Restaurant Website

Name: Ahsan Baseer
Email address: sbaseer25@gmail.com
Project Title: Little Lemon Restaurant Website

1. **Project Overview:**

The objective of my web development project is to create a fully functional, and user-friendly restaurant website. The core focus of this website is simplicity so that it can be used by a large demographic. The target audience for this website is from ages 13 to 65, irrespective of gender identity and cultural background. The website is designed with novice users in mind with basic to intermediate familiarity with websites. Keeping this in mind, the website will feature seamless navigation, a simple yet elegant UI, and easy functionality.

Some of the specific functionalities that I plan to implement are the Online Reservation and Ordering Page, Login/Sign Up Page, Form Validation, and Bill Calculator. These functionalities will add a touch of convenience to the dining and improve customer experience while keeping the focus on simplicity and ease of use.

2. **Project Timeline:**

Project Timeline

(*tentative***)**

Task 1: ***Due:*** *Aug 9th ✓*

- Define objectives, target audience, and decide upon the project

---

Task 2: ***Due:*** *Aug 9th ✓*

- Set up the basic HTML with CSS styling

Task 3: ***Due:*** *Aug 9th ✓*

- Implement the Bill calculator functionality using JavaScript

---

Task 4: ***Due:*** *Aug 9th ✓*

- Work on back-end details, connect the server and database, and ensure client-side validation using PHP

Task 5: ***Due:*** *Aug 13th ✓*

- Finalize the back-end interactions between the client-server and database including the login validation and data storage/retrieval using tables in MySQL

Task 6: ***Due:*** *Aug 15th ✓*

- Finishing touches, testing for bugs, and stylistic improvements. Demo and Launch.

---

3. Project Architecture

The flow of user interaction will start with the home page. This page will serve as in introduction to the restaurant. This page will also display a navigation bar in the form of buttons. This navigation bar will be available on all pages. The order section of this navigation bar will prompt the user that the user must log in to place an order and allow navigation to the Sign Up page if the user does not have an account and Login page. The signup and log-in pages both have both client-side as well as server-side validation. All possible edge cases are covered. For instance, email already exists, the password does not match the repeated password, the email does not exist, the email/password combination is incorrect, and any other error for instance if the connection with the database could not be established. Additionally, the format of the email, any empty fields in the form, etc. are done client-side. Through each and every step the user will get clear feedback which is consistent with my original vision of the website. Through these pages, the user will be validated and allowed to log in. After logging in the user will be redirected to the order page. The user will select a few options, add items to the cart, change their quantity, add/remove items as needed, and generate an order summary. After which the user can click on submit order which will take the user to the Thank You page with a wait screen. This will close the user interaction cycle.

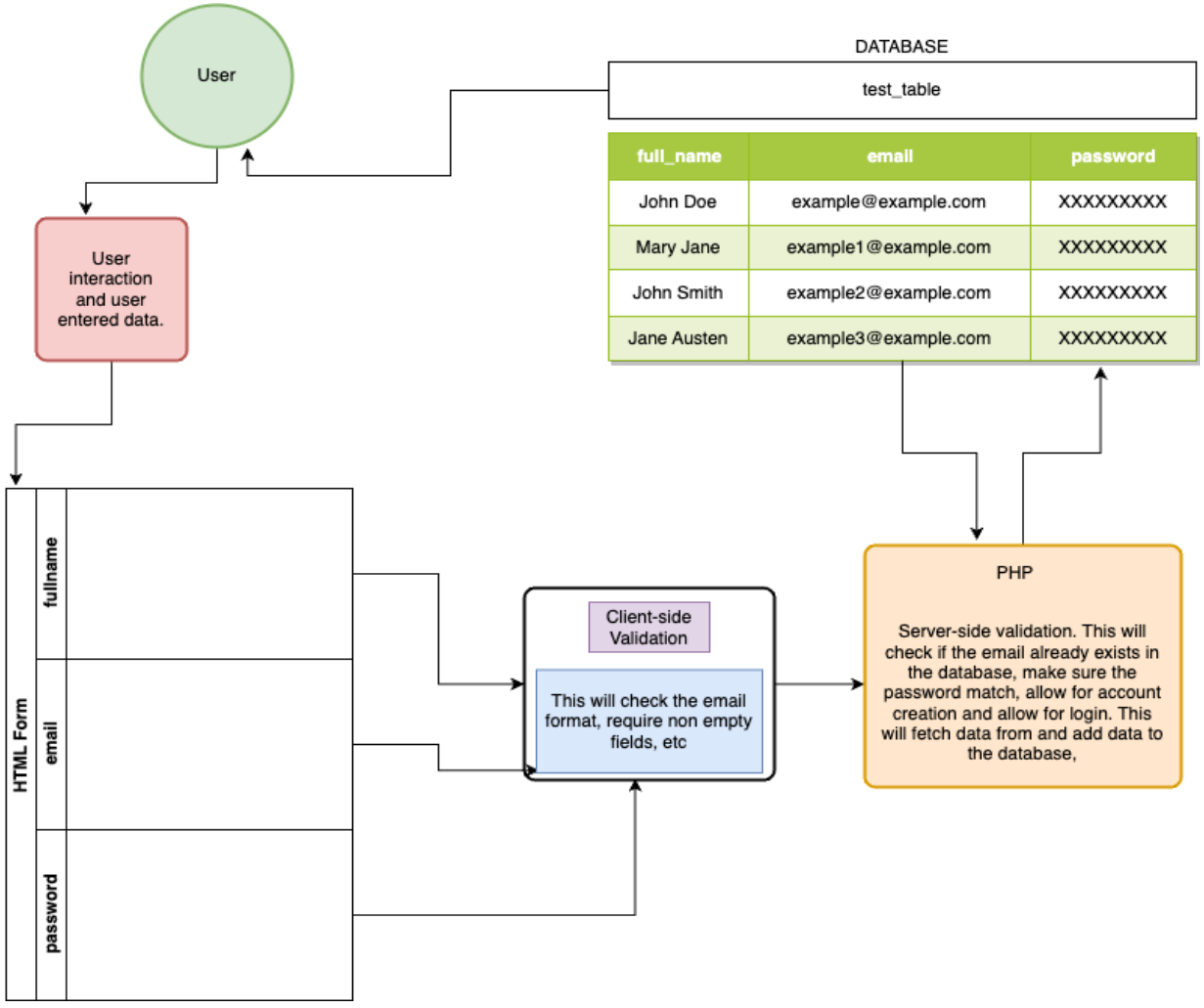
4. User Interface (UI) Design

I used a single CSS file to apply the styling to all the pages. This way the styles are globalized and can be changed and experimented with and the changes will apply to all pages accordingly. I used Optima as my font family because it is modern and simple which enhances legibility and gives the website a modern look. I went for a pastel-colored theme for the website with light colors. The buttons are bubbly with round edges and padding. This gives the website an overall laid-back feel to it which matches the restaurant's vision and vibes. I used linear gradient as the background because it makes the background quite interesting. I decided to not use the typical

bar for navigation buttons because it is too mainstream and I wanted something a bit more laid back. The buttons enlarge and change contrast using text color when hovered over for better readability and ease of use while keeping accessibility in mind. Using the Human-Computer Interaction principles in mind subtle animations are used throughout the website to provide users with immediate feedback. Tables are alternate color-coded to improve visibility.

5. Database Design

The database I used for this website is MySQL table. I created a simple 3-column table to store the data entered by the user. This includes their full name, email address, and the password they set.



6. Functionality & Features

The main functionalities of the website are navigation, an order page, a checkout cart, an order summary, and a checkout timer. Ordering Page works by letting the users select an option from the input field of dishes. They can specify the number of selected items and press the add to order button. Then Javascript fetches the value and quantity selected by the user and adds it to

the cart. The cart is implemented using an empty table where Javascript dynamically adds the rows with data based on what the user selects in real time. This way the table populates with current information and can be changed if the user changes the selection. The Cart section also fetches the prices of the selected items along with their quantity and displays a running total of all the items in the cart. The cart also has a remove button that can be used to remove items and the total adjusts automatically. Adding at least one item to the cart activates the check-out timer for 15 minutes to create a sense of urgency to check out. The items in the checkout will be kept for 15 mins (may be changed to 1 min for the demo) after which they will be removed from the cart. Clicking on the order summary displays the order summary of what the user will be charged. Submit Order takes you to a thank you page with a waiting screen. The navigation is implemented using the navigation buttons. That is connected and on every page. Clicking on the logo takes you to the home page regardless of where you are.

7. Technology Stack

The front end consists of HTML for web pages. The styling is done through an external CSS file. The functionality, calculations, and dynamic changes are made to the pages using JavaScript. No additional CSS libraries like Tailwind and Bootstrap are used. The JavaScript is also just simple JavaScript without using react or next.

The backend consists of PHP for server-side scripting, and MySQL for database management. The exact versions are provided as follows:
The Server name: is Localhost via UNIX socket. The Server type is : MySQL. The Server version is: 5.7.39 - MySQL Community Server (GPL). The Protocol version is: 10. The PHP version is: 7.4.33. The Database client version is: libmysql - mysqlnd 7.4.33.

8. Challenges & Mitigation

The biggest challenge for me was setting up the backend. This was my first time ever to do any kind of back-end programming. I was unable to connect to the database but I had already written the entire PHP code. Thankfully, my professor recommended I establish the connection first and then debug line by line the code I had written. After, a few hours of arduous debugging I was able to connect to the database properly. I learned a valuable lesson of working on the basic building blocks of the project first like establishing a connection to the database before writing the entire code and then trying to make it work. I also learned how to pinpoint the problem and fix it because bugs are an inevitable part of development. Overall, it was an invaluable experience for me to work on this project. I learned a lot and became a better developer as a result.

9. References

https://linuxhint.com/create-table-dynamically-in-javascript/

https://www.w3schools.com/js/js_htmldom_eventlistener.asp

https://www.javascripttutorial.net/javascript-dom/javascript-classlist/