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Final Report Project

The system uses a MySQL database to store important information like customer details, reservations, and special requests. To make this happen, the code first establishes a connection to the database using credentials like the database name, username, and password. Think of it as opening a door to a vault where all the data is kept safe.

If this connection fails for example, if the password is wrong the system stops and shows an error. This ensures the data is secure and the system doesn't behave unexpectedly.

Navigating the Website

The website has a simple navigation menu at the top of every page. This menu has links to:

1. Home Page: The starting point that welcomes visitors.
2. Make a Reservation: Where customers can fill out a form to book a table.
3. View Reservations: Where customers or staff can see all the bookings and manage them.

This menu makes it easy for users to move around the site without getting lost.

Home Page

The homepage is like a restaurant's front door. It's welcoming and provides all the basic information. There's a big greeting that says, "Welcome to the Restaurant Portal," and a tagline to encourage customers to book a table online. To make things visually appealing, there's a large image of a restaurant, and below it, there are buttons that take users directly to the reservation or viewing pages.

Making a Reservation

The heart of the system is the reservation form. Imagine being asked by a friendly host at a restaurant:

- Your Name: So they know who you are.
- Contact Information: So they can confirm your booking or reach you if needed.

- Reservation Time: You pick a date and time for your visit.
- Number of Guests: So the restaurant can assign a table of the right size.
- Special Requests: If you're celebrating something or have dietary needs, this is where you mention it.

The form ensures that all the details are filled out correctly. For example, it checks that your phone number has the right number of digits or that your email is valid. This makes the process smoother and avoids confusion later.

Processing the Reservation

Once the form is submitted, the system gets to work behind the scenes. Here's what happens step-by-step:

1. Checking the Customer: If this is your first time booking, the system adds your name and contact details to the database. If you've booked before, it simply links the reservation to your existing profile.
2. Saving the Reservation: Your booking details, like the time, number of guests, and special requests, are saved in the database.
3. Success Message: If everything works, the system redirects you to a page confirming your booking. If there's an error, it lets you know what went wrong so you can fix it.

Viewing Reservations

This feature is like the restaurant manager's notebook, where all the bookings are listed. It displays a table with details like:

- The reservation ID (a unique number for each booking).
- The customer's name and contact information.
- The reservation time and number of guests.
- Any special requests?

There's also a search bar so you can quickly find bookings by name. Additionally, restaurant staff can delete outdated or incorrect reservations with a single click.

Database Design

All the information is stored in a structured way in the database:

1. Customers Table: Keeps track of customer names and contact details.
2. Reservations Table: Stores details about each booking, like time, number of guests, and requests.
3. Dining Preferences Table: This is optional and adds a personal touch by storing things like favorite tables or dietary restrictions.

These tables are connected, so the system knows which reservation belongs to which customer. It's like organizing a file cabinet with labeled folders.

Search and Security Features

The system allows staff to search for reservations easily by typing in a customer's name. It's secure, too:

- Prepared Statements: This is a technical way of saying that the system protects against hackers trying to mess with the database.
- Error Handling: If something goes wrong—like the database connection failing—the system stops and shows a clear error message instead of crashing.

Future Enhancements

This system already does a lot, but there's room for growth. Here are some ideas:

- Customer Accounts: Allow users to create profiles so they can manage their bookings.
- Email Confirmations: Automatically send a confirmation email after a reservation is made.
- Advanced Filtering: Let users filter reservations by date or group size.