

General Outline

The Event Ticketing System was developed to simplify and enhance the process of managing event registrations, ticket sales, and payment processing. It is designed as a web-based platform that allows event organizers to create and manage events while enabling users to browse events, register, and complete payments securely. This project focused on creating a user-friendly application with robust functionality and secure data handling practices. This report details the development process, including the project plan, technical implementation, database design, security measures, and a user guide.

This project's scope included providing a platform for event management and registration. The primary objective was to develop a system that could efficiently store and retrieve event and user data, facilitate secure registrations, and easily manage payments. The initial plan included a front-end built with HTML for user interaction, PHP for backend processing, and a MySQL database for storing and managing data. The design also emphasized key features such as integrating relational table joins for effective data management and implementing security best practices for handling sensitive information.

User Guide

User Guide for Event Ticketing System

This guide explains how to use the Event Ticketing System. Follow the steps below to register, browse events, and complete your registration process.

1. Register as a New Customer

To begin, navigate to the **User Registration Page**.

1. Enter your details in the registration form:
 - **Name:** Your full name.
 - **Email:** A valid email address.
 - **Password:** Choose a secure password.

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2. Click the **"Add a New Customer"** button to complete your registration. A confirmation message will appear if the registration is successful.

2. Browse Available Events

After registering, you can browse the events available in the system.

1. On the **Event Selection Page**, you will see a dropdown list of all events.
2. Select an event from the dropdown menu that interests you.
3. Click the **"Register"** button to proceed.

3. View Event Details and Confirm Registration

Once you select an event, you will be redirected to a page displaying the event details.

1. Review the event details, including:
 - Event Name
 - Description
 - Date and Time
 - Venue
 - Total Seats
2. Fill in your personal details, including:
 - Your Name
 - Your Email
3. Select your preferred **Payment Method** from the dropdown menu:
 - Credit Card
 - PayPal
4. Click **"Register and Pay"** to complete the process.

4. Registration Confirmation

After submitting your registration, the system will display a confirmation message.

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1. The message will include:
 - Your Registration Status
 - Payment Status (Pending or Completed)
 - Event Details
2. Save or screenshot the confirmation message for your records.

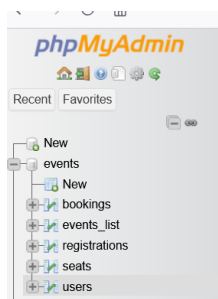
Notes and Troubleshooting

- If you encounter an error during registration, ensure all required fields are filled out and that your email address is valid.
- For event registration, confirm that the selected event has available seats.
- If you face issues connecting to the system, ensure your internet connection is active or contact the administrator.

By following these steps, you can easily register as a customer, browse events, and participate in your chosen events.

Technical Details

We first created the database and tables. We have five tables in this database but have decided to use 3 for simplicity. For this project, we used these tables: users, events_list and registrations. We decided to replace bookings with registrations because the name fits this project better. We did not use the table seats because we would have issues tracking available seats.



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We ran into an error [Fatal error: Uncaught mysqli_sql_exception: Unknown column 'user_email' in 'field list' in C:\xampp\htdocs\cis344\process_registration.php:31 Stack trace: #0 C:\xampp\htdocs\cis344\process_registration.php(31): mysqli->prepare('INSERT INTO reg...') #1 {main} thrown in C:\xampp\htdocs\cis344\process_registration.php on line 31] while executing registration for an event because we had forgotten to add the user_name and user_email columns which are in the users table and are required to register the events and we solved it by adding the columns to the table registrations as well.

```
41
42 • ALTER TABLE registrations ADD COLUMN user_name VARCHAR(255) NOT NULL;
43 • ALTER TABLE registrations ADD COLUMN user_email VARCHAR(255) NOT NULL;
44
```

The Register.php, together with its html Register.html allows a user to be registered in the users table of the events_list database through the user inserting the information (in this case name, password and email).

Register as a new customer

Name	<input type="text" value="Louis"/>
Password	<input type="password" value="glve"/>
Email	<input type="text" value="sent@gmail.com"/>

Register as a new customer

Name	<input type="text" value="Nick"/>
Password	<input type="password" value="seven"/>
Email	<input type="text" value="take@gmail.com"/>

We ran into this error when executing the code because our query was not specifying which columns the data would be inserted into.

Registered Page Entry Results

Fatal error: Uncaught mysqli_sql_exception: Column count doesn't match value count at row 1 in C:\xampp\htdocs\cis344\Register.php:32 Stack trace: #0 C:\xampp\htdocs\cis344\Register.php(32): mysqli->prepare('INSERT INTO Use...') #1 {main} thrown in C:\xampp\htdocs\cis344\Register.php on line 32

```
$query = "INSERT INTO Users VALUES (?, ?, ?)";
```

We fixed it by changing the code to the code below.

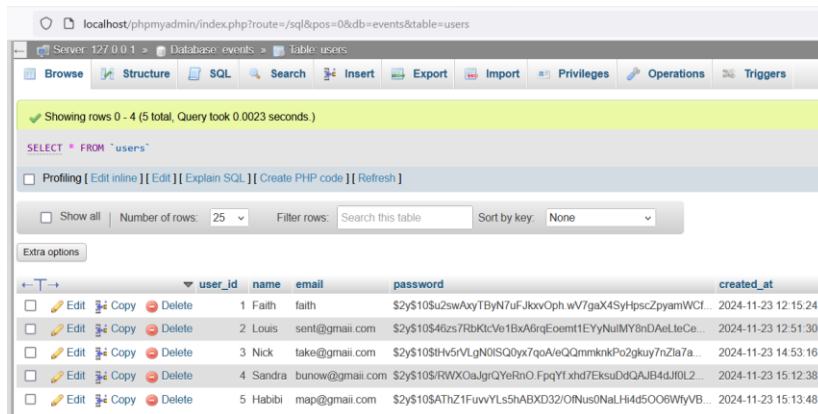
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```
$query = "INSERT INTO Users (name, email, password) VALUES (?, ?, ?)";
```

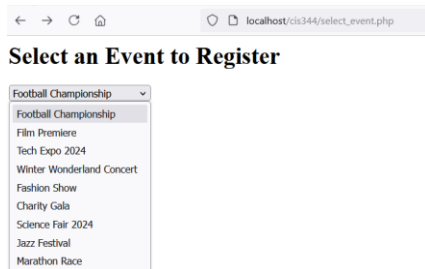
Below are all the customers that we added to the database using this code. The password is hashed so it does not appear as entered by the user for security purposes.



The screenshot shows the phpMyAdmin interface for the 'users' table. The table contains 5 rows of data, each with a user_id, name, email, password, and created_at timestamp. The passwords are hashed.

user_id	name	email	password	created_at
1	Faith	faith	\$2y\$10\$u2swAxyTBvN7uFJkxvOph wV7gaX4SyHpscZpyamWCf...	2024-11-23 12:15:24
2	Louis	sent@gmail.com	\$2y\$10\$46zs7RbKlcVe1BxAdqEoemt1EYyNuIMY8nDAeLteCe...	2024-11-23 12:51:30
3	Nick	take@gmail.com	\$2y\$10\$Hv5rVLgN0ISQ0yx7qoAveQQmmknkPo2gkuy7nZla7a...	2024-11-23 14:53:16
4	Sandra	bunow@gmail.com	\$2y\$10\$/RWX0aJgrQYeRnO.FpqYtXhd7EksuDdQAJB4dJf0L2...	2024-11-23 15:12:38
5	Habibi	map@gmail.com	\$2y\$10\$ATHz1FuWYLS5hABXD32/OINus0NaLH4d5OO6WfyVB...	2024-11-23 15:13:48

The select_event.php code allows the user to browse and event.



The screenshot shows a web page titled 'Select an Event to Register'. It features a dropdown menu with the following options: Football Championship, Film Premiere, Tech Expo 2024, Winter Wonderland Concert, Fashion Show, Charity Gala, Science Fair 2024, Jazz Festival, and Marathon Race.

We inserted events into the events_list table with the code below.

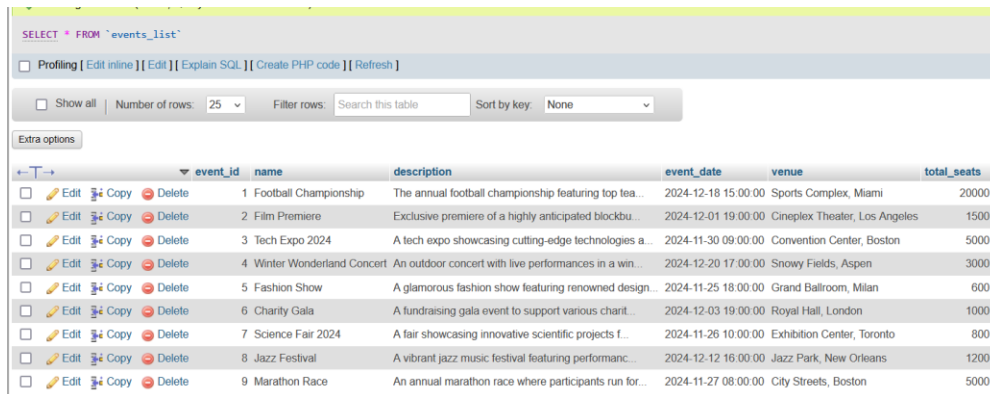
```
30 • INSERT INTO events_list (name, description, event_date, venue, total_seats) VALUES
31 ( 'Mountain Resort, Colorado', 100),
32 ('Football Championship', 'The annual football championship featuring top teams.', '2024-12-18 15:00:00',
33 ('Film Premiere', 'Exclusive premiere of a highly anticipated blockbuster film.', '2024-12-01 19:00:00',
34 ('Tech Expo 2024', 'A tech expo showcasing cutting-edge technologies and innovations.', '2024-11-30 09:00:00',
35 ('Winter Wonderland Concert', 'An outdoor concert with live performances in a winter wonderland.', '2024-
36 ('Fashion Show', 'A glamorous fashion show featuring renowned designers.', '2024-11-25 18:00:00', 'Grand
37 ('Charity Gala', 'A fundraising gala event to support various charities.', '2024-12-03 19:00:00', 'Royal
38 ('Science Fair 2024', 'A fair showcasing innovative scientific projects from students.', '2024-11-26 10:00:00',
39 ('Jazz Festival', 'A vibrant jazz music festival featuring performances by top artists.', '2024-12-12 16:00:00',
40 ('Marathon Race', 'An annual marathon race where participants run for charity.', '2024-11-27 08:00:00', '
..
```

The events appear when selected from the database.

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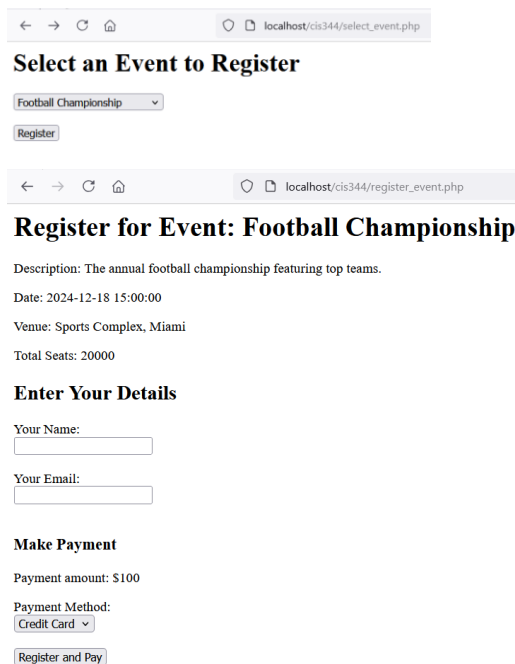
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	event_id	name	description	event_date	venue	total_seats
<input type="checkbox"/> Edit Copy Delete	1	Football Championship	The annual football championship featuring top tea...	2024-12-18 15:00:00	Sports Complex, Miami	20000
<input type="checkbox"/> Edit Copy Delete	2	Film Premiere	Exclusive premiere of a highly anticipated blockbu...	2024-12-01 19:00:00	Cineplex Theater, Los Angeles	1500
<input type="checkbox"/> Edit Copy Delete	3	Tech Expo 2024	A tech expo showcasing cutting-edge technologies a...	2024-11-30 09:00:00	Convention Center, Boston	5000
<input type="checkbox"/> Edit Copy Delete	4	Winter Wonderland Concert	An outdoor concert with live performances in a win...	2024-12-20 17:00:00	Snowy Fields, Aspen	3000
<input type="checkbox"/> Edit Copy Delete	5	Fashion Show	A glamorous fashion show featuring renowned design...	2024-11-25 18:00:00	Grand Ballroom, Milan	600
<input type="checkbox"/> Edit Copy Delete	6	Charity Gala	A fundraising gala event to support various charit...	2024-12-03 19:00:00	Royal Hall, London	1000
<input type="checkbox"/> Edit Copy Delete	7	Science Fair 2024	A fair showcasing innovative scientific projects f...	2024-11-26 10:00:00	Exhibition Center, Toronto	800
<input type="checkbox"/> Edit Copy Delete	8	Jazz Festival	A vibrant jazz music festival featuring performanc...	2024-12-12 16:00:00	Jazz Park, New Orleans	1200
<input type="checkbox"/> Edit Copy Delete	9	Marathon Race	An annual marathon race where participants run for...	2024-11-27 08:00:00	City Streets, Boston	5000

Once the user selects an event they click register and register_event.php allows them to register for that event. We have a dummy variable of \$100 for all events because these are not actual events, and we do not have actual payments as this would need more advanced code and systems with credit card information.



← → ↺ 🏠 localhost/cis344/select_event.php

Select an Event to Register

Football Championship ▼

Register

← → ↺ 🏠 localhost/cis344/register_event.php

Register for Event: Football Championship

Description: The annual football championship featuring top teams.

Date: 2024-12-18 15:00:00

Venue: Sports Complex, Miami

Total Seats: 20000

Enter Your Details

Your Name:

Your Email:

Make Payment

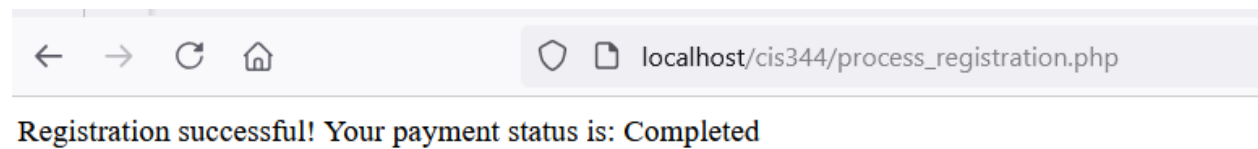
Payment amount: \$100

Payment Method: Credit Card ▼

Register and Pay

This is the result of the registration after process_registration.php is executed.

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Database Design

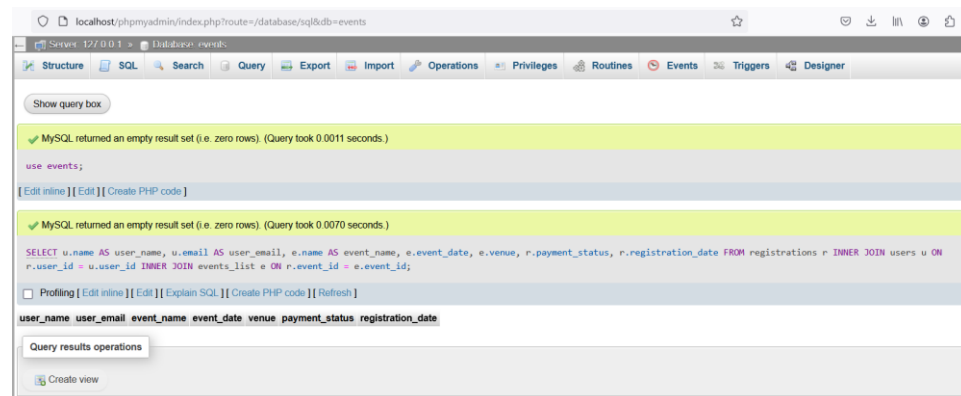
After a customer register for an event, this information is updated in the registration table as seen below. Payment is set to either pending or completed but in our case all payments are completed.

A screenshot of a database management tool interface. At the top, a SQL query is entered: `SELECT * FROM `registrations``. Below the query, there are options for "Profiling", "Edit inline", "Edit", "Explain SQL", "Create PHP code", and "Refresh". A control bar shows "Show all", "Number of rows: 25", "Filter rows: Search this table", and "Sort by key: None". An "Extra options" button is also present. The main area displays a table with the following data:

	registration_id	user_id	event_id	payment_status	registration_date	name	user_name	user_email
<input type="checkbox"/>	1	NULL	1	Completed	2024-11-23 14:13:39	NULL	Louis	sent@gmail.com
<input type="checkbox"/>	2	NULL	1	Completed	2024-11-23 15:46:26	NULL	Sherry	sit@gmail.com

Below the table, there are actions: "Check all", "With selected:", "Edit", "Copy", "Delete", and "Export".

The inner join code was returning an empty result because `user_id` which is the foreign key had been made null.




To solve this problem, we made sure that the `user_id` for registrations was set to the `user_id` of users as long as name and users.name matched. This assigned a `user_id` to the users in registrations. The inner join worked.

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```
1 • use events;  
2 • UPDATE registrations r  
3   JOIN users u ON LOWER(r.user_name) = LOWER(u.name)  
4   SET r.user_id = u.user_id;
```

Showing rows 0 - 0 (1 total, Query took 0.0056 seconds.)

```
SELECT u.name AS user_name, u.email AS user_email, e.name AS event_name, e.event_date, e.venue, r.payment_status, r.registration_date  
FROM registrations r INNER JOIN events_list e ON r.event_id = e.event_id;
```

☐ Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

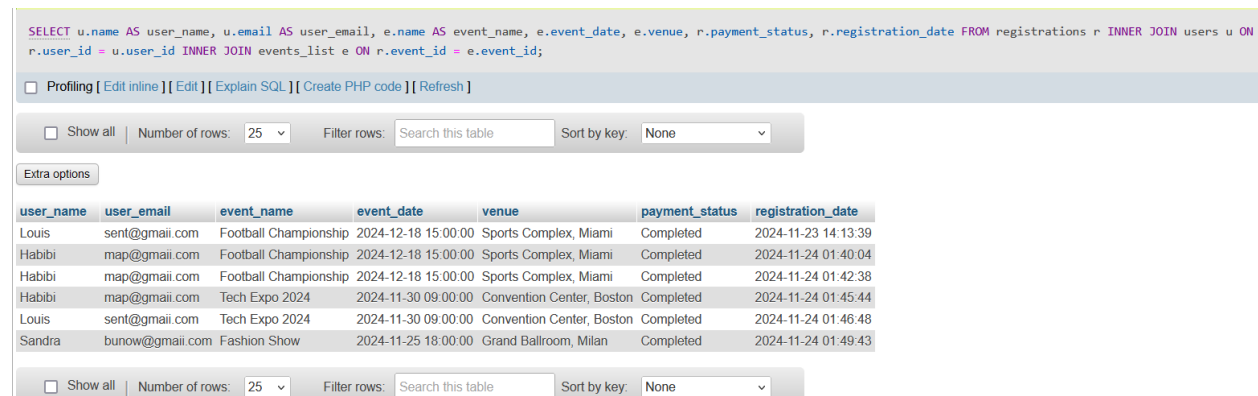
☐ Show all | Number of rows: 25 | Filter rows: Search this table

Extra options

user_name	user_email	event_name	event_date	venue	payment_status	registration_date
Louis	sent@gmail.com	Football Championship	2024-12-18 15:00:00	Sports Complex, Miami	Completed	2024-11-23 14:13:39

☐ Show all | Number of rows: 25 | Filter rows: Search this table

There was not a lot of data so we had more registered users register for events using the forms to have a better grasp of how the inner join would work. The results are below.



```
SELECT u.name AS user_name, u.email AS user_email, e.name AS event_name, e.event_date, e.venue, r.payment_status, r.registration_date FROM registrations r INNER JOIN users u ON  
r.user_id = u.user_id INNER JOIN events_list e ON r.event_id = e.event_id;
```

☐ Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Extra options

user_name	user_email	event_name	event_date	venue	payment_status	registration_date
Louis	sent@gmail.com	Football Championship	2024-12-18 15:00:00	Sports Complex, Miami	Completed	2024-11-23 14:13:39
Habibi	map@gmail.com	Football Championship	2024-12-18 15:00:00	Sports Complex, Miami	Completed	2024-11-24 01:40:04
Habibi	map@gmail.com	Football Championship	2024-12-18 15:00:00	Sports Complex, Miami	Completed	2024-11-24 01:42:38
Habibi	map@gmail.com	Tech Expo 2024	2024-11-30 09:00:00	Convention Center, Boston	Completed	2024-11-24 01:45:44
Louis	sent@gmail.com	Tech Expo 2024	2024-11-30 09:00:00	Convention Center, Boston	Completed	2024-11-24 01:46:48
Sandra	buraw@gmail.com	Fashion Show	2024-11-25 18:00:00	Grand Ballroom, Milan	Completed	2024-11-24 01:49:43

☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

The inner join displays a user if they are registered for an event and are a user already registered in the database in the users table.

We also did a left join to display every user in the database whether they registered for an event or not and also people who registered for an event but were not in the system. The results are below.

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SELECT u.name AS user_name, u.email AS user_email, e.name AS event_name, e.event_date, e.venue, r.payment_status, r.registration_date FROM users u LEFT JOIN registrations r ON u.user_id = r.user_id LEFT JOIN events_list e ON r.event_id = e.event_id;

Profiling

Edit inline

Edit

Explain SQL

Create PHP code

Refresh

Show all

Number of rows: 25

Filter rows: Search this table

Sort by key: None

Extra options

user_name	user_email	event_name	event_date	venue	payment_status	registration_date
Faith	faith	NULL	NULL	NULL	NULL	NULL
Louis	sent@gmail.com	Football Championship	2024-12-18 15:00:00	Sports Complex, Miami	Completed	2024-11-23 14:13:39
Louis	sent@gmail.com	Tech Expo 2024	2024-11-30 09:00:00	Convention Center, Boston	Completed	2024-11-24 01:46:48
Nick	take@gmail.com	NULL	NULL	NULL	NULL	NULL
Sandra	bunow@gmail.com	Fashion Show	2024-11-25 18:00:00	Grand Ballroom, Milan	Completed	2024-11-24 01:49:43
Habibi	map@gmail.com	Football Championship	2024-12-18 15:00:00	Sports Complex, Miami	Completed	2024-11-24 01:40:04
Habibi	map@gmail.com	Football Championship	2024-12-18 15:00:00	Sports Complex, Miami	Completed	2024-11-24 01:42:38
Habibi	map@gmail.com	Tech Expo 2024	2024-11-30 09:00:00	Convention Center, Boston	Completed	2024-11-24 01:45:44

Security Measures

Passwords are securely hashed before being stored in the database, making them unreadable even in the event of a data breach. To prevent SQL injection attacks, all database queries utilize prepared statements with parameter binding, ensuring that user input is treated as data and not executable code. Additionally, user inputs are validated to ensure that required fields are filled, and user input is cleaned up to ensure it’s safe before using it in the system. Error handling was also implemented to provide user-friendly messages for any issues, such as failed database connections, without exposing sensitive details about the system. The system also uses prepared statements for database queries, which protects against SQL injection attacks (a way hackers try to mess with the database). User inputs are also double-checked to make sure they’re safe to use.