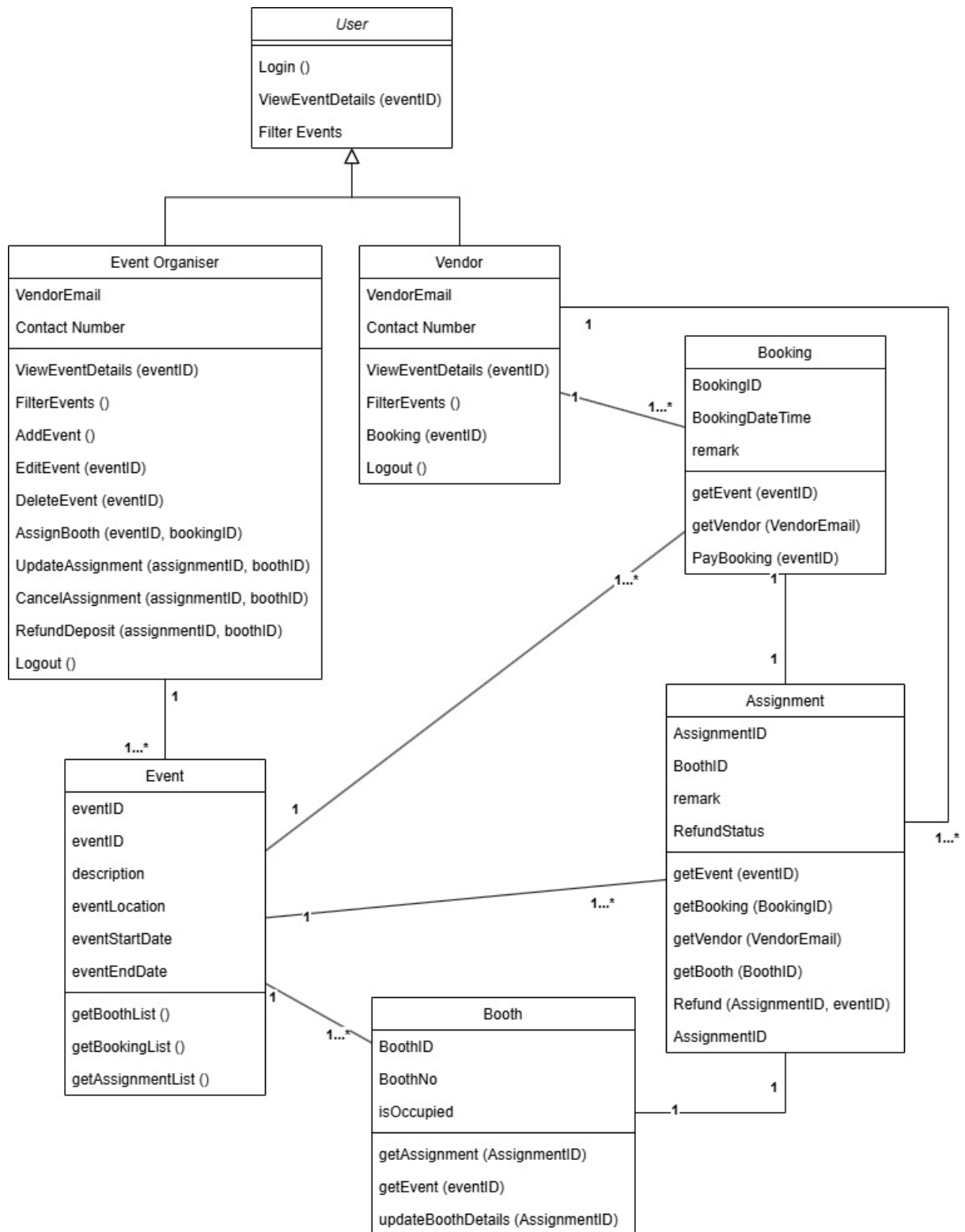


Figure 3.10: EventKamek Class Diagram

3.5 System Design

3.5.1 Activity Diagram

The activity diagram shown in the Figure 3.11 illustrates the workflows of both the **Event Organiser** and **Vendor** within the EventKamek system, detailing how they interact with event creation, booth assignments, and bookings.

On the **Event Organiser** side, the process begins with login, followed by selecting or creating an event. If a new event is created, it is added to the database and associated booths are generated. Organisers can then edit or delete events, with deletion restricted if bookings exist. They can also manage booth assignments—assigning, editing, or deleting them. Editing includes optional booth reassignment, and each assignment triggers email notifications to vendors.

On the **Vendor** side, after login, the vendor can select an event, enter booking details, and proceed to payment. Upon confirmation, the booking is saved, and the organiser is notified. Vendors can also view their assigned booth and related assignment details.

Overall, the diagram effectively captures parallel workflows, conditional flows (e.g., reassignment, deletion with bookings), and notifications, ensuring transparency and coordinated interaction between organisers and vendors.

3.6 UI Design

3.6.1 UI accessible by Event Organisers:

The Figure 3.12 shows the Event Page in list view. For the event organiser, there is an “+Add Event” button placed sticky at the top right corner of this page so that the user can easily access the button to navigate to the “Add Event” page

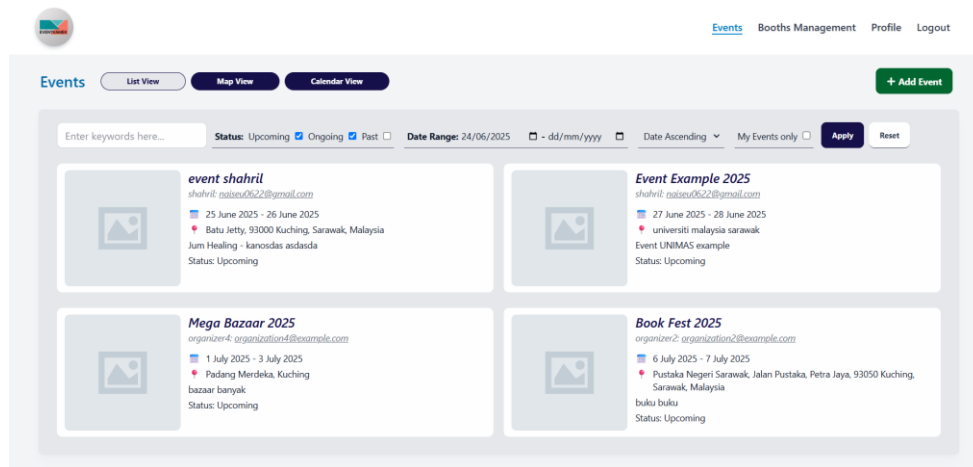


Figure 3.12: Event Page in list view

The Figure 3.13 Shows the Event Page in map view. the marker in the map is clickable to open the info window of the event.

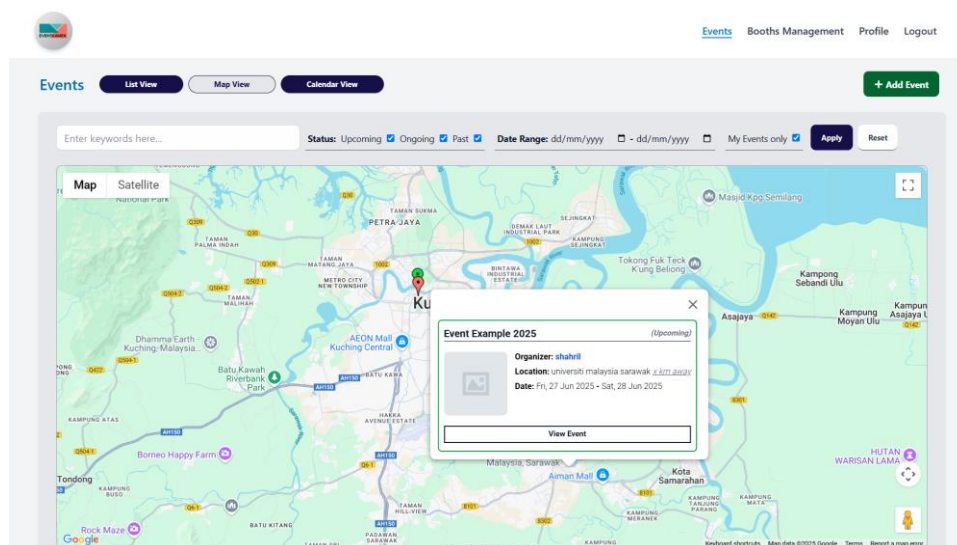


Figure 3.13: Event Page in map view

Figure 3.14 shows the Event Page Calendar view for Event Organiser. In the calendar view, the filter criteria can be applied is the “My Events Only” checkbox for Event Organiser. Today’s date is represented with the blue box in the calendar.

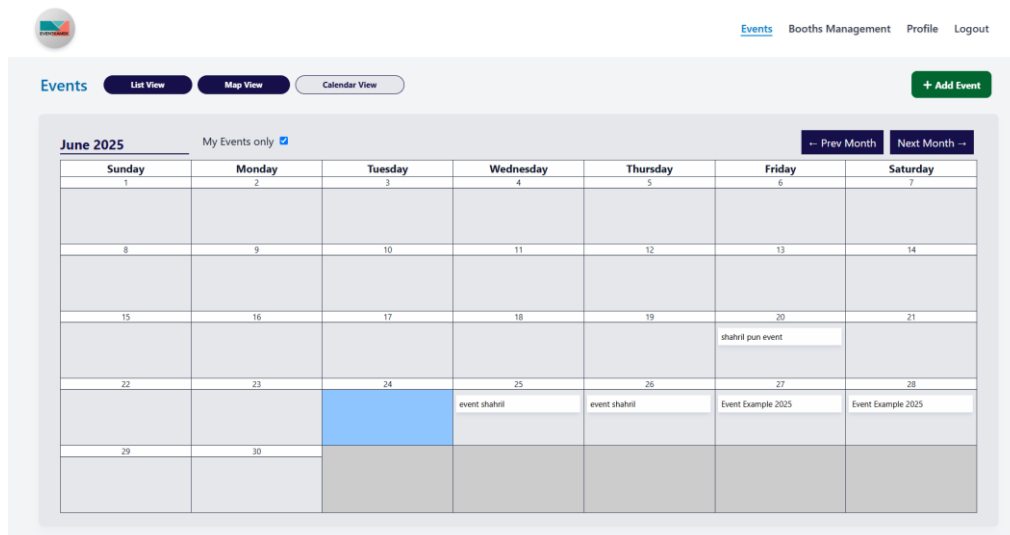


Figure 3.14: Event Page Calendar View

Figure 3.15 shows the Event Details Page for the Event Organiser. The “**Edit Event**” and “**Delete Event**” button will be displayed if the event is own event organiser’s event

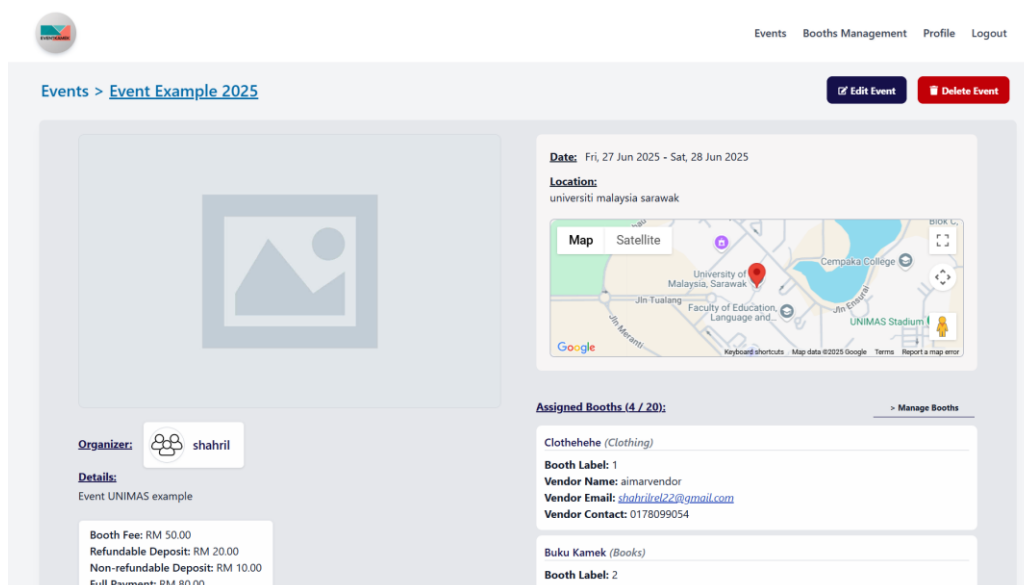


Figure 3.15: Event Details Page (Own Event)

Figure 3.16 shows the button “Edit Event” and “Delete Event” is not displayed in the Event Details page if the event is another event organiser’s event.

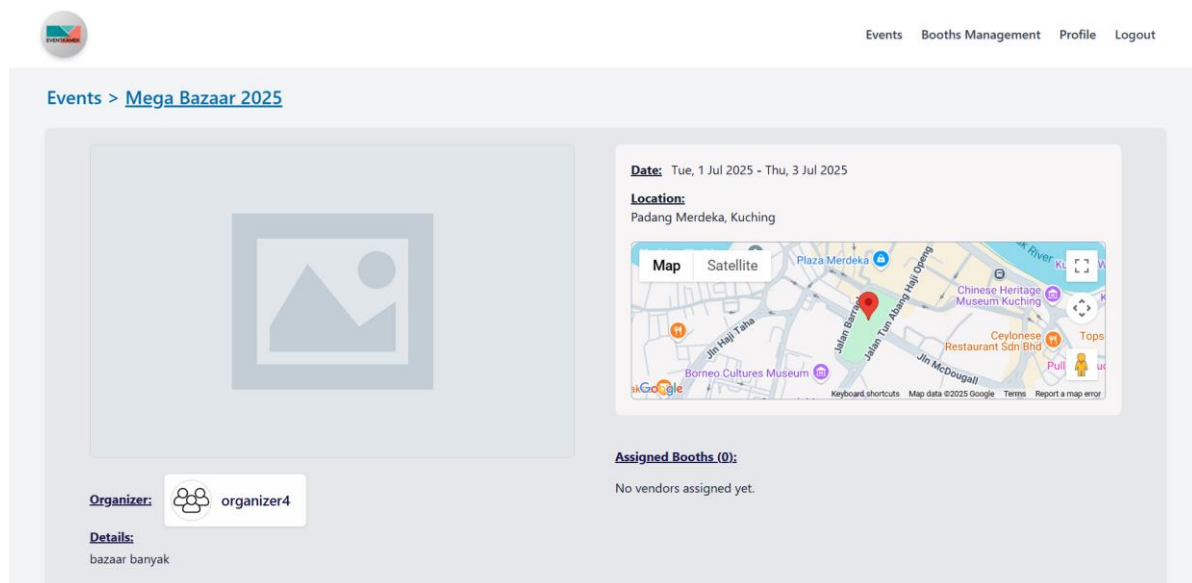


Figure 3.16: Event Details Page (Another Organiser's event)

Figure 3.17 Shows the Booths Management Page. The filter in this page works similarly to that of Events page but targeting more specific to viewing own events by the event organiser. Instead of the having a “My Events Only” checkbox, there is “Show fully booked” checkbox”

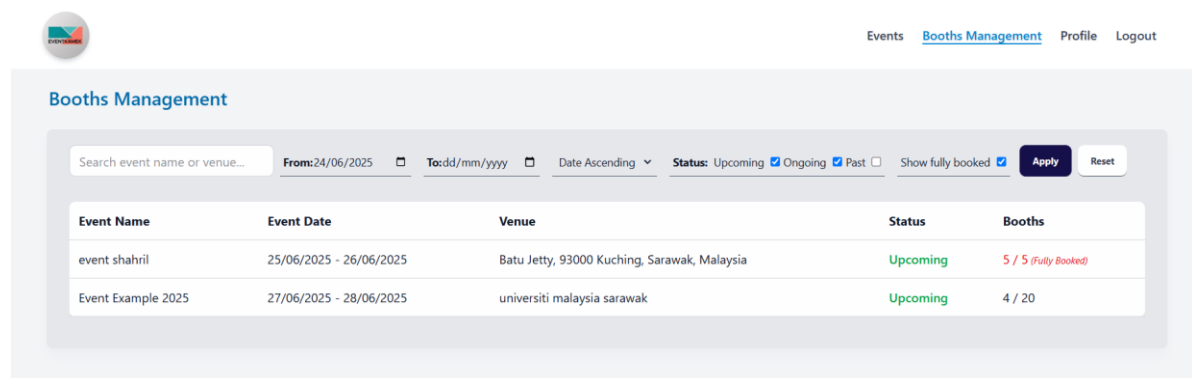
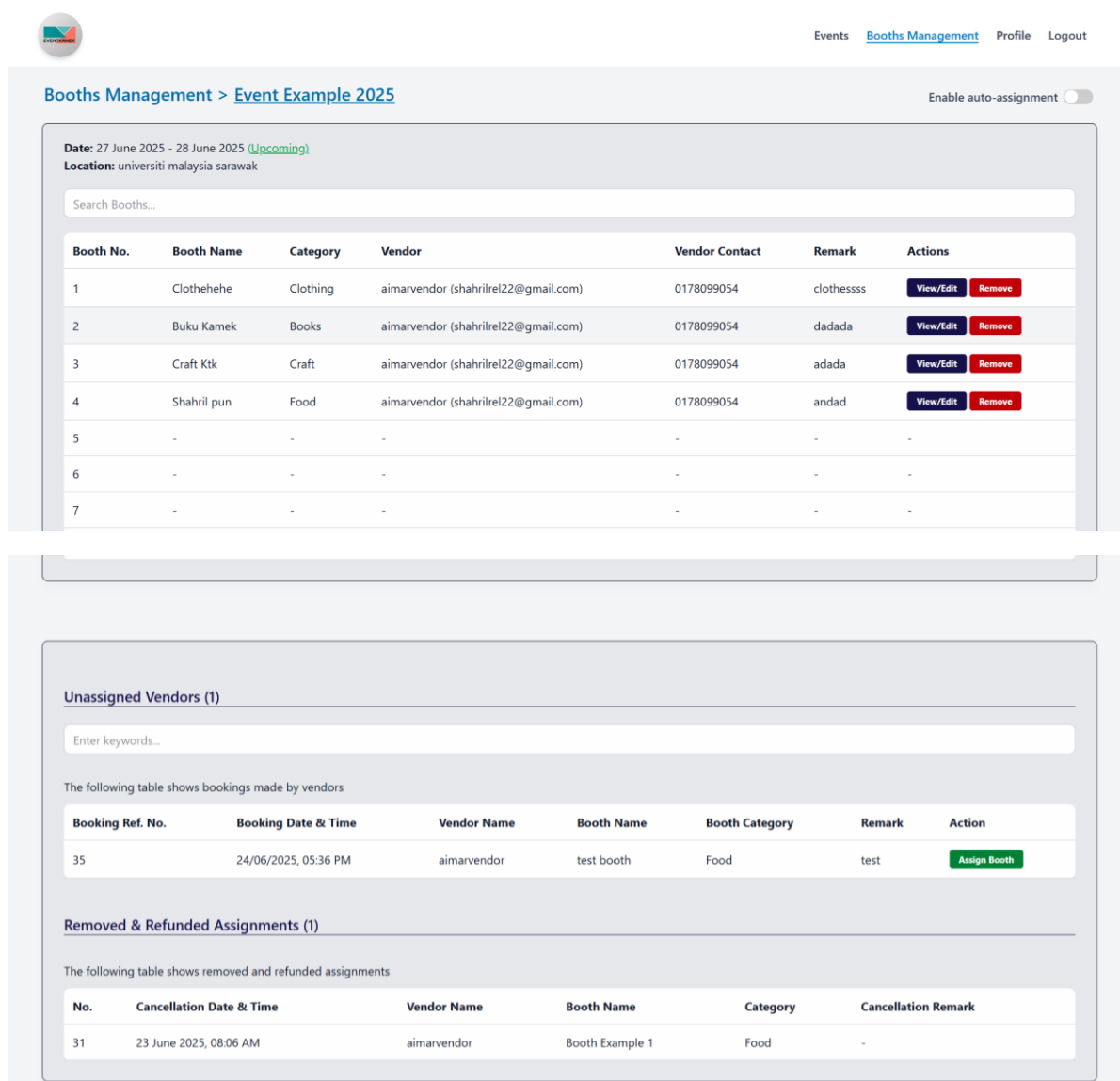


Figure 3.17: Booth Management Page

Figure 3.18 shows the Booths Management of the selected event page (with the status: Upcoming). There are 3 sections in this page. The first section is “Assigned Booths” section which contains booth assignment table showing the Booths in the event and its assignments. Event Organiser can Edit the assignment or make the assignment cancellation (“Remove” button) under this section. The next section is “Unassigned Vendors” which shows the unassigned vendor bookings. The last section in this page is “Refunded & Removed Assignments” shows the cancelled assignment in the event selected.



Booths Management > Event Example 2025 Enable auto-assignment ☐

Date: 27 June 2025 - 28 June 2025 (Upcoming)
Location: universiti malaysia sarawak

Search Booths...

Booth No.	Booth Name	Category	Vendor	Vendor Contact	Remark	Actions
1	Clothehehe	Clothing	aimarvendor (shahrilrel22@gmail.com)	0178099054	clothessss	View/Edit Remove
2	Buku Kamek	Books	aimarvendor (shahrilrel22@gmail.com)	0178099054	dadada	View/Edit Remove
3	Craft Ktk	Craft	aimarvendor (shahrilrel22@gmail.com)	0178099054	adada	View/Edit Remove
4	Shahril pun	Food	aimarvendor (shahrilrel22@gmail.com)	0178099054	andad	View/Edit Remove
5	-	-	-	-	-	-
6	-	-	-	-	-	-
7	-	-	-	-	-	-

Unassigned Vendors (1)

Enter keywords...

The following table shows bookings made by vendors

Booking Ref. No.	Booking Date & Time	Vendor Name	Booth Name	Booth Category	Remark	Action
35	24/06/2025, 05:36 PM	aimarvendor	test booth	Food	test	Assign Booth

Removed & Refunded Assignments (1)

The following table shows removed and refunded assignments

No.	Cancellation Date & Time	Vendor Name	Booth Name	Category	Cancellation Remark
31	23 June 2025, 08:06 AM	aimarvendor	Booth Example 1	Food	-

Figure 3.18: Booth Management > Selected Event Page (Upcoming Event)

If the event status is “Ongoing”, the button Assign Booth in the “Unassign Vendors” section will not be displayed. Besides that, the button View/Edit is changed to “View” and the Remove button will not be displayed in the booth assignment table. The button “View/Edit” is changed to Refund/Forfeit Deposit if the event status is “Past” and the “Remove” button will also not be displayed in the booth assignment table.

Figure 3.19 shows the Assign Vendor Form popup when the event organiser clicked the “Assign Booth” button under the “Unassigned Vendors” section. The vendor assignment will be able. This form is used to add the assignment in the event.

Assign Vendor [X]

Event Info

Event: Event Example 2025
Date: 27 June 2025 - 28 June 2025 (Upcoming)
Venue: universiti malaysia sarawak

Booking Info

Booking Ref. No.: 35
Vendor Name: aimarvendor (shahilrei22@gmail.com)
Booking Date & Time: 24/06/2025, 05:36 PM
Vendor Booth Name: test booth
Vendor Booth Category: Food
Remark: test
Assign Booth *:

Confirm Assignment **Cancel**

Figure 3.19: Assign Vendor Form

Figure 3.20 shows the View/Update Assignment form. This form will popup when the event organiser clicked the button “View/Edit” button on a row of the booth to be edited in the booth assignment table.

Booths Management > Event Example 2025

Date: 27 June 2025 - 28 June 2025 (Upcoming)
Location: universiti malaysia sarawak

Search Booths...

Booth No.	Booth Name	Category
1	Clothehehe	Clothing
2	Buku Kamek	Books
3	Craft Kit	Craft
4	Shahril pun	Food
5	-	-
6	-	-
7	-	-
8	-	-

Enable auto-assignment

View/Update Assignment

Event Info

Event: Event Example 2025
Date: 27 June 2025 - 28 June 2025 (Upcoming)
Venue: universiti malaysia sarawak

Assignment Info

Vendor Name: aimarvender (shahilrel22@gmail.com)
Booth Name: Clothehehe
Booth Category: Clothing
Booth: 1 (currently assigned)

Remark:

clothessss

Update this assignment Cancel

Figure 3.20: View/Update Booth Assignment Form

Figure 3.21 shows the Assignment Cancellation form when the event organiser clicked the “Remove” button on a row of the selected booth in the booth assignment table.

Booths Management > Event Example 2025

Date: 27 June 2025 - 28 June 2025 (Upcoming)
Location: universiti malaysia sarawak

Search Booths...

Booth No.	Booth Name	Category
1	Clothehehe	Clothing
2	Buku Kamek	Books
3	Craft Kit	Craft
4	Shahril pun	Food
5	-	-
6	-	-
7	-	-
8	-	-

Enable auto-assignment

Assignment Cancellation

Event Info

Event: Event Example 2025
Date: 27 June 2025 - 28 June 2025 (Upcoming)
Venue: universiti malaysia sarawak

Assignment Info

Vendor Name: aimarvender (shahilrel22@gmail.com)
Booth Name: Clothehehe
Booth Category: Clothing
Booth: 1

Remark: clothessss

Cancellation Remark:

test

Proceed to Refund Cancel

Figure 3.21: Assignment Cancellation Form

Figure 3.22 shows the booth assignment table if the event status is Past. There is no “View/Edit” and “Remove” buttons. Instead, there is “Refund/Forfeit Deposit” button.

Booth No.	Booth Name	Category	Vendor	Vendor Contact	Remark	Actions
1	Clothehehe	Clothing	aimarvendor (shahrilrel22@gmail.com)	0178099054	zsddfa	<button>Refund/Forfeit Deposit</button>
2	Food gikk	Food	aimarvendor (shahrilrel22@gmail.com)	0178099054	sddasdd	<button>Refund/Forfeit Deposit</button>
3	-	-	-	-	-	-

Figure 3.22: Booths Management > selected event page (event status: Past)

Figure 3.23 shows the Refund/Forfeit Deposit form. The input field “Forfeiture Details” appears when the Action selected is “Forfeit”

Refund/Forfeit Assignment

Event Info

Event: event suka suka
Date: 18 June 2025 - 19 June 2025 (Past)
Venue: H949+R4 Kuching, Sarawak, Malaysia

Assignment Info

Vendor Name: vendor1 (vendor1@example.com)
Booth Name: Pak Mat Western
Booth Category: Food
Booth: 1
Remark: kjabdka
Refundable Deposit: RM 20.00
Action: Refund

Proceed to Refund Cancel

Refund/Forfeit Assignment

Event Info

Event: event suka suka
Date: 18 June 2025 - 19 June 2025 (Past)
Venue: H949+R4 Kuching, Sarawak, Malaysia

Assignment Info

Vendor Name: vendor1 (vendor1@example.com)
Booth Name: Pak Mat Western
Booth Category: Food
Booth: 1
Remark: kjabdka
Refundable Deposit: RM 20.00
Action: Forfeit

Forfeiture Details:

Enter the reason for forfeiture

Forfeit Deposit Cancel

Figure 3.23: Refund/Forfeit Assignment form

3.6.2 UI accessible by Vendor

Figure 3.24 shows the Events page in list view for vendors. While Figure 3.25 and Figure 3.26 shows the Events page in map view and calendar view respectively. The filter contains “My Involvements Only” checkbox instead of “My Events Only” checkbox for vendor to filter to the events that the vendor is assigned to only.

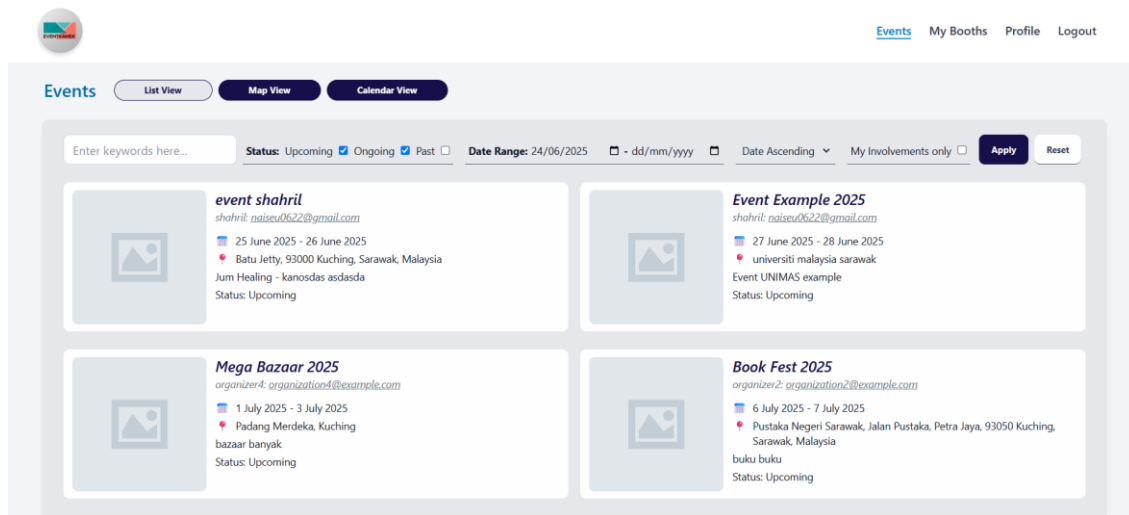


Figure 3.24: Event Page in list view

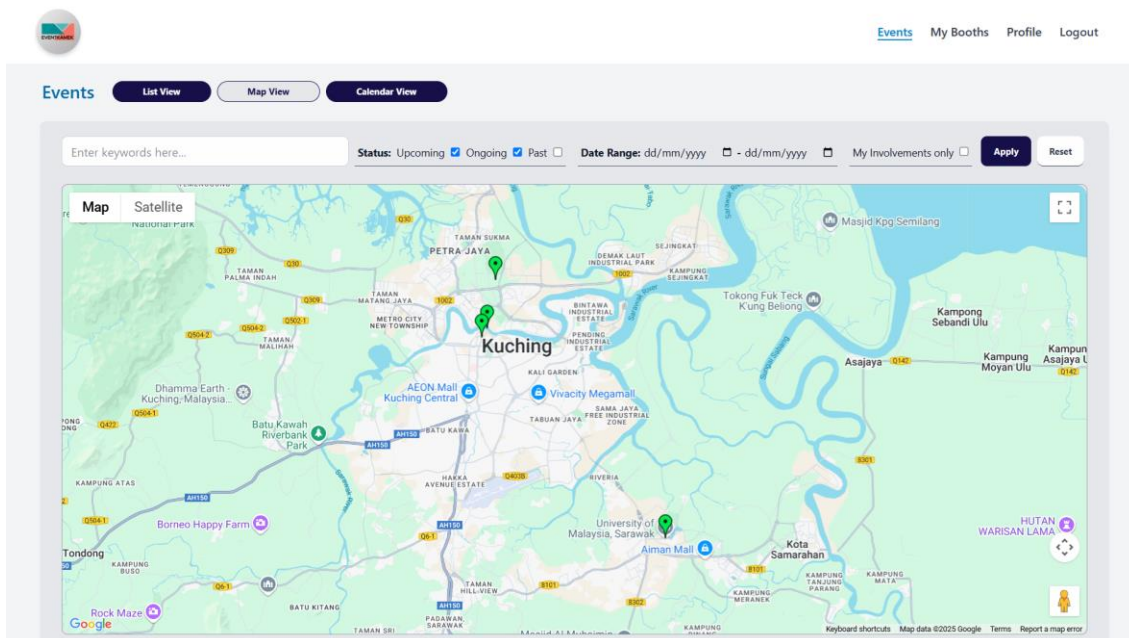


Figure 3.25: Event Page in map view

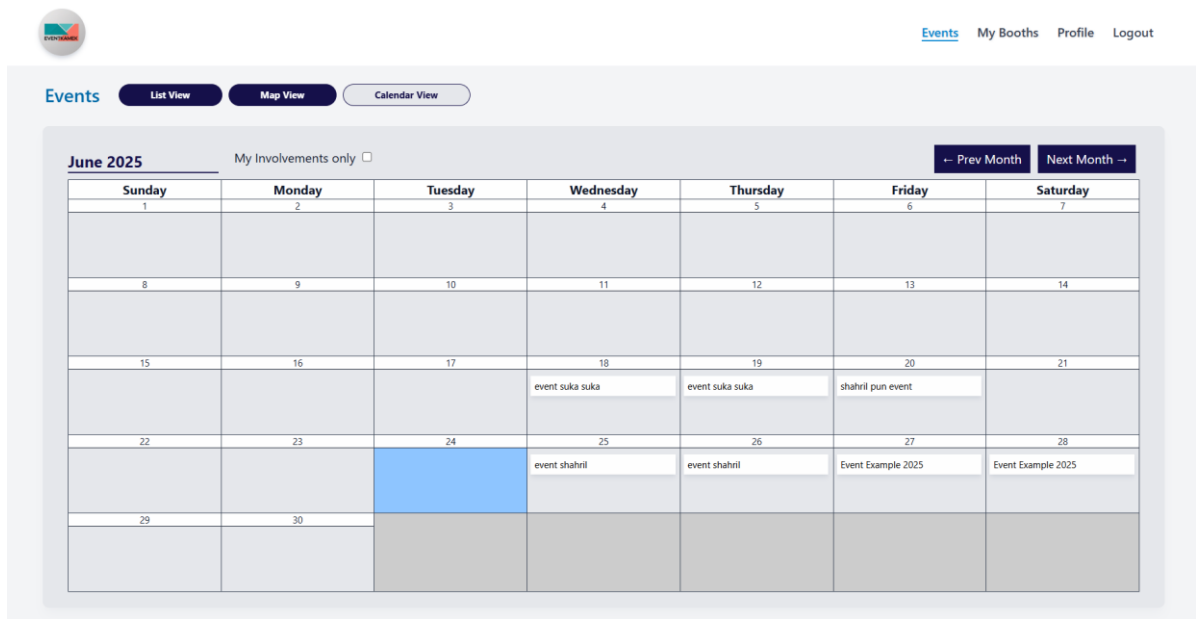


Figure 3.26: Event Page in calendar view

Figure 3.27 shows the Event Details page for vendors. The button “**Book Now**” is placed at the top right corner of the page.

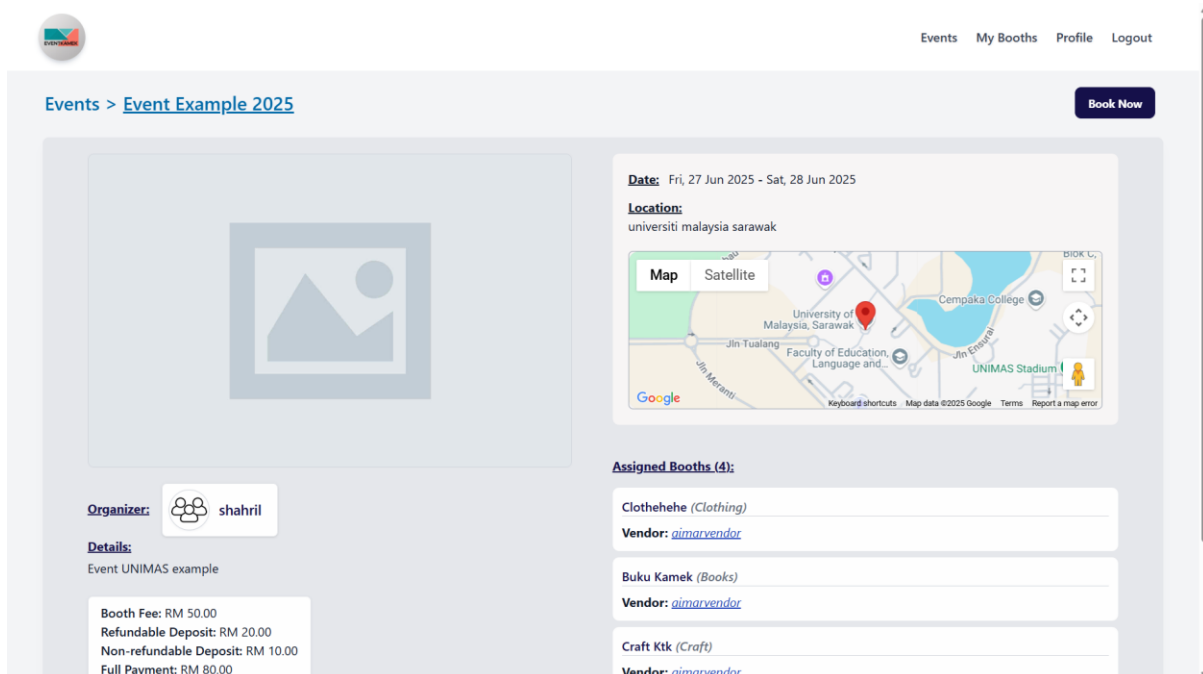


Figure 3.27: Event Details Page

Figure 3.28 shows the Booking Form pops up when the vendor clicked the “**Book Now**” button in the Event Details page.

Booking

Event: Event Example 2025
 Organized by: shahril
 Booths availability: 15

Your Booth Name *

Booth Category *

Remark (optional):
 Any specific request or comment?

Contact us for more information
 Email: naiseu0622@gmail.com
 Contact: 0146228473

Proceed to payment **Cancel**

Figure 3.28: Event Booking Form

Figure 3.29 shows the My Booths page that is accessible by vendors by clicking the “My Booths” tab in the navigation bar. The My Booths page for vendor works similarly to “Booths Management” for event organisers. However, the vendors can only view the booth assignments detail from this page

My Booths

Search events... From: 24/06/2025 To: dd/mm/yyyy Date Ascending Status: Upcoming ☒ Ongoing ☐ Past ☐ **Apply** **Reset**

Event Name	Event Date	Organizer	Event Booth No.	Booth Name	Actions
event shahril	25/06/2025 - 26/06/2025 (Upcoming)	shahril (naiseu0622@gmail.com)	5	fdodji	View Details
event shahril	25/06/2025 - 26/06/2025 (Upcoming)	shahril (naiseu0622@gmail.com)	4	Foodddddd	View Details
Event Example 2025	27/06/2025 - 28/06/2025 (Upcoming)	shahril (naiseu0622@gmail.com)	1	Clothehehe	View Details
Event Example 2025	27/06/2025 - 28/06/2025 (Upcoming)	shahril (naiseu0622@gmail.com)	2	Buku Kamek	View Details
Event Example 2025	27/06/2025 - 28/06/2025 (Upcoming)	shahril (naiseu0622@gmail.com)	3	Craft Ktk	View Details
Event Example 2025	27/06/2025 - 28/06/2025 (Upcoming)	shahril (naiseu0622@gmail.com)	4	Shahril pun	View Details

Figure 3.29: My Booths Page

Figure 3.30 shows the view Assignment information popup when vendor clicked “View Details” on the row of the table in My Booths page.

View Assignment X

Event Info

Event: event shahril ([shahril](#))

Date: 25 June 2025 - 26 June 2025 (Upcoming)

Venue: Batu Jetty, 93000 Kuching, Sarawak, Malaysia

Assignment Info

Booth Name: fdodji

Booth Category: Food

Booth: 5

Remark: asdasda

Close

Figure 3.30: View Assignment Form

3.6.3 Navigation Bar

Figure 3.31, Figure 3.32, and Figure 3.33 shows the navigation bar for event organiser, vendor, and public user (unregistered) user respectively

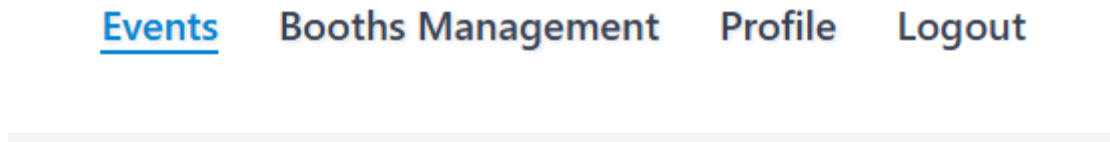


Figure 3.31: Navigation Bar for Event Ograniser

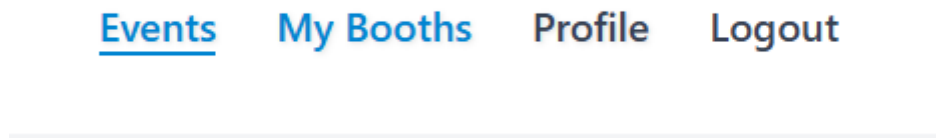


Figure 3.32: Navigation Bar for Vendor

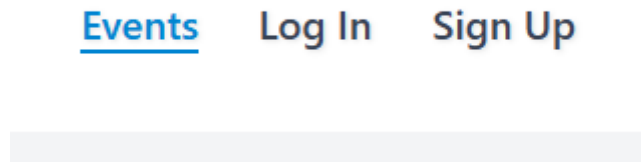


Figure 3.33: Navigation Bar for Public User

3.6.4 Login UI

Figure 3.34 shows the user interface of EventKamek Login page. In the UI, the user are required to fill in the their registered email in EventKamek, password, and select the user role under the “Login as:” dropdown. Users may click the “Register here” link to navigate to the Sign Up page if the user is not registered.

The screenshot displays the EventKamek Login page. At the top left is a circular logo with a colorful geometric design. To its right, in the top right corner, are the links "Events", "Log In", and "Sign Up". Below the logo is a dark blue button labeled "Back". The main content area is a light gray rectangle. Centered within this area is a white rounded rectangle containing the login form. The form is titled "Login" in a bold, dark font. It includes a "Login as:" label followed by a dropdown menu showing "Select role". Below this are two input fields labeled "Email:" and "Password:". Under the password field is a link that reads "Don't have an account? Register here". At the bottom of the form is a dark blue button labeled "Login".

Figure 3.34: Login Page

3.6.5 Sign Up UI

Figure 3.35 shows the user interface of Sign Up page. Users are required to select the user role to proceed with the registration first.

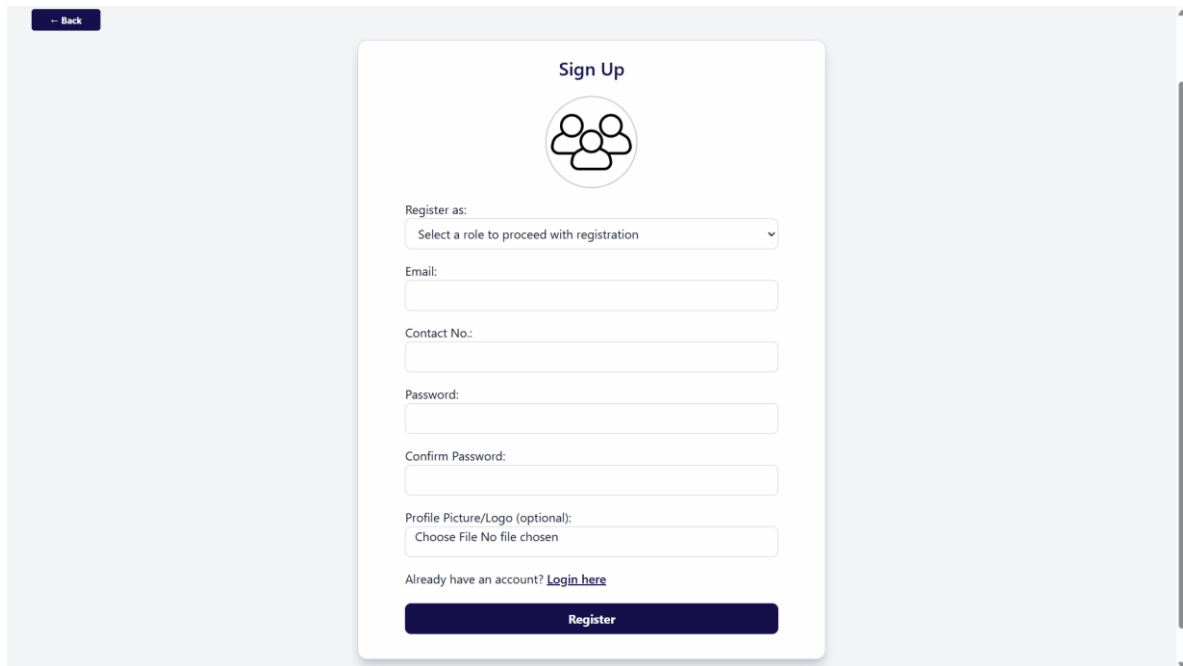
The image shows a web application's sign-up page. At the top left, there is a dark blue button with a white left-pointing arrow and the text "Back". The main content is a white card with a light blue border. The card has a title "Sign Up" in blue, followed by a circular icon containing three stylized human figures. Below the icon, the text "Register as:" is followed by a dropdown menu with the placeholder text "Select a role to proceed with registration". This is followed by five input fields: "Email:", "Contact No.:", "Password:", "Confirm Password:", and "Profile Picture/Logo (optional):". The last field has a small text "Choose File No file chosen" below it. At the bottom of the card, there is a link "Already have an account? [Login here](#)" and a dark blue button with the text "Register" in white.

Figure 3.35: Sign Up Page

Figure 3.36 shows that the “Organization Name” input field appears when the user select the Event Organiser role and “Vendor Name” input field appears when the user select the Vendor role. Users are required to fill in the required input field, which are Organization Name/Vendor Name, Email, Contact No., Password, and Confirm Password. The Profile Picture upload is optional in the Sign Up page

Sign Up



Register as:
Event Organizer

Organization Name:

Email:

Contact No.:

Password:

Confirm Password:

Profile Picture/Logo (optional):
Choose File No file chosen

Already have an account? [Login here](#)

Register

Sign Up



Register as:
Vendor

Vendor Name:

Email:

Contact No.:

Password:

Confirm Password:

Profile Picture/Logo (optional):
Choose File No file chosen

Already have an account? [Login here](#)

Register

Figure 3.36: Sign Up form (after selection)

3.6.6 Database Design

The database design shown in the Figure 3.37 outlines the core structure of an event booth management system, consisting of six main tables: eventorganizer, events, vendor, booking, booth, and assignment. The eventorganizer table stores organiser details such as email, contact number, password, profile picture, social media links, and about section. Each organiser can create multiple events, which are recorded in the events table. This table includes key information such as event name, dates, location, booking settings, booth limits by category, and deposit requirements.

The vendor table captures vendor profiles, including their contact information, credentials, and profile links. Vendors can make bookings through the booking table, which links each booking to a specific event and vendor. It also includes booth category, booking time, remarks, and flags for cancellation and assignment status.

Booths for each event are stored in the booth table, with each booth identified by a unique ID and associated with an event. The assignment table handles the allocation of booths to vendors, connecting bookings to specific booths. It contains details such as booth category, remarks, cancellation information, and deposit status.

Relationships between the tables are mostly one-to-many. An organiser can manage multiple events, each event can have multiple booths, bookings, and assignments, and each vendor can submit multiple bookings. This schema ensures a structured and relational approach to managing events, vendors, bookings, booth assignments, and deposit handling.

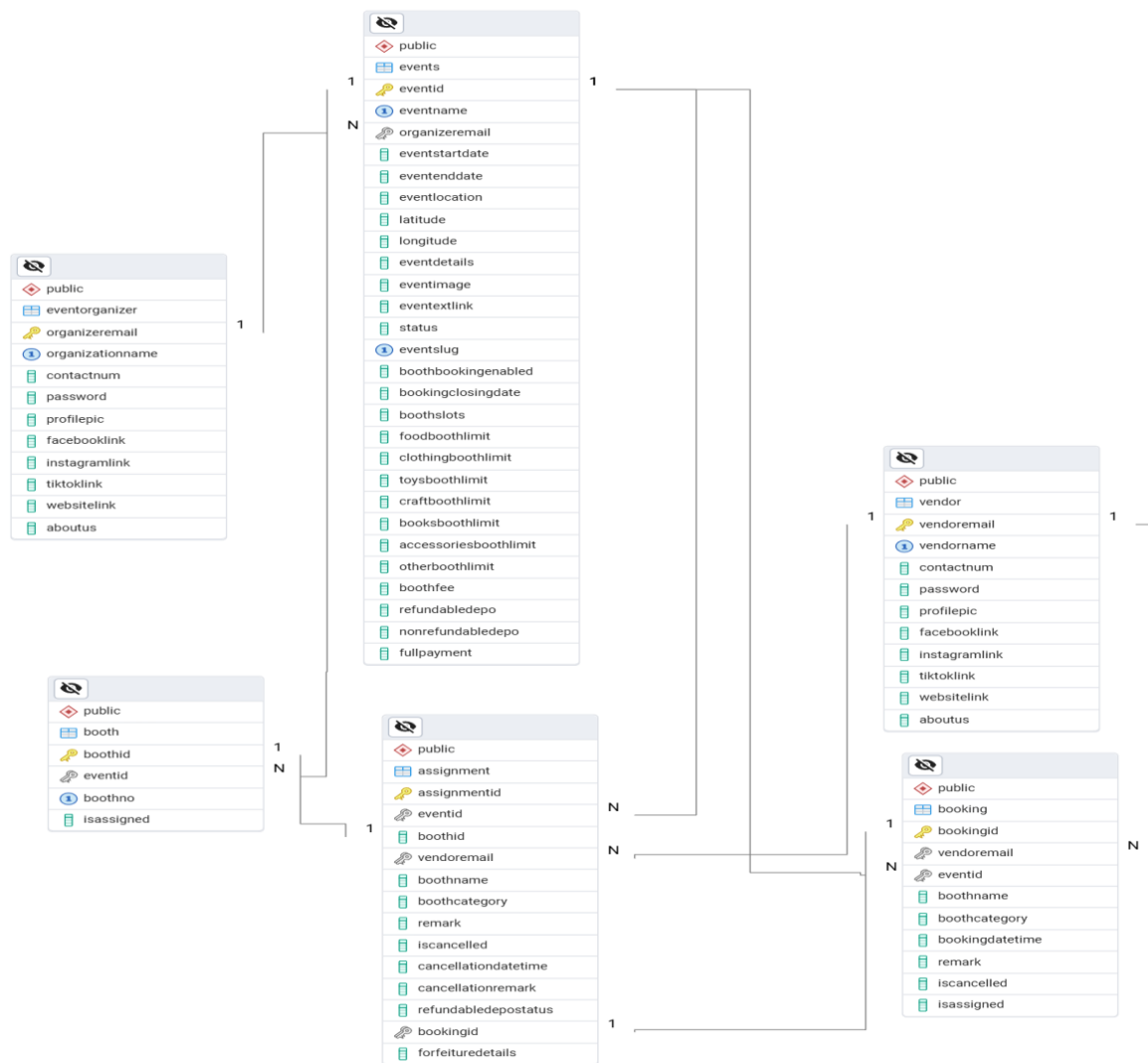


Figure 3.37: EventKamek Entity Relationship Diagram (ERD)

3.7 Chapter Summary

Chapter 3 elaborates on the Requirement Analysis and Design for the proposed system. The chapter outlines the use of the Rapid Application Development (RAD) methodology to ensure iterative prototyping, stakeholder engagement, and user-centric development.

The requirement elicitation process involved interviews with event organisers and vendors, identifying pain points such as reliance on fragmented tools, miscommunication, and challenges in slot management. Insights from these interviews informed the system's features, including real-time booth updates, comprehensive event discovery and booth management page, together with a streamlined booth booking workflow.

The requirement analysis defines essential use cases such as creating and managing events, booking booths, and filtering events. Sequence and activity diagrams further illustrate the interactions between users and the system, while the class diagram provides a structural representation of system components.

The system design incorporates user interface prototypes for different stakeholders (organisers, vendors, and public users), showcasing features like event calendars, detailed event pages, and booth management interfaces. The database design supports efficient data handling for event details, user interactions, and booth management.

The chapter concludes by demonstrating how the system addresses the needs of its target users through carefully planned functionalities and design principles, ensuring that the platform is intuitive, scalable, and effective in overcoming traditional inefficiencies in vendor and event management.

CHAPTER 4

IMPLEMENTATION

4.1 Introduction

This chapter emphasizes the implementation of the proposed web application EventKamek. Building upon the system requirement and design presented in Chapter 3, this chapter outlines the construction phase where key components are developed and integrated.

The implementation process involves two major parts: the development of a React-based web application for the frontend and the creation of a Node.js and PostgreSQL backend for server-side logic and data management. JSON Web Tokens (JWT) are used for user authentication and session control, and Google Maps API is integrated to visualise display maps in a map view. The system was implemented following the Rapid Application Development (Methodology), which promotes fast prototyping and user-centered iteration. This chapter also highlights the tools used, the development environment, and testing conducted to validate the system's functionality.

4.2 User Guide

4.2.1 Getting Started

Using Public Hosted Website

1. Open your browser
2. Go to URL: <https://event-kamek.vercel.app>
3. Proceed to Sign Up to register as event organiser or vendor

Using Localhost

1. Download the EventKamek ZIP folder (Figure 4.1) from <https://github.com/shahril2206/EventKamek.git> or clone it to your repository in GitHub (Figure 4.2)

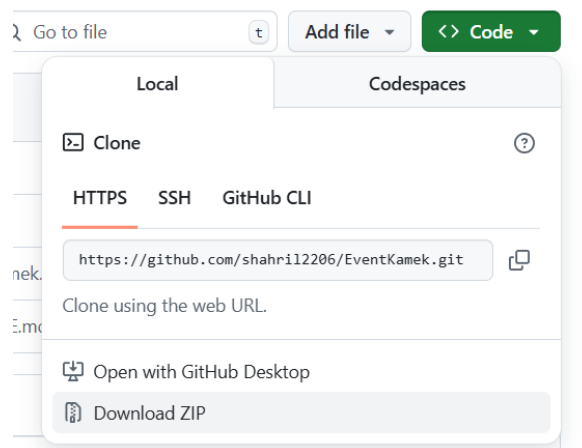


Figure 4.1: Download ZIP EventKamek Repository

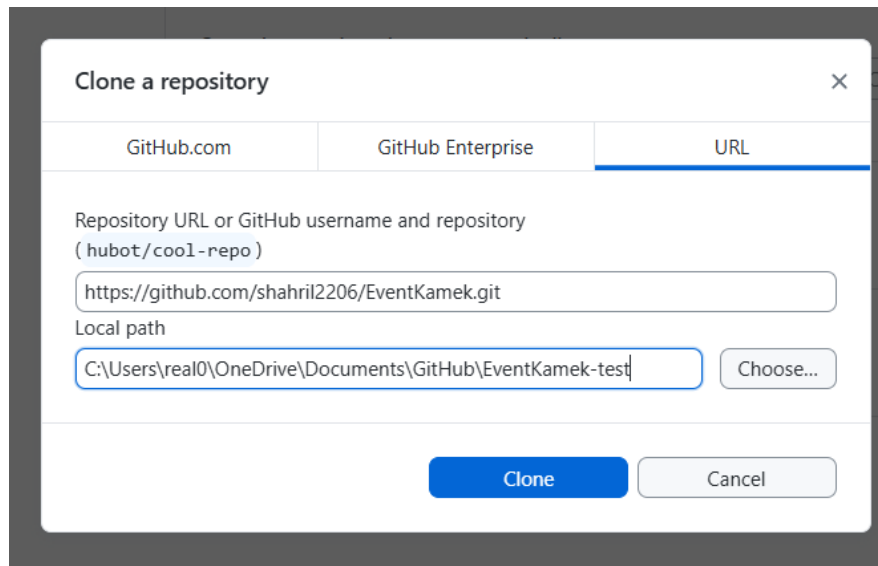


Figure 4.2: Cloning EventKamek GitHub Repository

2. In your DBMS, create a database with the name “EventKamek”.
3. Import the EventKamek.sql from the “EventKamek” project folder from the GitHub into the DBMS
4. If you are using PostgreSQL, in the **pgAdmin4**, right click on the newly created database “EventKamek” and click “Restore” (shown in Figure 4.3)

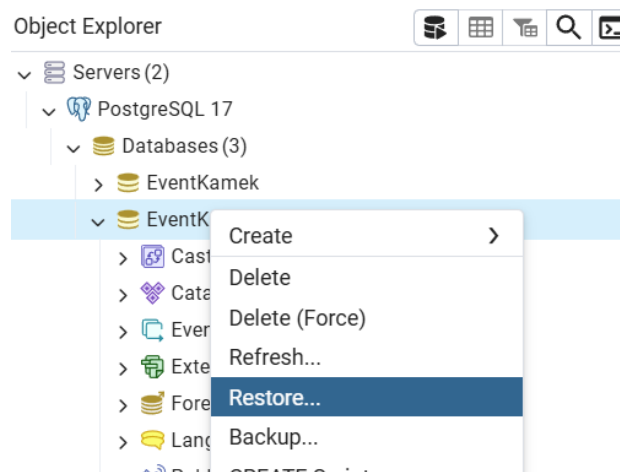


Figure 4.3: Importing “EventKamek.sql” into the database

5. Select “Plain” in the Format input field and select the EventKamek.sql from the GitHub in the Filename input field (Figure 4.4) and click “Restore” button. If the sql file is not showing up in the File Explorer, select the file type to “SQL File .sql” as shown in Figure 4.5.

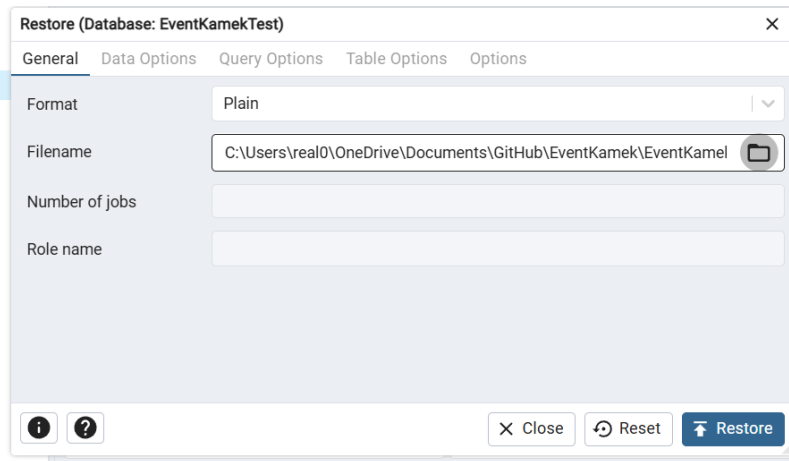


Figure 4.4: Restore Database popup form in pgAdmin4

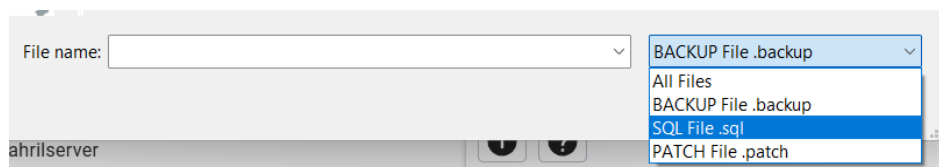


Figure 4.5: File Explorer select file type

6. Open the EventKamek project folder downloaded or cloned from GitHub in Visual Studio Code.
7. Under the client directory, create a “.env” file
8. In the client/.env file, set the following variables (Shown in Figure 4.6):
 - VITE_GOOGLE_MAPS_API_KEY (Your activated Google Maps API Key. Setup your Google Maps API key here: <https://console.cloud.google.com/>)
 - VITE_API_BASE (The localhost of your backend runs on, which is the server.js in the server directory. e.g., <https://localhost:3000>)

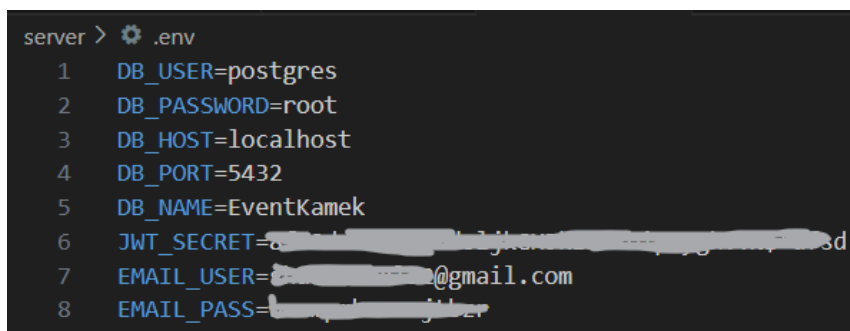
```
client > .env
1 VITE_GOOGLE_MAPS_API_KEY=A[REDACTED]
2 VITE_API_BASE=http://localhost:3000
```

Figure 4.6: client/.env variables

9. Under the server directory, create a “.env” file

10. In the server/.env file, set the following variables (Example is shown in Figure 4.7):

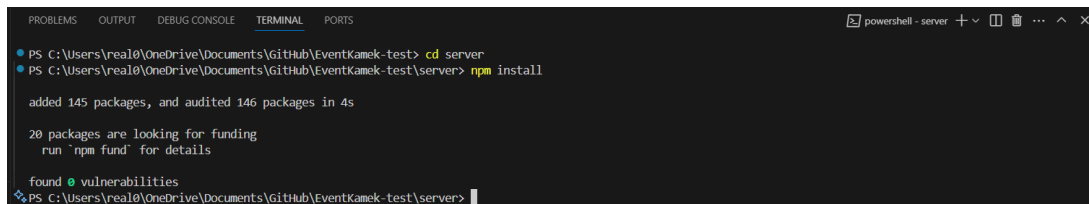
- DB_USER (Your DB username)
- DB_PASSWORD (Your DB password)
- DB_HOST (Your DB password)
- DB_PORT (Your DB port)
- DB_NAME=EventKamek
- JWT_SECRET (Your secret key, which can be anything, for securing JSON Web Tokens used in authentication)
- EMAIL_USER (Your SMTP email address for sending system emails such as booking confirmations, cancellations, and notifications)
- EMAIL_PASS (Your email password or app-specific password, required for authenticating with the email SMTP service)



```
server > .env
1 DB_USER=postgres
2 DB_PASSWORD=root
3 DB_HOST=localhost
4 DB_PORT=5432
5 DB_NAME=EventKamek
6 JWT_SECRET=[redacted]
7 EMAIL_USER=[redacted]@gmail.com
8 EMAIL_PASS=[redacted]
```

Figure 4.7: server/.env variables

11. Open the terminal in VSC, enter “cd server” in the terminal, and then run “npm install” as shown in Figure 4.8



```
PS C:\Users\real0\OneDrive\Documents\GitHub\EventKamek-test> cd server
PS C:\Users\real0\OneDrive\Documents\GitHub\EventKamek-test\server> npm install

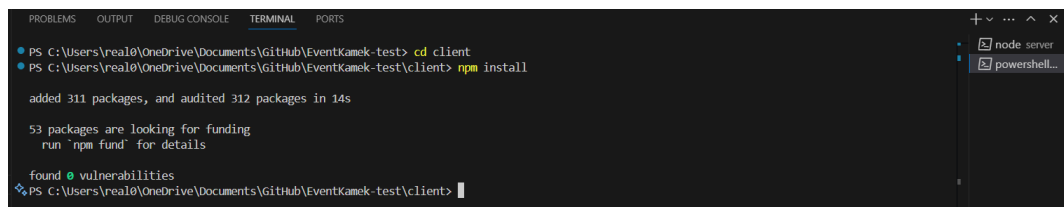
added 145 packages, and audited 146 packages in 4s

20 packages are looking for funding
  run `npm fund` for details

found 0 vulnerabilities
PS C:\Users\real0\OneDrive\Documents\GitHub\EventKamek-test\server>
```

Figure 4.8: Running npm install in server directory

12. Similarly, add another terminal and enter “cd client”, and then run “npm install” as well as shown in Figure 4.9



```
PS C:\Users\real0\OneDrive\Documents\GitHub\EventKamek-test> cd client
PS C:\Users\real0\OneDrive\Documents\GitHub\EventKamek-test\client> npm install

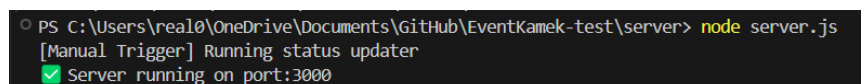
added 311 packages, and audited 312 packages in 14s

53 packages are looking for funding
  run `npm fund` for details

found 0 vulnerabilities
PS C:\Users\real0\OneDrive\Documents\GitHub\EventKamek-test\client>
```

Figure 4.9: Running npm install in client directory

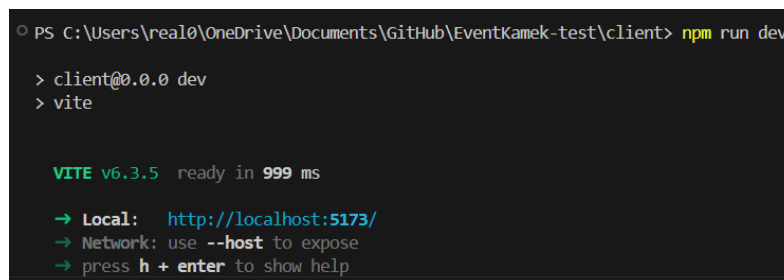
13. Go back to the terminal that is in the server directory, enter “node server.js”. The result should look like Figure 4.10.



```
PS C:\Users\real0\OneDrive\Documents\GitHub\EventKamek-test\server> node server.js
[Manual Trigger] Running status updater
Server running on port:3000
```

Figure 4.10: Running backend (server)

14. Go to terminal is in the client directory, enter “npm run dev”. The result should look like Figure 4.11.



```
PS C:\Users\real0\OneDrive\Documents\GitHub\EventKamek-test\client> npm run dev

> client@0.0.0 dev
> vite

VITE v6.3.5 ready in 999 ms

→ Local: http://localhost:5173/
→ Network: use --host to expose
→ press h + enter to show help
```

Figure 4.11: Running Frontend (client)

15. Click on the localhost link appeared in the terminal (e.g., `http://localhost:5173/`) to open the EventKamek homepage (Figure 4.12)

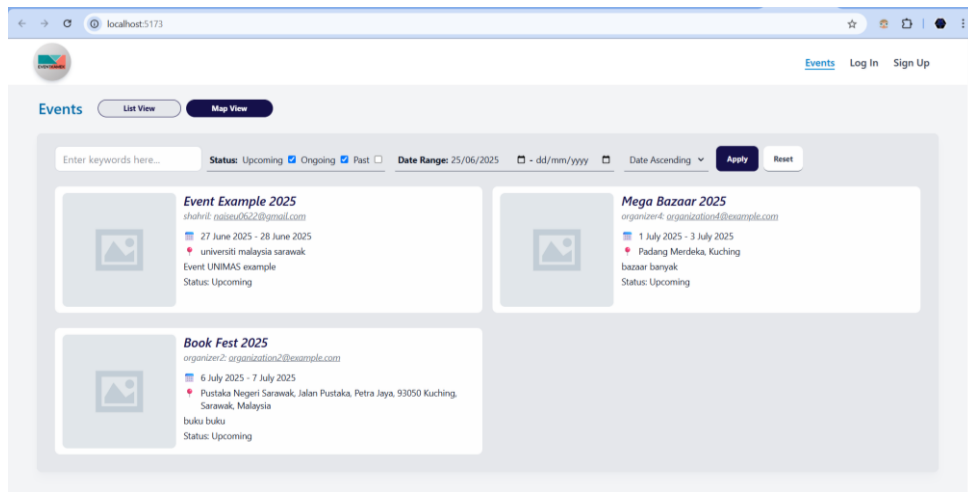


Figure 4.12: EventKamek Homepage

16. Navigate to Login or Sign Up to proceed as registered user (Event Organiser / Vendor)

4.2.2 User Registration

1. Go to <https://event-kamek.vercel.app>
2. In the home page or also known as Events page (shown in the Figure 4.13), navigate to Sign Up by clicking the “Sign Up” button on the navigation bar

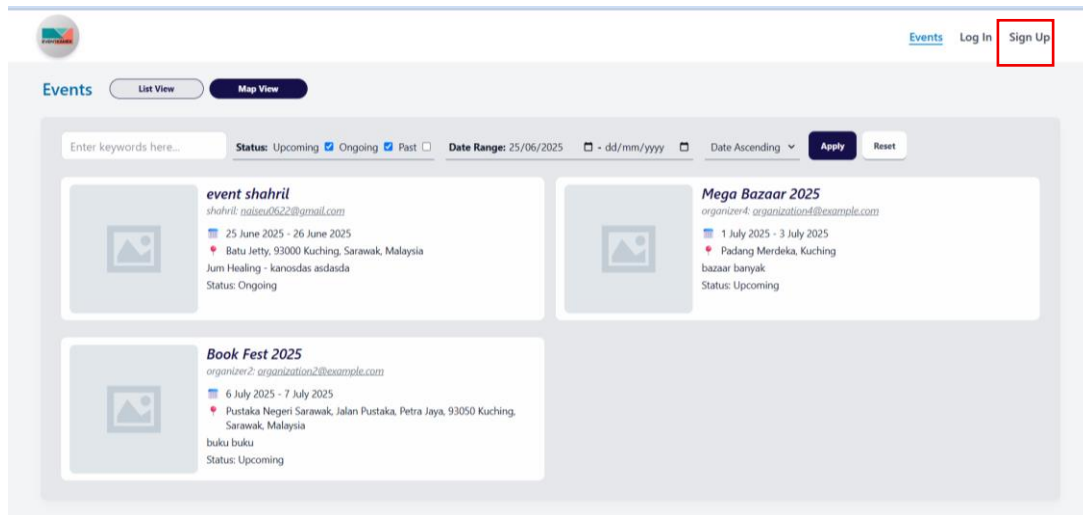


Figure 4.13: EventKamek Homepage navigation to Login

3. Fill in all the required input field in the Sign Up form as shown in the Figure 4.14: Role, Name (Organization Name for event organiser, and Vendor Name for vendor), Email, Contact No., Password, and Confirm Password, and Upload profile picture (optional).
4. Click Register button and you will be redirected to the Login page

The screenshot shows the 'Sign Up' form. At the top, there is a header with the text 'Sign Up' and a circular icon containing three stylized figures. Below this, the form contains several input fields: 'Register as:' with a dropdown menu set to 'Event Organizer', 'Organization Name:' with the value 'Organization Example 5', 'Email:' with the value 'organization5@example.com', 'Contact No.:' with the value '01235478496', 'Password:' and 'Confirm Password:' both with masked input (dots), and 'Profile Picture/Logo (optional):' with a file upload button labeled 'Choose File No file chosen'. At the bottom, there is a link 'Already have an account? Login here' and a dark blue 'Register' button.

Figure 4.14: Sign Up Form

4.2.3 Login

1. From the home page, navigate to Login page (Figure 4.15) by clicking the “Log In” tab on the navigation bar

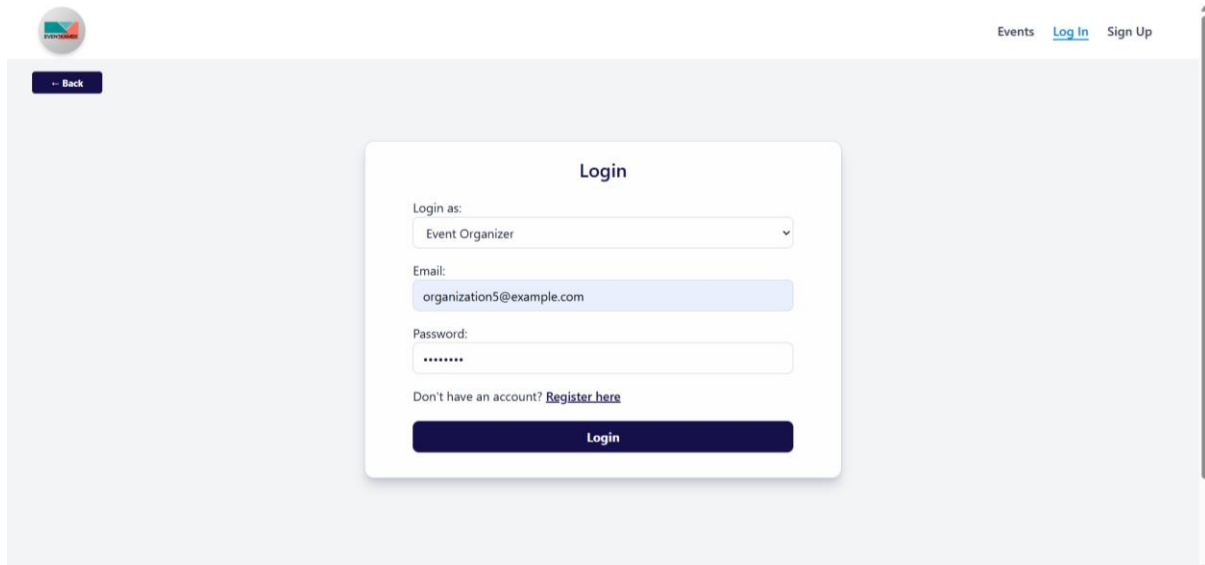
The screenshot shows a web application's login page. At the top left is a circular logo with a colorful geometric design. To its right is a navigation bar with links for 'Events', 'Log In' (highlighted in blue), and 'Sign Up'. Below the navigation bar is a dark blue button labeled 'Back'. The main content area is light gray and contains a white login form titled 'Login'. The form has three input fields: 'Login as:' with a dropdown menu showing 'Event Organizer', 'Email:' with the text 'organization5@example.com', and 'Password:' with masked characters. Below these fields is a link that says 'Don't have an account? Register here'. At the bottom of the form is a dark blue button labeled 'Login'.

Figure 4.15: Login Page

2. Select Login as “Event Organiser” or “Vendor”, fill the Email and Password input field and click the Login button, you will be redirected back to the homepage

4.2.4 Add Event

This subsection is the guide for event organisers to create new event in the platform

1. On the homepage, Click the “**Add Event**” button to redirect to the “**Add Event**” page as shown in the Figure 4.16

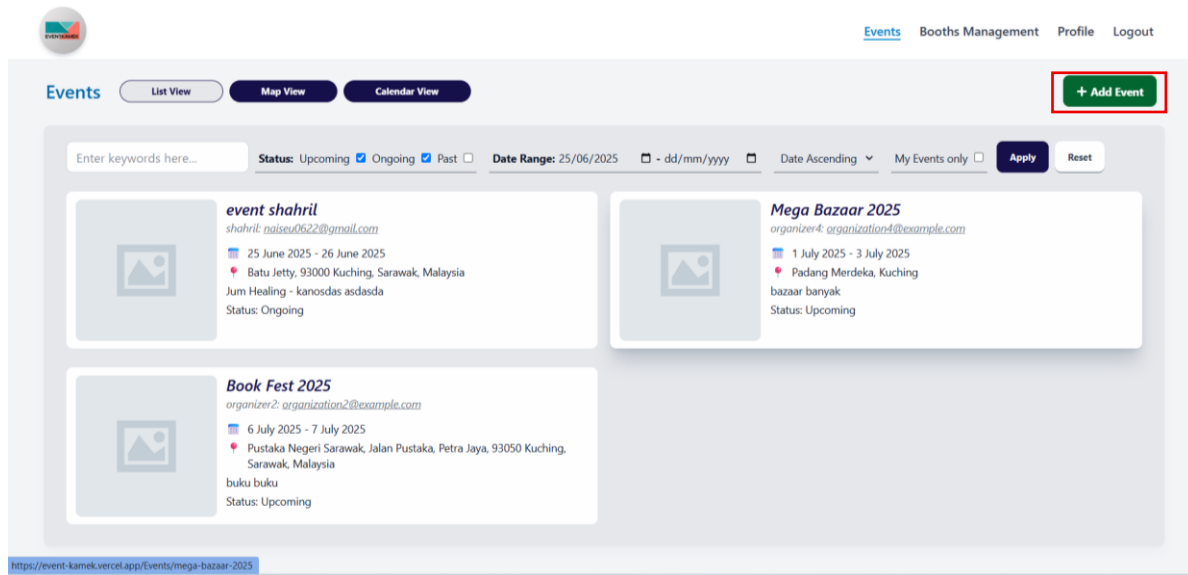


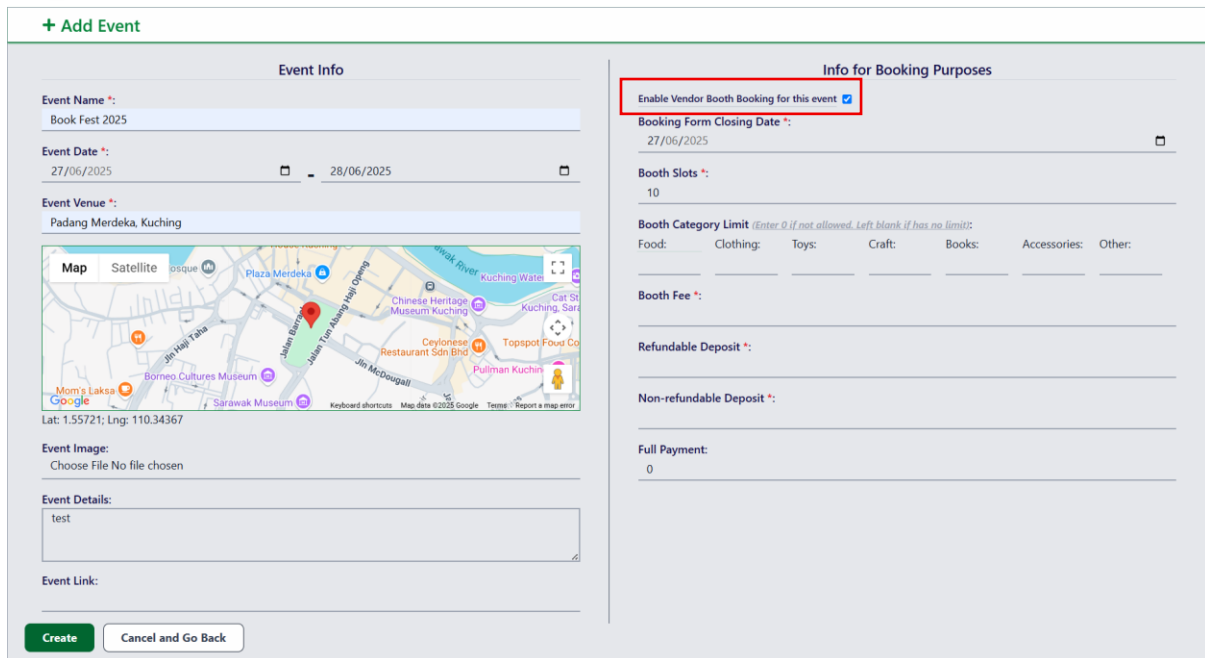
Figure 4.16: Add Event button navigation

2. Input all the required field shown in the Figure 4.17.

A screenshot of the 'Add Event' form. The form is divided into two main sections: 'Event Info' and 'Info for Booking Purposes'. The 'Event Info' section includes fields for 'Event Name *', 'Event Date *' (with a date picker), 'Event Venue *', a map (Google Maps), 'Event Image' (with a file upload button), 'Event Details' (a text area), and 'Event Link'. The 'Info for Booking Purposes' section includes a checkbox for 'Enable Vendor Booth Booking for this event', a 'Booking Form Closing Date' field, a 'Booth Slots' field, a 'Booth Category Limit' section with sub-fields for Food, Clothing, Toys, Craft, Books, Accessories, and Other, a 'Booth Fee' field, a 'Refundable Deposit' field, a 'Non-refundable Deposit' field, and a 'Full Payment' field. At the bottom of the form are two buttons: 'Create' and 'Cancel and Go Back'.

Figure 4.17: Add Event Form

3. To enable the booth booking for the event, check the Include Booth Booking for this event checkbox as shown in Figure 4.18



The screenshot shows the 'Add Event' form with the following details:

- Event Name:** Book Fest 2025
- Event Date:** 27/06/2025 to 28/06/2025
- Event Venue:** Padang Merdeka, Kuching
- Map:** A map of Kuching, Sarawak, showing the event location at Plaza Merdeka.
- Event Image:** Choose File No file chosen
- Event Details:** test
- Event Link:**

The 'Info for Booking Purposes' section on the right includes:

- Enable Vendor Booth Booking for this event:** ☒ (highlighted with a red box)
- Booking Form Closing Date:** 27/06/2025
- Booth Slots:** 10
- Booth Category Limit:** (Enter 0 if not allowed, Left blank if has no limit):
 - Food:
 - Clothing:
 - Toys:
 - Craft:
 - Books:
 - Accessories:
 - Other:
- Booth Fee:**
- Refundable Deposit:**
- Non-refundable Deposit:**
- Full Payment:** 0

Figure 4.18: Add Event Form (click enable booth booking)

4. To set booth category limit for each of the booth category, the input the limit in the Booth Category Limit input fields as shown in Figure 4.19.
 - a. Input a number greater than 0 to set the limit of the booth (the number can not be greater than the Booth Slots input field)
 - b. Input 0 to restrict the booth booking for the category
 - c. Left the input field empty to set it unlimited for the event

+ Add Event

Event Info

Event Name *: Book Fest 2025

Event Date *: 27/06/2025

Event Venue *: Padang Merdeka, Kuching

Map

Lat: 1.55721; Lng: 110.34367

Event Image: Choose File No file chosen

Event Details: test

Event Link:

Info for Booking Purposes

Enable Vendor Booth Booking for this event ☒

Booking Form Closing Date *: 27/06/2025

Booth Slots *: 20

Booth Category Limit (Enter 0 if not allowed, Left blank if has no limit):

Food:	Clothing:	Toys:	Craft:	Books:	Accessories:	Other:
5	2	0	0		0	0

Booth Fee *: 50

Refundable Deposit *: 20

Non-refundable Deposit *: 10

Full Payment: 80

Create **Cancel and Go Back**

Figure 4.19: Add Event Form (Booth Category Limit)

In this example, there is no limit for Books booth (limit set equals to the Booth Slots), while Toys, Craft, Accessories, and Craft booth is restricted from booking for this event

5. Proceed to input all the required field including the Booth Fee, Refundable Deposit, and Non-refundable Deposit and click “Create” button. The event will be saved into the system, and you will be redirected to the homepage

4.2.5 Edit Existing Event

This subsection is the guide for event organisers to edit their existing event in the platform

1. Check the “My Events Only” checkbox in the filter section and click Apply as shown in the Figure 4.20. The system will filter the events displayed to the events you have created only
2. Select your existing event to go to the Event Details page.

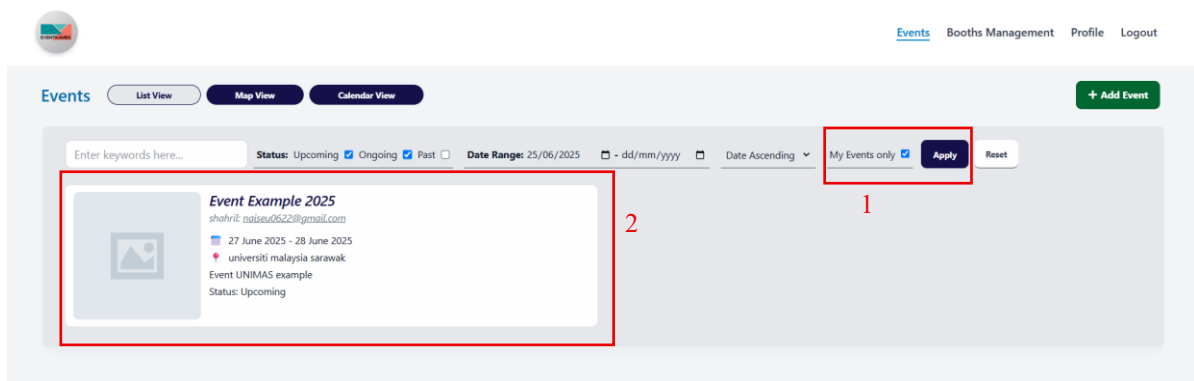


Figure 4.20: Selecting Event navigation

3. On the Event Details page, navigate to “**Edit Event**” page by clicking the “**Edit Event**” button (Figure 4.21)

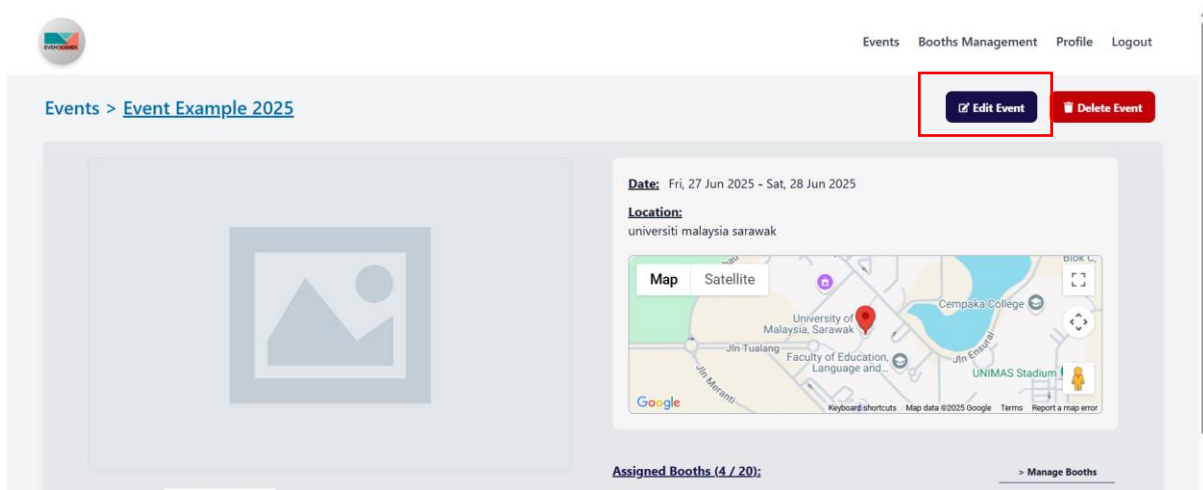


Figure 4.21: Edit Event navigation

4. Change any editable field to your preferences. The form shown in the Figure 4.22 works similarly to “**Add Event**” form ([Refer Add Event user guide](#))

5. Click the save button to confirm edit. The event will be updated with the new details and you will be redirected back to the Event Details page of the selected event

Figure 4.22: Edit Event form

4.2.6 Delete Existing Event

1. Select and event to go to the Event Details page similar to the navigation of [Edit Existing Event](#) to the Event Details page
2. Click the “Delete Event” button at the top right corner of the page as shown in the Figure 4.23

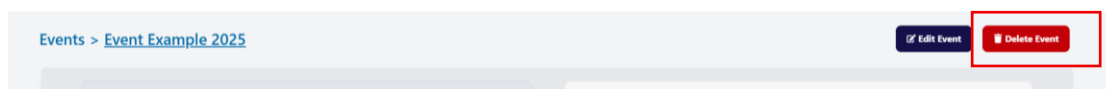


Figure 4.23: Delete Event Navigation

3. The popup shown in Figure 4.24 will appear. Click Confirm to confirm event deletion. The event will be deleted, and you will be redirected back to the homepage

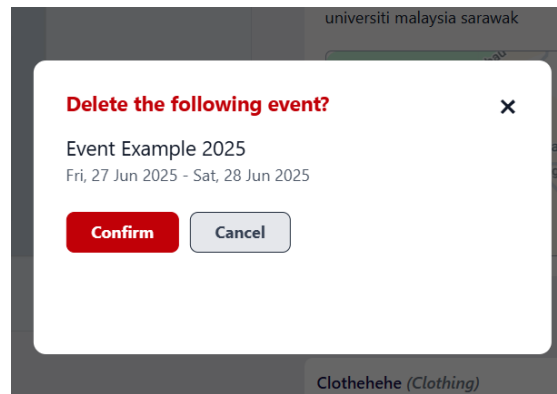


Figure 4.24: Popup Event Deletion Confirmation

4.2.7 Add Assignment

This subsection guides event organisers to add the booth assignment for unassigned vendors booking

1. Click the “Booths Management” tab to go to the Booths Management page (Figure 4.25).

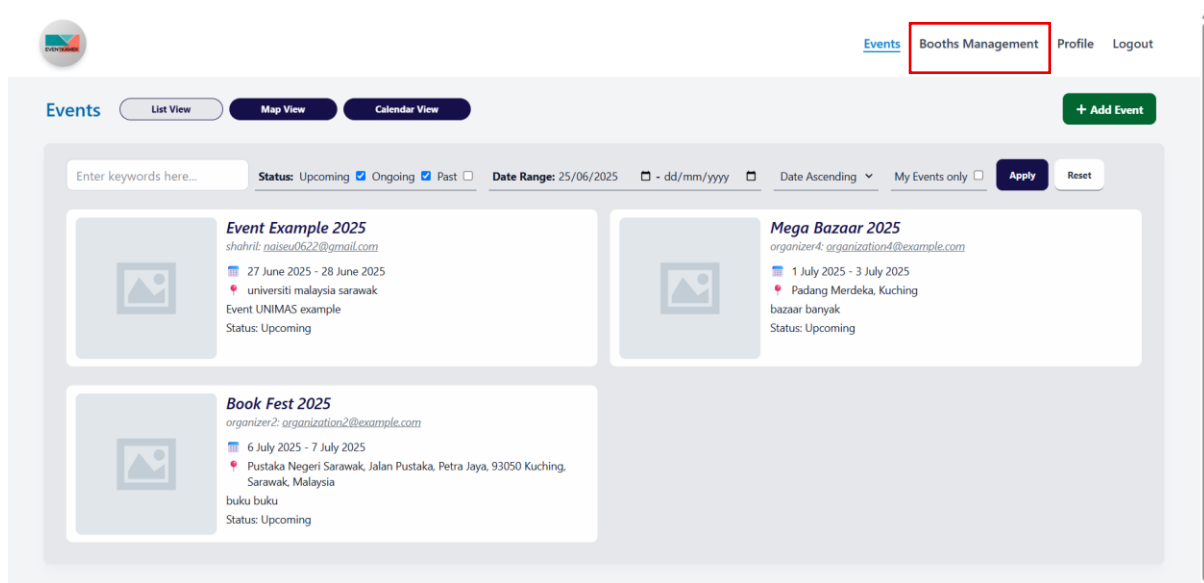


Figure 4.25: Navigation to Booths Management page

2. Select and click an event in the table on the Booths Management page as shown in the Figure 4.26, to manage the booths for the event selected. You will be redirected to the Booths Management > selected event page as shown in the Figure 4.27

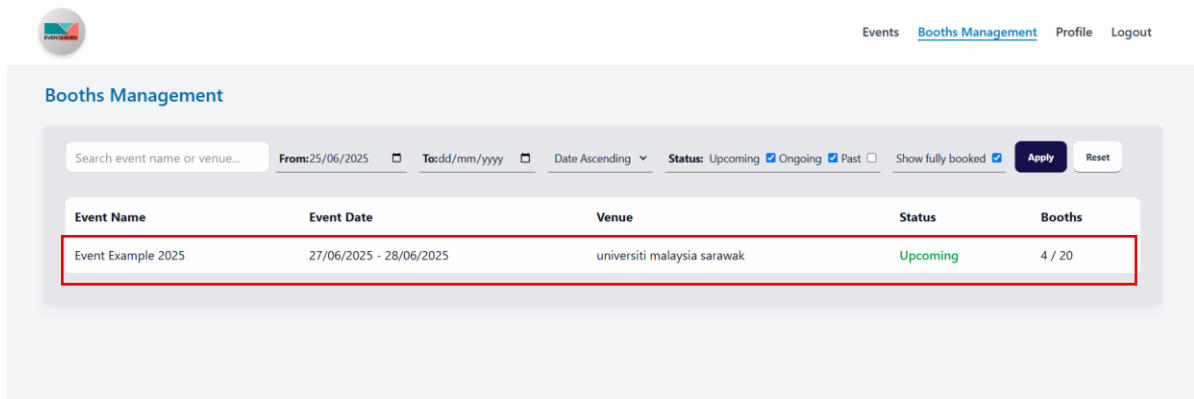


Figure 4.26: Booths Management Page Event Selection

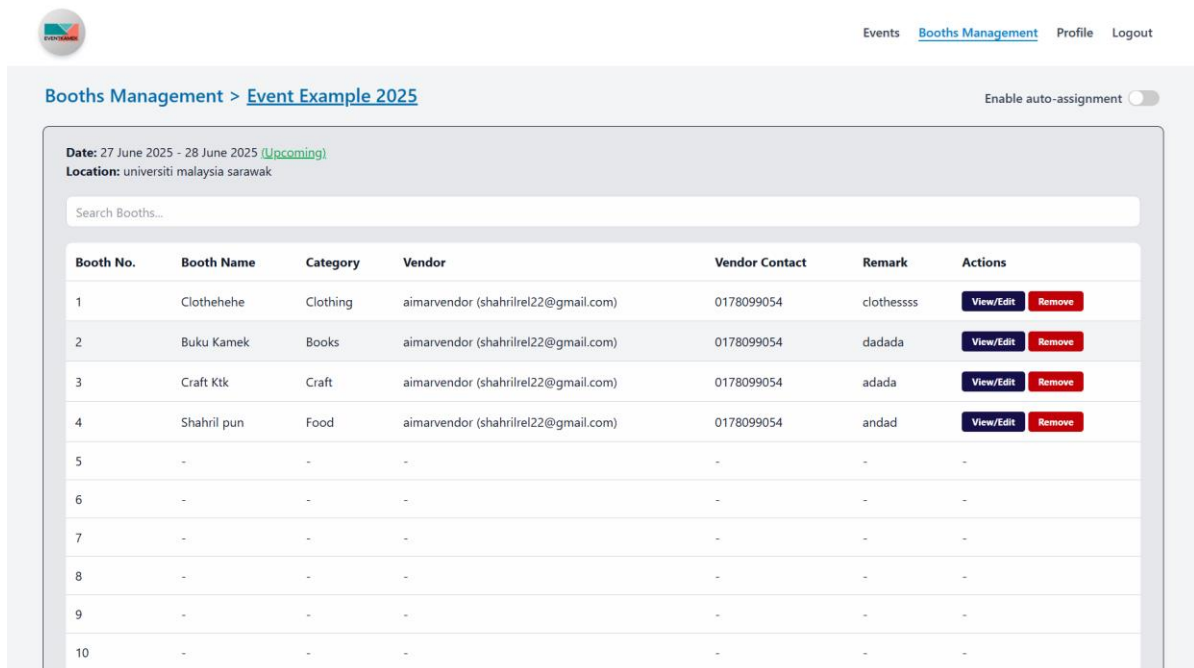


Figure 4.27: Booths Management > selected event

3. In the Booths Management of the selected event page, scroll down to the “Unassigned Vendors” section to view all the unassigned bookings.
4. Click the “Assign Booth” button on the row of the booking to be assigned, the system will popup the Assign Vendor form

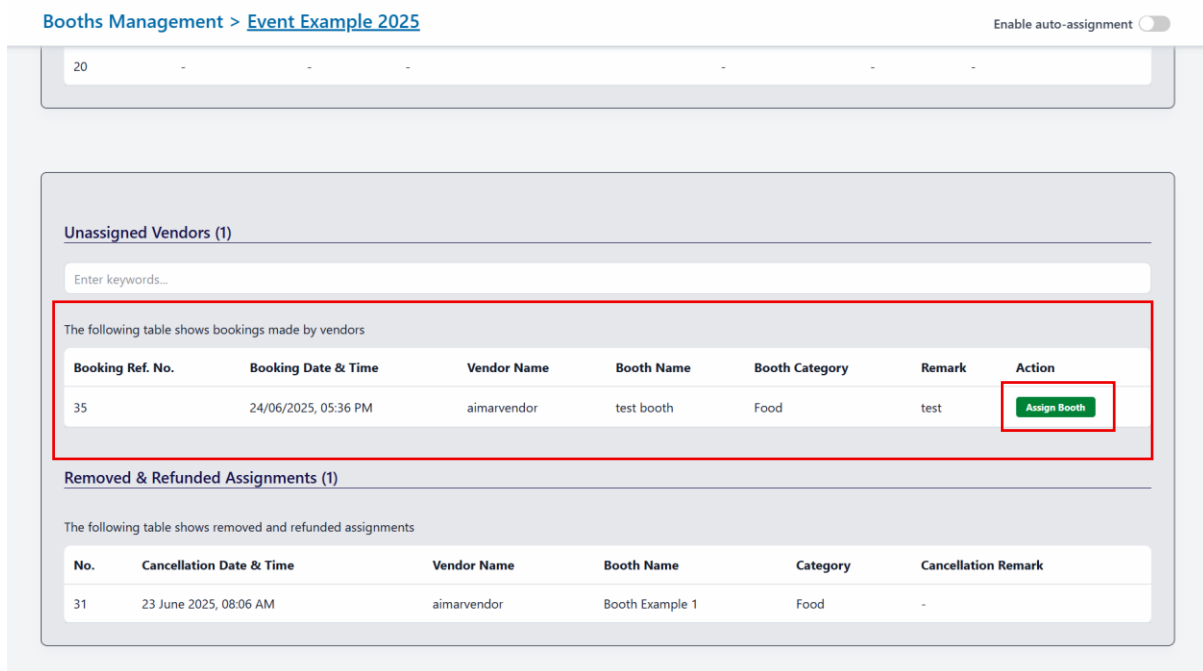


Figure 4.28: Booths Management > selected event > Unassigned Vendors section

- On the Assign Vendor form, select the booth to be assigned in the dropdown of Assign Booth as shown in the Figure 4.29
- Click Confirm Assignment assign the selected booking to the selected booth. You will be redirected back to the Booths Management > selected event page.

Assign Vendor

Event Info

Event: Event Example 2025

Date: 27 June 2025 - 28 June 2025 (Upcoming)

Venue: universiti malaysia sarawak

Booking Info

Booking Ref. No.: 35

Vendor Name: aimarvendor (shahrlrel22@gmail.com)

Booking Date & Time: 24/06/2025, 05:36 PM

Vendor Booth Name: test booth

Vendor Booth Category: Food

Remark: test

Assign Booth *

Select a booth

Confirm Assignment Cancel

Figure 4.29: Assign Vendor form

4.2.8 Edit Booth Assignment

This subsection guides event organisers to edit booth assignments in the platform

1. Go to the Booths Management of a selected event page, similar navigation steps as the [Add Assignment](#) navigation to the Booths Management of a selected event page.
2. In the table Under the Assigned Booths section, click the View/Edit button on the row of the booth to be edited as shown in the Figure 4.30

Booths Management > [Event Example 2025](#) Enable auto-assignment ☐

Date: 27 June 2025 - 28 June 2025 (Upcoming)
Location: universiti malaysia sarawak

Search Booths...

Booth No.	Booth Name	Category	Vendor	Vendor Contact	Remark	Actions
1	Clothehehe	Clothing	aimarvendor (shahrilrel22@gmail.com)	0178099054	clothessss	View/Edit Remove
2	Buku Kamek	Books	aimarvendor (shahrilrel22@gmail.com)	0178099054	dadada	View/Edit Remove
3	Craft Ktk	Craft	aimarvendor (shahrilrel22@gmail.com)	0178099054	adada	View/Edit Remove
4	Shahril pun	Food	aimarvendor (shahrilrel22@gmail.com)	0178099054	andad	View/Edit Remove
5	-	-	-	-	-	-
6	-	-	-	-	-	-
7	-	-	-	-	-	-
8	-	-	-	-	-	-
9	-	-	-	-	-	-
10	-	-	-	-	-	-
11	test booth	Food	aimarvendor (shahrilrel22@gmail.com)	0178099054	test	View/Edit Remove
12	-	-	-	-	-	-

Figure 4.30: Assigned Booth Section

3. edit the editable input in the View/Update Assignment form. You may reassign booth and add remark as shown in the Figure 4.31.

The figure displays two versions of a 'View/Update Assignment' form side-by-side. Both forms have a title bar with a close button (X). The form is divided into two main sections: 'Event Info' and 'Assignment Info'. The 'Event Info' section contains fields for 'Event' (Event Example 2025), 'Date' (27 June 2025 - 28 June 2025 (Upcoming)), and 'Venue' (universiti malaysia sarawak). The 'Assignment Info' section contains fields for 'Vendor Name' (aimarvendor (shahrilcel22@gmail.com)), 'Booth Name' (test booth), 'Booth Category' (Food), and 'Booth' (a dropdown menu). The 'Booth' dropdown is highlighted with a red box in the right screenshot, showing the value '7'. Below the 'Booth' field is a 'Remark' text area, also highlighted with a red box in the right screenshot, containing the text 'moved to booth near entrance'. At the bottom of each form are two buttons: 'Update this assignment' and 'Cancel'.

View/Update Assignment [X]

Event Info

Event: Event Example 2025

Date: 27 June 2025 - 28 June 2025 (Upcoming)

Venue: universiti malaysia sarawak

Assignment Info

Vendor Name: aimarvendor (shahrilcel22@gmail.com)

Booth Name: test booth

Booth Category: Food

Booth: 11 (currently assigned) [v]

Remark: test

Update this assignment **Cancel**

View/Update Assignment [X]

Event Info

Event: Event Example 2025

Date: 27 June 2025 - 28 June 2025 (Upcoming)

Venue: universiti malaysia sarawak

Assignment Info

Vendor Name: aimarvendor (shahrilcel22@gmail.com)

Booth Name: test booth

Booth Category: Food

Booth: 7 [v]

Remark: moved to booth near entrance

Update this assignment **Cancel**

Figure 4.31: View/Update Assignment form

4. Click Update this assignment to confirm the edit. The system will close the View/Edit Assignment form, and the booth assignment was reassigned to the new assigned booth as shown in the Figure 4.32

Booths Management > [Event Example 2025](#) Enable auto-assignment ☐

Date: 27 June 2025 - 28 June 2025 ([Upcoming](#))
Location: universiti malaysia sarawak

Search Booths...

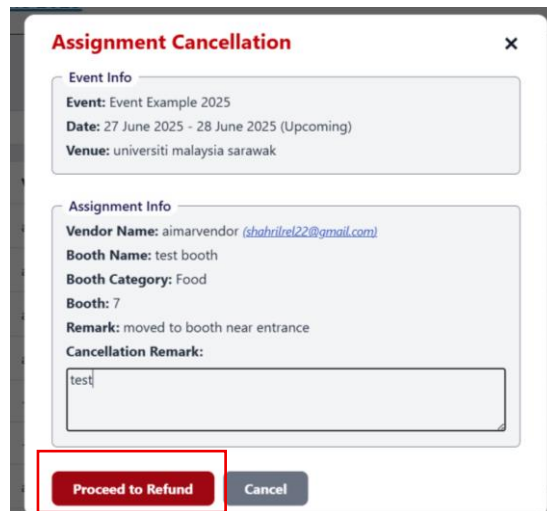
Booth No.	Booth Name	Category	Vendor	Vendor Contact	Remark	Actions
1	Clothehehe	Clothing	aimarvendor (shahrilrel22@gmail.com)	0178099054	clothessss	View/Edit Remove
2	Buku Kamek	Books	aimarvendor (shahrilrel22@gmail.com)	0178099054	dadada	View/Edit Remove
3	Craft Ktk	Craft	aimarvendor (shahrilrel22@gmail.com)	0178099054	adada	View/Edit Remove
4	Shahril pun	Food	aimarvendor (shahrilrel22@gmail.com)	0178099054	andad	View/Edit Remove
5	-	-	-	-	-	-
6	-	-	-	-	-	-
7	test booth	Food	aimarvendor (shahrilrel22@gmail.com)	0178099054	moved to booth near entrance	View/Edit Remove
8	-	-	-	-	-	-

Figure 4.32: Assigned Booth section (updated)

4.2.9 Cancel Assigned Booth Assignment

This subsection guides event organisers to make the cancellation of the assigned booth assignment.

1. Go to the Assigned Booth section on the Booths Management of the selected event page, similar steps as [Edit Booth Assignment](#)
2. Click the “Remove” button on the row of the assigned booth to cancel the assignment
3. Input the remark (optional) and click the Proceed to Refund button in the Assignment Cancellation form as shown in the Figure 4.33



Assignment Cancellation

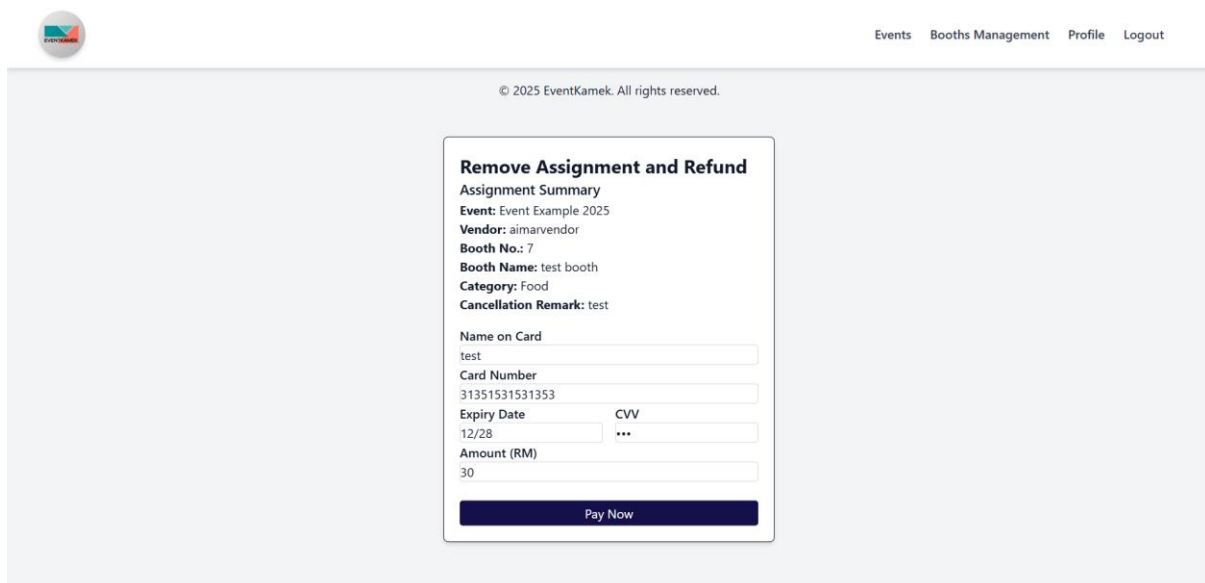
Event Info
Event: Event Example 2025
Date: 27 June 2025 - 28 June 2025 (Upcoming)
Venue: universiti malaysia sarawak

Assignment Info
Vendor Name: aimarvendor (shahrilrel22@gmail.com)
Booth Name: test booth
Booth Category: Food
Booth: 7
Remark: moved to booth near entrance
Cancellation Remark:

Proceed to Refund **Cancel**

Figure 4.33: Assignment Cancellation form

4. You will be redirected to the Refund page as shown in the Figure 4.34. Click “Pay Now” to confirm the assignment cancellation



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Remove Assignment and Refund

Assignment Summary
Event: Event Example 2025
Vendor: aimarvendor
Booth No.: 7
Booth Name: test booth
Category: Food
Cancellation Remark: test

Name on Card

Card Number

Expiry Date **CVV**

Amount (RM)

Pay Now

Figure 4.34: Payment page

You will be redirected back to the Booths Management of the selected event page and the assignment cancelled is now not displayed in the table under the “Assigned Booth” section as shown in the Figure 4.35. Instead, it will be shown in the “Remove & Refunded Assignments” as shown in the Figure 4.36



[Events](#)
[Booths Management](#)
[Profile](#)
[Logout](#)

Booths Management > [Event Example 2025](#)

Enable auto-assignment ☐

Date: 27 June 2025 - 28 June 2025 (Upcoming)

Location: universiti malaysia sarawak

Search Booths...

Booth No.	Booth Name	Category	Vendor	Vendor Contact	Remark	Actions
1	Clothehehe	Clothing	aimarvendor (shahrirel22@gmail.com)	0178099054	clothessss	View/Edit Remove
2	Buku Kamek	Books	aimarvendor (shahrirel22@gmail.com)	0178099054	dadada	View/Edit Remove
3	Craft Ktk	Craft	aimarvendor (shahrirel22@gmail.com)	0178099054	adada	View/Edit Remove
4	Shahril pun	Food	aimarvendor (shahrirel22@gmail.com)	0178099054	andad	View/Edit Remove
5	-	-	-	-	-	-
6	-	-	-	-	-	-
7	-	-	-	-	-	-
8	-	-	-	-	-	-
9	-	-	-	-	-	-
10	-	-	-	-	-	-

Figure 4.35: Assigned Booth section after cancellation

Booths Management > [Event Example 2025](#)

Enable auto-assignment ☐

19	-	-	-	-	-
20	-	-	-	-	-

Unassigned Vendors (0)

Enter keywords...

No unassigned vendors match your filters.

Removed & Refunded Assignments (2)

The following table shows removed and refunded assignments

No.	Cancellation Date & Time	Vendor Name	Booth Name	Category	Cancellation Remark
48	25 June 2025, 01:21 PM	aimarvendor	test booth	Food	test
31	23 June 2025, 08:06 AM	aimarvendor	Booth Example 1	Food	-

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Figure 4.36: Removed & Refunded Assignments after the cancellation

4.2.10 Refund Assignment Deposit

This subsection guides event organisers to refund the refundable deposit back to the vendor after the completion of an event.

1. Go to Booth Management page. Check the “Past” status in the filter section and click Apply (Figure 4.37)

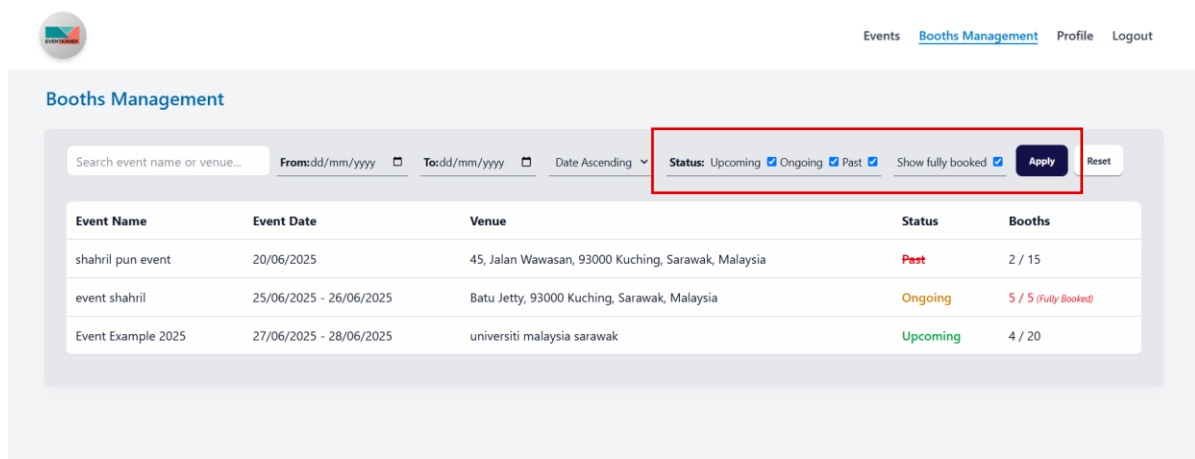


Figure 4.37: Booths Management Page ("Past" status checked)

2. Select an event with the Status “Past” to be go to the Booths Management of that event.
3. Click the Return/Forfeit Deposit button on the row of the assignment to be refunded as shown in Figure 4.38

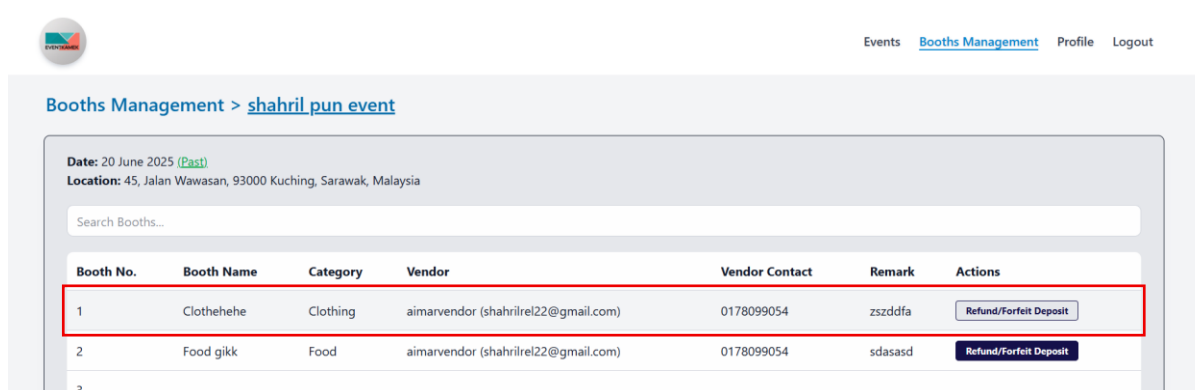
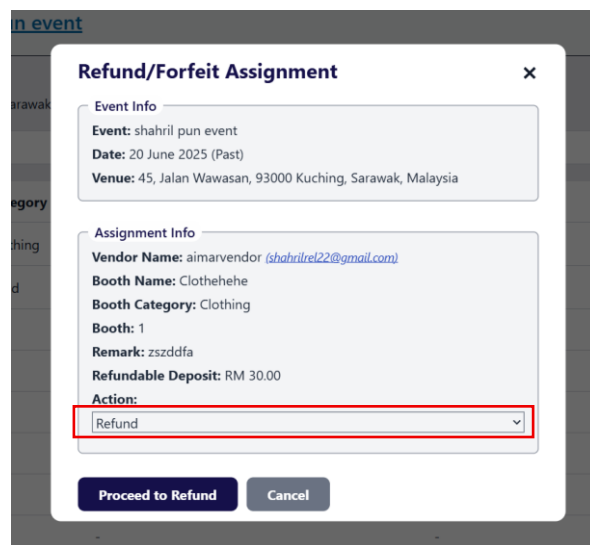


Figure 4.38: Assigned Booth section of Past Event

4. In the Refund/Forfeit Deposit form, select “Refund” in the Action dropdown (Figure 4.39)



The screenshot shows a modal window titled "Refund/Forfeit Assignment" with a close button (X) in the top right corner. It contains two sections: "Event Info" and "Assignment Info".

Event Info:

- Event: shahril pun event
- Date: 20 June 2025 (Past)
- Venue: 45, Jalan Wawasan, 93000 Kuching, Sarawak, Malaysia

Assignment Info:

- Vendor Name: aimarvendor (shahrilrel22@gmail.com)
- Booth Name: Clothehehe
- Booth Category: Clothing
- Booth: 1
- Remark: zszddfa
- Refundable Deposit: RM 30.00
- Action: A dropdown menu with "Refund" selected and highlighted by a red rectangle.

At the bottom, there are two buttons: "Proceed to Refund" and "Cancel".

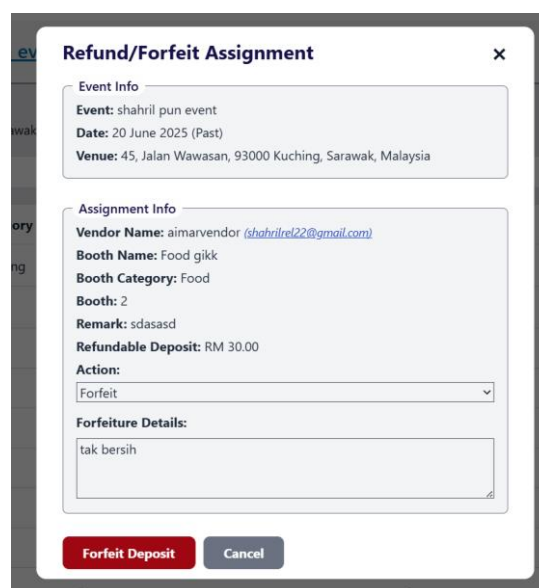
Figure 4.39: Refund/Forfeit Deposit (Refund selected)

5. Click Proceed to Refund button to go to the payment page

4.2.11 Forfeit Assignment Deposit

1. Go to the Booths Management of a selected past event page, similar to step 1-3 in the [Refund Assignment Deposit](#).

2. In the Refund/Deposit form, select “Forfeit” and input the forfeiture details (optional) in the Action dropdown as shown in the Figure 4.40



The screenshot shows the same "Refund/Forfeit Assignment" modal window. In this instance, the "Action" dropdown is set to "Forfeit". Below the dropdown, there is a "Forfeiture Details" section with a text area containing the text "tak bersih".

Event Info:

- Event: shahril pun event
- Date: 20 June 2025 (Past)
- Venue: 45, Jalan Wawasan, 93000 Kuching, Sarawak, Malaysia

Assignment Info:

- Vendor Name: aimarvendor (shahrilrel22@gmail.com)
- Booth Name: Food gikkk
- Booth Category: Food
- Booth: 2
- Remark: sdasasd
- Refundable Deposit: RM 30.00
- Action: A dropdown menu with "Forfeit" selected.
- Forfeiture Details: A text area containing "tak bersih".

At the bottom, there are two buttons: "Forfeit Deposit" and "Cancel".

Figure 4.40: Refund/Forfeit Deposit form (Forfeited selected)

4.2.12 Booking

This subsection guides vendor to make booth booking. The vendor must be logged into the system first to be able to make the booking

1. In the homepage (Events page), click an event with the “Upcoming” status to navigate to the Event Details page as shown in Figure 4.41

Note: You can unchecked the Ongoing and Past status in the filter and click Apply to view the upcoming events only

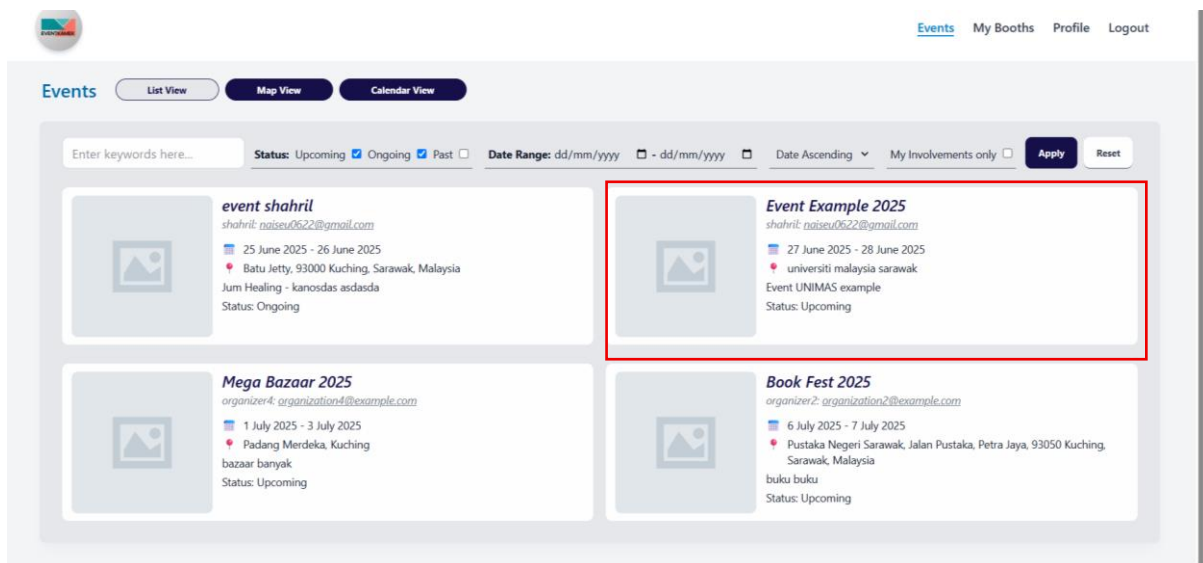


Figure 4.41: Event Page (vendor)

2. On the Event Details page, click the “Book Now” button at the top right corner of the page (Figure 4.42)

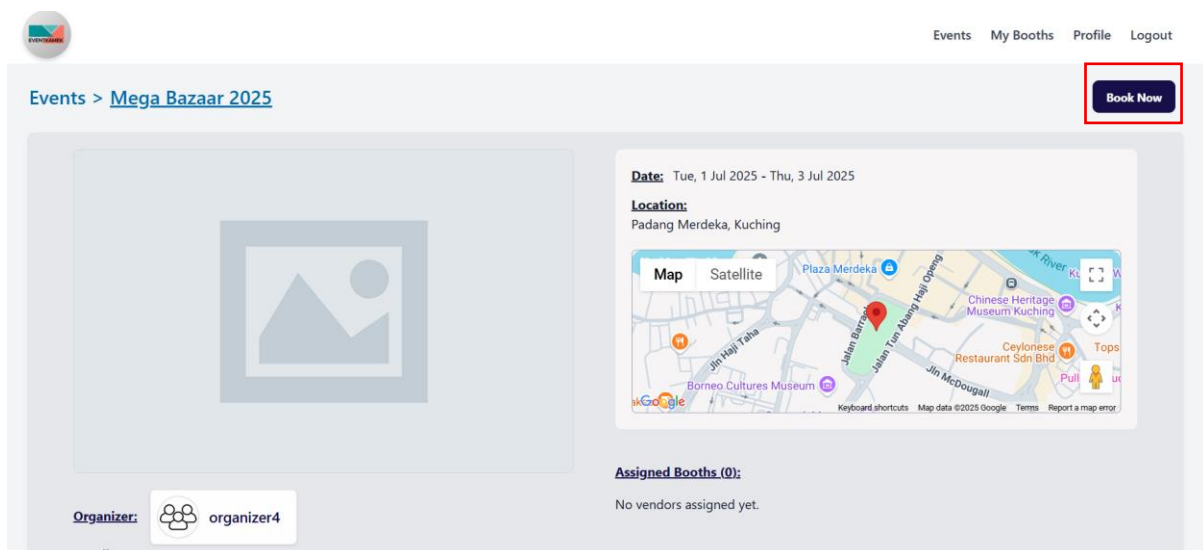
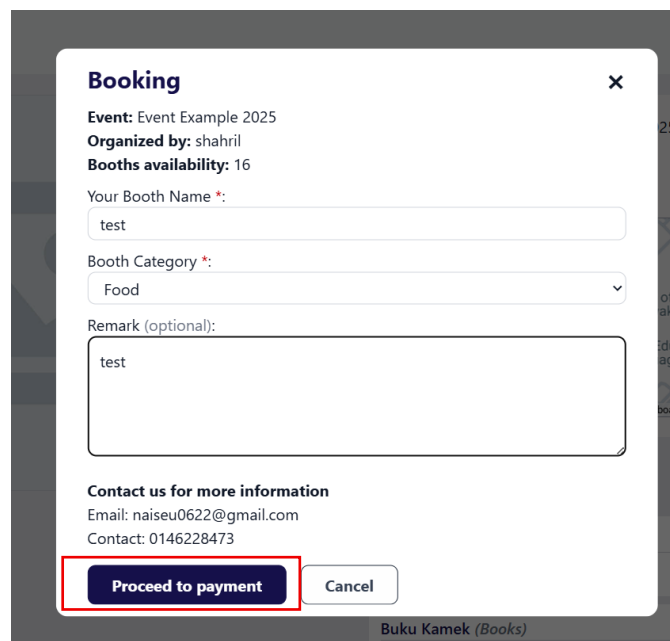


Figure 4.42: Event Details navigation to booking

3. Fill in the booking form and click Proceed to Payment to confirm the booking.



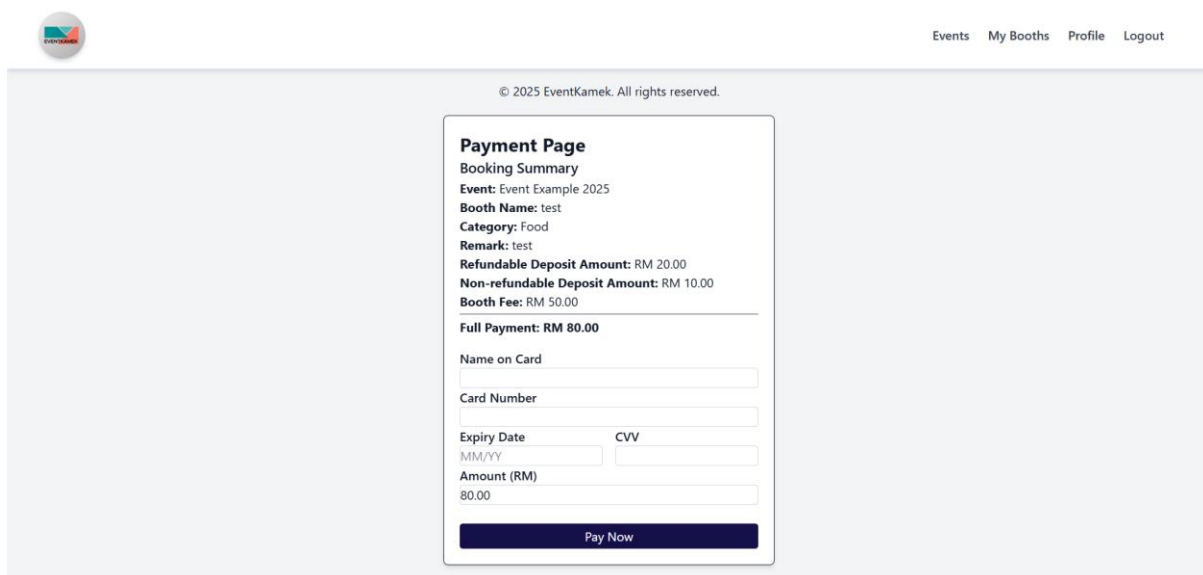
A modal form titled "Booking" with a close button (X) in the top right corner. The form contains the following fields and text:

- Event:** Event Example 2025
- Organized by:** shahril
- Booths availability:** 16
- Your Booth Name *:** A text input field containing "test".
- Booth Category *:** A dropdown menu with "Food" selected.
- Remark (optional):** A text area containing "test".
- Contact us for more information:**
 - Email: naisieu0622@gmail.com
 - Contact: 0146228473
- Buttons:** "Proceed to payment" (highlighted with a red rectangle) and "Cancel".

The footer of the modal reads "Buku Kamek (Books)".

Figure 4.43: Booking Form

3. Fill in the payment details and click Pay Now to pay for booking



A screenshot of the "Payment Page" for booking confirmation. The page has a header with a logo on the left and navigation links (Events, My Booths, Profile, Logout) on the right. The main content area contains a form with the following details:

- Payment Page**
- Booking Summary**
- Event:** Event Example 2025
- Booth Name:** test
- Category:** Food
- Remark:** test
- Refundable Deposit Amount:** RM 20.00
- Non-refundable Deposit Amount:** RM 10.00
- Booth Fee:** RM 50.00
- Full Payment:** RM 80.00
- Payment Fields:**
 - Name on Card
 - Card Number
 - Expiry Date (MM/YY) and CVV
 - Amount (RM): 80.00
- Pay Now** button

The footer of the page reads "© 2025 EventKamek. All rights reserved."

Figure 4.44: Payment Page for booking confirmation

4.2.13 View My Booths

This subsection guides vendor to view their assigned booths.

1. Click the “My Booths” in the navigation bar

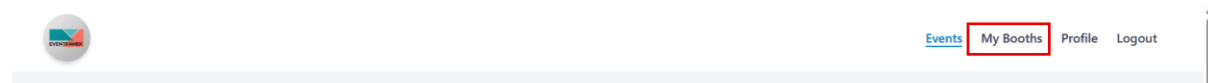


Figure 4.45: Vendor's Navigation Bar

2. In the “My Booths”, click “View Details” on the row of the booth assigned table to view the assignment details

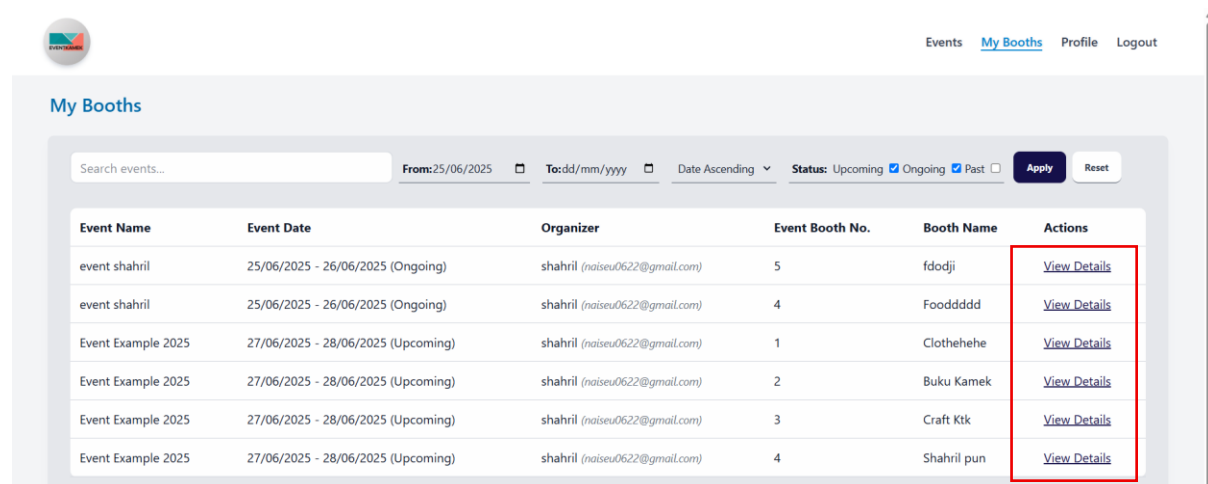


Figure 4.46: My Booths Page

4.3 Implementation Environment

The development of EventKamek was carried out using modern full-stack web development environment. The following table shows the implementation environment of EventKamek web development.

Table 4.1: Implementation Environment

Component	Tool / Platform	Description
Operating System	Windows 11 (64-bit)	Development and testing environment
IDE	Visual Studio Code	Main development environment for coding and debugging
Frontend Framework	React.js and Tailwind.css	Reactive UI development of the web application
	Tailwind.css	Utility-first CSS framework for rapid, responsive design
Backend Framework	Node.js + Express.js	Handles server-side logic, API routing and handling
Database	PostgreSQL	Stores structured data such as event organisers, vendors, events, booths
Authentication	JSON Web Token (JWT)	Provides secure, stateless authentication
Deployment (Frontend)	Vercel	Hosts and serves the frontend React application
Deployment (Backend)	Railway	Hosts and serves the frontend React application
API Integration	Google Maps API	Enables interactive event location viewing and selection
Version Control	GitHub	Used to manage source code and keep track of what updated from the previous code

4.4 Design Decision and Tools Justification

The design decisions made throughout the development of EventKamek were based on the goals of creating a scalable, user-friendly, and maintainable web application tailored for event management. The following tools and technologies were selected to best fulfil the system requirements.

4.4.1 Frontend: React.js and Tailwind CSS

React.js was chosen for its component-based architecture, which promotes reusability and modularity in UI development. It allows efficient rendering and supports single-page application (SPA) capabilities, improving user experience with minimal page reloads, which allows the

Tailwind CSS was selected to streamline the styling process through utility classes, allowing rapid design without writing custom CSS. It ensured consistent, responsive design across different pages.

4.4.2 Backend: Node.js and Express.js

Node.js is an open-source and cross-platform JavaScript runtime environment enables full-stack development using JavaScript on both frontend and backend, ensuring code consistency and reducing context-switching during development.

Express.js, a minimal Node.js framework, was chosen for building RESTful APIs with simplicity, flexibility, and scalability. It handles routing, middleware, and HTTP requests with ease.

4.4.3 Database: PostgreSQL

PostgreSQL was selected as the database management system for EventKamek due to its robustness, reliability, and support for complex relational data structures. As a powerful open-source relational database, PostgreSQL offers strong data integrity, ACID compliance, and scalability, making it ideal for managing the relationships between event organiser, vendor, events, booths, bookings, and assignment.

4.4.4 Authentication: JSON Web Token (JWT)

JSON Web Token (JWT) was chosen as the authentication method for EventKamek due to its stateless nature, simplicity, and compatibility with RESTful APIs. Unlike session-based authentication, JWT does not require the server to store user sessions, which improves scalability and reduces backend complexity.

Each token contains encoded user information and is signed using a secret key. Once issued upon login, the token is stored on the client side (e.g., in local storage) and included in subsequent requests for secure route access. This approach streamlines user verification while maintaining security.

JWT was ideal for EventKamek's single-page architecture and API-driven backend, enabling efficient and secure user access control across different user roles such as organisers and vendors.

4.4.5 Map Integration: Google Maps API

Google Maps API was integrated to enhance usability by allowing users to select and view event locations visually. This made the system more interactive and accurate when handling event-related geographical data.

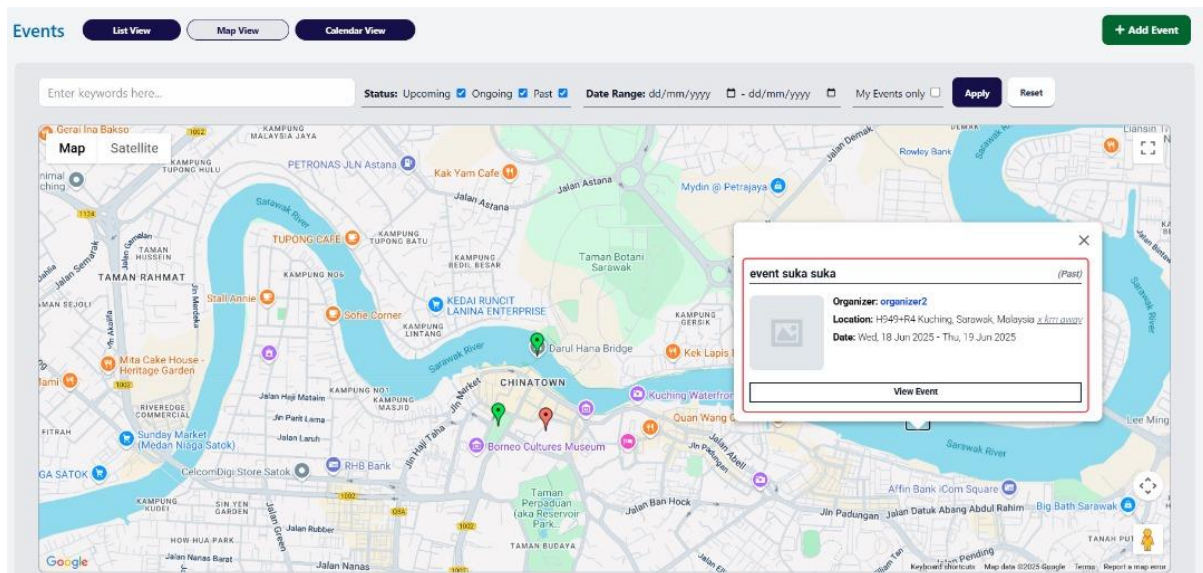


Figure 4.47: Events page Map view integrated with Google Maps API

Google's Places API enables autocomplete and retrieval of detailed place information, while its Geocoding API allows conversion between human-readable addresses and exact latitude/longitude values. Google's Places API, geocoding (Figure 4.48) and reverse geocoding (Figure 4.49) used in the adding event and "Edit Event" page, enabling event organiser to select the event location on a map and the system automatically get the address of the location and enabling event organiser to input the address and the system automatically get display the event location on the map with geocoding.

dd/mm/yyyy

Event Venue *:

Map

Pustaka Negeri Sarawak, Jalan...
Batu Jetty, 93000 Kuching, Sar...
Padang Merdeka, Kuching
pustaka, kuchning
mydin samariang
Kuching Buddhist Society

Lat: -; Lng: -

Event Image:
Choose File No file chosen

Event Venue *:

mydin samariang

Map
Satellite

Lat: 1.63768; Lng: 110.34064

Event Image:

Figure 4.48: Geocoding in Add Event and Edit Event Form

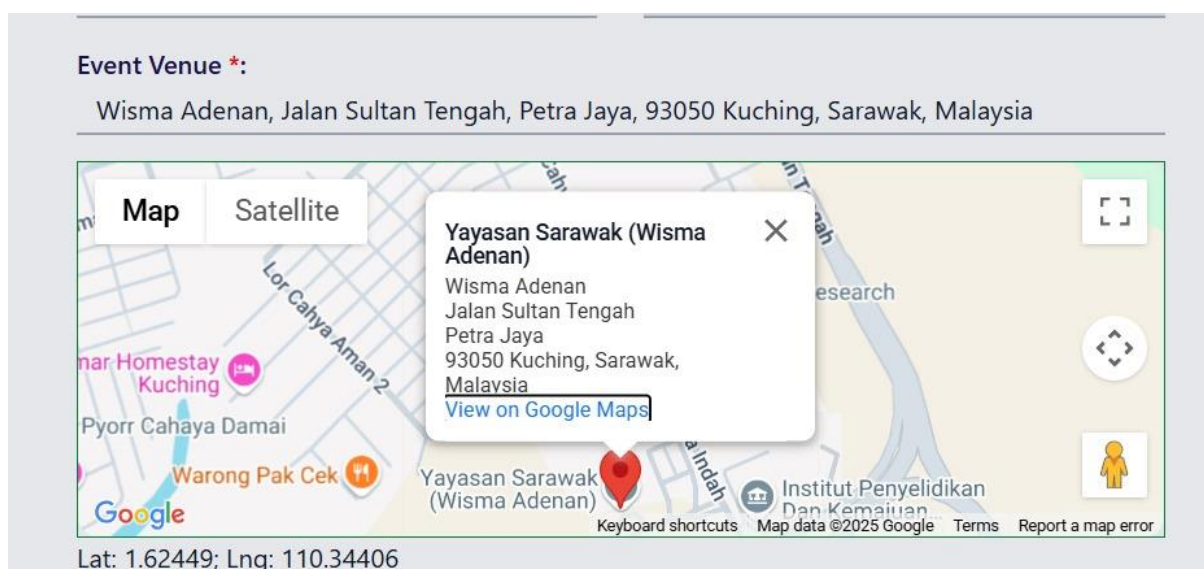
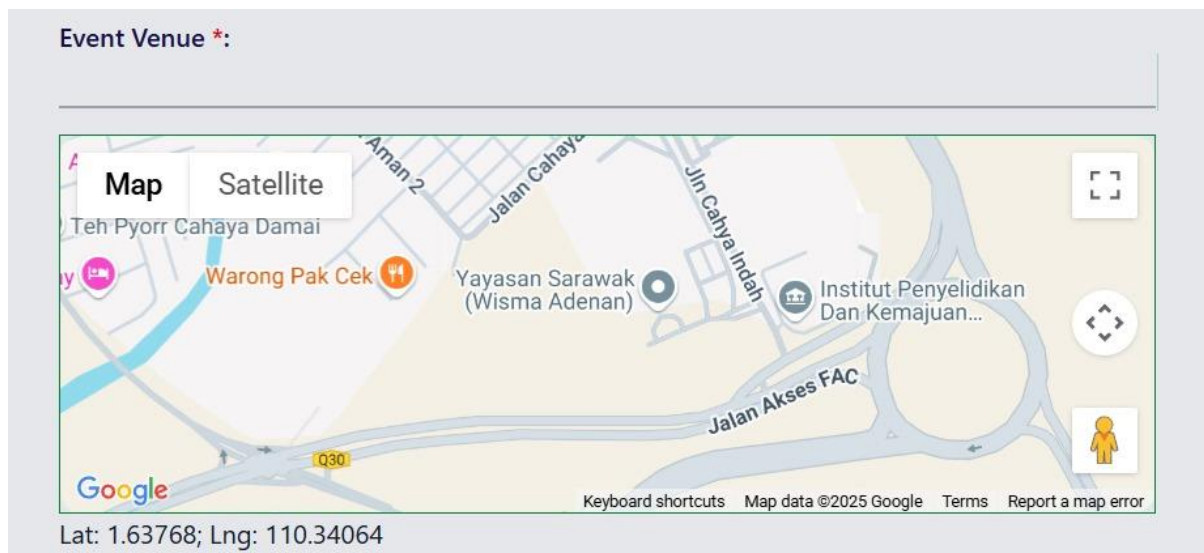


Figure 4.49: Reverse Geocoding in Add Event and Edit Event Form

In addition, Google Maps API is easier and faster to be implemented compared to its alternative Mapbox which has steeper learning curve. This justifies the integration with Google Maps considering EventKamek is developed in RAD methodology. Besides that, Mapbox does not have a built-in Street View feature like Google Maps, which provides users with a real-world visualisation of the venue, offering an extra layer of confidence and accuracy in selecting event locations. In addition, Google Maps API known for its broader coverage and higher data accuracy (Harutyunyan M., 2025).

4.4.6 Development & Deployment Tools

- **Visual Studio Code** was used as the primary development environment due to its powerful extensions, Git integration, and debugging tools.
- **GitHub** enabled version control and easier and efficient tracking of changes.
- **Vercel** was selected for frontend deployment due to its seamless support for React apps, fast build times, and auto-deployment from GitHub. This enables the website to automatically redeployed when there are updates of the project in the GitHub.
- **Railway** is used to host the backend server and database, allowing real-time integration and testing. With the integration with GitHub and ability to connect to a Vercel project enables the website to automatically redeployed when there are updates of the project in the GitHub.

4.5 Constraints

The EventKamek platform operates under several system constraints, primarily due to its reliance on third-party services and external factors beyond the developers' control. A key constraint is its dependency on a stable internet connection, as the system is built entirely on web technologies and cloud services (e.g., Firebase). Any disruptions in connectivity may result in limited access to core functionalities such as authentication, event listings, and booth booking operations. Additionally, the platform integrates Google Maps API for event geolocation and address searches. If the API returns unexpected results—such as ambiguous or inaccurate location suggestions due to limited contextual data—or if the service becomes temporarily unavailable or reaches its quota limits, the system's location features may not function as intended. Another critical constraint is the system's reliance on Gmail SMTP for sending important transactional emails, including booking confirmations, booth assignment notifications, and deposit refund alerts. Delays or failures in email delivery caused by Gmail API restrictions, rate limiting, or service interruptions could impact user communication and satisfaction. Since these dependencies lie outside the developer's control, they represent external system constraints that must be acknowledged and mitigated where possible.

4.6 Testing

Table 4.2: Prototype Test Case

Function	Input	Expected output	Actual output	Remark
Register User	Valid inputs: User role, valid email address, name, password, valid contact number, confirm password (e.g., Event Organiser, kelabshahril@gmail.com , Kelab Shahril, 0123456789, 12345678, 12345678)	Account successfully created, redirected to login page	As expected	-
	The user did not select the role	Prompt user to select role	As expected	-
	Invalid email format entered (e.g., shahrilgmail.com)	Prompt user to fill in the email in a valid email format	As expected	-
	Password and Confirm Password input field do not match (e.g., Password: 12345678, Confirm Password, 1234567)	Alerts user that the password entered did not match the password entered in the Confirm Password input field	As expected	-
Login	Email: kelabshahril@gmail.com Password: 12345678	User logged in and redirected to Homepage (Events page)	As expected	-
	Email: kelabjohnd@gmail.com (not exist) Password: johnd123	System displays error message: Invalid credentials. The email does not exist in the system	As expected	-
	Email: kelabshahril@gmail.com Password: 87654321 (wrong password)	System displays error message: Invalid credentials, you have entered the wrong password	As expected	-
Filter Events	Enter keywords to filter by event name, event organiser, or	The events filtered to only display events that contains “sukan” in the event name or	As expected	-

	event location (e.g., Sukan)	event organiser name or event location		
	Check all the event status checkbox (e.g., “Upcoming” checked, “Ongoing” checked, “Past” checked)	The event page should be showing all events of all event status instead of not showing past event (default filter)	As expected	Tested the event status one by one and works as expected
	Input date range (e.g., 22/06/2025 – 27/06/2025)	Shows events that are of start date: 22/06/2025 – 27/06/2025 only	As expected	-
	Check the My Events Only checkbox	Shows events that is created by me only (role: event organiser)	As expected	Tested for the role Vendor. Filters to “My Involvements Only” works as expected
Add Event	- Event name: “Mega BookFest 2025” - Event Start Date: 30/06/2025 - Event End Date: 02/07/2025 - Event Location: “Sarawak State Library, Kuching” - Event Details: “This is a test” - Event Link: https://test.link - Enable booth booking checkbox: checked - Booking Form Closing Date: 27/06/2025 - Booth Slots: 20 - Booth category limit (Food, Clothing, Toys, Craft, Books, Accessories,	Event created successfully and is displayed on the Event page	As expected	-

	Other): 8, 0, 0, 0, null, 0, 0 • Booth Fee: RM 60 • Refundable Deposit: RM 30 • Non-refundable Deposit: RM 10			
	The checkbox “Enable Booth Booking” is unchecked	The following input field will be disabled: • Booking Closing Date • Booth Slots • Booth Category Limits • Booth Fee • Refundable Deposit • Non-refundable deposit	As expected	-
	The input field Booth Slots is empty	Each Booth Category Limit input field will be disabled	As expected	-
	Event Start Date is empty	The input field Event End Date and Booking Closing Date will be disabled	As expected	-
	Inputting Event Location in more detail input “Sarawak State Library	The location marker in the map preview below the input field will mark at the Sarawak State Library, Kuching		
	Inputting Event Location input field “Pustaka”	The location marker in the map preview below the input field will mark at the Sarawak State Library, Kuching	The marker marks at the Pabna University of Science and Technology, Bangladesh instead	The Pabna University is a more relevant search result due to the API ranking system and no location bias in the system
Edit Event	Valid update/change (e.g., the Booking Closing Date is	The event edited successfully updated with the new details	• The event edited is	Error in the logic of sending the

	changed to “28/06/2025” and booth slots changed to 25	Email sent to the vendors that have made booking for this event	successfully updated with new details Email is failed to send to the vendors	update email notification to vendors
	Attempt to reduce the booth slots to a quantity lower than the booking made for the event selected	Prompt user to input a value greater than the number of bookings made (displayed in the form) and restrict from submitting the form	As expected	-
Delete Event	Event selected that contains 0 booking	Deletion successful and the event is removed from the system	As expected	-
	Event selected contains booking	Deletion restricted, the error message “deletion can not be made due to this event containing active booking”	As expected	-
Filter Event in Booth Management Page - Contain more specific filter criteria like checkbox of Fully Booked) - Not containing the checkbox “My Events Only” since this filter is	Checkbox “Fully Booked” checked	The rows for the event that have been fully booked is shown in the table	As expected	Other filter criteria for this filter have been tested and works as expected, works similarly like Filter Events

targeted for booth viewing and managing				
Add Assignment	Available Booth (e.g., Booth No: 3)	- The booking is successfully be assigned to booth 3 and the vendor is notified through email - Email sent to the associated vendor	As expected	The occupied booth no is not appeared in the dropdown of the Add Assignment form
Edit Assignment	Selected assigned booth: 3 Reassign to: 5 Remark: "Near entrance"	- The assignment is reassigned to booth 5, resulting the booth 3 to be available and booth 5 to be occupied - Email sent to the associated vendor	As expected	-
Cancel Assignment Soft deletion using isCancelled status	Selected assigned booth: 5 Remark: "test"	- The assignment is then removed from the assignment table and displayed in cancelled assignment record - Email sent to the associated vendor	As expected	-
Refund Deposit	- Selected assignmentID of past event: 2 - Deposit Action selected: "Refund"	Shows message refunded successful and email notification successfully sent to the associated vendor	As expected	-
	- Selected assignmentID of past event: 1 - Deposit Action selected: "Forfeit" - Remark: "tak bersih"	Shows message the assignment deposit is forfeited and email notification successfully sent to the associated vendor	As expected	-

Booking	- Selected Event name: “Event Example 2025” - Booth Name: “Real Western” - Booth Category: “Food” - Remark: “Request booth near entrance”	- Show booking successful and save the booking in the system. Event Organiser of the event can view the booking - Email notification sent to the associated event organiser	As expected	-
View My Booth Assigned	Assignment ID selected: 1	Show booth and assignment details of the selected assignment	As expected	-
Auto-assign vendor booths	Event with 5 unassigned vendor bookings with available booths more than 5	- Each vendor is assigned to an available booth. - Show message “5 bookings assigned to the available booths” - Email notification sent regarding the booth assignment to each vendor	As expected	-
	Event with 5 unassigned vendor bookings with available booths less than 5 (e.g., 3)	3 vendors sort by the earliest booking date time will be assigned to the remaining 3 available booths - Show message “3 bookings assigned to the available booths” - Email notification sent regarding the booth assignment to the 3 vendors assigned	As expected	Lacks the alert message such as “lack available booth to assign remaining vendor bookings”

4.7 Chapter Summary

This chapter detailed the implementation of the EventKamek system, highlighting the use of modern web technologies—React.js, Node.js with Express, and PostgreSQL—for developing a robust event vendor management platform. Core modules including event management, booth assignment, booking, authentication, and email notifications were developed and tested for functionality and usability, with Google Maps API enhancing location-based interactions. Despite challenges such as internet reliance, geolocation accuracy, backend hosting limits, and partial automation in processes like cancellations and refunds, the system successfully met its objectives and provides a strong foundation for future enhancements.

CHAPTER 5

EVALUATION

5.1 Introduction

This chapter evaluates the performance, logic, and usability of the EventKamek system based on the outcomes of the testing conducted during implementation. It presents a discussion of system behaviours, interprets accepted and rejected inputs, and analyses the strengths, weaknesses, and areas for improvement across different system components.

5.2 Discussion and Result

While a formal User Acceptance Testing (UAT) phase was not included due to the iterative nature of the RAD methodology, extensive functional validation was conducted through detailed test cases in Chapter 4. Each module—ranging from event creation, booth management, and bookings, to email notification and authentication—was tested using structured scenarios involving both valid and invalid inputs. The outcomes were systematically recorded with expected results, actual results, and severity analysis, thereby confirming that the system functions in accordance with its intended logic and meets the core functional requirements. This approach ensured confidence in the system's reliability and usability despite the absence of a UAT stage.

The testing conducted in Chapter 4 confirmed that the EventKamek system operated in accordance with the defined processes, user flows, and access control logic. When valid inputs were provided by authorised users, the system consistently produced accurate and expected outputs. For instance, when an event organiser created or edited an event with complete and valid data, the system correctly stored the event information in the database and reflected the changes in the event listings, calendar view, and map interface. Similarly, valid booth booking attempts by vendors were accepted, stored in the database and reflected in the booking table accessible by the event organiser.

The image displays two screenshots of the EventKamek system interface.

The top screenshot shows the '+ Add Event' form, which is divided into two main sections: 'Event Info' and 'Info for Booking Purposes'.

Event Info Section:

- Event Name ***: Event Example 2025
- Event Date ***: 27/06/2025
- Event Venue ***: universiti malaysia sarawak
- Map**: A Google Map showing the location of the event venue, Universiti Malaysia Sarawak, with a red pin and a street view icon.
- Event Image**: Choose File No file chosen
- Event Details**: Event UNIMAS example
- Event Link**: http://example.com/
- Buttons**: Create, Cancel and Go Back

Info for Booking Purposes Section:

- Enable Vendor Booth Booking for this event**: ☒
- Booking Form Closing Date ***: 25/06/2025
- Booth Slots ***: 20
- Booth Category Limit** (Enter 0 if not allowed, Left blank if has no limit):

Food	Clothing	Toys	Craft	Books	Accessories	Other
- Booth Fee ***: 50
- Refundable Deposit ***: 20
- Non-refundable Deposit ***: 10
- Full Payment**: 80

The bottom screenshot shows the 'Events' list view, which includes a search bar, filters, and a grid of event cards.

Events List View:

- Search Bar**: Enter keywords here...
- Filters**: Status: Upcoming ☒ Ongoing ☒ Past ☐ Date Range: 22/06/2025 - dd/mm/yyyy Date Ascending ☐ My Events only ☐ Apply Reset
- Event Cards**:
 - event shahril**: shahril: naiseu0622@gmail.com, 25 June 2025 - 26 June 2025, Batu Jetty, 93000 Kuching, Sarawak, Malaysia, Jum Healing - kanosdas asdasda, Status: Upcoming
 - Event Example 2025**: shahril: naiseu0622@gmail.com, 27 June 2025 - 28 June 2025, universiti malaysia sarawak, Event UNIMAS example, Status: Upcoming
 - Mega Bazaar 2025**: organizer4: organization4@example.com, 1 July 2025 - 3 July 2025, Padang Merdeka, Kuching, bazaar banyak, Status: Upcoming
 - Book Fest 2025**: organizer2: organization2@example.com, 6 July 2025 - 7 July 2025, Pustaka Negeri Sarawak, Jalan Pustaka, Petra Jaya, 93050 Kuching, Sarawak, Malaysia, buku buku, Status: Upcoming

Figure 5.1: Add Event Correctness

Booking

×

Event: Event Example 2025

Organized by: shahril

Booths availability: 20

Your Booth Name *:

Booth Example 1

Booth Category *:

Food

Remark (optional):

abjad

Contact us for more information

Email: naiseu0622@gmail.com

Contact: 0146228473

Proceed to payment

Cancel

Booths Management > [Event Example 2025](#) Enable auto-assignment ☐

Unassigned Vendors (1)

Enter keywords...

The following table shows bookings made by vendors

Booking Ref. No.	Booking Date & Time	Vendor Name	Booth Name	Booth Category	Remark	Action
30	23/06/2025, 07:02 AM	aimarvendor	Booth Example 1	Food	abjad	Assign Booth

Removed & Refunded Assignments (0)

No cancelled assignments for this event

Figure 5.2: Booking Data Correctness

Across various modules, numerous functionalities were successfully accepted during testing. Event creation, editing, and booth booking worked as intended when appropriate data was submitted. Booth assignment, reassignment or booth assignment update, cancellation, and refund operations functioned smoothly, with confirmation emails triggered at the appropriate stages.

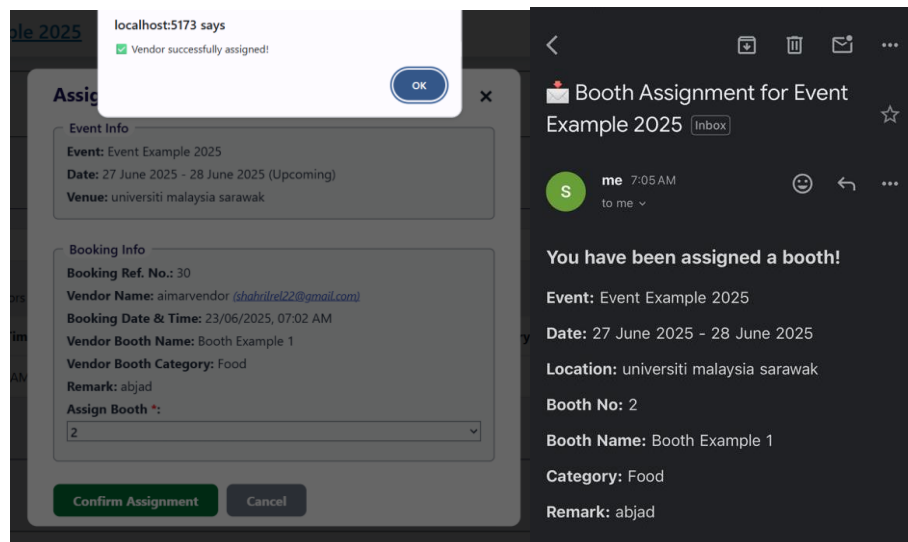


Figure 5.3: Assign Booth Function Correctly

The map-based event location system performed reliably when users entered specific and complete addresses, and reverse geocoding accurately updated textual address information. Profile editing also accepted valid inputs such as properly formatted email. Authentication flows like registration, login, and logout responded correctly to valid credentials. Additionally, filter and sorting functionalities in event and booth management modules delivered the expected results based on keyword like event name or event location, event status, and date ranges, and the checkbox to filter to “My events only” for event organiser and “My involvements only” for vendors.

The auto-assignment toggle for booth allocation operated without error, assigning vendors in order of booth availability without manual intervention.

Booths Management > [Event Example 2025](#)

Enable auto-assignment ☐

Unassigned Vendors (3)

Enter keywords...

The following table shows bookings made by vendors

Booking Ref. No.	Booking Date & Time	Vendor Name	Booth Name	Booth Category	Remark	Action
31	23/06/2025, 07:12 AM	aimarvendor	Clothehehe	Clothing	clothessss	<button>Assign Booth</button>
32	23/06/2025, 07:13 AM	aimarvendor	Buku Kamek	Books	dadada	<button>Assign Booth</button>
33	23/06/2025, 07:13 AM	aimarvendor	Craft Ktk	Craft	adada	<button>Assign Booth</button>

localhost:5173/BoothsManagement/event-example-2025

Booths Management > [Event Example 2025](#)

localhost:5173 says
3 vendors auto-assigned and notified via email.

Enable auto-assignment ☐

Enter keywords...

The following table shows bookings made by vendors

Booking Ref. No.	Booking Date & Time	Vendor Name	Booth Name	Booth Category	Remark	Action
31	23/06/2025, 07:12 AM	aimarvendor	Clothehehe	Clothing	clothessss	<button>Assign Booth</button>
32	23/06/2025, 07:13 AM	aimarvendor	Buku Kamek	Books	dadada	<button>Assign Booth</button>
33	23/06/2025, 07:13 AM	aimarvendor	Craft Ktk	Craft	adada	<button>Assign Booth</button>

Removed & Refunded Assignments (1)

Booths Management > [Event Example 2025](#)

Enable auto-assignment ☐

Date: 27 June 2025 - 28 June 2025 ([Upcoming](#))
Location: universiti malaysia sarawak

Search Booths...

Booth No.	Booth Name	Category	Vendor	Vendor Contact	Remark	Actions
1	Clothehehe	Clothing	aimarvendor (shahrilrel22@gmail.com)	0178099054	clothessss	<button>View/Edit</button> <button>Remove</button>
2	Buku Kamek	Books	aimarvendor (shahrilrel22@gmail.com)	0178099054	dadada	<button>View/Edit</button> <button>Remove</button>
3	Craft Ktk	Craft	aimarvendor (shahrilrel22@gmail.com)	0178099054	adada	<button>View/Edit</button> <button>Remove</button>
4	-	-	-	-	-	-

Figure 5.4: Auto-assign function correctly

Besides the acceptance input, the system also appropriately rejected various invalid or unauthorised actions. Input validation prevented submission of forms containing empty fields, or invalid input format, such as email format, and contextual error messages guided users to correct their input. Some form implemented disallowed some input field when another input field is not entered yet. For instance, the event end date and booking closing date in the “Add Event” form is disabled if the event start date is not yet inputted.

The figure consists of three screenshots of the "Add Event" form, illustrating conditional validation where certain fields are disabled based on the input in other fields.

Screenshot 1 (Top): The "Event Date" field is empty. The "Booking Form Closing Date" and "Booth Slots" fields are disabled (greyed out).

Screenshot 2 (Middle): The "Event Date" field is filled with "27/06/2025". The "Booking Form Closing Date" and "Booth Slots" fields are still disabled.

Screenshot 3 (Bottom): The "Event Date" field is filled with "27/06/2025". The "Booking Form Closing Date" field is now enabled and filled with "dd/06/2025". The "Booth Slots" field remains disabled.

Figure 5.5: Add Event input field disabled with conditional validation

Booking actions for fully booked events were blocked by disabling the “**Book Now**” button, effectively preventing overbooking.

Event Name	Event Date	Venue	Status	Booths
event shahril	25/06/2025 - 26/06/2025	Batu Jetty, 93000 Kuching, Sarawak, Malaysia	Upcoming	5 / 5 (Fully Booked)
Event Example 2025	27/06/2025 - 28/06/2025	universiti malaysia sarawak	Upcoming	0 / 20

Events > [event shahril](#)

Fully Booked



Organizer:  shahril

Details:
Jum Healing - kanosdas asdasda

Date: Wed, 25 Jun 2025 - Thu, 26 Jun 2025

Location:
Batu Jetty, 93000 Kuching, Sarawak, Malaysia



Assigned Booths (5):

Buah2 (Food)

Vendor: [vendorshahril](#)

Fooddddd (Food)

Figure 5.6: Booking restricted for fully-booked event

Booth cancellation was restricted until a vendor had been assigned to a booth, avoiding inconsistent data handling. Login attempts using incorrect credentials were denied with relevant feedback. While the map feature performed well with detailed addresses, vague inputs (e.g., “Pustaka”) sometimes caused the pin to be dropped in unintended locations due to the absence of regional biasing in the geocoding process.

The screenshot shows a web form titled '+ Add Event'. The form has three main sections: 'Event Info', 'Event Date', and 'Event Venue'. The 'Event Name' field is empty. The 'Event Date' field is set to 'dd/mm/yyyy' with a calendar icon. The 'Event Venue' field contains the text 'Pustaka'. Below the form is a map showing a location in Pabna, Bangladesh. A red pin is dropped on the map, indicating the geocoded location. The map shows several landmarks, including 'Gov. Teachers' Training College, Pabna', 'Pabna University of Science and Technology', and 'Suchitra Sen Hall'. The map also displays the coordinates 'Lat: 24.01328; Lng: 89.27968' and a 'Keyboard shortcuts' link.

Figure 5.7: Unexpected Output from Geocoding

Additionally, automated emails for event updates were not sent to assigned vendors of the event, indicating a gap in the current notification implementation.

These observed input-output behaviours confirm that the prototype adheres closely to its intended design logic, with proper safeguards, validations, and feature controls implemented across the system. Nonetheless, the issues highlighted also offer opportunities for refinement in future iterations.

5.3 Evaluation of Prototype

Following the completion of internal system testing and user-based evaluations, the prototype was assessed to determine its effectiveness and readiness for real-world deployment. This section outlines both the strengths and weaknesses of the prototype based on observed performance, user feedback, and functional behaviour during testing.

5.3.1 Strengths of the Prototype

One of the major strengths of the Prototype lies in its well-structured role-based management system. The application successfully distinguishes between different the role event organiser and vendor, by granting role-specific access and functionalities. This separation ensures that users interact only with relevant features, reducing confusion and enhancing system security. For instance, the event organiser has access to Booth Management page, the page for event organisers views bookings, assign and manage vendor booths. While the vendor has access to My Booth page, where it shows all the booth assignments of the vendor. Besides that, the filter for events is based on the user role. The event organiser has the option to view the events they have created only while the vendor also has the option to only view the events they are involve in.

Another notable strength in this prototype is the implementation of the calendar view and map view integration using Google Maps API. With this implementation together with the filter functionality, all users can easily browse and locate upcoming events based on date, location, and other preferences. The calendar view provides an organised timeline that allows event organisers or vendors to quickly identify events happening on specific days, while the map view offers spatial representation that enhances user convenience when planning to organised event or book a booth. This dual-view approach significantly improves user experience by accommodating different browsing behaviours. Additionally, the filter functionality further

refines the search process by allowing users to narrow down results based on event type, booth category, or organiser. This seamless integration of temporal, spatial, and categorical filters showcases the prototype's emphasis on usability, accessibility, and intelligent event discovery.

In addition, the Google Maps integration in the **“Add Event”** and **“Edit Event”** page ease event organisers to select the location of the event on the map by reverse geocoding directly clicking on the desired location. This intuitive interaction eliminates the need for manual address input, reducing the chances of location-related errors. Reverse geocoding automatically converts the selected map coordinates into a readable address, which is then populated into the event details form. This not only saves time but also ensures that event locations are accurately captured and displayed. This feature significantly enhances the event creation experience, especially for organisers hosting events in unfamiliar or dynamic locations.

Besides that, the strength of the prototype lies in its dynamic data loading and robust form conditional validation mechanisms, which ensure data integrity and reduce user input errors throughout the system. Mandatory fields such as event name, date, location, booth details, and organiser information are strictly validated before submission, preventing incomplete or malformed entries. For example, the input field Event End Date and Closing Booking Date in the **“Add Event”** Form and **“Edit Event”** Form is disabled if the Event Start Date input field is empty. Similarly, the all the input field for Booking Purposes in the **“Add Event”** and **“Edit Event”** form is disabled when the Enable booth booking checkbox is unchecked. The booth category limits input fields are disabled if the Booth Slots input field.

Besides that, the organiser is restricted from deleting the event that already contains active booking. The validation in the booth management is also well implemented, where the In the add assignment and edit assignment form, the system only displays the available booth to be assigned. The conditional validation such as enables booth assignment, booth update assignment, and cancel booth assignment only for upcoming event. While the option for past event in the booth management page is the form for refund or forfeit deposit only.

Other than that, the implementation of soft deletion instead of hard deletion for the booth assignment data shows the strength of the prototype where the event organiser can track the record of cancelled assignments.

Another strength is the incorporation of email notifications via Nodemailer. Each time a vendor successfully books a booth, an automated email is sent to the respective event organiser. This keeps organisers informed of booking activity without needing to constantly check the system manually. Overall, these strengths demonstrate that the core functionalities of the prototype are working as intended and address many of the initial requirements effectively.

Another notable strength of the EventKamek prototype lies in its user-centric interface design, particularly the strategic placement of key action buttons. On the event listing page, the **“Add Event”** button is made **sticky at the top**, allowing event organisers to easily access the function without needing to scroll, no matter how long the list of events becomes. Similarly, on the Event Details page, vendors see a **“Book Now”** button fixed at the top, ensuring immediate access to the booking process. For organisers viewing their own event, the interface dynamically replaces this with **“Edit Event”** and **“Delete Event”** buttons in the same fixed position. This context-aware, persistent button design enhances usability, reduces friction, and improves task efficiency by keeping the most relevant action always visible to the user.

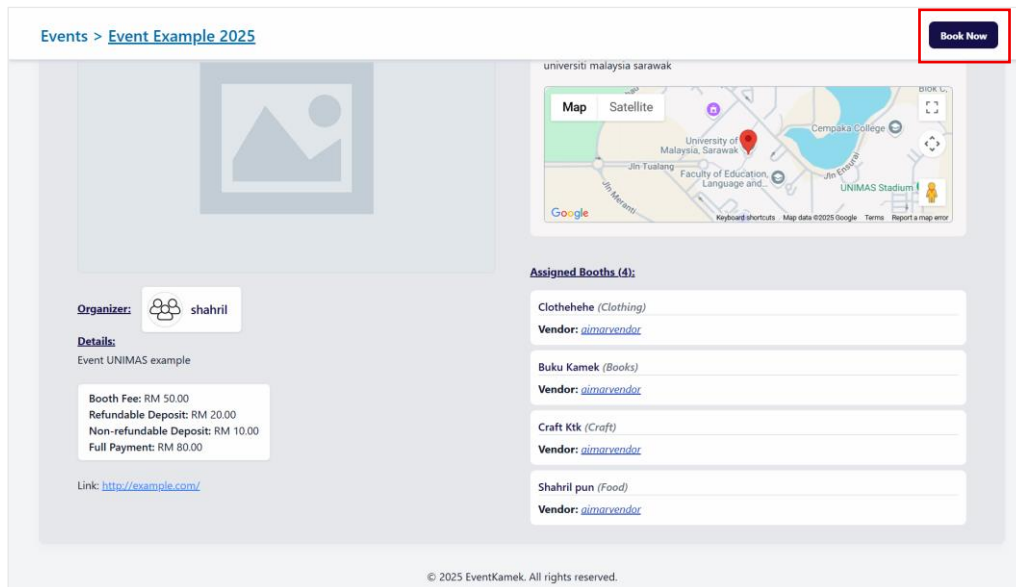


Figure 5.8: Book Now button placement

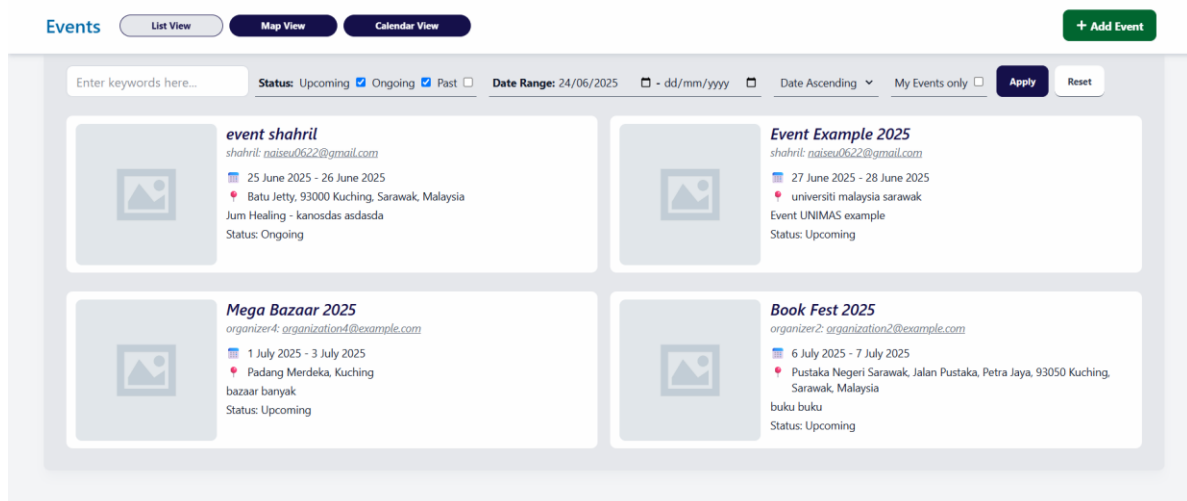


Figure 5.9: Add Event button placement

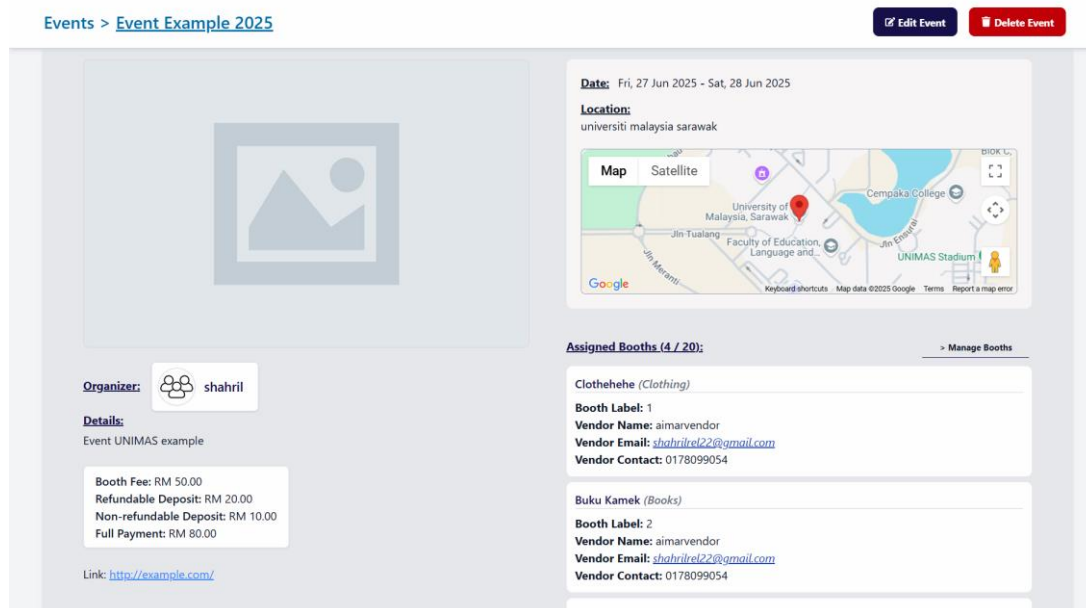


Figure 5.10: Edit Event and Delete Event button placement

In addition, the prototype features an **auto-assignment function** available within the Booth Management module for each selected event. This feature intelligently assigns vendors to available booths based on predefined category and availability criteria, reducing the organiser's manual workload. It ensures that bookings are distributed fairly and accurately according to the booking date and time, while also accelerating the booth management process. This automation not only improves efficiency but also minimises human error during booth allocation, making the system more scalable for larger events with dozens of vendor sign-ups.

5.3.2 Weaknesses of the Prototype

Despite its strengths, the EventKamek prototype also presents several areas that require further development. One of the most critical limitations is the absence of view my booking function for vendors directly in the system. Only the event organiser of the event booked can view the booking related to the event. The vendor can view their assignment only after a booth is assigned to them.

Another identified weakness is the lack of detailed error feedback in some user flows. For example, when a vendor attempts to book a booth category that has reached its limit or when form validation fails due to unexpected input, the system does not always provide clear, user-friendly messages. This could lead to confusion or frustration among less tech-savvy users.

Another weakness identified during prototype evaluation is related to the booking cancellation logic. Currently, the system does not allow a vendor's booth booking to be cancelled unless it has first been assigned to a booth. This limitation introduces an unnecessary step, as event organisers must manually assign the vendor to a booth before they are able to proceed with a cancellation. This behaviour can be counterintuitive and inefficient, particularly in cases where organisers wish to cancel pending or mistakenly submitted bookings without proceeding to assignment. For an optimal workflow, the system should support cancellation at any stage of the booking lifecycle, whether assigned or not.

Additionally, the Event Details page lacks support for rich media content, specifically in terms of image presentation. At present, the system only allows a single static image to be displayed for each event. There is no image carousel or gallery feature that would allow organisers to showcase multiple photos or promotional visuals. This limits the event's marketing appeal and visual storytelling potential, especially for larger or recurring events that rely on strong visual communication to attract vendors and attendees. Enhancing this page with

a multi-image carousel or gallery would significantly improve the aesthetic and informational quality of the event profile.

Another functional limitation of the current prototype is the absence of a cancellation request mechanism on the vendor's side. At present, vendors are unable to submit cancellation requests directly through the system and must instead rely on external communication with event organisers. While this design choice may have been intentional to prevent impulsive or frequent withdrawals, it creates friction for vendors who may have valid reasons to cancel their bookings. From a usability standpoint, the lack of an in-system workflow reduces transparency and places additional administrative burden on organisers, who must manually handle and verify such requests. However, it is worth noting that the system operates on a **pay-as-you-book** basis, meaning vendors are required to make payments (including refundable and non-refundable deposits) at the time of booking. This financial commitment inherently discourages casual or insincere bookings, serving as a natural deterrent against frequent cancellations. Despite this, incorporating a structured cancellation request feature — subject to organiser approval and clear refund policies — would offer a more professional and accountable solution, balancing vendor flexibility with organiser control.

Another nuanced weakness lies in how the system handles vendor bookings for events. While it may be valid for a vendor to request multiple booths within a single event, the current prototype does not distinguish between **intentional multi-booth bookings** and **accidental duplicate submissions**. At present, the system allows vendors to submit multiple identical bookings for the same event without any validation or confirmation prompt. This can lead to cluttered booking data, misinterpretation by organisers, and potential over-allocation of booths. Furthermore, there is no option for vendors to explicitly indicate the number of booths they intend to reserve. Without such control, it becomes difficult to determine whether multiple records are purposeful or unintended. Implementing safeguards such as booking confirmation

prompts, booth quantity selection, and backend checks would help manage legitimate multi-booth scenarios while preventing redundant submissions.

A final usability issue identified in the prototype involves the location autocomplete behaviour in the “**Add Event**” and “**Edit Event**” pages. When users input general or incomplete location names — for instance, typing only “Pustaka” to refer to *Sarawak State Library* — the Google Maps Autocomplete unexpectedly returns unrelated suggestions such as *Pabna University of Science and Technology* in Bangladesh. This misdirection is likely due to Google Maps’ global ranking algorithm, which prioritises more frequently searched or globally indexed results over region-specific matches when context is limited. As a result, local organisers may experience confusion or delays when setting event locations, especially if they are unfamiliar with manually adjusting the map marker. This issue highlights the need for additional location input validation or regional biasing in the autocomplete configuration to ensure more relevant and accurate suggestions for local Malaysian users.

5.4 Chapter Summary

This chapter evaluated the EventKamek system based on internal testing results and component analysis. The system consistently responded as expected to valid inputs and successfully blocked invalid actions, confirming the effectiveness of its validation, logic, and access control mechanisms.

The strengths and weaknesses of key components such as the UI, database, logic, and email system were reviewed, with issues like logic coupling, limited responsiveness, and missing notifications highlighted. Despite these, the system proved robust in typical use cases. Identified limitations were also accompanied by feasible improvement suggestions, which will be expanded in Chapter 6.

CHAPTER 6

CONCLUSION AND FUTURE WORK

6.1 Introduction

This chapter concludes the development and evaluation of the EventKamek system. It outlines the key achievements of the project, reflects on the system's strengths and challenges, and proposes enhancements that could improve its scalability, usability, and readiness for real-world deployment.

6.2 Future Work

While the current prototype of EventKamek successfully meets its primary objectives, several enhancements are recommended to overcome existing limitations, improve usability, and prepare the system for real-world deployment at scale.

In its current form, vendors can only view their booth assignment after an organiser manually assigns them to a booth. Future iterations should enable vendors to view their booking information immediately upon submission, even before booth assignment. This would provide greater transparency and assurance for vendors waiting on updates.

One significant improvement involves introducing a vendor-side cancellation request feature. Currently, vendors cannot cancel their bookings directly through the system, and organisers can only initiate cancellations after assigning a booth. Enabling vendors to request cancellations directly through the platform would streamline the process, reduce communication overhead, and offer vendors greater control over their participation.

Another key enhancement is the refactoring of cancellation logic. Presently, cancellations are tightly coupled with booth assignment status, meaning that a vendor cannot be removed from a booking unless already assigned to a booth. Introducing a new booking status such as “Pending Cancellation” would decouple this logic, allowing cancellation workflows to begin at any point after booking confirmation.

The email notification system also requires improvements. While email alerts are successfully sent for actions like booking and assignment, event edits function fail to notify assigned vendors due to missing triggers. Implementing a background job system (e.g., Node.js schedulers, Firebase Cloud Functions, or Bull.js) would enhance reliability and ensure asynchronous delivery even if the main request flow fails.

Improving geolocation accuracy is another area for future work. When vague location names such as “Pustaka” are entered during event creation, the map may incorrectly place the marker in a global location (e.g., Bangladesh). Adding a regional bias to the Google Geocoding API, specifically focusing on Malaysia, would ensure more accurate placement and better user experience.

Currently, the prototype uses placeholder logic to simulate booth payments and refunds. To make the system production-ready, secure payment gateway integration is essential. APIs such as Stripe, FPX (for Malaysian users), or PayPal should be considered for enabling real financial transactions, enhancing trust and reducing manual financial processing.

Mobile responsiveness also needs further enhancement. Although the system is built with responsive design principles, certain components do not display optimally on smaller devices. Additional testing and layout adjustments across breakpoints would significantly improve accessibility for mobile users.

Persistent filtering and sorting are another usability issue. Currently, filter and sort states reset when users navigate between pages. Storing filter preferences in the URL or using a global state manager like Redux would allow users to retain their selections and maintain continuity throughout their session.

The authentication system lacks a password recovery mechanism, which can be problematic for users who forget their credentials. A “Forgot Password” feature should be implemented, allowing users to reset their passwords via email verification, thereby aligning the system with modern user expectations.

Another area of improvement is the visual representation of booths. Booth assignments are currently managed via dropdowns or tables, which can be confusing for large events. Implementing a booth plan view or interactive layout would allow organisers to upload a venue map and vendors to see booth locations visually, possibly even enabling them to select a preferred booth.

Another notable weakness of the current prototype is the lack of notification to vendors when an event is edited. Specifically, if an organiser updates event details—such as the date and location—vendors who have already booked a booth do not receive any system-generated email alert. In fact, during testing, an attempt to implement this feature resulted in a system error, indicating that the backend email dispatch logic failed to execute properly upon event updates. This oversight can lead to miscommunication or confusion, particularly if major changes are made to the event that affect vendor logistics or expectations. Timely notifications are critical in maintaining trust and clarity between organisers and vendors. Therefore, resolving this issue and ensuring automatic email notifications upon event edits is essential to improve the system’s reliability and professionalism.

Lastly, event image handling could be enhanced. Organisers are currently limited to uploading only one image per event. Future versions should support multiple image uploads, which can then be displayed in a carousel-style interface on the event details page. This would make event listings more informative and visually appealing.

6.3 Chapter Summary

In summary, EventKamek successfully achieved its core goals of enabling digital event and booth management for vendors and organisers. However, through detailed evaluation, several areas for improvement have been identified. These include enhancements in user experience, feature flexibility, and backend integration such as vendor-side cancellation, real payment systems, and improved geolocation accuracy. Addressing these limitations will better prepare the system for broader deployment in real event scenarios.

APPENDIX

Appendix A

1. Challenges on vendor management

Question: How do you currently handle vendor booth booking and approvals

Answer: We rely on mix of excel spreadsheets and private communications through messages in Facebook, WhatsApp, and email as well.

2. Challenges on vendor booth management

Question: What are the challenges and any frustration you face when managing booths of an event?

Answer: The main challenge is keeping track of available booths and ensuring no double bookings occur since we are relying on many tools, excels and communicate to different customers directly, which is obviously time-consuming and prone to human error or even miscommunication. Especially for large events.

3. Difficulties in managing multiple events

Question: What difficulty arise when organising multiple events?

Answer: Managing multiple events often leads to confusion about which vendors are assigned to which event. I think a unified dashboard or management page with filtering options would simplify this.

4. Event Discovery Information?

Question: Do you prefer that public users or guests in the platform able to view and browse your events and can view the vendors that are involved in your event?

Answer: that would be good for the event discovery. Some people love a specific vendor which is considerably a good information to display

5. Desired features or any additional features in a management platform

Question: What features would you find most useful in an event management platform for organising vendors? What features or functionality do you expect the system would have?

Answer: Real-time updates on booths availability, and a comprehensive overview which I can see all the events and booths I organised. And then I would suggest that I can see all the booking requests on the website together with its status being pending requests and so on. For some event, especially a niche or high-curation events, an event organiser would prefer to have an option to approve or reject booth booking request before confirming it. But that is only for some events and not suitable for a large event that requires booking. For the system of Event Booth Management, the booking process must be simplified, organised and streamlined. So what we want as an organiser is that the system requires vendors to pay as they book, securing their place in the event. In addition, in the event details page, we should be able to tell the vendor our pricing like the booth fee and refundable deposit. With this instant booking with first come first-come-first-served basis in mind, I would expect that I can set the closing date of the booking for an event and the system restrict vendors from booking after the closing

date. The system should notify us or email us regarding new bookings and send notification or email to vendors too regarding the booth assignment.

6. Usefulness of calendar and map view

Question: I am thinking that a calendar view and a map view that can display your events in a proper manner would be helpful in giving comprehensive overview. What do you think?

Answer: Yes, that is a good idea integrating calendar view. I can see all my events in calendar and the calendar would be able to show briefly if got any pending booking request. For the map, it sounds good but I think it is not necessary as I think I am not going to use it as much solely for my event management. However, I think if I am able to view other Event Organisers' Events too, then I think the map view will be really helpful since I can easily view other's upcoming events and I can plan better where is better for us host and organised an event next.

Appendix B

1. Event Discovery

Question: How do you currently find and discover events?

Answer: I discover events mostly through social media, like Facebook and Instagram and sometimes word of mouth

2. Challenges in finding and booking events

Question: What challenges do you face when finding and booking booths for an event?

Answer: It is difficult to find relevant events and confirm booths availability. The process is often slow and time-consuming. We sometimes miss out due to delays.

3. Making the booking process easier

Question: In an event booking platform for vendor, what would make the booth booking process easier for you?

Answer: In the platform, we vendors can see all upcoming events, booth availability, and are able to submit booking requests and further be notified regarding update of our booking.

4. Usefulness of calendar and map view

Question: Would a calendar view or map view be helpful in planning your participation

Answer: Both would be helpful in planning and in discovering event. A calendar is helpful to organise and plan my schedule effectively where I can see all upcoming events, getting a better of 'when'. A map view on the other hand can give a better view of 'where' in this case vendors can see all the events nearby or anywhere so I can see where the better opportunity is.

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