

FCSIT Event Management System

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DECLARATION

I now certify that this project is entirely my own creation. I have not copied from any other student's work or from any other sources, except when specific reference or recognition is included in the text, nor has any section been written for me by another person.



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TABLE OF CONTENT

DECLARATION	i
ACKNOWLEDGEMENT	ii
TABLE OF CONTENT	iii
LIST OF FIGURES	vii
LIST OF TABLES	xi
ABSTRACT.....	xiv
ABSTRAK.....	xv
LIST OF ABBREVIATION	xvi
CHAPTER 1: INTRODUCTION	17
1.1 Introduction / Background	17
1.2 Problem Statement	18
1.3 Aims and Objectives	18
1.4 Scope	19
1.5 Methodology	19
1.5.1 Requirement Gathering.....	20
1.5.2 Planning	20
1.5.3 Development.....	20
1.5.4 Testing	20
1.5.5 Deployment	21
1.5.6 Maintenance.....	21
1.6 Significance Of The Project	22
1.7 Expected Outcome	23
1.8 Thesis Outline	24
1.8.1 Chapter 1: Introduction.....	24
1.8.2 Chapter 2: Literature Review	24
1.8.3 Chapter 3: Requirement Analysis and Design.....	24
1.8.4 Chapter 4: Implementation	24
1.8.5 Chapter 5: Testing	24
1.8.6 Chapter 6: Conclusion and Future Work	24
1.9 Summary	25
Chapter 2: Literature Review	26
2.1 Introduction	26

2.2 Review on existing similar system.....	26
2.2.1 Viagogo	26
2.2.2 Eventbrite.....	29
2.2.3 U-SEMS: UNIMAS College Sports Event Management System	31
2.2.4 Gochecorp.....	34
2.2.5 La Vie Events	36
2.3 Comparison of the features in the reviewed existing systems	38
2.4 Technology and tools used to develop the system	39
2.5 Summary	40
CHAPTER 3: REQUIREMENT ANALYSIS AND SYSTEM DESIGN.....	41
3.1 Introduction	41
3.2 Methodology	41
3.3 Requirement Analysis	42
3.3.1 Questionnaire and Interview.....	42
3.3.2 Functional Requirements.....	50
3.3.3 Hardware and Software Requirements.....	52
3.3.3.1 Hardware Requirements	52
3.3.3.2 Software Requirements.....	52
3.4 System Design.....	54
3.4.1 Logical Design.....	54
3.4.2 Graphical User Interface (Wireframe).....	88
3.5 Summary	122
Chapter 4 Implementation.....	123
4.1 Introduction	123
4.2 Environment Setup.....	123
4.3 User Interface Design.....	125
4.3.1 User Authentication Page.....	126
4.3.1.1 Login Page.....	126
4.3.1.2 Sign Up.....	127
4.3.1.3 Forgot Password.....	128
4.3.2 Participant Interface	129
4.3.2.1 Homepage.....	129
4.3.2.1.1 Homepage for Guest account	130
4.3.2.2 Events Page	132
4.3.2.2.1 Event Details	134

4.3.2.2.2 Event Registration Modal.....	135
4.3.2.2.3 Payment Page	135
4.3.2.3 About Page	136
4.3.2.4 Participant Profile Page.....	137
4.3.2.4.1 Account Details	137
4.3.2.4.2 Event Details	138
4.3.2.5 Notifications	140
4.3.3 Organiser Interface.....	141
4.3.3.1 Organiser Dashboard.....	141
4.3.3.2 Users.....	142
4.3.3.2.1 View Users	142
4.3.3.3 Events.....	143
4.3.3.3.1 Add Events	144
4.3.3.3.2 Preview Event	145
4.3.3.3.3 View Events	146
4.3.3.3.4 Edit Events	147
4.3.3.4 Notifications.....	150
4.3.3.5 Profile Page	151
4.3.3.6 Generate Report.....	152
4.3.3.5.1 Report Example.....	153
4.3.4 Administrator Interface	154
4.3.4.1 Administrator Dashboard	154
4.3.4.2 Users.....	155
4.3.4.2.1 Add Users.....	155
4.3.4.2.2 Edit Users	156
4.3.4.2.3 Delete Users	156
4.3.4.3 Events.....	157
4.3.4.3.1 View Events	158
4.3.4.4 Profile Page	159
4.3.4.5 Report.....	160
4.3.4.4.2 View Report Example	161
4.4 Summary	162
Chapter 5: Testing.....	163
5.1 Introduction	163
5.2 Functional Testing.....	163

5.3 Non Functional Testing.....	185
5.3.1 Reliability Testing.....	185
5.3.2 Usability Testing.....	199
5.3.3 Efficiency Testing.....	213
5.4 User Testing.....	221
5.4.1 User Acceptance Testing.....	221
5.4.1.1 Users Demographic.....	222
5.4.1.2 Analysis of the Usability Testing.....	223
5.5 Summary.....	225
CHAPTER 6: CONCLUSION AND FUTURE WORK.....	226
6.1 Introduction.....	226
6.2 Project Achievement.....	226
6.3 Contribution.....	227
6.4 Project Limitation.....	227
6.5 Future Work.....	228
6.6 Conclusion.....	228
REFERENCES.....	229
APPENDIX A: QUESTIONNAIRE QUESTIONS.....	230
APPENDIX B: INTERVIEW QUESTIONS AND ANSWERS.....	234
APPENDIX C: INTERVIEW QUESTIONS AND ANSWERS.....	237
APPENDIX D: FULL ACTIVITY DIAGRAM.....	240
APPENDIX E: USABILITY TESTING QUESTIONNAIRE.....	241
APPENDIX F: REPORT SIMILARITY PERCENTAGE.....	244

LIST OF FIGURES

Figure 1.1: The Agile Model.....	19
Source: GeeksforGeeks. (2025, May 1). Agile Software Development Software Engineering. GeeksforGeeks. https://www.geeksforgeeks.org/software-engineering/software-engineering-agile-software-development/	
Figure 2.1: Homepage on Viagogo	26
Figure 2.2: My Sales page on Viagogo	27
Figure 2.3: Homepage for Eventbrite	29
Figure 2.4: Create event page on Eventbrite.....	30
Figure 2.5: Home page for U-SEMS	31
Figure 2.6: Admin dashboard for U-SEMS	31
Figure 2.7: User Events Page for U-SEMS	32
Figure 2.8: Team Building page for Gochecorp	34
Figure 2.9: Contact Us page for Gochecorp	34
Figure 2.10: Home page on La Vie Events	36
Figure 2.11: Contact page for La Vie Events.....	36
Figure 3.1: Question on what year of study for the student from UNIMAS	43
Figure 3.2: Question on if they ever participated in any events organized by FCSIT	44
Figure 3.3: Question on how often they attend any events.....	44
Figure 3.4: Question on what types of events do they usually attend.....	45
Figure 3.5: Question on how satisfied the current platform they use for register events.	46
Figure 3.6: Question on what other features can be added to the system	47
Figure 3.7: Architecture Design Diagrams	54
Figure 3.8: Use Case Diagram	56
Figure 3.9: Activity Diagram for Login Page	69
Figure 3.10: Activity Diagram for Signup Page	70
Figure 3.11: Activity Diagram for Forgot Password.....	71
Figure 3.12: Activity Diagram for Event Page for Participant	72
Figure 3.13: Activity Diagram for About Us Page for Participant	73
Figure 3.14: Activity Diagram for User Profile Page for Participant	74
Figure 3.15: Activity Diagram for Generate Report for Administrator	75
Figure 3.16: Activity Diagram for Modify User Accounts for Administrator	76
Figure 3.17: Activity Diagram for Modify Events for Administrator.....	77
Figure 3.18: Activity Diagram for Generate Report for Organiser.....	78
Figure 3.19: Activity Diagram for View User Profile Page for Organiser	79
Figure 3.20: Activity Diagram for Create New Event for Organiser.....	80
Figure 3.21: Activity Diagram for Modify Events for Organiser	81
Figure 3.22: Class Diagram	82
Figure 3.23: Log in page for all Users	88
Figure 3.24: Sign Up page for new Participant.....	89
Figure 3.25: Dashboard for Logged in Participant	90
Figure 2.26: Events Page for Participant	91

Figure 3.27: Event Search Function page for Participant	92
Figure 3.28: Event Details for a Selected Event	93
Figure 3.29: Registration Form for Registering an Event.....	94
Figure 3.30: About Us page for Participant	95
Figure 3.31: Logout pop up for Participant	96
Figure 3.32: Account Settings in Participant Profile page	97
Figure 3.33: Contact Information in Participant Profile page.....	98
Figure 3.34: Events Registered for List in Participant Profile Page	99
Figure 3.35: Events Registered for Calendar in Participant Profile Page.....	100
Figure 3.36: Dashboard for Organiser	101
Figure 3.37: Create Event page for Organiser	102
Figure 3.38: Update Event page for Organiser	103
Figure 3.39: Update Event page when Updating Event for Organiser	104
Figure 3.40: Delete Event page for Organiser	105
Figure 3.41: Delete Event Confirmation when Deleting Event for Organiser.....	106
Figure 3.42: Profile page for Organiser	107
Figure 3.43: Generate Report page for Organiser.....	108
Figure 3.44: Generated Report Preview for Administrator.....	109
Figure 3.45: Dashboard for Administrator	110
Figure 3.46: Add User page for Administrator	111
Figure 3.47: Delete User page for Administrator.....	112
Figure 3.48: Delete User Confirmation when Deleting User for Administrator.....	113
Figure 3.49: Update User page for Administrator	114
Figure 3.50: Update User page when Updating User Details for Administrator	115
Figure 3.51: Update Event page for Administrator.....	116
Figure 3.52: Update Event when Updating Event Details for Administrator	117
Figure 3.53: Delete Event page for Administrator	118
Figure 3.54: Delete Event Confirmation when Deleting Event for Administrator	119
Figure 3.55: Generate Report page for Administrator	120
Figure 3.56: Generated Report Preview for Administrator.....	121
Figure 4.1: Visual Studio Code	123
Figure 4.2: XAMPP	124
Figure 4.3: Bootstrap	124
Figure 4.4: jQuery	125
Figure 4.5 Login Page.....	126
Figure 4.6 Sign Up Page	127
Figure 4.7 Forgot Password Page	128
Figure 4.9 Verify OTP Page	128
Figure 4.11 Modal for New Participant	129
Figure 4.12 Homepage for Participant.....	129
Figure 4.13 Homepage for Guest Account	130
Figure 4.14 Register Event with Guest Account.....	131
Figure 4.15 Events Page	132

Figure 4.16 Filtered by Category Icon	132
Figure 4.17 Filtered by Event Name	133
Figure 4.18 No Events Available	133
Figure 4.19 Event Details for an Event.....	134
Figure 4.20 Event Registration Modal.....	135
Figure 4.21 Payment Page	135
Figure 4.22 About Page.....	136
Figure 4.23: Account Settings Page	137
Figure 4.24 Update Personal Information Form	137
Figure 4.25 My Events Page	138
Figure 4.26 Change Favourite Categories Modal	138
Figure 4.27 Calendar View	139
Figure 4.28 View Specific Registered Event	139
Figure 4.29: Notifications Page	140
Figure 4.30 Notifications Dropdown	140
Figure 4.31 Organiser Dashboard	141
Figure 4.32 Users Page	142
Figure 4.33 View Users Page.....	142
Figure 4.34 Events Page	143
Figure 4.35 Past Events Page.....	144
Figure 4.36 Add Events Page.....	144
Figure 4.37 Preview Event.....	145
Figure 4.38 View Event	146
Figure 4.39 Edit Events.....	147
Figure 4.40 Participant's Notification Page when Event Details Updated	147
Figure 4.41 Participant's Email when Event Details Updated.....	148
Figure 4.42 Organiser Delete Confirmation	149
Figure 4.43 Participant's Notification Page when Event was Deleted	149
Figure 4.44 Participant's Email when Event was Deleted	149
Figure 4.45 Notifications for Organisers	150
Figure 4.46 Profile Page for Organisers	151
Figure 4.47 Generate Report page for Organisers	152
Figure 4.48 Example of an Attendance Report	153
Figure 4.49 Administrator Dashboard.....	154
Figure 4.50 Display Events Created by an Organiser.....	154
Figure 4.51 User Page.....	155
Figure 4.52 Add Users Page.....	155
Figure 4.53 Edit Users Page.....	156
Figure 4.54 Delete Users.....	156
Figure 4.55 Events Page	157
Figure 4.56 View Events Page	158
Figure 4.57 Profile Page for Administrator.....	159
Figure 4.58 Report Page for Administrator.....	160

Figure 4.59 Example of the Report.....	161
Figure 5.1: Result of Gender.....	222
Figure 5.2: Result of Year of Study.....	222
Figure 5.3: Result of the Usability Testing for FCSIT Event Management System.....	223
Figure 3.57: Activity Diagram for FCSIT Management System	240

LIST OF TABLES

Table 2.1: Comparison of Strength and Weakness for Viagogo.	28
Table 2.2: Comparison of Strength and Weakness for Eventbrite.	30
Table 2.3: Comparison of Strength and Weakness for U-SEMS	33
Table 2.4: Comparison of Strength and Weakness for Gochecorp	35
Table 2.5: Comparison of Strength and Weakness for La Vie Events	37
Table 2.6: Comparison of features of 6 systems.	38
Table 2.7: Comparison of Technologies Used by 6 Systems.	39
Table 3.1: Main phases and activities in Agile model	41
Table 3.2: Functional Requirements for all the users.....	50
Table 3.3: Hardware Requirements.....	52
Table 3.4: Software Requirements.....	53
Table 3.5: Use Case Description for Sign Up	57
Table 3.6: Use Case Description for Login.....	58
Table 3.7: Use Case Description for Browse Events	58
Table 3.8: Use Case Description for Register Events	59
Table 3.9: Use Case Description for Receive Notifications.....	60
Table 3.10: Use Case Description for View Dashboard.....	61
Table 3.11: Use Case Description for View Profile	62
Table 3.12: Use Case Description for Generate Report.....	62
Table 3.13: Use Case Description for Create Events	63
Table 3.14: Use Case Description for Manage Event Details.....	64
Table 3.15: Use Case Description for Delete Event	64
Table 3.16: Use Case Description for Update Event Details	65
Table 3.17: Use Case Description for Manage User Accounts	66
Table 3.18: Use Case Description for Add User	66
Table 3.19: Use Case Description for Delete User	67
Table 3.20: Use Case Description for Update User	68
Table 3.21: Data Dictionary for ‘Users’	83
Table 3.22: Data Dictionary for ‘Organiser’	84
Table 3.23: Data Dictionary for “Participant”	84
Table 3.24: Data Dictionary for “Administrator”	85
Table 3.25: Data Dictionary for “Event”	86
Table 3.26: Data Dictionary for “Registered”.....	86
Table 3.27: Data Dictionary for “Payment”.....	87
Table 5.1: Functionality Testing on Login	164
Table 5.2: Functionality Testing on Sign Up	165
Table 5.3: Functionality Testing on Forgot Password.....	166
Table 5.4: Functionality Testing on Participant Homepage	167
Table 5.5: Functionality Testing on Browse Events Page.....	168
Table 5.6: Functionality Testing on Registering for an Event	169
Table 5.7: Functionality Testing on Receive Notifications After Registering Event.....	170

Table 5.8: Functionality Testing on Participant Profile Page.....	171
Table 5.9: Functionality Testing on Manage Participant Events Page.....	172
Table 5.10: Functionality Testing on Organiser Dashboard.....	173
Table 5.11: Functionality Testing on Creating an Event for Organiser.....	174
Table 5.12: Functionality Testing on Organiser Manage Event Details	175
Table 5.13: Functional Testing on Organiser Profile Page.....	176
Table 5.14: Functional Testing on Organiser Generate Report.....	177
Table 5.15: Functionality Testing on Administrator Dashboard	178
Table 5.16: Functionality Testing on Add New Users	180
Table 5.17: Functionality Testing on Manage User Accounts	181
Table 5.18: Functionality Testing on Administrator Manage Event Details.....	182
Table 5.19: Functional Testing on Administrator Profile Page	183
Table 5.20: Functional Testing on Administrator Generate Report	184
Table 5.21: Reliability Testing on Authentication for Login, Signup, and Forgot Password	186
Table 5.22: Reliability Testing on Event Browsing and Interface Interaction.....	187
Table 5.23: Reliability Testing on Event Registration	189
Table 5.24: Reliability Testing on Participant Profile Management and Preferences.....	190
Table 5.25: Reliability Testing on Event Creation and Management for Organiser.....	191
Table 5.26: Reliability Testing on System Navigation and UI Interaction	193
Table 5.27: Reliability Testing on Report Generation for Organiser	194
Table 5.28: Reliability Testing on UI Navigation and Reliability for Administrator.....	195
Table 5.29: Reliability Testing on Add New Users for Administrator	196
Table 5.30: Reliability Testing on Manage Users for Administrator	197
Table 5.31: Reliability Testing on Search and Filter Organiser and Their Events as Administrator	198
Table 5.32: Usability Testing on User Authentication for Login, Signup, and Forgot Password	199
Table 5.33: Usability Testing on Event Browsing for Participants.....	201
Table 5.34: Usability Testing on Event Registration for Participants.....	202
Table 5.35: Usability Testing on Profile and Event Management for Participants.....	203
Table 5.36: Usability Testing on Organiser Dashboard	205
Table 5.37: Usability Testing on Add New Event for Organisers.....	206
Table 5.38: Usability Testing on Organiser Manage Events for View, Update, and Delete events	207
Table 5.39: Usability Testing on Generate Report for Organiser.....	209
Table 5.40: Usability Testing on Administrator Dashboard.....	210
Table 5.41: Usability Testing on Add New Users for Administrator	211
Table 5.42: Usability Testing on Manage Event for Administrator	211
Table 5.43: Efficiency Testing on User Authentication	213
Table 5.44: Efficiency Testing on Event Browsing and Filtering.....	214
Table 5.45: Efficiency Testing on Event Registration	215
Table 5.46: Efficiency Testing on Profile Management for Participants	216
Table 5.47: Efficiency Testing on Organiser Dashboard and Data Analytics.....	216

Table 5.48: Efficiency Testing on Event Creation and Management.....	217
Table 5.49 Efficiency Testing on Report Generation for Organisers	218
Table 5.50: Efficiency Testing on User Management for Administrator	218
Table 5.51: Efficiency Testing on Report Generation for Administrator	219
Table 6.1: Table of objectives and achievements of the project	227

ABSTRACT

Event management within FCSIT involves organizing and monitoring various events hosted by its faculties and department, ranging from academic and workshops to cultural festivals and student activities. However, traditional methods of event promotion and management are relying on different platforms such as social media pages like Facebook, Instagram, WhatsApp, and Telegram, as well as through emails or physical posters which can be time consuming, labour-intensive, and prone to errors such as miscommunication and inefficiencies in registration and updates. This project will introduce the FCSIT Event Management System, a web-based application designed to improve and simplify event planning for Organisers and attendees. The system provides tools for creating, deleting, updating, and view events. Important features such as user registration, real-time updates, and centralised communication between Organisers and users. The development process followed the Agile methodology, comprising stages such as requirement gathering, planning, development, testing, deployment, and maintenance. The system will be created using HTML, CSS, JavaScript, PHP, and MySQL. This platform aims to enhance event management efficiency through features like real-time updates and easier communication between organisers and users, resulting in a smoother and more effective event implementation.

ABSTRAK

Pengurusan acara dalam FCSIT melibatkan penganjuran dan pemantauan pelbagai acara yang dianjurkan oleh fakulti dan jabatannya, daripada akademik dan bengkel kepada festival kebudayaan dan aktiviti pelajar. Walau bagaimanapun, kaedah tradisional promosi dan pengurusan acara bergantung pada platform yang berbeza seperti halaman media sosial seperti Facebook, Instagram, WhatsApp dan Telegram, serta melalui e-mel atau poster fizikal yang boleh memakan masa, intensif buruh dan terdedah kepada kesilapan seperti miskomunikasi dan ketidakcekapan dalam pendaftaran dan kemas kini. Projek ini akan memperkenalkan Sistem Pengurusan Acara FCSIT, aplikasi berasaskan web yang direka untuk menambah baik dan memudahkan perancangan acara untuk penganjur dan peserta. Sistem ini menyediakan alatan untuk mencipta, memadam, mengemas kini dan melihat acara. Ciri penting seperti pendaftaran pengguna, kemas kini masa nyata dan komunikasi terpusat antara penganjur dan pengguna. Proses pembangunan mengikut metodologi Agile, dengan peringkat termasuk pengumpulan keperluan, perancangan, pembangunan, ujian, penggunaan dan penyelenggaraan. Sistem akan dibuat menggunakan HTML, CSS, JavaScript, PHP, dan MySQL. Platform ini bertujuan untuk meningkatkan kecekapan pengurusan acara melalui ciri seperti kemas kini masa nyata dan komunikasi yang lebih mudah antara penganjur dan pengguna, menghasilkan pelaksanaan acara yang lebih lancar dan berkesan.

LIST OF ABBREVIATIONS

FYP	Final Year Project
FCSIT	Faculty of Computer Science and Information Technology
UNIMAS	University Malaysia Sarawak
UI	User Interface
UX	User Experience
HTML	HyperText Markup Language
CSS	Cascading Style Sheets
PHP	Hypertext Preprocessor
MySQL	My Structured Query Language
UAT	User Acceptance Testing
OTP	One-Time Password

CHAPTER 1: INTRODUCTION

1.1 Introduction / Background

University Malaysia Sarawak (UNIMAS) is a beautiful university located in Kota Samarahan, Sarawak. It has a long history of hosting many events within the campus, ranging from academic conferences, seminars, workshops, and convocations. These events are organized by FCSIT staff, students, or lecturer, which highlight the university's dedication to promote academic achievement, cultural diversity, and community engagement. However, managing events manually requires a lot of time and prone to errors and challenges such as handling multiple tasks like registration, ticketing, scheduling, and communication. Traditional approaches usually do not provide the scalability and efficiency necessary for a smooth experience for both Organisers and users, leading to a strong demand for an integrated solution. Also, promoting FCSIT events through an online platform makes the process easier by providing a centralised and accessible web-based platform for reaching a larger audience.

To address these challenges, this project aims to develop an event management system designed to improve the overall experience for both users and Organisers through a centralised web-based system. The FCSIT Event Management System is a web-based application that offers a user-friendly interface, and interactions related to events. Users get to browse events, search specific events, view event calendar, and register for various events, while event Organisers will benefit from the tools to create, manage, and promote their events effectively.

The system will also have the administrator that will play an important role in maintaining the safety of the system by monitoring activities such as deleting users such as participants or Organisers. Administrators are also in charge of creating and managing organiser accounts on the website, granting them the necessary access and permissions to create and manage events effectively.

1.2 Problem Statement

The current event management method shows a few issues for FCSIT staffs, students, and lecturers. Events are often promoted through different platforms, such as social media pages like Facebook, Instagram, WhatsApp, and Telegram, as well as through emails or physical posters, making it difficult for attendees to discover and follow events.

Additionally, the traditional process such as registering through Google Forms or Microsoft Forms can lead to some problems, such as losing attendee records, duplicated data or outdated information being shared. As a result, it will be harder for the event Organisers to keep track of the data for participants.

Furthermore, the lack of an event calendar that prevents users from quickly checking dates of events they bought or upcoming events. As a result, many users will be unaware of event schedules, leading to missing out opportunities to join events that they are interested in or plan properly for future events. The absence of this feature makes it difficult for users to effectively plan their time, potentially resulting in lower attendance rates.

1.3 Aims and Objectives

To elicit requirement of the existing event management systems

- To analyse existing event management systems and identify key functional requirements for the FCSIT Event Management System.
- To design and implement a web-based platform where students can browse and register for FCSIT events.
- To evaluate the usability and functionality of the system in enhancing user experience for students and event Organisers.

1.4 Scope

This project aims to create an FCSIT Event Management System for organizing events such as conferences, events, workshops, seminars, exhibitions, and convocations. The system will offer attendees functionalities to browse and register for events, while providing Organisers the tools to create events, manage event details, and delete their events. Administrators will be in charge of the activities of the website by deleting users or help update the Organiser's event if needed.

1.5 Methodology

The software methodology used in this project is Agile model. The Agile methodology focuses on flexibility, continuous improvement, and incremental improvement. Agile allows the FCSIT Event Management System to be developed in incremental phases, ensuring that user and supervisor feedback is consistently included. The development process is divided into sprints, with each sprint includes requirement gathering, planning, development, testing, deployment, and maintenance. This incremental approach ensures that adjustments and improvements throughout the project life cycle. The figure 1.1 below shows the Agile model.

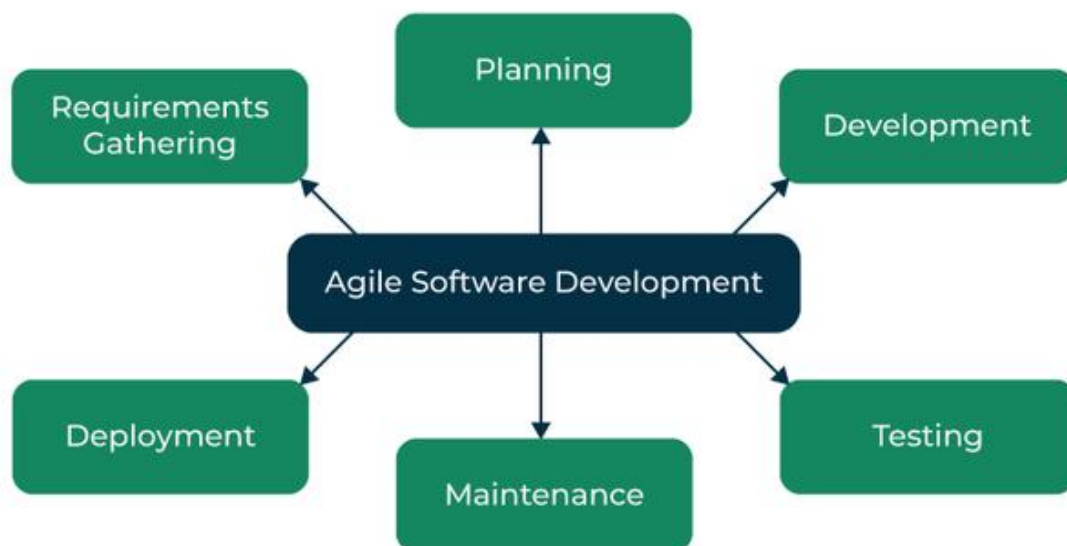


Figure 1.1: The Agile Model

Source: GeeksforGeeks. (2025, May 1). Agile Software Development Software Engineering. GeeksforGeeks. <https://www.geeksforgeeks.org/software-engineering/software-engineering-agile-software-development/>

1.5.1 Requirement Gathering

The requirement gathering and analysis phase will gather all the requirements and analysing them to understand the project. This phase will focus on defining essential functionalities based on research and general industry standard. This involves identifying the important features such as tools for Organisers to create and manage events effectively and simple event browsing interface. After gathering all the requirements, the ideas and problems will be analysed and discussed with the supervisor to get their feedback and opinions. Requirements may change during the development process based on continuous feedback.

1.5.2 Planning

In the planning phase, a development plan is created, defining the features that will be delivered during each sprint. Tasks are broken down into smaller, more manageable components, and priorities are established. Sprint goals are designed to guarantee continual development while maintaining flexibility for adjustments. This includes creating detailed layouts for both front-end and back-end components, ensuring that the feature meets the user demands specified during the requirement phase. A low fidelity prototype will be created during the design phase to make it easier to visualize the system layout and locate errors or design that can be improve. This phase will continue until the user and supervisor are satisfied with the prototype.

1.5.3 Development

The development phase begins with conducting in multiple sprints, each focusing on a specific system module. This system will be developed by using HTML and CSS for frontend to structure and style a responsive user interface, JavaScript to improve user interaction, PHP will be the backend to handle the server-side scripting, and MySQL will also be the backend to handle data management. Each sprint results in a functional increment of the system. Continuous feedback is collected to improve existing features before moving to the next sprint.

1.5.4 Testing

In the testing phase, each module and integrated system will undergo a series of tests to ensure functionality and reliability. Functional testing is conducted to make sure each function of the software operates in line with the requirement specification. Then, the integration testing will be combining and testing the modules to make sure that they can

operate together seamlessly, ensuring smooth data flow between the front-end and back-end. After all testing is done, the user and supervisor can still give feedback to the system if there are any suggestions to improve or implement into the system before proceeding to the next sprint.

1.5.5 Deployment

In the deployment phase, once all the modules are completed and implemented based on the feedback from the previous phase, the project will transition from local hosting to an online hosting platform. This transition requires transferring the entire codebase from local host to the online host. Further configuration is needed on the online host to ensure the system operates and function smoothly on the live server. Hosting online will give future users the opportunity to access the system and give their own feedback. All feedback from those users will be collected to make any final adjustments needed for improving the user experience. Once all part has been tested and adjusted on the live server, the project will move to the final sprint.

1.5.6 Maintenance

The maintenance phase will be focusing on supporting and adjusting the FCSIT Event Management System after deployment. During this phase, routine checks and updates will be performed to ensure that the system is secure, compatible with any software or browser changes, and responsive to user needs. Maintenance will include monitoring for bugs or system errors such as button not responding, texts are not showing, links that are not working. Any issues will be immediately addressed and fixed to ensure system is running well. Users can also send feedback to ensure easier to find bugs or system errors.

1.6 Significance Of The Project

The significances of this project are as follows:

- To provide a platform that allows users to browse, purchase tickets, and engage with events through the comment section while also help event Organisers to create, manage and promote their events efficiently.
- To provide a calendar feature that allows users to easily view, plan, and manage their schedules for upcoming events.
- To notify users when events matching their interests become available for booking, ensuring they never miss opportunities to join their preferred events.

1.7 Expected Outcome

At the end of this project, a FCSIT Event Management System will be expected to be developed from the initial proposal and planning. The set of functionalities that the system should have at the end of this project

- A functional web-based platform that allows for end-to-end event management, from event creation to post-event analytics.
- An administrator dashboard will have tools to manage events and view real-time user registered data count.
- A user-friendly web-based system for attendees to register on the website, buy tickets, post feedback, view event calendar, and search for events.
- An Organiser dashboard for Organisers to create events and manage them.
- A reporting system that provides analytics on event performance and attendee engagement.
- A notification to remind the user that their preferred events are available to book.

1.8 Thesis Outline

This project will consist of 6 different chapters as shown below:

1.8.1 Chapter 1: Introduction

Chapter 1 gives an introduction and brief overview of the idea for the proposed system. It consists of project background, problem statement, scope, objective, brief methodology, the significance of the project, project schedule, and expected outcome.

1.8.2 Chapter 2: Literature Review

Chapter 2 compares the currently proposed system to the existing system. The strength and weaknesses of each existing system will be discussed in this chapter and the outcome of this chapter will be used to improve the design of the proposed system.

1.8.3 Chapter 3: Requirement Analysis and Design

Chapter 3 will discuss about the methodology that will be used while developing the proposed system. All the system requirements and specifications will be further discussed in this chapter. This chapter also will go through the system design of the project.

1.8.4 Chapter 4: Implementation

Chapter 4 will discuss about the implementation process that will be used during the development of the system. This chapter will discuss each step taken while developing the project.

1.8.5 Chapter 5: Testing

Chapter 5 will discuss the testing after the proposed system has been developed during the implementation phase. All the system testing will be recorded as a pass or fail.

1.8.6 Chapter 6: Conclusion and Future Work

Chapter 6 will give summarised details on the whole project after it is completed, and a suggestion of future work will be provided for further improvements.

1.9 Summary

In summary, Chapter 1 introduced the FCSIT Event Management System, designed to streamline the process of event organisation and attendees' management. This system provides centralised platform that enables event organisers to easily create, view, edit, and delete events, thereby simplifying event management tasks. For users, the system enables effortless browsing of events and the ability to purchase tickets for attendance, enhancing the overall event experience. The system is aimed at improving both the organisational process and user engagement, ensuring a more efficient and smooth approach to event management.

Chapter 2: Literature Review

2.1 Introduction

A literature review involves summarising, analysing, and evaluating existing research on a specific topic. It shows your understanding of a topic and providing a broad perspective on current knowledge and practices. This chapter aims to analyse and compare the functionalities of five different existing Event Management System, by identifying their features, strengths, and weaknesses. By carefully reviewing these systems, this chapter aims to identify important features and functionalities that can inspire new and relevant ideas for the development of the proposed project.

2.2 Review on existing similar system

The five existing systems will be reviewed to compare and analyse the proposed project. The systems that will be reviewed as follows:

- Viagago. (n.d.). Retrieved from <https://www.viagogo.com>
- Eventbrite. (n.d.). Retrieved from <https://www.eventbrite.com>
- Kennedy, M. J. A. J. (2019). UNIMAS College Sports Event Management System.
- Gohecorp. (n.d.). Retrieved from <https://www.gohecorp.com>
- La Vie Events. (n.d.). Retrieved from <https://lavieeventmanagement.com>

2.2.1 Viagogo

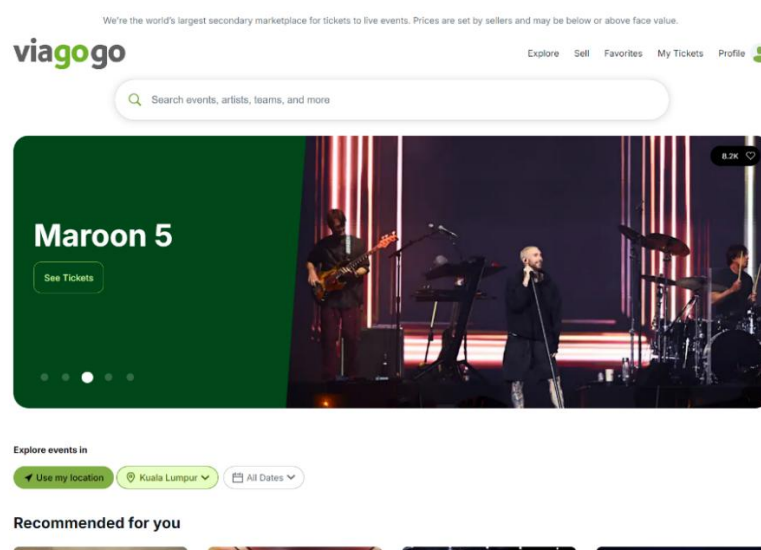


Figure 2.1: Homepage on Viagogo

The figure 2.1 shows the homepage of Viagogo. Viagogo is a global online marketplace that allows users to purchase or sale their event tickets for a wide range of live entertainment events such as concerts, sports matches, and theatre performances. Eric Baker founded the platform in 2006, and it has since become a trusted resource for users who love going to live events throughout the world, with access to over 50 million live event listings. Viagogo’s user-friendly interface allows users to purchase or sell tickets from any device, in almost any currency and language, at any time of day and from any location in the world.

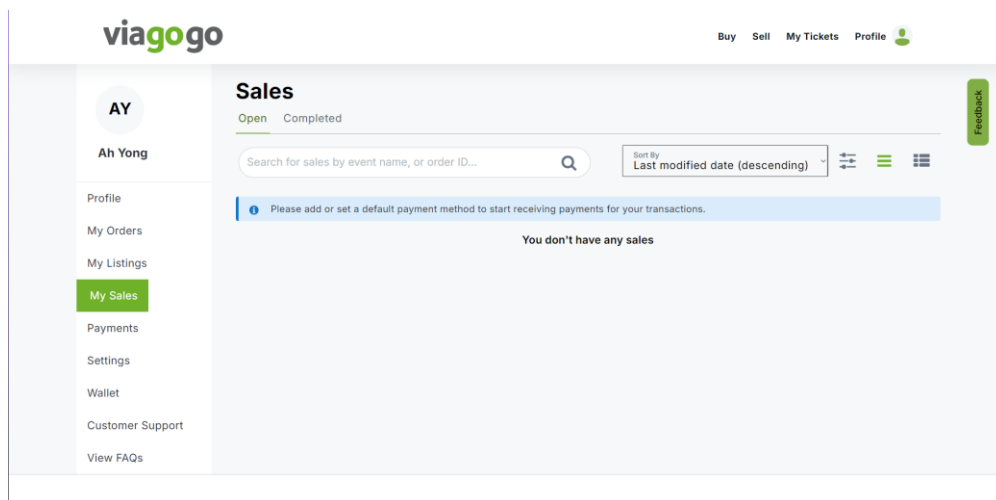


Figure 2.2: My Sales page on Viagogo

The figure 2.2 shows the My Sales page on Viagogo. Viagogo provides a platform for buying and selling event tickets. Buyers can search for events using keywords like the event name, artist, or venue, select tickets with the prices set by the sellers based on demand, and complete transactions through a secure checkout page. Tickets are delivered digitally or physically based on the buyers’ preferences. Viagogo guarantees authenticity or refunds if there were issues with the tickets. Sellers can list tickets by searching for the event, selecting the date, and specifying ticket quantities. Payments are held until buyers confirm delivery, and sellers are paid after the event to ensure satisfaction.

The comparison of strength and weakness for Viagogo is shown below:

Table 2.1: Comparison of Strength and Weakness for Viagogo.

Strength	Weakness
Global Reach Viagogo operate worldwide, selling tickets to events in many different countries. This makes it more accessible to a diverse audience and gives users many other options.	Limited Event Selection Sellers can only sell tickets that are popular enough for Viagogo to post it on their platform. Any small or less popular events will be ignored which makes it harder for sellers to sell specific tickets.
Buyer Protection Viagogo provides guarantees for ticket authenticity and delivery, ensuring that buyers receive real tickets, or they can refund back their money.	Cannot Create Own Event Event organisers cannot create their own event in Viagogo because Viagogo only show available events that are popular that can attract more people to use their website. This leads to smaller event organisers to not be able to create and promote their event.

2.2.2 Eventbrite

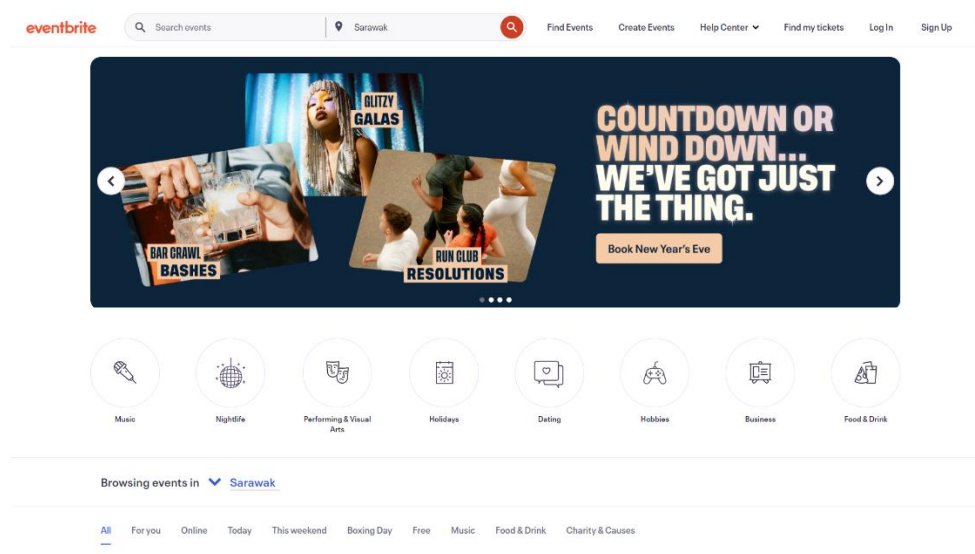


Figure 2.3: Homepage for Eventbrite

Figure 2.3 shows the homepage for Eventbrite. Eventbrite is an event management and ticketing platform that helps users create, share, find, and attend events that excite and enhance their lives. It was founded in 2006 by Julia Hartz, Kevin Hartz, and Renaud Visage. From music festivals, marathons, and conferences to community gatherings, fundraisers, gaming tournaments, and even air guitar competitions, Eventbrite builds connections by bringing people together through the power of live events.

Eventbrite has many events available for users to browse or purchase tickets. User has to search for their event using the search bar or browse through the categories of events until they find their event. Then, the user can check the details of the events and price of the ticket before checking out to buy the tickets. After checking out, user have to fill in the billing information to buy the tickets. Every event page has different ways to check out, so user have to make sure to fill in the correct information.

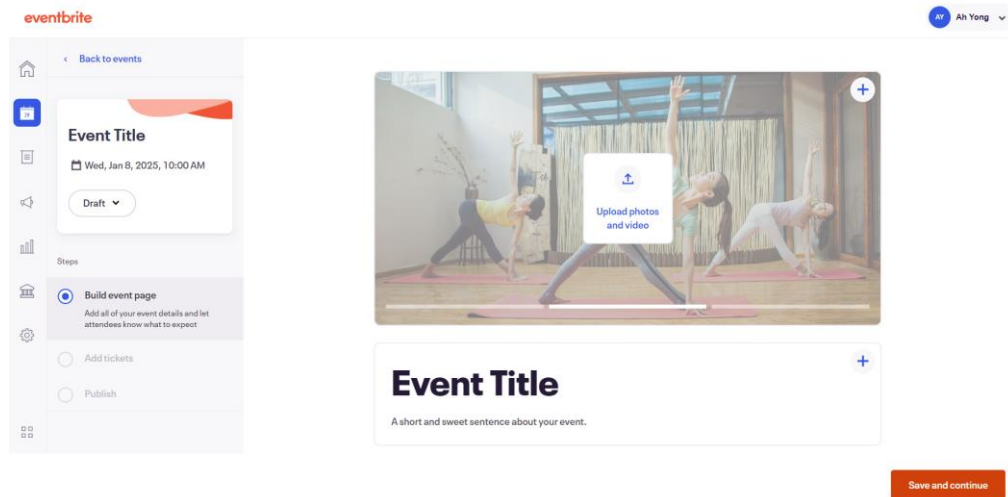


Figure 2.4: Create event page on Eventbrite

Figure 2.4 shows the Create event page on Eventbrite. Eventbrite also offers event organisers to create their event on their website for free. First, event organiser has to sign up on the website. Then, go into the create an event button which will display the information details you need to fill in for your event page. Event Organisers get to preview their event page to see how it would look like before actually creating their event page on the website. The comparison of strength and weakness for Eventbrite is shown below:

Table 2.2: Comparison of Strength and Weakness for Eventbrite.

Strength	Weakness
Great Customization for Creating Events Eventbrite provides great customization options, allowing event Organisers to adjust their event pages to their likings.	Lack of Feedback Mechanism Eventbrite has no comment section for their event pages or any live feedback mechanism for user to interact with others or Organisers.

2.2.3 U-SEMS: UNIMAS College Sports Event Management System

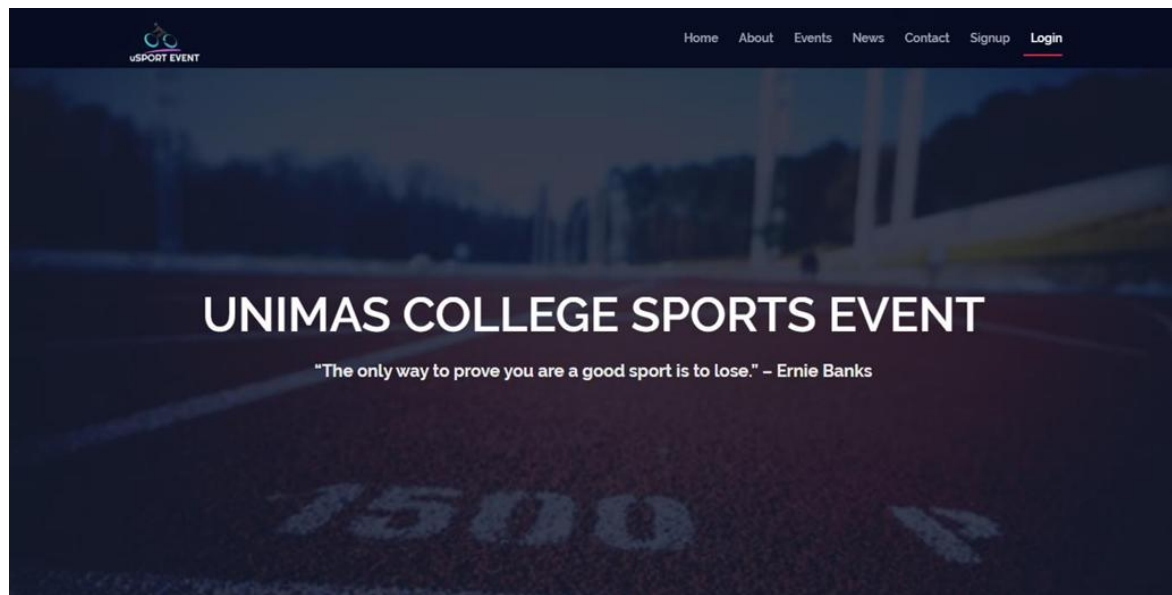


Figure 2.5: Home page for U-SEMS

Figure 2.5 shows the homepage for U-SEMS. Monica Jane anak Jack Kennedy proposed the UNIMAS College Sports Event Management System to help the Sports Exco from UNIMAS College to promote and manage their events more efficiently and smoothly for UNIMAS students and outsiders. This system will provide a web interface for super admin and admin panel to handle each sports event. Students are also allowed to browse the sports events through this website.

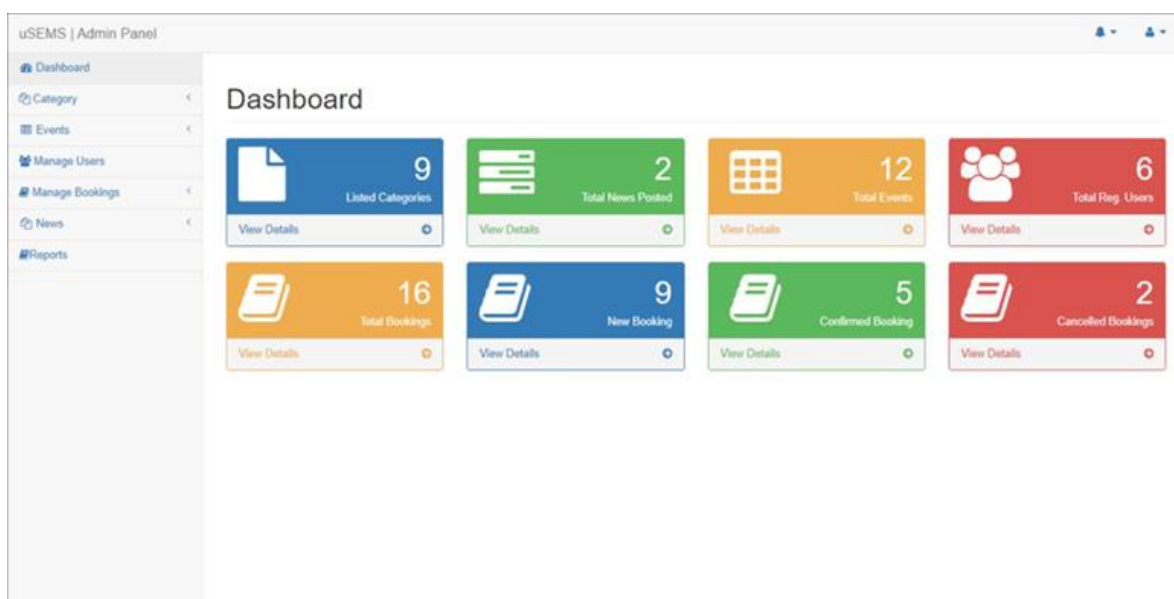


Figure 2.6: Admin dashboard for U-SEMS

The figure 2.6 shows the Admin dashboard for U-SEMS. This system has a super admin which will register new admin accounts, approve the status of events added, and monitor the website. The admin will be the Sports Exco from each college, and they are responsible for creating new events, update the existing events, managing events, and delete events. Admin will have their own dashboard that has all the previous mentioned features and view bookings, news, reports, and update their own details. The admin can also generate the report of the user details at the report page.

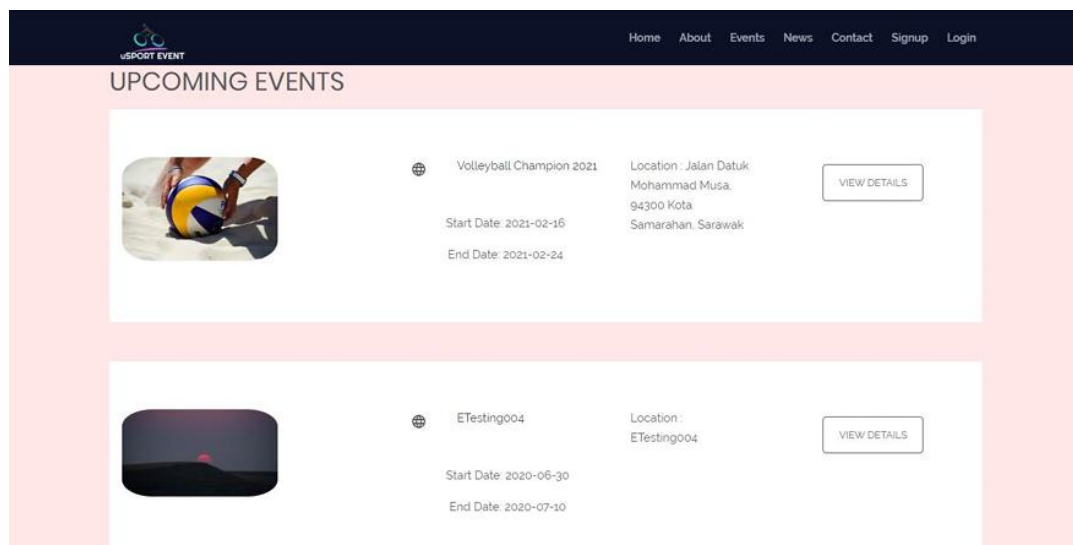


Figure 2.7: User Events Page for U-SEMS

Figure 2.7 shows the User Events Page for U-SEMS. The users can browse through the events page and view upcoming events details. But the user must be logged in first before being able to book an event. At the user profile page, users are able to view their event bookings or update their user profile. Users are able to change their password, update their name or email address, and change their mobile phone number. Users can also cancel their event booking if there is a problem arise in the future. The comparison of strength and weakness for U-SEMS is shown below:

Table 2.3: Comparison of Strength and Weakness for U-SEMS

Strength	Weakness
Generate Report The system can generate a report for the participant details from the database to the admins of the system.	Lack of built-in Calendar Users cannot visually track or plan their events schedule, which could lead to missed events or scheduling conflicts.

2.2.4 Gohecorp

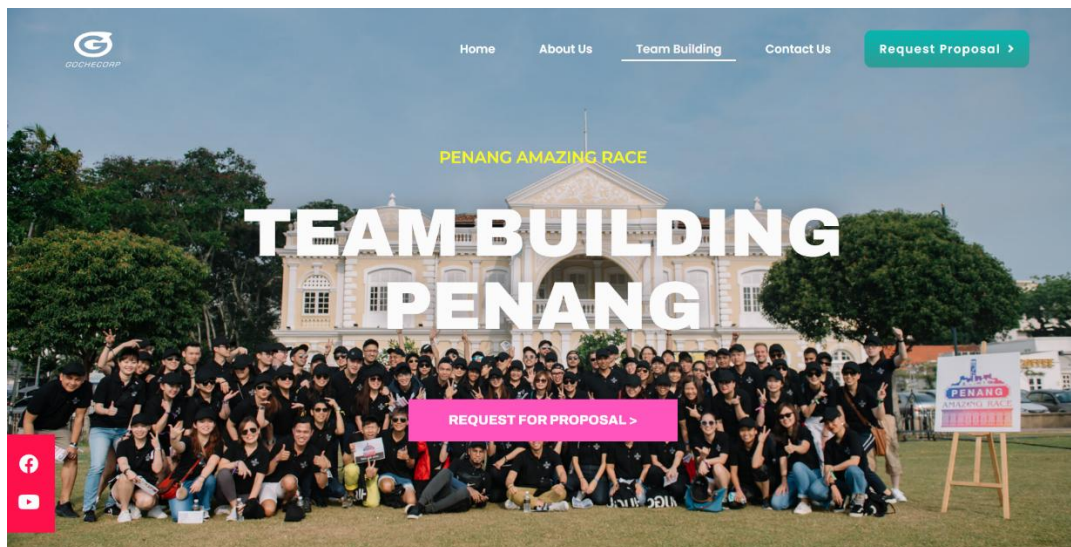


Figure 2.8: Team Building page for Gohecorp

Figure 2.8 shows the Team Building page for Gohecorp. The Gohecorp Conferences and Events Management has range of services aimed at creating creative and professional event planning in Malaysia. Established in 2001, Gohecorp specializes in organizing professional events or conferences, team-building activities, and social gatherings. The website highlights its ability to create personalized and immersive experiences, such as the “Penang Amazing Race”, which mixes cultural discovery, team-building activities, and culinary adventures.

The image shows the 'Contact Us' page for Gohecorp. The header is teal with the Gohecorp logo, navigation links (Home, About Us, Team Building, Contact Us - which is underlined), and a 'Request Proposal' button. Below the header is a teal banner with the text: 'Are you ready to take your upcoming event in to the next level? Contact us today to explore further'. The main content area is white and contains a contact form on the left and contact details on the right. The form has fields for Name, Email, and Inquiry (with a placeholder 'I would like to request for...'), and a 'Send' button. The contact details on the right include the company name 'Gohe Corporation Sdn Bhd', the 'Operations Office' address and phone number, and the 'Registered / Administrative Office' address. At the bottom left, there is a Google Map showing the location of Gohe Corporation Sdn Bhd in Penang. At the bottom right, there is a QR code and a link to WhatsApp.

Figure 2.9: Contact Us page for Gohecorp

The figure 2.9 shows the Contact Us page for Gohecorp. When event Organisers want to display or promote their events through Gohecorp, they are required to click on the Request Proposal option, which will direct them to a contact page handled by the website administrators. On this page, Organisers can send an email straight to the provided email addresses or to fill in an inquiry form located below the page. Once, submitted, the form is sent to the team in charge for further processing. The comparison of strength and weakness for Gohecorp is shown below:

Table 2.4: Comparison of Strength and Weakness for Gohecorp

Strength	Weakness
Direct Communication Tools The system allows users to submit inquiries through a dedicated contact form or via email, making it easy for event Organisers to request proposal.	No Self-Service Tools The system does not have tools to let event Organisers to build or customise their own events.
Diverse Event Promotion The system promotes a wide range of event types, this ensures that the platform appeals to a broad variety of users with different interests.	No Event Filtering Options The system has no search function, making users unable to quickly find specific events that they are looking for.

2.2.5 La Vie Events

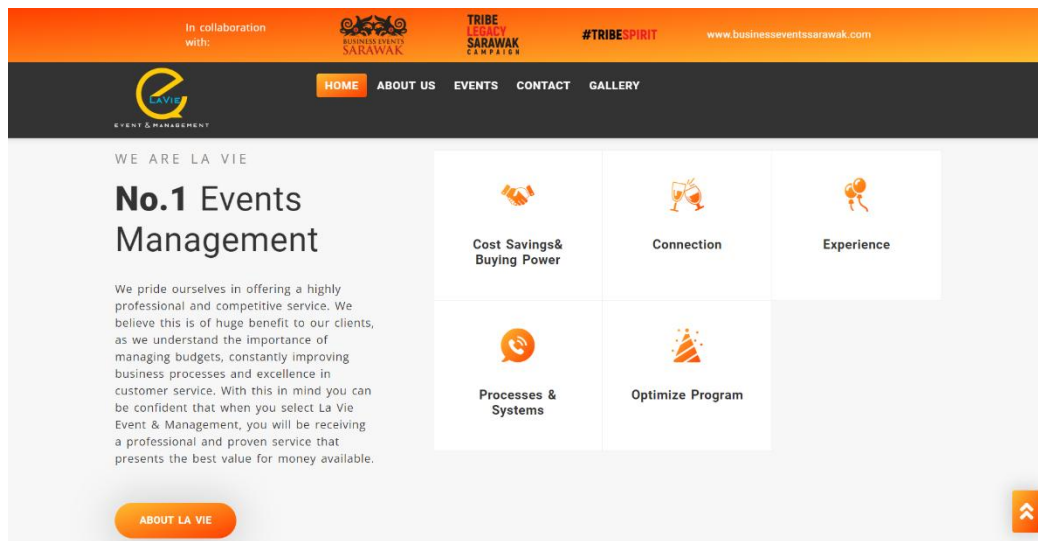


Figure 2.10: Home page on La Vie Events

The figure 2.10 shows the home page of La Vie Event. The La Vie Event and Management was founded in 2012 at Sarawak, Sibü and owned by Wilfrid Gan KC. It is a comprehensive one-stop event planning and management service company with more than 400 events experience. Offering customized solutions for a range of occasions, including business events, private celebrations, charity events, and government-related meetings.

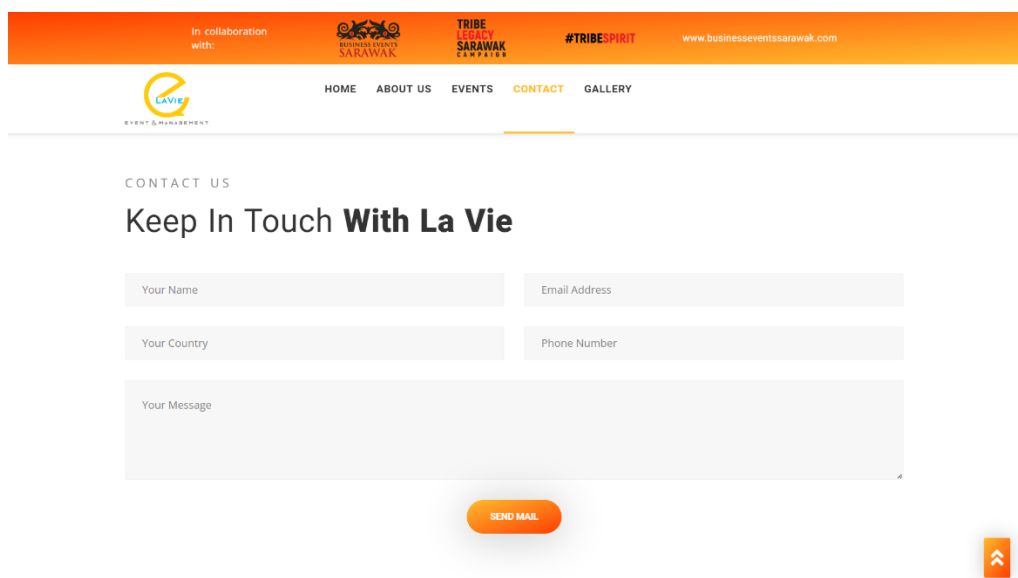


Figure 2.11: Contact page for La Vie Events

The figure 2.11 shows the Contact page for La Vie Events. The Clients that need help using the La Vie Event website to promote or create their events have a few communication options. They can submit an online inquiry form via the Contact tab, providing information about their event and any special questions or requests. The clients can also contact the staff directly using the given phone number or email address, offering individual support. The website emphasises its dedication to accuracy and careful attention to detail, ensuring that events of all kinds, from tiny private gathering to major corporate events, receive equal consideration and marketing. This commitment represents La Vie Event's aim of providing smooth event management and excellent client interaction to its users. The comparison of strength and weakness for La Vie Events is shown below:

Table 2.5: Comparison of Strength and Weakness for La Vie Events

Strength	Weakness
Visual Gallery Content This system has a gallery showcasing past events, making potential clients more confident in their capabilities.	No Organiser Dashboard Organisers cannot track the progress of their events or receive updates when there is no dashboard dedicated for Organisers.

2.3 Comparison of the features in the reviewed existing systems

The table shown below is the result and analysis of the existing system. Table 2.6 compares the features of 6 different systems including the proposed system, UNIMAS Event Management System. Based on the literature review for the existing system, some features can be added into the proposed system because some of the features mentioned in the existing system could benefit the end-users.

Table 2.6: Comparison of features of 6 systems.

System Features	Existing Systems					Proposed System
	Viagago	Eventbrite	UNIMAS College Sports Event Management System	Gochecorp	La Vie Events	UNIMAS Event Management System
Login	Yes	Yes	Yes	No	No	Yes
User Module	Yes	Yes	Yes	No	No	Yes
Admin Module	Yes	Yes	Yes	Yes	Yes	Yes
Organiser Module	Yes	Yes	Yes	No	No	Yes
Search Engine	Yes	Yes	Yes	No	No	Yes
Feedback Mechanism	No	Post-Event Survey	No	No	No	Comment Section
Calendar Integration	No	Yes	No	No	No	Yes
Event Categories	Yes	Yes	No	No	Yes	Yes

Contact Option	Virtual Assistant, FAQs	AI Chatbox, FAQs	Email Support	Email Support, Inquiry Form	Email Support, Inquiry Form	Email Support
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2.4 Technology and tools used to develop the system

The table below shows the technology and tools used in 6 different systems. It provides comparison analysis of the key technologies used in the system, such as platform, database, frontend, backend, hosting, and mobile responsive. The comparison table will show how these technologies impact the performance, scalability, and user experience of each system.

Table 2.7: Comparison of Technologies Used by 6 Systems.

System Features	Existing Systems					Proposed System
	Viagago	Eventbrite	UNIMAS College Sports Event Management System	Gochecorp	La Vie Events	UNIMAS Event Management System
Platform	Web Application	Web Application	Web Application	Web Application	Web Application	Web Application
Database	MySQL	PostgreSQL	MySQL	MySQL	MySQL	MySQL
Frontend	HTML, CSS, JavaScript	React.js, JavaScript	HTML, CSS, Bootstrap, JavaScript	HTML, CSS, Bootstrap, JavaScript	HTML, CSS, Bootstrap, JavaScript	HTML, CSS, Bootstrap, JavaScript
Backend	Node.js, Java	Python, AWS	PHP	PHP	PHP	PHP
Hosting	Online Host	Online Host	Local Host	Online Host	Online Host	Online Host

Mobile Responsive	Yes	Yes	Yes	Yes	Yes	Yes
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2.5 Summary

In conclusion, this chapter 2 examines the existing system that is similar to the proposed system. The goal is to discuss and compare each functionality of the system, as well as its strength and weaknesses. The research of five different existing systems revealed that each of them gives a unique strategy for dealing with event management problems. At the end of this chapter, some of the relevant functionalities from the existing system will be picked and implemented into the proposed system.

CHAPTER 3: REQUIREMENT ANALYSIS AND SYSTEM DESIGN

3.1 Introduction

This chapter will be discussing about the specification and requirements of the proposed system. The methodologies and the system's phases of FCSIT Event Management System will be reviewed and explained. The requirement analysis will gather all information and data needed to design and develop the system. Then, the system design will show how the system will work and the prototype design of the system.

3.2 Methodology

This system is using the Agile model as the software methodology. The agile model is a flexible and adaptable software methodology that divides into 6 processes. Agile is a bound by time, incremental method to software delivery that produces software incrementally from the beginning of a project rather than attempting to provide everything at once. The 6 processes of Agile model consist of: requirement gathering, planning, development, testing, deployment, and maintenance.

Table 3.1: Main phases and activities in Agile model

Phase		Activities
Requirement gathering		1. Hand out questionnaires and conduct interview session 2. Define functional requirement 3. Define hardware requirement 4. Define software requirement
Planning	Logical Design	1. Architecture Design 2. Use Case Diagram 3. Use Case Descriptions 4. Activity Diagram 5. Class Diagram 6. Data Dictionary
	Build prototype	1. Use Figma to design the Graphical User Interface

	Test prototype	1. Demonstrate the prototype to the supervisor and users
	Refine prototype	1. Gather feedback and advice from supervisor and users 2. Improve the prototype design based on the feedback
Development		1. Develop the web-based system based on the design prototype
Testing		1. After the system is done, test the system to ensure functionality and reliability
Deployment		1. Deploy the system from local host to online host
Maintenance		1. Have regular maintenance to fix and update bugs and issues of the system

3.3 Requirement Analysis

This chapter will be focusing on the requirement gathering phase of the Agile model. A questionnaire will be shared to people to collect data and information on the FCSIT Event Management System. An interview will be conducted with an experienced person that has done event related managing to gather thoughts and advice from the expert. A set of functional, hardware, and software requirements will be shown to understand what the system requires to run and to be developed.

3.3.1 Questionnaire and Interview

A set of questionnaires have been shared to the public to gather information and data based on their responds. An interview has also been conducted with two experienced people who had handled with events hosted by Faculty of Computer Science and Information Technology to gather advice and thoughts on the interview questions prepared.

3.3.1.1 Questionnaire

A set of questions related to the proposed system and other necessary information needed has been created in a google form to be distributed to the public. This questionnaire will be used to gather the opinions and ideas of the respondents towards the event management system. This questionnaire has 3 sections, and the target audience are students from FCSIT, staff from FCSIT, and lecturers from FCSIT. A total of 22 respondents has been recorded, and the full set of questions is available in Appendix A. The figures below are the highlighted questions and responses from the participants.

5. If you are a student from UNIMAS, which year are you from?
22 responses

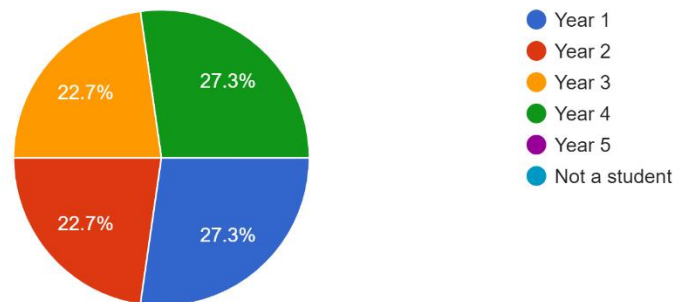


Figure 3.1: Question on what year of study for the student from UNIMAS

Figure 3.1 shows how many respondents that are students from UNIMAS in what year of study they are from. It is an almost very even distribution between them where Year 1 students have 6 respondents, Year 2 students have 5 respondents, Year 3 students have 5 respondents, and Year 4 students have 6 respondents. This question is to understand the target audience by identifying which year of study they are from. This provides information on whether the system appeals to all student's level or if some groups are more engaged.

7. Have you ever attended or participated in events organized by FCSIT?

22 responses

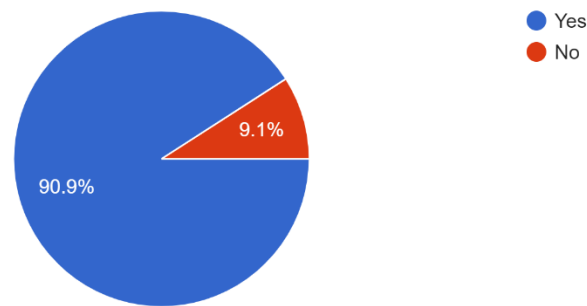


Figure 3.2: Question on if they ever participated in any events organized by FCSIT

Figure 3.2 shows how many respondents have participated in any event organized by FCSIT. The results show 20 respondents have participated in events organized by FCSIT. This question is to know if the respondents have any experience in joining events organized by FCSIT. This could benefit from the system design because most of them are familiar with the events.

8. How often do you attend any type of events?

22 responses

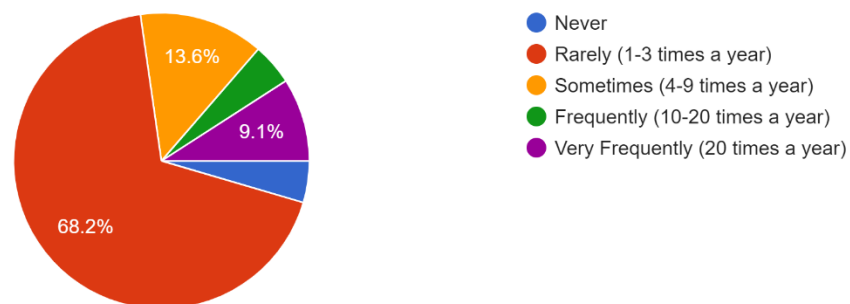


Figure 3.3: Question on how often they attend any events

Figure 3.3 shows how often the respondents attend any type of events. Most of them answered rarely (1-3 times a year) attend any type of events. This question is to measure the engagement of respondents to understand their level of involvement and interest in events.

9. What types of events do you usually attend? (Can choose more than one)

22 responses

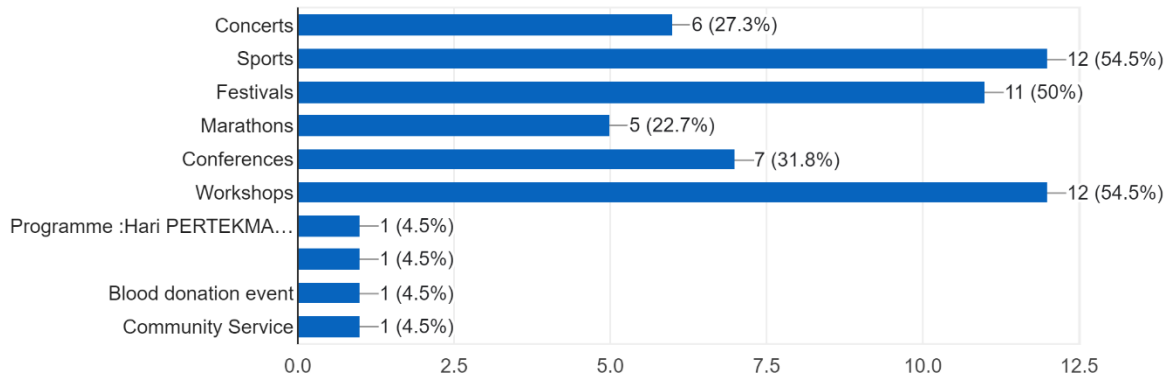


Figure 3.4: Question on what types of events do they usually attend

Figure 3.4 shows what types of events do the respondents usually attend. The figure shows a variety of answers from the respondents. This question aims to understand respondents' preferences and identify event types to include as categories during the system design phase.

12. Why are you satisfied or unsatisfied with the current platform you are using for registering online events?

14 responses



Because I use it daily
Easy to use and simple
Easy to use.
Can save name and booking
Because they include qr code or google form link
Not user friendly
Easy to use, but not centralised.
It's easy to access
Not really

Figure 3.5: Question on how satisfied the current platform they use for register events.

Figure 3.5 shows why are the respondent satisfied or unsatisfied with the current platform they use for registering events online. Most of the respondents were satisfied with the current platform while a few points out they are unsatisfied with the current platform they use. This question is to help identify area for improvement for the system design of a more user-friendly and efficient event management system.

16. Are there any specific features you would like to see added to the web-based event management system?

22 responses

Push notification
Yes such as slots left for the event.
Add a small filter or tags with colored labels to the list of event card to understand it at a glance
accept multiple payment method for single receipt
Filters
Nothing to add up
Notification, list of event date or schedule
Show the event objectives
A notification reminder using countdown to the event date.

Figure 3.6: Question on what other features can be added to the system

Figure 3.6 shows what other features that can be added to the system based on the respondents' responses. Most of them gave features based on their opinion, while a few were not sure what to give. This question is to gather suggestions from the respondents on additional features that can be added into the system. This helps to ensure the system meets user needs and expectations by adding relevant and useful functionalities during the design and development phases.

3.3.1.2 Interview

An interview was conducted with Mr. Rahman, a senior lecturer for Software Engineering programme at the Faculty of Computer Science and Information Technology at University of Malaysia, Sarawak on 17 December 2024. The interview was conducted physically at his office. The complete transcription of the interview is available in appendix B. These are the important things he highlighted during the interview session:

- Some events still use a few traditional methods such as registering the event through Google Forms. He also mentioned that when getting information about the company or agency, they have to search for their website to find contact information.
- Schedule adjustments or cancellations for large events usually do not happen even if the VIPs were absent, they still have to proceed with the event. But for small events, changes would occur.
- Combining all FCSIT event promotions into a single web platform is a good idea, as it could centralize information and make it easier for staff and students to access details about various events.
- For the event registration, there should be a registration page for participant to fill in their details so that the Organisers can know more specific details on the participant who registered the event.

The advice, suggestions and opinions shared by the interviewee will be used to understand the knowledge of how the event management works and will be implemented into the system design.

An interview was conducted with Ms. Audrey, a third-year student of Multimedia Computing programme at the Faculty of Computer Science and Information Technology at University of Malaysia, Sarawak on 13 January 2025. The interview was conducted physically at FYP Lab. The complete transcription of the interview is available in appendix C. These are the important things she highlighted during the interview session:

- Most of the events she handles are still using the traditional methods such as using Google Form or Microsoft Form for participants registration. Additionally, she mentioned that they have to e-mail one by one to the person in charge of the events.
- The issue with sending e-mail to the person in charge is that if the person was very busy, the e-mails tend to pile up. This results her emails to be pushed down and potentially overlooked, leading to no respond from the person in charge.
- The problem with the registration form for Google Form or Microsoft Form is that the participants could accidentally register the events more than once. This result in duplicate data which becomes redundant and problematic for management.
- Collecting feedback from the participants after the event is very important for the improvement of future events. Both positive and negative feedback are valuable as they help to identify areas for removal or improvement in future events.

The advice, suggestions and opinions shared by the interviewee will be used to understand the knowledge of how the event management works and will be implemented into the system design.

3.3.2 Functional Requirements

Functional requirement defines the function and features a system must have to enable users to perform tasks and activities to achieve the project's objectives. The proposed system will have 3 primary user groups: administrators, Organisers, and participants. Each group has their own requirements that the system must fulfil so that the users get to achieve their objectives. The functional requirements for each user are shown in a table below:

Table 3.2: Functional Requirements for all the users

Functional Requirement No.	Functional Requirement Description	Priority
User: Administrator		
FR.A01	Login to the system	High
FR.A02	View dashboard to monitor user statistics and event performances	High
FR.A03	Able to create, update, and delete user accounts for Organisers and attendees	High
FR.A04	Able to update and delete events from the system	High
FR.A05	Able to generate reports on events performance such as user participations.	Medium
FR.A06	Search users and view their user profile	Medium
FR.A07	View event details and user details	High
FR.A08	View emails sent by Organisers to create Organiser account	High
User: Organiser		
FR.O01	See information on system to contact administrator to create new Organiser account	High
FR.O02	Login to the system	System
FR.O03	Able to create, update, and delete event details on the system	High
FR.O04	Able to view events that has been created	High
FR.O05	Able to preview event creation before submitting into the system	Medium

FR.O06	View and manage the list of registered attendees for the event	Medium
FR.O07	Edit own profile details	Medium
FR.O08	View dashboard to monitor event performance and event details	High
User: Participant		
FR.P01	New user register account to the system	High
FR.P 02	Login to the system	High
FR.P03	Recover account if forgot password	High
FR.P04	View homepage that displays events categories, event details, and ongoing events	High
FR.P05	Able to register for events to get a booking spot for event	High
FR.P06	Able to receive notifications to remind for upcoming events	Medium
FR.P07	Choose favourite event type to get notification about those type of events	Medium
FR.P08	View user profile and edit profile details	High
FR.P09	Logout from the system	High
FR.P10	Search for specific events through search bar	High
FR.P11	Able to view and track attendance status for events that have registered	High

3.3.3 Hardware and Software Requirements

This section explains the technical requirements for setting up and operating the FCSIT Event Management System efficiently. These requirements will make sure the system performs well and compatible with a wide range of user environments.

3.3.3.1 Hardware Requirements

The hardware requirements are the components needed to develop the system successfully. Running this system is not hardware-intensive, it only requires basic computing resources and a stable internet connection. In this case, since the system will be hosted on an online web hosting platform later, the hardware consists mostly of personal computer for development, testing, and maintenance. The recommended requirement of hardware is shown in a table below:

Table 3.3: Hardware Requirements

Hardware	Recommended Requirement
Operating System	Windows 11
Processor	Intel i3 or higher
RAM	8GB or higher
Storage	256GB or higher
Display	1280 x 720 or higher
Network Adapter	Wireless Network Adapter or Ethernet Adapter

3.3.3.2 Software Requirements

The software requirements will be the tools and software applications needed to develop, run, and maintain the system. Since the system will be web-based, the key parts involved will be the front-end technologies, back-end frameworks, database engine. The software requirement is shown in the table below:

Table 3.4: Software Requirements

Tools / Software	Purpose
Visual Studio Code	Code editor for writing, editing, and debugging code in multiple languages.
XAMPP	Local server stack (Apache, MySQL) for testing web applications offline.
Figma	Design tool for creating UI/UX designs, wireframes, and prototypes.
Lucidchart	Design tool for creating diagrams for system design.
Microsoft Office	To do documentation and save data and notes.

3.4 System Design

The system design is the process of creating the system architecture, user interfaces, and data for a system that meets the specific requirements. This section of system design contains the logical design, wireframe, and the architecture design.

3.4.1 Logical Design

The logical design outlines the system's structure and behaviour. It includes the architecture design, static model such as use case diagram and use case descriptions for explaining the flow of use case diagram, dynamic model such as activity diagram, class diagram for objects and relationships, and a data dictionary for defining data structures and attributes.

3.4.1.1 Architecture Design

An architecture design diagram will be shown below to represent visualisation of the high-level structure of the system. This diagram provides a blueprint that helps stakeholders to understand the flow of the system and how different parts of the system work.

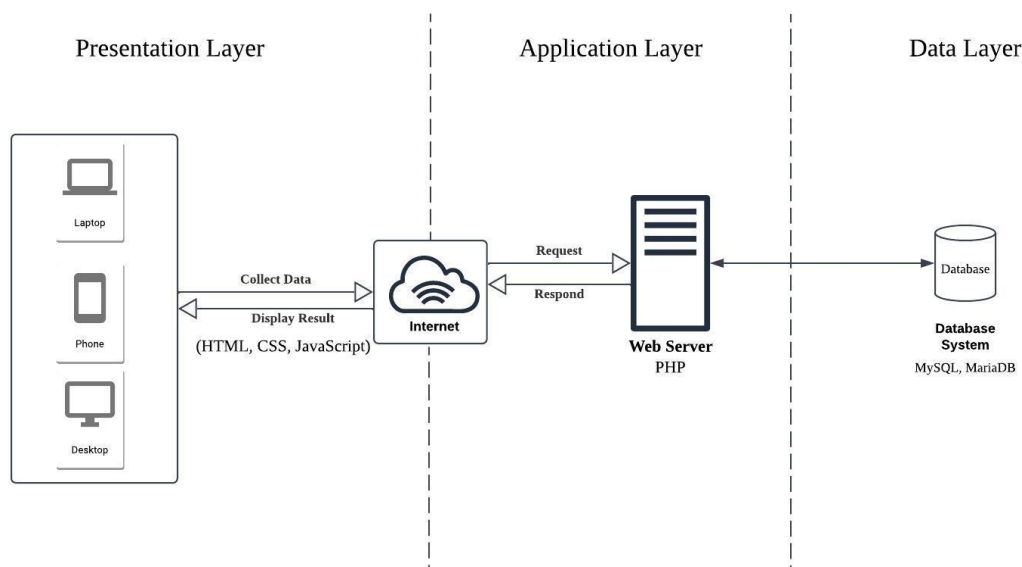


Figure 3.7: Architecture Design Diagrams

Based on Figure 3.7, the Presentation Layer focuses on the user interface and how information is displayed to users. To interact with the system, users must have a stable internet connection to send their input to the Web Server in the Application Layer. The Web Server then

processes the request and returns the results by displaying the user interface that contains HTML, CSS, and JavaScript.

Next is the Application Layer. It serves as the system's core, managing the flow of information between the Presentation Layer and Data Layer. The Web Server will process incoming requests from the Presentation Layer and then send back the result by using PHP. Then, the Web Server will interact with the Data Layer to get data from the database system.

Lastly is the Data Layer. The Data Layer is responsible for storing and managing data. It consists of the Database System (MySQL, MariaDB) for dynamic data like user information, event details, and records. The Application Layer interacts with the Data Layer to retrieve or update stored data in the database.

3.4.1.2 Use Case Diagram

The use case diagram shows the static behaviour of the system. It documents the situation, or the flow of events and actions handled by a system or person. The use case diagram also gives an overview of the system's functionality by showing the interaction between the actors and the system itself. The diagram below shows how the actors will interact with the system.

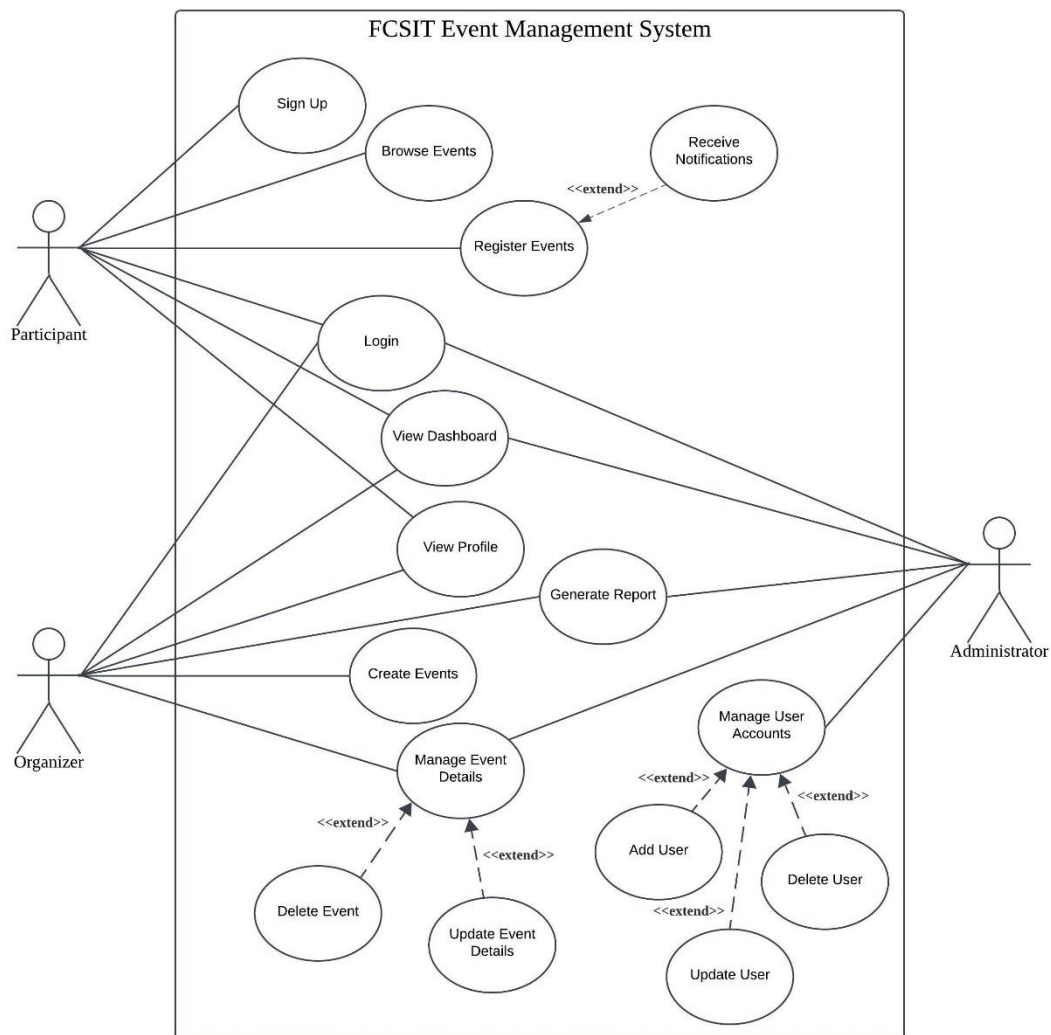


Figure 3.8: Use Case Diagram

Figure 3.8 shows a use case diagram for the FCSIT Event Management System. The actors in the use case diagram are the participant, Organiser, and administrator. There are 16 use cases presented in this use case diagram. The use case description for each use cases will be shown in the table below:

3.4.1.3 Use Case Description

The use case description shows a detailed explanation of each of the use case in the system. It contains information on the use case's actor involved, preconditions, postconditions, main flow of events, alternate flows, and exception flows. The tables below show all the use case descriptions based on the use case diagram on Figure 3.8

Table 3.5: Use Case Description for Sign Up

Use Case: Sign Up
Brief Description: The actor creates a new account at the sign-up page.
Actor(s): Participant
Pre-condition(s): The actor has no account in the system.
Post-condition(s): The actor signs up successfully into the system.
Main Flows: 1. The actor accesses the sign-up page. 2. The actor fills in the information needed to create an account. 3. The actor must make sure email is not taken which means there is no same email in the system. 4. The actor successfully signed up and completed registration.
Alternate Flow(s): -
Exception Flow(s): EX1: The email has already existed in the system 1. The actor input an email that has already existed in the system. 2. The system displays a prompt that says, 'email has already existed in the system'.

Table 3.6: Use Case Description for Login

Use Case: Login
Brief Description: The actor logs in to the system at the login page.
Actor(s): Participant, Organiser, and Admin
Pre-condition(s): The actor has a registered account in the system.
Post-condition(s): The actor logs in successfully into the system.
Main Flows: 1. The actor accesses the log-in page. 2. The actor fills in the correct details that they have signed up for in the system. 3. The actor successfully logged in to the system. 4. The actor will log in to the dashboard based on their roles. 5. The dashboard page based on their roles is displayed.
Alternate Flow(s): AL1: The actor forgot their password 1. The actor presses on the ‘forgot password’ button from the log in page. 2. The actor will be direct to a page to fill in their email to recover forgotten password. 3. The actor put in their new password and the new password will be saved in the database.
Exception Flow(s): EX1: The email or password is wrong 1. The actor input the wrong email or password when trying to log in. 2. The system will display a prompt that says, ‘email or password is incorrect’.

Table 3.7: Use Case Description for Browse Events

Use Case: Browse Events
Brief Description:

The actor can view available events in the system that are ongoing or upcoming events.
Actor(s): Participant
Pre-condition(s): The actor is logged in to the system
Post-condition(s): The actor can look through many different events available in the system.
Main Flows: 1. The actor can browse through the list of events available on the system. 2. The actor can select an event to view the details of the event.
Alternate Flow(s): AL1: The actor uses the search box to look for specific event. 1. The actor input the name of the event in the search box. 2. The system will search the event name in the database and display the correct event to the actor. 3. The actor can select on that specific event that they searched for.
Exception Flow(s): -

Table 3.8: Use Case Description for Register Events

Use Case: Register Events
Brief Description: The actor can register for an event that is available in the system and the event is not already over the date.
Actor(s): Participant
Pre-condition(s): 1. The actor is logged in to the system. 2. The actor has selected an event to register.
Post-condition(s):

The actor successfully registered an event and received booking details for the event registered.
Main Flows: 1. The actor clicks on the ‘register’ button on the event page. 2. The actor fills in the details needed in the form to register for the event. 3. The actor submits the form after filling in the right details. 4. The actor successfully registered for the event 5. The actor will receive the booking details for the event.
Alternate Flow(s): -
Exception Flow(s): EX1: The event’s register date is over. 1. The actor was late or did not see the registration date was over. 2. The actor tried to register for the event. 3. The system display ‘event registration is over’.

Table 3.9: Use Case Description for Receive Notifications

Use Case: Receive Notifications
Brief Description: The actor can choose to receive notifications or not after successfully registering an event.
Actor(s): Participant
Pre-condition(s): The actor has successfully registered an event.
Post-condition(s): The actor received a notification about their event about to start.
Main Flows: 1. The actor successfully registered an event. 2. The system releases a prompt asking the actor whether they want to receive notifications or not. 3. The actor clicks on “Yes” for the notification notice.

4. The system will send a notification to the user when their event is about to begin.
Alternate Flow(s): AL1: The actor decides to not get notification from the web application. 1. The actor successfully registered an event. 2. The system releases the prompt if the actor wants to receive notifications 3. The actor clicks on “No” for the notification notice.
Exception Flow(s): -

Table 3.10: Use Case Description for View Dashboard

Use Case: View Dashboard
Brief Description: The actor views the dashboard of the system based on their roles.
Actor(s): Participant, Organiser, and Administrator
Pre-condition(s): The actor has login successfully into the system.
Post-condition(s): The system displays the dashboard to the actor based on their roles.
Main Flows: 1. The actor successfully logs in to the system. 2. The system reads the roles of the actor based on their email. 3. The system displays the dashboard to the actor based on their roles. 4. The actor can view the dashboard.
Alternate Flow(s): -
Exception Flow(s): -

Table 3.11: Use Case Description for View Profile

Use Case: View Profile
Brief Description: The actor views their own profile that contains their information.
Actor(s): Participant and Organiser
Pre-condition(s): 1. The actor is logged in to the system. 2. The actor goes to view profile page.
Post-condition(s): The actor will see their profile details.
Main Flows: 1. The actor navigates to their profile to press on 'view profile'. 2. The system will direct the actor to their profile page. 3. The actor gets to see their profile details.
Alternate Flow(s): -
Exception Flow(s): -

Table 3.12: Use Case Description for Generate Report

Use Case: Generate Report
Brief Description: The actor can generate a report produced by the system based on the completed events.
Actor(s): Organiser and Administrator
Pre-condition(s): 1. The actor has login successfully into the system. 2. There is at least one event successfully completed in the system.
Post-condition(s):

The report has been generated by the system.
Main Flows: 1. The actor navigates to the Generate Report page 2. The actor clicks on “Choose Event” button 3. The actor clicks on “Generate Report” button 4. The system displays the report 5. The actor downloads the report
Alternate Flow(s): -
Exception Flow(s): 1. There is no event completed in the system for the Organiser. 2. The actor clicks on “Choose Event” button 3. The actor clicks on the “Generate Report” button. 4. The system displays “No event found” to the actor.

Table 3.13: Use Case Description for Create Events

Use Case: Create Events
Brief Description: The Actor can create new events that will be displayed on the system for others to see and register to join.
Actor(s): Organiser
Pre-condition(s): 1. The actor is successfully logged in to the system. 2. The actor wants to create an event to the system.
Post-condition(s): The actor successfully created an event, and the system will display the event at the event page.
Main Flows: 1. The actor fills in the event details such as event names, venues, time, types of events, and who to contact if they have question to ask.

2. The actor submits the event creation form into the system. 3. The actor successfully created an event.
Alternate Flow(s): -
Exception Flow(s): -

Table 3.14: Use Case Description for Manage Event Details

Use Case: Manage Event Details
Brief Description: The actor can manage the event details by updating or deleting the events.
Actor(s): Organiser and Administrator
Pre-condition(s): Event has been created by the actor.
Post-condition(s): The event has successfully been updated into the system and saved in the database.
Main Flows: 1. The actor selects an event that they want to manage. 2. The actor edits the event details. 3. The actor press, 'save changes'. 4. The system saves the updates and stores in the database.
Alternate Flow(s): -
Exception Flow(s): -

Table 3.15: Use Case Description for Delete Event

Use Case: Delete Event

Brief Description:
The actor deletes an event from the system.
Actor(s):
Organiser and Administrator
Pre-condition(s):
The event exists in the system and database.
Post-condition(s):
The event has been successfully deleted from the system and database.
Main Flows:
1. The actor selects an event they want to delete from the system. 2. The actor confirms deletion of the event. 3. The system deletes the event from the system and database.
Alternate Flow(s):
-
Exception Flow(s):
-

Table 3.16: Use Case Description for Update Event Details

Use Case:
Manage Event Details
Brief Description:
The actor can update the event details if there were any changes to the event.
Actor(s):
Organiser and Administrator
Pre-condition(s):
The event exists in the system and database.
Post-condition(s):
The event has been successfully updated to the system and database.
Main Flows:
1. The actor selects an event to update. 2. The actor inputs the new details on the event details form. 3. The actor presses on 'Update' button to save the changes.

4. The system saves the changes and updates the database.
Alternate Flow(s): -
Exception Flow(s): -

Table 3.17: Use Case Description for Manage User Accounts

Use Case: Manage User Accounts
Brief Description: The actor can manage the user accounts if it is necessary, and any changes will be saved in the database.
Actor(s): Administrator
Pre-condition(s): The actor is logged in to the system.
Post-condition(s): The actor has successfully added or delete the user from the system and database.
Main Flows: 1. The actor selects 'Manage Users'. 2. The actor views the user accounts list. 3. The actor adds or deletes the user account. 4. The system saved the changes and update in the database.
Alternate Flow(s): -
Exception Flow(s): -

Table 3.18: Use Case Description for Add User

Use Case: Add User

Brief Description: The actor can add a new user account to the system.
Actor(s): Administrator
Pre-condition(s): 1. The actor is logged in to the system. 2. The user account does not exist yet in the system.
Post-condition(s): The actor has successfully added a new account to the system and the database will save the new user.
Main Flows: 1. The actor presses on the 'Add User' button. 2. The actor enters the new user details. 3. The actor selects the role of the new user account. 4. The actor submits the add user form. 5. The system saves the new user and the database is updated.
Alternate Flow(s): -
Exception Flow(s): EX1: The user account has already existed in the system. 1. The actor tried to add the new user into the system. 2. The system detected the user account has already existed in the system. 3. The system displays, 'User Account has already existed'.

Table 3.19: Use Case Description for Delete User

Use Case: Delete User
Brief Description: The actor can delete a user account from the system and the database.
Actor(s): Administrator
Pre-condition(s): 1. The actor is logged in to the system.

2. The user account exists in the system and database.
Post-condition(s): The actor has successfully deleted a user account from the system.
Main Flows: 1. The actor selects the user to delete from the system. 2. The actor confirms deletion of the user account. 3. The system deletes the user account from the system and database.
Alternate Flow(s): -
Exception Flow(s): -

Table 3.20: Use Case Description for Update User

Use Case: Update
Brief Description: The actor can update the user account details.
Actor(s): Administrator
Pre-condition(s): 1. The actor is logged in to the system. 2. The user account exists in the system and database.
Post-condition(s): The actor has successfully updated user account details.
Main Flows: 1. The actor selects the user to update their account details. 2. The actor inputs the new details for the use account. 3. The actor presses on the confirms button. 4. The system updates the old data to the new data in the database.
Alternate Flow(s): -
Exception Flow(s): -

3.4.1.4 Activity Diagram

The activity diagram shows the system's dynamic behaviour. It displays the sequence of activities or processes within the system, such as conditions, decision points, and loops. The activity diagram helps visualize how different activities and decisions happen inside the system and how they interact to produce certain results. The full version of the activity diagram is available in appendix C. The specific parts of the activity diagram are shown below from Figure 3.9 till Figure 3.21.

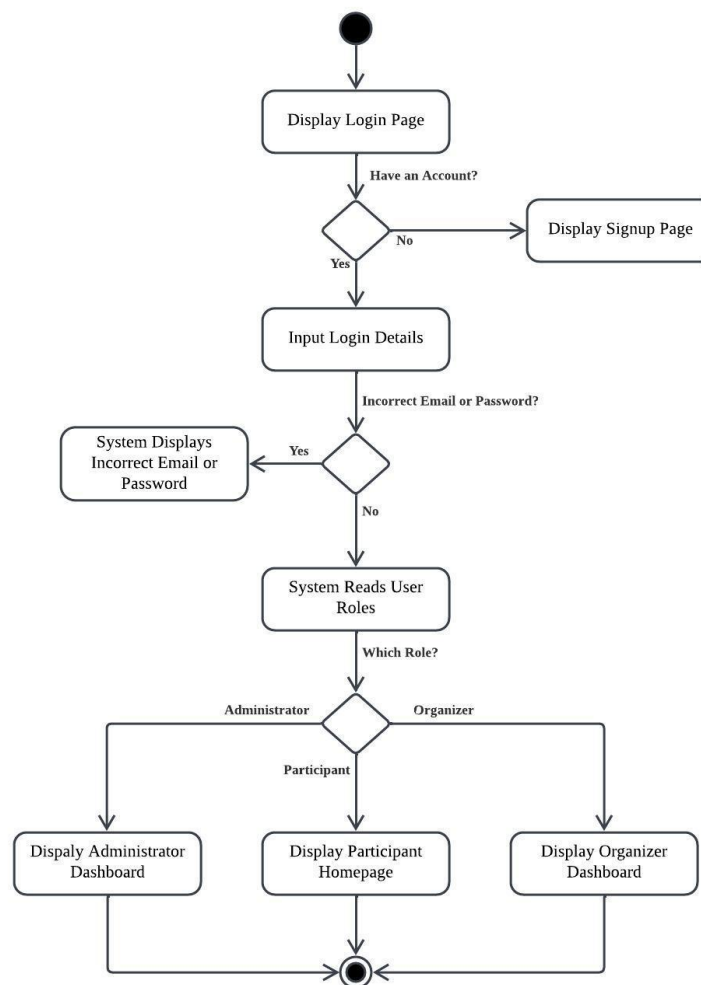


Figure 3.9: Activity Diagram for Login Page

Figure 3.9 shows the activity diagram for login page. At the start of the activity, the system will display the login page to the user. If the user has a registered account in the system already, they can proceed to input their correct login details. But if they do not have a registered account in the system, they can go to the signup page to create a new account. If the user input the incorrect email or password, the system will display “Incorrect Email or Password” to the user.

Once the user successfully put in the right email and password, the system will read the user's role before sending them to the right user interface. If the user is registered as an administrator, they will go to the administrator dashboard. If the user is registered as a participant, they will go to the participant homepage. Lastly, if the user is registered as an Organiser, they will go to the Organiser dashboard. By doing this way, the user only has to go through one single login page to login into the system.

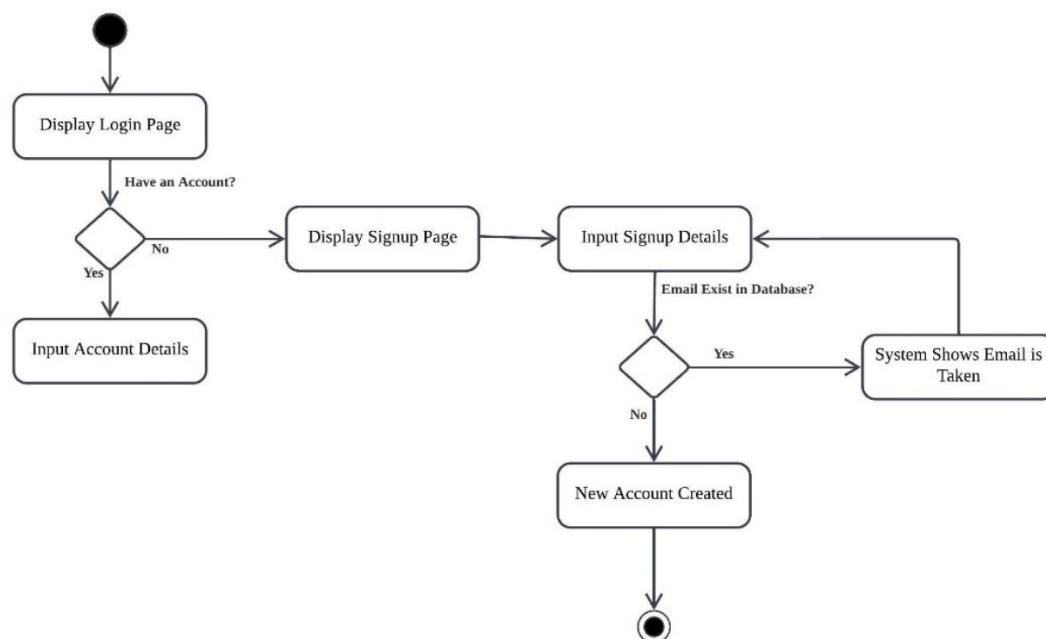


Figure 3.10: Activity Diagram for Signup Page

Figure 3.10 shows the activity diagram for signup page. If the user has no registered account, the user can go to the signup page to create a new account. The user must input the signup details in the form and must have no existing email address in the system. If the user put in an existing email address, the system will show that the email is taken. Once the user has successfully created a new account, the system will save the account into the database.

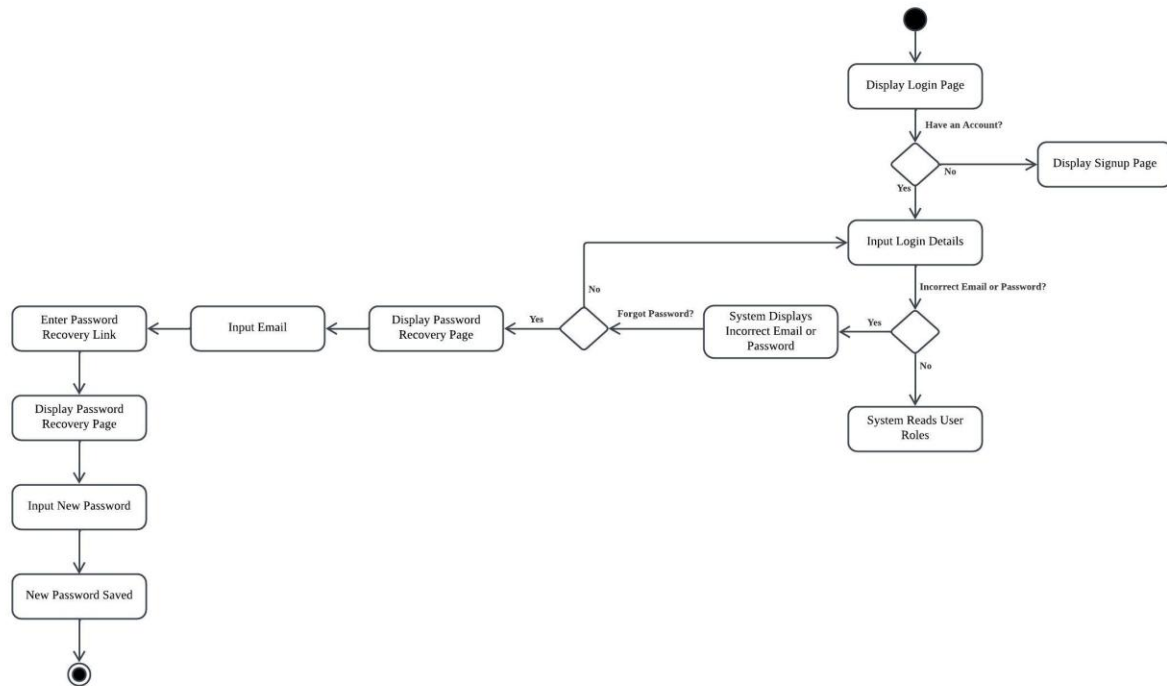


Figure 3.11: Activity Diagram for Forgot Password

Figure 3.11 shows the activity diagram for forgot password. If the user has an account but forgotten their password, they can go to the forgot password page to recover their password. The user will input their email so that the system can send the link to reset their password to the user's email. After the user clicks on the link, the user will be sent to a password recovery page to input their new password. After the user has successfully put in their new password, the system will change their old password to the new one.

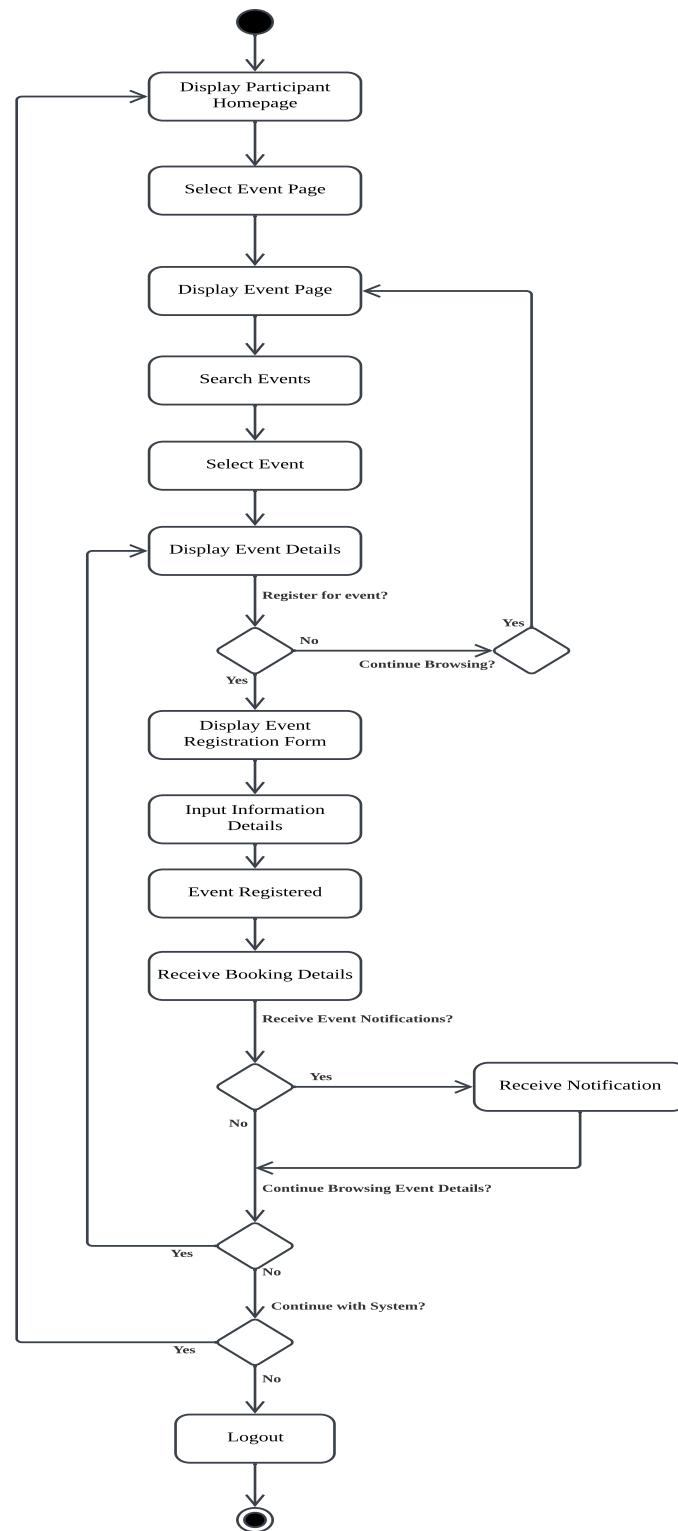


Figure 3.12: Activity Diagram for Event Page for Participant

Figure 3.12 shows the activity diagram for event page for participant. The participant can select on the event page to browse through the available events on the system. After the participant search an event that interest them, they can select the event, and the system will display the event information and details. If the participant plan to register the event, an event registration

form will appear for the participant to fill in their details. After they filled in the registration form, a pop up will appear telling the participant if they want to receive notifications for the event. The notification is to make sure the participant gets reminded of their registered event is coming very soon or is ongoing. After the participant is done with the system, they can Logout from the system.

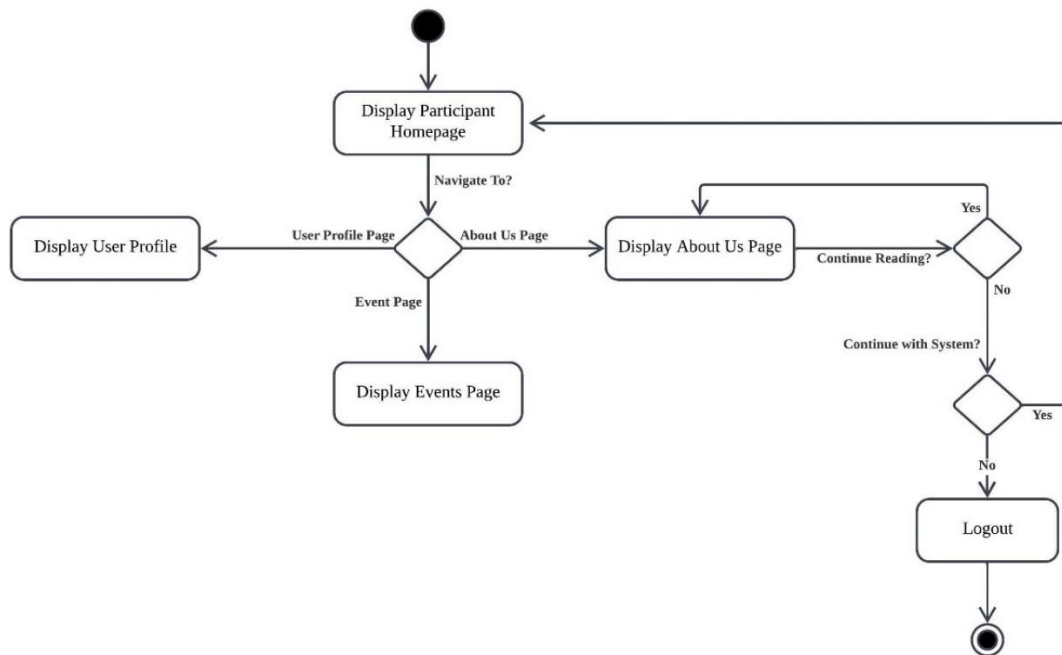


Figure 3.13: Activity Diagram for About Us Page for Participant

The figure 3.13 shows the activity diagram for about us page for participant. The participant can click the About Us button to see the About Us page for the system if they plan to look for further information or details about the system. After they are done with the page, they can either continue browsing the web application or Logout from the system.

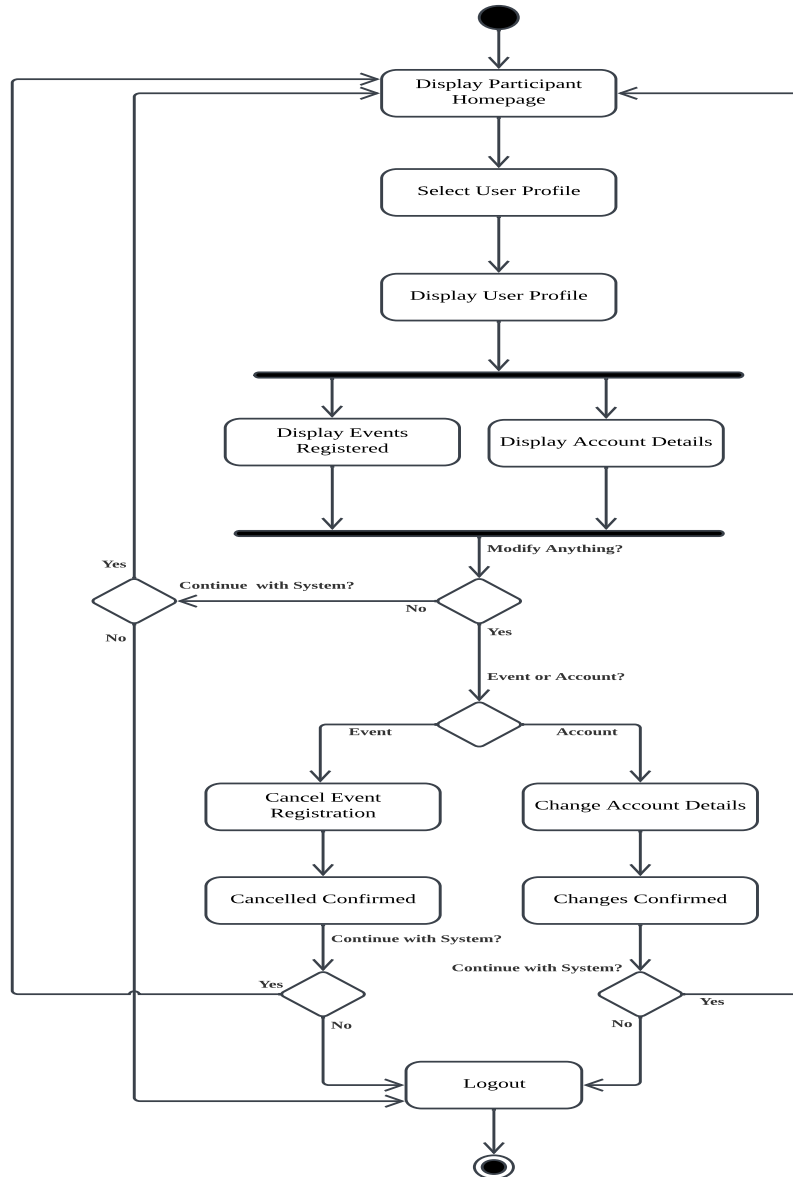


Figure 3.14: Activity Diagram for User Profile Page for Participant

Figure 3.14 shows the activity diagram for user profile page for participant. The participant can click on their profile to go to their profile page to see more details about their account settings and the events they registered. If the participant plans to modify their account details or events registered, they can do so by clicking on the modify button and change their account details or cancel their event registration. After successfully making any changes, the participant can either continue with the system or Logout from the system.

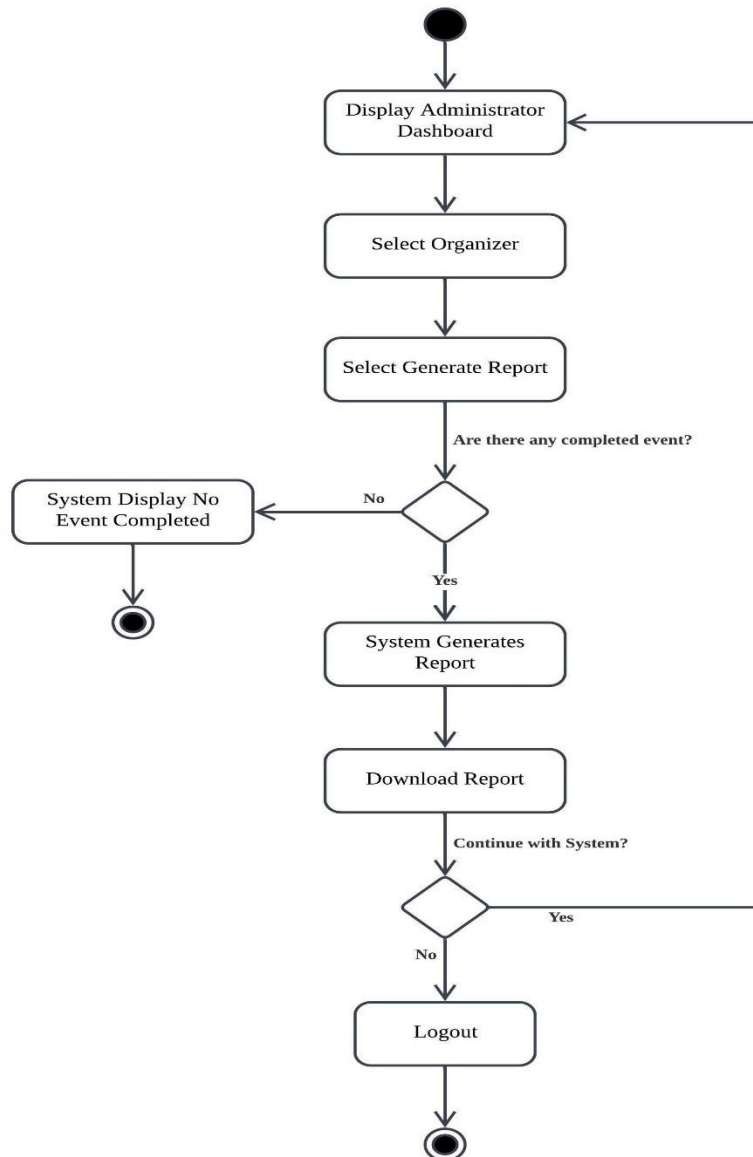


Figure 3.15: Activity Diagram for Generate Report for Administrator

Figure 3.15 shows the activity diagram for generate report for administrator. After the administrator successfully log in to the system, they must select an Organiser first before generating report. This is to get the specific report based on the Organiser's events they organized. After selecting an Organiser, they can press on the generate report button. If the Organiser has no event completed, the system will display "No Event Completed" to the administrator. If there is at least one event completed by the Organiser, then the system will display the report to the administrator. Then, the administrator can download the report. If the administrator does not want to continue with the system, they can Logout from the system.

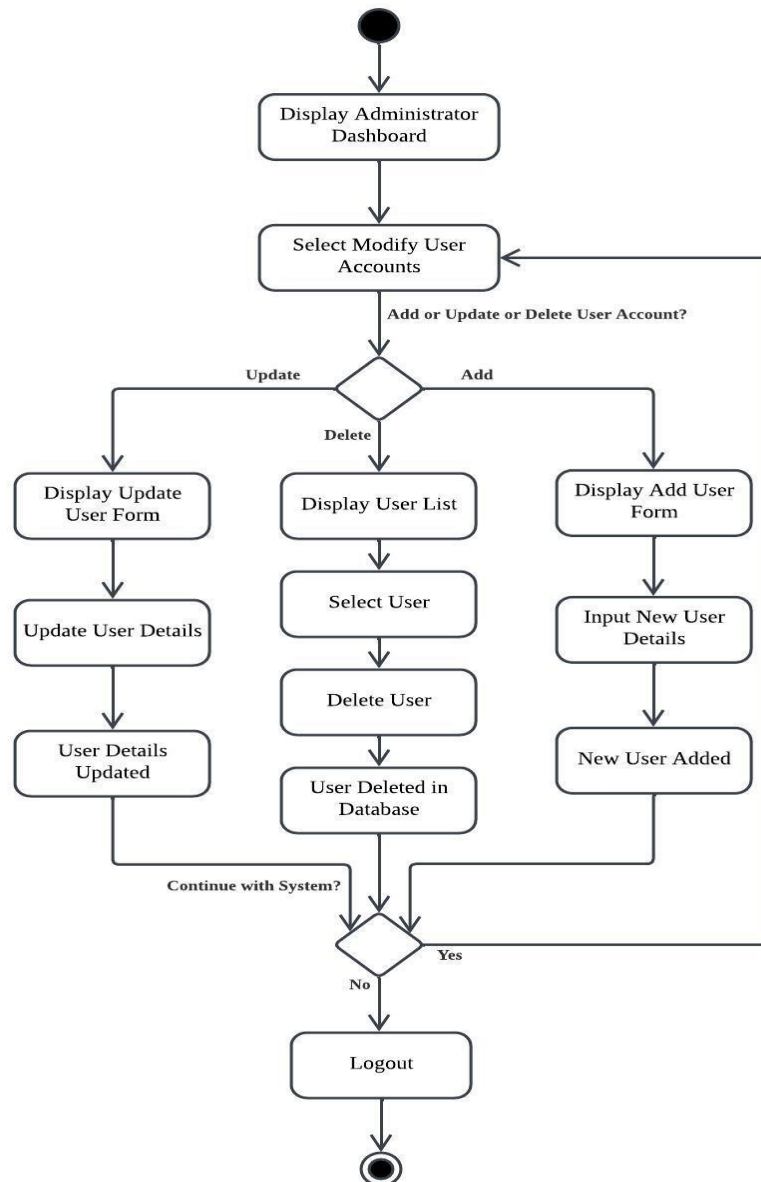


Figure 3.16: Activity Diagram for Modify User Accounts for Administrator

Figure 3.16 shows the activity diagram for modify user accounts for administrator. The administrator can select on modify user accounts to either add, delete, or update the user accounts. If they want to update the user accounts such as the participant or Organiser account, they can click on the update user details button and change any details about the user. Once completed, the details and data will be updated into the system's database. After updating details, the administrator can either continue with the modification or logout from the system. If the administrator plans to delete the user from the system, they can go to the delete user account page and select a user to delete from the system. After successfully deleting the user, the database will be updated. If the administrator plans to continue modify user accounts, they

can continue to modify them. If the administrator plans to add new users into the system such as the participant or Organiser, they can click on the add user button and an add user form will be displayed. The administrator has to fill the details required for the add user form and make sure no existing email occur. After the administrator has successfully added the new user to the system, the system's database will add the new user in the database. After that the administrator can choose to continue modify the user accounts or Logout from the system.

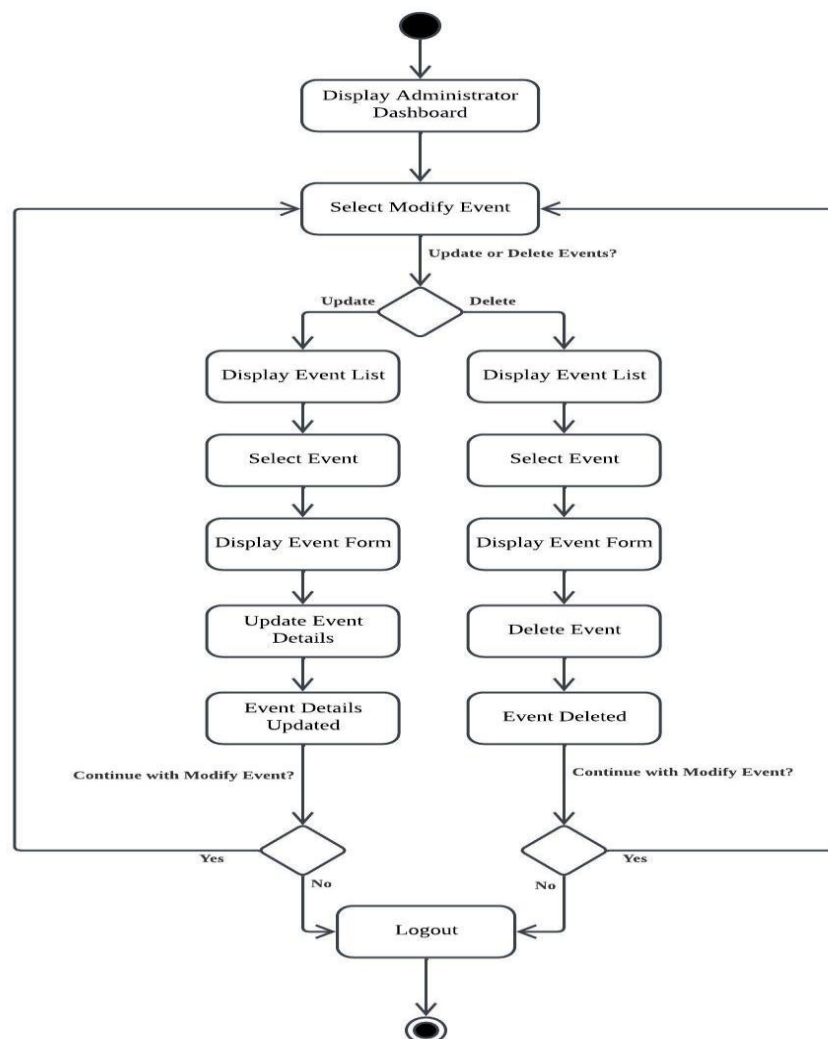


Figure 3.17: Activity Diagram for Modify Events for Administrator

Figure 3.17 shows the activity diagram for modify events for administrator. If an Organiser asked the administrator to help modify their event due to difficult circumstances, then the administrator can go to the select modify event button and choose whether to update the event details or delete the event. If the administrator plans to update the event, they can select any

event based on the event list and an event form will appear after selecting it. The administrator then can update the event details, and the details will be saved into the database. The administrator can continue modify the event or logout from the system. If the administrator plans to delete an event, they can do so by selecting an event from the event lists, then the event form is displayed for the administrator to delete. After the administrator successfully clicks on delete, the system will delete the event data from the database. When the administrator is done with deleting events, they can either continue with modify other events or Logout from the system.

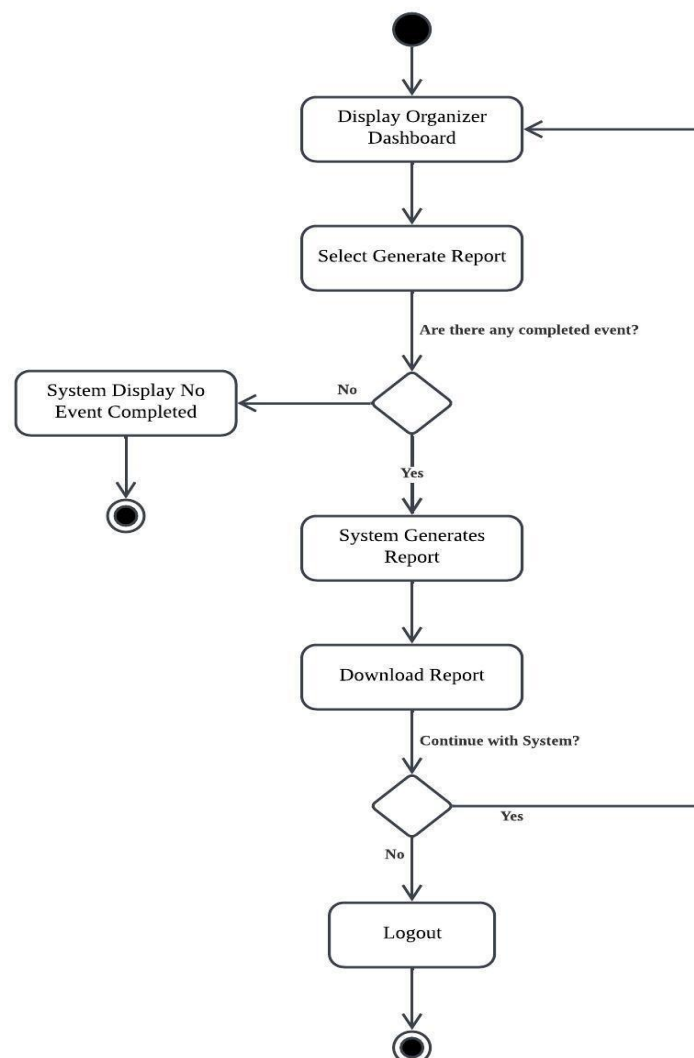


Figure 3.18: Activity Diagram for Generate Report for Organiser

Figure 3.18 shows the activity diagram for generate report for Organiser. The Organiser can click on the generate report button to generate a report. But if there is no event completed yet

by the Organiser, then the system will display no event completed to the Organiser if they click on the generate report button. If there is at least one event completed by the Organiser, then the report detail will be generated displayed, and the Organiser can download the report. After the report has been downloaded, the Organiser can either continue with the system or Logout from the system.

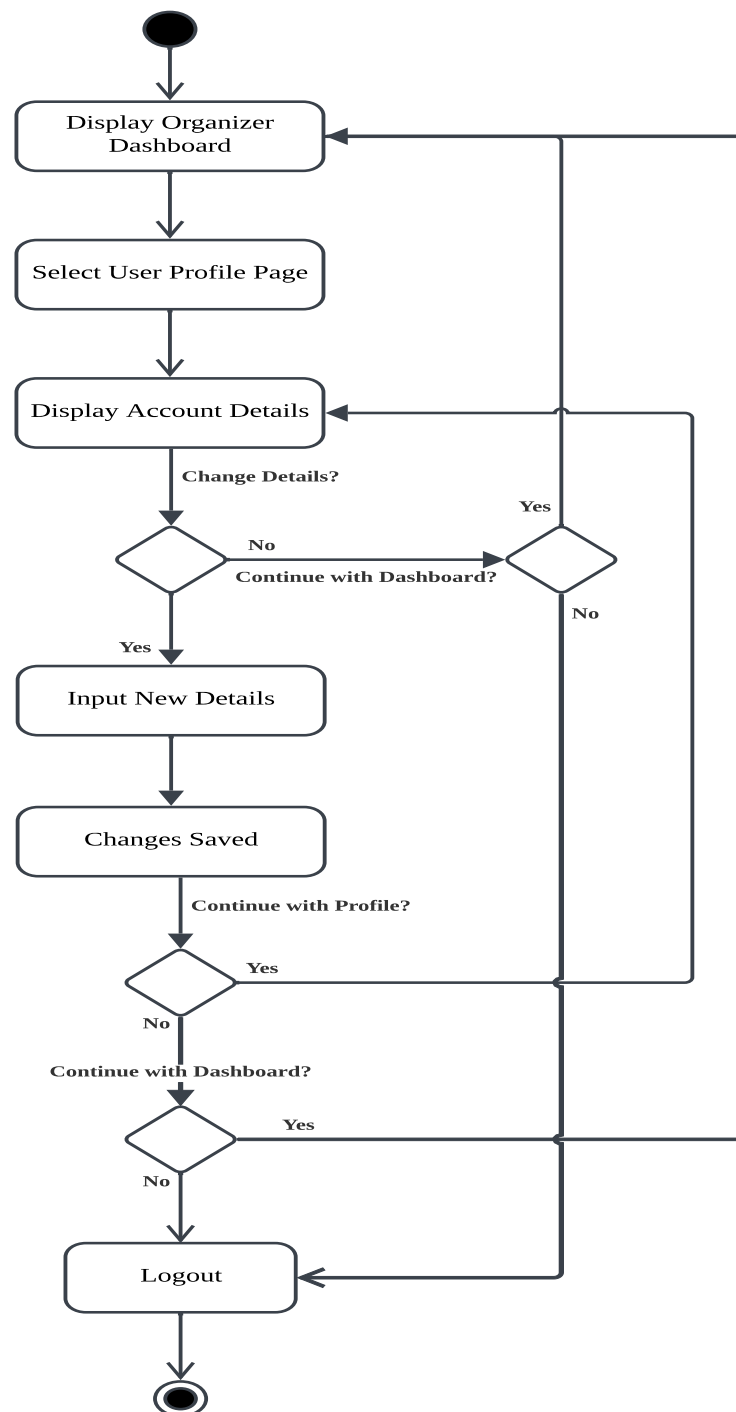


Figure 3.19: Activity Diagram for View User Profile Page for Organiser

Figure 3.19 shows the activity diagram for view user profile page for Organiser. The Organiser can click on the user profile to go to the user profile page and the account details will be displayed. If the Organiser plan to update their details, then the user can click on the form and update their new details. After the details have been saved, the system will save the data into the database. The Organiser can either continue looking through their profile or go back to the dashboard. After the Organiser is done with their profile, they can Logout from the system.

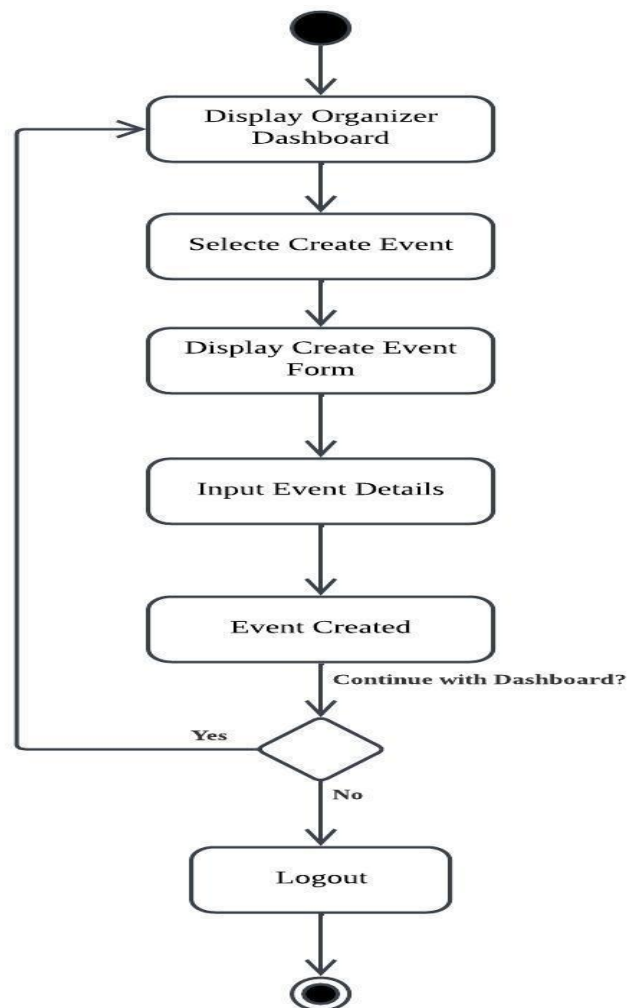


Figure 3.20: Activity Diagram for Create New Event for Organiser

Figure 3.20 shows the activity diagram for create new event for Organiser. The Organiser can select create event button to create a new event for the system. A create event form will be displayed, and the Organiser must fill in the event details needed. After the event is created, the system will display the event to the event page for participation to see and register. Once the Organiser is done with the dashboard, they can Logout from the system.

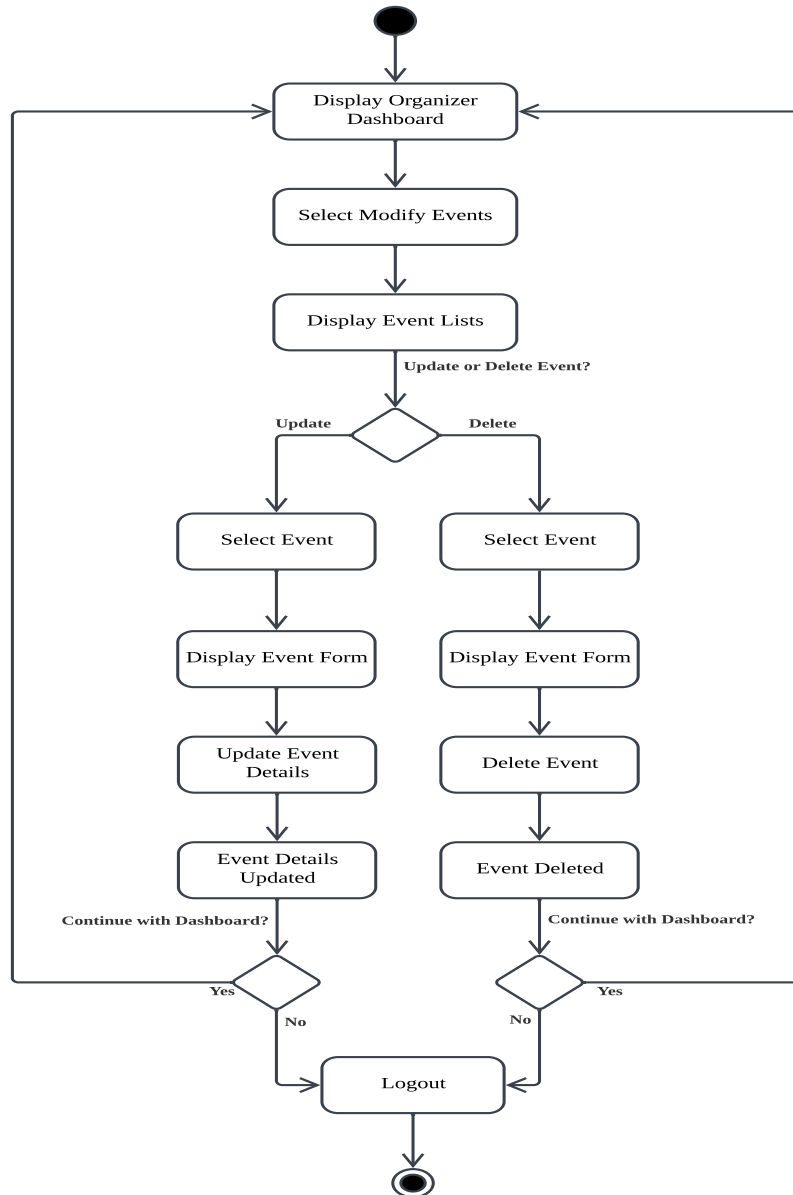


Figure 3.21: Activity Diagram for Modify Events for Organiser

Figure 3.21 shows the activity diagram for modify events for Organiser. The Organiser can select on the modify event button to either update or delete their event that they have created. If the Organiser clicks on the update button, then they can select on what event to be updated. An event form will appear, and the Organiser can update the event details and the updated event details will be saved into the database. The Organiser can either continue with the dashboard or logout from the system. If the Organiser plans to delete the event, they can select which event to be deleted from the system. After the event is deleted from the system, the database will update the data so that the event is not in the database anymore. After the Organiser is done with the modification of events, they can Logout from the system.

3.4.1.5 Class Diagram

The class diagram in the Unified Modelling Language (UML) is a static structure of a system that includes its classes, attributes, methods, and relationships between classes. It serves as a blueprint for the system's design to better understand how the components interact and organized. Figure 3.22 below shows the class diagram for the FCSIT Event Management System.

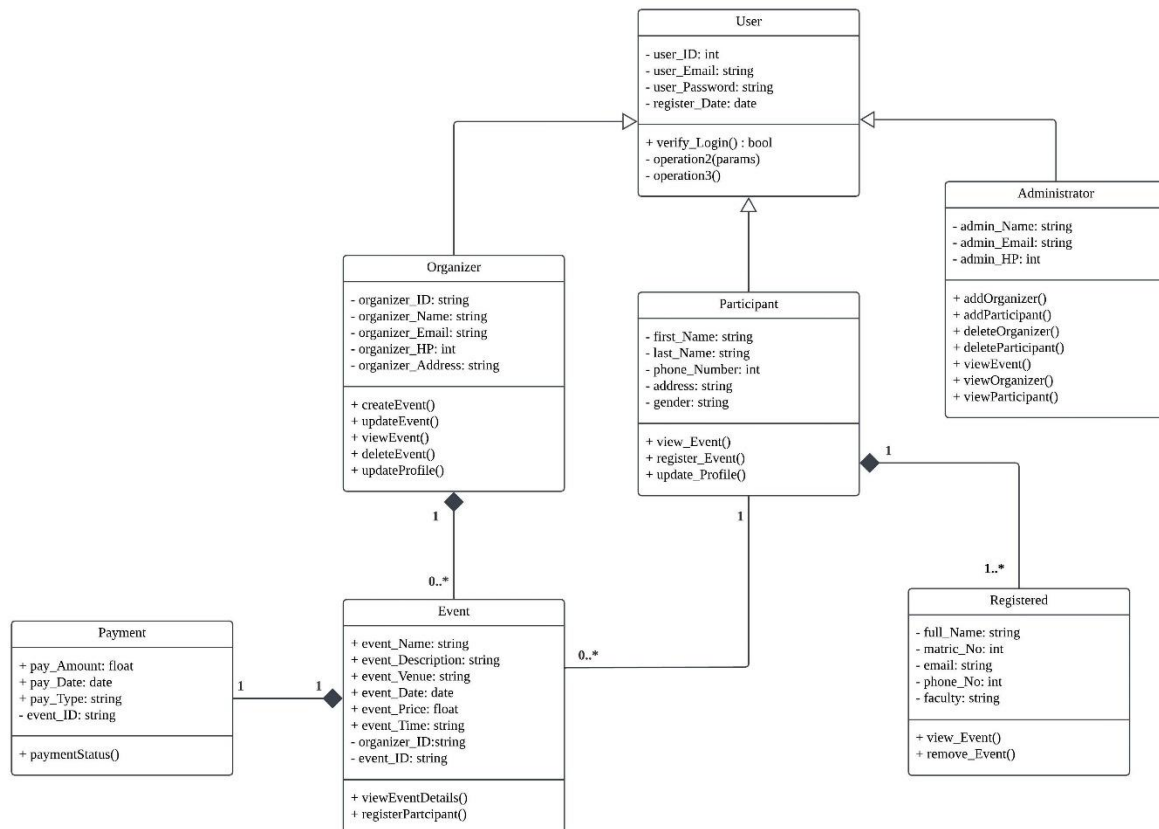


Figure 3.22: Class Diagram

3.4.1.6 Data Dictionary

The Data Dictionary shows the detailed description of the data used in the system. It outlines the data elements, data types, formats, and relationships. It also serves as a guide for developers to ensure consistent data usage and understanding throughout the system. The Data Dictionary for each category is shown in the tables below:

Table 3.21: Data Dictionary for 'Users'

Table Name	Data Type	Constraint	Description	Example
ID	Integer (10)	Primary Key	Auto generated ID	1
UID	Varchar (32)	Foreign Key	Hashing Email and Password together to make a unique identifier	e62c931052b101 1a0ad5af6df011a ce3
Email	text	Not null	Email address for user	example@email. com
Password	text	Not null	Password for user account	*****
Role	Enum	Not null	Set role between 'Administrator', 'Organiser', or 'Participant'	Participant
Created_On	timestamp	Not null	To know when the account was created	2024-12-25 13:30:10
Is_Verify	timestamp	Not null	To know if the account if verified	2024-12-25 13:30:10
Is_Deleted	timestamp	Not null	To know if the account is deleted	2024-12-25 13:30:10

Table 3.22: Data Dictionary for ‘Organiser’

Table Name	Data Type	Constraint	Description	Example
ID	Integer (10)	Primary Key	Auto generated ID	2
UID	Varchar (32)	Foreign Key	Hashing Email and Password together to make a unique identifier	e62c931052b101 1a0ad5af6df011a ce3
OrgID	Varchar (32)	Foreign Key	Hashing OrgHP and OrgEmail together to make a unique identifier	e62c931052b101 1a0ad5af6df011a ce3
OrgName	text	Not null	Name for organiser account	FCSIT
OrgHP	Integer (12)	Not null	Phone number for organiser	01234567890
OrgEmail	text	Not null	Email address for organiser	example@email. com
OrgAddress	text	Not null	Address for organiser	Universiti Malaysia Sarawak, Sarawak, 94300 Kota Samarahan
Updated	timestamp	Not null	To know if any information details are updated	2024-12-25 13:30:10

Table 3.23: Data Dictionary for “Participant”

Table Name	Data Type	Constraint	Description	Example
ID	Integer (10)	Primary Key	Auto generated ID	3
UID	Varchar (32)	Foreign Key	Hashing Email and Password together to make a unique identifier	e62c931052b101 1a0ad5af6df011a ce3

F_Name	text	Not null	First name of the participant	Andrew
L_Name	text	Not null	Last name of the participant	Lost
HP	Integer (12)	Not null	Phone number of the participant	01234567891
Address	text	Not null	Address of the participant	Dahlia College
Gender	enum	Not null	Gender of the participant	Male
Updated	timestamp	Not null	To know if any information details are updated	2024-12-25 13:30:10

Table 3.24: Data Dictionary for “Administrator”

Table Name	Data Type	Constraint	Description	Example
ID	Integer (10)	Primary Key	Auto generated ID	4
UID	Varchar (32)	Foreign Key	Hashing Email and Password together to make a unique identifier	e62c931052b1011a0ad5af6df011ace3
AdminName	text	Not null	Name of the Administrator	Yong Shean Zheng
AdminEmail	text	Not null	Email of the Administrator	admin@email.com
AdminHP	Integer (12)	Not null	Phone number of the Administrator	01234567892
Updated	timestamp	Not null	To know if any information details are updated	2024-12-25 13:30:10

Table 3.25: Data Dictionary for “Event”

Table Name	Data Type	Constraint	Description	Example
ID	Integer (10)	Primary Key	Auto generated ID	5
OrgID	Varchar (32)	Foreign Key	Hashing OrgHP and OrgEmail together to make a unique identifier	e62c931052b101 1a0ad5af6df011a ce3
EID	Varchar (32)	Foreign Key	Hashing EventName and EventType together to make a unique identifier	e62c931052b101 1a0ad5af6df011a ce3
EventName	text	Not null	Name of the Event	Event Name
EventType	text	Not null	Type of the Event	Conference
EventDate	date	Not null	Date of the Event	2024-11-20
EventVenue	text	Not null	Venue of the Event	DeTAR PUTRA
EventPayment	Varchar (20)	Not null	Payment of the Event	Free
Updated	timestamp	Not null	To know if any information details are updated	2024-11-15 13:30:10

Table 3.26: Data Dictionary for “Registered”

Table Name	Data Type	Constraint	Description	Example
ID	Integer (10)	Primary Key	Auto generated ID	6
UID	Varchar (32)	Foreign Key	Hashing Email and Password together to make a unique identifier	e62c931052b101 1a0ad5af6df011a ce3
EID	Varchar (32)	Foreign Key	Hashing EventName and EventType together to make a unique identifier	e62c931052b101 1a0ad5af6df011a ce3

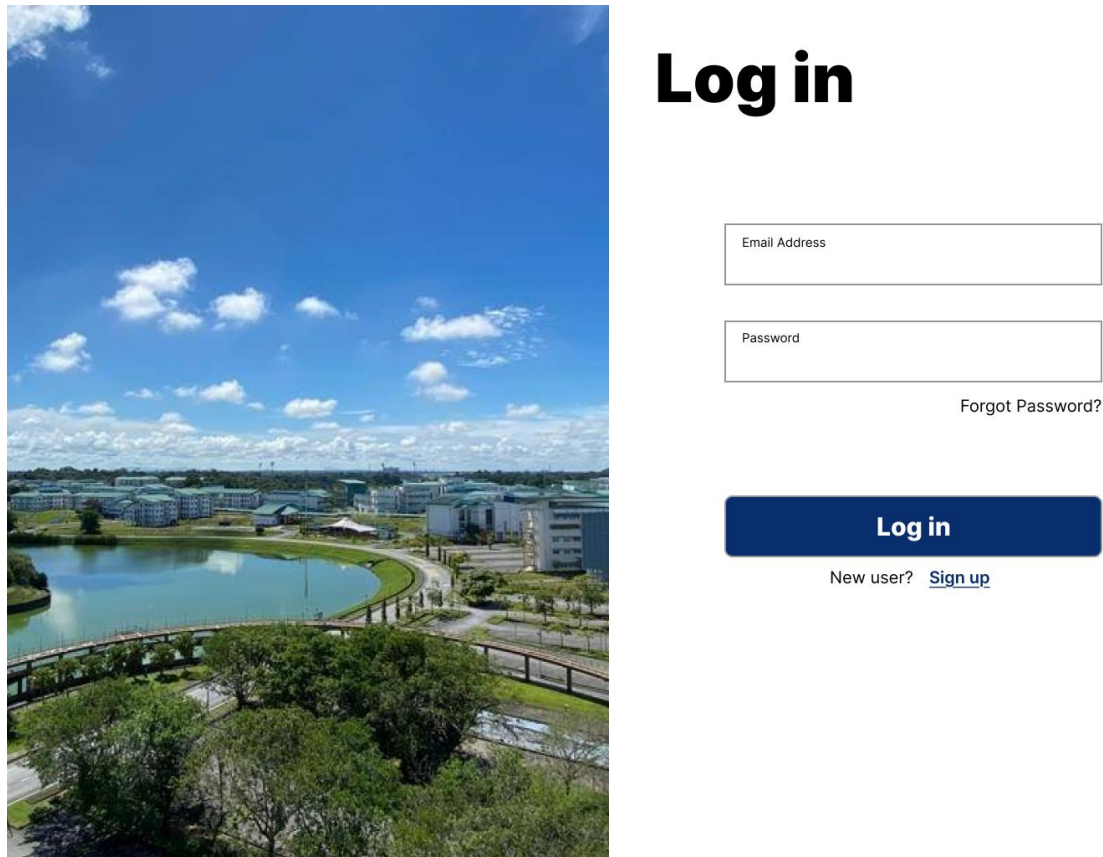
P_Name	text	Not null	Name of registered participant	Larry Barry
P_Matric	Integer (7)	Not null	Matric number of registered participants	435215
P_Email	text	Not null	Email of registered participant	example@email.com
P_HP	Integer (12)	Not null	Phone number of registered participants	01234567894
P_Faculty	text	Not null	Faculty of registered participant	FCSIT
Updated	timestamp	Not null	To know if any information details are updated	2024-11-15 13:30:10

Table 3.27: Data Dictionary for “Payment”

Table Name	Data Type	Constraint	Description	Example
ID	Integer (10)	Primary Key	Auto generated ID	7
EID	Varchar (32)	Foreign Key	Hashing EventName and EventType together to make a unique identifier	e62c931052b1011a0ad5af6df011ace3
Pay_Amount	Varchar (20)	Not null	Amount of payment	100
Pay_Type	Varchar (20)	Not Null	The type of payment	Early Bird
Pay_Date	date	Not null	Date of payment	2024-11-15
Updated	timestamp	Not null	To know if any information details are updated	2024-11-15 13:30:10

3.4.2 Graphical User Interface (Wireframe)

The Graphical User Interface will serve as a low-fidelity prototype by providing a simplified visual representation of the system's interface, focusing on the structure and functionality. It will show how the users will navigate the system by outlining the locations of important components such as buttons, forms, and menus.



Log in

Email Address

Password

[Forgot Password?](#)

Log in

New user? [Sign up](#)

Figure 3.23: Log in page for all Users

Figure 3.23 shows the graphical user interface of the Login page for all Users. On this page, the administrator, Organisers, and participants will put in their email address and password into the box containers. If the user forgot their password, they could click on the “Forgot Password?” to make a new password. If the participant has no account register in the system, they can click on the “Sign up” link to create a new account.

Sign up

Email Address
Username
Password
Confirm Password

Sign up

Have Account? [Log in](#)



Figure 3.24: Sign Up page for new Participant

Figure 3.24 shows the graphical user interface of the Sign Up page for new Participant. On this page, new Participant can create a new account by filling in the email address, username, and password. The email address must be non-existing from the system, if not, the system will not accept the same email address and display an error message.

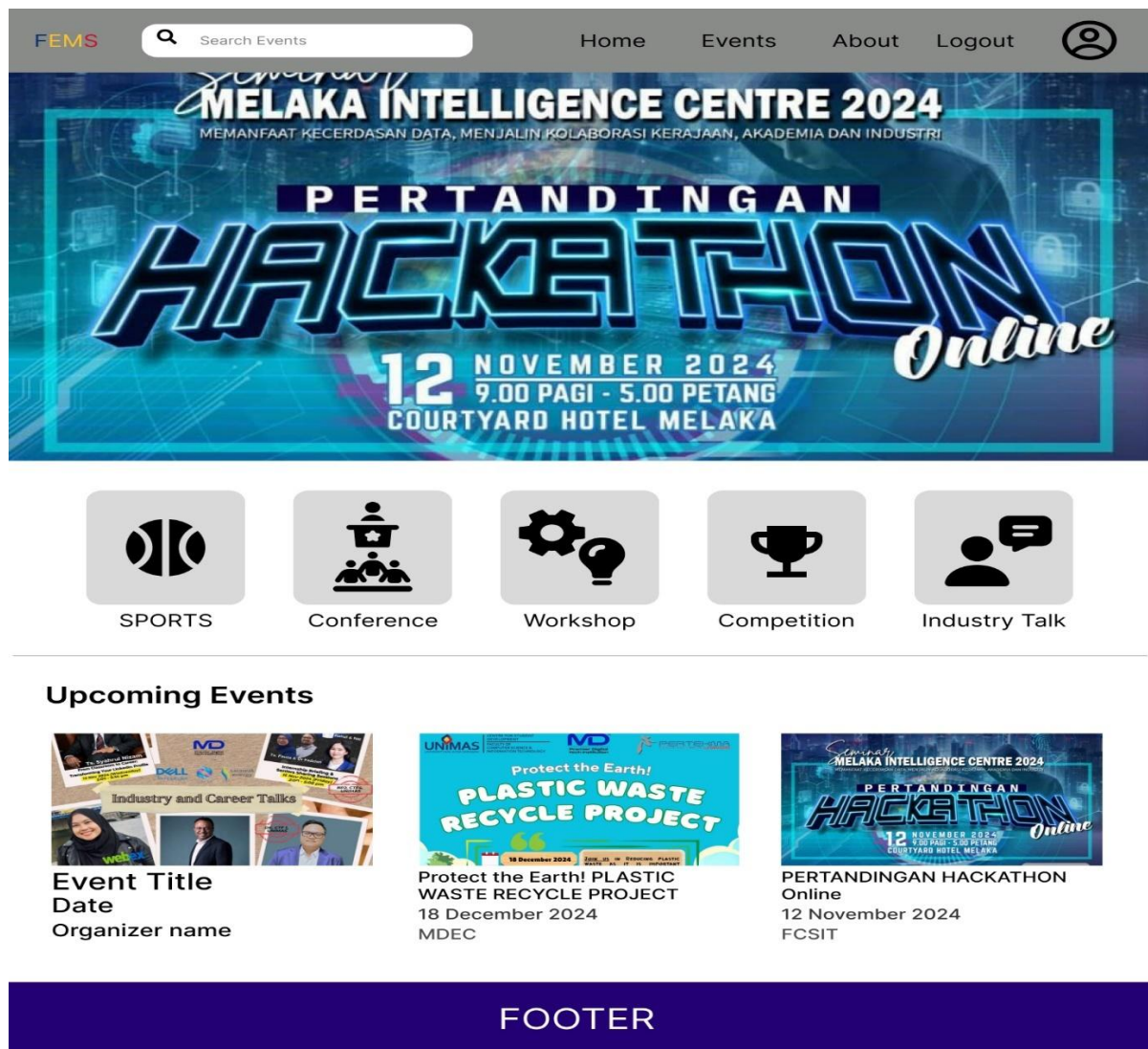


Figure 3.25: Dashboard for Logged in Participant

Figure 3.25 shows the graphical user interface of the Dashboard for Participant who successfully logged in to the system. On this page, the top navigation bar has 5 main buttons which are: Home button, Events button, About button, Logout button, and Profile button. There is also a search bar to search for specific events name. The Home button will send the user back to the homepage or the Dashboard for Participant. The Events button will send the user to the available events on the system. The About page will send the user to the About Us page that contains information about the system. The Logout button will log the user out from the system. The Profile button will send the user to their own profile page containing details of themselves. The dashboard has a category list that once clicked, will send the user to events with that category. The dashboard also shows upcoming events that user can join and register. Lastly the Footer at the bottom of the page will provide quick access to links, contact details, legal disclaimers, and social media.

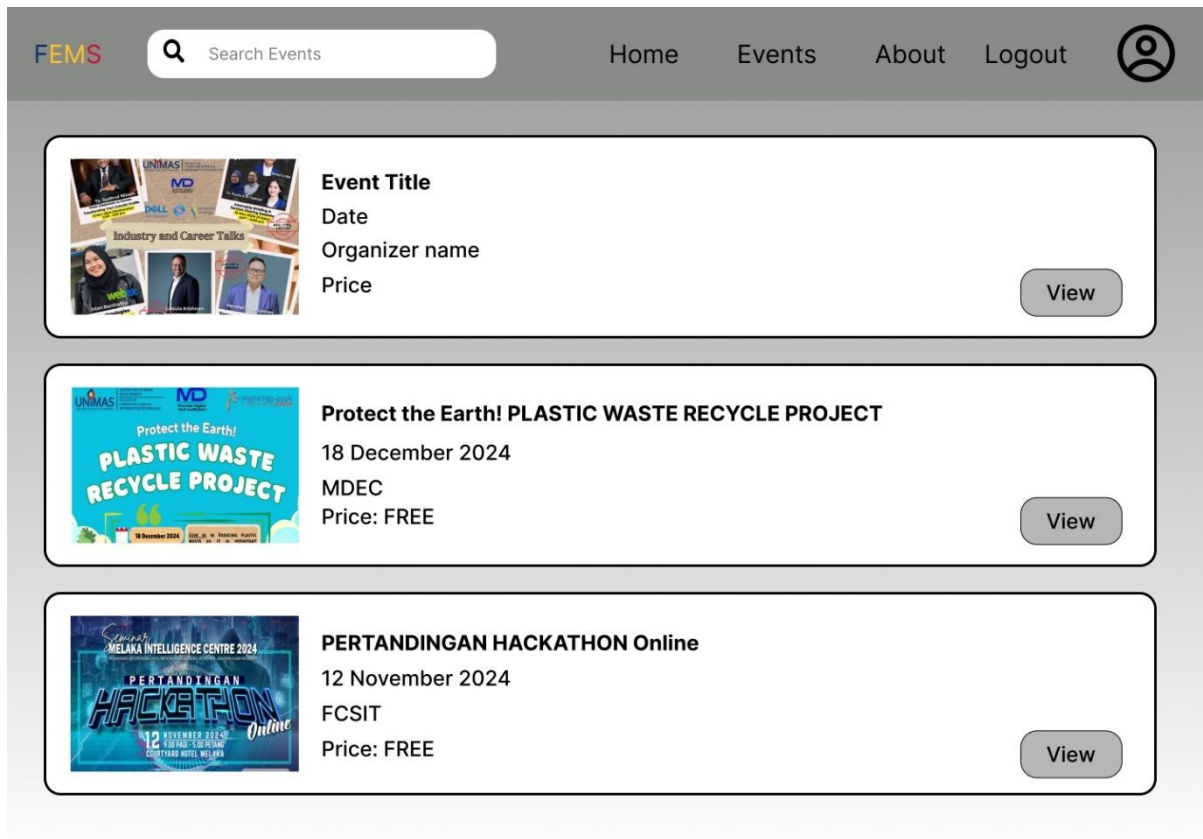


Figure 2.26: Events Page for Participant

Figure 3.26 shows the graphical user interface of the Event Page for Participant. This page is accessed by clicking on the Events button at the top of navigation bar. On this page, users can see events available on the system. The events are created by the Organisers. Users can press on the View button to further get more information and details about the event.

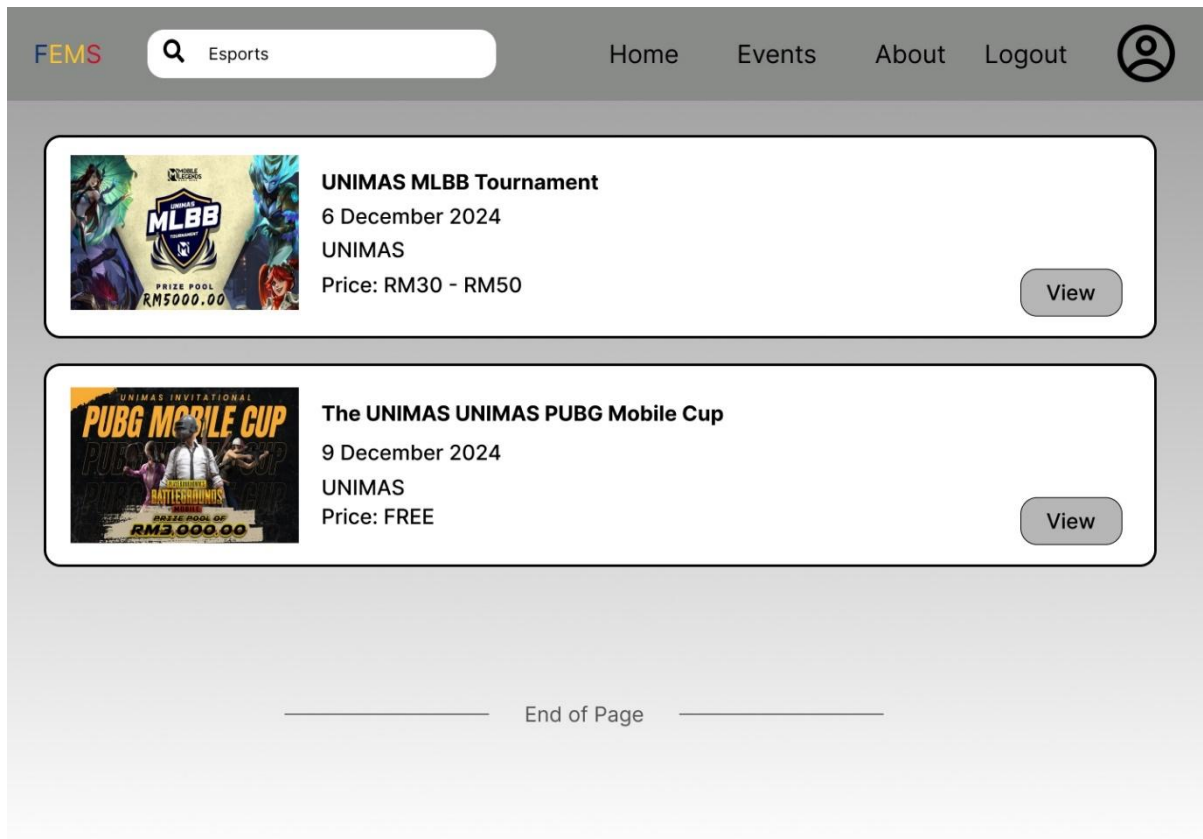


Figure 3.27: Event Search Function page for Participant

Figure 3.27 shows the graphical user interface of the Event Search Function page for Participant. This page is accessed by using the search button at the top of navigation bar. The participant can search for the event's name or event's type such as Esports, Social, and many more. On this page, the searched keywords will be process through by the system and the system will display the events that matched the searched keywords. This searching feature will help the participants to quickly find events that they are only interested in the system.

FEMS
Search Events
Home
Events
About
Logout

Event Details

Protect the Earth! PLASTIC WASTE RECYCLE PROJECT
descriptions...

Date and Time
18 December 2024 9am - 5pm

Venue
FCSIT Lobby, UNIMAS

Price
FREE

About this Event
XXXX

For any inquiry, please contact:
+6013-6839420 (Tan Wui Ming)
+6017-3582548(Del)

Register

Figure 3.28: Event Details for a Selected Event

Figure 3.28 shows the graphical user interface of the Event Details for a Selected Event. This page is accessed by clicking View button on any of the event at the Events page. On this page, the details of the event are displayed more detailed. Information such as Event Title, Event Description, Date and Time, Venue, Price, About This Event, and the Image of the Event. If the participant is interested to join the event, a Register button at the bottom can be click and a Registration Form will appear for the participant to fill in their details.

The image shows a web application interface for FEMS. At the top, there is a navigation bar with the FEMS logo, a search bar labeled 'Search Events', and links for 'Home', 'Events', 'About', and 'Logout'. A user profile icon is also present. A modal window titled 'Registration Form' is displayed in the center. The form contains the following fields: 'Full Name', 'Matric No (For Students only)', 'Email Address', 'Phone Number', and 'Faculty (For Students only)'. Each field is represented by a light gray rectangular input box. At the bottom of the form, there are two buttons: 'Cancel' and 'Submit'. In the background, a blurred event poster for 'PLASTIC WASTE RECYCLE PROJECT' is visible.

Figure 3.29: Registration Form for Registering an Event

Figure 3.29 shows the graphical user interface of the Registration Form for Registering an Event. This page is accessed by clicking on the Register button at the Event Details page. In this Registration Form, there are information that needed to be fill in by the participant. The information includes Full Name, Matric No but only for students of UNIMAS, Email Address, Phone Number, and Faculty but only for students of UNIMAS. After the participant has successfully filled in all the details, they can press the Submit button and they are officially registered for this event. They can also press the Cancel button if they changed their mind.

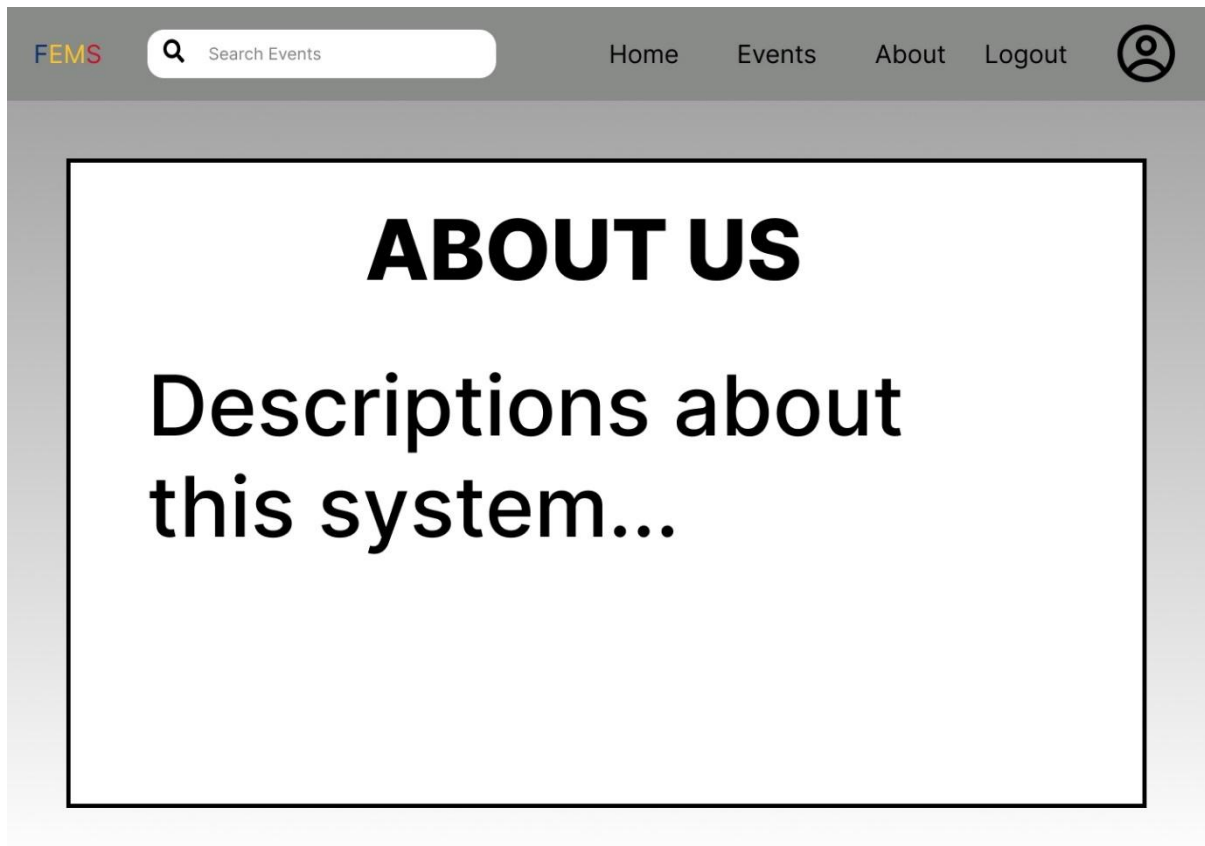


Figure 3.30: About Us page for Participant

Figure 3.30 shows the graphical user interface of the About Us page for Participant. This page is accessed by clicking on the About button at the top of navigation bar. On this page, the description of the system and detailed information will be displayed for the user to see.



Figure 3.31: Logout pop up for Participant

Figure 3.31 shows the graphical user interface of the function of the Logout button for Participant. This pop up will appear anywhere as long as the user pressed on the Logout button at the top of navigation bar. If the user plans to log out from the system, they should press on the “Yes” button. But if they plan to continue use the system, they can press on the “No” button.

The screenshot shows the 'Account Settings' page of the FEMS system. At the top, there is a navigation bar with the FEMS logo, a search bar labeled 'Search Events', and links for 'Home', 'Events', 'About', and 'Logout'. A user profile icon is also present. On the left side, a sidebar menu lists 'Account Settings' (which is highlighted), 'Contact Information', and 'Events Registered'. The main content area is titled 'Account Settings' and contains two input fields: 'Email' and 'Password'. At the bottom right of the main area, there are two buttons: 'Cancel' and 'Save'.

Figure 3.32: Account Settings in Participant Profile page

Figure 3.32 shows the graphical user interface of the Account Settings in the Participant Profile page. This page is accessed by clicking on the Profile button at the top of navigation bar. On this page, the participant can change their Email or Password if needed. Once they put in the new Email or Password and pressed on the Save button, the system will save this new data into the database and the participant must log in using the new Email or Password.

The screenshot shows the FEMS (Frontend Event Management System) interface. At the top, there is a navigation bar with the FEMS logo, a search bar labeled "Search Events", and links for Home, Events, About, and Logout. A user profile icon is also present. On the left side, there is a sidebar with three menu items: "Account Settings", "Contact Information" (which is highlighted), and "Events Registered". The main content area is titled "Contact Information" and contains a form with the following fields: "First Name" and "Last Name" (two separate text input boxes), "Phone Number" (a text input box), "Home Address" (a text input box), and "Gender" (a dropdown menu with a downward arrow). At the bottom right of the form, there are two buttons: "Cancel" and "Save".

Figure 3.33: Contact Information in Participant Profile page

Figure 3.33 shows the graphical user interface of the Contact Information in the Participant Profile page. This page is accessed by clicking on the Profile button at the top of navigation bar and clicking on the Contact Information at the side of navigation bar. On this page, the participant can change their contact information such as First Name, Last Name, Phone Number, Home Address, and Gender. Once they fill in the information and click on the Save button, the system will save the new information into the database.

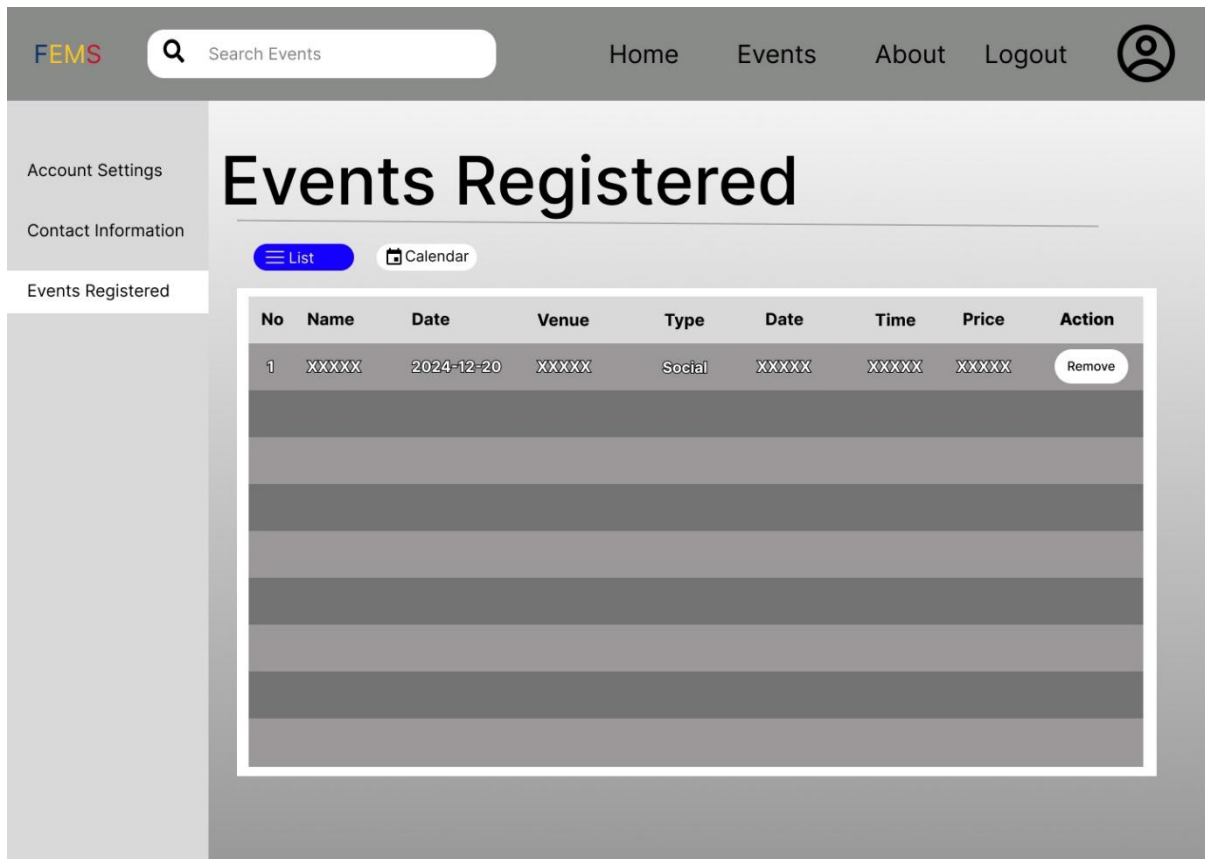


Figure 3.34: Events Registered for List in Participant Profile Page

Figure 3.34 shows the graphical user interface of the Events Registered in the Participant Profile page. This page is accessed by clicking on the Profile button at the top of navigation bar and clicking on the Events Registered at the side of navigation bar. On this page, the participant can view on the event they registered by 2 different viewing modes. The List mode shows the list of events in a table format, while the Calendar mode shows the calendar of the current month and show which date is the event on for better visual representation. The participant can also press on the Remove button to remove registered event if they changed their mind.

FEMS

Q

Search Events

Home

Events

About

Logout

Account Settings

Contact Information

Events Registered

Events Registered

≡ List

Calendar

December 2024

▼

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20 Protect The Earth!...	21
22	23	24	25	26	27	28
29	30	31	1	2	3	4

Figure 3.35: Events Registered for Calendar in Participant Profile Page

Figure 3.35 shows the graphical user interface of the Events Registered by Calendar view mode in the Participant Profile. The participant can view the event they registered through a calendar mode for better visualization. The participant can click on the December 2024 to adjust the month of the calendar. The event name displayed on the calendar is 20 December 2024, this calendar is to let participants to see the event schedule clearly and ensure that they do not miss out on the event.

100

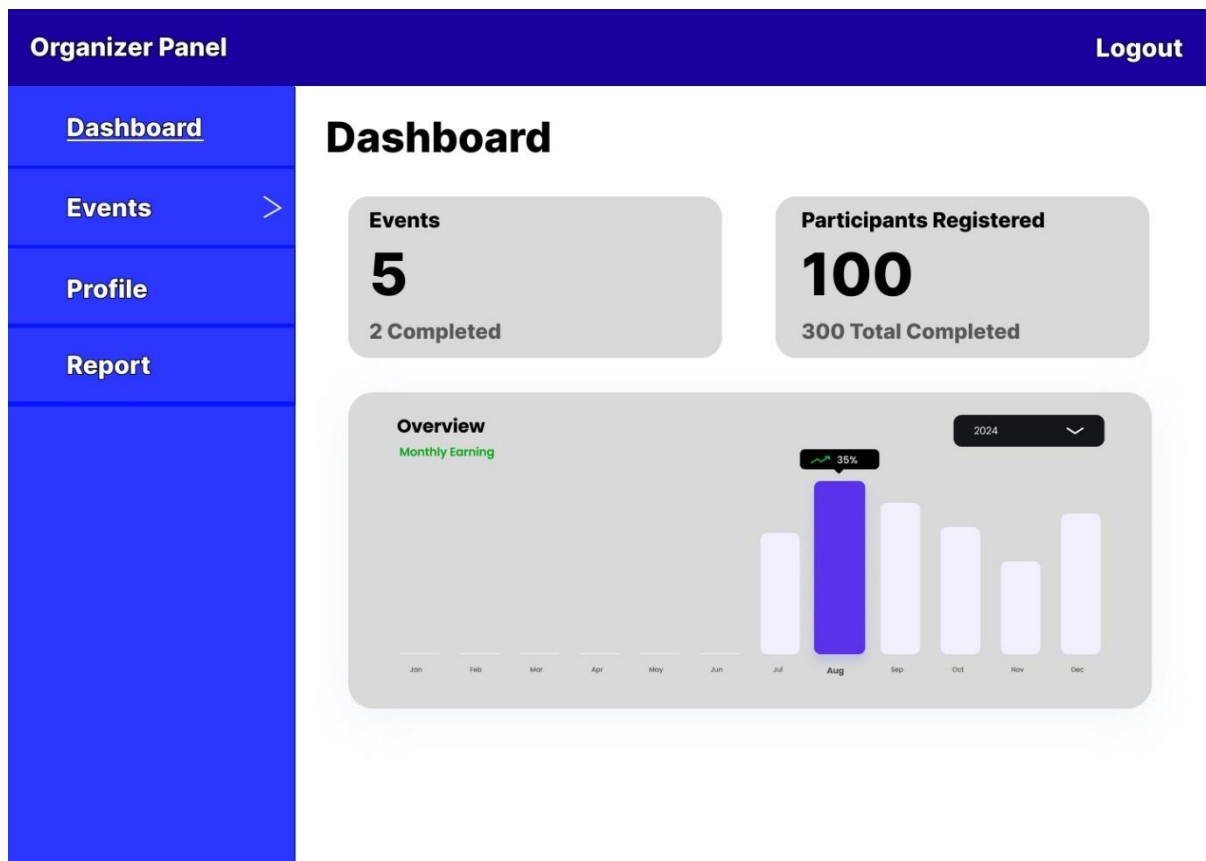


Figure 3.36: Dashboard for Organiser

Figure 3.36 shows the graphical user interface of the Dashboard for Organiser. On this page, the Organiser will see different data being displayed to get information on their event's performance. For example, the data with 5 Events and 2 Completed, shows the number of events created by the Organiser that is currently on the system. The 5 events means that there are 5 on-going events now in the system, while the 2 completed means the Organiser have completed 2 events in the past. The 100 participants registered and 300 total completed shows the number of participants who have registered on their events. The 100 participants registered means that there are 100 participants already registered on their events currently in the system, while the 300 total completed means there were 300 participants who registered their events in the past. The completed events and registered participants do not include in the current on-going numbers. For the overview of monthly earning, this shows how much the Organiser have made in the system based on their events. The highest earning will be highlighted on the overview to show their best performance on that month.

Organizer Panel

Logout

Dashboard

Events

Create Event

Update Event

Delete Event

Profile

Reports

Create Event

Event Name

Event ID (Auto Generated)

Event Description

Event Date

Start Time

End Time

01/01/2025

10:00 AM

12:00 PM

Event Venue

Price Type

Event Price

+

Event Type

Event Banner Image

Add File

Save

Figure 3.37: Create Event page for Organiser

Figure 3.37 shows the graphical user interface of the Create Event page for Organiser. This page is accessed by clicking on the Events button and then Create Event button at the side of the navigation bar. On this page, the Organiser can create a new event on the system by filling in the Event Name, Event Description, Event Date, Start Time, End Time, Event Venue, Price Type, Event Price, Event Type, and attaching the Event Banner Image. The Event ID will be automatically generated after the Organiser completes entering the event name. The Event ID is uniquely created by combining the OrganiserID and Event Name, then hashing the result. The Price Type indicates the pricing category based on specific events, such as Early Bird, Normal Price, or Free. The Event Type indicates the category of the events, such as Sports, Concerts, Marathons, or many more. The Event Banner Image is for the Organiser to attach the images of the events so participants can see what the posters or events are will look like. After the organiser successfully create the event, the system will display the event on the Participant Events page where participants can view the event and register the event.

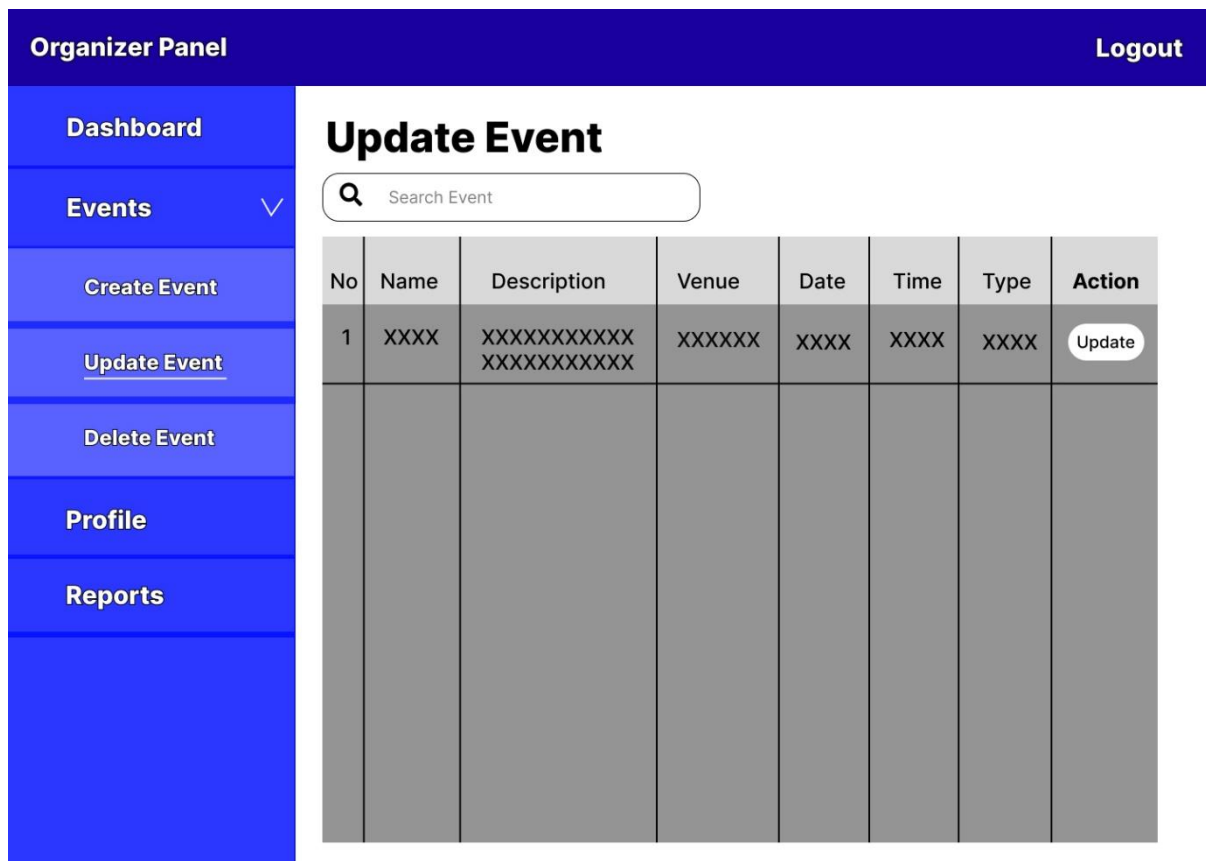


Figure 3.38: Update Event page for Organiser

Figure 3.38 shows the graphical user interface of the Update Event page for Organiser. This page is accessed by clicking on the Events button and then Update Event button at the side of the navigation bar. On this page, the system will display all the events created by the Organiser. A table will be displayed, and the Organiser can look through the events they created and see if any of the events need to be update if there is any error in it. If the Organiser plans to update the event, they can press on the Update button and they can update their event from there. A notification will be sent to the participants' email if any updates occur to the events they have registered for.

Organizer Panel

Logout

Dashboard

Events

Create Event

Update Event

Delete Event

Profile

Reports

Update Event

Event Name

XXXXXXXXXX

Event ID (Auto Generated)

XXXXXXXXXXXXXXXXXXXXXXXXXXXX

Event Description

XXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXX

Event Date

Start Time

End Time

01/01/2025

10:00 AM

12:00 PM

Event Venue

XXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXX

Event Type

SOCIAL

Event Banner Image

Add File

Save

Figure 3.39: Update Event page when Updating Event for Organiser

Figure 3.39 shows the graphical user interface of the Update Event page when Updating Event for Organiser. This page is accessed by pressing on the Update button at Update Event table. On this page, the Organiser can edit the Event Name, Event Description, Event Date, Start Time, End Time, Event Venue, Event Type and attach the Event Banner Image. The Event ID will be automatically generated after the Organiser completes updating the event name. The Event ID is uniquely created by combining the OrganiserID and Event Name, then hashing the result. After the Organiser is done editing, they can press on the Save button to update their event details. The system will save the new update into the database. A notification will be sent to the participants' email if any updates occur to the events they have registered for.

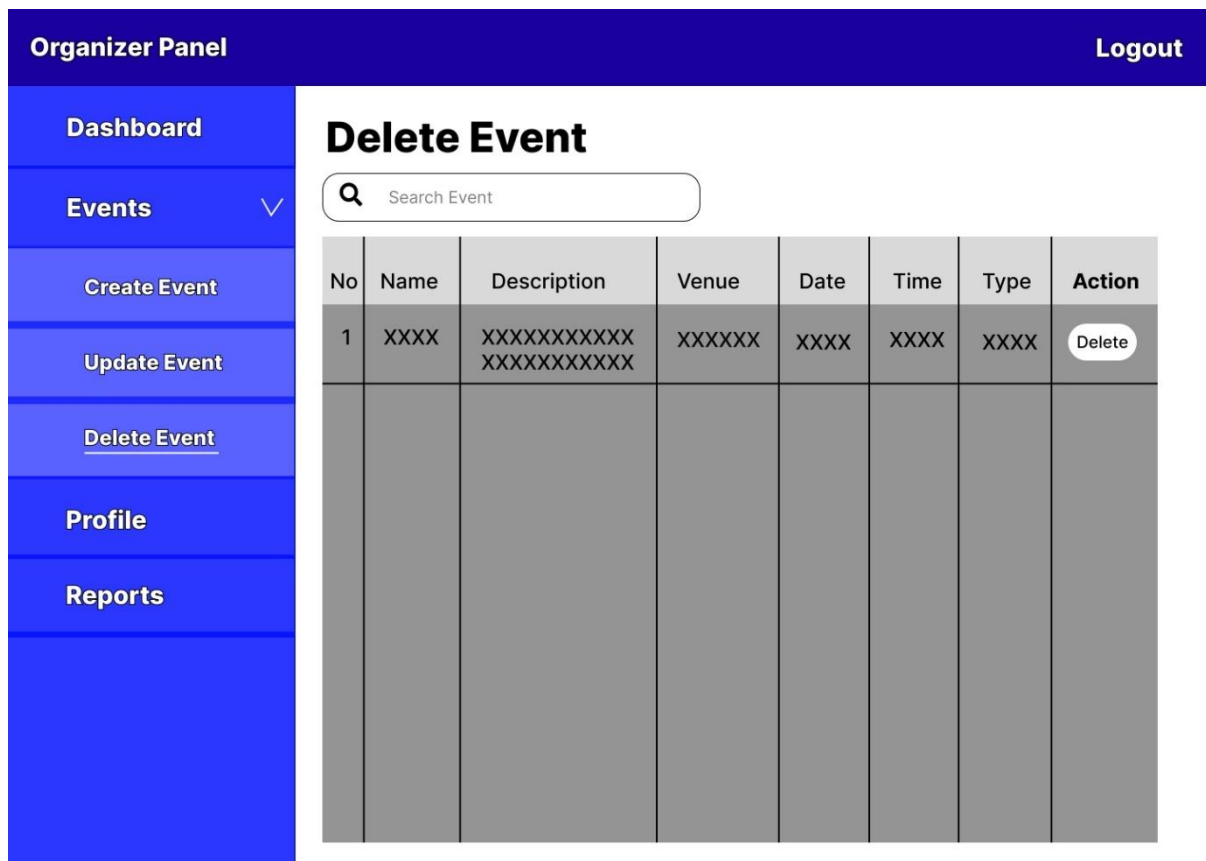


Figure 3.40: Delete Event page for Organiser

Figure 3.40 shows the graphical user interface of the Delete Event page for Organiser. This page is accessed by clicking on the Events button and then Delete Event button at the side of the navigation bar. On this page, the Organiser can delete an event if there was an unexpected outcome for that event. The Organiser can click on the Delete button to delete the event. If the Organiser decided to delete an event, a notification will be sent to the participants' email addresses. Participant who has already paid for the event will receive a refund.

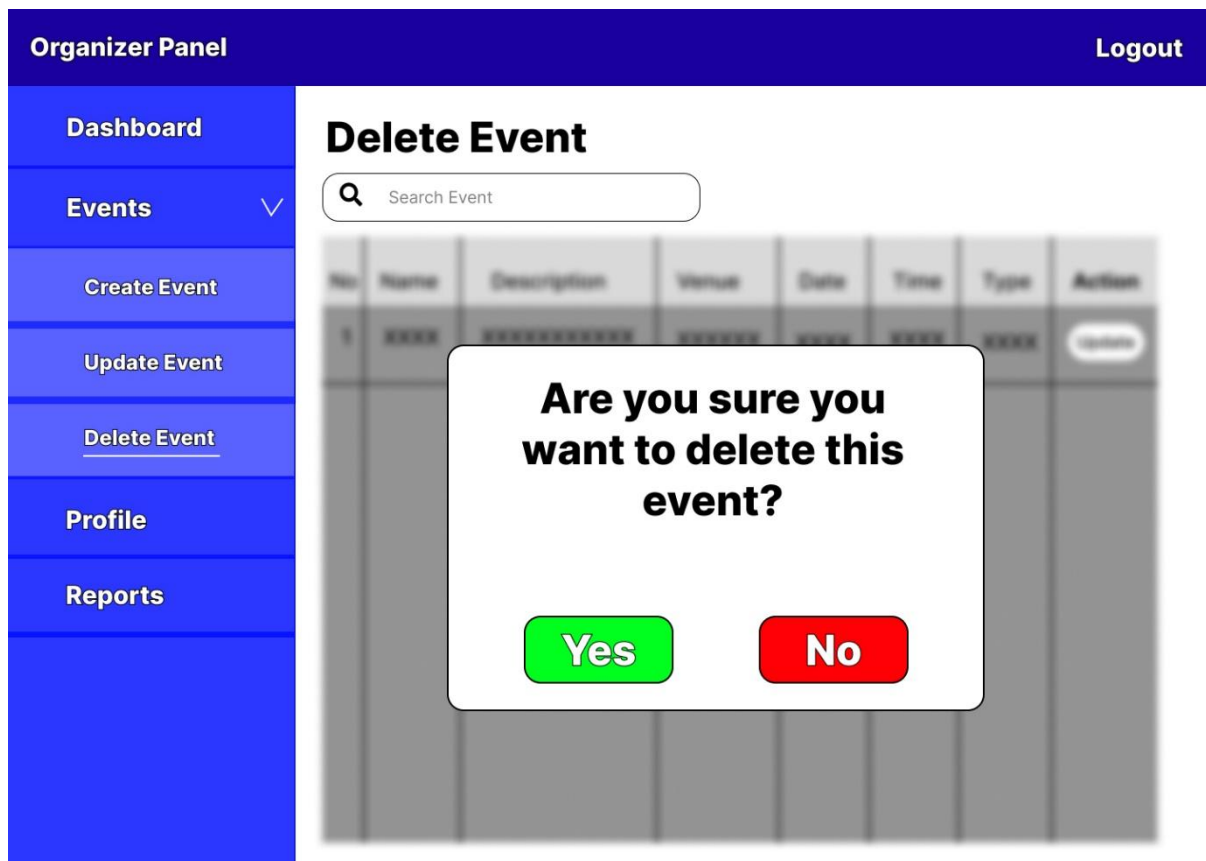


Figure 3.41: Delete Event Confirmation when Deleting Event for Organiser

Figure 3.41 shows the graphical user interface of the Delete Event Confirmation when Deleting an event for Organiser. When the Organiser presses on the Delete button, a pop up will appear for confirmation to delete the event permanently. If the Organiser presses “Yes”, then the event will be deleted from the system and a notification will be sent to the participants’ email addresses. Participant who has already paid for the event will receive a refund.

Organizer Panel **Logout**

Dashboard

Events >

Profile

Reports

Account Settings

Email

Password

Contact Information

Organizer Name

Organizer Phone Number

Organizer Email Address

Organizer Address

Cancel **Save**

Figure 3.42: Profile page for Organiser

Figure 3.42 shows the graphical user interface of the Profile page for Organiser. This page is accessed by clicking on the Profile button at the side of the navigation bar. On this page, Organiser can change their account details or contact information if needed. In the Account settings, there is email and password. In the Contact Information, there is the Organiser Name, Organiser Phone Number, Organiser Email Address, and Organiser Address. Once the Organiser has successfully fill in the details, they can press on the Save button so that the system can update the data in the database.

Organizer Panel Logout

Dashboard

Events >

Profile

Reports

Reports

Note: Make sure you have completed at least one event.

Choose Event

Event Name

Generate Report

Figure 3.43: Generate Report page for Organiser

Figure 3.43 shows the graphical user interface of the Profile page for Organiser. This page is accessed by clicking on the Reports button at the side of the navigation bar. On this page, the Organiser must choose one of their events first on the Choose Event button. The name of the event will be displayed, and the Organiser can press on the Generate Report button to view the preview of the report of that event. But on one condition, the Organiser must complete at least one event on the system so that the system can gather the necessary data and information to generate the report.

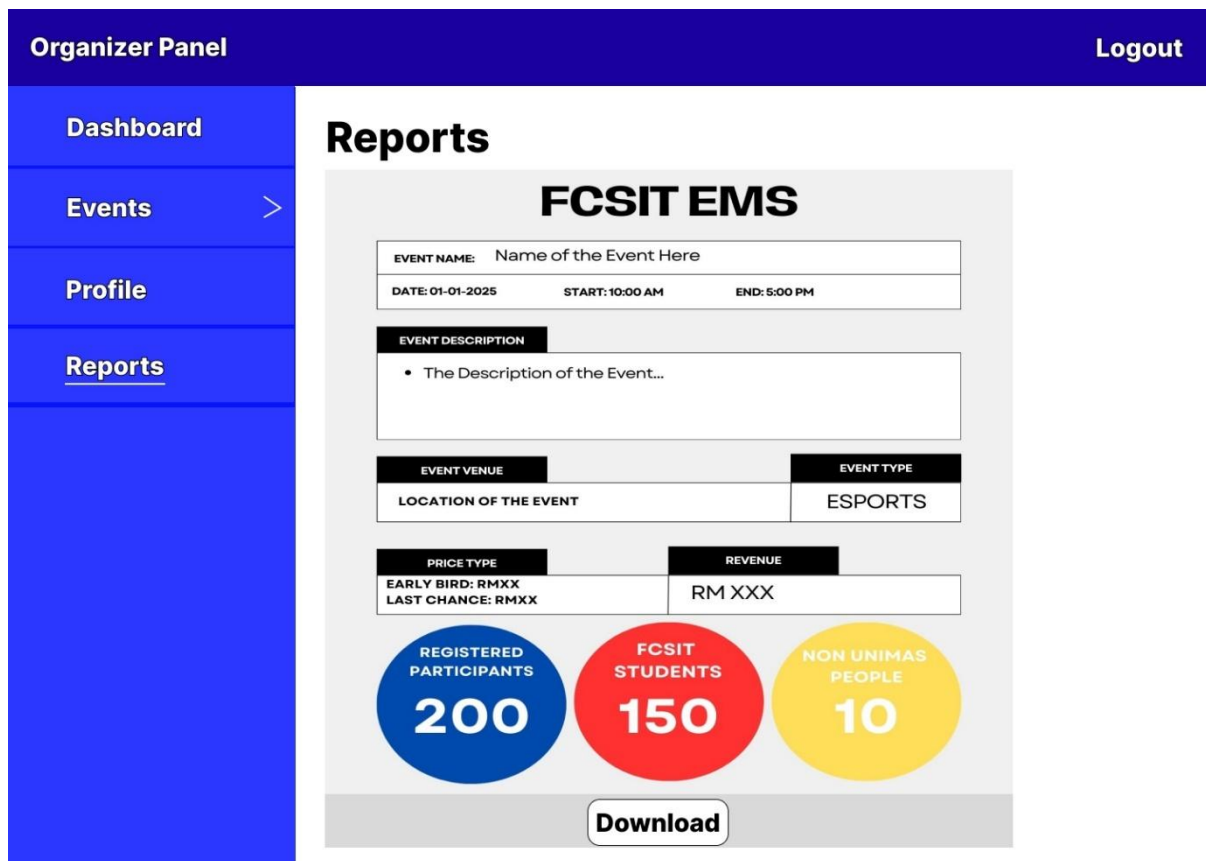


Figure 3.44: Generated Report Preview for Administrator

Figure 3.44 shows the graphical user interface of the Preview of Report Generated by the System for Organiser. This page is accessed by clicking on the Generate Report button on the Reports page at the side of the navigation bar. On this page, a preview of the report based on the selected event is displayed. The report contains the Name of the system, Event Name, Date, Start and End, Event Description, Event Venue, Event Type, Price Type, Revenue, Number of Registered Participants, FCSIT Students, and Non UNIMAS people. The Organiser can download the report by clicking on the Download button.

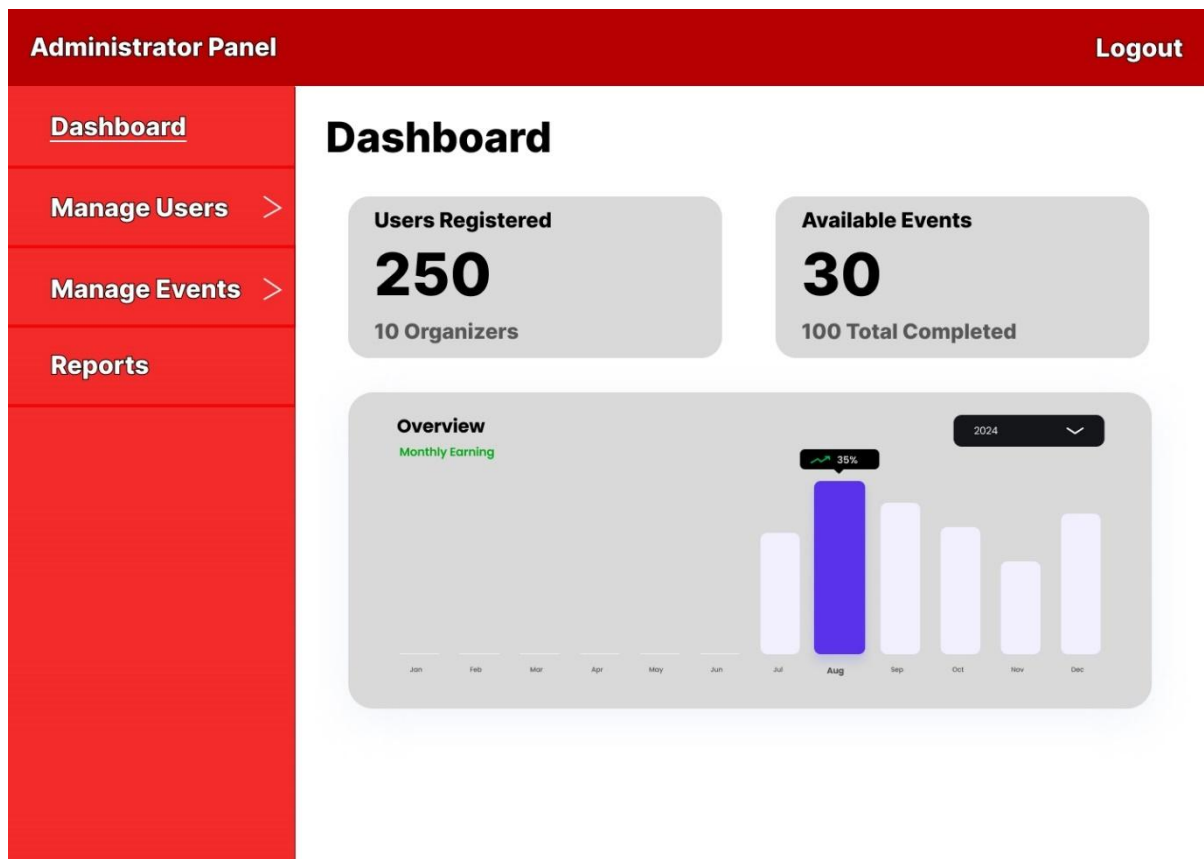


Figure 3.45: Dashboard for Administrator

Figure 3.45 shows the graphical user interface of the Dashboard for Administrator. On this page, the administrator can see different types of data being displayed on the dashboard. This is to ensure that the administrator get to see the performance and effectiveness of the system for event management. For example, the data with 250 Users Registered and 10 Organisers, shows the number of users available in the system. The 250 Users Registered means that there are 250 users currently in the system, while the 10 Organisers means there are 10 Organisers currently in the system. The 30 Available Events and 100 Total Completed shows the number of events currently available in the system for participants to browse and register. 100 Total Completed means there were 100 completed events in the. The 10 Organisers is included in the 250 Users Registered, while the 100 Total Completed events are not included in the 30 Available Events. For the overview of monthly earning, this shows how much the Organiser have made in the system based on their events. The highest earning will be highlighted on the overview to show their best performance on that month.

Administrator Panel

Logout

Dashboard

Manage Users ▼

Add User

Delete User

Update User

Manage Events >

Reports

Add User

User Email

User Password

User Role

Participant ☐

Organizer ☐

Save

Figure 3.46: Add User page for Administrator

Figure 3.46 shows the graphical user interface of the Add User page for Administrator. This page is accessed by clicking on the Manage Users button and then Add User button at the side of the navigation bar. On this page, the administrator can add new users into the system. They must fill in the User Email, User Password, and User Role such as Participant or Organiser. Once the administrator successfully added a new user to the system, the data of the user will be saved into the database.

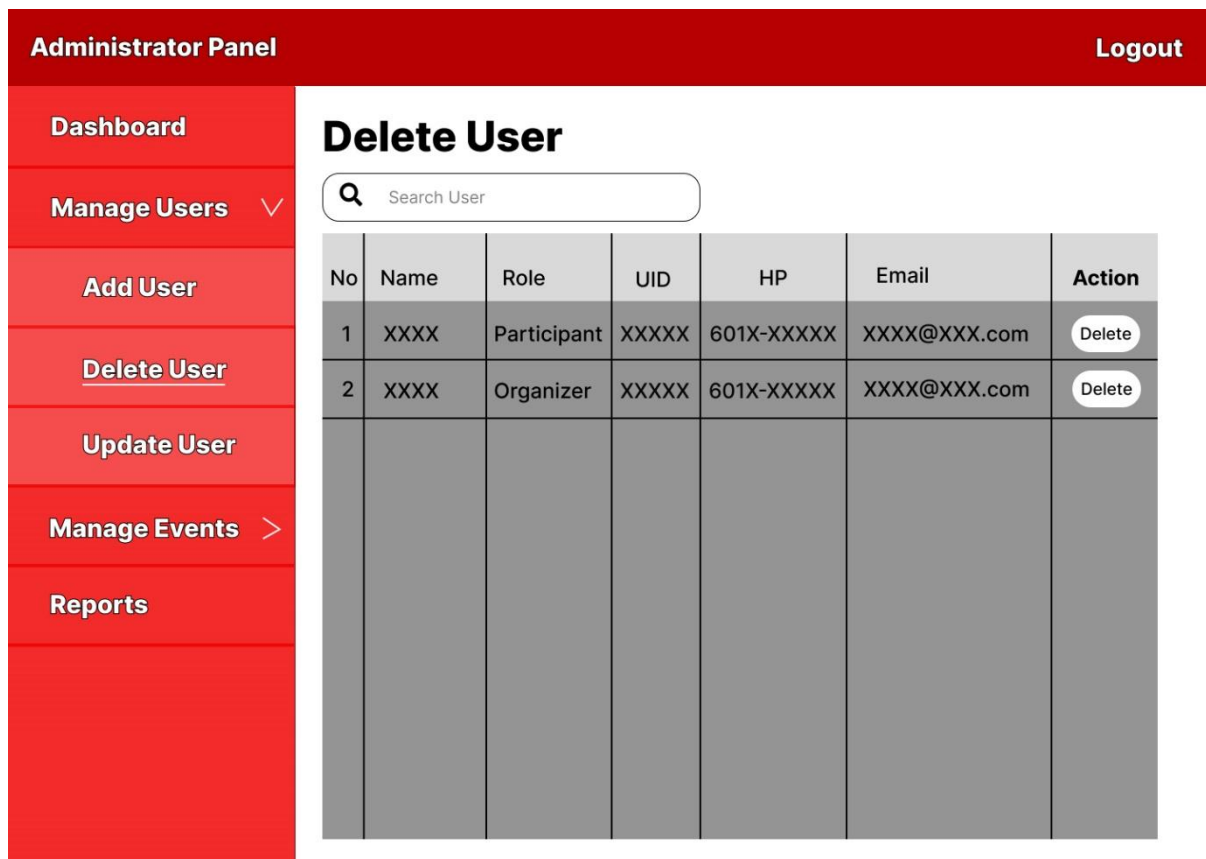


Figure 3.47: Delete User page for Administrator

Figure 3.47 shows the graphical user interface of the Delete User page for Administrator. This page is accessed by clicking on the Manage Users button and then Delete User button at the side of the navigation bar. On this page, the administrator can view the user table and see if there is any user needed to be deleted. By clicking on the Delete button, the administrator can delete the user from the system. If the Organiser that was deleted by the administrator had events with many registered participants, all the events created by the Organiser will also be deleted. Additionally, a notification will be given to the participants through their email address about the event deletions. Also, if the events were paid and the registered participants had already paid for the event, they will receive a refund. If the participant was deleted by the administrator had registered a paid event, a notification will be given to the participants through their email address about their account being deleted and can receive refund for the paid event.

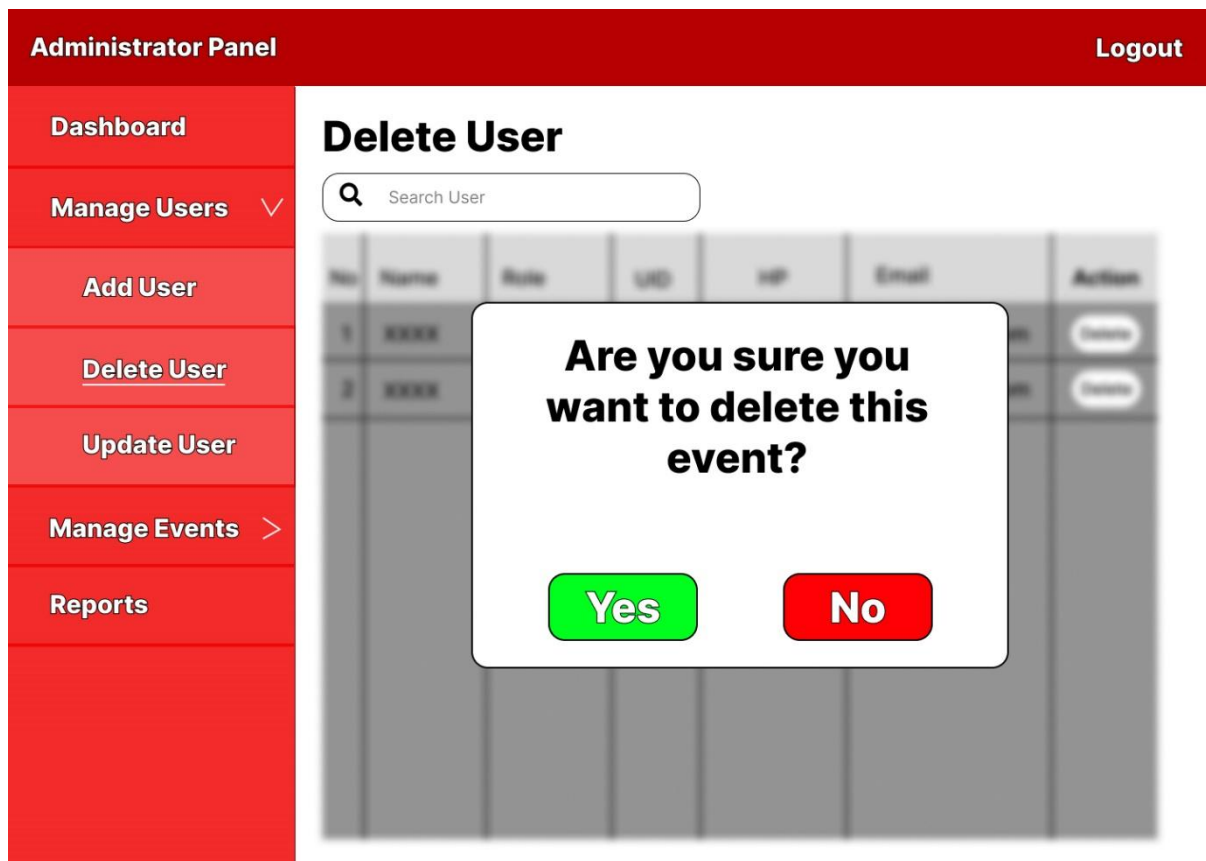


Figure 3.48: Delete User Confirmation when Deleting User for Administrator

Figure 3.48 shows the graphical user interface of the Delete User Confirmation when deleting user for Administrator. This page is accessed by clicking on the Delete button at the Delete User page. A pop up for confirmation will appear before deleting the user. If the administrator presses on the “Yes” button, then the system will delete the user from the database.

Administrator Panel

Logout

Dashboard

Manage Users ▼

Add User

Delete User

Update User

Manage Events >

Reports

Update User

User Email

XXXXXXXX@XXXX.com

User Password

XXXXXXXXXXXXXXXXXX

User Role

Participant ☐

Organizer ☒

Save

Figure 3.50: Update User page when Updating User Details for Administrator

Figure 3.50 shows the graphical user interface of the Update User page when updating user details for Administrator. The administrator can edit the User Email, User Password, or User Role if necessary. After the administrator edited the user details, they can press the Save button and the system will update the details into the database.

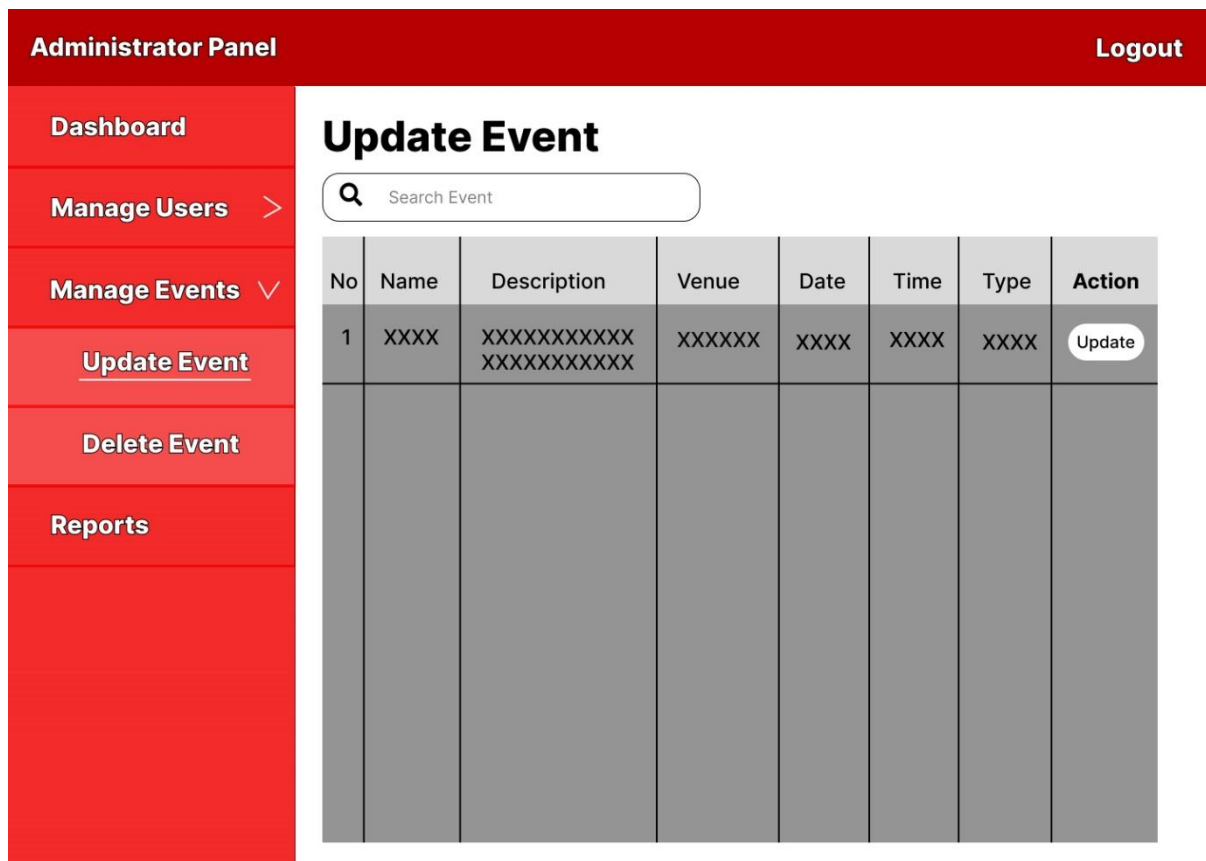


Figure 3.51: Update Event page for Administrator

Figure 3.51 shows the graphical user interface of the Update Event page for Administrator. This page is accessed by clicking on the Manage Events button and then Update Event button at the side of the navigation bar. On this page, the administrator could update the event details if the Organiser requested for them to update due to emergency. The administrator will press on the Update button to edit the event details. A notification will be sent to the participants' and Organiser's email addresses about the update of the event by the administrator.

Administrator Panel

Logout

Dashboard

Manage Users >

Manage Events ▾

Update Event

Delete Event

Reports

Update Event

Event Name

XXXXXXXXXX

Event ID (Auto Generated)

XXXXXXXXXXXXXXXXXXXXXXXXXXXX

Event Description

XXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXX

Event Date

Start Time

End Time

01/01/2025

10:00 AM

12:00 PM

Event Venue

XXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXX

Event Type

SOCIAL

Event Banner Image

Add File

Save

Figure 3.52: Update Event when Updating Event Details for Administrator

Figure 3.52 shows the graphical user interface of the Update Event when updating event details for Administrator. The page is accessed by clicking on the Update button on the Update Event page. On this page, the administrator can edit the Event Name, Event Description, Event Date, Start Time, End Time, Event Venue, Event Type and Event Banner Image. The Event ID will be automatically generated after the Organiser completes entering the event name. The Event ID is uniquely created by combining the OrganiserID and Event Name, then hashing the result. After the administrator has successfully edit the event, they can press on the Save button and the system will update the data in the database. A notification will be sent to the participants' and Organiser's email if any updates occur to the events they have registered for.

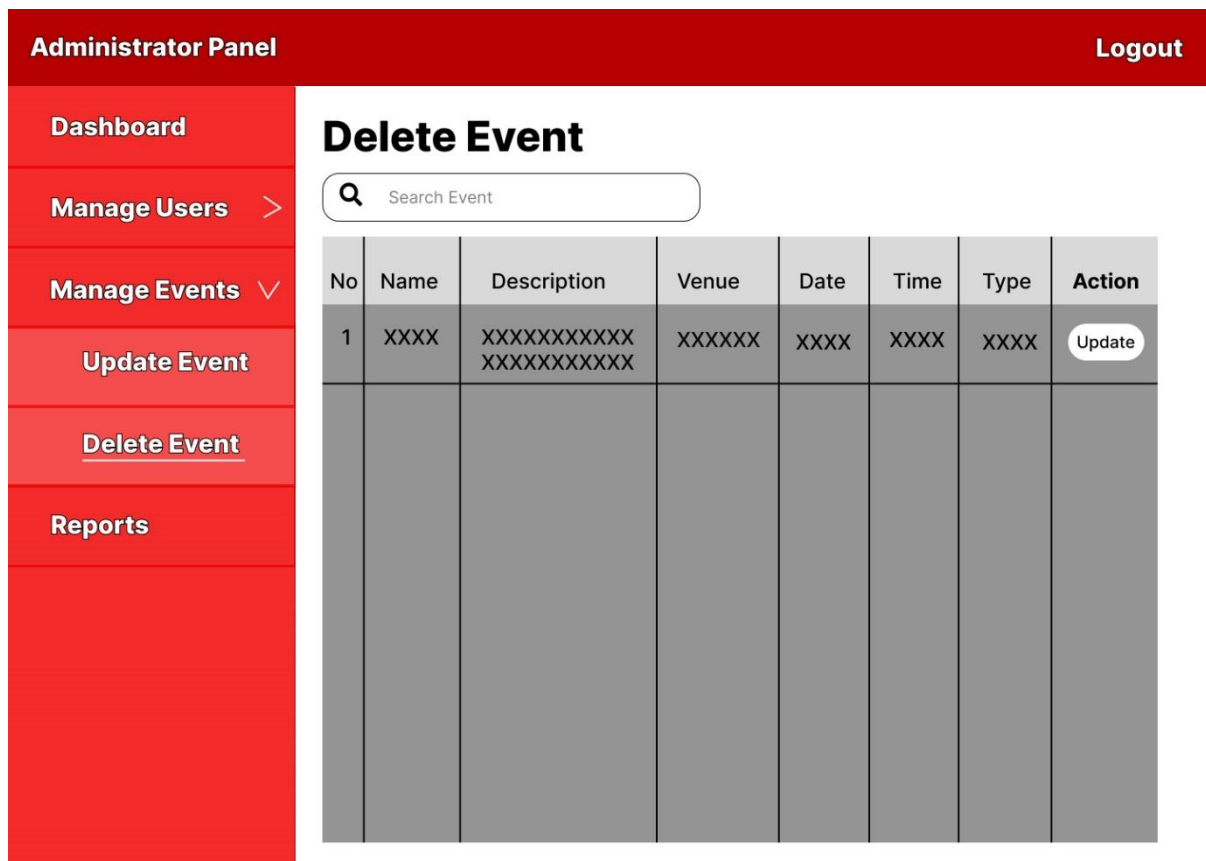


Figure 3.53: Delete Event page for Administrator

Figure 3.53 shows the graphical user interface of the Delete Event page for Administrator. This page is accessed by clicking on the Manage Events button and then Delete Event button at the side of the navigation bar. On this page, the administrator can view the available events and delete the event if necessary. The administrator will press the Delete button to delete the event from the system. A notification will be sent to the participants' email addresses about the deletion of the event. Participant who has already paid for the event will receive a refund.

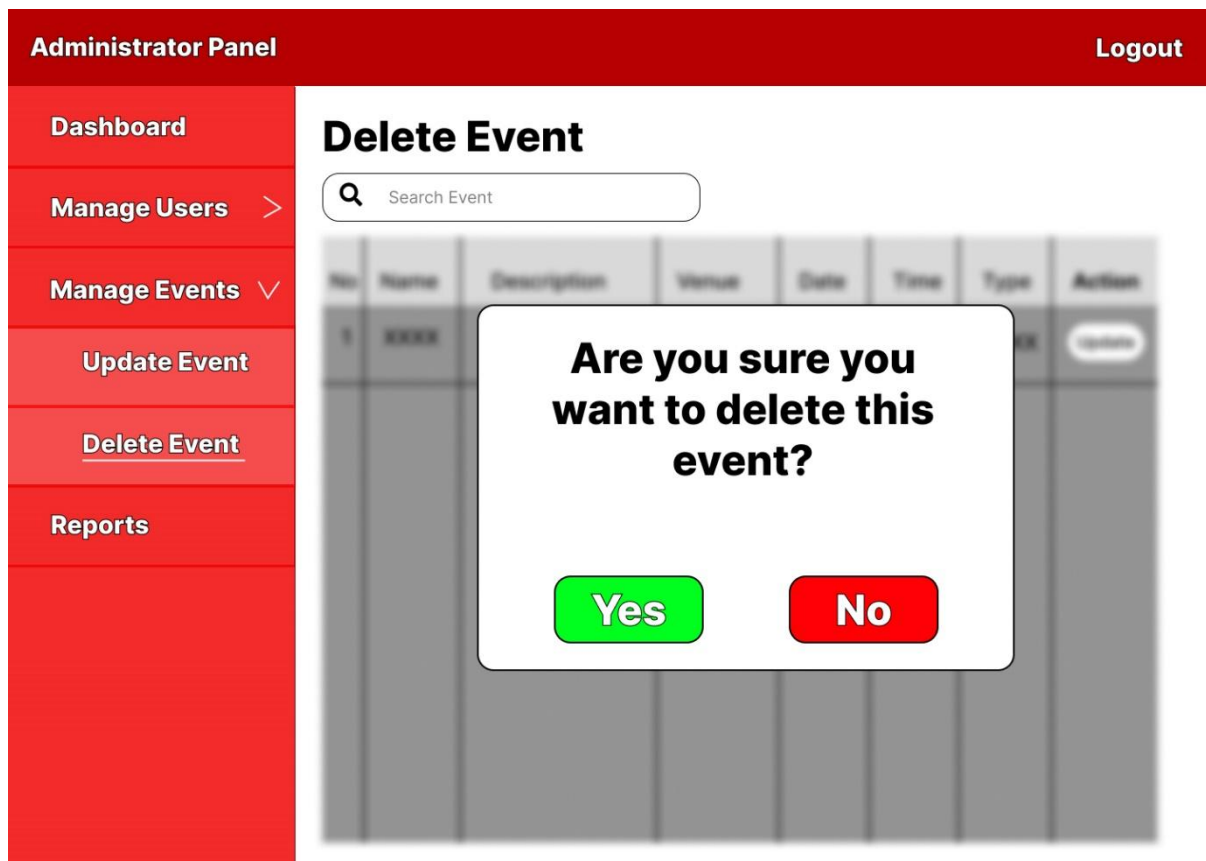


Figure 3.54: Delete Event Confirmation when Deleting Event for Administrator

Figure 3.54 shows the graphical user interface of the Delete Event Confirmation when deleting event for Administrator. This page is accessed by pressing on the Delete button at the Delete Event page. After pressing on the Delete button, a pop-up confirmation will appear before the administrator can delete the event. If the administrator plans to delete the event, then they will press on the “Yes” button. Once the button is pressed, the system will delete the event from the database.

Administrator Panel

Logout

Dashboard

Manage Users >

Manage Events >

Reports

Reports

Note: Make sure the organizer has completed at least one event.

Choose Organizer

Organizer Name

Choose Event

Event Name

Generate Report

Figure 3.55: Generate Report page for Administrator

Figure 3.55 shows the graphical user interface of the Generate Reports page for Administrator. This page is accessed by clicking on the Report button at the side of the navigation bar. On this page, the administrator can tell the system to generate a report for them. But the only condition is, the administrator must choose an Organiser first at the Choose Organiser button and that Organiser must have at least one event completed. Then the administrator presses on the Choose Event button to select an event created by the Organiser. After selecting an event, the name of the event will be displayed, and the administrator can press on the Generate Report button to view the preview of the report of that event. But on one condition, the Organiser must complete at least one event on the system so that the system can gather the necessary data and information to generate the report.

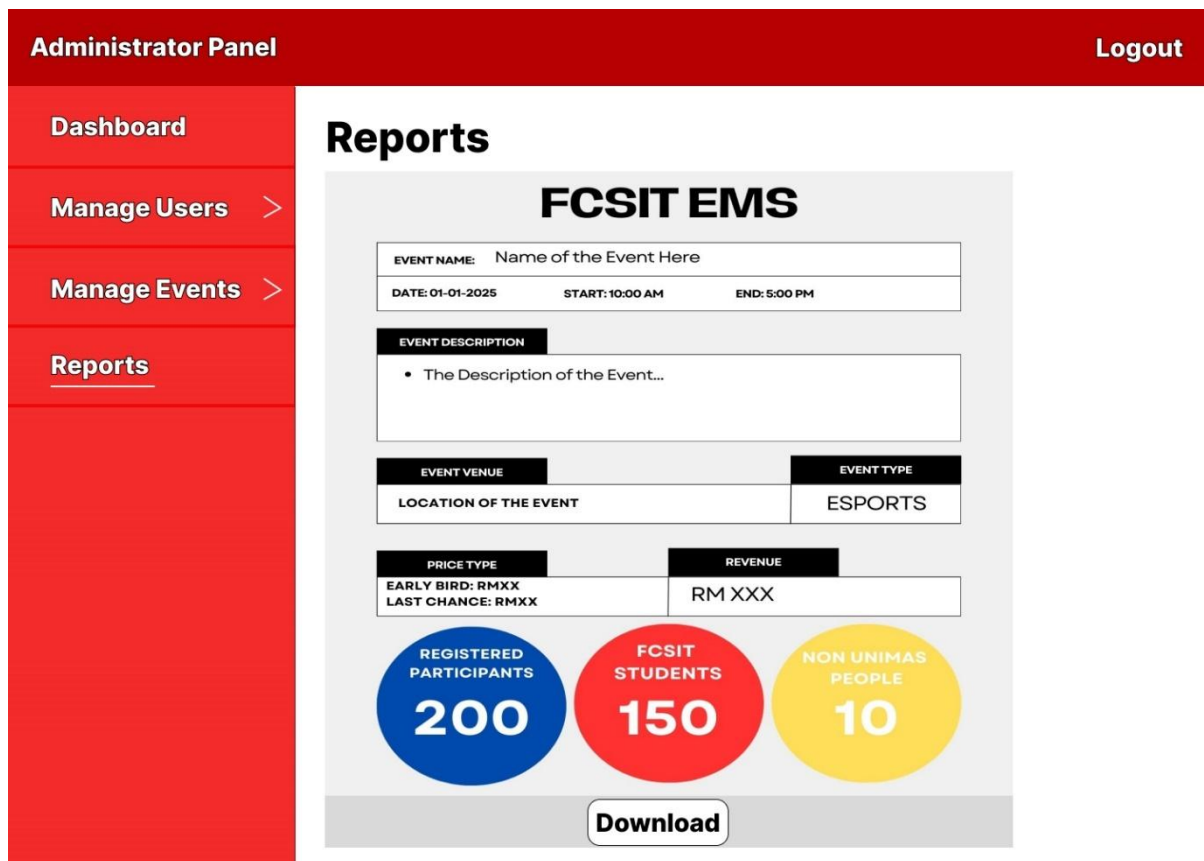


Figure 3.56: Generated Report Preview for Administrator

Figure 3.56 shows the graphical user interface of the Preview of Report Generated by the System for Administrator. This page is accessed by clicking on the Generate Report button on the Reports page at the side of the navigation bar. On this page, a preview of the report based on the selected event is displayed. The report contains the Name of the system, Event Name, Date, Start and End, Event Description, Event Venue, Event Type, Price Type, Revenue, Number of Registered Participants, FCSIT Students, and Non UNIMAS people. The Organiser can download the report by clicking on the Download button.

3.5 Summary

In conclusion, this chapter explained the methodology and requirements for the design of the FCSIT Event Management System. The requirement analysis was focused on gathering data through questionnaires and interviews to define the functional, hardware, and software requirements necessary for system design and development. A high-level architectural design was created, and Unified Model Diagram (UML) such as Use Case Diagram, Use Case Description, Activity Diagram, Class Diagram, and Data Dictionary were used to model the system's structure and behaviour. Additionally, wireframes were created to serve as a low-fidelity prototype to visualize the structure and functionality of the system.

Chapter 4 Implementation

4.1 Introduction

This chapter will be discussing about the implementation of the proposed system by transforming the system design into a functional web. This chapter will show the development tools used, technologies applied, and step-by-step implementation of key features such as event creation, registration, user login, and event management. The implementation follows the Agile Methodology, which involves iterative sprint cycles. Each cycle consists of planning, developing, testing, and deploying the system into an online hosting website. The system is developed using HTML, CSS, and JavaScript for the front-end design to ensure a nice, responsive, and user-friendly interface. The back end is handled by PHP for server-side scripting, while MySQL is used to handle database management for storing and retrieving data. Two important tools used for developing and running the web application locally are Visual Studio Code and XAMPP. Visual Studio Code is the main code editor, providing a powerful environment for writing, editing, and organizing the project files, while XAMPP is used to provide a local server environment for running and testing the web application efficiently. The FCSIT Event Management System allows users to interact with the system based on their role: participants, Organisers, or administrators. Participants can browse available events, register event, and manage their profile. Organisers have the ability to create and manage events, view analytics dashboards, and generate event reports. Administrators are in charge of managing all users, overseeing event listings, and generating report of an Organiser. This system will streamline event operations and simplifies faculty event management.

4.2 Environment Setup



Figure 4.1: Visual Studio Code

Figure 4.1 shows the Visual Studio Code. The Visual Studio Code is a code editor that is great for web development or any code related projects. It is a powerful tool for developing web applications because it has a user-friendly design, support many programming languages, and

have the option to download useful extensions to make coding easier. In this project, Visual Studio Code will be the main tool to write, edit, and organize the project files for the system.



Figure 4.2: XAMPP

Figure 4.2 shows the XAMPP. XAMPP is a web server solution stack package which includes environment for local web development. It includes key components such as Apache (web server), MySQL (database management system), PHP, and Perl. XAMPP allows developers to test and perform PHP-based applications locally before deploying them to a live server. In this project, XAMPP will act as the local server environment for the FCSIT Event Management System during development, allowing for testing of server-side functionality and database interactions.



Figure 4.3: Bootstrap

Figure 4.3 shows the Bootstrap. Bootstrap is a front-end framework that simplifies the development of web applications by including pre-designed HTML, CSS, and JavaScript components for building responsive and user-friendly interfaces. Bootstrap contains responsive grid layout, buttons, navigation bars, modals, and form controls that function on a variety of devices and screen sizes. In this project, Bootstrap is used to improve the visual look and user experience of the FCSIT Event Management System, providing a clean, modern, and responsive interface.



Figure 4.4: jQuery

Figure 4.4 shows the jQuery. JQuery is a lightweight and JavaScript library that simplifies client-side HTML coding. It simplifies tasks such as DOM (Document Object Model) manipulation, event handling, and AJAX (Asynchronous JavaScript and XML) requests, making web development faster and more effective. In this project, jQuery is used to create the DataTables module, which improves HTML tables by adding functionality such as pagination, sorting, filtering, and searching. This integration makes it easier and more dynamic for users to interact with the tabular data in the FCSIT Event Management System.

4.3 User Interface Design

A web application has been developed to let users use the system. The user will be able to sign up their account and log in to the role-based system. If the user is a participant, they will be able to browser events, view event details, register events, and manage their profile. While Organisers can create events, manage those events by updating or deleting them, view data analytics about their event, and generate report. The explanation of each User Interface (UI) design of the web application will be discussed in this section.

4.3.1 User Authentication Page

4.3.1.1 Login Page

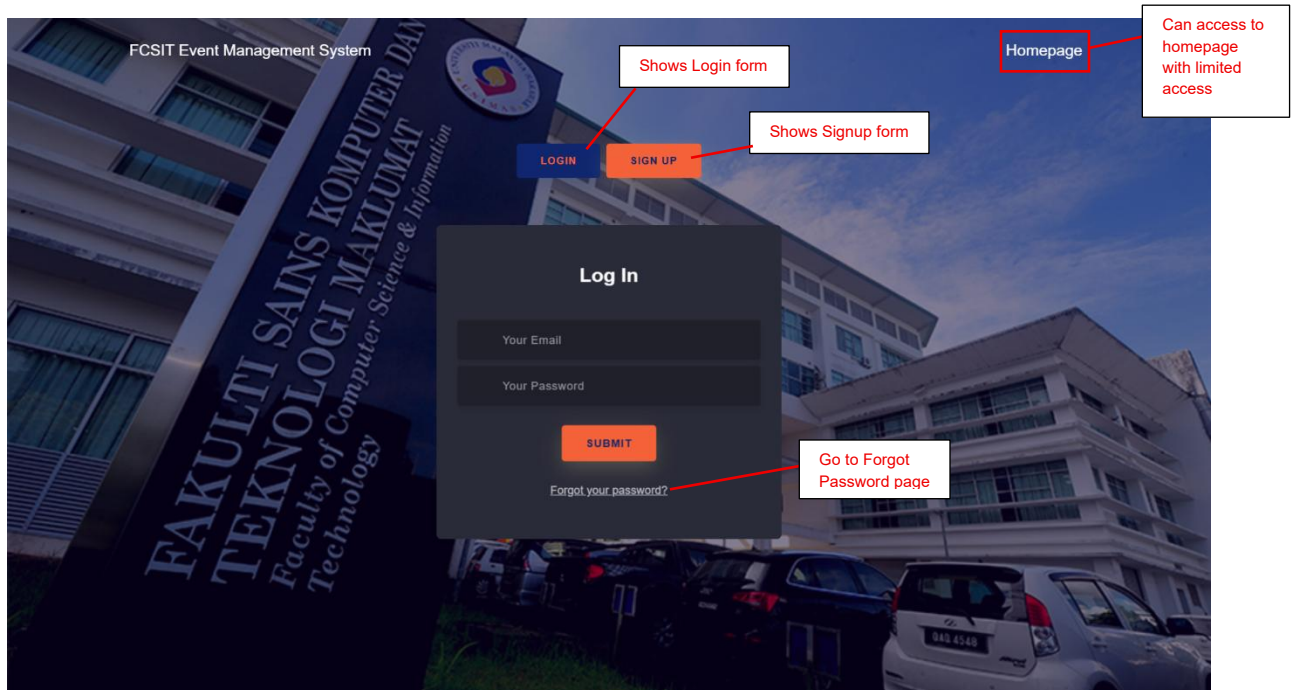


Figure 4.5 Login Page

Figure 4.5 shows the login page for the web application. The login page will be the gateway for users such as the participants or the Organisers to access the FCSIT Event Management System. They are required to enter their email and password that they registered through the registration page or created by the administrator. When submitting their email and password, the system will verify the information through the database to make sure that the user is registered in the system. Once the system detects the user credentials are correct, the system will then check what role is the user. If the user role is a participant, then it will go to the participant homepage. If the user role is an Organiser, then it will go to the Organiser dashboard. If the user role is an administrator, then it will go to the administrator dashboard. But when the user has no account created in this system, they can click on the 'Sign Up Here' link and they will be redirected to the Sign Up page. As for users who want to be the event Organiser, they have to contact the administrator through the provided contact information so that the administrator can create their account.

4.3.1.2 Sign Up

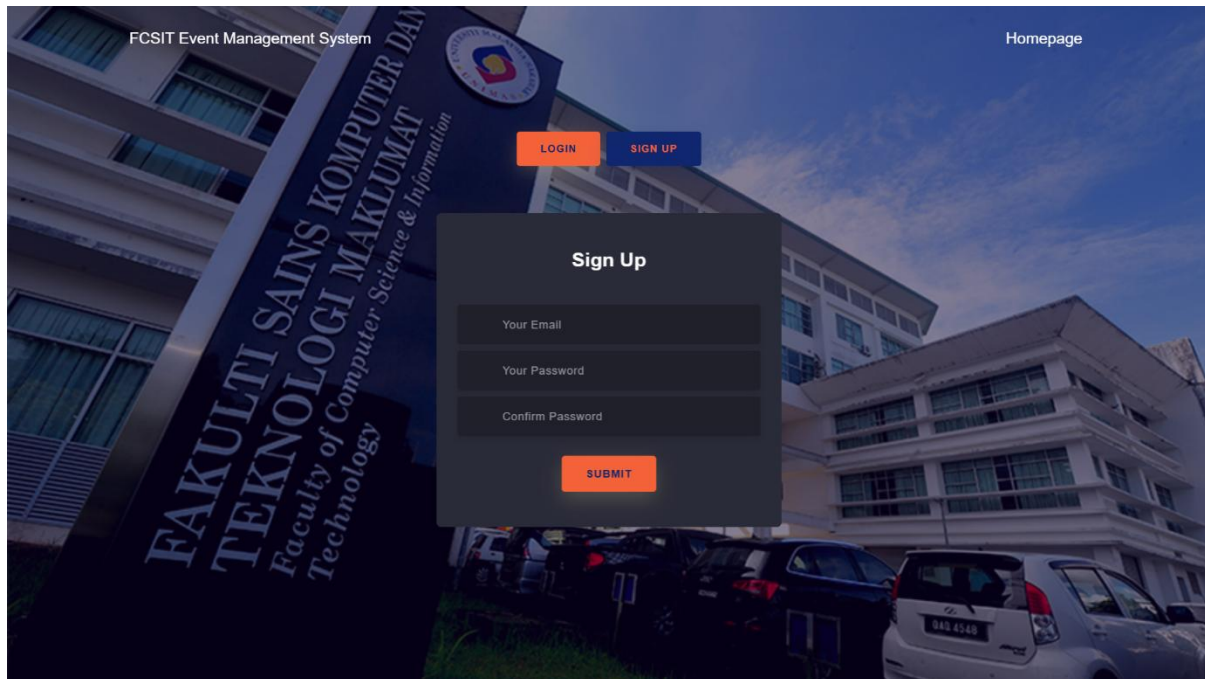
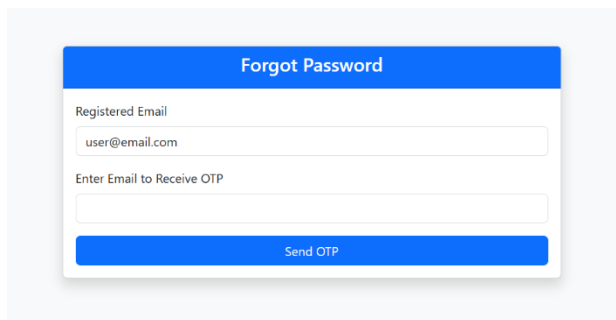


Figure 4.6 Sign Up Page

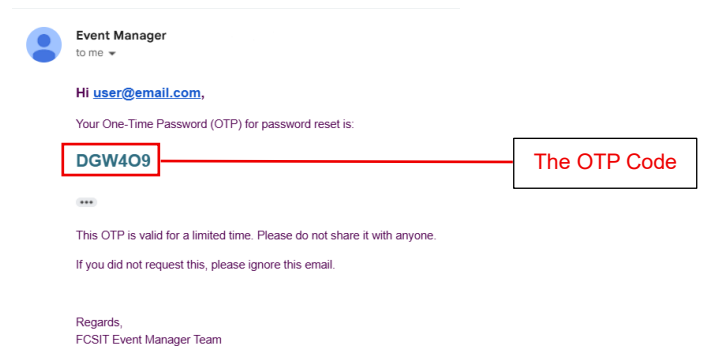
Figure 4.6 shows the Sign Up Page for the web application. The Sign Up page will serve as the account creation for participants to access the FCSIT Event Management System. However, the event Organisers will not be able to create their account through this page. This is because to avoid unauthorized or unnecessary event creation. So, they have to contact the administrator to have their accounts created. To sign up, the user must enter a unique email and secure password. The email must not already exist in the system to avoid duplication of email. The password must contain at least 8 characters, at least 1 symbol character and at least 1 number to help make strong password to reduce the risk of unauthorized access by other users. Once the user has submitted their sign up details, the system will validate the email if it has already existed in the system or not and check if the password meets the required criteria. After successfully registering, the user can log in the system at the Log In page and access the system.

4.3.1.3 Forgot Password



The 'Forgot Password' page features a blue header with the title. Below it, there are two input fields: 'Registered Email' with the placeholder 'user@email.com' and 'Enter Email to Receive OTP'. A blue 'Send OTP' button is at the bottom.

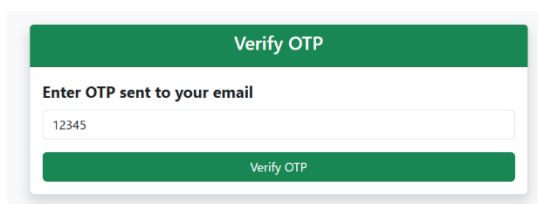
Figure 4.7 Forgot Password Page



The email is from 'Event Manager' to 'user@email.com'. It states: 'Your One-Time Password (OTP) for password reset is: DGW409'. The code 'DGW409' is highlighted with a red box and labeled 'The OTP Code'. Below, it says: 'This OTP is valid for a limited time. Please do not share it with anyone. If you did not request this, please ignore this email.' The footer reads: 'Regards, FCSIT Event Manager Team'.

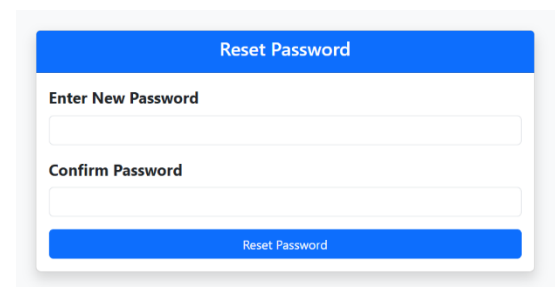
Figure 4.8 OTP sent to email address

Figure 4.7 shows the Forgot Password page when user forgot about their password and want to reset their password. The user must click the link at the Login page at Figure 4.5. On this page, the user must put in their registered email of the system. When the system is able to confirm that the email exists in the system, then the user must enter another email to receive the OTP (One-Time Password) in their real email. Figure 4.9 shows how a successful OTP has been sent to the email.



The 'Verify OTP' page has a green header. It says 'Enter OTP sent to your email' above an input field containing '12345'. A green 'Verify OTP' button is at the bottom.

Figure 4.9 Verify OTP Page



The 'Reset Password' form has a blue header. It contains two input fields: 'Enter New Password' and 'Confirm Password'. A blue 'Reset Password' button is at the bottom.

Figure 4.10 Reset Password Form

Figure 4.9 shows the Verify OTP Page. Once the user has clicked on the “Send OTP” button, they will be redirected to the Verify OTP Page at shown on Figure 4.9. On this page, the user must enter the correct OTP send to their email address. After the correct OTP has been verified, the reset password form will appear as shown on Figure 4.10. The user must enter their new password and confirm password then press on the “Reset Password” button. Once the password has been successfully updated, the user will be redirected back to the Login page.

4.3.2 Participant Interface

4.3.2.1 Homepage

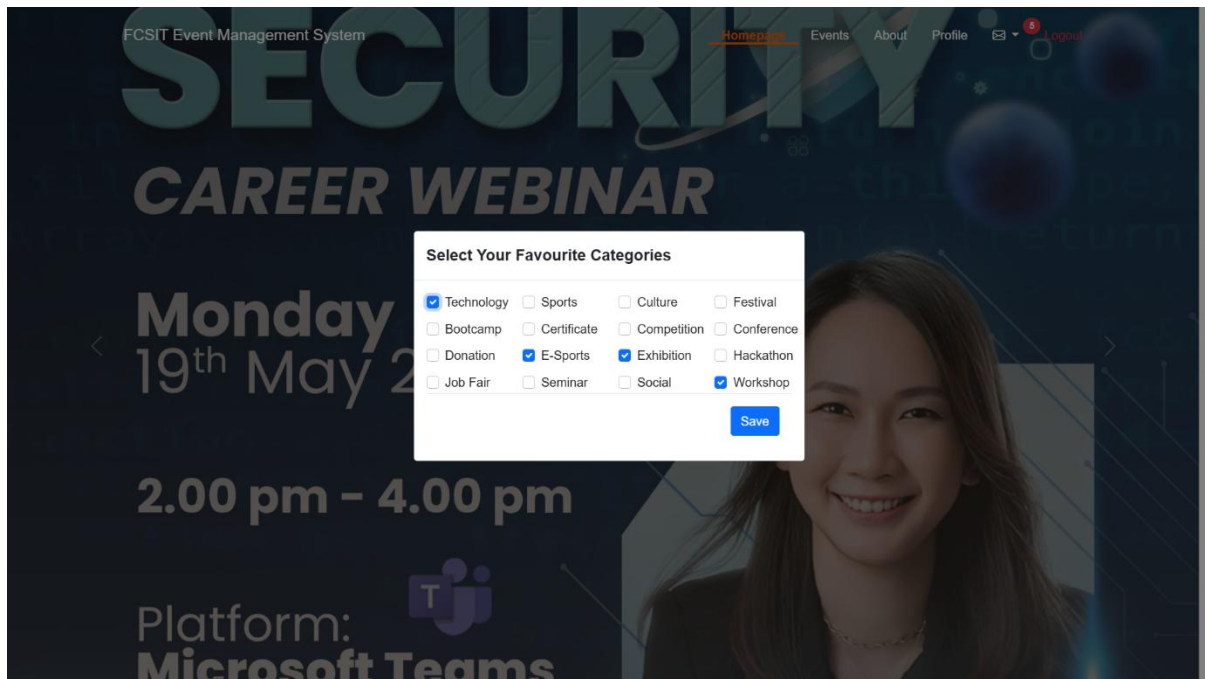


Figure 4.11 Modal for New Participant

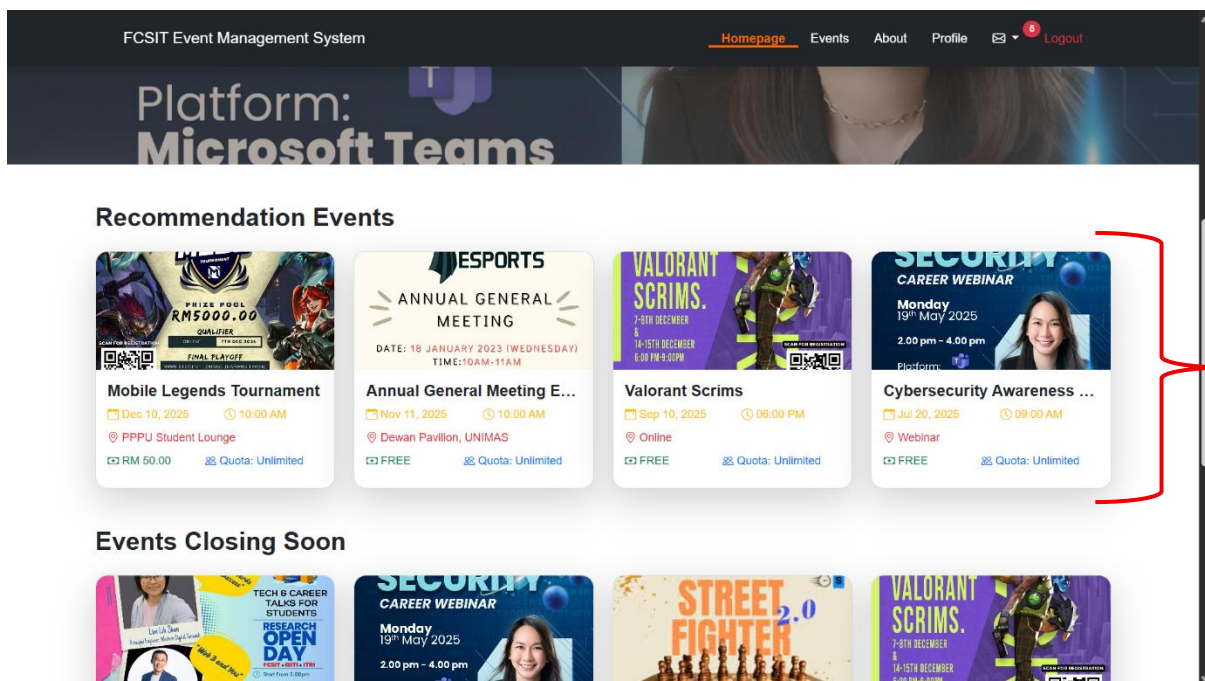


Figure 4.12 Homepage for Participant

Figure 4.12 shows the Homepage for participants that successfully login to the system. This page will show the events that are ending soon, recently added events, and the participant's favourite event categories. If the participant has just registered the account, they will be greeted

with a modal to select more than 1 categories that they would like to see first in the web application shown at Figure 4.11. An interactive image carousel that displays the most recent events will be displayed on the top of the homepage. The participant can click on the image carousel to be directly send to the event with more details. The card of events will show the event name, event date, event time, event venue, and event price. For further details, the participants can click on the card, and they will be directed to the event details page for that specific event.

4.3.2.1.1 Homepage for Guest account

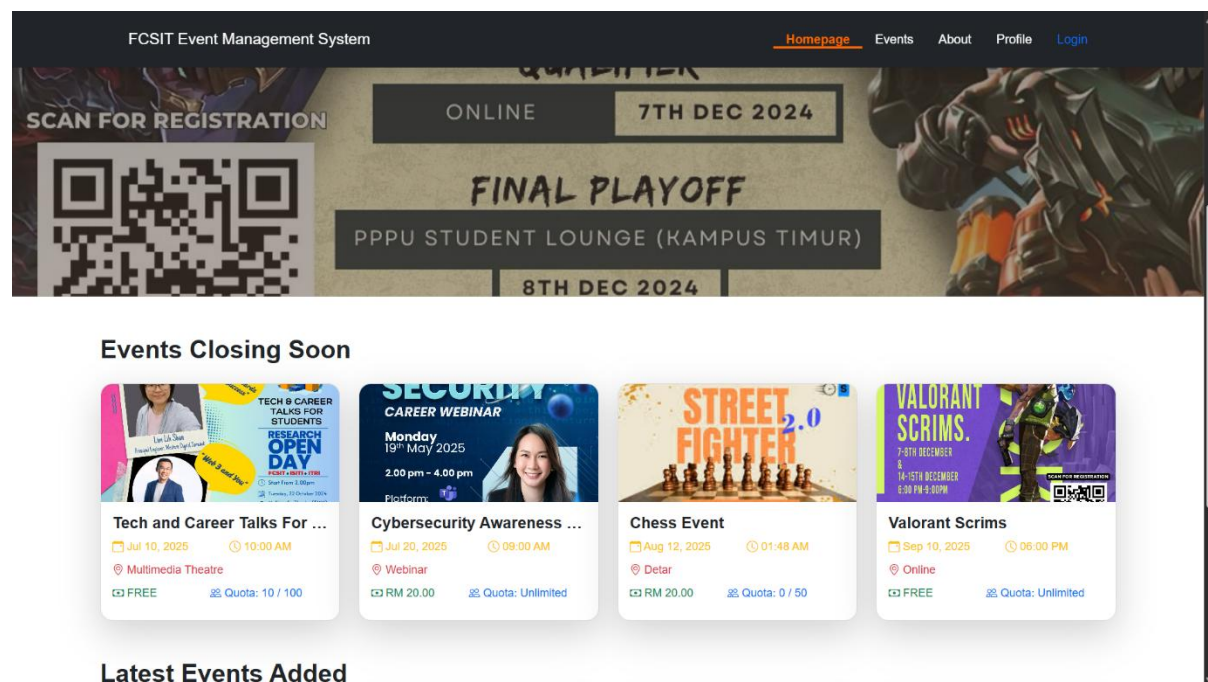


Figure 4.13 Homepage for Guest Account

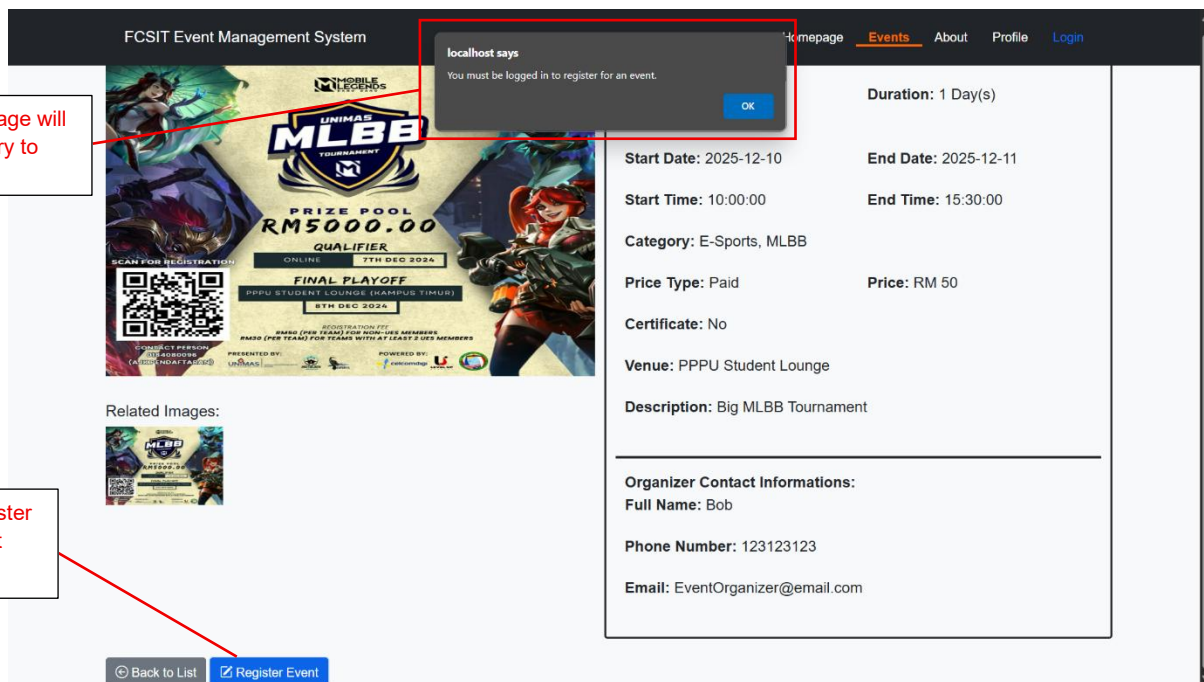


Figure 4.14 Register Event with Guest Account

Figure 4.13 shows the Homepage for Guest account when the user decided to not log into the system but instead just want to check around the system. The guest will get limited access to the system such as can only browse events and look at About page. They will not be able to choose their favourite category because the system will not display to guest accounts. They will also not be able to register for an event. A prompt message will appear to tell the user to log in first as shown in Figure 4.14. They also cannot access the Profile page as they do not have an account yet.

4.3.2.2 Events Page

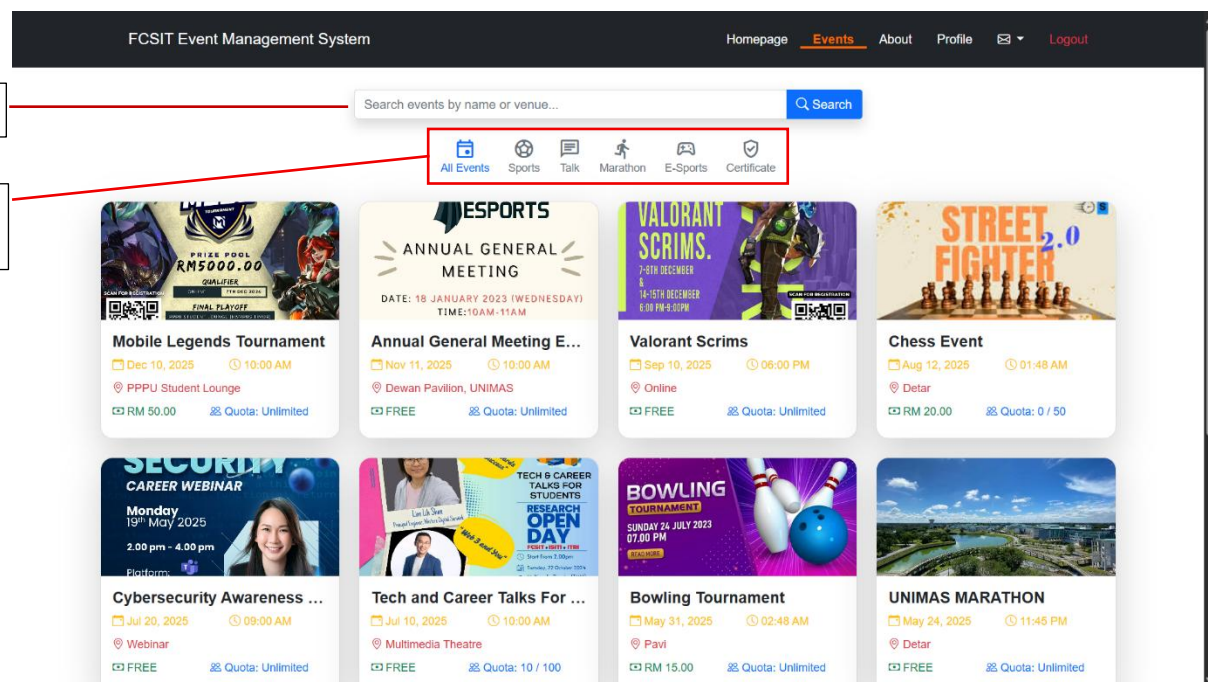


Figure 4.15 Events Page

Figure 4.15 shows the Events Page for participants to view all kinds of events available in the FCSIT Event Management System. On this page, participants can view all events or search for any specific events by their names or venues at the search box. Participants can also just click on the category icons to filter out events based on the given categories.

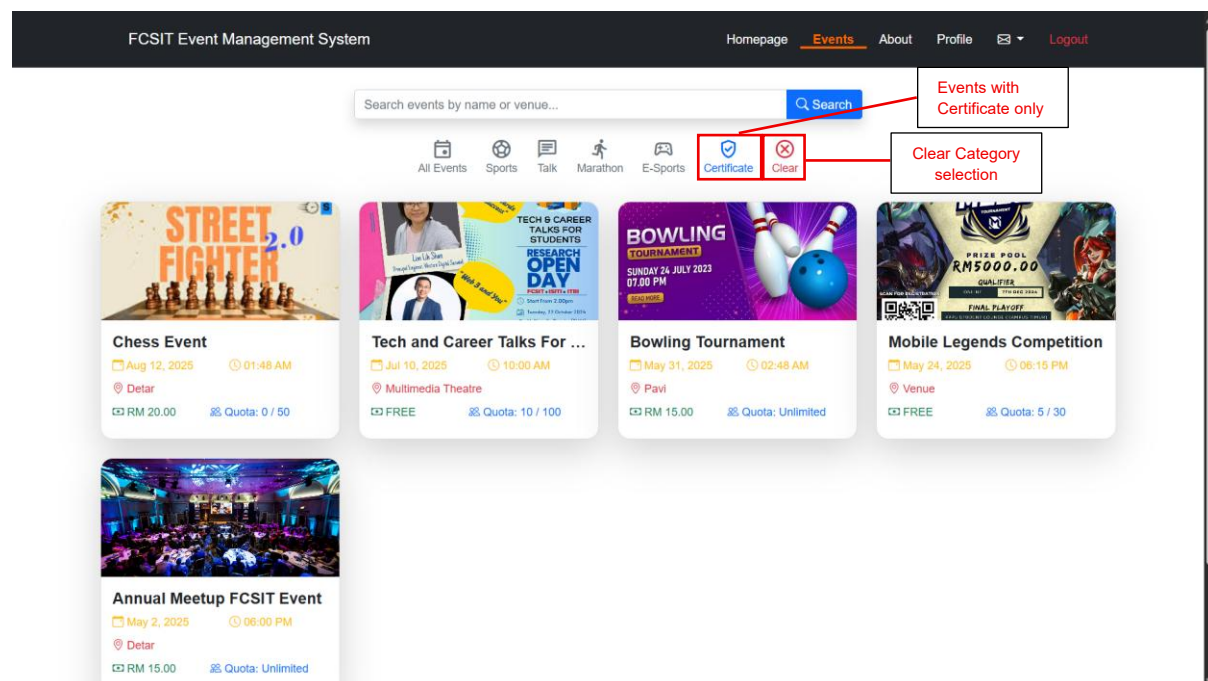


Figure 4.16 Filtered by Category Icon

Figure 4.16 shows the Filtered by Category Icon. When the participant decides to search for specific events based on the category provided, it will filter out events and match them based on the selected category. For example, the participant selected the Certificate icon. The system will display events that only has Certificate in them and provide opportunities for participant to get a certificate.

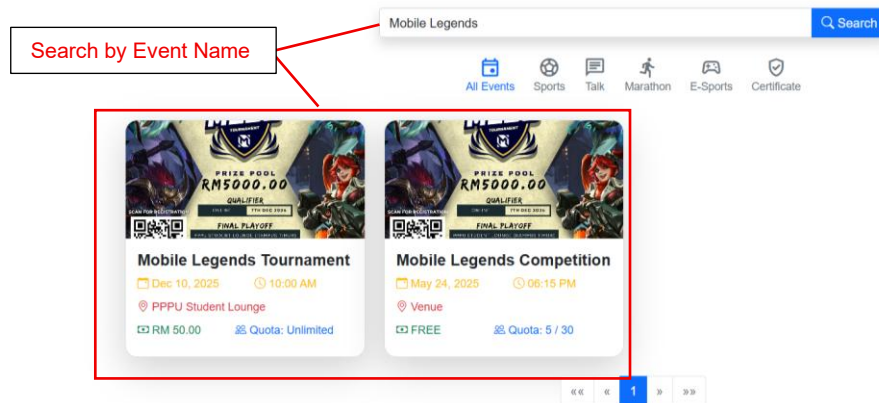


Figure 4.17 Filtered by Event Name

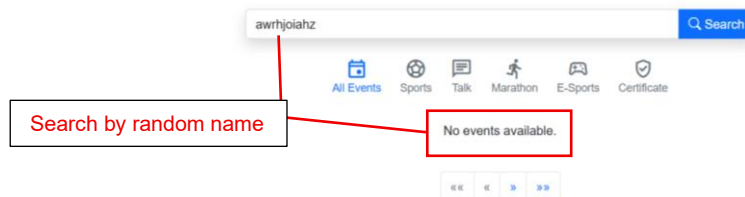


Figure 4.18 No Events Available

Figure 4.17 shows the Filtered by Event Name. When the participant types the event name in the search bar and click “Search”, only events with that specific name will be displayed. If there is no event name based on the search bar, then it will display “No events available”, shown in Figure 4.18.

4.3.2.2.1 Event Details

FCSIT Event Management System

Homepage **Events** About Profile Logout

Mobile Legends MLBB TOURNAMENT

PRIZE POOL **RM5000.00**

QUALIFIER: ONLINE 7TH DEC 2024

FINAL PLAYOFF: PPPU STUDENT LOUNGE (KAMPUS TIMUR) 8TH DEC 2024

SCAN FOR REGISTRATION

Related Images:

Event Details:

- Name: Mobile Legends Tournament
- Duration: 1 Day(s)
- Start Date: 2025-12-10
- End Date: 2025-12-11
- Start Time: 10:00:00
- End Time: 15:30:00
- Category: E-Sports, MLBB
- Price Type: Paid
- Price: RM 50
- Certificate: No
- Venue: PPPU Student Lounge
- Description: Big MLBB Tournament

Organizer Contact Informations:

- Full Name: Bob
- Phone Number: 123123123
- Email: EventOrganizer@email.com

[Click to Register Event](#)

[Back to Events page](#)

[Back to List](#) [Register Event](#)

Figure 4.19 Event Details for an Event

Figure 4.19 shows the Event Details for an event that the participant had clicked on. On this page, the participant can view the full details of the event and also see the Organiser contact information in case of needing to contact them. If the participant is interested on the event, they can press on the Register Event button to fill in their contact and student information.

4.3.2.2.2 Event Registration Modal

FCSIT Event Management System

Events | About | Profile | Logout

Duration: 1 Day(s)
End Date: 2025-12-11
End Time: 15:30:00
Price: RM 50

Registration Form:

- First Name:
- Last Name:
- Matric Number:
- IC Number (NRIC):
- Phone Number:
- Email Address (Receive Email):
- Faculty:
- Programme:
- Year of Study:
- Payment Method:

Proceed to Payment

Related Images:

[Back to List](#) | [Register Event](#)

All are required to fill in

Figure 4.20 Event Registration Modal

Figure 4.20 shows the Event Registration Modal after the participant had previously pressed on the Register Event button. On this modal, the participant must fill in the given details while also selecting their payment method such as Online Banking or Credit/Debit Card. If the event is free to enter and register, then the participant does not need to fill in their payment details. Once the participant has press on the Proceed to Payment button, they will be redirected to their bank portal to fill in their payment information.

4.3.2.2.3 Payment Page

Credit / Debit Card Payment

Card Number:

Expiry Date: CVV:

Cardholder Name:

Pay Now **Cancel**

Figure 4.21 Payment Page

Figure 4.21 shows the Payment Page after the participant has submitted their registration form. On this page, the participant must complete this form with whatever value they put because it will not be saved in the database due to being a simulation. But it will still affect the registration of the participant. If they do not complete this form, they will not be registered to the event. If

they do complete this form, they will be redirected back to the Events page and receive email and notification of successful registration. This payment page will work as a payment simulation to mimic the behaviour of an actual payment system so the participants can experience a realistic flow.

4.3.2.3 About Page

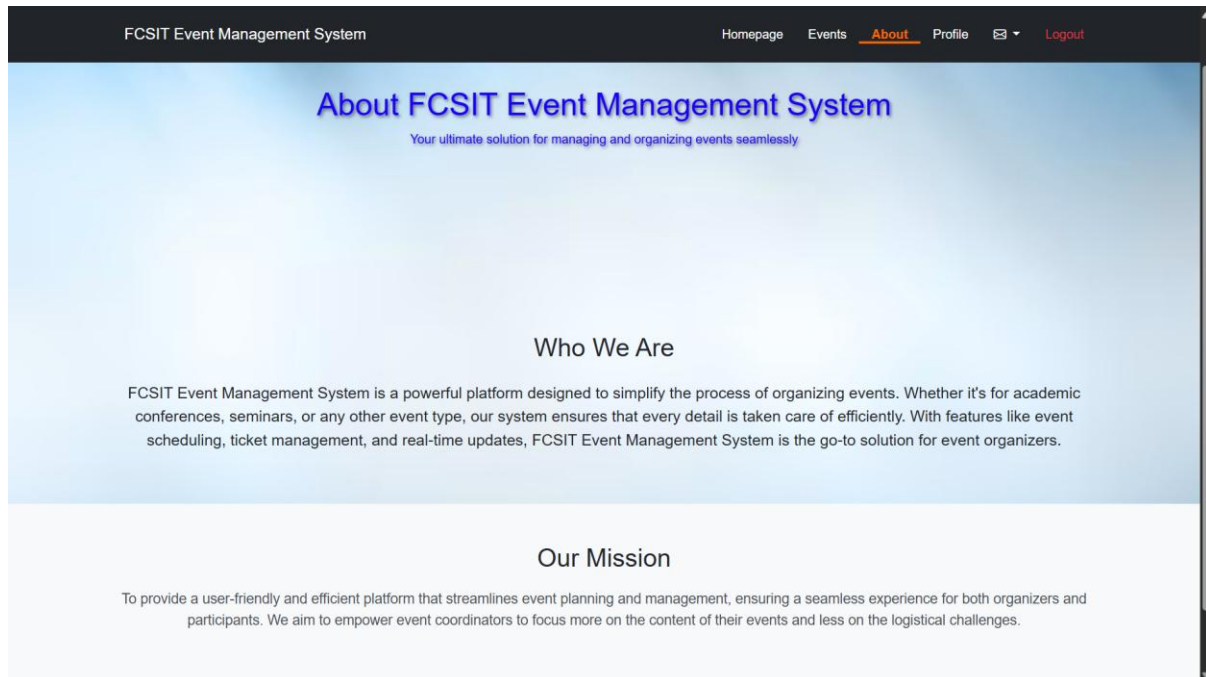


Figure 4.22 About Page

Figure 4.22 shows the About Page that shows the details and information about the FCSIT Event Management System. This About Page is about knowing what the goal of the system is and what is the mission and objectives for the system.

4.3.2.4 Participant Profile Page

4.3.2.4.1 Account Details

FCSIT Event Management System

Homepage Events About **Profile** Logout

Participant

Account Settings

My Events

Update Account Details

New Email

New Password

Update Account

Update Personal Information

Username

Clark Kent

First Name Last Name

Clark Kent

Matric Number

12332

IC Number

123456

Figure 4.23: Account Settings Page

Figure 4.23 shows the Account Settings Page where participants can choose to update their account details such as email or password or update their personal information. Once the user has input new email or password in the Update Account Details form, they must click “Update Account”. The system will check if the new email exists in the database first, if no, then the new email will be saved and updated. After that, the user must use the new email and password to login to the system.

Update Personal Information

Username

Clark Kent

First Name Last Name

Clark Kent

Matric Number

12332

IC Number

123456

Phone Number

2147483647

Address

Malaysia

Gender

Male

Update Info

Figure 4.24 Update Personal Information Form

Figure 4.24 shows the Update Personal Information Form where they can update their information details. After the user is done updating their information, they can press on the “Update info” button and the system will save the details.

4.3.2.4.2 Event Details

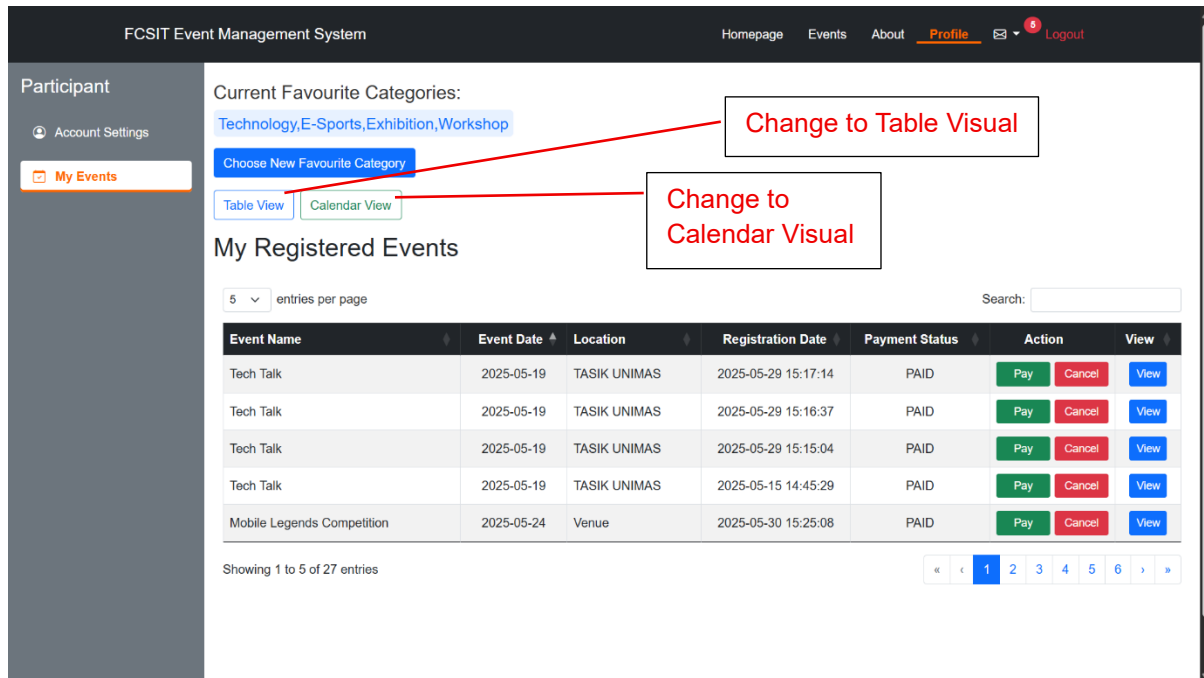


Figure 4.25 My Events Page

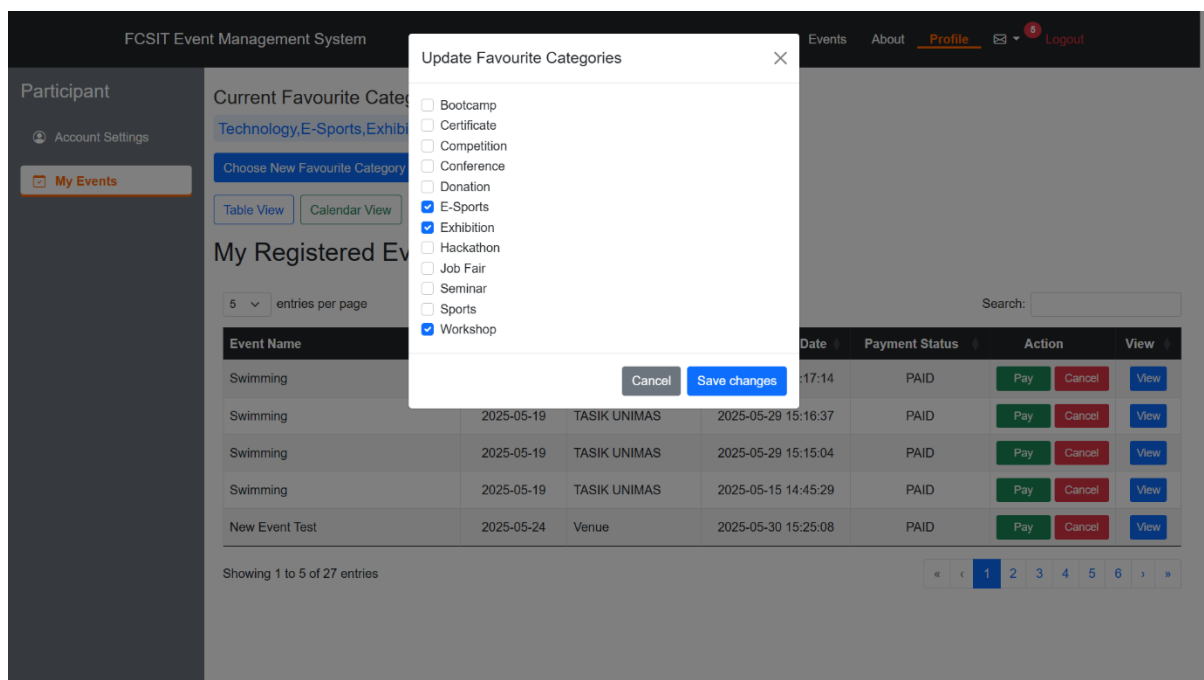


Figure 4.26 Change Favourite Categories Modal

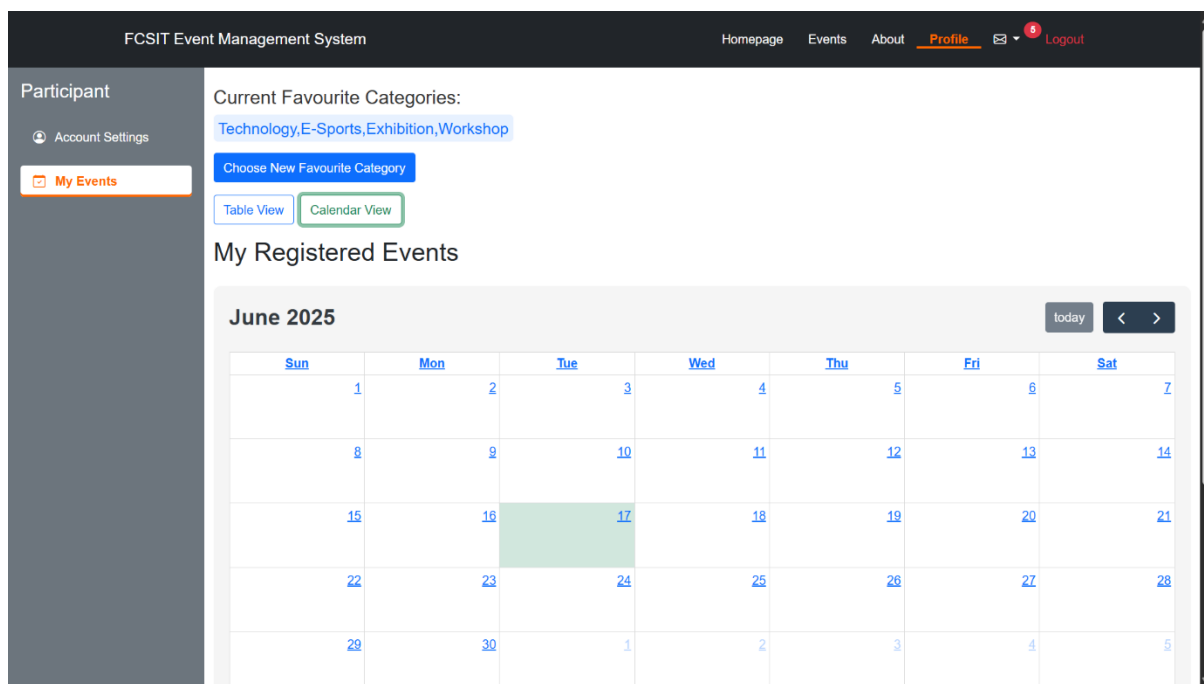


Figure 4.27 Calendar View

Participant Details

First Name	Bob
Last Name	Ross
Matric Number	123456
Faculty	FSCIT
Programme	SE
Year of Study	4
Phone Number	257818871524
Email	bob@unimas.my

Event Details

Event Name	Tech Talk
Event Description	SWIMMING COMPETITION
Event Category	Music, Sports, Health
Certificate	No
Event Duration	10 Day(s)
Event Date	2025-05-19
Start Time	13:46:00
End Time	00:52:00
Event Venue	TASIK UNIMAS

Figure 4.28 View Specific Registered Event

Figure 4.25 shows the My Events Page that they have registered events. On this page, the participant can also change their favourite categories to be displayed at the homepage at Figure 4.26. The registered events can be viewed in 2 different ways, table view or calendar view. In the table view, the participant can see the details of the events they had registered earlier, and they can also cancel the event if they decided to change their mind. A refund will be given to the participant immediately if the event they registered was paid. In the calendar view, the participant can see clearer when their event will be held on. This way the participant could see

which event they registered are clashing each other or see events that could be on the day that they are busy or unavailable to attend. On the table view, the participants can click on the “View” button to see more details about their registered event as shown on Figure 4.28. On this page, the participant can see the participant details that registered for the event and the event details.

4.3.2.5 Notifications

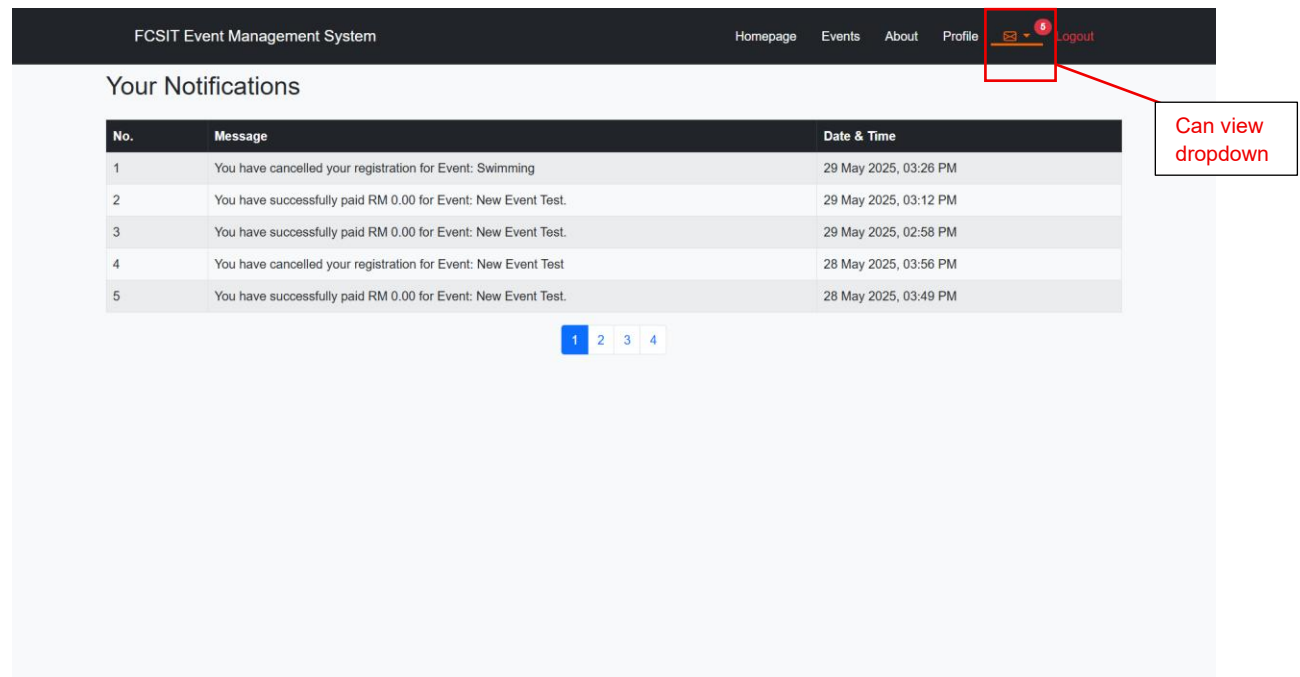


Figure 4.29: Notifications Page

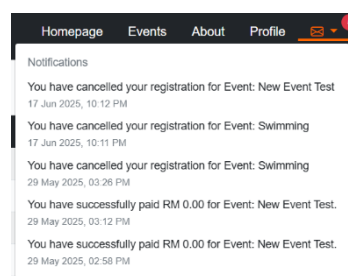


Figure 4.30 Notifications Dropdown

Figure 4.29 shows the Notifications Page for participant based on their activity or important messages. This page can be accessed by clicking on the email icon on the top navigation bar, a dropdown will appear and by pressing on the dropdown then the participant will be redirected to this page. This serves as a reminder or an alert to the participant if the participant had already registered an event or cancelled an event. Messages of event that had been postponed or cancelled will also be posted here so that the participant know that their event is cancelled or postponed. The dropdown notification will display 5 latest messages.

4.3.3 Organiser Interface

4.3.3.1 Organiser Dashboard

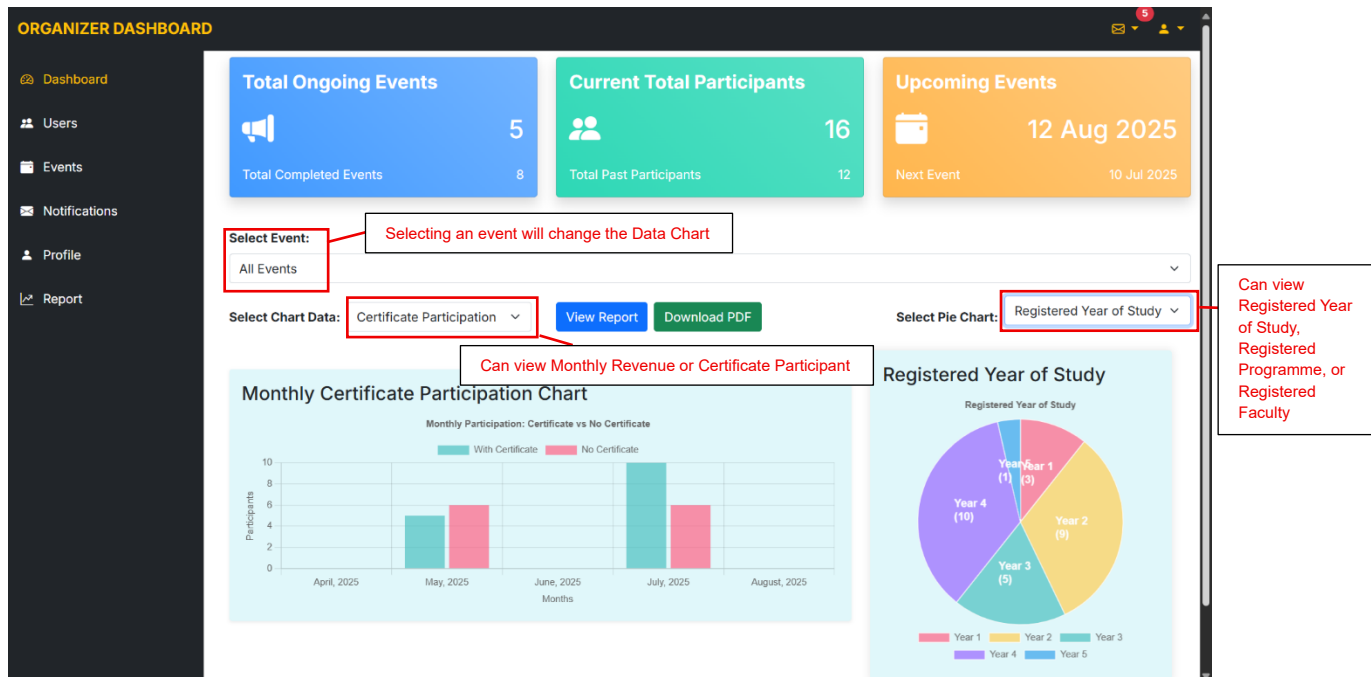


Figure 4.31 Organiser Dashboard

Figure 4.31 shows the Organiser Dashboard for the Organiser after successfully login through the system as Organiser. This page serves as graphical interface of data analytics for Organiser to see with the help of data chart. These data charts serve as a visualization interface representation, enabling Organisers to more easily interpret and understand the overall status and performance of their events. The Organiser must have at least 1 event created and have at least 1 registered participant to make the data chart display information. Then, Organiser select the event, select what chart data and pie chart they want to see. The View Report and Download PDF is from the Report Page but is shown here to be a fast and easy access to immediately produce the report.

4.3.3.2 Users

ORGANIZER DASHBOARD

Dashboard
Users
Events
Notifications
Profile
Report

Participants' Registered Events

10 entries per page Search Event Name:

ID	Event Name	Event Venue	Total Users	Event Quota	Action
3	Mobile Legends Tournament	PPPU Student Lounge	0	Unlimited	View
8	Annual General Meeting ESPORTS UNIMAS	Dewan Pavilion, UNIMAS	0	Unlimited	View
17	Chess Event	Detar	0	50	View
18	Tech and Career Talks For Students	Multimedia Theatre	10	100	View
19	Cybersecurity Awareness Day	Webinar	6	Unlimited	View

Showing 1 to 5 of 5 entries

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To View User Details

Figure 4.32 Users Page

Figure 4.32 shows the Users page where the Organiser can see the number of registered participants for each event. The Organiser can search for their specific event they created to see the number of total registered participants. The Organiser can also press on the View button to see more details about the participant who registered for the event.

4.3.3.2.1 View Users

All Participant Registration Details

10 entries per page Search:

First Name	Last Name	Phone No	Email Address	Faculty	Programme	Year of Study	Registered
Billy	Eyeleash	158539420	billyeye@email.com	FCSIT	Multimedia Computing	2	2025-06-11 15:29:56
Bruno	Mars	158930234	brunomars@email.com	FRST	Biotechnology	2	2025-06-11 15:32:23
Chirman	Reed	195836234	chirmanreed@email.com	FCSIT	Software Engineering	1	2025-06-11 15:31:06
Cold	Play	128593853	coldplay@email.com	FCSIT	Network Engineering	4	2025-06-11 15:31:37
John	Man	1853542342	johnman@email.com	FCSIT	Data Engineering	1	2025-06-11 15:29:23
Justin	Timber	168939234	justintimber@email.com	FCSIT	Software Engineering	4	2025-06-11 15:30:27

Showing 1 to 6 of 6 entries

Back to Summary

Figure 4.33 View Users Page

Figure 4.33 shows the View Users page after Organiser had pressed on the View button at User page. The Organiser can see the full list of participants who had registered for the event. The

Organiser can also search for specific participants on the search bar based on their Matric or NRIC number.

4.3.3.3 Events

ORGANIZER DASHBOARD

List Of Events [Add Events Here](#) [View Past Events](#) Events that are over today's date

Search by Event Category dd/mm/yyyy [Search](#) [Reset](#)

10 entries per page Search Event Name:

Event Name	Date	Venue	Event Category	Price	Action
Annual General Meeting ESPORTS UNIMAS	11 November 2025	Dewan Pavillion, UNIMAS	E-Sports, Exhibition	FREE	View
Chess Event	12 August 2025	Detar	Education, Health, Professional, Chess, Music	RM 20.00	View
Cybersecurity Awareness Day	20 July 2025	Webinar	Exhibition, Awareness, Talk	FREE	View
Mobile Legends Tournament	10 December 2025	PPPU Student Lounge	E-Sports, MLBB	RM 50.00	View
Tech and Career Talks For Students	10 July 2025	Multimedia Theatre	Talk, Technology	FREE	View

Showing 1 to 5 of 5 entries

Figure 4.34 Events Page

Figure 4.34 shows the Events page for Organiser to see, add, and search for all the events they have created. They can search by the event's categories, event name, or by the date when the event will start. They can also look at their previous events that have ended at the "View Past Events" button.

ORGANIZER DASHBOARD

Dashboard

Users

Events

Notifications

Profile

Report

List Of Past Events

Go Back

Search by Event Category

dd/mm/yyyy

Search

Reset

10

entries per page

Search Event Name:

Event Name	Date	Venue	Event Category	Price	Action
Basketball	14 May 2025	Kolej Allahmanda	Sports, Health, Art, ,	RM 20.00	View
Bowling Tournament	31 May 2025	Pavi	Sports, Music, Education, Art	RM 15.00	View
Mobile Legends Competition	24 May 2025	Venue	Music, Sports, Technology	FREE	View
Ping Pong	14 May 2025	DETAR	Sports, Health, Education, Music, Art	RM 20.00	View
Soccer	7 May 2025	PADANG KOLEJ DAHLIA	Sports, Education, Art, ,	RM 100.00	View
Tech Talk	19 May 2025	TASIK UNIMAS	Music, Sports, Health	FREE	View
UNIMAS Health Seminar Webinar	2 November 2024	Online, Webinar.	Seminar, Webinar, UNIMAS	RM 30.00	View

Figure 4.35 Past Events Page

Figure 4.35 shows the Past Events Page where Organiser can view events that have already been expired or past the current date. The Organiser can press on the “Go Back” button to return to the event’s that are upcoming. This page serves as a reminder and proof that the Organiser has made these events in the past.

4.3.3.3.1 Add Events

ORGANIZER DASHBOARD

Event Name

Enter Event Name

Event Description

Enter Event Description

Event Venue

Enter Event Venue

Event Categories (You may select up to 5)

-- Empty -- -- Empty -- -- Empty -- -- Empty -- -- Empty --

Event Duration (Days)

Enter How Many Days

Event Date

dd/mm/yyyy

Start Time

--:--

End Time

--:--

Event Price Type

Select Price Type

Event Price (RM)

Amount

Event Quota (Available Seats)

Enter Quota

☐ Unlimited

Certificate

☐ Yes ☐ No

Event Banner

Choose File

No file chosen

Event Images (Multiple)

Choose Files

No file chosen

Preview

Save Event

Go Back

Figure 4.36 Add Events Page

Figure 4.36 shows the Add Events page where the Organiser can add new events into the FCSIT Event Management System. They have to fill in all the event details correctly and also insert images such as event image banner and multiple event images. Event banner will be the main event image that will be displayed on the website for participants to see while the multiple event images are other related images to the event, so the participants have more grasps of the events venue or activities. After the Organiser have filled in all the details, they can press on the Preview button to see how the event would look like on a participant's view.

4.3.3.3.2 Preview Event

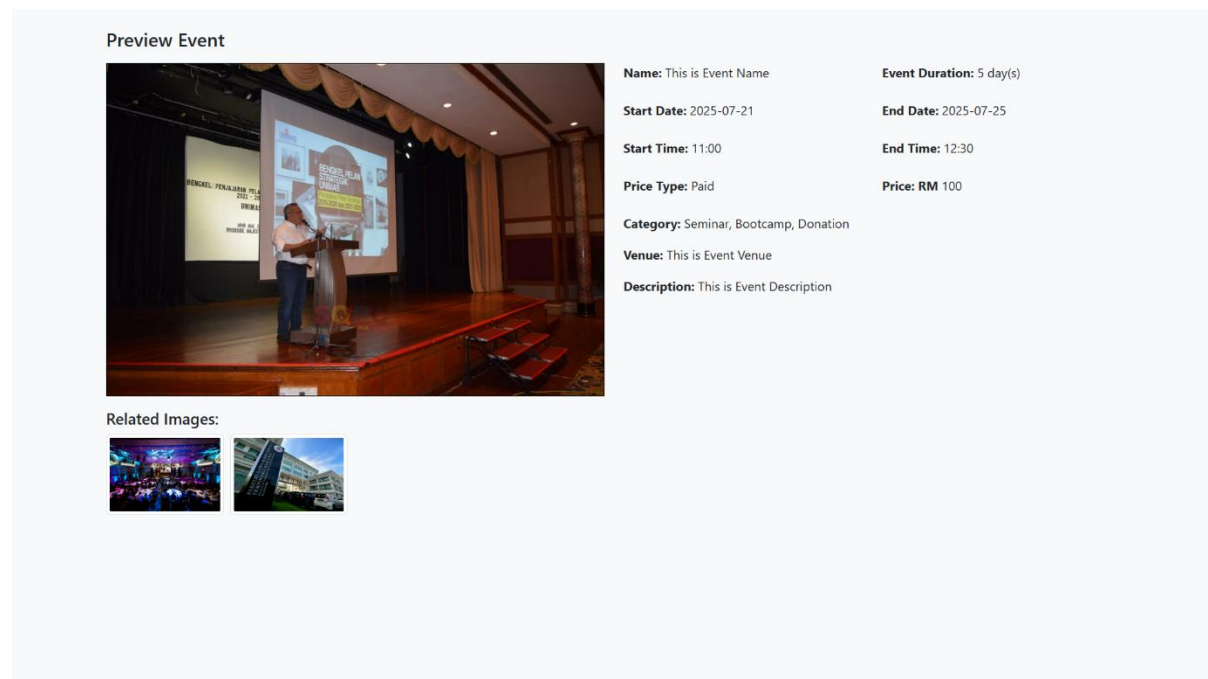


Figure 4.37 Preview Event

Figure 4.37 shows the Preview Event after the Organiser has successfully filled in the details of the event. This page will serve as a guidance and graphical view of how the event would look like on the system. The data that are included are all the input at shown in Figure 4.36 such as Event Name, Event Description, Event Venue, Event Categories, Event Duration, Event Date, Start Time, End Time, Event Price Type, Event Price, Event Quota, Certificate, Event Banner, and Event Images.

4.3.3.3 View Events

Event Preview

Back

Edit

Delete

Event Name	Tech and Career Talks For Students
Description	A guest lecture on how AI is changing society, ethics, and job markets.
Venue	Multimedia Theatre
Duration	1 day(s)
Start Date	2025-07-10
End Date	2025-07-10
Start Time	10.00 AM
End Time	12.00 PM
Category	Talk, Technology
Certificate	Yes
Quota	100
Price Type	Free
Price (RM)	0
Event Banner	

Figure 4.38 View Event

Figure 4.38 shows the View Event after the Organiser has successfully created an event for the system. This page will display the full details of the event to make sure there is no wrong information or grammatical errors. The Organiser can edit the event by pressing on the Edit button just in case some problem or error occurred. The Organiser can also delete the event if needed.

4.3.3.3.4 Edit Events

Edit Event

Additional Notes: Changes to Venue, Duration, Date, and Time will have notifications sent to registered participants.

Event Name:
Annual General Meeting ESPORTS UNIMAS

Description:
Annual General Meeting for ESPORTS UNIMAS students

Venue:
Dewan Pavilion, UNIMAS

Duration(Days):
2

Date:
11/11/2025

Start Time:
10:00 AM

End Time:
11:00 AM

Category:
E-Sports, Exhibition

Upload New Banner:
Choose File No file chosen



Figure 4.39 Edit Events

FCSIT Event Management System

Homepage Events About Profile Logout

Your Notifications

No.	Message	Date & Time
1	The event 'UNIMAS MARATHON 2.0' has been cancelled. Refund will be given if the event was paid.	02 Jul 2025, 04:25 PM
2	Event Update Notice: UNIMAS MARATHON 2.0; Duration changed from '3' days to '5' days; Date changed from '2025-07-25' to '2025-07-30'	02 Jul 2025, 04:23 PM
3	Event Update Notice: UNIMAS MARATHON 2.0; Duration changed from '5' days to '3' days	02 Jul 2025, 04:20 PM
4	Event Update Notice: Cybersecurity Awareness Day; Duration changed from '1' days to '3' days	02 Jul 2025, 04:17 PM
5	The event 'UNIMAS MARATHON 2.0' has been cancelled. Refund will be given if the event was paid.	02 Jul 2025, 04:04 PM
6	The event 'UNIMAS MARATHON 2.0' has been cancelled. Refund will be given if the event was paid.	02 Jul 2025, 03:45 PM
7	The event 'UNIMAS MARATHON 2.0' has been cancelled. Refund will be given if the event was paid.	01 Jul 2025, 06:56 PM
8	Event Update Notice: UNIMAS MARATHON 2.0; Duration changed from '3' days to '5' days	01 Jul 2025, 06:15 PM
9	Event Update Notice: Venue changed from 'Multimedia Theatre' to 'Detar'; Duration changed from '3' days to '3' days	01 Jul 2025, 05:58 PM
10	You have successfully paid RM 20.00 for Event: Chase The Colors Marathon.	30 Jun 2025, 06:39 AM

1 2 3 4

Notifications for events that were changed

Figure 4.40 Participant's Notification Page when Event Details Updated

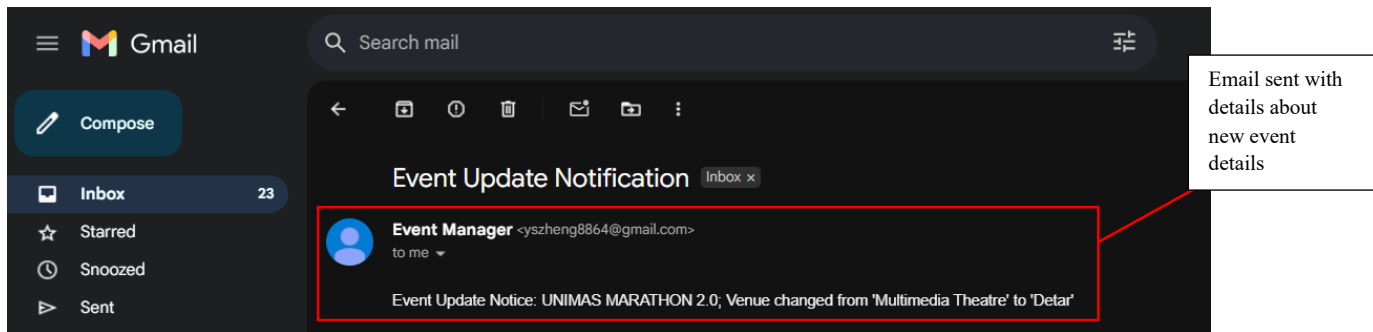


Figure 4.41 Participant's Email when Event Details Updated

Figure 4.39 shows the Edit Events page after the Organiser pressed on the Edit button when viewing at the event. This page serves as the update tool for Organiser to edit the event just in case there was a mistake or error occurred. Only a few parts of the event details can be edited such as Event Name, Event Description, Date, Venue, Start Time, End Time, Category, and the Event Banner and Event Images. Any changes will be notified to the participants. But when they change the Venue, Duration, Date or Time, notifications and emails will be sent to the participants who registered for that event as shown in Figure 4.40 and Figure 4.41.

4.3.3.3.5 Delete Event

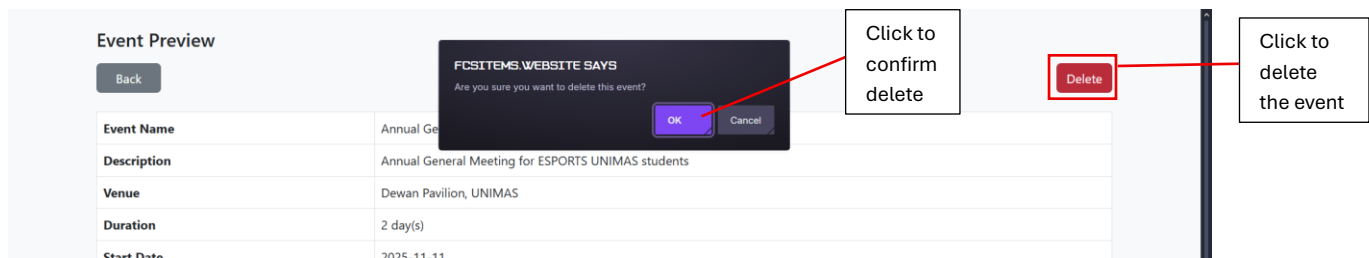


Figure 4.42 Organiser Delete Confirmation

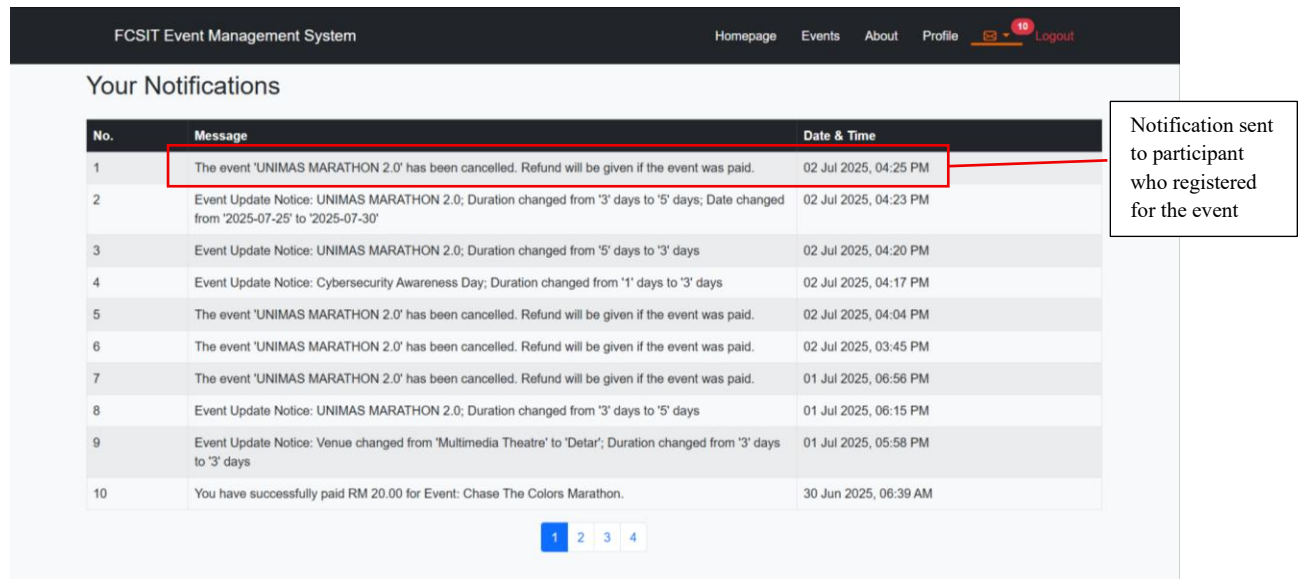


Figure 4.43 Participant's Notification Page when Event was Deleted

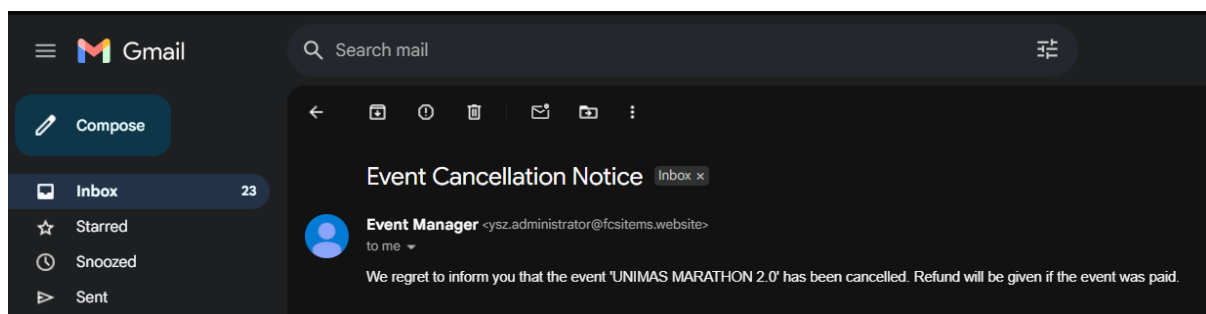


Figure 4.44 Participant's Email when Event was Deleted

Figure 4.42 shows the Organiser Delete Confirmation when they click on the “Delete” button. When the organiser decides to delete the event due to errors or emergencies, they can delete the event from the system. After the event is deleted, notifications and emails will be sent to participants who registered for this event to tell them about the deletion of the event as shown on Figure 4.43 and Figure 4.44. If the event was paid, then, the participant will be receiving refunds automatically.

4.3.3.4 Notifications

ORGANIZER DASHBOARD		
Organizer Notifications		
No.	Message	Date & Time
1	The event 'UNIMAS MARATHON 2.0' has been cancelled. Refund will be given if the event was paid.	02 Jul 2025, 04:25 PM
2	Event Update Notice: UNIMAS MARATHON 2.0; Duration changed from '3' days to '5' days; Date changed from '2025-07-25' to '2025-07-30'	02 Jul 2025, 04:23 PM
3	Event Update Notice: UNIMAS MARATHON 2.0; Duration changed from '5' days to '3' days	02 Jul 2025, 04:20 PM
4	Event Update Notice: Cybersecurity Awareness Day; Duration changed from '1' days to '3' days	02 Jul 2025, 04:17 PM
5	The event 'UNIMAS MARATHON 2.0' has been cancelled. Refund will be given if the event was paid.	02 Jul 2025, 04:04 PM

Figure 4.45 Notifications for Organisers

Figure 4.45 shows the Notifications for the Organiser. The notification will show messages based on specific activities by the Organiser. For example, when a participant decided to cancel the event registration, a message will be displayed in the notification and a refund will be issued to the participant.

4.3.3.5 Profile Page

The screenshot displays the 'ORGANIZER DASHBOARD' interface. On the left is a dark sidebar with navigation links: Dashboard, Users, Events, Notifications, Profile (highlighted), and Report. The main content area is divided into two sections. The top section, 'Update Account Details', contains input fields for 'New Email' and 'New Password', followed by a blue 'Update Account' button. The bottom section, 'Update Personal Information', contains input fields for 'Organizer Name' (with 'Bob' entered), 'Organizer Phone Number' (with '123123123' entered), and 'Organizer Email' (with 'EventOrganizer@email.com' entered), followed by a green 'Update Info' button. The top right of the dashboard shows notification and user icons.

Figure 4.46 Profile Page for Organisers

Figure 4.46 shows the Profile Page for Organisers. On this page, the Organisers can update their account details by inputting new Email or new Password and then press on the “Update Account” button to save the details in the system. If the Organiser did change their email or password, they have to use those new email and password to log in to the system. The Organisers can also update their personal information such as Organiser Name, Organiser Phone Number, and Organiser Email. This personal information will be displayed in the Organiser’s report and the event details for participants to see who to contact for the event.

4.3.3.6 Generate Report

The screenshot displays the 'FCSIT Event Management System - Report Generator' interface. On the left is a dark sidebar with the title 'ORGANIZER DASHBOARD' and navigation links: Dashboard, Users, Events, Notifications, Profile, and Report (highlighted). The main content area has a white background with the title 'FCSIT Event Management System - Report Generator'. It contains two dropdown menus: 'Select Your Event' with the placeholder '-- Select Event --' and 'Select Report Type' with the placeholder '-- Select Report Type --'. Red boxes highlight these dropdowns, with red lines pointing to callout boxes. The first callout box says 'Dropdown selection to select any of their event' and the second says 'Overview type or Attendance type'. Below the dropdowns are two buttons: 'View Report' (blue) and 'Download PDF' (green). At the bottom center, it says 'Copyright Website 2025'.

Figure 4.47 Generate Report page for Organisers

Figure 4.47 shows the Generate Report page for Organiser to see the report of their event. The Organiser must select an event that they have created to get the report of their event. Then, the Organiser can press View Report or Download PDF to either view how the report would look like or download the report as a PDF file.

4.3.3.5.1 Report Example

Attendance Report

Event Name: Tech and Career Talks For Students

Date: 2025-07-10

Time: 10:00:00 - 12:00:00

No.	Name	Faculty	Programme	Signature
1	Aiman Rahman	FCSIT	Computer Science	
2	Siti Nurul	FCSIT	Network Engineering	
3	Daniel Chong	FE	Civil Engineering	
4	Nurul Izzah	FCSIT	Software Engineering	
5	Kevin Lee	FCSIT	Software Engineering	
6	Faris Zul	FCSIT	Data Engineering	
7	Mei Ling	FCSIT	Data Engineering	
8	Harold Bog	FCSIT	Software Engineering	
9	Simon Minter	FCSIT	Computer Science	

If Organiser wants to have manual attendance

Figure 4.48 Example of an Attendance Report

Figure 4.48 shows the Example of an Attendance Report would look like for an event that the Organiser had created. This page will have the participant's name, faculty, programme, and an empty space for them to put their signature if the Organiser plan to download this report and use as attendance for the participants.

4.3.4 Administrator Interface

4.3.4.1 Administrator Dashboard

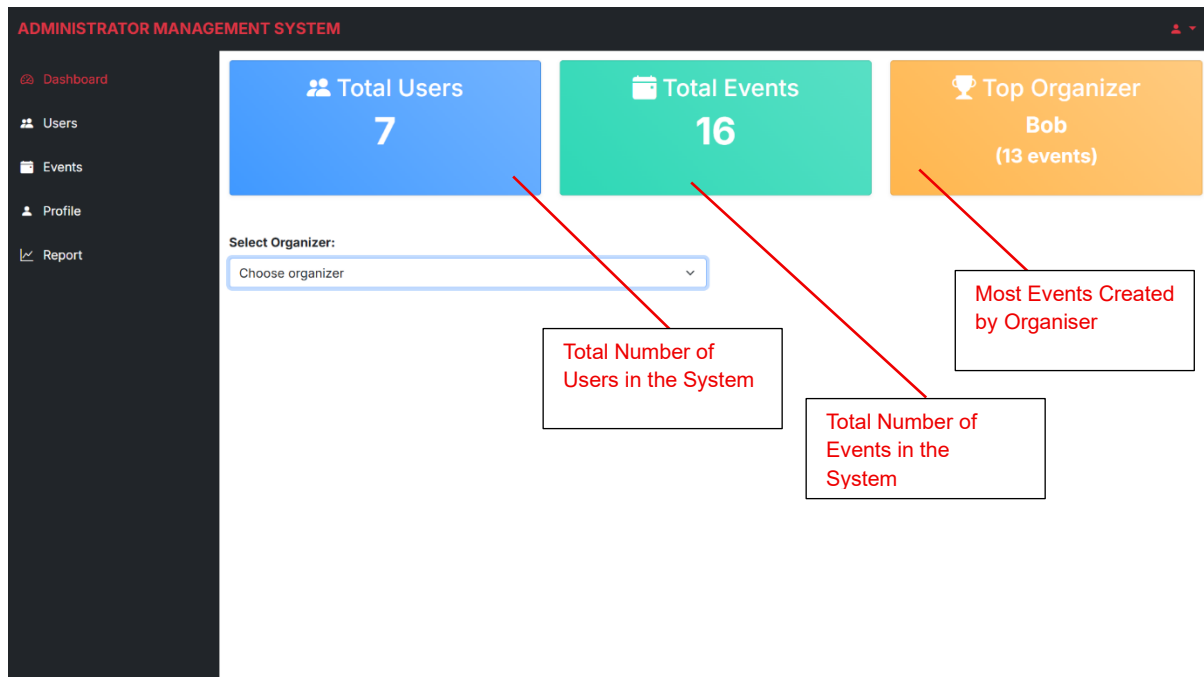


Figure 4.49 Administrator Dashboard

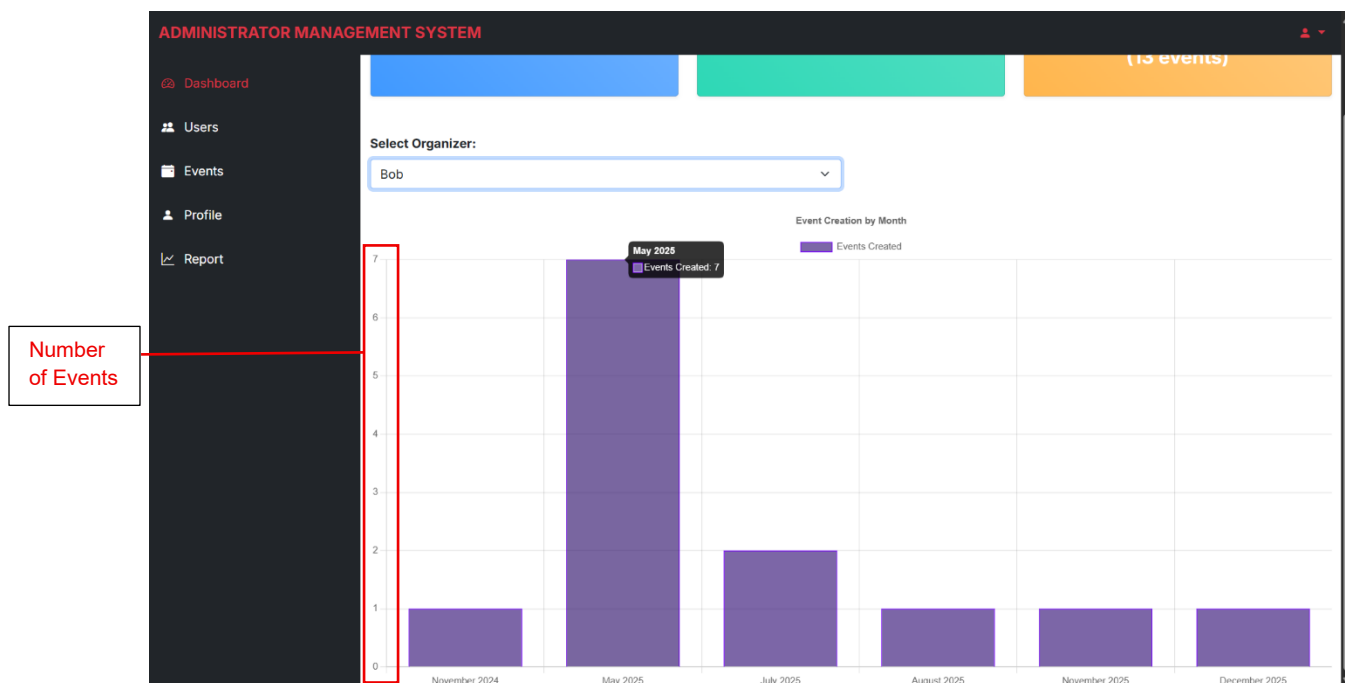


Figure 4.50 Display Events Created by an Organiser

Figure 4.49 shows the Administrator Dashboard for the administrator after they successfully login through the system as administrator. This page serves as a graphical interface of data analytics for the administrator to see the participant's data and Organiser's data. The administrator can see the total number of users in the system, total number of events in the system, and the most events created by the Organisers. The administrator can also select the

dropdown to select an Organiser to see their events. A bar chart will be displayed showing the number of events the Organiser has made in a single month as shown at Figure 4.50.

4.3.4.2 Users

ADMINISTRATOR MANAGEMENT SYSTEM

List Of Users

[Add Users](#)

10 entries per page Search:

ID	Email	Role	Created On	Banned/Deleted	Action
4	org@email.com	Organizer	2025-05-01 23:30:15	No	Edit Delete
5	user@email.com	Participant	2025-05-01 23:30:51	No	Edit Delete
6	user2@email.com	Participant	2025-05-02 00:42:58	No	Edit Delete
7	org2@email.com	Organizer	2025-05-02 14:29:12	No	Edit Delete
8	organizer@email.com	Organizer	2025-05-02 14:39:26	No	Edit Delete
9	user3@email.com	Participant	2025-05-02 15:44:37	No	Edit Delete

Showing 1 to 6 of 6 entries

Figure 4.51 User Page

Figure 4.51 shows the Users page for the administrator to see the data and details of the users such as participant and Organizer in the system. The administrator can press on the Add button to create new users to the system or press on the View button to see full details of the user.

4.3.4.2.1 Add Users

Add New User

Email address:

Password:

Role: [Set as Organiser or Participant](#)

Name: [To display their name](#)

[Add User](#) [Cancel](#)

Figure 4.52 Add Users Page

Figure 4.52 shows the Add Users page after the administrator had pressed on the Add button at the Users page. This page serves as a add tool to add new users such as participant or Organiser. Organiser accounts are created through administrator's Add Users page only to avoid random user to make themselves as Organisers.

4.3.4.2.2 Edit Users

Edit User

Email
org@email.com

Role
Organizer

New Password (optional)
Leave blank to keep current password

User Status
Active

Update Cancel

Set as Organiser or Participant

Set as Active or Banned/Deleted

Figure 4.53 Edit Users Page

Figure 4.53 shows the Edit Users page after the administrator had pressed on the Edit button at the Users page. The administrator can view all the details of the user in the system. The Organiser can also edit their email, role, or password if necessary. The administrator can also set the user status to Deleted/Banned if needed. This will make the user unable to access the system anymore.

4.3.4.2.3 Delete Users

ADMINISTRATOR MANAGEMENT SYSTEM

localhost says
Are you sure you want to delete this user?
OK Cancel

List Of Users

10 entries per page

Search:

ID	Email	Role	Created On	Banned/Deleted	Action
4	org@email.com	Organizer	2025-05-01 23:30:15	No	Edit Delete
5	user@email.com	Participant	2025-05-01 23:30:51	No	Edit Delete
6	user2@email.com	Participant	2025-05-02 00:42:58	No	Edit Delete
7	org2@email.com	Organizer	2025-05-02 14:29:12	No	Edit Delete
8	organizer@email.com	Organizer	2025-05-02 14:39:26	No	Edit Delete
9	user3@email.com	Participant	2025-05-02 15:44:37	No	Edit Delete

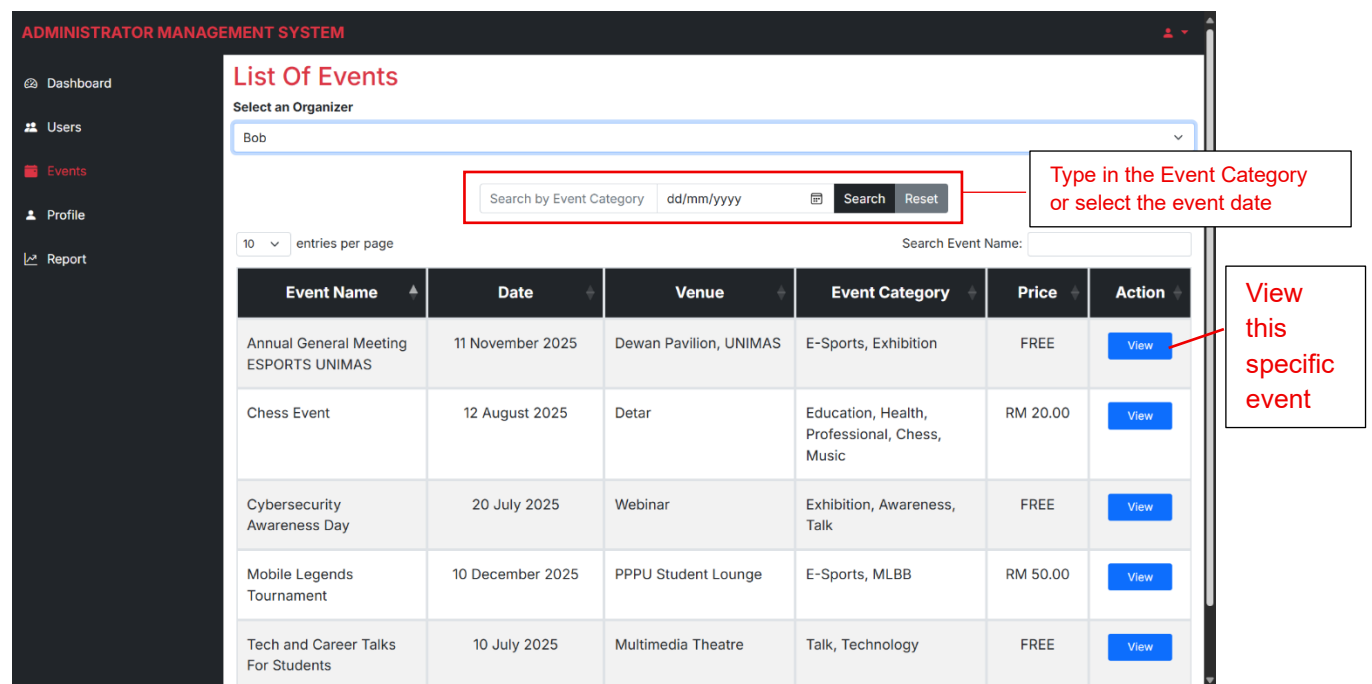
Showing 1 to 6 of 6 entries

« < 1 > »

Figure 4.54 Delete Users

Figure 4.54 shows the Delete Users confirmation after clicking on the “Delete” button next to the “Edit” button. A confirmation for deletion will pop up to let the administrator confirm if they really want to remove this user from the system. Once confirm the deletion, the Banned/Deleted status will turn “Yes”. The administrator can change back to “No” at the Edit User page.

4.3.4.3 Events



ADMINISTRATOR MANAGEMENT SYSTEM

List Of Events

Select an Organizer: Bob

Search by Event Category: dd/mm/yyyy [Search] [Reset]

10 entries per page Search Event Name:

Event Name	Date	Venue	Event Category	Price	Action
Annual General Meeting ESPORTS UNIMAS	11 November 2025	Dewan Pavilion, UNIMAS	E-Sports, Exhibition	FREE	View
Chess Event	12 August 2025	Detar	Education, Health, Professional, Chess, Music	RM 20.00	View
Cybersecurity Awareness Day	20 July 2025	Webinar	Exhibition, Awareness, Talk	FREE	View
Mobile Legends Tournament	10 December 2025	PPPU Student Lounge	E-Sports, MLBB	RM 50.00	View
Tech and Career Talks For Students	10 July 2025	Multimedia Theatre	Talk, Technology	FREE	View

Type in the Event Category or select the event date

View this specific event

Figure 4.55 Events Page

Figure 4.55 shows the Events page for the administrator to see events created by the Organisers. Most of the time the administrator is not allowed to do anything to the events unless it is necessary. The administrator selects an Organiser to see their events. The administrator can press on the View button to see full details of the event.

4.3.4.3.1 View Events

Event Preview

Back

Edit

Delete

Event Name	Tech and Career Talks For Students
Description	A guest lecture on how AI is changing society, ethics, and job markets.
Venue	Multimedia Theatre
Duration	1 day(s)
Start Date	2025-07-10
End Date	2025-07-10
Start Time	10.00 AM
End Time	12.00 PM
Category	Talk, Technology
Certificate	Yes
Quota	100
Price Type	Free
Price (RM)	0
Event Banner	

Figure 4.56 View Events Page

Figure 4.56 shows the View Events page after the administrator had pressed on the View button at the View Events page. The administrator can see the full information and details of the event created by the Organiser. The name of the Organiser who created the event will also be displayed here.

4.3.4.4 Profile Page

The screenshot displays the 'ADMINISTRATOR DASHBOARD' with a dark sidebar on the left containing navigation links: Dashboard, Users, Events, Profile (highlighted in red), and Report. The main content area is divided into two sections. The top section, 'Update Account Details', contains input fields for 'New Email' and 'New Password', followed by a blue 'Update Account' button. The bottom section, 'Update Personal Information', contains input fields for 'Administrator Name' (pre-filled with 'Yong Shean Zheng'), 'Administrator Phone Number' (pre-filled with '012345678910'), and 'Administrator Email' (pre-filled with 'adminFCSIT@email.com'), followed by a green 'Update Info' button.

Figure 4.57 Profile Page for Administrator

Figure 4.57 shows the Profile Page for Administrator. The administrator can change their email or password and once it is done by clicking on the “Update Account” button, they have to use the new email and new password to log in to the system. The administrator can also update their personal information such as Administrator Name, Administrator Phone Number, and Administrator Email. This personal information will be displayed at the About page for participants or Organisers to see the owner of the system.

4.3.4.5 Report

The screenshot displays the 'ADMINISTRATOR DASHBOARD' interface. On the left is a dark sidebar with navigation links: 'Dashboard', 'Users', 'Events', 'Profile', and 'Report' (highlighted in red). The main content area is titled 'FCSIT Event Management System - Report Generator'. It contains three dropdown menus: 'Search' with the placeholder '-- Select Organizer --', 'Select Their Event' with the placeholder '-- Select Event --', and 'Select Report Type' with the placeholder '-- Select Report Type --'. Below these are two buttons: a blue 'View Report' button and a green 'Download PDF' button. At the bottom center, it says 'Copyright Website 2025'.

Figure 4.58 Report Page for Administrator

Figure 4.58 shows the Report page for administrator to view and download report of the Organiser's event. On this page, the administrator must select a specific Organiser to be able to view the event they created. After that, the administrator can view the report or download the report as PDF.

4.3.4.4.2 View Report Example

Event Registration Report

Organizer Details

Name: Bob
Phone: 123123123
Email: EventOrganizer@email.com

Event Details

Event Name: Cybersecurity Awareness Day
Event ID: b6bbda42d49f12f19f6ac2c1b1d61645
Venue: Webinar
Date: 2025-07-20
Time: 09:00:00 - 16:00:00

Summary

Total Registered	Most Popular Faculty	Most Popular Programme	Most Popular Year of Study
6	FCSIT	Software Engineering	1

Event Revenue

Event Price (RM)	Total Participants	Total Revenue (RM)
20.00	6	120.00

Only appears if event is paid

Figure 4.59 Example of the Report

Figure 4.59 shows the example of the Report based on the Organiser's event. All the Organiser and event details are listed in the report, while also having some data on the participants such as most popular faculty, most popular programme, and most popular year of study. If the event is paid, then the event revenue will also be displayed there.

4.4 Summary

In conclusion, this chapter focuses on the implementation of the FCIST Event Management System. The system was developed using Bootstrap as the front-end framework, jQuery for the JavaScript to make tables, forms, filtering, searching, and pagination functioning and responsive. XAMPP was used for developing in localhost environment and Visual Studio Code was used as the code editor. The system was designed to handle three levels of users: participants, Organisers, and administrator, each with their own roles and access levels.

The participants can register and log in to the system, select their favourite event categories, and browse events. The help of filtering icons and search bars were useful to find specific events. They can register events and receive notification through the system and their email if they successfully register an event. The participant can also manage their profile and events they registered. In the profile settings, they can change their favourite categories and view registered events in table view or calendar view.

On the other hand, Organisers can log in to the system and have their own Organiser dashboard. The dashboard will display data analytics based on their events they created. They can see their event's performance and view different types of data chart. The Organisers will be in charge of managing and creating events on the system for participants to browse and register. They can create new events, edits, or delete existing events. Once they created an event and many participants have registered in them, they can generate report to see the event overview or get event attendance for manual attendance if needed.

Finally, the administrator will be in charge of creating the Organiser's account into the system. This is because to avoid normal user with no authority to freely create events in the system. Organisers must contact the administrator so they can create the account for them. The administrator will be managing the user account by adding new accounts or delete those accounts.

Chapter 5: Testing

5.1 Introduction

Chapter 5 will be discussing about testing the FCSIT Event Management System. This is to ensure that the system functions properly and fulfils both user needs and performance objectives. The testing phase will have two-part, functional testing and non-functional testing. Functional testing will be testing the system's functions, such as event creation, participant registration, display of events, and notification handling. On the other hand, non-functional testing will be aimed to test the system's performance, usability, and reliability. This includes how user-friendly the interface is, and how the interface will be interactive.

5.2 Functional Testing

Functional testing is a type of software testing that make sure the software application works and behaves according to the functional requirements or specifications. The aim is to ensure that every part of the software works properly and produces the expected output when given valid or invalid inputs.

Table 5.1: Functionality Testing on Login

Module: Login					
Test Objective: Test Objective: To ensure only valid users can log in and invalid attempts are handled securely					
Test ID	Test Case	Test Procedure	Expected Result	Actual Result	Status
F001	Valid login	1. Enter correct email and password 2. Click “Login”	User is redirected to the page based on their role.	Successfully logged in	Pass
F002	Invalid login	1. Enter incorrect email or password 2. Click “Login”	Error message display: “Wrong Email or Password”	Error message displayed	Pass
F003	Empty fields	1. Leave email or password empty 2. Click “Login”	Error message display: “Please enter Email or Password”	Error message displayed	Pass
F004	No Email in System	1. Enter unregistered email 2. Enter any password 3. Click “Login”	Error message display: “Account does not exist”	Error message displayed	Pass
F005	Access without login	1. Try going participant homepage URL directly without logging in	Limited access	Allowed to access homepage with limited features	Pass

Table 5.2: Functionality Testing on Sign Up

Module: Sign Up					
Test Objective: To ensure users can create an account and validation is applied					
Test ID	Test Case	Test Procedure	Expected Result	Actual Result	Status
F006	Valid signup	1. Enter all correct details 2. Click "Signup"	User account created and redirected to login page	Account created in the system	Pass
F007	Duplicate email	1. Use an existing email address 2. Click "Signup"	Error message display: "Email is already taken"	Duplicate detected	Pass
F008	Password confirmation does not match	1. Enter different password in confirmation fields 2. Click "Signup"	Error message display: "Password does not match"	Error message displayed	Pass
F009	Empty required fields	1. Leave any field empty 2. Click "Signup"	Error message display: "Fill in all the fields"	Validation activated	Pass
F010	Invalid email format	1. Enter "email.com" as email 2. Click "Signup"	Error message display: "Enter a valid email address"	Validation activated	Pass

Table 5.3: Functionality Testing on Forgot Password

Module: Forgot Password					
Test Objective: To make sure participants or Organisers can recover their account					
Test ID	Test Case	Test Procedure	Expected Result	Actual Result	Status
F011	Request OTP with registered email	1. Go to “Forgot Password” page 2. Enter registered email 3. Click “Send OTP”	OTP is sent to the user’s registered email	OTP email received successfully	Pass
F012	Enter correct OTP	1. Enter correct OTP received from email 2. Click “Submit”	User proceeds to password reset page	OTP verified successfully	Pass
F013	Reset Password	1. Enter new password and confirm password 2. Click “Submit”	Password is successfully updated and redirect user to login page	Password reset, saved, and redirected to login page	Pass
F014	Enter incorrect OTP	1. Enter incorrect OTP 2. Click “Submit”	Error message display: “Invalid OTP”	Error message displayed	Pass
F015	Request OTP with not registered email	1. Go to “Forgot Password” page 2. Enter not registered email 3. Click “Send OTP”	Error message display: “Email does not exist in system”	Error message displayed	Pass

Table 5.4: Functionality Testing on Participant Homepage

Module: Participant Homepage					
Test Objective:					
Test ID	Test Case	Test Procedure	Expected Result	Actual Result	Status
F016	First time login to homepage	1. Login as a new participant	A modal pops up asking to select favourite categories	Pop-up modal displayed successfully	Pass
F017	Select favourite categories	1. Select 1 or more categories from the modal 2. Click “Save”	Categories are saved to user details	Favourite categories saved successfully	Pass
F018	Recommended events displayed	1. Submit selected categories 2. Homepage displays events based on selected categories	Events that matched with selected categories are displayed	Recommended events shown to participant	Pass
F019	Close the favourite categories pop up modal	1. Login as a new participant 2. Close modal	Homepage will not display recommended events to participant	No recommended events shown for participant	Pass
F020	Returning participant or already selected categories	1. Log in again as same participant after selecting categories previously	No modal displayed, goes straight to homepage	Pop up modal does not show up	Pass

Table 5.5: Functionality Testing on Browse Events Page

Module: Browse Events Page					
Test Objective: To make sure participants can view available events created and can filter them by event name, venue, or category					
Test ID	Test Case	Test Procedure	Expected Result	Actual Result	Status
F021	View all events	1. Navigate to Events Page	All active events are displayed	Events are listed correctly	Pass
F022	Search a specific event	1. Navigate to the search bar 2. Type the event's name or venue into the search bar 3. Click "Search"	Events matching the name or venue are displayed	Filtered results are shown correctly	Pass
F023	No event found when searching	1. Enter invalid text or random texts in the search bar 2. Click "Search"	Message display: "No event found"	Correct message shown	Pass
F024	Filter events using category button	1. Click on a category icon	Events based on the selected category are displayed	Events filtered by category correctly	Pass

Table 5.6: Functionality Testing on Registering for an Event

Module: Registering for an Event					
Test Objective: To verify that users can register for events					
Test ID	Test Case	Test Procedure	Expected Result	Actual Result	Status
F025	Unauthorized access	1. Try to register an event without logging in 2. Select an event 3. Click on “Register Event”	Error message display: “Log in first”	Access denied	Pass
F026	Registering an event	1. Log in as user 2. Select an event 3. Click “Register Event”	User gets a form to fill in information details	Registration form is working	Pass
F027	Successful event registration	1. Log in as user 2. Select an event 3. Click “Register Event” 4. Fill in form 5. Click “Submit”	User is added to the event’s participation list	Registration successful	Pass
F028	Event registration after deadline	1. Try searching for an event after the registration deadline has passed	System does not display the event	Registration blocked	Pass

F029	Event registration with full capacity	1. Try searching for an event after the capacity is full	System does not display the event	Registration blocked	Pass
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Table 5.7: Functionality Testing on Receive Notifications After Registering Event

Module: Receive Notifications After Registering Event					
Test Objective: To make sure participants receive notifications after registering for an event					
Test ID	Test Case	Test Procedure	Expected Result	Actual Result	Status
F030	Receive email after event registration	1. Select an event to register 2. Input email to receive the email from system 3. Click “Register Event”	Message is sent to the email	Email sent successfully	Pass
F031	Notification appears in system notification bell	1. Register any event 2. Check notification bell	New notification about successfully registering an event sent to the notification bell	Notification and message displayed	Pass
F032	Notification for Payment Status	1. Select an event to register 2. Fill in all valid details 3. Click “Register” 4. Skip or exit from payment page	Notification is sent to participant to remind them about paying for the event	Notification is sent and displayed the correct message	Pass

F033	Notification for cancel registered event	1. The event has not start yet 2. Cancel the event 3. Check notification bell	Notification message: “You have successfully cancelled your registration”	Notification is sent and displayed the correct message	Pass
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Table 5.8: Functionality Testing on Participant Profile Page

Module: Participant Profile Page					
Test Objective: To verify that participants can view and update their information, and view their registered events					
Test ID	Test Case	Test Procedure	Expected Result	Actual Result	Status
F034	View profile information	1. Log in as a participant 2. Navigate to “Profile” page	User sees their information and able to update them	Profile displayed	Pass
F035	Update Email or Password	1. Change email or password 2. Click “Save”	Email or Password is updated in the system	Email or Password updated	Pass
F036	Invalid email format	1. Try updating email with invalid format (ex: user.com) 2. Click “Save”	Error message display: “Wrong email format”	Validation activated	Pass
F037	View registered events list	1. Log in as participant 2. Click on “My Events”	List of events the user registered for is displayed	Events displayed	Pass
F038	Unauthorized profile access	1. Try to access profile page without logging in	Error message display: “Log in First to view profile”	Access blocked	Pass

Table 5.9: Functionality Testing on Manage Participant Events Page

Module: Manage Participant Events Page					
Test Objective: To make sure participants can manage their registered events, payment, and change favourite categories					
Test ID	Test Case	Test Procedure	Expected Result	Actual Result	Status
F039	View registered events	1. Go to “Profile Page” 2. Navigate to “My Events”	Events are displayed	Event are displayed correctly	Pass
F040	Switch to calendar view	1. Click on “Calendar View” button	Events are displayed in a calendar format	Calendar view with registered events shown	Pass
F041	Switch back to table view	1. Click on “Table View” button	Events are displayed back to table format	Table view with registered events shown	Pass
F042	Pay for unpaid event	1. Click “Pay Now” button next to an unpaid event	Redirected to payment page	Button to payment redirection working correctly	Pass
F043	Cancel a registered event	1. Click “Cancel Registration” next to an event 2. Confirm cancellation	Event registration is cancelled, notification sent	Event remove and confirmation shown	Pass
F044	Change favourite categories	1. Click on “Change Favourite Category” button 2. Select new favourite categories	Categories updated and new recommendations will be shown in the homepage	New categories saved successfully	Pass

		3. Click “Save”			
F045	No events registered	1. Go to “Profile Page” 2. Navigate to “My Events”	Message: “You have not registered for any events yet”	Correct message displayed	Pass

Table 5.10: Functionality Testing on Organiser Dashboard

Module: Organiser Dashboard					
Test Objective: To make sure that Organisers can access dashboard and view visual data analytics					
Test ID	Test Case	Test Procedure	Expected Result	Actual Result	Status
F046	Login to dashboard as Organiser	1. Login with email that is for Organiser 2. Click “Login”	User is redirected to Organiser dashboard	Successfully logged in as Organiser	Pass
F047	View total revenue for an event	1. Select an event to view revenue 2. Click “View Revenue”	Total revenue is displayed based on paid registrations	Revenue display accurately	Pass
F048	View pie chart data analytic	1. Select an event to view pie chart 2. Select what type of pie chart to view 3. Click “Display Data”	Pie chart data displayed based on selected type of pie chart	Pie chart display accurately	Pass

F049	No event created yet	1. Have no event create yet 2. View dashboard data analytics	System message display: “No event created yet”	Message is displayed correctly	Pass
F050	Access Organiser page using URL link without the role	1. Enter Organiser page URL link	Redirected to login page	Access denied correctly	Pass

Table 5.11: Functionality Testing on Creating an Event for Organiser

Module: Creating an Event for Organiser					
Test Objective: To verify that Organisers can create events successfully with all details stored in the system					
Test ID	Test Case	Test Procedure	Expected Result	Actual Result	Status
F051	Successful event creation	1. Log in as an Organiser 2. Go to “Events” page 3. Click “Add Event” 4. Fill in all required details 5. Click “Submit”	Event is created and displayed at the participant page	Event created	Pass
F052	Missing required fields	1. Leave a required field empty 2. Click “Submit”	Error message display: “Fill in all required fields”	Error message displayed	Pass

F053	Uploading event image	1. Upload an image file 2. Click “Submit”	Image is uploaded and stored successfully	Image is stored and displayed	Pass
F054	Preview event	1. Fill in all required details 2. Click “Preview Event”	Displays how the event will look like at the participation event page	Preview event is displaying correct details	Pass
F055	Cancel event creation	1. Fill in some data 2. Click “Cancel”	Form returns to dashboard without saving data	Form cleared	Pass

Table 5.12: Functionality Testing on Organiser Manage Event Details

Module: Organiser Manage Event Details					
Test Objective: To make sure Organisers can view, edit, and delete their created events					
Test ID	Test Case	Test Procedure	Expected Result	Actual Result	Status
F056	View event details	1. Login as Organiser 2. Navigate to “Events” page 3. Click “View event” on any event	Event details page is displayed showing full information of the event	Event details shown accurately	Pass
F057	Edit event details	1. Navigate to “Events” page 2. Click “Edit” on an event 3. Update fields and click “Save”	Event is updated, saved in the database, and notification is sent to registered participants	Event updated successfully	Pass

F058	Delete an event	1. Click “Delete” on an event 2. Confirm the deletion prompt	Event is removed from the list and notification is sent to registered participants	Event deleted and confirmation shown	Pass
F059	Organiser has no events created yet	1. Log in as Organiser who has not created any events 2. Navigate to “Events” page	System message display: “No events created yet”	Empty state message shown correctly	Pass

Table 5.13 Functional Testing on Organiser Profile Page

Module: Organiser Profile Page					
Test Objective: To make sure Organisers can view and update their profile information					
Test ID	Test Case	Test Procedure	Expected Result	Actual Result	Status
F060	View Organiser profile	1. Log in as Organiser 2. Navigate to “Profile” page	Profile page loads with current details	Organiser details displayed correctly	Pass
F061	Update Organiser email or password of system	1. Fill in the email or password field 2. Click “Save”	Email or password is updated and saved in the database	Email or password updated successfully	Pass
F062	Update Organiser contact information	1. Fill in contact information field 2. Click “Save”	Contact information updated	Contact information updated successfully	Pass

F063	Cancel editing profile	1. Make changes but click “Cancel”	Changes are not saved, original value remain	Edit cancelled as expected	Pass
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Table 5.14: Functional Testing on Organiser Generate Report

Module: Organiser Generate Report					
Test Objective: To make sure Organisers can select an event, view its report, and export as PDF file					
Test ID	Test Case	Test Procedure	Expected Result	Actual Result	Status
F064	View summary report	1. Log in as Organiser 2. Navigate to “Generate Report” page 3. Click on dropdown to select an event 4. Select an event to generate report 5. Click “View Report”	Report preview appears for selected event	Event data displayed in report is correct and working	Pass
F065	Export report as PDF	1. Log in as Organiser 2. Navigate to “Generate Report” page 3. Click on dropdown to select an event	PDF file downloads with correct content	File downloaded and opens correctly	Pass

		4. Select an event to generate report 5. Click “Export As PDF”			
F066	Cancel report generation	1. Select an event 2. Click “Cancel”	No report is generated or downloaded	Cancel works as expected	Pass
F067	No events created	1. Log in as Organiser 2. Navigate to “Generate Report” page	System message display: “No events available”	Message shown correctly	Pass

Table 5.15: Functionality Testing on Administrator Dashboard

Module: Administrator Dashboard					
Test Objective: To make sure the administrator dashboard accurately displays data analytics					
Test ID	Test Case	Test Procedure	Expected Result	Actual Result	Status
F068	Log in to dashboard as administrator	1. Log in using email for administrator 2. Click “Login”	User is redirected to administrator dashboard	Successfully logged in as administrator	Pass
F069	View total number of users in system	1. Log in as administrator 2. Click “View Number of Users”	Shows the total number of registered users in the system	User count displayed correctly	Pass

F070	View total number of events created in system	1. Log in as administrator 2. Click “View Number of Events”	Shows the total number of events created in the system	Events count displayed correctly	Pass
F071	No users in system	1. No user registered in the system 2. View dashboard 3. Click “View Number of Users”	System message display: “No User in the System”	Message display correctly	Pass
F072	No events in system	1. No event created in the system 2. View Dashboard 3. Click “View Number of Events”	System message display: “No event created in the system”	Message display correctly	Pass
F073	Access administrator page using URL link without the role	1. Enter administrator page URL link	Redirected to login page	Access denied correctly	Pass

Table 5.16: Functionality Testing on Add New Users

Module: Add New Users					
Test Objective: To make sure that the administrator can successfully add new users into the system					
Test ID	Test Case	Test Procedure	Expected Result	Actual Result	Status
F074	Access to “Add New User” page	1. Log in as administrator 2. Navigate to “User Management” page 3. Click “Add New Users” button	Page is loaded with fields for email, password, and role selection	Page loaded correctly and display correct input forms	Pass
F075	Add new Participant	1. Fill in email and password 2. Seletc role “Participant” 3. Click “Create”	Success message display: “Participant account created”	Participant created successfully	Pass
F076	Add new Organiser	1. Fill in email and password 2. Seletc role “Organiser” 3. Click “Create”	Success message display: “Organiser account created”	Organiser created successfully	Pass
F077	Create user with existing email	1. Enter an email that has already exist in the system 2. Click “Create”	Error message display: “Email already exists”	Duplicate email blocked	Pass
F078	Email format validation	1. Enter an invalid email format for example: email%dotcom	Error message display: “Invalid email format”	Email validation working	Pass

		2. Click “Create”			
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Table 5.17: Functionality Testing on Manage User Accounts

Module: Manage User Accounts					
Test Objective: To make sure the administrator can view, edit, and delete user accounts in the system					
Test ID	Test Case	Test Procedure	Expected Result	Actual Result	Status
F079	View all registered users	1. Log in as administrator 2. Navigate to “User Management” page	Table is displaying all the users registered in the system	All users are displayed correctly	Pass
F080	View user details	1. Click “View” next to the user in the table	User details page displayed	Details shown correctly	Pass
F081	Delete user from the system	1. Click “Delete” next to the user in the table 2. Confirm deletion	User is deleted in the system	User deleted successfully	Pass
F082	Deleted user cannot log in to system	1. Delete a user 2. Try to log in using the user’s email and password	Error message display: “Account does not exist”	User deleted successfully	Pass

Table 5.18: Functionality Testing on Administrator Manage Event Details

Module: Administrator Manage Event Details					
Test Objective: To make sure administrator can view, edit, and delete events if necessary					
Test ID	Test Case	Test Procedure	Expected Result	Actual Result	Status
F083	View event details	1. Login as administrator 2. Navigate to “Manage Events” page 3. Select an Organiser to view their event 4. Click “View event” on any event	Event details page is displayed showing full information of the event	Event details shown accurately	Pass
F084	Edit event details	1. Navigate to “Manage Events” page 2. Select an Organiser to edit their event 3. Click “Edit” on an event 4. Update fields and click “Save”	Event is updated, saved in the database, and notification is sent to registered participants	Event updated successfully	Pass
F085	Delete an event	1. Select an Organiser to delete their event 2. Click “Delete” on an event	Event is removed from the list and notification is sent to registered participants	Event deleted and confirmation shown	Pass

		3. Confirm the deletion prompt			
F086	Organiser has no events created yet	1. Navigate to “Manage Events” page 2. Select an Organiser to view their event	System message display: “No events created yet”	Empty state message shown correctly	Pass

Table 5.19 Functional Testing on Administrator Profile Page

Module: Administrator Profile Page					
Test Objective: To make sure administrator can view and update their profile information					
Test ID	Test Case	Test Procedure	Expected Result	Actual Result	Status
F060	View administrator profile	1. Log in as administrator 2. Navigate to “Profile” page	Profile page loads with current details	Administrator details displayed correctly	Pass
F061	Update administrator email or password of system	1. Fill in the email or password field 2. Click “Save”	Email or password is updated and saved in the database	Email or password updated successfully	Pass
F062	Update administrator contact information	1. Fill in contact information field 2. Click “Save”	Contact information updated	Contact information updated successfully	Pass

F063	Cancel editing profile	1. Make changes but click “Cancel”	Changes are not saved, original value remain	Edit cancelled as expected	Pass
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Table 5.20: Functional Testing on Administrator Generate Report

Module: Administrator Generate Report					
Test Objective: To make sure administrator can select an event from an Organiser then view its report and export as PDF file					
Test ID	Test Case	Test Procedure	Expected Result	Actual Result	Status
F064	View summary report	1. Log in as administrator 2. Navigate to “Generate Report” page 3. Click on dropdown to select an Organiser 4. Click on dropdown to select an event 5. Click “View Report”	Report preview appears for selected event for that Organiser	Event data displayed in report is correct and working	Pass
F065	Export report as PDF	1. Log in as administrator 2. Navigate to “Generate Report” page 3. Click on dropdown to select an Organiser	PDF file downloads with correct content for that Organiser	File downloaded and opened correctly	Pass

		4. Click on dropdown to select an event 5. Click “Export As PDF”			
F066	Cancel report generation	1. Select an Organiser 2. Select an event 3. Click “Cancel”	No report is generated or downloaded	Cancel works as expected	Pass
F067	No events created	1. Log in as administrator 2. Navigate to “Generate Report” page 3. Select an Organiser	System message display: “No events available”	Message shown correctly	Pass

5.3 Non Functional Testing

Non Functional Testing is a type of software testing that evaluates the reliability, usability, and efficiency characteristics of the software application. Instead of evaluating what the system does (Functional Testing), it focuses on how well the software application works under different conditions.

5.3.1 Reliability Testing

Reliability Testing focus on evaluating how consistently a software system functions under specific conditions over time. It determines if the software can run without errors for a set amount of time in a realistic setting.

Table 5.21: Reliability Testing on Authentication for Login, Signup, and Forgot Password

Module: Authentication for Login, Signup, and Forgot Password						
Test Objective: To make sure the authentication system works properly after going through various testing attempts in Login, Signup, and Forgot Password pages						
Test ID	Test Case	Test Procedure	Input Data	Expected Result	Actual Result	Status
R001	To check if repeated login attempts work reliably	1. Go to login page 2. Enter valid email and password 3. Click “Login” 4. Logout from system 5. Repeat steps 2-4	Valid email and password	System displays message: “Login successfully” each time	As expected	Pass
R002	To check if session is destroyed after logout	1. Login to the system 2. Click “Logout” button 3. Try to go back to the page using back button from browser	Valid email and password	System displays message: “Please login first” then redirects to login page	As expected	Pass
R003	To check consistent behaviour after password change	1. Login with current password 2. Go to profile and update password 3. Click “Logout” 4. Login with old password 5. Try again with new password	Current password and then new password	System displays message: “Incorrect password” for old password and “Login successfully” for new password	As expected	Pass

R004	To check case sensitivity in email during login	1. Register with email: user@email.com 1. Try to login with the email 2. Click “Logout” 3. Try to login with USER@email.com	Valid email and email with case sensitive	System displays message: “Login successful” then displays: “Incorrect Email” for case sensitive email	As expected	Pass
R005	To check the system response to incorrect OTP input	1. Go to forgot password page 2. Enter valid email 3. Enter incorrect OTP	Valid email, incorrect OTP	System displays message: “Incorrect OTP”	As expected	Pass

Table 5.22: Reliability Testing on Event Browsing and Interface Interaction

Module: Event Browsing and Interface Interaction						
Test Objective: To make sure the system consistently displays and filters events based on participant input and interactions						
Test ID	Test Case	Test Procedure	Input Data	Expected Result	Actual Result	Status
R006	To check if the filtering by event name works reliably	1. Navigate to “Events” page 2. Type an event name in the search bar	Event Name	System displays event based on the input	As expected	Pass

				value from participant with no error		
R007	To check if the filtering by event venue works reliably	1. Navigate to “Events” page 2. Type an event venue in the search bar	Event Venue	System displays event based on the input value from participant with no error	As expected	Pass
R008	To check category icon filter correctly	1. On “Events” page 2. Click on any category icon	Category icon: “Sports”	System displays the event list based on the category icon with no error	As expected	Pass
R009	To check responsiveness on different devices or screens	1. Open “Events” page on desktop, tablet, or mobile	Screen resolution	System adapts layout responsively for each screen size	As expected	Pass
R010	To check if pagination works reliably across pages	1. On “Events” page 2. Scroll to the bottom 3. Click the “2” button on the pagination 4. Click back “1” button on the pagination	Pagination buttons	System loads and displays events from the correct page with no error	As expected	Pass

		5. Repeat several times with other numbers				
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Table 5.23: Reliability Testing on Event Registration

Module: Event Registration						
Test Objective: To make sure the event registration process works correctly under different conditions						
Test ID	Test Case	Test Procedure	Input Data	Expected Result	Actual Result	Status
R011	To check if registration is successful with valid data	1. Login as Participant 2. Navigate to “Events” page 3. Click on an event 4. Click “Register” and fill in all information details	Participant information details	System displays message: “Registration successful” and add participant into event list	As expected	Pass
R012	To check system behaviour on repeated attempts	1. Register for an event 2. Try to register with the same information again	Same participant information details	System displays message: “You are already registered for this event”	As expected	Pass
R013	To check if can register same event	1. Register for an event	Different participant	System displays message:	As expected	Pass

	with different information but same account	2. Fill in different information details 3. Click “Register” 4. Repeat Step 1 to 3	information details	“Registration successful” for every different participant information detail		
R014	To check if payment status updates correctly after register and paid	1. Register for a paid event 2. Click “Register” 3. Proceed to payment page 4. Fill in payment details 5. Click “Confirm”	Payment details	System displays payment status as “Paid”	As expected	Pass

Table 5.24: Reliability Testing on Participant Profile Management and Preferences

Module: Participant Profile Management and Preferences						
Test Objective: To make sure participant profile updates correctly and category selections are saved						
Test ID	Test Case	Test Procedure	Input Data	Expected Result	Actual Result	Status
R015	To check if profile information updates and saved correctly	1. Login as Participant 2. Navigate to “Profile” page 3. Update any information details 4. Click “Save”	New information details	System displays message: “Profile updated successfully” and shows updated info on display	As expected	Pass

R016	To check if email and password update works reliably	1. Change email or password 2. Logout 3. Login using new email or password	New email and password	System accepts login with updated email and password	As expected	Pass
R017	To check favourite category selection is saved and applied	1. On “Profile” page 2. Navigate to “Manage Events” page 3. Click “Change Category” 4. Select new categories	Category selection: “Talk”, “Workshop”	System displays message: “Category saved” and recommends events based on selected categories	As expected	Pass

Table 5.25: Reliability Testing on Event Creation and Management for Organiser

Module: Event Creation and Management for Organiser						
Test Objective: To make sure the event creation, editing, and deletion work reliably under various conditions						
Test ID	Test Case	Test Procedure	Input Data	Expected Result	Actual Result	Status
R018	To check if event can be created reliably	1. Login as Organiser 2. Navigate to “Events” page 3. Click “Create Event” button 4. Fill out all fields	Event details	System displays message: “Event created successfully” and displays the event	As expected	Pass

		5. Click “Submit”		in the event management page		
R019	To check editing existing event updates correctly	1. Select an existing event 2. Edit event details 3. Click “Save”	Modified event details	System displays message: “Event updated successfully” and the changes are correct	As expected	Pass
R020	To check deletion of event removes it from system	1. Click “Deleted” button next to an event 2. Confirm deletion 3. Refresh page	Existing event	System displays message: “Event deleted successfully” and removes it from the system	As expected	Pass
R021	To check if no event displays message correctly	1. Delete all events 2. Refresh page	Existing event	System displays: “No events created yet”	As expected	Pass

Table 5.26: Reliability Testing on System Navigation and UI Interaction

Module: System Navigation and UI Interaction						
Test Objective: To make sure that all UI components and navigation flows work correctly and reliably based on repeated usage						
Test ID	Test Case	Test Procedure	Input Data	Expected Result	Actual Result	Status
R022	To check if all navigation links and buttons works properly	1. Login as Organiser 2. Click on each menu buttons (Event Management, Dashboard, Profile, Generate Report) 3. Check page transitions	Organiser login details, menu buttons	System navigates to the correct page each time without error	As expected	Pass
R023	To check if dashboard data analytics load and display correctly	1. Login as Organiser 2. Navigate to Dashboard 3. Check event statistics and counts	Organiser login details	All dashboard data loads and displays correctly	As expected	Pass
R024	To check modals open and close correctly	1. Activate a modal on data analytic 2. Open and close it repeatedly	Modal activation	Modals open and close without problem	As expected	Pass
R025	To check error messages and UI feedback appear reliably	1. Activate an invalid form submission 2. Check feedback such as “Field require” or “Invalid email”	Empty input, invalid input	System message displays correct error messages	As expected	Pass

Table 5.27: Reliability Testing on Report Generation for Organiser

Module: Report Generation for Organiser						
Test Objective: To make sure the Organisers can generate report for their events under various conditions						
Test ID	Test Case	Test Procedure	Input Data	Expected Result	Actual Result	Status
R026	To check if report can be generated for an existing event	1. Login as Organiser 2. Navigate to “Generate Report” page 3. Select an event with data 4. Click “Generate”	Organiser login details, event with data	System displays report details successfully	As expected	Pass
R027	To check if report generation works for empty event	1. Login as Organiser 2. Select an event with no registered participants 3. Click “Generate”	Organiser login details, event with no data	System displays message: “No data available”	As expected	Pass
R028	To check download PDF is reliable	1. Select an event 2. Click “Download PDF”	Events with participants	File is downloaded correctly	As expected	Pass
R029	To check responsiveness when switching between events	1. Generate a report for Event A 2. Switch to Event B 3. Click “Generate”	Two different events	System loads the selected event’s report for both different events	As expected	Pass

Table 5.28: Reliability Testing on UI Navigation and Reliability for Administrator

Module: UI Navigation and Reliability for Administrator						
Test Objective: To make sure all navigation elements and interface interactions on the administrator side work correctly						
Test ID	Test Case	Test Procedure	Input Data	Expected Result	Actual Result	Status
R030	To check if all sidebar links navigate correctly	1. Login as Administrator 2. Click each sidebar link such as Dashboard, Manage Users, Manage Events, Generate Report	Sidebar link	System redirects to the correct page	As expected	Pass
R031	To check modals open and close without issue	1. Activate any modal in the data analytics 2. Close and reopen multiple times	Modal activation	Modals function reliably with no problem	As expected	Pass
R032	To check if logout destroy session	1. Login as Administrator 2. Go to “Logout” button 3. Confirm logout 4. Try to access page again with URL or back button in browser	Logout button	Session is destroyed after logging out from the system	As expected	Pass

Table 5.29: Reliability Testing on Add New Users for Administrator

Module: Add New Users for Administrator						
Test Objective: To make sure the administrator can add new users and prevent duplicates or errors						
Test ID	Test Case	Test Procedure	Input Data	Expected Result	Actual Result	Status
R033	To check adding new user with valid input	1. Login as Administrator 2. Navigate to “Manage Users” page 3. Click “Add User” button 4. Enter valid email, password, and user role 5. Click “Create”	Valid email, password, and user role	System displays message: “User successfully added”	As expected	Pass
R034	To check duplicate email is rejected	1. Try to add a user with email that already exist for that user role 2. Click “Create”	Existing email	System displays message: “Email already exists”	As expected	Pass
R035	To check input validation	1. Leave required fields blank 2. Click “Create”	Empty fields	System displays message: “This field is required”	As expected	Pass

Table 5.30: Reliability Testing on Manage Users for Administrator

Module: Manage Users for Administrator						
Test Objective: To make sure all user management operations are reliable and make correct changes in the system						
Test ID	Test Case	Test Procedure	Input Data	Expected Result	Actual Result	Status
R036	To check if viewing user details is working	1. Login as Administrator 2. Navigate to “Manage Users” 3. Click “View” next to a user	Selected user	User details page with correct information	As expected	Pass
R037	To check user deletion reliability	1. Click “Delete” next to a user 2. Confirm deletion	Selected user	User is removed and system displays message: “User deleted”	As expected	Pass
R038	To check system reliability after multiple edits	1. Edit several users 2. Refresh page 3. Check user details	Multiple users	All updates are applied correctly with no problem	As expected	Pass

Table 5.31: Reliability Testing on Search and Filter Organiser and Their Events as Administrator

Module: Search and Filter Organiser and Their Events as Administrator						
Test Objective: To make sure the administrator can reliably search for Organisers and view their event						
Test ID	Test Case	Test Procedure	Input Data	Expected Result	Actual Result	Status
R039	To check search functionality by Organiser name	1. Login as Administrator 2. Navigate to “Manage Events” page 3. On the search bar 4. Enter Organiser name 5. Click “Search”	Administrator login details, Organiser name	Organiser list filters based on the input	As expected	Pass
R040	To check viewing Organiser’s events	1. Select an Organiser 2. Click “View Event”	Organiser with events	Event list loads reliably based on selected Organiser	As expected	Pass
R041	To check when Organiser has no events created yet	1. Select an Organiser with no event 2. Click “View Event”	Organiser with no events	System displays: “No events created by this Organiser”	As expected	Pass

5.3.2 Usability Testing

Usability Testing focus on evaluating how simple and user-friendly a software application is for real users. It focuses on the user experience (UX), ensuring that users can navigate, understand, and use the system effectively, correctly, and satisfactorily.

Table 5.32: Usability Testing on User Authentication for Login, Signup, and Forgot Password

Module: User Authentication for Login, Signup, and Forgot Password						
Test Objective: To make sure the authentication process is simple, clear, and easy to use						
Test ID	Test Case	Test Procedure	Input Data	Expected Result	Actual Result	Status
U001	To check if the login interface is clear and simple to understand	1. Go to Login page 2. Look for the input field 3. Enter valid email and password 4. Click “Login”	Valid email and password	System will provide placeholders for inputs, show “Login successful”, and redirect to the correct user role page	As expected	Pass
U002	To check if the signup interface is clear and simple to understand	1. Go to Signup page 2. Look for the input field 3. Enter valid email, password and confirm password 4. Click “Signup”	Valid email, password, and confirm password	System will provide placeholders for inputs, show “Registration successful”, and	As expected	Pass

				redirect to the login page		
U003	To check if users can find the forgot password link easily	1. Go to login page 2. Look for “Forgot Password” link 3. Click “Forgot Password”	Click on “Forgot Password”	System will redirect to Forgot Password page	As expected	Pass
U004	To check if the forgot password interface is clear and simple to understand	1. Go to Forgot Password page 2. Look for the input field 3. Enter valid email, OTP, new password 4. Click “Submit”	Valid email, OTP, and new password	System will provide placeholders for inputs, show “Password Reset Successfully”, and redirect to the login page	As expected	Pass

Table 5.33: Usability Testing on Event Browsing for Participants

Module: Event Browsing for Participants						
Test Objective: To make sure participants can easily view, search, and filter events through a user-friendly interface						
Test ID	Test Case	Test Procedure	Input Data	Expected Result	Actual Result	Status
U005	To check if participants can easily view all events on the page	1. Log in as a participant 2. Navigate to Events page 3. Look at event listing layout and labels	User role is participant	System will display events in an organized layout with correct details	As expected	Pass
U006	To check if the event search bar is easy to use	1. On the Events page 2. Look for the search bar 3. Enter event name or event venue into the search bar 4. Click “Search”	Event name or Event venue	System will provide placeholders for search bar, display matching events based on the input	As expected	Pass
U007	To check if category icons are usable and easy to understand	1. On the Events page 2. Look for the category icons 3. Click on one of the icons	Clicked icon	System will filter and display events that belong to the selected category	As expected	Pass

Table 5.34: Usability Testing on Event Registration for Participants

Module: Event Registration for Participants						
Test Objective: To make sure participants can register for events easily, with clear instructions, and confirmation feedback						
Test ID	Test Case	Test Procedure	Input Data	Expected Result	Actual Result	Status
U008	To check if the registration button is clearly visible and working	1. Log in as Participant 2. Click on any event from the event list 3. Look for the registration button 4. Click “Register” button	Clicked “Register” button	System will display a pop up modal for registration after pressing on the “Register” button	As expected	Pass
U009	To check if the registration form is easy to fill and understand	1. Click on the “Register” button 2. Fill in all the required fields 3. Submit the form	User information	System will provide placeholders for input field, validate the form, show a success message, and confirm registration	As expected	Pass
U010	To check if error message is shown for missing info	1. Open registration form 2. Leave a required field blank 3. Click “Register”	Empty required field	System will display an error message such as “Please fill all required fields”	As expected	Pass

Table 5.35: Usability Testing on Profile and Event Management for Participants

Module: Profile and Event Management for Participants						
Test Objective: To make sure participants can easily manage their profile information and registered events through a simple user interface						
Test ID	Test Case	Test Procedure	Input Data	Expected Result	Actual Result	Status
U011	To check if participants can easily access their profile	1. Log in as Participant 2. Navigate to “Profile” page	User role is participant	System will redirect participant to their profile page with user information displayed	As expected	Pass
U012	To check if editing email and password is simple	1. On profile page 2. Look for email or password input field 3. Fill in new email or password in the input field 4. Click “Save”	New email or new password	System will put placeholders for input field, validate and update the data, and show message “Profile updated”	As expected	Pass
U013	To check if participant can view registered events easily	1. Log in as Participant 2. Go to “Profile” page 3. Navigate to “My Events” page 4. Look for registered events	User role is participant	System will display list of events the participant has registered	As expected	Pass
U014	To check if participant can	1. On the “My Events” page	Cancel button clicked	System will prompt confirmation, then	As expected	Pass

	cancel registered event clearly	2. Look for any event to cancel registration 3. Click “Cancel” next to the event 4. Confirm cancellation		display message “You have successfully cancelled your registration”		
U015	To check if participant can switch between calendar and table view easily	1. On the “My Events” page 2. Table view is displayed as default 3. Click on “Calendar” button 4. Click back “Table” button 5. Switch between views	Calendar button clicked, table button clicked	System will display according to the table or calendar button		
U016	To check if changing favourite categories is easy to understand	1. On the “My Events” page 2. Look for favourite category 3. Click “Edit Category” 4. Select new categories 5. Click “Save”	One or more category	System will display list of favourite categories, update after selection, and refresh recommended events on homepage		

Table 5.36: Usability Testing on Organiser Dashboard

Module: Organiser Dashboard						
Test Objective: To make sure the Organisers can easily navigate the dashboard, understand event data analytics, and select different event data analytics to view						
Test ID	Test Case	Test Procedure	Input Data	Expected Result	Actual Result	Status
U017	To check if dashboard is accessible after login	1. Login as Organiser 2. Look if dashboard is Organiser	Organiser login details	System will redirect to Organiser dashboard	As expected	Pass
U018	To check if data analytics are displayed clearly and understandable	1. Login as Organiser 2. On the dashboard 3. Look at data analytics 4. Read event performance metrics	Organiser login details	System will display metrics using readable charts, graphs, counters	As expected	Pass
U019	To check if Organisers can select different analytics view easily	1. Login as Organiser 2. On the dashboard 3. Locate the pie chart selector dropdown 4. Select a different label to view	User role is Organiser	System will display a dropdown to select what kind of pie chart to view, displays the correct data of pie chart based on selection	As expected	Pass

U020	To check if labels and legends are understandable	1. Hover on the pie chart data 2. Look on the data on pie chart 3. Look at the pie chart legend	Hover on pie chart data	System will display tooltips and legends with clear explanations	As expected	Pass
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Table 5.37: Usability Testing on Add New Event for Organisers

Module: Add New Event for Organisers						
Test Objective: To make sure organizers can easily add new events and understanding what to input in the fields						
Test ID	Test Case	Test Procedure	Input Data	Expected Result	Actual Result	Status
U021	To check if the “Add New Event” button is easy to find	1. Log in as Organisers 2. Navigate to “Events” page 3. Look for the “Add New Event” button	User role is Organiser	System will display a clear and good positioned button	As expected	Pass
U022	To check if the event creation form is easy to understand	1. Click “Add New Event” 2. Look at the input fields	Button clicked	System displays a well structured and simple form with helpful placeholders	As expected	Pass

U023	To check if file upload for images is easy to understand	1. On the “Add New Event” page 2. Look for “Upload Images” button 2. Upload an event image 3. Click “Preview”	Image file	System will upload and preview the image, and store it in database	As expected	Pass
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Table 5.38: Usability Testing on Organiser Manage Events for View, Update, and Delete events

Module: Organiser Manage Events for View, Update, and Delete events						
Test Objective:						
Test ID	Test Case	Test Procedure	Input Data	Expected Result	Actual Result	Status
U024	To check if event list is easy to view and understand	1. Log in as Organiser 2. Navigate to “Events” page 3. Look at the events displayed	User role is Organiser	System displays a clear and organized list of created events	As expected	Pass
U025	To check if the “View” button displays correct and understandable full details	1. On the “Events” page 2. Look for an event to view more details 3. Click “View” button next to the event	Button clicked	System displays full event details in a new page with simple and understandable table	As expected	Pass

U026	To check if “Edit” button is clearly visible	1. On the “Events” page 2. Look for the “Edit” button 3. Click “Edit” button	Button clicked	System displays a clear and good positioned button, opens pre-filled event form for editing	As expected	Pass
U027	To check if “Delete” button is clearly visible and confirms before deleting	1. On the “Events” page 2. Look for the “Delete” button 3. Click “Delete” button 4. Confirm deletion	Button clicked	System displays a clear and good positioned button, shows a confirmation prompt before deletion	As expected	Pass

Table 5.39: Usability Testing on Generate Report for Organiser

Module: Generate Report for Organiser						
Test Objective: To make sure Organiser can easily generate event reports with clear event selection and readable report outputs						
Test ID	Test Case	Test Procedure	Input Data	Expected Result	Actual Result	Status
U028	To check if “Generate Report” button is easy to find	1. Log in as Organiser 2. Navigate to “Generate Report” page 3. Look for “Generate Report” button	User role is Organiser	System displays a clear and good positioned button	As expected	Pass
U029	To check if event selection dropdown is clear and understandable	1. On the “Generate Report” page 2. Look for the event dropdown 3. Click the dropdown to select an event 4. Scroll down to see events created	Button clicked	System displays a dropdown list of events created by the Organiser	As expected	Pass
U030	To check if report format is easy to read and understandable	1. Select an event 2. Click “Generate Report” 3. Look at the generated report	Button clicked	System generates a clean and readable report with clear headings and data	As expected	Pass

Table 5.40: Usability Testing on Administrator Dashboard

Module: Administrator Dashboard						
Test Objective: To make sure the administrator can easily understand and interact with dashboard analytics						
Test ID	Test Case	Test Procedure	Input Data	Expected Result	Actual Result	Status
U031	To check if dashboard is easy to access after login	1. Log in as Administrator 2. Look for Administrator Dashboard	Admin login details	System redirects to dashboard with data overview panels	As expected	Pass
U032	To check if total number of users is clearly displayed	1. On the Administrator Dashboard 2. Look for user analytics card 3. Click on the card	Button pressed	System shows total number of users in a visible and clearly labelled place	As expected	Pass
U033	To check if total number of events is clearly displayed	1. On the Administrator Dashboard 2. Look for events analytics card 3. Click on the card	Button pressed	System shows total number of events in a visible and clearly labelled place	As expected	Pass
U034	To check if user roles for Participant and Organisers are separated	1. On the Administrator Dashboard 2. Look for user analytics card 3. Look at how many are Organisers and participants	-	System separates the users into Participant and Organiser to visibly understand more of the user roles	As expected	Pass

Table 5.41: Usability Testing on Add New Users for Administrator

Module: Add New Users for Administrator						
Test Objective: To make sure the process of adding new users is easy to understand						
Test ID	Test Case	Test Procedure	Input Data	Expected Result	Actual Result	Status
U035	To check if “Add New User” button is visible	1. Log in as Administrator 2. Navigate to “User” page 3. Look for “Add New User” button	Administrator login details	System displays a clearly labelled “Add New User” button that is easy to find	As expected	Pass
U036	To check if the add user form is easy to understand	1. On the “User” page 2. Click “Add New User” button 3. Look at all the input fields	Button clicked	System shows a clean form with properly labelled fields like Email, Password, and User Role	As expected	Pass

Table 5.42: Usability Testing on Manage Event for Administrator

Module: Manage Event for Administrator						
Test Objective: To make sure the administrator can easily search and select an Organiser to view and manage their events						
Test ID	Test Case	Test Procedure	Input Data	Expected Result	Actual Result	Status

U037	To check if the Organiser list is displayed clearly	1. Log in as Administrator 2. Navigate to “Manage Events” page 3. Click on the dropdown for “List of Organisers”	Button clicked	System shows a clear, scrollable list of Organisers names	As expected	Pass
U038	To check if selecting an Organiser shows their events	1. On the “Manage Events” page 2. Click on the dropdown for “List of Organisers” 3. Select an Organiser 4. Look at the events of the Organiser	Organiser selected	System displays all events related to the selected Organiser	As expected	Pass
U039	To check if the “Edit” button is visible next to each event	1. Select an Organiser to view their event 2. Check their event list 3. Look for “Edit” button	Organiser selected	System displays “Edit” button next to every listed event	As expected	Pass
U040	To check if the “Delete” button is visible next to each event	1. Select an Organiser to view their event 2. Check their event list 3. Look for “Delete” button	Organiser selected	System displays “Edit” button next to every listed event	As expected	Pass

5.3.3 Efficiency Testing

Efficiency Testing focus on evaluating how well the system uses resources to complete tasks quickly and efficiently. It measures performance under specific conditions, including system response time, processing speed, memory usage, and throughput.

Table 5.43: Efficiency Testing on User Authentication

Module: User Authentication						
Test Objective: To make sure the login and logout processes are executed quickly without delays						
Test ID	Test Case	Test Procedure	Input Data	Expected Result	Actual Result	Status
E001	To test if login is working efficiently	1. On the “Login” page 2. Enter valid credentials 3. Click “Login”	Email and Password	System logs in within 2 to 3 seconds	As expected	Pass
E002	To test if logout is completed efficiently	1. On the “Homepage” or “Dashboard” 2. Click “Logout”	Button clicked	System logs out and redirects within 1 to 2 seconds	As expected	Pass

Table 5.44: Efficiency Testing on Event Browsing and Filtering

Module: Event Browsing and Filtering						
Test Objective: To make sure browsing, filtering, and searching events load efficiently						
Test ID	Test Case	Test Procedure	Input Data	Expected Result	Actual Result	Status
E003	To test if event listing loads efficiently	1. On the “Homepage” 2. Navigate to “Events” page	Button clicked	Event list displays within 2 seconds	As expected	Pass
E004	To test filter function responsiveness	1. On the “Events” page 2. Select a category icon	Button clicked	Filtered results load instantly	As expected	Pass
E005	To test search function responsiveness	1. On the “Events” page 2. On the search bar 3. Enter an event name or event venue 4. Click “Search”	Event Name, Event Venue	Matching events load instantly	As expected	Pass

Table 5.45: Efficiency Testing on Event Registration

Module: Event Registration						
Test Objective: To make sure event registration and redirection to payment page are performed quickly						
Test ID	Test Case	Test Procedure	Input Data	Expected Result	Actual Result	Status
E006	To test if event registration submits efficiently	1. On the “Events” page 2. Select an event 3. Click on “Register” 4. Fill in the event registration form 5. Click “Proceed to Payment”	User information	Confirmation within 2 to 3 seconds	As expected	Pass
E007	To test redirection to payment page	1. Fill in the event registration form 2. Click “Proceed to Payment” 3. On the “Payment Page” 4. Fill in Payment details 5. Click “Submit”	Payment details	Payment page appears within 2 seconds	As expected	Pass

Table 5.46: Efficiency Testing on Profile Management for Participants

Module: Profile Management for Participants						
Test Objective: To verify profile viewing and updating works smoothly and quickly						
Test ID	Test Case	Test Procedure	Input Data	Expected Result	Actual Result	Status
E008	To test if profile page loads efficiently	1. Navigate to “Profile” page	Button click	Page loads within 2 seconds	As expected	Pass
E009	To test update efficiency	1. On the “Profile” page 2. Change account details 3. Click “Save”	New Email and Password	Update completes immediately	As expected	Pass

Table 5.47: Efficiency Testing on Organiser Dashboard and Data Analytics

Module: Organiser Dashboard and Data Analytics						
Test Objective: To make sure the dashboard and analytics charts load quickly and update as expected						
Test ID	Test Case	Test Procedure	Input Data	Expected Result	Actual Result	Status
E010	To test if dashboard data loads fast	1. Login as Organiser 2. On the “Dashboard” for Organisers 3. Look at the Data Analytics	Email and Password for Organiser	Login page redirected to Organiser Dashboard immediately and Data	As expected	Pass

				Analytics appeared instantly		
E011	To test the data analytics filtering is responsive	1. On the “Dashboard” 2. Select a filter on the Pie Chart dropdown	Filter Option	Chart updates instantly	As expected	Pass

Table 5.48: Efficiency Testing on Event Creation and Management

Module: Event Creation and Management						
Test Objective: To make sure event creation, updating, and deletion actions are processed without delay						
Test ID	Test Case	Test Procedure	Input Data	Expected Result	Actual Result	Status
E012	To test if the event creation loads fast	1. Navigate to “Events” page 2. Click “Add” button 3. On the “Add Events” page 4. Fill in event form 5. Click “Create”	Event Details	Event is saved and confirmed immediately	As expected	Pass
E013	To test if event update is responsive	1. On the “Events” page 2. Edit an existing event 3. Click “Update”	Updated event information	Update events immediately	As expected	Pass

E014	To test if event deletion is instant	1. On the “Events” page 2. Delete an existing event 3. Click “Delete”	Button Clicked	Event removed and list refreshed within 1 to 2 seconds	As expected	Pass
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Table 5.49 Efficiency Testing on Report Generation for Organisers

Module: Report Generation for Organisers						
Test Objective: To verify report generation based on selected event is done efficiently						
Test ID	Test Case	Test Procedure	Input Data	Expected Result	Actual Result	Status
E015	To test if report loads quickly	1. Navigate to “Report” page 2. Select an event 3. Click “Generate Report”	Button clicked	Report loads within 3 seconds	As expected	Pass

Table 5.50: Efficiency Testing on User Management for Administrator

Module: User Management for Administrator						
Test Objective: To make sure adding, updating, viewing, and deleting users is responsive and fast						
Test ID	Test Case	Test Procedure	Input Data	Expected Result	Actual Result	Status

E016	To test if adding a new user is fast	1. Navigate to “Users” page 2. Click “Add” 3. On the “Add Users” page 4. Fill in user information 5. Click “Submit”	Email, Password, Role	User created within seconds	As expected	Pass
E017	To test if updating user details is fast	1. On the “Users” page 2. Click “Edit” on a user 3. Update user information 4. Click “Save”	New email and password	Update data within seconds	As expected	Pass
E018	To test if viewing user loads fast	1. On the “Users” page 2. Click “View” on a user	Button Clicked	View User page loads instantly	As expected	Pass
E019	To test if user deletion works efficiently	1. On the “Users” page 2. Click “Delete” on a user 3. Confirm deletion	Button Clicked	User removed and refreshed within seconds	As expected	Pass

Table 5.51: Efficiency Testing on Report Generation for Administrator

Module: Report Generation for Administrator						
Test Objective: To make sure the administrator can efficiently select an Organiser, choose their event, and generate a report without delay						
Test ID	Test Case	Test Procedure	Input Data	Expected Result	Actual Result	Status

E020	To test if dropdowns for select Organiser and event loads fast	1. Navigate to “Reports” page 2. Click on the “Select Organiser” dropdown 3. Click on the “Select an Event” dropdown	Button Clicked	Dropdowns load data within seconds	As expected	Pass
E021	To test if report generation is for	1. On the “Reports” page 2. Choose an Organiser 3. Choose one of their events 4. Click “Generate Report”	Buttons Clicked	Report displays within 2 to 3 seconds	As expected	Pass

5.4 User Testing

User testing is an important step in determining how effectively the FCSIT Event Management System meets the expectations and need of its intended users. This testing involved actual users who were asked to perform specific tasks such as browsing events, registering for events, managing profiles, and view notifications. The goal is to evaluate the usability, interface design, system navigation, and overall user experience. Feedback from the users will be gathered to identify the problems, confusions, or inefficiencies of the system. The results of this testing phase will be used to improve the system's design and functionality. This is to ensure that it is user-friendly at all user levels.

5.4.1 User Acceptance Testing

User Acceptance Testing (UAT) is the final verification process before deploying the FCSIT Event Management System. The goal is to make sure that the system meets all the functional, non-functional, and operational requirements. All components should be functioning correctly and reliably in a setting that closely resembles actual real environment. By the time the system is ready to be deploy, it should have little to none bugs or issues that user could encounter. The testing is done with a total of 14 people. All the participant's answers were recorded through Google Form questionnaire. The questionnaire can be referred in Appendix E.

5.4.1.1 Users Demographic

Gender

14 responses

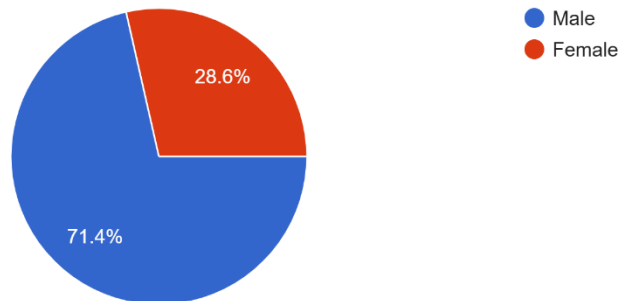


Figure 5.1: Result of Gender

Year Of Study

14 responses

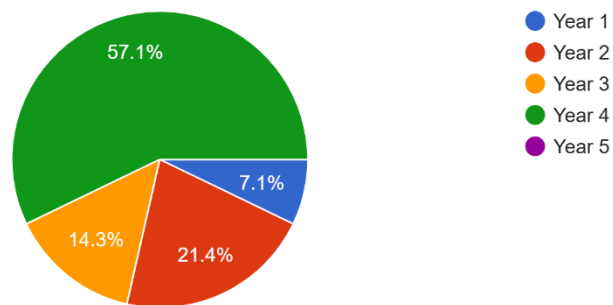


Figure 5.2: Result of Year of Study

5.4.1.2 Analysis of the Usability Testing

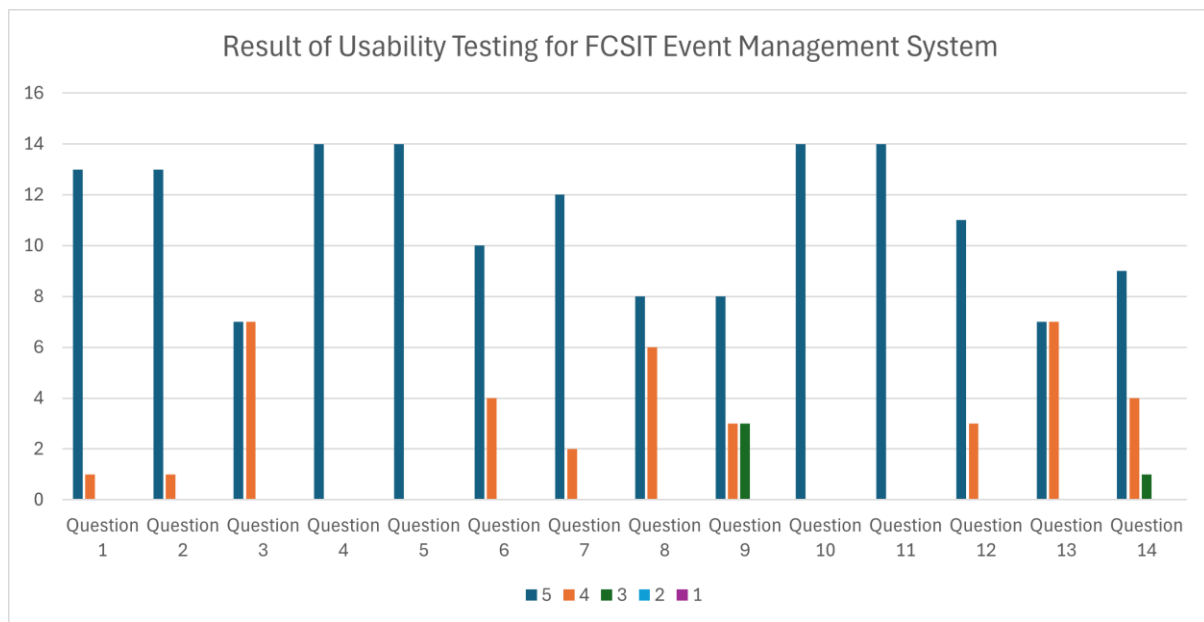


Figure 5.3: Result of the Usability Testing for FCSIT Event Management System

Question 1 until Question 14 for the usability testing questionnaire are shown below:

Question 1: Are you able to sign up to the system easily?

Question 2: Are you able to log in to the system easily?

Question 3: Are you able to choose favourite categories easily?

Question 4: Are you able to see the events on the homepage easily?

Question 5: Are you able to navigate to the Events page easily?

Question 6: Are you able to search or filter events easily?

Question 7: Are you able to view events details easily?

Question 8: Are you able to register an event easily?

Question 9: Are you able to receive system notification after register an event?

Question 10: Are you able to navigate to about About page easily?

Question 11: Are you able to navigate to Profile page easily?

Question 12: Are you able to update account settings easily?

Question 13: Are you able to view table and calendar of event registered easily?

Question 14: Are you able to navigate to Notification page easily?

Figure 5.3 shows the result of the Usability Testing for FCSIT Event Management System. Almost all of the respondents understood how to signup and login to the system. This shows the user interface for these two pages are easy to understand and not confusing for the users. Question 3 on the other hand is a mixed between fully understand and just understand how the favourite categories modal works. This could mean their favourite category is not in the selection. For Question 4 and 5, the respondents fully understand and able to see the homepage and navigate to the Events page. Question 6 shows a few people just understand how the search bar and filter icons work. This could mean that they want more filter icons to be displayed, or the search bar should have more ways to search for an event. Question 7 shows most respondents are able to view the event details. Question 8 shows a mixed understanding for registering an event. This could mean the registration process is not working as intended or the registration form has a few validation issues. Question 9 is the most mixed understanding one. This could mean the notification process has a problem. Question 10 and 11 has all the respondents fully understand and able to navigate to the About page and Profile page. Question 12 has most of the respondents understanding the process of updating account settings. Question 13 is a mix understanding for able to view table and calendar of event registered. This could mean the calendar is not displaying correctly or the buttons to view calendar and table are not working correctly. Question 14 shows a mix understand for navigating to Notification page. This could mean the notification page is hard to find and is different compared to the other pages.

5.5 Summary

In conclusion, this chapter discusses about the functional testing and non-functional testing of the FCSIT Event Management System. These testing includes functionality, reliability, usability, and efficiency testing. Each of these testing was done for participants, Organisers, and administrators. In addition, the user acceptance testing was also done with users that has experienced in joining events or users that created events for FCSIT. This is to confirm that the system satisfies user expectations and functions well in real-world scenarios. Feedback and suggestions were gathered during testing and will be used to improve the system in future updates.

CHAPTER 6: CONCLUSION AND FUTURE WORK

6.1 Introduction

This chapter will be the conclusion of the FCSIT Event Management System project by summarizing the system's project achievements, contributions, limitations, and future works. The system has successfully met its objectives: analysing existing event management systems to identify essential requirements, designing and implementing a web-based platform for students, and enhancing the user experience for both students and event Organisers. However, there are some project limitations to be discussed. The future work will all also be discussing about future suggestions that could be implemented into this system.

6.2 Project Achievement

This project aims to improve and streamline the management of events within the Faculty of Computer Science and Information Technology (FCSIT). This system allows students to simply browse available events, view event details such as location, time, and pricing. They can also register for events that match their interests. A pop-up modal will appear if they are new to the system that lets them choose their favourite categories. After selecting those categories, the system will display recommended events based on their selected categories. Once they registered an event, they can view their events in their profile page in table views or calendar views. This way, the students can visually see their event easily so they can avoid missing out their events.

On the other hand, Organisers have the ability to create, update, and delete events in their own page where no one else but them can access. They can also view real-time statistics such as monthly revenue, participant demographics, and produce reports for each event. But Organiser accounts can be only made by the administrator. The administrator will manage all users to ensure no students can freely create their own event without permission. The objectives of the FCSIT Event Management System and their achievements are shown in the following table.

Table 6.1: Table of objectives and achievements of the project

Objectives	Achievements
To analyze existing event management system and identify key functional requirements for the FCSIT Event Management System	Successfully identified key features needed by Participants, Organisers, and Administrators by analyzing similar platforms and user needs
To design and implement a web-based platform where students can browse and register for FCSIT events	Successfully developed a fully functional event management system with role-based access, personalized recommendations, and able to register events
To evaluate the usability and functionality of the system in enhancing user experience for students and event Organisers	Successfully conducted functionality, reliability, usability, efficiency testing to make sure the system is user-friendly, reliable, functioning, and effective

6.3 Contribution

The FCSIT Event Management System has created a structured and user-friendly platform designed to meet the needs of students, event Organisers, and administrators in the faculty. The important contribution of this project is its ability to advertise academic or extracurricular event by using a web application designed based on user requirements. By including the personalized features such as favourite category selection and automated notifications, the system improves participants engagement and simplifies the event registration process. Furthermore, Organisers are given the tools to create and manage events efficiently. They can also track participants attendance and generate the attendance report.

6.4 Project Limitation

The FCSIT Event Management System has a few limitations which are the system does not have a dedicated support centre such as a chatbot or FAQ section, making it difficult for participants to find help or address problems on their own. Furthermore, there is no feedback feature that allows participants to provide suggestions or make comments after attending the events, which limits the Organiser's potential to enhance future events. Finally, the notification system is simple and basic, with no features like push notifications or automated email reminders, which may lead to participants to miss important changes or event information.

6.5 Future Work

Further improving the FCSIT Event Management System can be made by adding these several features in the future. By including artificial intelligence (AI) features can greatly improve the user experience and decision making. The implementation of an AI-powered chatbot can be the system's virtual assistant which could benefit participants by answering common questions and letting them search for events instantly based on their interests. This AI chatbot will give real-time help without needing human involvement or a support centre.

Another future implementation is also adding AI-powered analytics into the Organiser dashboard. With the help of AI, the existing data analytics tools such as pie charts and graphs that give visual insights, it can help Organisers by automatically summarizing trends and providing predictive insights. For example, by using past data, the algorithm could suggest the best time to host events, identify low-engagement categories, or anticipate participant attendance. By implementing AI in these areas, the system could become more user-friendly and efficient, providing participants and Organisers with a better event management experience.

6.6 Conclusion

The development of the FCSIT Event Management System has made it possible to organize, access, and manage events within the faculty. By combining key processes such as user authentication, event registration, participant recommendations, event creation, event management, and profile management, the system provides a more efficient and modern experience for participants, Organisers, and administrators. Throughout the project, important functionalities such as category-based event filtering, data analytics for Organisers and administrators, and participant profile management were successfully implemented and tested. Each module was designed to provide usability, reliability, and efficiency. Even though there are still several limitations such as the lack of support centre and feedback system, the system still provides a solid platform for future improvements. With future work planned to integrate AI-driven to help and improved data insights. In conclusion, the project's objectives and goals were met successfully and the development of this system throughout the Final Year Project 1 and Final Year Project 2 has been marked successful.

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APPENDIX A: QUESTIONNAIRE QUESTIONS

Section A: Demographic

1. Your name

2. What is your age group?

- ☐ Below 18
- ☐ 18 – 20
- ☐ 21 – 24
- ☐ 25 – 30
- ☐ 31 – 40
- ☐ Above 40
- ☐ Rather not tell

3. What is your gender?

- ☐ Male
- ☐ Female

4. Are you a student, staff member or lecturer of UNIMAS?

- ☐ Student
- ☐ Staff member
- ☐ Other (please specify)
: _____

5. If you are a student from UNIMAS, which year are you from?

- ☐ Year 1
- ☐ Year 2
- ☐ Year 3

- ☐ Year 4
- ☐ Year 5
- ☐ Not a student

6. Are you a student, staff, or lecturer from Faculty of Computer Science and Technology?

- ☐ Yes
- ☐ No

Section B: Event Participation and Preferences

7. Have you ever attended or participated in events organized by UNIMAS?

- ☐ Yes
- ☐ No

8. How often do you attend any type events?

- ☐ Never
- ☐ Rarely (1-3 times a year)
- ☐ Sometimes (4-9 times a year)
- ☐ Frequently (10-20 times a year)
- ☐ Very Frequently (20+ times a year)

9. What types of events do you usually attend? (Can choose more than one)

- ☐ Concerts
 - ☐ Festivals
 - ☐ Conferences
 - ☐ Sports
 - ☐ Marathons
 - ☐ Others (please specify)
- :_____

10. Do you have a platform to find details about events and register for an event? If yes, list them out.

11. How satisfied are you with your current platform you use for registering for events?

1 2 3 4 5

Very Unsatisfied						Very Satisfied
------------------	--	--	--	--	--	----------------

12. Why are you satisfied or unsatisfied with the current platform you are using for registering online events?

13. Does the platform or system you are using have any weakness? If yes, please describe them.

Section C: Suggestions and Improvements

14. How do you prefer to be notified about faculty events?

- ☐ Email
- ☐ Social Media (Whatsapp, Facebook, etc)
- ☐ Push Notifications (From website)
- ☐ Other (please specify)

: _____

15. Do you use an online website to browse or register for events?

- ☐ Yes

- No

16. Are there any specific features you would like to see added to the web-based event management system?

17. What challenges do you face when registering for events using a web-based event management system?

18. Do you feel that UNIMAS currently promotes its events effectively?

- Yes
- No
- Not sure

APPENDIX B: INTERVIEW QUESTIONS AND ANSWERS

Interview Date: 17 December 2024, 9.00 AM

Q1: Can you introduce yourself and your role in UNIMAS?

Answer: I am Rahman, one of the software engineering lecturers. I am helping Dr Yanti in Hal Ehwal Pelajar Alumni for administrative kind of things. In the unit perhubungan pelajar at Bangunan Hal Ehwal Pelalajr (BHEP), I am in charge of any activities required to be done by the students especially the PERTEKMA. For example, they have to go through their proposal, and I will advise them on how to conduct those kinds of things such as telling them all the information required for their proposal. Then, they can submit everything about how the procedure of the event would be from the start till the end.

Q2: What tasks or responsibilities do you typically handle when organizing events?

Answer: My responsibilities are varied depending on the type of event being organized. For example, I have experience serving as a protocol committee member, where I make sure proper procedures and arrangements were followed during events. I have also contributed to organizing leisure activities for project events and taken on roles in workshop committee. I am also responsible with securing sponsorships to support the events.

Q3: Do you currently handle events using traditional methods? If so, can you explain the traditional processes and workflows involved in planning and executing events at UNIMAS?

Answer: Yes, some of the events do use a few traditional methods. For example, registration will be done by using Google Forms, and social media is used for promotion and updates. In terms of the information that we need to contact the company or agencies, we will use their website like their home page to get all the information and then we will contact them through phone calls or emails. But for the process to submit all the documentations, we usually will engage with them physically. During the event, we will be there to ensure all the participants are present to finalize all the participants or even the Organisers as well. Then, once all the activities are done, the payment will be handled by the finance department. They will produce the official invoice for the payment from the agency.

Q4: What are the challenges you face when planning and carrying out an event? Could you list them out?

Answer: The challenges we faced when carrying out an event involved with in terms of people, committee members, and the external parties as well because they would not contribute anything to the event planning, whether in terms of effort or resources. Also, they did not give the feedback when we asked for it which can delay the decision-making and planning.

Q5: Do changes to event details, such as schedule adjustments or cancellations happen frequently? If so, how do you notify attendees about these changes on time?

Answer: For large events, changes to details such as schedule adjustments or cancellations do not happen. Even if we invited a VIP or an important guest, like the prime minister, we still have to continue the event even though they would be unable to come. But for smaller events, changes can happen. We notify them through email.

Q6: How do you usually promote the events to staff and students? Do you find it effective? Would a web platform improve it?

Answer: The promotion will be through email, WhatsApp, Telegram, or Facebook. Then they will disseminate them to others as well through their own social media. If the event itself has a proper own website or community page on platforms like Facebook, we will then use those kinds of things as well to promote the events. A web platform would improve it.

Q7: Do you think combining all FCSIT event promotions into one single web platform would be a good idea? If so, why?

Answer: I think combining them is good if you can do that, but in terms of the organising the event, how to conduct the event, how we manage the event, it would be a big problem for you. This is because some events will conflict with each other. For example, when Event A

has the same date and time with Event B, they will conflict with each other. So if you can plan to find a way to avoid that conflict then it is a good idea to combine the events.

Q8: What features do you think should be included in a web platform for UNIMAS event management system?

Answer: In my opinion, you need to have a user registration so I can put in my email address and password to use the system. Then, you need to have a profile that I can provide my contact number, which faculty, or what address. For the event registration, there will be the application to register for the event itself. Another feature is to provide whether the event is open for public or is it only for students within the faculty. Also, how long will the event be by having the date, time and venue on the event page. Then, include the generation of report as well.

Q9: Should an event page include a comment section for user engagement? Why or why not?

Answer: My suggestion is that including comment section is not good. Because if you receive all the comment from the student or participant, later on the system will be jammed because there are too many comments. My advice is anything related to that event, just supply the details on who you need to be contacted for the event. So, the participant can email the organiser itself, not to the system.

APPENDIX C: INTERVIEW QUESTIONS AND ANSWERS

Interview Date: 13 January 2025, 9.30 AM

Q1: Can you introduce yourself and your role in UNIMAS?

A: My name is Audrey, and I am a third-year student of Multimedia Computing in FCSIT.

Q2: What tasks or responsibilities do you typically handle when organizing events?

A: Since I am a committee of JPF, Jawatan Kuasa Pelajar faculty PERTEKMA, I am handling the portfolio of executive committee media and publicity designer. However, there are few events that I have become programme directors such as blood donations, FSKTM Got Talent, or E-sports. My task or responsibilities are usually becoming the designer of the events or becoming the programme director to oversee the overall event.

Q3: What types of events do you usually organize, and which type of event is the most popular among students?

A: Since I have handled a lot of programmes and the majority of events, I have handle are blood donation, FSKTM Got Talent, and E-sports. The most popular event among the participants I think is the blood donation event.

Q4: Do you currently handle events using traditional methods? If so, can you explain the traditional processes and workflows involved in planning and executing events at FCSIT?

A: Yes, currently I am still using the traditional methods. So, the processes and workflow involved in the planning and executing is you have to e-mail one by one person in charge such as admins, dean, and timbalan dekan. It is tedious and takes a lot of work. For participants, we usually create Google Form or Microsoft Form for them to register for the events.

Q5: What are the challenges you face when planning and carrying out an event? Could you list them out?

A: Firstly, the e-mail sent to them sometimes does not go through. When they are very busy, the e-mail will quickly go down at the e-mail page, making it hard for them to notice our e-mail. Secondly, the duplicate data in student registration. Sometimes the participants would register in the google form more than one time. Thirdly, the budget allocation for the events. Because some event would consume a lot of budgets.

Q6: How do you currently handle payments for events? Can you explain the payment process?

A: We only receive the payments to our PERTEKMA account only if we receive sponsors from outside. If we use money from, for example, Pusat Khidmat Pelajar, Pusat Pembangunan Pelajar, or faculty, it uses those accounts instead. For the PERTEKMA account payment process, we handle the payment by using Excel for us to break the details of the transfer and receive payments.

Q7: What information or data should be included in the reports generated by the system for Organiser to see?

A: I think the system's report should include detailed payment information, because payment records are important as proof of transactions. The report should also track the event attendance to provide a clear overview of participant engagement. It would also be good to have feedback from students after the event.

Q8: Do you think a feature to collect feedback from participants after the event is needed? If yes, what kind of feedback should the Organisers receive?

A: I think it is a must to collect feedback for participants after the event because you have to improve your events in the future. All feedback is welcome, positive or negative. If it is positive feedback, then we can improve more so that it can become the best event. If it is negative feedback, maybe we can remove some of the bad details to improve the events.

Q9: What other features do you think should be included in a web application for FCSIT event management system?

A: In my opinion, you can add a feature to show availability of the venue in our faculty such as the time and the date. For example, the Organiser book this venue at the faculty and the lecturers can use this feature to see if the venue of this place is occupied or not. If it is occupied, then the lecturer can decide to do their class at a different place.

APPENDIX D: FULL ACTIVITY DIAGRAM

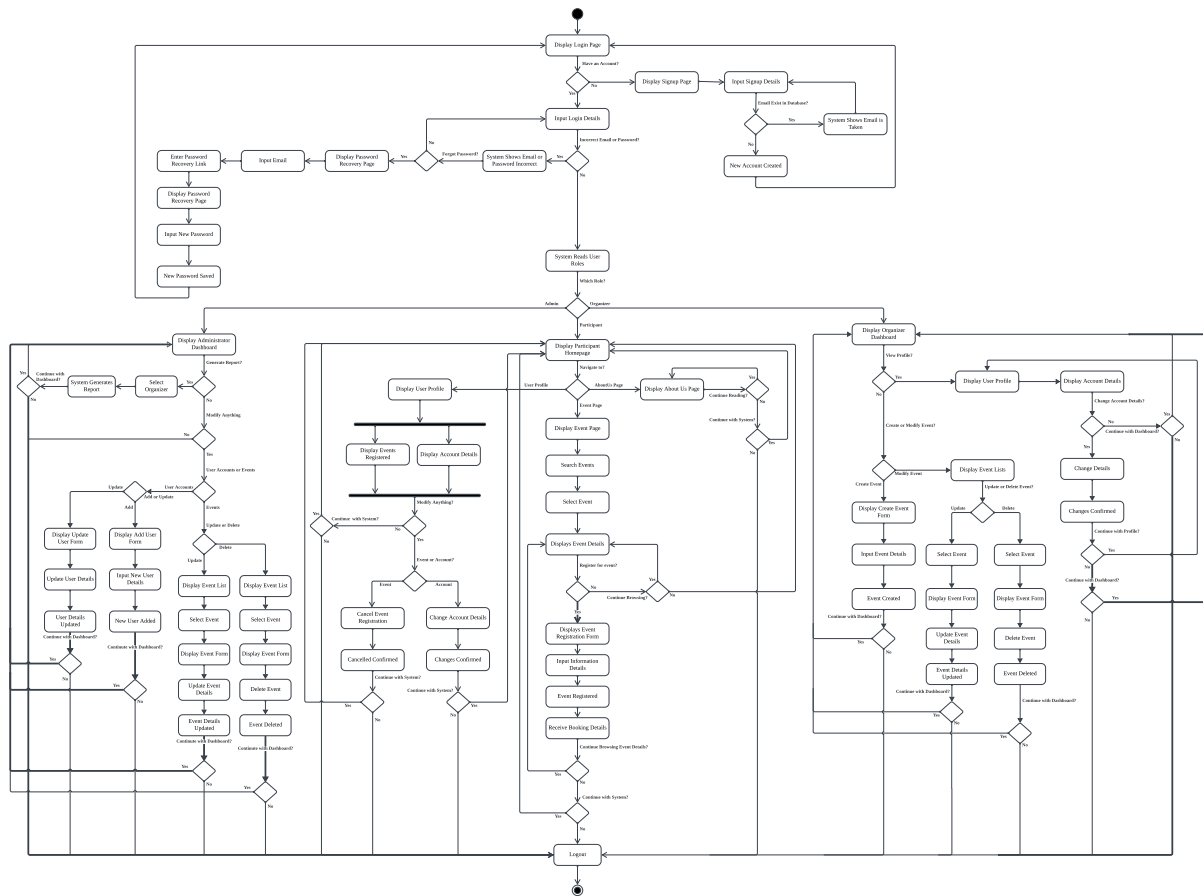


Figure 3.57: Activity Diagram for FCSIT Management System

APPENDIX E: USABILITY TESTING QUESTIONNAIRE

Section A: Demographic

1. Gender

- ☐ Male
- ☐ Female

2. Year of Study

- ☐ Year 1
- ☐ Year 2
- ☐ Year 3
- ☐ Year 4
- ☐ Year 5

Section B: Usability Testing for FCSIT Event Management System

Question 1: Are you able to sign up to the system easily?

1 2 3 4 5

Very Disagree						Very Agree
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Question 2: Are you able to log in to the system easily?

1 2 3 4 5

Very Disagree						Very Agree
---------------	--	--	--	--	--	------------

Question 3: Are you able to choose favourite categories easily?

1 2 3 4 5

Very Disagree						Very Agree
---------------	--	--	--	--	--	------------

Question 4: Are you able to see the events on the homepage easily?

1 2 3 4 5

Very Disagree						Very Agree
---------------	--	--	--	--	--	------------

Question 5: Are you able to navigate to the Events page easily?

1 2 3 4 5

Very Disagree						Very Agree
---------------	--	--	--	--	--	------------

Question 6: Are you able to search or filter events easily?

1 2 3 4 5

Very Disagree						Very Agree
---------------	--	--	--	--	--	------------

Question 7: Are you able to view events details easily?

1 2 3 4 5

Very Disagree						Very Agree
---------------	--	--	--	--	--	------------

Question 8: Are you able to register an event easily?

1 2 3 4 5

Very Disagree						Very Agree
---------------	--	--	--	--	--	------------

Question 9: Are you able to receive system notification after register an event?

1 2 3 4 5

Very Disagree						Very Agree
---------------	--	--	--	--	--	------------

Question 10: Are you able to navigate to about About page easily?

1 2 3 4 5

Very Disagree						Very Agree
---------------	--	--	--	--	--	------------

Question 11: Are you able to navigate to Profile page easily?

1 2 3 4 5

Very Disagree						Very Agree
---------------	--	--	--	--	--	------------

Question 12: Are you able to update account settings easily?

1 2 3 4 5

Very Disagree						Very Agree
---------------	--	--	--	--	--	------------

Question 13: Are you able to view table and calendar of event registered easily?

1 2 3 4 5

Very Disagree						Very Agree
---------------	--	--	--	--	--	------------

Question 14: Are you able to navigate to Notification page easily?

1 2 3 4 5

Very Disagree						Very Agree
---------------	--	--	--	--	--	------------

APPENDIX F: REPORT SIMILARITY PERCENTAGE

FYP 2

ORIGINALITY REPORT

7 %	5 %	0 %	4 %
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	Submitted to Universiti Malaysia Sarawak Student Paper	3 %
2	ir.unimas.my Internet Source	3 %
3	umpir.ump.edu.my Internet Source	1 %