

ISLAMIC EVENT TICKET AND MARKETING PLATFORM

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Table of Contents

Declaration.....	1
Statement on A.I Usage	1
Abstract.....	2
1. Introduction	3
1.1 Aims.....	3
1.2 Objectives and Challenges	3
1.3 Constraints.....	4
2. Literature review.....	4
2.1 Introduction.....	4
2.2 Similar Service.....	4
2.3 Marketing	5
2.4 Notifications.....	5
2.5 Serving Stakeholders	6
2.6 Summary.....	6
3. Software Design Plan.....	7
3.1 Software Requirement Specification.....	7
3.1.1 Requirements Table	7
3.2 Software Architecture	8
3.2.1 High Level Overview.....	8
3.2.2 Frontend	8
3.2.3 Backend.....	9
3.2.4 Database	9
3.2.5 Security.....	9
3.2.6 Third Party Services	10
3.3 Notable Algorithms	10
3.3.1 Event Search and Filter	10
3.3.2 Haversine Formula	10
3.3.3 Notification Service	10
3.3.4 Event Completion Service.....	10
3.3.5 Event Reminder Service	10
3.3.6 Ticket Waitlist	11
3.3.7 Calendar Syncing	11
3.4 Software Development Methodology	11
4. Software Implementation	11

4.1 Overview	11
4.2 Features	12
4.2.1 Colour Scheme	12
4.2.2 Navbar	12
4.2.3 Home.....	12
4.2.4 Registration.....	13
4.2.5 Login.....	13
4.2.6 Event Creation.....	13
4.2.7 Browse Events.....	13
4.2.8 Event Profile	14
4.2.9 Event Booking.....	14
4.2.10 Booking Confirmation	14
4.2.11 My Account	14
4.2.12 My Notifications	14
4.2.13 My Tickets	15
4.2.14 My Events.....	15
4.2.15 Edit Event	16
4.2.16 Attendees.....	16
4.2.17 Admin Account.....	16
4.2.18 Responsive Design	17
4.2.19 Assets	17
4.3 Requirements Review	17
4.4 Deployment.....	18
5. Testing & Evaluation.....	19
5.1 Usability Testing.....	19
5.1.1 Background.....	19
5.1.2 Task 1: Account Registration	19
5.1.3 Task 2: User Login	20
5.1.4 Task 3: Event Creation.....	20
5.1.5 Task 4: Browsing Events	20
5.1.6 Task 5: Ticket Booking	20
5.1.7 6: My Tickets	20
5.1.8 Task 7: Update Profile Picture.....	21
5.1.9 Task 8: Editing Events.....	21
5.1.10 Task 9: Attendee Management.....	21
5.1.11 Task 10: Event Review	21

5.1.12 Task 11: My Notifications.....	21
5.1.13 Overall Feedback.....	22
5.1.14 Account Page Layout	22
5.2 Stakeholder Interview	22
5.2.1 Interview Response	23
5.2.2 Interview Evaluation	23
6. Critical Appraisal.....	24
6.1 Achievements.....	24
6.2 Shortcomings	25
6.3 Retrospective	25
6.4 Conclusion	25
7. Bibliography (IEEE)	25
8. Appendix.....	28
8.1 Terminology	28
8.2 Images	29
8.2.1 Figure 1: Overview of Architecture	29
8.2.2 Figure 2: Home Page	30
8.2.2 Figure 3: Register	31
8.2.2 Figure 4: Login	31
8.2.2 Figure 5: Create Event	32
8.2.2 Figure 6: Browse Events	33
8.2.2 Figure 7: Find By Section	33
8.2.2 Figure 8: Event Profile	34
8.2.2 Figure 9: Event Booking	35
8.2.2 Figure 10: Booking Confirmation	35
8.2.2 Figure 11: My Account.....	37
8.2.2 Figure 12: My Notifications.....	37
8.2.2 Figure 13: My Tickets.....	37
8.2.2 Figure 14: Cancelled Ticket	37
8.2.2 Figure 15: Review Completed Event.....	38
8.2.2 Figure 16: My Events	38
8.2.2 Figure 17: Cancel Event	38
8.2.2 Figure 18: Edit Event	39
8.2.2 Figure 19: Attendee Management	40
8.2.2 Figure 20: Admin Browse Events.....	40
8.2.2 Figure 21: Admin Event Profile	41

8.2.2 Figure 22: Admin Dashboard	41
8.2.2 Figure 23: Mobile - Home	42
8.2.2 Figure 24: Mobile – Event Profile	43
8.2.2 Figure 25: Netlify Deployment	43
8.2.2 Figure 26: Railway Deployment	44
8.2.2 Figure 27: Background Questions	44
8.2.2 Figure 28: Task 1	46
8.2.2 Figure 29: Task 2	47
8.2.2 Figure 30: Task 3	49
8.2.2 Figure 31: Task 4	51
8.2.2 Figure 32: Task 5	52
8.2.2 Figure 33: Task 6	54
8.2.2 Figure 34: Task 7	56
8.2.2 Figure 35: Task 8	57
8.2.2 Figure 36: Task 9	59
8.2.2 Figure 37: Task 10	61
8.2.2 Figure 38: Task 11	62
8.2.2 Figure 39: Overall Feedback	64
8.2.2 Figure 40: Username Login.....	67
8.2.2 Figure 41: Events & Tickets	68

Declaration

All sentences or passages quoted in this report, or computer code of any form whatsoever used and/or submitted at any stages, which are taken from other people's work have been specifically acknowledged by clear citation of the source, specifying author, work, date and page(s).

Any part of my own written work, or software coding, which is substantially based upon other people's work, is duly accompanied by clear citation of the source, specifying author, work, date and page(s).

I understand that failure to do this amounts to plagiarism and will be considered grounds for failure in this module and the degree examination as a whole.

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Mahdi Hussain

Statement on A.I Usage

Artificial Intelligence was used in this project to explain concepts and assist in resolving errors. It was also used to heavily modify my initial tsconfig.json, vite.config.ts, package.json, and server.ts files, as I found the project difficult to set up. The calculateDistance.ts and dateFormatter.ts utility functions were completely generated by A.I.

Abstract

Designing software with a clear understanding of the target user is essential to successful engineering. In this project, I developed Event Qibla, an event booking and hosting platform tailored to the needs of the Islamic community. The application delivers core functionalities expected from an event platform, with the underlying systems that enable user interaction carefully explained and justified.

This dissertation also explores the specific considerations involved in developing software and how the target demographic can influence design decisions and outcomes. To assess the effectiveness of my methodology as well as overall system performance, the final application was deployed and tested by users within and outside the target audience through a usability survey. This is then followed by an interview with a prominent stakeholder and then a critical appraisal of the project.

1. Introduction

1.1 Aims

Event Qibla is an Islamic event ticket and marketing platform that will allow users to discover a variety of community events, such as lectures, workshops, and study groups, across the UK. The platform will enable organisers to create and manage events, while providing attendees with tools to search for and book events seamlessly. It will be tailored to the Muslim community, providing a dedicated space for events that align with their values. This is reflected in the title, as the term 'Qibla' signifies the sacred direction of prayer. Inspired by this concept, my web application 'Event Qibla' will guide users toward nearby Islamic events, serving as a compass for spiritual and community engagement.

The idea for this project emerged when I noticed members of the University of Leicester Islamic Society trying to organise halaqas (study groups) through WhatsApp. The process of sending reminders for every session and not knowing who would attend felt disorganised and inefficient. This experience highlighted a gap: there were no dedicated event platforms tailored to Muslims and are focused on promoting smaller, local gatherings.

1.2 Objectives and Challenges

In this section, I will outline the key objectives of my project. Each objective is followed by a breakdown of the specific challenges associated with achieving it. Clearly defining these goals is essential, as they provide a concrete set of criteria against which the success of the final product will be measured.

1) Develop a Functional Event Platform

- Build a web application that enables users to browse, search for, and book Islamic community events across the UK.
- Ensure organisers can create, manage, and promote events through the platform.

2) Tailor the User Experience to the Islamic Community

- Incorporate design and content considerations that align with Islamic values and community norms.

3) Justify Design Decisions Through Research and Testing

- Document and explain key design and implementation choices based on user needs and understanding of the target demographic.

4) Successfully Deploy the Application

- Host the platform on a live server and ensure core features function as intended under real-world conditions.
- Verify stability, responsiveness, and performance across devices.

5) Ensure System Usability Across Demographics

- Conduct testing with both Muslim and non-Muslim users to evaluate usability, inclusivity, and the platform's effectiveness.

1.3 Constraints

To understand the feasibility of the project objectives and the level at which they can realistically be implemented, it is important to consider the project's limitations:

- **Time:** I have nearly a full academic year, until May 2nd, to research, design, implement, test, and review Event Qibla. However, time is still limited, and I must prioritise tasks to deliver the most value. I also need to balance this project alongside personal responsibilities and other university assignments.
- **Budget:** As a student with limited financial resources, I am restricted to using free technologies for building and deploying the application. Paid services can quickly become expensive and are therefore not an option.
- **Resources:** I am working as a solo developer, meaning all development will be completed independently.
- **Experience:** I have never built or deployed a full-stack application of this scale before. A significant amount of time will be dedicated to researching best practices, learning new technologies, and ensuring the application is scalable.

2. Literature review

2.1 Introduction

This literature review explores the key elements involved in developing a successful event ticketing and marketing platform tailored to a specific demographic. The primary focus is to gain a well-rounded understanding of event and ticket management systems by examining existing solutions and identifying strategies to improve the visibility of listed events. The review will also address how the system communicates with users, including the role of notifications, updates, and user interactions. After establishing the core attributes of an effective event application, I will shift focus to the target audience, analysing their specific needs and justifying the design decisions made to accommodate them. My findings will be drawn mostly from published papers; however, I may supplement them with relevant information gathered from reputable websites.

2.2 Similar Service

Before exploring how Event Qibla can benefit the Islamic community, it's important to first understand how it can effectively serve both event organisers and attendees. Eventbrite, a leading event ticketing and marketing platform with over 89 million monthly users [1], offers valuable insight in this regard. While its focus and audience differ significantly from my vision for Event Qibla, the core functionalities of event creation, ticketing, and user engagement, remain the same. This makes Eventbrite a useful point of reference for identifying best practices and areas for improvement [2].

Event attendees can search for and filter events and use geolocation to discover events nearby. Each event has a dedicated profile page containing useful information such as the event description, date and time, ticket price, venue address, and organiser details. The platform also includes standard login and registration functionality, along with a streamlined checkout process and support for waitlists when events reach full capacity.

Event organisers can easily create new events, edit existing ones, and access detailed analytics to track performance. The platform also allows organisers to scan tickets and monitor live attendance, streamlining the check-in process and reducing the risk of fraud. Eventbrite supports integrated payment processing, enabling organisers to receive payouts and manage refunds with ease. Promotional tools include email campaigns and social media integration, which allow organisers to reach their audience and send timely notifications effectively.

These are just a few of the many features Eventbrite offers. As a solo developer working within time constraints, I won't be able to replicate every functionality. I aim to integrate the features that define the core experience and provide the most value to my target audience.

2.3 Marketing

As a promotional tool, marketing is pivotal to Event Qibla's success. Event organisers should feel assured that posting their events on the platform will boost visibility and attract more attendees. As of January 2024, 82.8% of Britons, equivalent to 56 million people, actively use social media [3]. By integrating social media sharing features into our application, we can significantly expand event reach, ensuring more exposure and engagement from across the UK.

Through social media, users can share their experiences with a network of individuals who share similar interests. According to a meta-analysis [4], increasing the volume of these electronic word of mouth experiences can drive sales and engagement by enhancing customer awareness and reducing uncertainty about products. This approach can be optimised by actively encouraging users to share their experiences [5]. Incorporating share buttons to popular social media platforms, or prompting users to post after attending an event, are examples of seamless strategies that amplify visibility and event exposure.

2.4 Notifications

Event Qibla will inform users about upcoming events, ticket information, and updates through an integrated notification system. According to a study [5], to create a productive notification system, it is crucial to consider three factors: the user's readiness, approach to the message, and emotional response.

Participants responded positively to notifications when they were perceived as valuable. In Event Qibla, I can enhance this experience by personalising notifications to highlight relevant information based on each user's interactions, such as updates about their tickets or confirming completed actions. By including timestamps, even routine confirmations become meaningful, as users can easily track when specific actions were taken, adding clarity and reinforcing trust in the system.

Additionally, the headline of notifications should be clear and concise, while the content of the body should be informative. If not, users are likely to ignore them, diminishing their effectiveness. By ensuring that both the subject and content provide immediate value, Event Qibla can increase user engagement and prompt action.

However, it's important to avoid sending too many notifications or poorly timed messages, as these can lead to user disapproval. Notifications should be relevant, timely, and offer clear value to enhance the overall user experience rather than becoming a source of annoyance. For instance, confirmation messages after every action would clutter the notification feed, diminishing its perceived importance. As a result, users may begin to ignore notifications.

altogether, potentially missing critical updates such as event cancellations or changes to their waitlist status. This highlights the need to strike a balance, prioritising notifications that carry urgency or meaningful value to maintain user trust and engagement.

2.5 Serving Stakeholders

According to the 2021 census [7], Muslims made up 3.87 million people, or 6.5% of the UK population, a figure projected to rise to 5.6 million (8.2%) by 2030 [8]. As this demographic continues to grow, so does the responsibility to develop technology that reflects their needs and way of life. Mainstream platforms often adopt a one-size-fits-all approach, which can unintentionally exclude marginalised groups by overlooking or conflicting with their beliefs and preferences.

To effectively serve the Muslim community, Event Qibla must be designed with their values and needs in mind. The socio-cultural norms of Muslim communities are deeply rooted in Islamic teachings; therefore, effective human-computer interaction requires features that align with and respect these principles [9].

By offering the option to create gender-specific events, event organisers can design gatherings that align with Islamic values regarding gender segregation [10]. It is also imperative to implement robust content moderation measures to ensure that all user-generated content remains appropriate. This could be achieved by employing moderators who can review and approve content, as well as utilising automated filtering tools to flag any offensive material. Failing to meet these considerations could result in alienating the targeted user base, as it may appear that the platform does not respect or understand their values. This could lead to a lack of trust, reduced user engagement, and criticism from the community.

When designing for a Muslim audience, sometimes less is more. The absence of certain features can be just as meaningful as the inclusion of others. For example, when implementing payment systems, it is crucial to avoid interest-based transactions, such as instalment plans, as these are explicitly prohibited in Islam [11]. Similarly, curating the types of events allowed on the platform plays a significant role in maintaining cultural and religious relevance. Unlike platforms such as Eventbrite, which promote events that may conflict with Islamic values, such as nightlife, dating, or music-related gatherings, Event Qibla will avoid showcasing such content. These types of events not only contradict Islamic teachings but can also present challenges to users striving to stay aligned with their faith.

2.6 Summary

This literature review has emphasized the importance of designing Event Qibla with a user-centred approach. By aligning the platform with the target demographic's values and needs, Event Qibla can build trust and foster community engagement. Part of this process involved examining existing event platforms to identify best practices within the event management industry, which helped inform key design and functionality choices. Integrating social media sharing can empower event promotion, while prioritising value in notifications boosts user engagement and satisfaction. These thoughtful design decisions will create a platform that resonates with its audience and drives meaningful interactions.

3. Software Design Plan

3.1 Software Requirement Specification

Before developing an application, it is essential to define the design requirements to clearly outline the project's purpose and intended features. This specification forms the foundation of the development process, helping ensure the final product effectively meets both user expectations and business objectives. Many of the proposed features were informed by the feature analysis conducted in the literature review. I also consulted with stakeholders, members of the Muslim community, to understand which features they valued most. The final set of features were selected by balancing importance, user experience, and feasibility within the time span of the project.

Each requirement is assigned a severity rating from 1 to 5, which reflects the potential negative impact of omitting the feature. High-severity features, such as Event Creation and Booking (rated 5), are essential to the app's core functionality. In contrast, lower-severity features, like social media integration, enhance the experience but are not critical and can be excluded if necessary without compromising the app's primary purpose.

3.1.1 Requirements Table

Feature	Description	Severity
Event Creation	Enable users to create and post events with customisable details, including title, image, description, pricing, capacity, location and other relevant options	5
Event Booking	Provide a straightforward process for users to book events directly through the platform.	5
Ticket Management	Users are issued unique tickets upon successful booking. This includes a waitlist system that automatically notifies users if space becomes available when events are full.	5
Event Management	Organisers can edit event details, cancel events and view attendee information.	5
Attendee Check-in	Organisers can scan attendee's tickets to check them into an event.	4
Search and Filter	Allow users to search for events by name or filter events based on multiple criteria such as event type, date, and location.	5
Locational Services	Users can search for nearby events based on the proximity to their location.	4
Notifications	Send personalised, automated notifications to users about event updates, reminders, and other relevant information to keep them informed.	4
Payment Handling	Implement a secure payment gateway to handle ticket purchases.	4
Calendar Synchronisation	Allow users to synchronise events with their preferred digital calendar and updates the calendar automatically if event details change.	2

Review System	Enable users to rate event organisers after attending an event. These reviews are displayed to other users.	4
User Accounts	Allow users to register and maintain personalised accounts to an expected standard. Users can access a record of their past events and bookings.	5
Multi-level Access / Admin	Support role-based access control to accommodate different user roles and permissions. Site administrators will have the ability to manage platform content, including removing content deemed inappropriate and banning users.	5
Social Media Integration	Integrate social media through social sharing buttons and by prompting the user to share their experiences after attending an event.	2

3.2 Software Architecture

This section will provide a detailed overview of the software architecture of my web application as well as necessary algorithms and data structures. The discussion aims to illustrate how various components of the system interact to deliver core features, while prioritising scalability, reliability, and an exceptional user experience.

3.2.1 High Level Overview

Figure 1 presents a high-level overview of Event Qibla's software architecture. The system will adopt a Monolithic Architecture with a dual deployment model, where the frontend and backend are deployed as separate applications on distinct servers. The backend will be built as a single cohesive unit, containing all server-side components within one application context, whereas the frontend will encapsulate all client-side functionality. This ensures a clear separation between presentation and business logic, simplifying development.

Despite being monolithic in structure, this setup offers flexibility as both the frontend and backend can be updated or scaled independently, optimising resource efficiency and system performance. This architecture provides a practical and maintainable foundation for the project, avoiding the notorious operational overhead of microservices while being able to support the needs of the application [12].

Communication between the frontend and backend will follow the REST architectural style, using HTTP methods such as GET, POST, PUT, and DELETE to interact with backend resources. Data will be exchanged primarily in JSON format, enabling structured and readable messages between the client and server. As each request contains all the information needed by the client and server, there is no need to store states, improving scalability [13].

3.2.2 Frontend

The frontend serves as the primary point of interaction for users, delivering the user interface that powers all aspects of the system's user experience. This layer is responsible for managing client-side routing, handling HTTP requests, and dynamically rendering content based on user

interaction and backend responses. It communicates with the backend through RESTful API calls, ensuring that the user interface is populated with real-time and user-specific content.

The interface will be developed using React with TypeScript (TSX), offering a component-based architecture and type safety, which enhances code maintainability and reduces runtime errors [14]. State management, request handling, and conditional rendering will be implemented to support a seamless, responsive experience.

The visual styling and layout will be defined using CSS, so that the application is responsive and accessible across various screen sizes and devices. For optimised build performance and a fast development workflow, the frontend will be bundled using Vite, a build tool tailored for React that supports efficient production builds and rapid hot module replacement during development [15].

3.2.3 Backend

The backend is responsible for handling the core business logic of the application. It will be developed using TypeScript for strong typing and maintainability, and powered by an Express server to manage routing and HTTP request handling. The Express router will handle incoming API calls from the frontend and respond with processed data from the backend [16]. For example, an endpoint like GET /events will retrieve a list of all events from the database and return it in a structured JSON format.

To maintain clean and modular code, reusable logic will be contained in utility functions, which will handle common tasks such as data formatting or validation. Business processes that need to run independently of user requests, such as event reminders or cleanup tasks, will be implemented in dedicated services. These services will be executed at regular intervals using cron jobs, which operate alongside the server to perform background tasks automatically.

The application will also utilise middleware functions, which intercept and process requests at various stages, handling tasks such as authentication, logging, and error handling [17]. Additionally, custom hooks may be used to encapsulate shared backend logic or side effects. This structure ensures the system remains scalable and maintainable as new features are added.

3.2.4 Database

The database is responsible for storing all key data, including event details, user information, and ticket records. To efficiently handle structured data and enforce relationships between entities, Event Qibla will use a PostgreSQL relational database.

PostgreSQL is fully ACID-compliant, ensuring reliable and consistent transactions, which is essential for managing operations like ticket purchases. Additionally, indexes will be applied to frequently queried fields to optimise query performance and reduce response times. Compared to alternatives like MySQL, PostgreSQL offers more advanced features, including better support for concurrent transactions and JSON fields. As a fully open source software, it provides scalability and long-term flexibility without incurring licensing costs [18].

3.2.5 Security

To secure Event Qibla, I will use JSON Web Tokens (JWTs) for user authentication [19]. Upon successful login, users will receive a JWT that grants access to content restricted to authenticated users or personalised data tied to their user ID. The token will also store the

user's role, enabling role-based access control. For example, users with the admin role will have access to additional features beyond what is available to standard accounts on the same page.

Furthermore, passwords will be securely hashed using a hashing algorithm to prevent unauthorised access, so that even if the database is compromised, user passwords remain protected. Input fields will be sanitised to protect against SQL injection attacks, which attempt to retrieve sensitive data by injecting malicious SQL queries into input fields.

3.2.6 Third Party Services

The frontend and backend will integrate with various external services to enhance the functionality and user experience of the application. These services will include payment gateways, locational services, email notifications, and calendar integrations. To support distance based event search, the application will leverage Google Maps APIs to provide accurate geolocation data.

For secure payment processing, the application will support trusted platforms such as PayPal or Stripe. PayPal is widely recognised for its ease of use and global reach, making it a reliable choice for users worldwide. While, Stripe offers advanced features tailored for developers, such as customisable payment solutions [20].

3.3 Notable Algorithms

3.3.1 Event Search and Filter

When a user searches for an event, they will receive a list of relevant results based on their search criteria. The filtering algorithm will match user-defined parameters such as date, location, and event type against the event database table.

3.3.2 Haversine Formula

To identify events within a specific radius of the user's location, the Haversine formula will be used to accurately calculate the distance between geographic coordinates. This will improve the user experience by making event browsing more convenient and relevant.

3.3.3 Notification Service

The Notification Service will be responsible for handling all notification-related features in the backend. It will be called to create new notifications, retrieve notifications for users in order of recency, mark them as read, and keep track of how many are still unread. This helps keep the system organised and ensures users are kept informed.

3.3.4 Event Completion Service

The Event Completion Service will run at regular intervals to check which events have ended by comparing the current time with each event's end time. If an event has passed, its status, along with the status of all associated tickets, will be updated to "completed". The service will also send a thank-you message to all attendees, closing the event experience on a positive note.

3.3.5 Event Reminder Service

The Event Reminder Service will run at regular intervals to notify users about upcoming events they are attending. It will send timely reminders before the event starts to inform and prepare attendees.

3.3.6 Ticket Waitlist

When a user views an event, the system checks the event's capacity against existing bookings. If the event is full, the user can join a waitlist to be notified once a ticket becomes available, giving them the opportunity to purchase the available ticket.

3.3.7 Calendar Syncing

When a user books a ticket, they have the option to add the event details to their calendar. If any event details changes, such as time or venue, the system automatically updates the user's calendar to reflect the new information.

3.4 Software Development Methodology

The software development methodology provides the framework for structuring and managing the development process [21]. Choosing the right methodology is crucial for ensuring successful and timely implementation.

For this project, I will follow the Waterfall methodology, a linear approach where development will progress sequentially through research, design, implementation, user testing and finally production deployment [21]. This methodology will be well-suited to my project as my literature review and consultations with stakeholders have allowed me to produce a strong and stable requirements specification early on. As a result, a rigid and linear process is appropriate, since the requirements are unlikely to change significantly.

Furthermore, the Waterfall model helps prevent scope creep, which would be particularly detrimental given the strict time constraints of the project. The structured nature of Waterfall also aligns well with solo development as it provides clear stages to focus on without the need for constant iterative feedback.

I did consider alternative methodologies, such as Agile, as I have prior experience using it in a group project and it is one of the most widely used development lifecycles. Agile emphasises rapid iterations, continuous testing, and frequent adaptation to feedback [21]. However, Agile would not have been well-suited to my project. The requirements for Event Qibla were already clearly defined through my literature review and stakeholder consultations, meaning there was little need for constant reassessment or change. Additionally, working as a solo developer made the collaborative aspects of Agile, such as daily stand-ups and regular team retrospectives, unnecessary and impractical.

Additionally, one of the greatest advantages of Agile is its ability to deliver business value quickly. However, this benefit is less relevant for a student project with a fixed scope and deadline, where the priority is fulfilling predefined requirements rather than delivering to business users.

4. Software Implementation

4.1 Overview

This section outlines the working implementation of Event Qibla. I will present screenshots of each webpage, explain their functionality, justify the design decisions made, and discuss any challenges encountered during development.

The final application was built using Node.js, with a TypeScript-based Express server powering the backend. The frontend was developed in React using TSX, and bundled with Vite, in line with the technology stack originally proposed.

4.2 Features

4.2.1 Colour Scheme

Even in the visual design of the website, I aimed to reflect Islamic values. I selected green as the primary colour, inspired by a narration from Anas (may Allah be pleased with him), a companion of the Prophet ﷺ, who said: “The most beloved of colours to the Messenger of Allah (peace and blessings be upon him) was green” [22]. While green holds no specific religious significance in Islamic rulings, incorporating it adds a thoughtful touch that reinforces the app’s Islamic identity. To complement the green, I used white and grey as secondary and accent colours, creating a clean and balanced aesthetic.

4.2.2 Navbar

The Navbar component (Figure 2) is a persistent element rendered across all pages of the application, appearing above all other components. It displays the Event Qibla logo and title, and serves as the primary navigation tool, allowing users to seamlessly switch between pages. Interacting with elements activates a hover underline effect, providing intuitive visual feedback.

On the right side of the Navbar, users will find a profile section. When logged in, their profile picture is displayed, offering ever-present personalisation. A red notification badge appears beside the profile image, displaying the number of unread notifications to keep users informed in real time. The authentication link dynamically switches between “Login” and “Logout” based on the user’s session status. Selecting “Logout” also clears the JWT, securely ending the session.

For smaller screens, a responsive hamburger menu replaces the standard layout, stacking navigation options vertically to maintain usability and accessibility across all devices.

4.2.3 Home

The Home Page (Figure 2), accessible at the root route “/”, greets users with a welcoming hero section. This section quickly conveys the purpose of the application through a clear and inviting message.

The term ‘*deen*’ refers to a way of life or religion, a concept deeply familiar to Muslims and central to their daily practices and beliefs.

Beneath the message is a prominent call-to-action featuring two buttons, one for exploring events and the other for creating a new one. These buttons immediately guide users toward the app’s two core features, encouraging engagement and offering a clear starting point. The hero image features the Holy Qur'an, visually reinforces the Islamic foundation and spiritual intent of the platform.

Below the hero section is a row of interactive cards, each representing one of the four event categories. Hovering over a card provides visual feedback, and clicking it takes the user directly to the event search page with a pre-applied filter for that category. This allows users to quickly find events that match their interests without extra steps.

4.2.4 Registration

The registration form (Figure 3) facilitates user account creation and can be accessed via the login page. It collects essential details. There is a character counter so users know when they are approaching the username character limit. To reduce errors and encourage accuracy, users must confirm their password by entering it twice. Required fields are marked with a red asterisk for clarity and validated to ensure all fields are completed correctly. While this structure is simple, this approach provides a reliable and user-friendly way to onboard new users.

4.2.5 Login

The login form (Figure 4) prompts users to enter their email and password to access their account. If they haven't registered yet, a highlighted link below the form directs them to the registration page. When incorrect credentials are entered, the form provides clear feedback. On successful login, users are issued a signed JWT, which includes their user ID and role. This token is essential for personalised access and enforcing role-based permissions across the app.

This component is accessible both from the main login page and dynamically triggered whenever a user attempts to access features that require authentication. Additionally, users are redirected here if their JWT has expired.

4.2.6 Event Creation

The event creation form (Figure 5) gathers all the information needed to generate an event profile. To simplify date input, a calendar picker can be used to select the start and end times. Input validation ensures the form is filled out correctly, for instance, the start time cannot be in the past, the end time must follow the start time, and the postcode must be a valid UK code, as Event Qibla operates within the UK.

Error messages are displayed together above the submit button to ensure they remain visible. This replaces an earlier approach, where errors appeared beneath each individual field, often outside the user's view, creating confusion and making it seem as if the submission didn't register. After creating an event, users will be taken to the My Events section, ensuring they immediately know where to go to access and manage their newly created event.

4.2.7 Browse Events

The browse events page (Figure 6) is divided into three key components: a search bar, an event filter section, and the event results section. At the top, the search bar enables users to search for events by name. It includes a clear button for easily resetting the search field, along with a magnifying glass icon to visually indicate its search functionality.

The event filter section allows users to customise the criteria for events displayed in the results. Users can select from various event categories, sort by start time or alphabetical order, filter by gender requirements, and set a maximum price. The 'Find by' section features a dropdown for selecting how to use Event Qibla's location-based services. By default, users can search by city, but they can also enter a postcode (Figure 7) or use their current location and set a maximum distance in kilometres. This will return all events around the user's location within a radius, using the Haversine formula. These filters empower users to easily find events that align with their preferences and budget, while adhering to Islamic guidelines on gender segregation.

The event results section features profile cards for each active event, presenting essential information in an intuitive way to highlight key details. Each card includes a hover effect with a

soft neon glow for feedback. Pagination controls are placed above and below the cards, allowing users to navigate between pages and adjust how many events are displayed at once. This enhances both performance and usability, giving users greater control over how they browse the results.

4.2.8 Event Profile

The event profile page (Figure 8) serves as a dedicated space for each event, displaying all relevant event details in a clear and engaging layout. In addition to the core event information, it showcases the organiser's details and rating, helping users quickly identify hosts and gauge their credibility on the platform. Just below the event image, social media quick-share buttons are provided, enabling users to easily promote events beyond the platform.

The “Book Now” button directs users to the event booking page; however, if the event is fully booked, the button changes to “Notify Me”. If selected, users can toggle their presence on the waiting list, which notifies them if a spot becomes available. The flag button allows users to report events they believe are inappropriate or misleading. Once a report is submitted, users receive a confirmation message and the report button becomes disabled, preventing duplicate submissions.

4.2.9 Event Booking

Users can purchase tickets for a specific event through its booking page (Figure 9). At the top, the event’s card is re-used to confirm the user is buying tickets for the correct event. The ticket quantity can be adjusted using plus and minus buttons, with the increase option becoming disabled once the user reaches the max number of tickets remaining.

For paid events, the total cost dynamically updates based on the ticket price multiplied by the selected quantity. A simulated payment form is also presented, prompting users to enter standard card details, which are validated to simulate a real payment experience, though no actual payment gateway has been integrated.

4.2.10 Booking Confirmation

After completing a booking, users are redirected to a confirmation page (Figure 10) displaying a success message along with individual copies of each ticket purchased. Each ticket includes key event details, a unique ticket ID, and a corresponding QR code for easy scanning. At the bottom of the page, a button directs users to the My Tickets section, where they can view and manage all their tickets.

4.2.11 My Account

The My Account section (Figure 11) centralises all profile-related features, allowing users to view and manage their personal information. Users can also customise their profile picture and view their rating. This section makes it easy for users to keep their profile up to date and monitor their engagement on the platform.

4.2.12 My Notifications

This section displays user notifications in an intuitive and digestible format (Figure 12). Each notification is structured with a title, message content, and timestamp, conveying the message’s purpose, supporting details, and time relevance at a glance.

Unread notifications are visually distinguished with a green highlight and a “new” tag, making them easy to identify. The section header also shows a count of unread notifications. This combination helps the user distinguish between relevant and out-dated information. Once the “My Notifications” page is loaded, all unread notifications are automatically marked as read to maintain accurate tracking.

This section is powered by the Notification Service, which is responsible for generating and managing all user notifications across the platform. The service supports various key features of the application, from confirming user actions like ticket bookings and event creation, to sending reminders 24 hours and 1 hour before an event starts, and even thanking users after an event has concluded. By centralising notification logic, the service creates consistent and reliable communication between the platform and its users.

4.2.13 My Tickets

My Tickets (Figure 13) allows users to view and manage all their event tickets. Users can filter tickets by status, providing a full record of their bookings. Each ticket displays brief event details, making it easy to identify which ticket corresponds to which event. Clicking on an active or completed ticket takes the user to a detailed ticket page, similar to the booking confirmation screen.

For active tickets, users can add the event to their preferred calendar using the calendar button, which supports Google Calendar, Outlook, and Apple Calendar. Google and Outlook calendars are integrated through pre-filled links, requiring only a single click to finalise, while Apple Calendar is supported through a downloadable .ics file. This small addition reduces the risk of attendees missing events and increases overall event attendance, while also fostering trust in the system.

Users can cancel active tickets up to five minutes before the event starts. When cancelled, the ticket is marked accordingly, and users are notified. If the event was paid, a refund message is issued. Cancelled tickets are automatically removed after seven days to prevent clutter, and unlike other tickets, they have no hover effects to indicate their inactive status (Figure 14). Completed tickets offer the option to leave a review on the organiser from 1 to 5 stars (Figure 15).

4.2.14 My Events

The My Events component (Figure 16) enables users to view and manage all events they have created. Organisers can filter events based on their current status for easier navigation and tracking. Events are displayed using the same event card format seen throughout the platform, ensuring a consistent user experience. Clicking on an active or completed event redirects the organiser to the event’s profile page, allowing them to review their current details or reflect on past events for improvement.

Organisers also have the option to cancel events, but must first confirm their decision through a warning prompt that clearly states how many attendees will be notified (Figure 17). To ensure accountability and provide context, organisers are also required to enter a reason for cancellation.

4.2.15 Edit Event

The Edit button takes the user to the Edit Event Form (Figure 18), which allows organisers to update the details of their event. This form functions similarly to the event creation form, but with a few key differences: the event title is locked to prevent significant changes that could render the event unrecognisable to attendees and capacity cannot be lower than the current amount of registered tickets.

The form is also pre-filled with the current event details, allowing organisers to make adjustments without re-entering everything from scratch. Once changes are submitted, all ticket holders are automatically notified with a summary of the fields that were updated, providing transparency and keeping attendees informed.

4.2.16 Attendees

The View Attendees button navigates organisers to the Attendee Management page (Figure 19), where they can oversee the details of all users registered for the event. At the top of the page, next the event title, is a live counter showing the current number of attendees relative to the event's total capacity, helping track ticket sales.

The search bar allows organisers to quickly look up any attendee by name, username, or ticket code, this is practical for hectic event openings where delays can be costly. For check-ins, organisers can choose between two methods: a built-in QR scanner that rapidly validates tickets using the QR codes displayed on them, or a manual check-in option where ticket codes can be entered directly. Once a ticket is checked in, its status updates from active to checked in, this prevents misuse or fraudulent entry. Attempting to scan an already-used ticket will trigger an error message that informs the organiser that the ticket has already been validated.

Organisers also have the authority to remove attendees, but must provide a reason for doing so. In such instances, the removed ticket holder is notified and automatically refunded, this setup maintains fairness and accountability.

4.2.17 Admin Account

The admin account is automatically initialised by a utility function when the backend server starts. Admins are granted elevated privileges that enhance content moderation and platform oversight. For instance, when browsing events, admins have access to additional sorting filters. This includes the options to sort by the most flagged or recently flagged events. In the event results section, events are visibly marked with a red flag icon that shows the total number of reports (Figure 20). This features enable admins to identify and respond to potentially inappropriate content in a timely manner.

The event profile page includes an exclusive "Remove Event" button for admins, allowing them to delete events and provide a reason for removal (Figure 21). There is also a hidden link on the navigation bar that leads to the Admin Dashboard (Figure 22), which provides access to basic user information for all registered accounts on the platform and a search bar to filter users by username or email. Admins can ban users directly from the dashboard to uphold platform safety and community guidelines. Banned users are unable to log in and their tickets and events are cancelled.

4.2.18 Responsive Design

To maximise Event Qibla's reach and enhance the overall user experience, the frontend components have been built with responsive design principles, ensuring the interface adapts seamlessly to different screen sizes and devices to maintain usability. Figures 23 and 24 demonstrate the condensed mobile layout, highlighting how key features remain accessible and user-friendly on smaller screens. Mobile support is especially critical, as attendees are most likely to access the platform on their phones during events.

4.2.19 Assets

It is important to credit the creators of assets used in Event Qibla. The image of the Holy Quran present on the dashboard was taken by Abdulmeilk Aldawsari [23]. The icons for the social media buttons were obtained from icon finder [24] and the calendar icons were found on flaticon [25].

4.3 Requirements Review

Feature	Severity	Implemented
Event Creation	5	✓
Event Booking	5	✓
Ticket Management	5	✓
Event Management	5	✓
Attendee Check-in	4	✓
Search and Filter	5	✓
Locational Services	4	✓
Notifications	4	✓
Payment Handling	4	—
Calendar Synchronisation	2	—
Review System	4	✓
User Accounts	5	—
Multi-level Access / Admin	5	✓
Social Media Integration	2	✓

Key:

- █ Green – Feature implemented to the required standard or higher
- █ Yellow – Feature implemented but missing some functionality
- █ Red – Feature not implemented

Above is a review of my initial requirements specification, which outlined the features I envisioned for Event Qibla. I successfully implemented the majority of these features, as indicated by the green checkmarks; however, there were a few areas that were underdeveloped.

The most notable omission was payment handling. Although I simulated the payment process through a validated form and refund handling through my notification service, the application did not integrate a real payment gateway. Additionally, while the user account system is mostly

functional, it lacks important features such as password recovery, account deletion, and the ability to save payment details, functionality that is commonly expected on modern websites.

The absence of these features was largely due to time mismanagement on my part. As deadlines approached, I prioritised developing the core aspects of the platform, event booking and management, which are central to the project's purpose. While features like password recovery and secure payment handling are essential for a production-ready event platform, they would have required additional external service integration, which was beyond the available timeframe.

I consider the calendar synchronisation feature to be incomplete. Although the platform supports calendar scheduling, it does not support automatic calendar updates. Of the algorithms outlined in my design section, this service was the only one that was not implemented.

This was primarily due to an underestimation of the complexity involved in integrating multiple calendar service APIs. Instead, the platform notifies users when an event's time or location changes, prompting them to manually update their calendars. This solution places more responsibility on the user and introduces a greater margin for error, but greatly reduces technical complexity and overhead.

4.4 Deployment

Before I could begin testing the site, it was essential to deploy it so users could access it from any device, not just my laptop. This significantly increased the pool of users available for testing. The frontend was deployed on Netlify (Figure 25) and configured to route all API calls to my backend, which is hosted on Railway alongside the database (Figure 26).

After deploying my application, I encountered several issues that only became apparent in a live environment. The most significant problem of which was performance: some pages took up to seven seconds to load. This was partly because my Railway deployment was fixed to the Singapore region by default, a location far from the UK, leading to increased latency. However, I recognised the need to optimise my code. This experience also exposed another oversight: on certain pages, I had forgotten to include loading indicators to show when a page was loading or when actions like booking were being processed.

The combination of high latency and the absence of visual feedback made the website feel sluggish and unresponsive. This is a stark contrast to my local development experience, where components and API requests were handled almost instantly, causing me to believe there were no issues.

To ensure the platform functioned as intended during testing, several optimisations were necessary. The first and most impactful was the implementation of lazy loading, a technique where components are only loaded when they are actually needed [26]. This significantly reduced rendering times, as only the components currently viewed by the user were fetched. Lazy loading was applied not only to entire pages but also to smaller components, such as modals.

The second optimisation was memoization, which involves storing the results of expensive function calls to avoid recalculating them unnecessarily [27]. This greatly improved the speed of revisiting pages and enhanced overall responsiveness. I also introduced parallel fetching in

areas where it made sense. By fetching multiple resources simultaneously rather than sequentially, I was able to reduce wait times and improve perceived performance.

Finally, I added loading states for pages and processing indicators for buttons where they were missing. This addition was particularly noticeable on the event profile page, which involves rendering a large amount of user-generated data. These visual feedback mechanisms made the site feel much more responsive and user-friendly.

5. Testing & Evaluation

5.1 Usability Testing

The first form of testing I conducted was a usability test via a Google Form survey. I selected this method due to its ability to efficiently gather data on user interaction, which is crucial for refining the user experience. It also offered a straightforward setup and distribution process. Through this test, I gained an understanding of the strengths and weaknesses of various sections of the application, identified bugs, and uncovered areas for improvement that I had not previously considered.

5.1.1 Background

Before beginning the interview, I obtained users' consent to use the survey data for academic purposes. The background section (Figure 27) started with a question about their faith. While Event Qibla is primarily designed for Muslims, I wanted to ensure non-Muslims would also feel comfortable using the app and participating in Islamic events. Of the 10 testers, 70% were Muslim and 30% were non-Muslim. Expanding the sample size like this enhances the quality of feedback by incorporating more diverse perspectives.

Additionally, 80% of users had prior experience with event hosting platforms, which influenced how they perceived my application and allowed for more relevant feedback. Lastly, I asked about the devices they were using, which would help identify device-specific issues. 60% used computers and 40% used mobile devices, providing a balanced sample

5.1.2 Task 1: Account Registration

The first task (Figure 28) asked users to register an account. All participants completed it successfully and rated the process as highly intuitive on a five-point scale: highly intuitive, intuitive, neutral, poor, and very poor.

No users reported any problems, but a few helpful suggestions were received, as shown in the Figure:

- One tester asked why users aren't automatically logged in after registration. I had intentionally left this out to reinforce the password users had just set. However, I now recognise that automatic login could improve user retention and am open to making this change in the future.
- Another user suggested highlighting invalid input fields with a red border. I really liked this idea, as it would provide clearer visual feedback and enhance the form experience sitewide.
- Feedback about the missing login button also resurfaced here, further reinforcing its importance (as discussed earlier).

5.1.3 Task 2: User Login

The second task (Figure 29) involved logging into the site. This process was also rated highly intuitive, and no issues were reported.

- Some users suggested allowing login via username as well as email, which was a simple but valuable improvement that I had initially overlooked.

5.1.4 Task 3: Event Creation

Event creation went smoothly, with all users successfully completing the task and finding the process intuitive (Figure 30).

However, two minor issues were noted:

- One user experienced difficulty selecting a new image after resetting the initial one.
 - Since no other users reported this and I couldn't replicate the bug myself, I believe it was caused by the app being redeployed shortly after the survey was sent as the timelines align.
- Another issue arose when users entered absurdly large values into the form, triggering an unspecified error upon event submission, due to exceeding PostgreSQL variable limits.
 - I had anticipated this possibility but chose not to implement detailed validation, as such extreme inputs are unrealistic for normal use. The user admitted the values were intentionally excessive, and no valid database entry should ever approach these limits. However, in a more mature version of Event Qibla, it would be wise to add these changes.

5.1.5 Task 4: Browsing Events

Browsing events was found to be intuitive by all users, with no issues reported (Figure 31).

5.1.6 Task 5: Ticket Booking

Ticket booking was described as very intuitive and users had no trouble (Figure 32).

- As highlighted by a user, the postcode input should accept inputs without a space or at least mention it.

5.1.7 6: My Tickets

After booking their tickets users were easily able to find their tickets, it achieved a very intuitive rating (Figure 33).

- Suggestions were made by users to improve this visibility of this section, either by placing it on a separate page or my adding a dropdown on the main Account navbar link, that displays all child components.

5.1.8 Task 7: Update Profile Picture

Updating the profile picture was intuitive and straightforward (Figure 34).

- One user suggested a performance improvement: load the new profile image locally first before uploading it to the backend for faster responsiveness.
- It was also recommended adding an image cropping tool for easier personalisation.

5.1.9 Task 8: Editing Events

All users successfully edited events without issues, and the process was considered very intuitive by most (Figure 35).

- A helpful suggestion was made to add an "Edit Event" button directly on the browse page for organisers.
 - However, I believe a better approach would be to add a hidden "Edit Event" button on the event profile page, visible only to the event organiser, for smoother navigation.

5.1.10 Task 9: Attendee Management

Users easily accessed the attendee management page and successfully checked in attendees through the site, earning the task a very high intuitive rating (Figure 36).

5.1.11 Task 10: Event Review

This task generated the most confusion (Figure 37). Users were asked to find their completed ticket and attempt to leave a review for their own event after scanning the ticket.

This was intentionally designed to fail: organisers are not allowed to review their own events, and the system correctly returned an error. Since users were unlikely to have checked-in tickets for events hosted by others, this was the only practical way for them to interact with the review system.

Although this response by the system was noted in the task instructions, a few users were still confused. Overall, however, the task still averaged an intuitive rating.

5.1.12 Task 11: My Notifications

Users were able to easily find their notifications with no problems mentioned (Figure 38).

- However, one user didn't notice that unread notifications were both highlighted and tagged.
- They also suggested adding an option to delete notifications.
 - Currently, the system displays the most recent 20 notifications, intended to serve as a record of the user's actions. Allowing deletion could undermine its

effectiveness as a logbook.

5.1.13 Overall Feedback

Event Qibla was very well received by users, with 9 out of 10 rating their experience as "Excellent" and 1 out of 10 rating it as "Good" (Figure 39). The strengths highlighted by users included the helpful ticketing system, ease of ticket scanning, and simplicity of browsing, booking, and hosting events. Many users praised how intuitive and easy the platform was to navigate, noting that it aligned well with standard practices found in other popular booking apps, making the experience familiar even for first-time users.

The user interface was also well regarded, described as clean, simple, visually appealing, and easy to use. Some users suggested that adding more colours or effects could enhance its visual impact further. In the end, all 10 users stated that they would use Event Qibla again or recommend it to others.

This survey provided beneficial findings, allowing me to gather feedback on my design decisions from the perspective of end-users, while also giving me the opportunity to defend certain choices. However, it's important to acknowledge that the results may be biased. The survey link was shared with friends and family, who may have been reluctant to offer critical feedback and were likely more supportive of my work. Additionally, as an openly student-led project, users may have had lower expectations compared to a commercial product.

5.1.14 Account Page Layout

A recurring issue was confusion with the account page, which combined four sections: My Account, Notifications, Tickets, and Events. The large number of features on a single page made navigation difficult for some users. For example, one user didn't notice the 'unread' badge and highlight in the notifications section. This was likely due to them having been marked as read when interacting with other components.

Initially, I considered splitting 'My Tickets' and 'My Events' onto a separate page to simplify the user experience, but I decided against it to avoid overcrowding the navigation bar. In retrospective, separating the pages would have provided several benefits: notifications wouldn't be marked as read by mistake, less unnecessary API and faster page rendering. The next iteration of Event Qibla will see this implemented.

5.2 Stakeholder Interview

For the second phase of testing, I chose to conduct a qualitative evaluation by interviewing "Anon", a member of the Leicester Islamic Society and the organiser of the Quran study groups that originally inspired the creation of Event Qibla. Although "Anon" is a pseudonym, I will use it throughout this section to respect his preference for anonymity.

Anon is the sole organiser of the University of Leicester Quran Halaqa Group, which has over 100 members in its WhatsApp community. I was fortunate to receive feedback from someone who closely represents my target audience and can provide perspective into the world of Islamic event management. Unlike the structured usability test, this interview was intentionally more hands-off. I provided Anon with a link to the deployed version of Event Qibla and sent him the interview questions in a Word document.

5.2.1 Interview Response

Q1: Were the features provided for event creation and management what you would expect from a platform like this?

“Yes, was very easy and simple to use. The page ran smoothly with no technical issues at all.”

Q2: Based on what you saw, do you think Event Qibla would meet the needs of Islamic event organisers like yourself?

“Yes, definitely. Very simple to use and you have easy access to create events as well as managing ticket holders.”

Q3: How did you find the design, colours, and general "feel" of the platform?

“Good aesthetic to it, in terms of the layout, nothing to say other than it fulfils the needs of the website and isn’t overdone, it’s perfect.”

Q4: Does the platform feel culturally and religiously appropriate for the Muslim community?

“Yes. In terms of booking events and to improve organisation of them, this website would be of good use for the Muslim community, for lectures and classes etc.”

Q5: Could you see yourself using Event Qibla over existing methods like WhatsApp groups or Eventbrite for future events? Why or why not?

“Yes, definitely. Although WhatsApp works, knowing an exact number of people that will turn up to an event is useful, especially considering it would allow organisers like myself who provides tea and dates in events, to know how much to make etc. and how many people to prepare to accommodate for.”

Q6: Overall, how well do you think Event Qibla serves the needs of local Islamic event organisers? (scale of 1–10)

“8/10”

Q7: Would you recommend it to other organisers you know? Why or why not?

“Yes, I would. Although having to create an account etc. does seem quite long, other than that the booking methods seem clear and would be useful for organisers to use for their events and attendees.”

5.2.2 Interview Evaluation

The interview with Anon provided valuable insight into how Event Qibla is perceived by an experienced Islamic event organiser. Consistent with the results of my usability survey, the participant praised the platform’s ease of use, simple navigation, and smooth technical performance. These remarks confirm that the interface successfully delivers a frictionless user experience, which is essential for organisers managing time-sensitive tasks.

Event Qibla’s main features, event creation and ticket management, were described as intuitive and effective, meeting the expectations for platforms of this type. Notably, Anon highlighted the benefit of being able to track ticket holders, which better prepares organisers, as anticipated.

This functionality positions Event Qibla as a stronger alternative to informal event avenues like WhatsApp.

When asked about the platform's design, the response was positive, describing it as aesthetically pleasing and appropriately minimal. Anon also affirmed that the platform is suitable for the Muslim community, particularly for religious events such as lectures and classes. This was an important confirmation of my objective to align the platform with Islamic values and practical needs.

However, a concern was raised regarding account creation. While not a major obstacle, it could discourage some users from engaging with the site, especially when compared to the ease of messaging platforms. To improve accessibility, I could implement faster sign-up through OAuth using services such as Google or Apple, and explore the possibility of allowing guest bookings with tickets delivered directly via email, similar to Eventbrite.

The interview concluded with a strong endorsement: an overall score of 8/10, with the organiser stating they would definitely use Event Qibla and recommend it to others. Despite minor areas for improvement, the platform is seen as a valuable tool tailored to the needs of local Islamic event organisers. These findings reinforce Event Qibla's potential as a culturally-aware alternative to mainstream event platforms.

6. Critical Appraisal

6.1 Achievements

In this project, I successfully developed and deployed an Islamic event ticketing and marketing web application. Usability testing revealed that my design decisions resonated well with both Muslim and non-Muslim users, resulting in a clean, intuitive experience across different devices. My interview with Anon, an experienced event organiser, further reinforced the platform's value as a dedicated solution for Islamic events, highlighting its cultural relevance and practical benefits. As a result, of the five objectives I set at the beginning of the project, I believe I have achieved them all.

This was my first project using technologies such as React, TypeScript, Vite, and PostgreSQL, as well as my first experience deploying a full-stack application to a live environment. It proved to be an extremely valuable learning experience, significantly enhancing my understanding of system design, application architecture, and user experience principles. I had to carefully consider how different components and services would interact to ensure the overall system was scalable and maintainable.

I structured the development process using the waterfall methodology, moving step by step from thorough research to a user-centric design, followed by implementation and finally deployment for user testing. This staged approach kept the project well organised and allowed me to focus fully on one phase at a time, streamlining development.

Another major takeaway was the importance of conducting thorough background research before development began. This preparation allowed me to create a clear and detailed requirements table early in the project. As a result, by the time I reached the implementation phase, I had already mapped out most of the necessary component interactions, which made development more efficient and reduced the likelihood of major revisions. This approach not

only streamlined the build process but also improved the final product's consistency and usability.

6.2 Shortcomings

Event Qibla was not completed to the standard I had originally envisioned. In particular, I chose to limit the scope of user account functionalities and exclude payment processing features. This decision was made intentionally, as I believed it was more important to focus on refining the event experience. Prioritising the core functionality of the project over feature completeness allowed me to deliver a more polished experience within the available time and resources.

However, this trade came with a drawback: I missed the opportunity to gain hands-on experience with payment gateway integration, an important and highly relevant skill in modern web development. While I gained a strong foundation in full-stack development, the absence of payment handling means there's still a practical gap I need to address in future projects.

6.3 Retrospective

In the future, I need to manage my time more effectively by anticipating common setbacks. Development on this project began later than planned and was further delayed by periods of illness and the demands of other university assignments. Although I was able to complete a significant amount of work near the deadline, better time management would have allowed me to deliver a more complete application.

With more time, I could have further developed Event Qibla's features and conducted live testing with real users. While I did manage to interview Anon for a fruitful evaluation, I missed the opportunity to test the full application with the Islamic society's study group, which had paused during April due to the exam season. This kind of live feedback would have been incredibly relevant in evaluating the app's effectiveness in a real world setting.

6.4 Conclusion

As for the future of Event Qibla, I can see myself continuing development as there is a real need for the service. The next iteration would be shaped by the feedback I've collected, with a focus on expanding existing systems and introducing new features. These would include user reviews, enhanced event customisation options, and functionality for event helpers who can assist with ticket scanning. I have already responded to feedback by enabling username-based logins (Figure 40), implementing automatic login after registration and creating dedicated pages for "My Events" and "My Tickets" (Figure 41).

In the end, I'm proud of what I was able to accomplish. Building a service that brings together my faith and professional skills to benefit my community was genuinely rewarding. This project allowed me to develop a wide range of skills that will be valuable in my future career as a full-stack software developer.

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8. Appendix

8.1 Terminology

Qibla:

The direction Muslims face during prayer (Salat), which is towards the Kaaba in Mecca.

Deen:

An Arabic word meaning "religion" or "way of life". In Islam, Deen refers to the holistic practice of the faith, encompassing belief, worship, ethics, and daily conduct.

ﷺ (Sallallahu 'Alayhi wa Sallam):

An Arabic phrase meaning "Peace and blessings be upon him", said or written after mentioning the Prophet Muhammad to show respect.

8.2 Images

8.2.1 Figure 1: Overview of Architecture

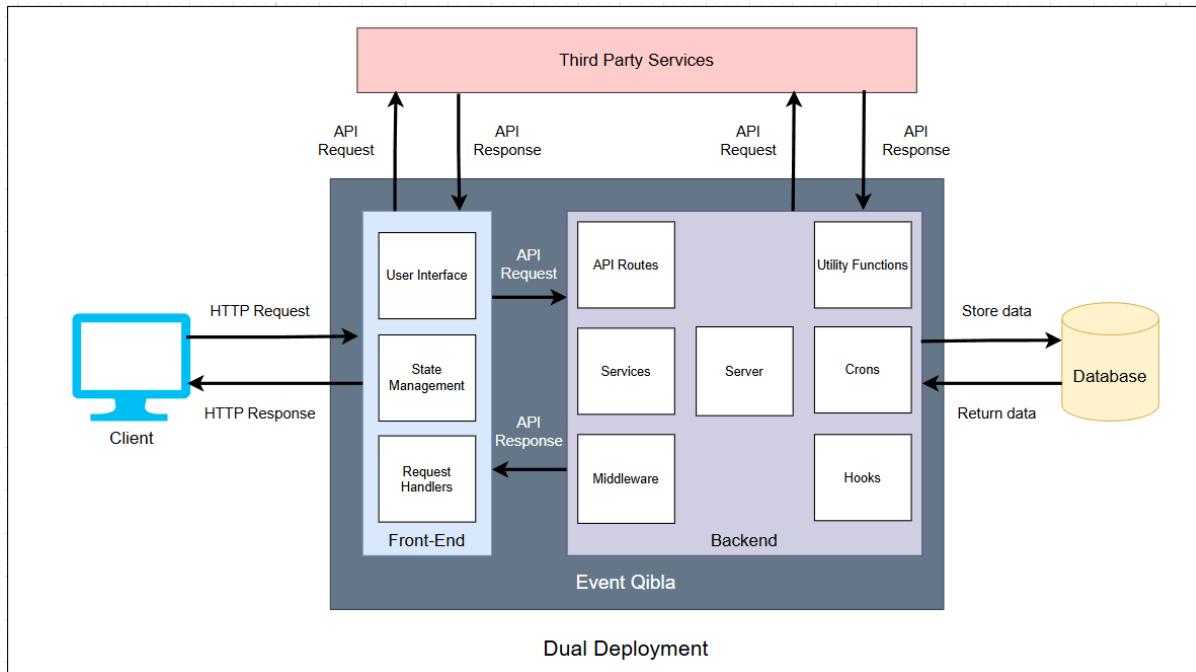


Figure 1: a high-level overview of Event Qibla's software architecture

8.2.2 Figure 2: Home Page

The screenshot shows the homepage of the Event Qibla website. At the top, there is a navigation bar with the logo "Event Qibla" and icons for Home, Browse Events, Create Events, My Account, and Login. Below the navigation bar is a large banner featuring an open book with Arabic script and a prayer beads (Misbaha) resting on it. The banner has a dark overlay with white text: "Discover & Organise Islamic Events Near You" and "Connect with your community and strengthen your deen through inspiring gatherings." Below the banner are two buttons: "Browse Events" (in a green box) and "Host an Event". Underneath these buttons is a section titled "Explore Events by Category" with four categories: "Islamic Lectures", "Charity", "Study Groups", and "Social", each represented by a white box.

Event Qibla

Home Browse Events Create Events My Account Login

Discover & Organise Islamic Events Near You

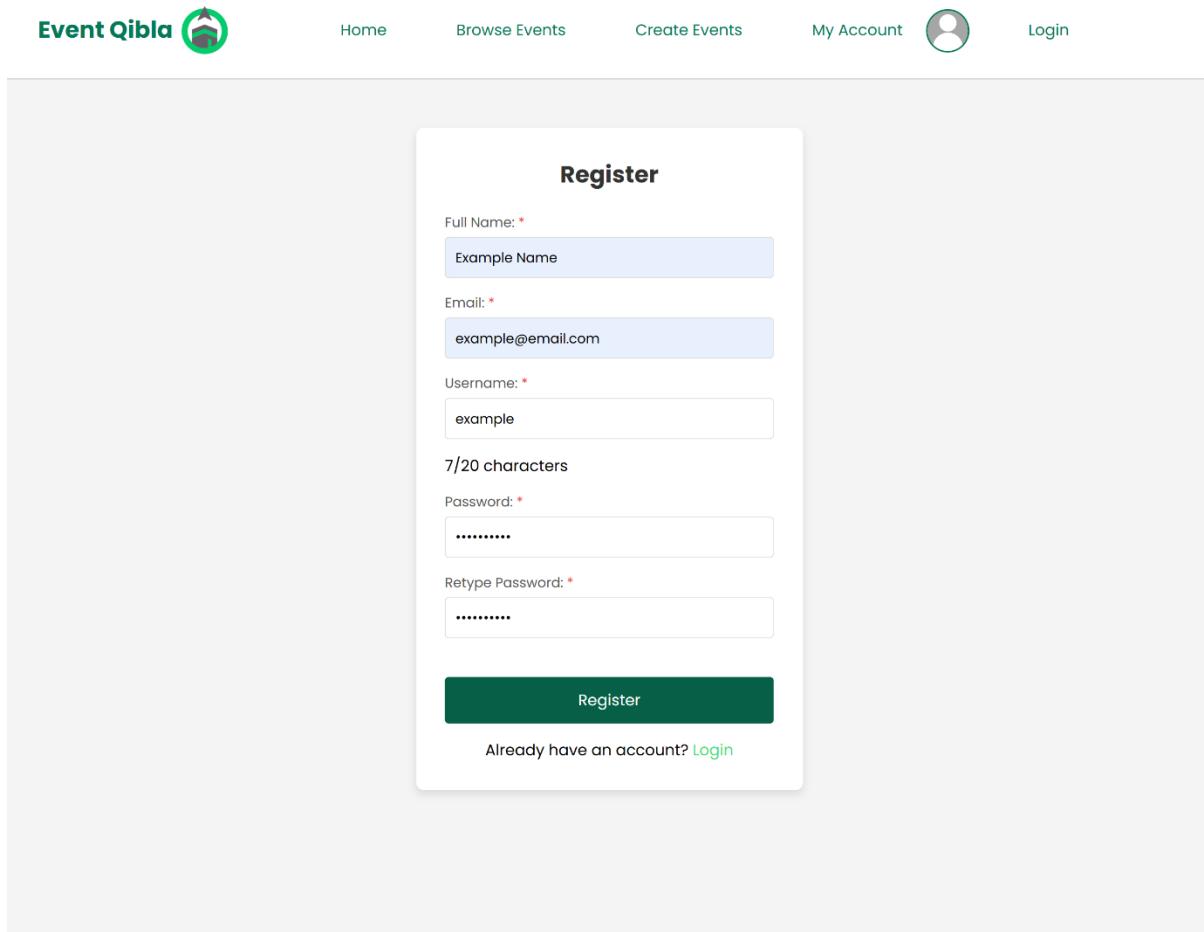
Connect with your community and strengthen your deen through inspiring gatherings.

Browse Events Host an Event

Explore Events by Category

Islamic Lectures Charity Study Groups Social

8.2.2 Figure 3: Register



The screenshot shows the registration page of the Event Qibla website. At the top, there is a navigation bar with links for Home, Browse Events, Create Events, My Account, and Login. The My Account link is accompanied by a user icon. The main content area features a white registration form with a dark green header containing the word "Register". The form includes fields for Full Name, Email, Username, Password, and Retype Password. Each field has a placeholder text and a character limit indicator (e.g., "7/20 characters"). Below the form is a large dark green "Register" button. At the bottom of the form, there is a link for users who already have an account, pointing to the login page.

Full Name: *

Example Name

Email: *

example@email.com

Username: *

example

7/20 characters

Password: *

.....

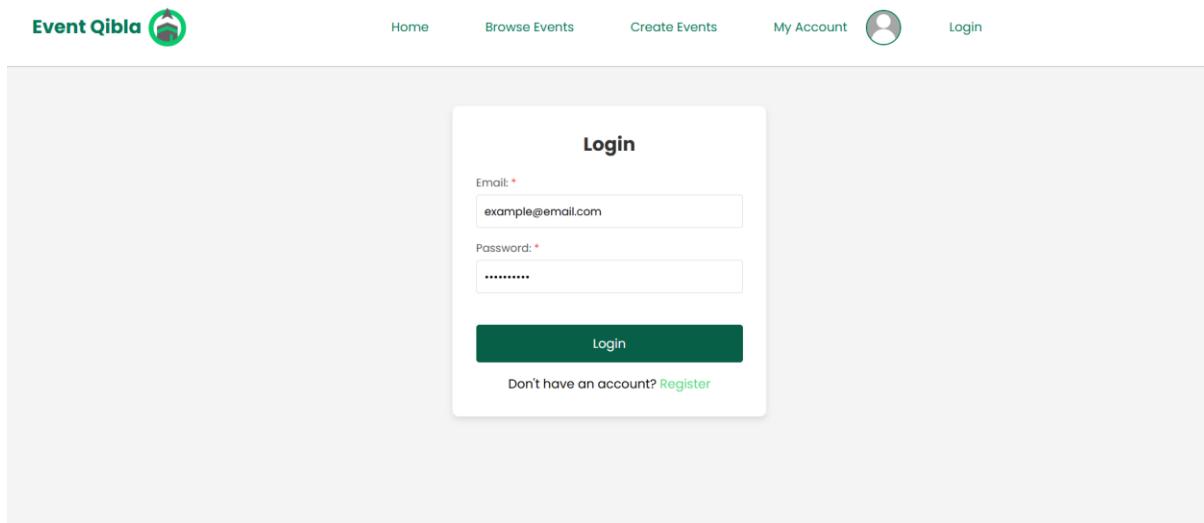
Retype Password: *

.....

Register

Already have an account? [Login](#)

8.2.2 Figure 4: Login



The screenshot shows the login page of the Event Qibla website. At the top, there is a navigation bar with links for Home, Browse Events, Create Events, My Account, and Login. The My Account link is accompanied by a user icon. The main content area features a white login form with a dark green header containing the word "Login". The form includes fields for Email and Password. Each field has a placeholder text. Below the form is a large dark green "Login" button. At the bottom of the form, there is a link for users who don't have an account, pointing to the registration page.

Email: *

example@email.com

Password: *

.....

Login

Don't have an account? [Register](#)

8.2.2 Figure 5: Create Event

Event Qibla 

Home Browse Events Create Events My Account  Logout

Create an event

Title: *

13/30 characters

Description: *

Upload Event Thumbnail:

✖ Remove

Start Time: *

End Time: *

Address: *

City: *

Postcode: *

Gender Specific: *

Capacity: *

Price (£): *

Categories: *

Lecture	<input checked="" type="checkbox"/>
Charity	<input checked="" type="checkbox"/>
Study Group	<input type="checkbox"/>
Social	<input type="checkbox"/>

8.2.2 Figure 6: Browse Events

Event Qibla 

Home Browse Events Create Events My Account  Logout

Search for events... 

Categories:
 All Lecture Charity Study Group Social

Upcoming First **Max Price (£):**

Find by: **City** City:

First Previous Page 1 of 1 Next Last **24 per page**



Example Event
⌚ 9:00, 30th May 2025 – 10:00, 30th May 2025
📍 130 Brighton Rd, London, CR8 4EX
👤 Everyone
Lecture, Charity **£2.00**

First Previous Page 1 of 1 Next Last **24 per page**

8.2.2 Figure 7: Find By Section

Categories:
 All Lecture Charity Study Group Social

Upcoming First **Max Price (£):**

Find by: **Postcode** Postcode: **Max Distance (km):**

8.2.2 Figure 8: Event Profile

Event Qibla 

Home Browse Events Create Events My Account  Logout

Example Event

⌚ 9:00, 30th May 2025 ~ 10:00, 30th May 2025
📍 130 Brighton Rd, London, CR8 4EX
👤 Everyone
💷 £2.00
👥 Capacity: 10



Organized by:

**example**
★★★★★ 0.0 (0 reviews)



[Book Now](#) 

About the Event

This event was created as an example

8.2.2 Figure 9: Event Booking

Event Qibla 

Home Browse Events Create Events My Account  Logout

Checkout



Example Event

⌚ 9:00, 30th May 2025 – 10:00, 30th May 2025
📍 130 Brighton Rd, London, CR8 4EX
👤 Everyone
Lecture, Charity £2.00

Number of Tickets: 3

Total Price: £6.00

Bank Card Number: *

Expiration Date (MM/YY): *

CVC: *

Postal Code: *

Confirm Booking

8.2.2 Figure 10: Booking Confirmation

Booking Confirmed! ✓

You're going to **Example Event** at **9:00, 30th May 2025**.

Your Ticket #1

**Example Event**

⌚ 9:00, 30th May 2025 – 10:00, 30th May 2025

📍 130 Brighton Rd, London, CR8 4EX

£6.00



Scan this QR code for entry

■ 935f1899-f319-49a4-ac88-d99a45e49d08

Your Ticket #2

**Example Event**

⌚ 9:00, 30th May 2025 – 10:00, 30th May 2025

📍 130 Brighton Rd, London, CR8 4EX

£6.00



Scan this QR code for entry

■ afad72aa-09af-4f63-978e-543e3868a917

Your Ticket #3

**Example Event**

⌚ 9:00, 30th May 2025 – 10:00, 30th May 2025

📍 130 Brighton Rd, London, CR8 4EX

£6.00



Scan this QR code for entry

■ e2f5cbde-f24a-44f1-9d14-127ff28a843a

[View My Tickets](#)

8.2.2 Figure 11: My Account

The screenshot shows the 'My Account' section of the Event Qibia website. At the top, there is a navigation bar with links for Home, Browse Events, Create Events, My Account, and Logout. The user's profile picture is displayed next to the 'My Account' link. Below the navigation, the 'My Account' heading is centered. To the left is a circular profile picture placeholder labeled 'example'. To the right, the user's email (example@email.com) and member since date (29/04/2025) are listed. Below this information is a five-star rating icon followed by '0.0 (0 reviews)'. Two buttons are present: 'Upload New Photo' (green) and 'Remove Photo' (red). A green success message at the bottom states 'Profile picture updated successfully!'. The background of the account section is light gray.

8.2.2 Figure 12: My Notifications

The screenshot shows the 'My Notifications' section. The title 'My Notifications' is at the top, with '1 unread' notification. Below, two notifications are listed: 'Booking Confirmation: Example Event' (green card) and 'Event Created Successfully' (white card). Each notification contains a brief summary, timestamp (e.g., 9:27, 29th April 2025), and a 'New' indicator. The background is white.

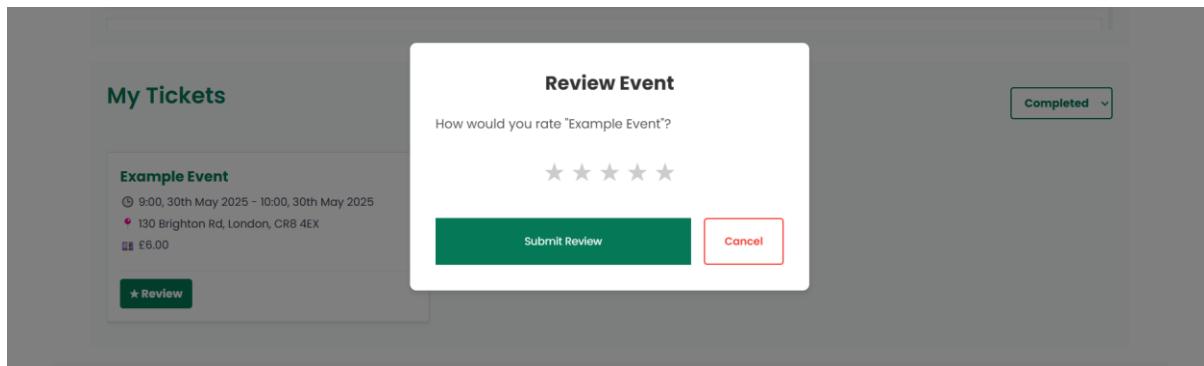
8.2.2 Figure 13: My Tickets

The screenshot shows the 'My Tickets' section. The title 'My Tickets' is at the top, with a dropdown menu set to 'Active'. Below, two ticket cards are shown for 'Example Event'. Each card displays event details (date, location, price), a small thumbnail, and two buttons: a green one with a trash icon and a red one with a red 'X'. The background is white.

8.2.2 Figure 14: Cancelled Ticket

The screenshot shows the 'My Tickets' section with a dropdown menu set to 'Cancelled'. One ticket card for 'Example Event' is visible, showing the same event details as Figure 13, but with a different status. The background is white.

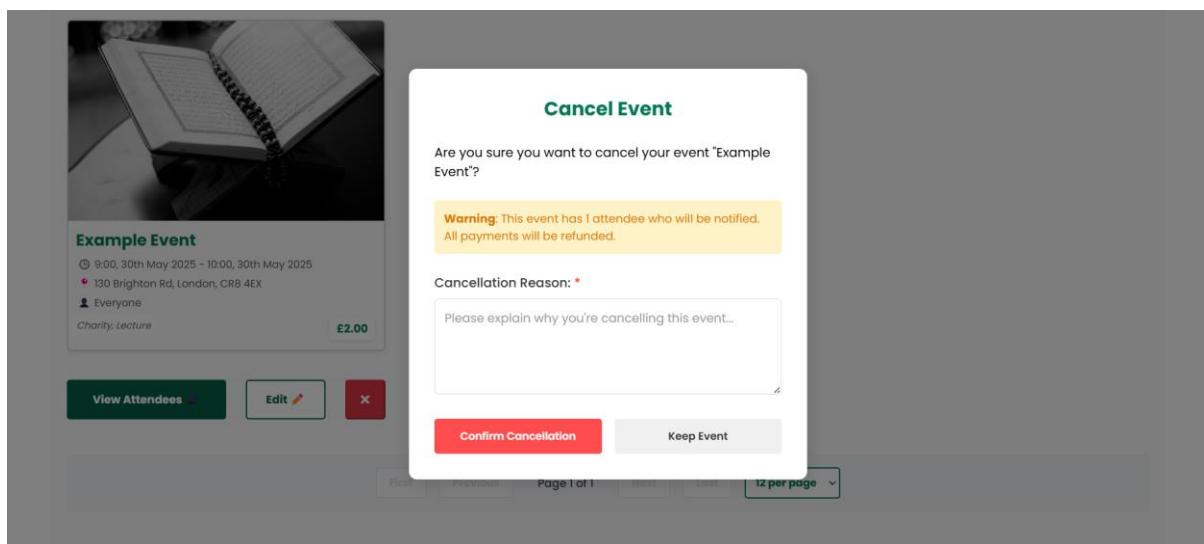
8.2.2 Figure 15: Review Completed Event



8.2.2 Figure 16: My Events

A screenshot of the "My Events" page. It shows a single event listing for "Example Event". The event details include: Date: 9:00, 30th May 2025 - 10:00, 30th May 2025; Location: 130 Brighton Rd, London, CR8 4EX; Audience: Everyone; Category: Charity, Lecture; Price: £2.00. Below the event details are three buttons: "View Attendees" (green), "Edit" (green with a pencil icon), and "X" (red). At the bottom of the page, there is a navigation bar with buttons for "First", "Previous", "Page 1 of 1", "Next", "Last", and a dropdown menu set to "12 per page".

8.2.2 Figure 17: Cancel Event



8.2.2 Figure 18: Edit Event

Event Qibla 

Home Browse Events Create Events My Account  Logout

Edit Event

Title:

Description: *
This event was created as an example

Event Thumbnail:  [Change Image](#) [X Remove](#)

Start Time: *

End Time: *

Address: *

City: *

Postcode: *

Gender Specific: *

Capacity: * (Current tickets: 1)

Price (£): *

Status: *

Categories: * Lecture Charity Study Group Social

[Update Event](#)

8.2.2 Figure 19: Attendee Management

The screenshot shows the 'Attendee Management' section of the Event Qibla platform. At the top, there is a navigation bar with links for Home, Browse Events, Create Events, My Account, and Logout. Below the navigation is a header titled 'Example Event (2 / 10)'. A search bar labeled 'Search attendees...' is followed by two buttons: 'Scan Ticket' and 'Manual Check-in'. The main area displays a table of attendees with columns for Name, Username, Purchase Date, Ticket Code, Status, and Actions. Two rows are shown:

Name	Username	Purchase Date	Ticket Code	Status	Actions
Example Name	example	29 Apr 2025, 09:27	935f1899-f319-49a4-ac88-d99a45e49d08	● Active	<button>Remove</button>
Example Name	example	29 Apr 2025, 09:27	e2f5cbde-f24a-44f1-9d14-127ff28a843a	✓ Checked In	<button>Remove</button>

At the bottom, there are navigation buttons for Previous, Page 1 of 1, and Next.

8.2.2 Figure 20: Admin Browse Events

The screenshot shows the 'Admin Browse Events' interface. On the left, there is a sidebar with a 'Categories:' section containing checkboxes for All, Lecture, Charity, Study Group, and Social. Below this are several sorting and filtering options: 'Upcoming First' (selected), 'All Genders', 'Max Price (£)', and a placeholder 'Enter max price'. There is also a 'Enter your city' input field. The main content area features a large image of an open book. To the right of the image, there is a summary for an 'Example Event':

Example Event 1

⌚ 9:00, 30th May 2025 - 10:00, 30th May 2025
📍 130 Brighton Rd, London, CR8 4EX
👤 Everyone
Category: Lecture, Charity £2.00

8.2.2 Figure 21: Admin Event Profile

The screenshot shows the 'Example Event' profile on the 'Event Qibla' platform. At the top, there's a navigation bar with links for Home, Browse Events, Create Events, Dashboard, My Account, and Logout. The main content area has a title 'Example Event'. Below the title is a summary box containing event details: Date (9:00, 30th May 2025 - 10:00, 30th May 2025), Location (130 Brighton Rd, London, CR8 4EX), Audience (Everyone), Price (£2.00), and Capacity (10). To the right of the summary is a thumbnail image of an open book, likely the Quran. Below the summary is a section titled 'Organized by:' featuring a user profile for 'example'. The profile includes a placeholder icon, the name 'example', a 5-star rating with '(0 reviews)', and social media sharing icons for Facebook, Twitter, LinkedIn, WhatsApp, and Instagram. Below the profile are two buttons: 'Book Now' (green) and 'Remove Event' (red). At the bottom of the profile section is a link to 'About the Event'. The 'About the Event' section contains the text 'This event was created as an example'.

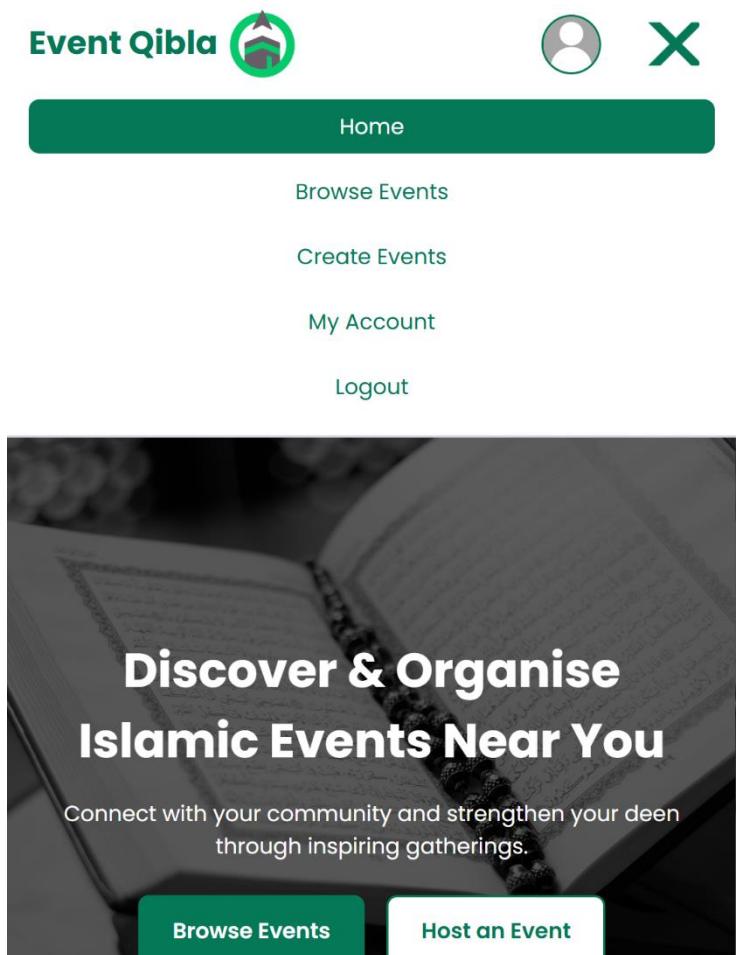
8.2.2 Figure 22: Admin Dashboard

The screenshot shows the 'User Management Dashboard' on the 'Event Qibla' platform. At the top, there's a navigation bar with links for Home, Browse Events, Create Events, Dashboard, My Account, and Logout. The main content area has a title 'User Management Dashboard'. Below the title is a search bar with the placeholder 'Search users...' and a dropdown menu set to 'Newest First'. The main part of the dashboard is a table listing users. The columns are: Username, Email, Rating, Events, Joined, Role, and Actions. There are two entries in the table:

Username	Email	Rating	Events	Joined	Role	Actions
example	example@email.com	★★★★★ 0.0 (0 reviews)	1	29 Apr 2025	User	<button>Ban</button>
admin	admin@email.com	★★★★★ 0.0 (0 reviews)	0	29 Apr 2025	Admin	<button>Ban</button>

At the bottom of the dashboard, there are navigation links for 'Previous', 'Page 1 of 1', and 'Next'.

8.2.2 Figure 23: Mobile - Home



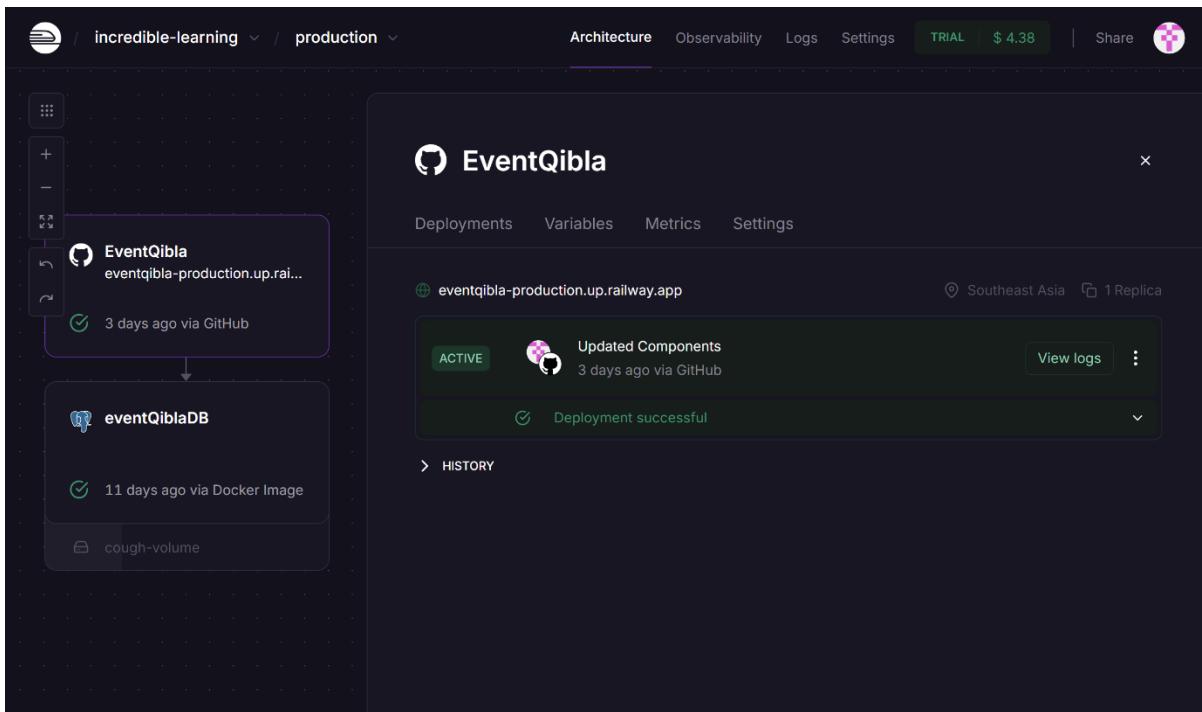
8.2.2 Figure 24: Mobile – Event Profile

The image shows a mobile application interface for 'Event Qibla'. At the top, there is a header with the app's logo (a green circle containing a white mosque icon) and a user profile icon. To the right of the profile icon is a menu icon consisting of three horizontal lines. Below the header, the title 'Example Event' is displayed in a large, bold, dark teal font. Underneath the title, there is a light gray rectangular card containing event details. The details include: a clock icon followed by the text '9:00, 30th May 2025 – 10:00, 30th May 2025'; a location pin icon followed by '130 Brighton Rd, London, CR8 4EX'; a person icon followed by 'Everyone'; a money icon followed by '£2.00'; and a people icon followed by 'Capacity: 10'. Below this card, the section 'Organized by:' is visible, featuring a large circular placeholder icon for the organizer's profile picture.

8.2.2 Figure 25: Netlify Deployment

The image shows the Netlify site configuration interface for the 'eventqibla' site. On the left, there is a sidebar with various navigation options: 'Sites' (selected), 'eventqibla', 'Site overview', 'Site configuration' (selected), 'Deploys', 'Preview Servers', 'Logs', 'Metrics', 'Domain management', 'Forms', 'Blobs', 'Build & deploy', 'Continuous deployment', and 'Post processing'. The main content area is titled 'Configuration for eventqibla' and shows the site's GitHub integration ('Deploy from GitHub.'), last update date ('Last update on Apr 29 (3 days ago)'), and a preview of the site's homepage. The homepage preview shows the 'Event Qibla' logo and the tagline 'Discover & Organise Islamic Events Near You'. Below this, there are sections for 'General site settings' (with tabs for 'General', 'Site details', and 'Site information') and 'Site details' (with sub-sections for 'Site details' and 'Danger zone'). The 'Site information' section shows the site name as 'eventqibla'. In the top right corner, there are links for 'News' and 'Support'.

8.2.2 Figure 26: Railway Deployment



8.2.2 Figure 27: Background Questions

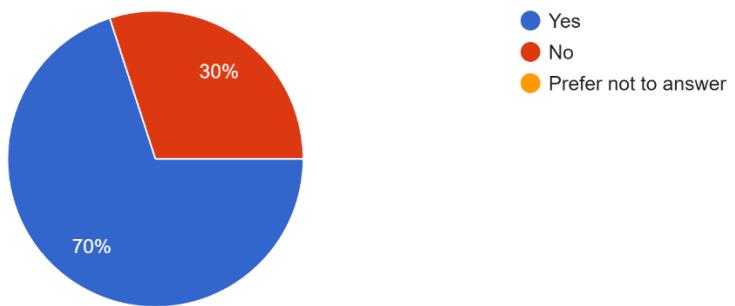
Do you consent to take part in this academic usability study?

10 responses



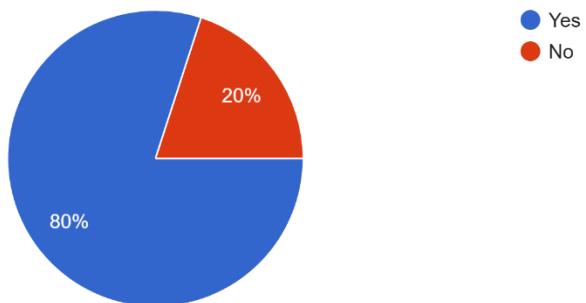
Are you a Muslim?

10 responses



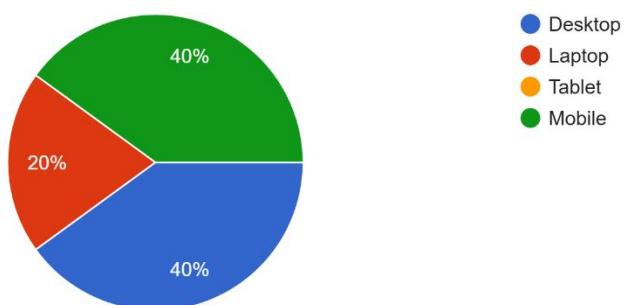
Have you ever used an event booking and hosting platform before?

10 responses



What device will you be using to browse Event Qibla?

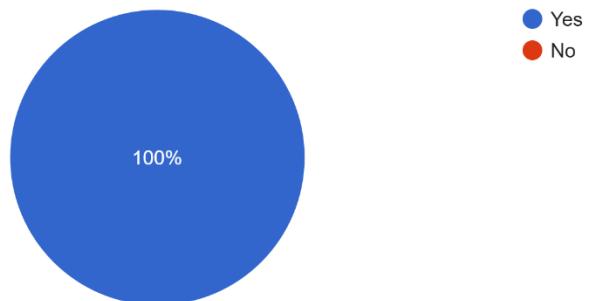
10 responses



8.2.2 Figure 28: Task 1

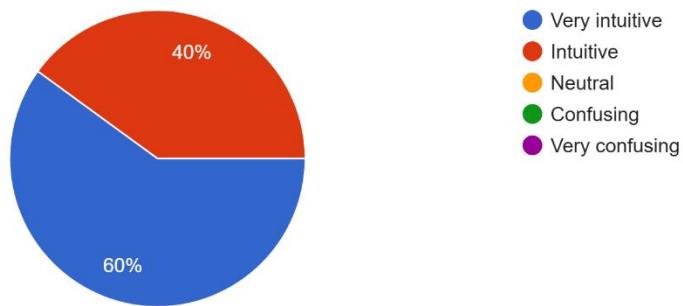
Were you successfully able to register a new account?

10 responses



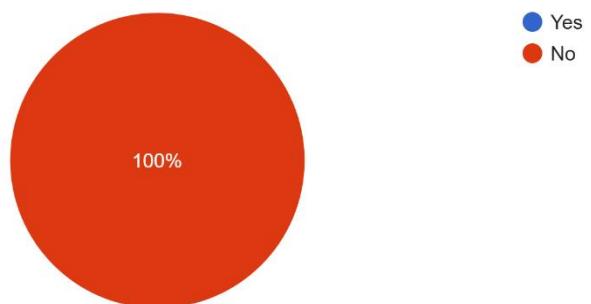
How intuitive was the process?

10 responses



Did you encounter any problems?

10 responses



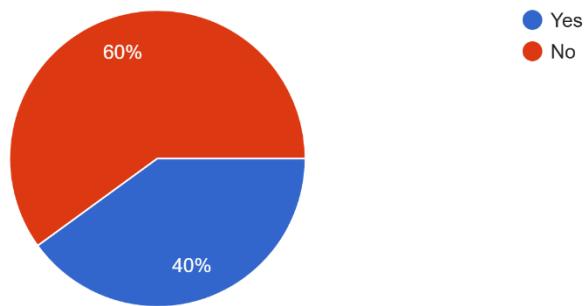
If yes, explain:

0 responses

No responses yet for this question.

Do you have any suggestions for improvements for this section?

10 responses



if yes explain:

4 responses

Might be better if automatically logged in after creating account

When my google autofills it tries to use the username but I can only log in with email.

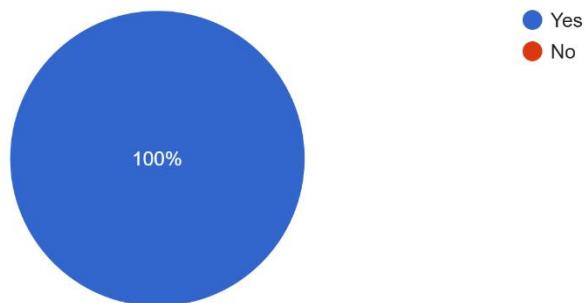
Highlight the text box red of the text that is in invalid formats

No link to recover account details, e.g. recall username/email or password.

8.2.2 Figure 29: Task 2

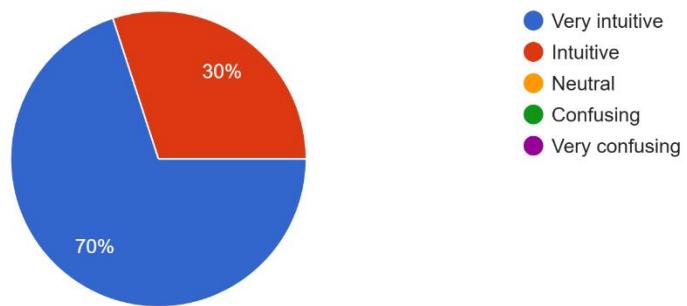
Were you successfully able to login?

10 responses



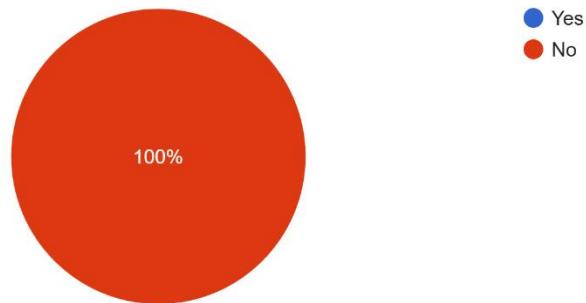
How intuitive was the process?

10 responses



Did you encounter any problems?

10 responses



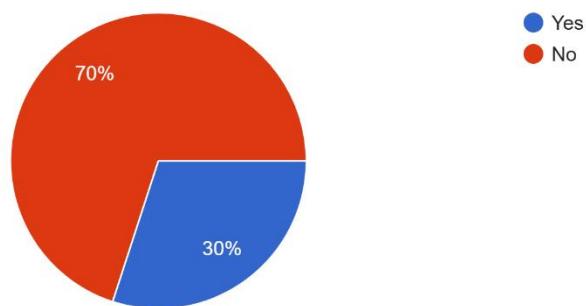
If yes, explain:

0 responses

No responses yet for this question.

Do you have any suggestions for improvements for this section?

10 responses



if yes explain:

3 responses

allow the user to login with their username as well

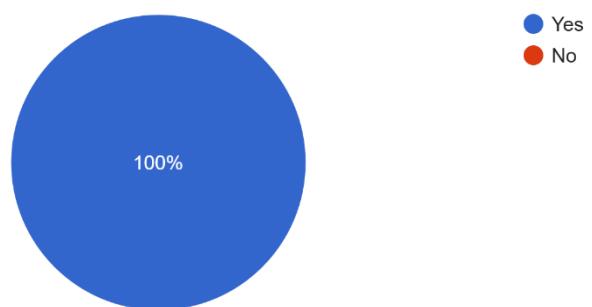
When my google autofills it tries to use the username but I can only log in with email.

Also highlight the text box red of the invalid formats

8.2.2 Figure 30: Task 3

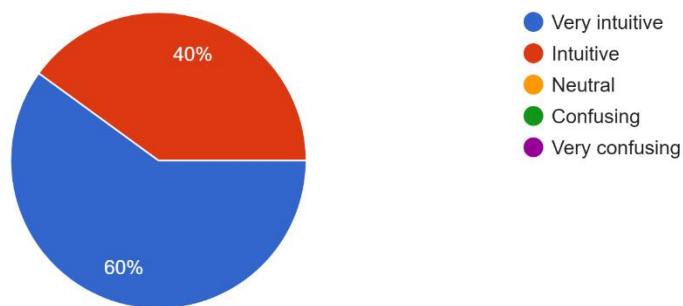
Were you successfully able to create an event?

10 responses



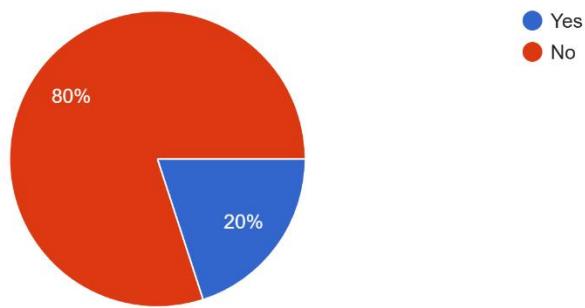
How intuitive was the process?

10 responses



Did you encounter any problems?

10 responses



If yes, explain:

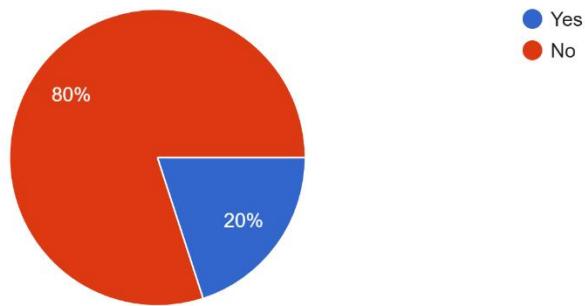
2 responses

I attached a picture but after removing it, I wasnt able to attach another picture

I tried to enter an absurd number for capacity and it told me there was an error without specifying what the error was

Do you have any suggestions for improvements for this section?

10 responses



if yes explain:

2 responses

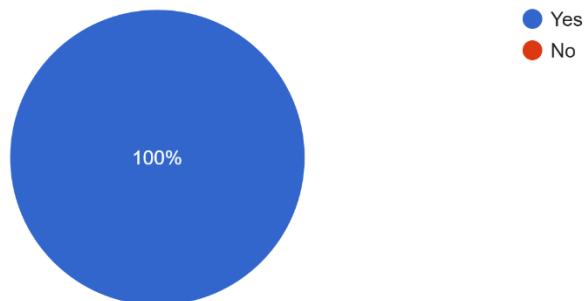
Maybe an address autofill so it's easier and less likely to have an error

Specify the errors

8.2.2 Figure 31: Task 4

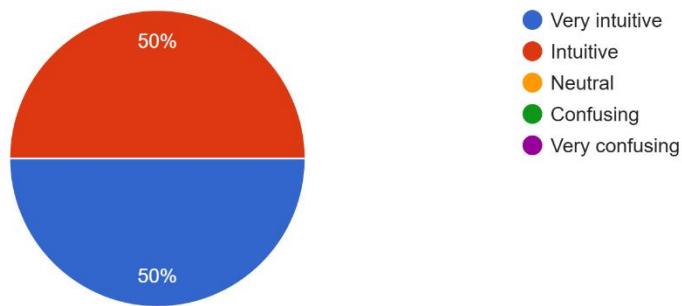
Were you successfully able to find your event's profile?

10 responses



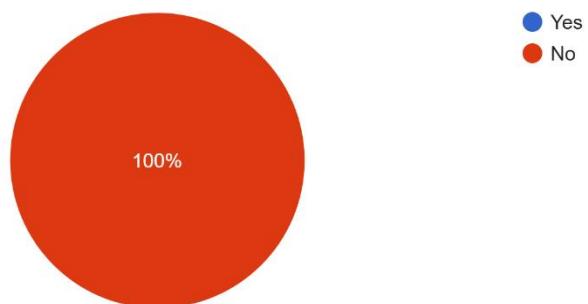
How intuitive was the process?

10 responses



Did you encounter any problems?

10 responses



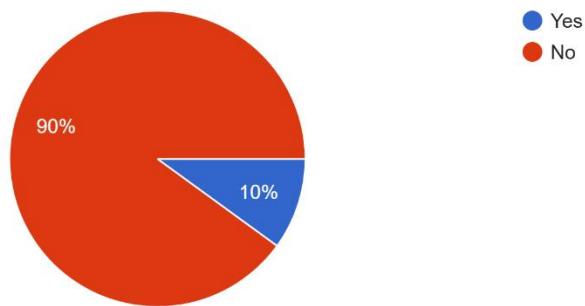
If yes, explain:

0 responses

No responses yet for this question.

Do you have any suggestions for improvements for this section?

10 responses



if yes explain:

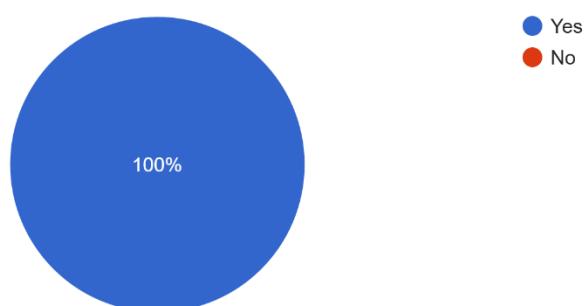
1 response

Maybe hide or reorganise the categories and filters to make it more clear.

8.2.2 Figure 32: Task 5

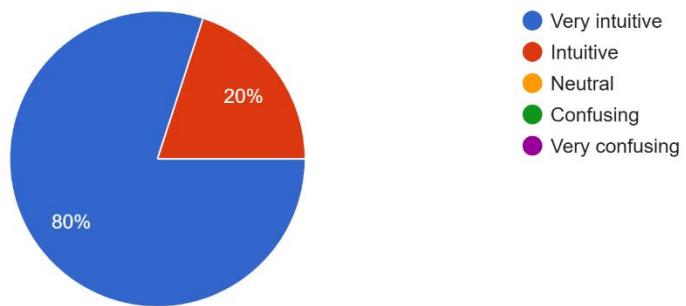
Were you successfully able to book a ticket to your event?

10 responses



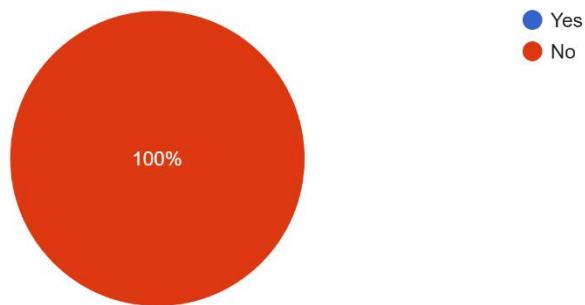
How intuitive was the process?

10 responses



Did you encounter any problems?

10 responses



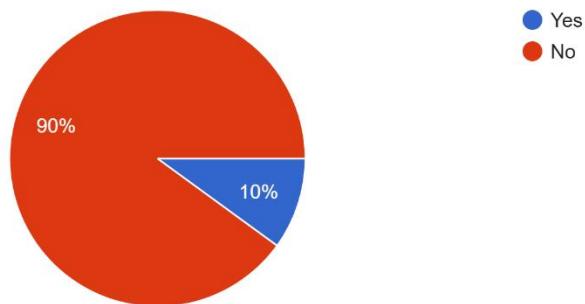
If yes, explain:

0 responses

No responses yet for this question.

Do you have any suggestions for improvements for this section?

10 responses



if yes explain:

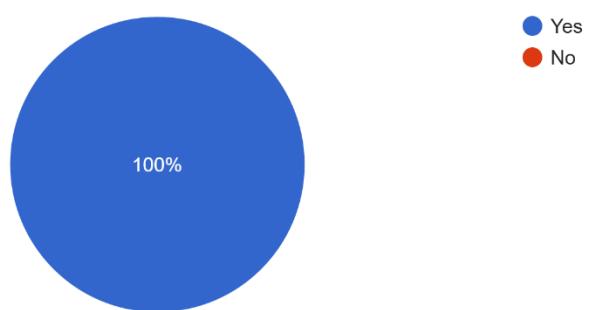
1 response

When postcode is entered, also mention a space is needed

8.2.2 Figure 33: Task 6

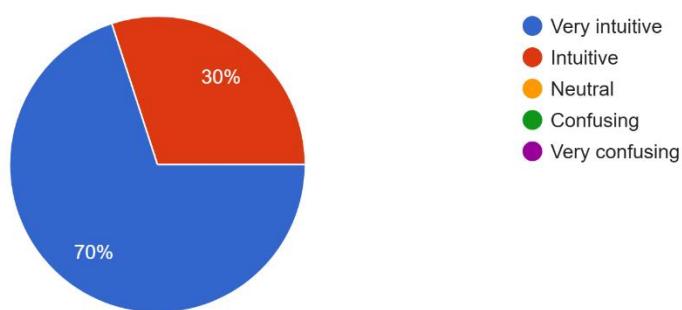
Were you successfully able to find your ticket code and explore the "My Ticket" section?

10 responses



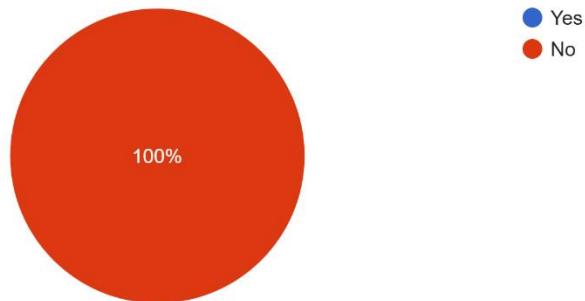
How intuitive was the process?

10 responses



Did you encounter any problems?

10 responses



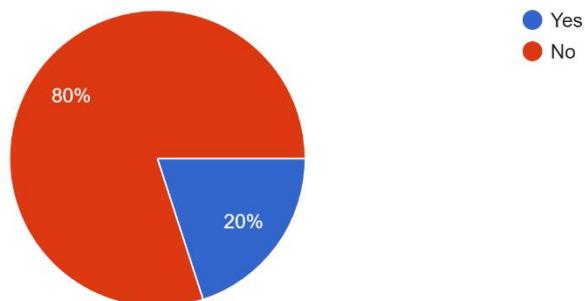
If yes, explain:

0 responses

No responses yet for this question.

Do you have any suggestions for improvements for this section?

10 responses



If yes explain:

2 responses

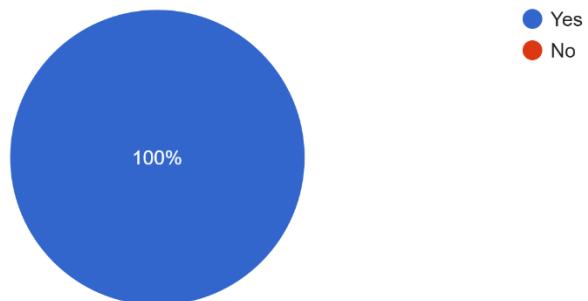
Maybe when a user hovers over the main sections at the top of the page it shows the subsections available on that page. For example hovering on my account should show notifications, tickets and events allowing me to click to go straight to the section.

My tickets should be on a separate heading

8.2.2 Figure 34: Task 7

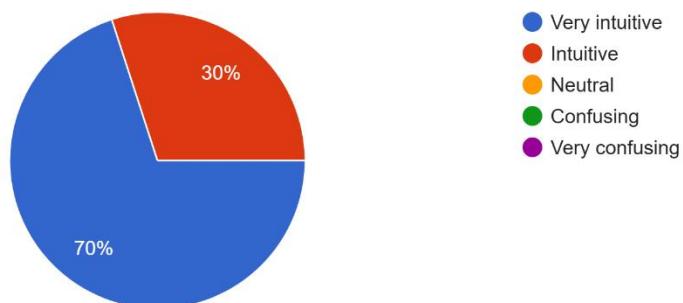
Were you able to successfully change your profile picture?

10 responses



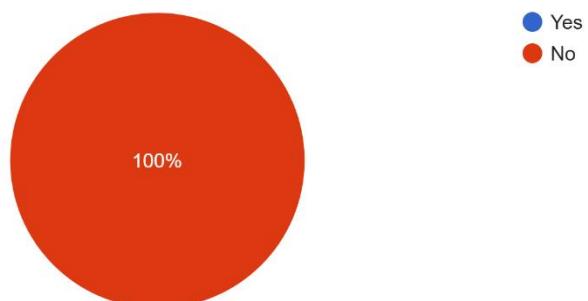
How intuitive was the process?

10 responses



Did you encounter any problems?

10 responses



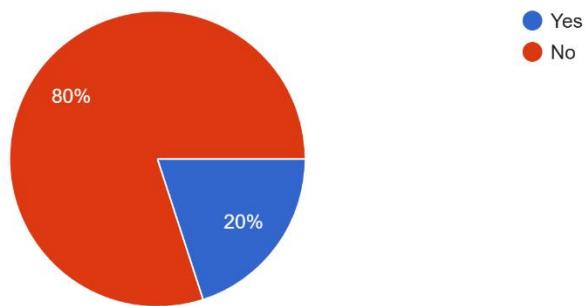
If yes, explain:

0 responses

No responses yet for this question.

Do you have any suggestions for improvements for this section?

10 responses



if yes explain:

2 responses

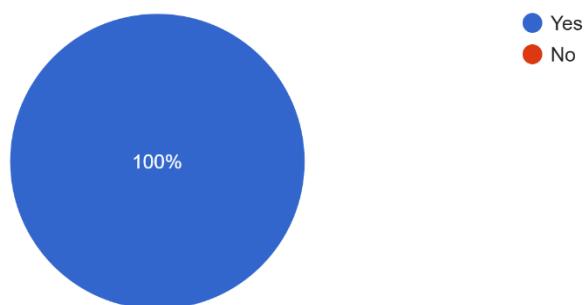
There is no option to crop or zoom image

It took a while, is it possible to make the upload faster? Or maybe it updates locally for the user instantly but the upload happens secretly in the background.

8.2.2 Figure 35: Task 8

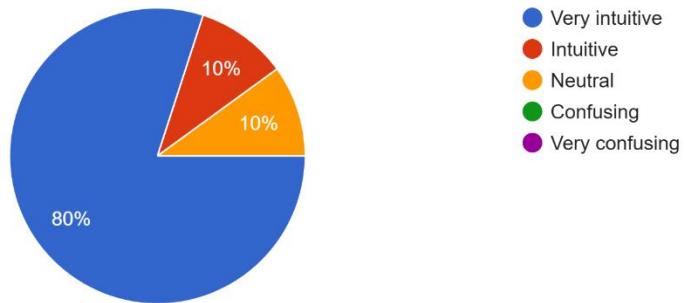
Were you able to successfully edit your event?

10 responses



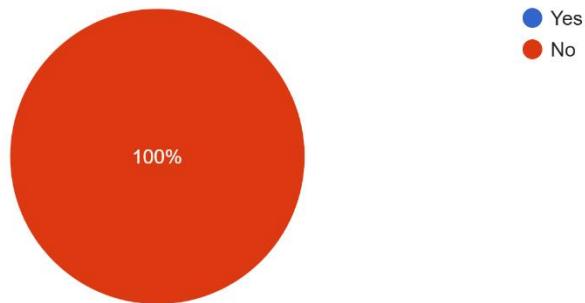
How intuitive was the process?

10 responses



Did you encounter any problems?

10 responses



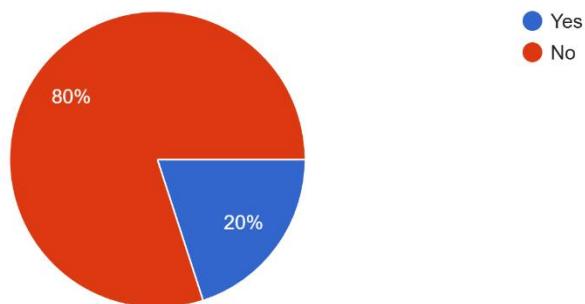
If yes, explain:

0 responses

No responses yet for this question.

Do you have any suggestions for improvements for this section?

10 responses



if yes explain:

2 responses

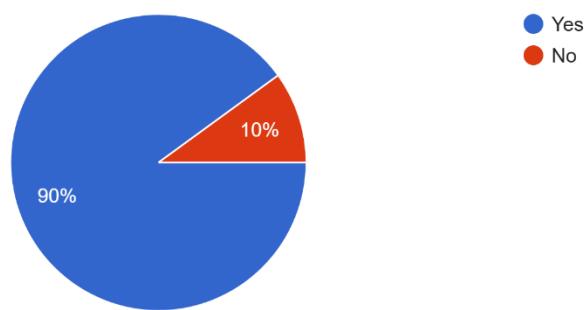
Allow edits from the main event page , not just from my account

Events being hosted by user should have a separate heading

8.2.2 Figure 36: Task 9

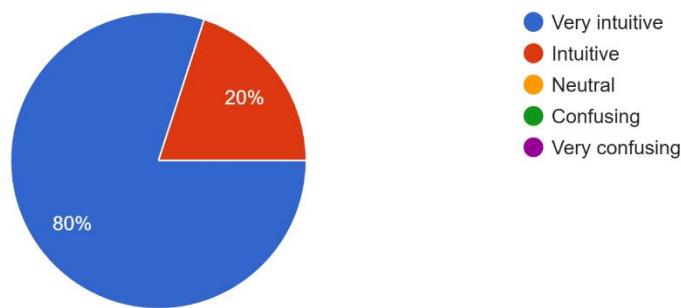
Were you able to successfully find your event attendees and perform a check-in?

10 responses



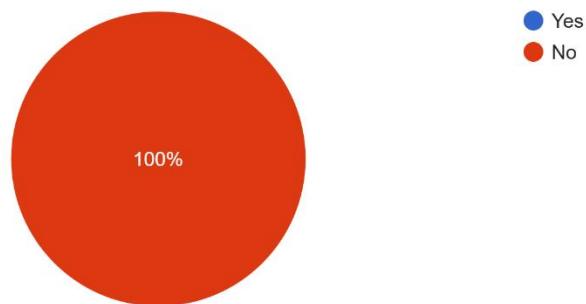
How intuitive was the process?

10 responses



Did you encounter any problems?

10 responses



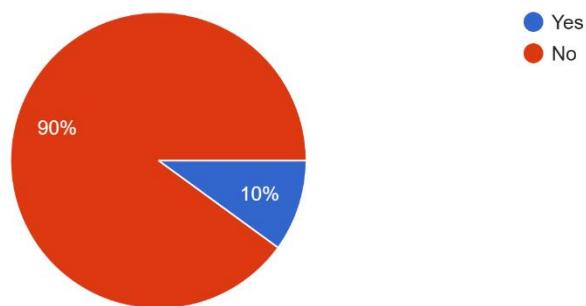
If yes, explain:

0 responses

No responses yet for this question.

Do you have any suggestions for improvements for this section?

10 responses



If yes explain:

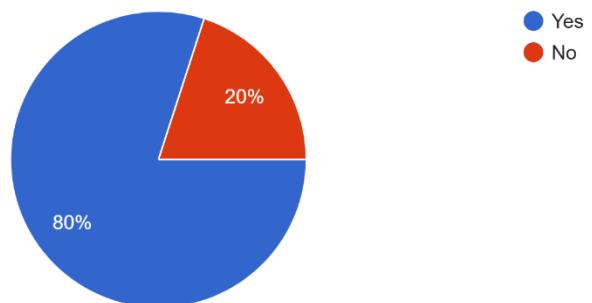
1 response

Add user rating that's tied to participation rate of users

8.2.2 Figure 37: Task 10

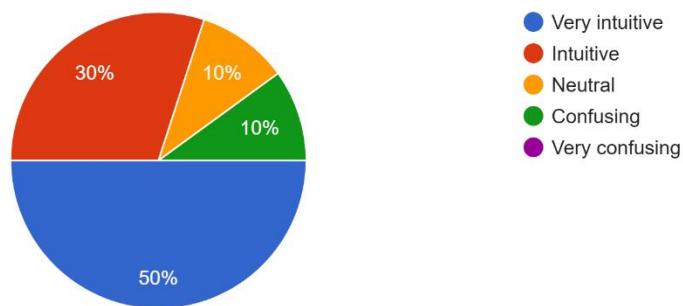
Were you able to find your completed ticket and attempt to leave a review?

10 responses



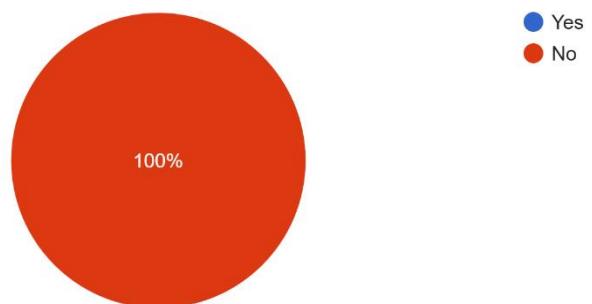
How intuitive was the process?

10 responses



Did you encounter any problems?

10 responses



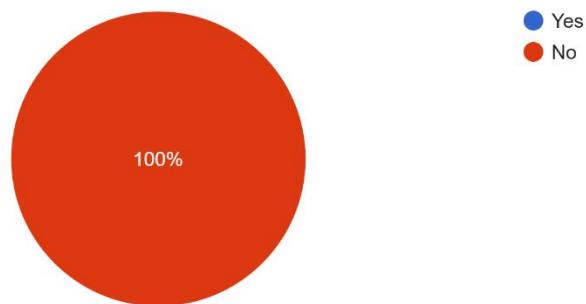
If yes, explain:

0 responses

No responses yet for this question.

Do you have any suggestions for improvements for this section?

10 responses



if yes explain:

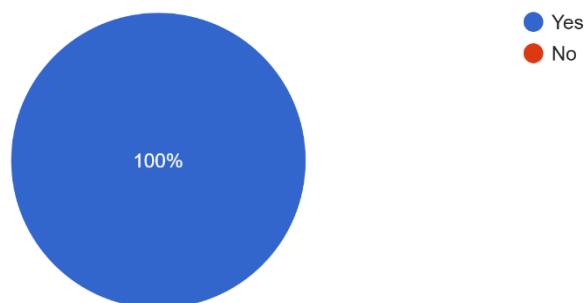
0 responses

No responses yet for this question.

8.2.2 Figure 38: Task 11

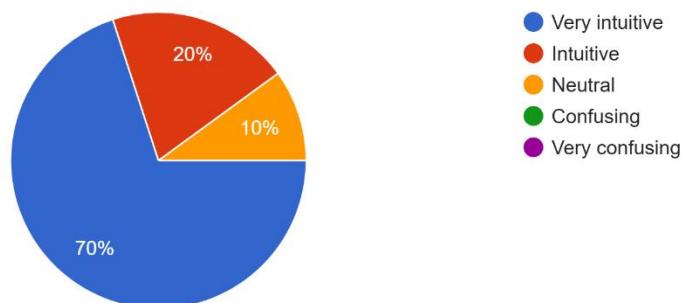
Were you successfully able to find your notifications?

10 responses



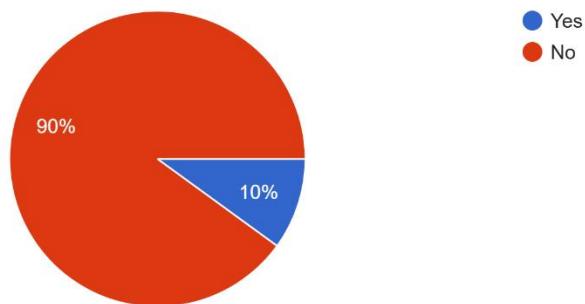
How intuitive was the process?

10 responses



Did you encounter any problems?

10 responses



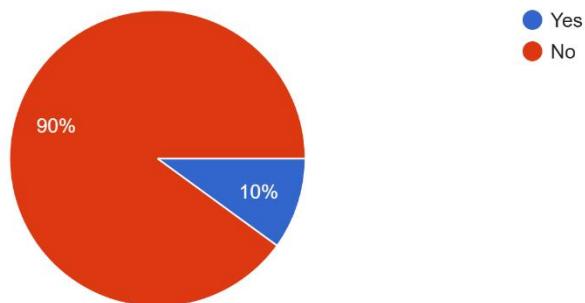
If yes, explain:

0 responses

No responses yet for this question.

Do you have any suggestions for improvements for this section?

10 responses



if yes explain:

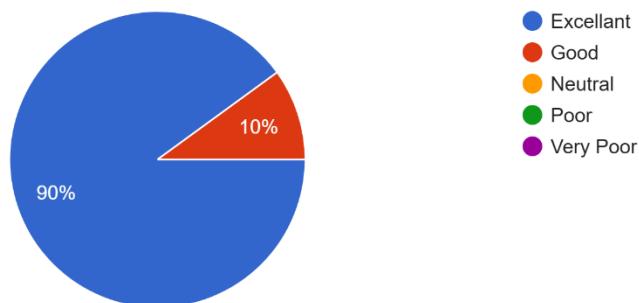
1 response

Allow me to remove notifications once i have seen them and maybe highlight unread notifications

8.2.2 Figure 39: Overall Feedback

Overall, how would you rate your experience using Event Qibla?

10 responses



What did you find most useful or effective about the platform?

10 responses

The tickets were helpful

Ticket scanning

How easy it is

I liked how easy it was to navigate the platform and the features were really similar to other booking apps I have used

Easy to navigate

Easy to browse and book events

it's well designed and fairly ease to use

It follows standard industry norms, making finding the sections I was looking for easy.

Easy to use for a beginner who has never looked at the site before.

Easy to use and simple

Hosting and booking events

What did you find confusing or difficult to use?

10 responses

Nothing

The event manager

Finding certain pages

Nothing to be honest

N/a

N/A

nothing

Leaving a review as I couldnt leave a review for my own event.

Finding the my events and my tickets

What did you think about the user interface?

10 responses

Overall, very clean and intuitive to use

Clean, very nice

Its good

It was clean and simple which I liked

Yes very good

Simple and easy to use

it's visually appealing

It was practical but could use more colours or designs just to make it pop a bit more

Great and easy

Good

Any Improvements you would like to suggest?

7 responses

No

N/A

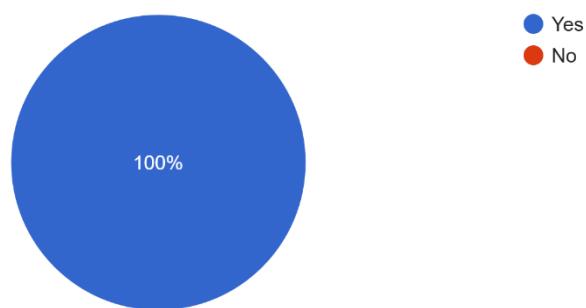
include small animations and hover effects

Only what I have already suggested

Just simple things like mentioning a postcode needs a space, highlighting invalid text boxes as red also so they're easy to find

Would you use Event Qibla again or recommend it to others?

10 responses



8.2.2 Figure 40: Username Login

The screenshot shows the Event Qibla website's login interface. At the top, there is a navigation bar with links for Home, Browse, Create, Login, and Register. The 'Event Qibla' logo is located on the left side of the header. Below the header, a large central modal window is titled 'Login'. It contains two input fields: 'Email or Username: *' with the value 'test123@email.com' and 'Password: *' with several dots indicating the password. A green 'Login' button is centered below the inputs. At the bottom of the modal, there is a link 'Don't have an account? [Register](#)'.

8.2.2 Figure 41: Events & Tickets

Event Qibla 

Home Browse Create Events & Tickets Account  Logout

My Tickets

test
⌚ 20:23, 10th May 2025 – 20:23, 23rd May 2025
📍 259 Old Lodge Lane, Purley, CR8 4AZ
🆓 Free

My Events

First Previous Page 1 of 1 Next Last **12 per page**

Event Qibla



test
⌚ 20:23, 10th May 2025 – 20:23, 23rd May 2025
📍 259 Old Lodge Lane, Purley, CR8 4AZ
👤 Everyone
Charity, Lecture 

View Attendees  

First Previous Page 1 of 1 Next Last **12 per page**