

ITWD7.358 Web Application Programming Project 2

Katherine Mulder

2014003269

Eastern Institute of Technology

NZ Bachelor of Computing Systems

Dr Daniel Dang

April 29, 2024

Table of Contents

Executive summary	3
Introduction	3
Flowchart	5
Website Wireframe	11
ERD.....	19
Test Plan.....	21
Initial Conditions:	21
Core functionalities:.....	21
Interaction and screenshot.....	21

Executive summary

This project focuses on building a dynamic website for managing and booking running events across New Zealand. It utilizes Bootstrap, HTML, PHP, and the Laravel PHP framework to construct a robust full-stack application with MySQL integration.

The reason I am using the backend Laravel framework for my project is that from the project I have gained experience with WordPress alongside PHP. However, for the opportunity to learn something new, I decided to use Laravel. Based on the research and resources, it gives me an impression of a good learning experience especially since Laravel is a popular PHP framework at the moment.

The research tells me that Laravel has a lot to offer as you can write clear code by organizing application code into three segments it's easy to simplify updates and maintenance and it has inbuilt testing features which will make it easier for testing later on. Although it can be overwhelming for a beginner. However, this project will be a good fit for a Laravel framework.

Introduction

The website "Running Event New Zealand" comprises four key models: authentication, event booking, discussion board, and admin dashboard.

1. Authentication Model: handles user login and registration, ensuring secure access to the website's features.
2. Event Booking Model: facilitates the process of booking events, providing users with the ability to reserve their spots for desired events.
3. Discussion Board Model: enables users to engage in discussions, post messages, and interact with other participants, fostering community engagement.
4. Admin Dashboard Model: empowers administrators with tools to manage website content, user accounts, events, and discussions, ensuring smooth operations and effective oversight.

These models work in tandem to deliver a comprehensive and functional experience for both users and administrators, aligning with the website's objectives and requirements. The key functionalities for each page:

1. Homepage functionality:

- Display events in three columns with title, description, and photo.
- Limitation to three events per category with a "More" button for additional events.
- The "More" button directs users to the event page.
- Ensure uniform design and functionalities for all users.

2. Event page functionality:

- Allow users to book events via the "Book Now" buttons.
- Provide search and category functions for user exploration.
- Design the page for straightforward content viewing and filtering.

3. Discussion board functionality:

- Registered users can start new messages.
- Display thread titles and content for unregistered users.
- Maintain consistent style across both pages for ease of navigation.

4. Admin dashboard functionality:

- Consolidate admin functions into a single page for ease of use.
- Enable CRUD operations on members, events, and messages for admins.
- Display an overview at the top for quick reference.
- Provides access to CRUD (Create, Read, Update, Delete) operations for various data entities stored in the database such as users, events, and messages).

5. Register/Log-in page functionality:

- Combine registration and login functions into a single page.
- Allow access for both unregistered and registered users.
- Enable further website usage post-registration or log-in.

6. Account management functionality:

- Allow registered users to update account information after logging in.
- Provide options for password update and account deactivation.
- Implement a logout function for terminating user sessions.
- Ensure consistency in style and layout with other pages.

For the non-functional requirements:

- Ensure consistent user experience across all pages for both registered and unregistered users.
- Maintain a visually appealing and intuitive design.
- Optimize database queries and server-side processing for efficient data retrieval and management.
- Encrypt sensitive user information, such as passwords, during transmission and storage.

Flowchart

The web application has authentication, event booking and discussion board features which is important to have a graphical representation of website structure and hierarchy of pages and the sequence of user interactions. Here I will provide three diagrams that depict the flow of control or the sequence of actions within a system or process by using activity diagrams combined with swim-lane.

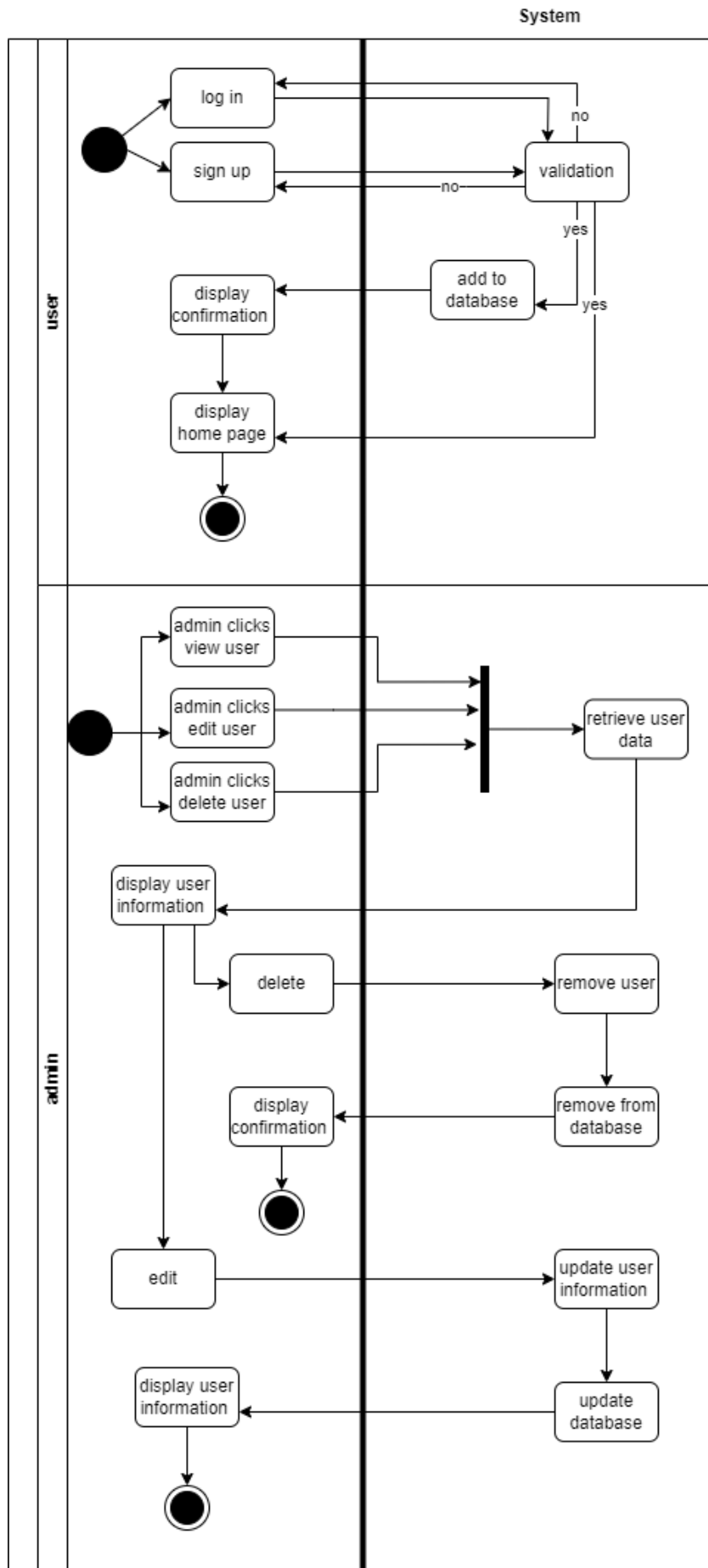
1. This activity diagram represents authentication for users signing in and registering an account, along with how the admin interacts with the system regarding CRUD operations for users.

For user interaction:

- Users access the register/login page.
- They choose between sign-up or log-in.
- Upon login, the system validates input; incorrect info leads back to login, while correct info shows the home page.
- Sign-up confirms success and returns to the home page.

For administrators:

- CRUD functions include viewing, editing, and deleting users.



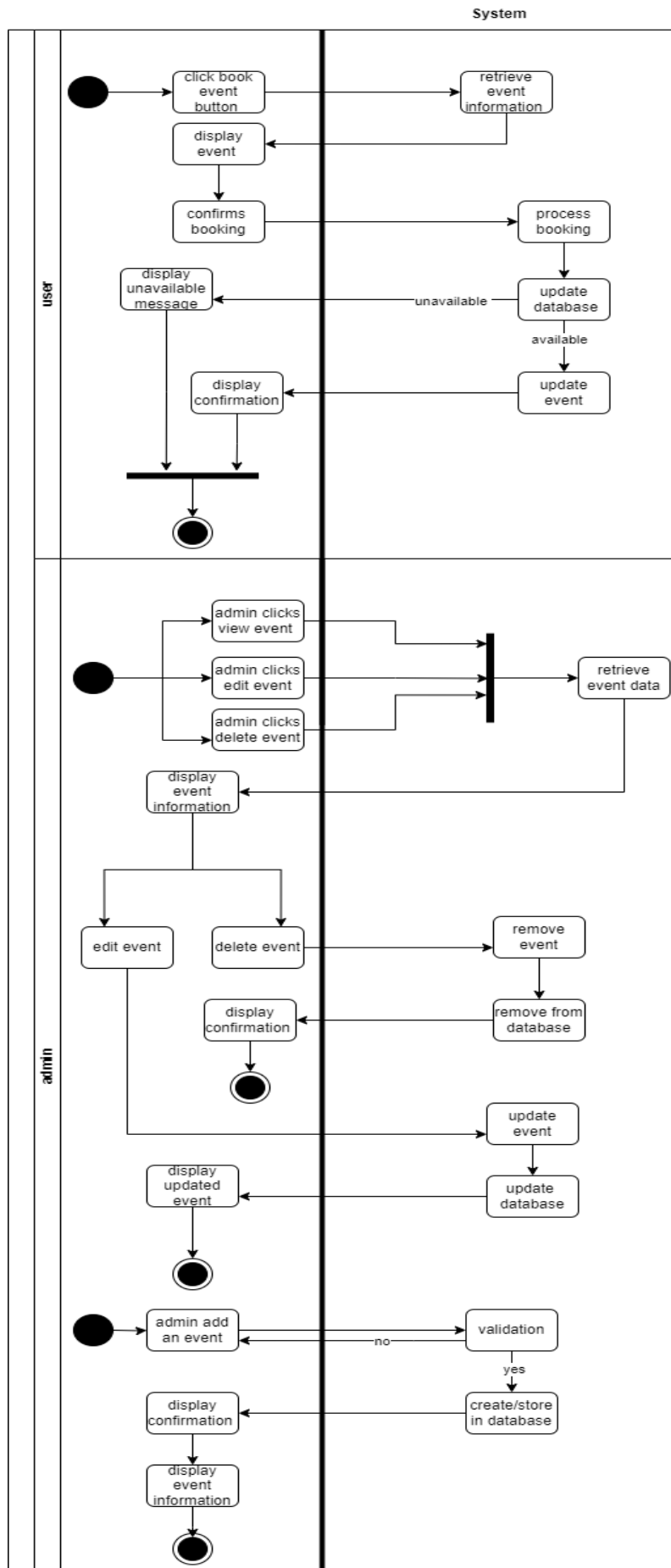
2. The second diagram illustrates the booking process and how users interact with the system during booking, as well as how administrators utilize CRUD functionality within the system.

For user interaction:

- Users click "book the event" to view event details.
- If the event ticket is unavailable, it will prompt a message, if successfully booked it will display a confirmation message.
- The system will update the event and booking entity to ensure data integrity.

For administrators:

- CRUD functions include view, edit, and delete events.
- Adding events requires validated input.
- After validation, admins can edit or delete the added event.



3. The third diagram illustrates the discussion message process. Unregistered users can only view all messages without making any adjustments.

The third diagram outlines the discussion message process.

For unregistered users:

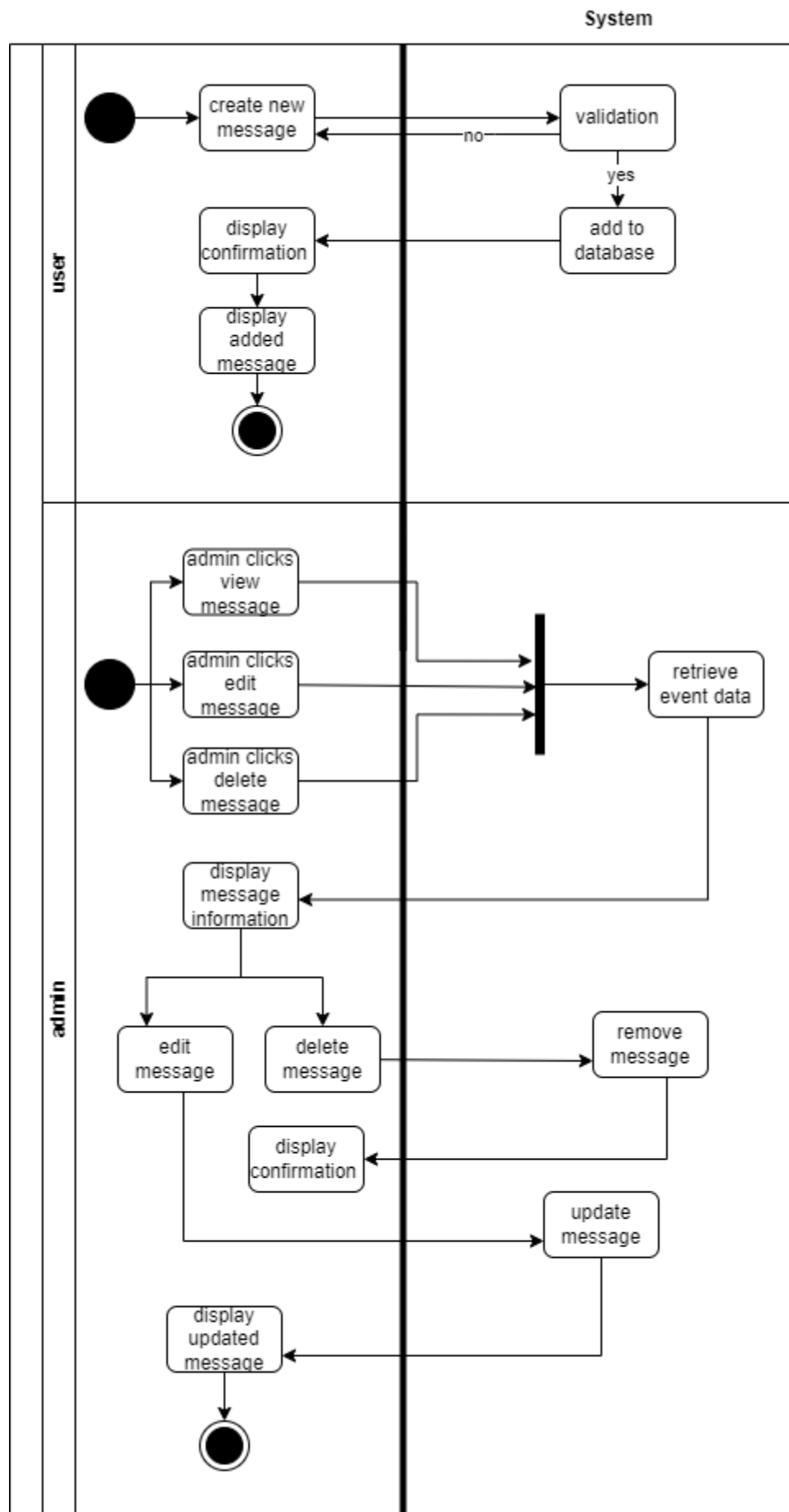
- They can only view all messages without any adjustments.

For registered users:

- They have CRUD privileges for managing all messages.

For administrators:

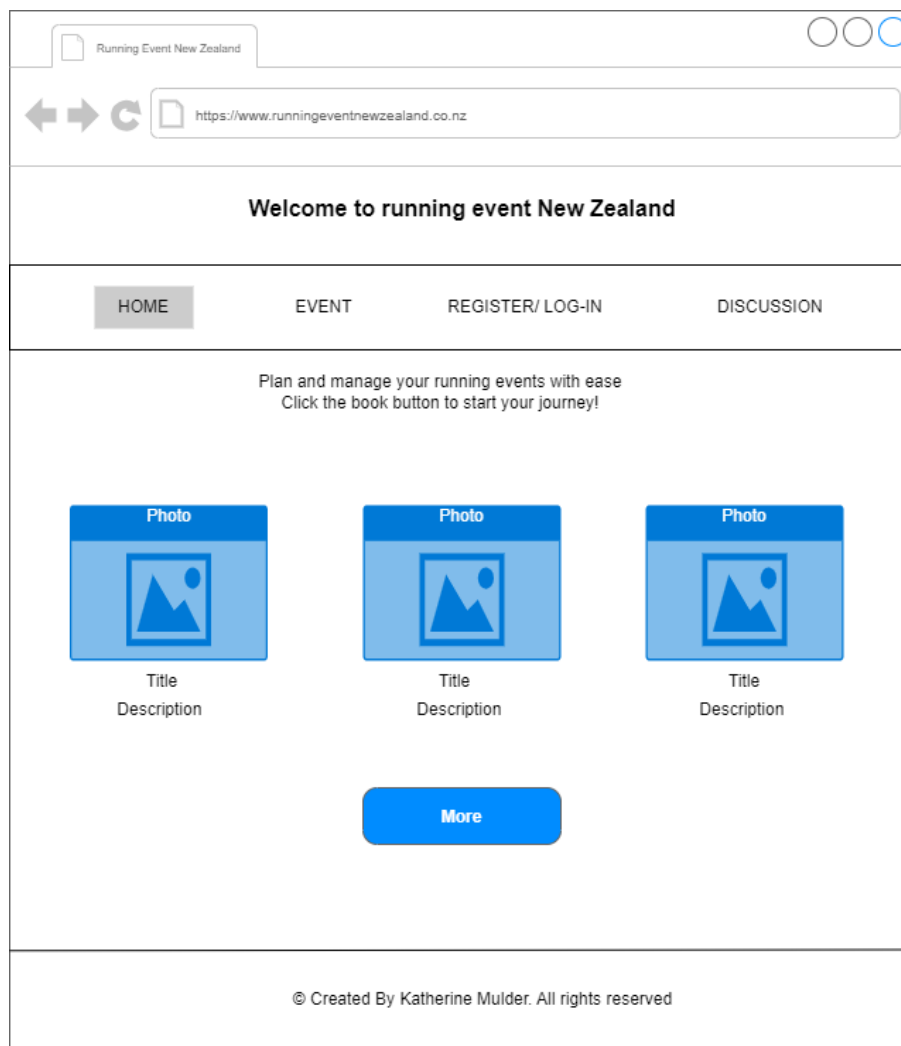
- They have CRUD privileges for managing all messages.



Website Wireframe

To give a better sense of the website, I have crafted seven wireframes to offer a clearer view of my design. It is rooted in the requirements specified in the assignment, and I have sketched out a basic interface layout to kickstart the project. Following an Agile approach, any design tweaks will not compromise the main functionalities as highlighted in the key points.

The homepage is right up front on the website, the homepage acts as the starting point, giving visitors a solid preview of the running event and nudging them to delve deeper. It has a basic layout displayed in three columns. In each column, there is an event presented with an event title, description, and a photo. Only three events are displayed in each category, and users will need to click the “More” button to display additional events on their preference category and it will direct them to the event page. All users (unregistered or registered) have the same design and functionalities on the page.



2. The event page highlights events available for participation in an organized manner, providing users with an easy-to-navigate event finder and booking. Users will be able to book events by clicking the “Book Now” buttons. Search and category functions are available for users to explore. An indication bar will not appear on the website; it is just an indication here to show that there will be more than three events and users will be able to scroll for more events and each row will contain three columns. The design is straightforward for users viewing and filtering content to suit their needs. It is a straightforward design, and it covers all the requirements.

The wireframe illustrates the layout of the 'Running Event New Zealand' website. It features a browser window with the URL 'https://www.runningeventnewzealand.co.nz'. The main navigation bar includes links for 'HOME', 'EVENT' (the active page), 'REGISTER/ LOG-IN', and 'DISCUSSION'. Below the navigation bar, a 'Welcome to running event New Zealand' message is displayed. The main content area is titled 'Book in your event today!' and includes a search bar and a category dropdown menu. The events are presented in a grid of six cards, each with a 'Title', 'Description', and a prominent blue 'Book Event' button. The footer contains the copyright notice: '© Created By Katherine Mulder. All rights reserved'.

After clicking the book event button, it should show a booking ticket selection for users to process the event management.

Running Event New Zealand

https://www.runningeventnewzealand.co.nz

Welcome to running event New Zealand

HOME EVENT REGISTER/ LOG-IN DISCUSSION

Title

Ticket

1

Book the event

© Created By Katherine Mulder. All rights reserved

There will be a confirmation page for users to update before saving it into the database.

Note: Authenticated users will have my bookings appear on the navbar for more CRUD functions.

Running Event New Zealand

← → ↺ https://www.runningeventnewzealand.co.nz

Welcome to running event New Zealand

HOME **EVENT** REGISTER/ LOG-IN MY BOOKINGS DISCUSSION

Event title

Location:

Date:

Price:

Available Tickets:

Tickets:

Add Back

Your Bookings

Event	tickets	Update	Cancel
HB Marathon	2	<input type="text"/>	Cancel

Update Review

© Created By Katherine Mulder. All rights reserved

3. The discussion board is a platform for users to engage in discussions, ask questions, and share experiences related to running and other subjects.

The differences between unregistered and registered users are:

- only title and content are displayed for unregistered users.
- unregistered users need to register before being able to create a message.
- registered users have CRUD functions for managing their messages.

Note: for the authenticated users, there will be a button for them to click and direct them to a new page for more functionality such as editing and deletion.

Running Event New Zealand

https://www.runningeventnewzealand.co.nz

Welcome to running event New Zealand

HOME EVENT REGISTER/ LOG-IN DISCUSSION

DISCUSSION BOARD

New Message

Title:

Message:

submit

All Messages

[Message 1 title:]

[Message 1 content:]

[Message 2 title:]

[Message 2 content:]

View my messages

© Created By Katherine Mulder. All rights reserved

Running Event New Zealand

https://www.runningeventnewzealand.co.nz

Welcome to running event New Zealand

HOME EVENT REGISTER/ LOG-IN DISCUSSION

My Message

Title:	Date	Message:
		<input type="text"/> Edit Delete
		<input type="text"/> Edit Delete
		<input type="text"/> Edit Delete

© Created By Katherine Mulder. All rights reserved

4. In the register/log-in page, I combined the two functions in one page to make it easier instead of creating a separate page for each. Unregistered or registered users will be able to use this page for further usage of the website.

The image is a wireframe of a web browser window. The browser's address bar shows the URL `https://www.runningeventnewzealand.co.nz`. The page title is "Running Event New Zealand". The main heading is "Welcome to running event New Zealand". Below the heading is a navigation bar with four links: "HOME", "EVENT", "REGISTER/ LOG-IN" (which is highlighted), and "DISCUSSION". The main content area contains two side-by-side forms. The left form is titled "Register" and has three input fields: "Username", "Email", and "Password", followed by a blue "Register" button. The right form is titled "login" and has two input fields: "Username" and "Password", followed by a blue "Login" button. The footer of the page contains the text "© Created By Katherine Mulder. All rights reserved".

5. After successfully logging in, registered users will be able to update their account information, which includes updating their password and deactivating their account. Additionally, a logout function is provided as well. I utilised the same style and layout as other pages to be more consistent without overwhelming.

Running Event New Zealand

← → ↺

https://www.runningeventnewzealand.co.nz

Welcome to running event New Zealand

HOME

EVENT

ACCOUNT

DISCUSSION

LOG OUT

Hello! [user name]

Update Password

Current password:

New password:

change password

Deactivate Account

Current password:

Deactivate

© Created By Katherine Mulder. All rights reserved

6. In the admin dashboard is for the administrator to manage the website application content. Everything is combined into a single page, where administrators can click buttons to perform further CRUD (Create, Read, Update, Delete) functions to manage all members, events, and messages. An additional overview is displayed on the top.

Running Event New Zealand

https://www.runningeventnewzealand.co.nz

Welcome to running event New Zealand

HOME EVENT REGISTER/ LOG-IN DISCUSSION

Hello! [admin]

Dashboard

Overview

Total users: [count]
Total events: [count]
Total message: [count]

CRUD operations (users)

user 1:	view	edit	delete
user 2:	view	edit	delete
user 3:	view	edit	delete

CRUD operations (events)

Add event: [add](#)

event 1:	view	edit	delete
event 2:	view	edit	delete
event 3:	view	edit	delete

CRUD operations (messages)

message 1:	view	edit	delete
message 2:	view	edit	delete
message 3:	view	edit	delete

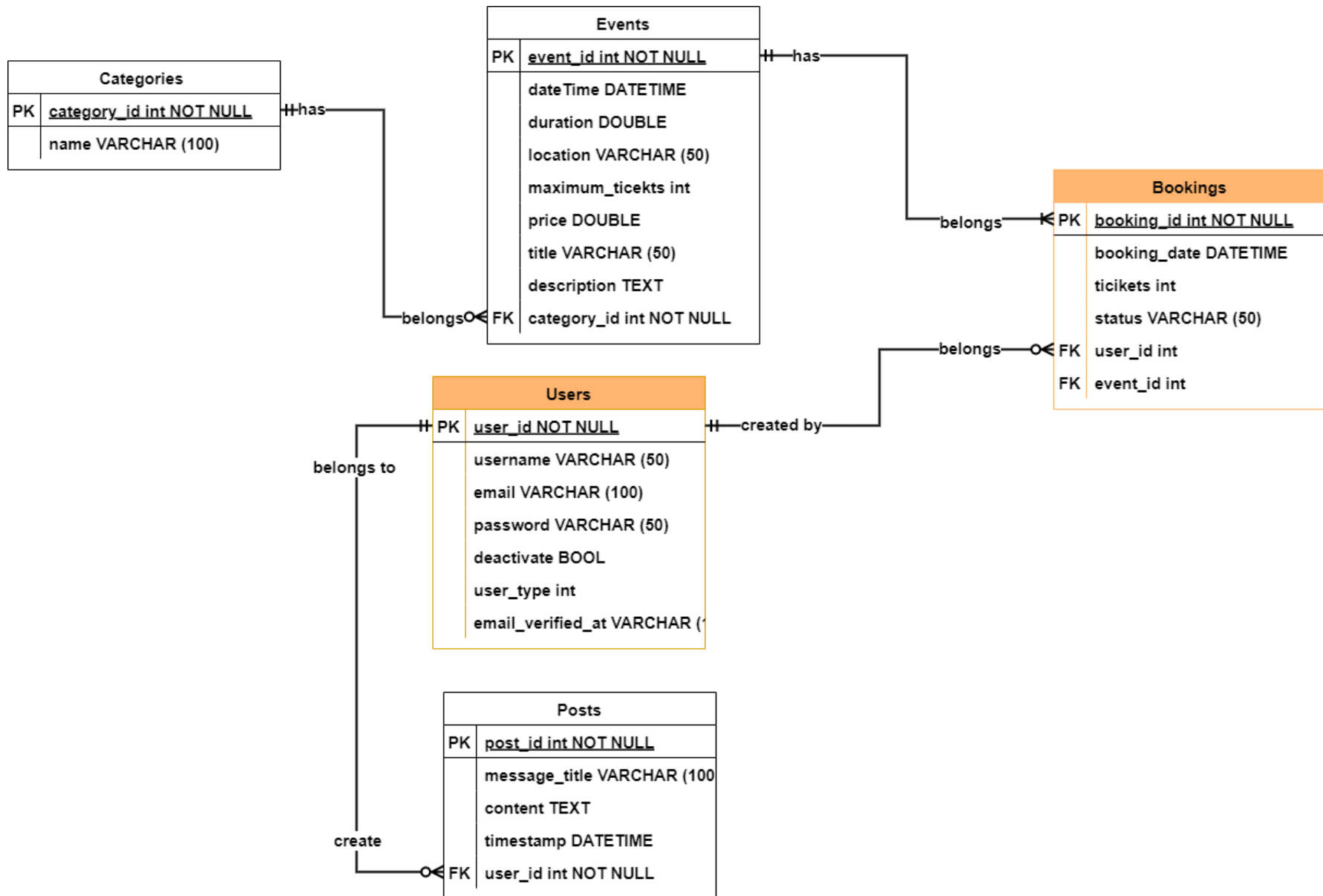
© Created By Katherine Mulder. All rights reserved

ERD

This project is database-driven, which is important for mapping out how the data flows in the database. Within the database, there are seven entities, each representing a group of defined things: users, bookings, events, posts, and categories.

To break down the relationships between each entity:

- Users can create zero to many event bookings.
- One event has many bookings.
- Events have one and only one category.
- Each category has zero to many events.
- Users can create zero to many messages on the discussion board.
- The book event table is to break the many-to-many relationships as a junction table between bookings and events entities.
- The threads store thread information for the communication platform.



Test Plan

Objective: To verify the correct implementation and functionality of the user Create, Read, Update, Delete), core features necessary for handling event management and forum for communication.

Initial Conditions:

- The web application is running.
- The database is set up and accessible.
- The user interface for CRUD operations is functional.

Core functionalities:

- Display all events with details of event title, description, date, location and category.
- Users can browse and book events.
- Users can view their booked events.
- The key focus is on displaying booked events without a payment process.

Interaction and screenshot

The interaction for unauthorized users:

- When an unauthorized user opens the web application. A homepage will appear.
Unauthorized users only can browse the home page, events, discussion and login pages.
Note: unauthorized users must log in for the book event management

Welcome To Running Event New Zealand

[HOME](#) [EVENTS](#) [DISCUSSION](#) [LOGIN](#)

Plan and manage your running events with ease

[Click The More Button To Start Your Journey](#)



Holloway Memorial Cross Country Races

The Holloway Memorial Cross Country Races will be hosted by the Sumner Running Club at Motukarara Race Course on 8 June 2024.

With a fast, flat start on the racecourse itself, the course makes its way around the birdcage and past the stables before emerging to skirt the perimeter of the paddock next to Duck Pond Rd. It then curves around the base of the knoll before rising up to a sharp right hairpin and a climb to the top of the hill. The run across the top gives you outstanding 360° views before dropping right and descending through the wood to the flat again to begin your next lap.

Each lap is approximately 2km with your last diverting off slightly early to



Eastern BOP Triathlon Club Monthly Du

Eastern BOP Triathlon & Multisport Club's event on 2 June 2024 is part of a series of Triathlons and Duathlons held on the first Sunday of every month. This month's event is a Duathlon with short and long course options for adults and kids 11 yrs+.

Based at Port Ōhope, the course starts and finishes at the eastern end of Harbour Road in the reserve opposite the Ōhope Golf Club.

The Triathlon season is held during summer (Nov - April). The Duathlon season is held during winter (May - October)



Night Cross

The Night Cross on 1 June 2024 is a 5.5km, multi-lap, Cross Country event held under lights at McFetridge Park in Hillcrest, Auckland.

The course is mostly flat, with some undulations each lap. There will be seeded races throughout the evening to ensure everyone runs with people of their ability.

Prize money is on offer for the fastest men and women around the course, and spot prizes from sponsors for all races.

- In the event of unauthorized users, you can search events or use the categories functions for example for the search “night” the system should give the users results based on the keyword night.

HOME EVENTS DISCUSSION LOGIN

Book in your event today!

night Search All Categories

Night Cross
The Night Cross on 1 June 2024 is a 5.5km, multi-lap, Cross Country event held under lights at McFetridge Park in Hillcrest, Auckland. The course is mostly flat, with some undulations each lap. There will be seeded races throughout the evening to ensure everyone runs with people of their ability. Prize money is on offer for the fastest men and women around the course, and spot prizes from sponsors for all races.

Please sign up an account to book your event! 😊

The Possum Night Trail Run
The Possum is a trail night run on the shortest day and darkest night on 15 June 2024 at Wairakei Resort, Taupō. Experience the Wairakei Resort, Craters Mountain Bike Park, and Craters of the Moon Geothermal Walkway at night. Running or walking at night is awesome and the trails lined up for you are super fun. The Craters of the Moon geothermal walkway is a real treat where you get to run or walk through a geothermal wonderland. There will be steam from the ground and probably steam from your body as you take on the ups and downs, gulleys, ridges and bridges. Reflective course markings will light the path to follow and marshals at key locations will keep you on course and provide lots of encouragement. After the big night out, grab some dinner from the menu offered by the Wairakei Resort and soak in a geothermal hot pool to warm up and relax.

Please sign up an account to book your event! 😊

Copyright © 2024 Katherine Mulder. All rights reserved.

- Also, be able to use the category dropdown menu:

All Categories

All Categories

Half Marathon

Marathon

5K

Cross Country

Ultras

Triathlons

Adventure Races

Please sign up an account to book your event! 😊

- For example, for a half marathon:

Book in your event today!

Search

Half Marathon

Night Cross

The Night Cross on 1 June 2024 is a 5.5km, multi-lap, Cross Country event held under lights at McFetridge Park in Hillcrest, Auckland.
 The course is mostly flat, with some undulations each lap. There will be seeded races throughout the evening to ensure everyone runs with people of their ability.
 Prize money is on offer for the fastest men and women around the course, and spot prizes from sponsors for all races.

Please sign up an account to book your event! 😊

City Half Marathon

Join us for the annual City Half Marathon, a scenic 21.1 km race through the heart of downtown, taking you past iconic landmarks and along the riverfront. Suitable for runners of all levels, the event promises a day of fun, fitness, and community spirit.

Please sign up an account to book your event! 😊

- In the discussion board, the unauthorized users only can view the post without any other functions unless they create an account.

Welcome To Running Event New Zealand

HOMEEVENTSDISCUSSIONLOGIN

DISCUSSION BOARD

All Messages			
Title	Author	Date	Message
i love run	kat	2024-06-05 00:09:52	who else like running?
any events around in the bay area?	kat	2024-06-05 00:25:46	any recently event around?


Copyright © 2024 Katherine Mulder. All rights reserved.

For authorised users when they log in, it will display the home page with additional functions on the navigation account and my booking.

Welcome To Running Event New Zealand

[HOME](#)[EVENTS](#)[DISCUSSION](#)[ACCOUNT](#)[MY BOOKINGS](#)[LOGOUT](#)


Plan and manage your running events with ease
Click The More Button To Start Your Journey




Holloway
Cross Country

Holloway Memorial Cross Country Races

The Holloway Memorial Cross Country Races will be hosted by the Sumner Running Club at Motukarara Race Course on 8 June 2024.






Eastern BOP Triathlon Club Monthly Du




Eastern BOP Triathlon & Multisport Club's event on 2 June 2024 is part of a series of Triathlons and Duathlons held on the first Sunday of every month. This month's event is a Duathlon with short and long course options for adults and kids 11 yrs+.

Based at Port Ōhope, the course starts and finishes at the eastern.



Night Cross

The Night Cross on 1 June 2024 is a 5.5km, multi-lap, Cross Country event held under lights at McFetridge Park in Hillcrest, Auckland.



Page 26 of 35

- When the authorised users in the events page here have the additional button for users to click to book the event:

[HOME](#) [EVENTS](#) [DISCUSSION](#) [ACCOUNT](#) [MY BOOKINGS](#) [LOGOUT](#)

Book in your event today!

Holloway Memorial Cross Country Races

The Holloway Memorial Cross Country Races will be hosted by the Sumner Running Club at Motukarara Race Course on 8 June 2024. With a fast, flat start on the racecourse itself, the course makes its way around the birdcage and past the stables before emerging to skirt the perimeter of the paddock next to Duck Pond Rd. It then curves around the base of the knoll before rising up to a sharp right hairpin and a climb to the top of the hill. The run across the top gives you outstanding 360° views before dropping right and descending through the wood to the flat again to begin your next lap. Each lap is approximately 2km with your last diverting off slightly early to allow your sprint to the finish line in front of the Grandstand. Entry to this event is open to all runners; both those registered with a club, and unregistered runners. The race distance depends on your age grade.

Book Event

Eastern BOP Triathlon Club Monthly Du

Eastern BOP Triathlon & Multisport Club's event on 2 June 2024 is part of a series of Triathlons and Duathlons held on the first Sunday of every month.
 This month's event is a Duathlon with short and long course options for adults and kids 11 yrs+.
 Based at Port Ōhope, the course starts and finishes at the eastern end of Harbour Road in the reserve opposite the Ōhope Golf Club.
 The Triathlon season is held during summer (Nov - April). The Duathlon season is held during winter (May - October)

Book Event

Night Cross

The Night Cross on 1 June 2024 is a 5.5km, multi-lap, Cross Country event held under lights at McFetridge Park in Hillcrest, Auckland.
 The course is mostly flat, with some undulations each lap. There will be seeded races throughout the evening to ensure everyone runs with people of their ability.
 Prize money is on offer for the fastest men and women around the course, and spot prizes from sponsors for all races.

Book Event

- When users click the book event button it will direct users to different for select the number of tickets for example, I have selected two tickets for the event that I want:

Book Event: Eastern BOP Triathlon Club Monthly Du

Tickets

2

Buy Event Tickets

- Once users click the buy event tickets it will direct users to another page for more CRUD functions where the page displays more information for the user including the event location, event date, the ticket price and ticket availability. On the left-hand panel, users can add more tickets or click the back button to go back to the event page where users can select more different events and it will display all in the My Bookings selection. In the right panel users to see the overall tickets they have selected, and they can either add more tickets or click cancel to remove tickets, once they click the review button it will direct them to my bookings to see the summary of their bookings for the further process such as payment and so on. The payment function is not in this project's scope which I won't implement but that's my logical design for the features enhancement.

HOMEEVENTSDISCUSSIONACCOUNTMY BOOKINGSLOGOUT

Eastern BOP Triathlon Club Monthly Du

Location: Port Ōhope

Date: 2024-06-02

Price: \$25.00

Available Tickets: 150

Tickets:

AddBack

Your Bookings

Event	Tickets	Update	Cancel
Eastern BOP Triathlon Club Monthly Du	2	<div><div>2</div><div>Review</div></div>	<div>Cancel</div>

- after clicking on the review it will direct users to the My Bookings page to review overall tickets and users still can do CRUD functions on this page as well:

Welcome To Running Event New Zealand

[HOME](#) [EVENTS](#) [DISCUSSION](#) [ACCOUNT](#) [MY BOOKINGS](#) [LOGOUT](#)

My Bookings

Booking deleted successfully.

Event	Tickets	Actions
Eastern BOP Triathlon Club Monthly Du	2	Update Tickets <input type="text" value="2"/> Update Delete
City Half Marathon	1	Update Tickets <input type="text" value="1"/> Update Delete
Scarecrow Scamper Cross Country	1	Update Tickets <input type="text" value="1"/> Update Delete

[Back to Events](#)

- for the discussion board users can add new messages or view all the messages and their messages as well.

[HOME](#) [EVENTS](#) [DISCUSSION](#) [ACCOUNT](#) [MY BOOKINGS](#) [LOGOUT](#)

DISCUSSION BOARD

New Message

Title:

Message:

Submit

All Messages

Title	Author	Date	Message
i love run	kat	2024-06-05 00:09:52	who else like running?
running event in HB	kat	2024-06-05 00:10:23	does anyone know if there is any events in HB recently?

VIEW MY TOPICS

- When you click to view my topic it will display the messages that belong to the original creator.

In this selection, the original creator which is the users who created their message can have the functionality of edit or delete the message.

My Discussion Board

My Messages

Title	Date	Message
running event in HB	2024-06-05 00:10:23	<div>does anyone know if there is any events in HB recently?</div> <div>EditDelete</div>
i love run	2024-06-05 00:09:52	<div>who else like running?</div> <div>EditDelete</div>

- When users click the edit button:

Edit Post

Title:

running event in HB

Body:

does anyone know if there is any events in HB recently?

Update Post

- In the account selection, users can update their password or deactivate their account:

Welcome To Running Event New Zealand

[HOME](#) [EVENTS](#) [DISCUSSION](#) [ACCOUNT](#) [MY BOOKINGS](#) [LOGOUT](#)

Update Account

Name

Email address

New Password (optional)

[Update Account](#)

Deactivate Account

[Deactivate Account](#)

- For example, when I change a new password, an indication will appear to inform the users that the password has been updated successfully. Alternatively, users can deactivate their account and it will direct them back to the public home page as mentioned above for the unauthorized users.

Account updated successfully.

Update Account

Name	<input type="text" value="kat"/>
Email address	<input type="text" value="kat@gamil.com"/>
New Password (optional)	<input type="text" value="Enter new password"/>

Update Account

Deactivate Account

Deactivate Account

- Admin

The first step of using the admin dashboard, where I have defined an admin account email: admin@example.com with password: admin.123

Welcome To Running Event New Zealand

HOMEEVENTSDISCUSSIONLOGIN

Register

Name

Enter your name

Email address

Enter your email

Password

Enter your password

Register

Login

Email

admin@example.com

Password

.....

Log in

Copyright © 2024 Katherine Mulder. All rights reserved.