

Kingdom of Saudi Arabia

Umm Al-Qura University

College of Computing



Code & Crumble_{CS3810T}

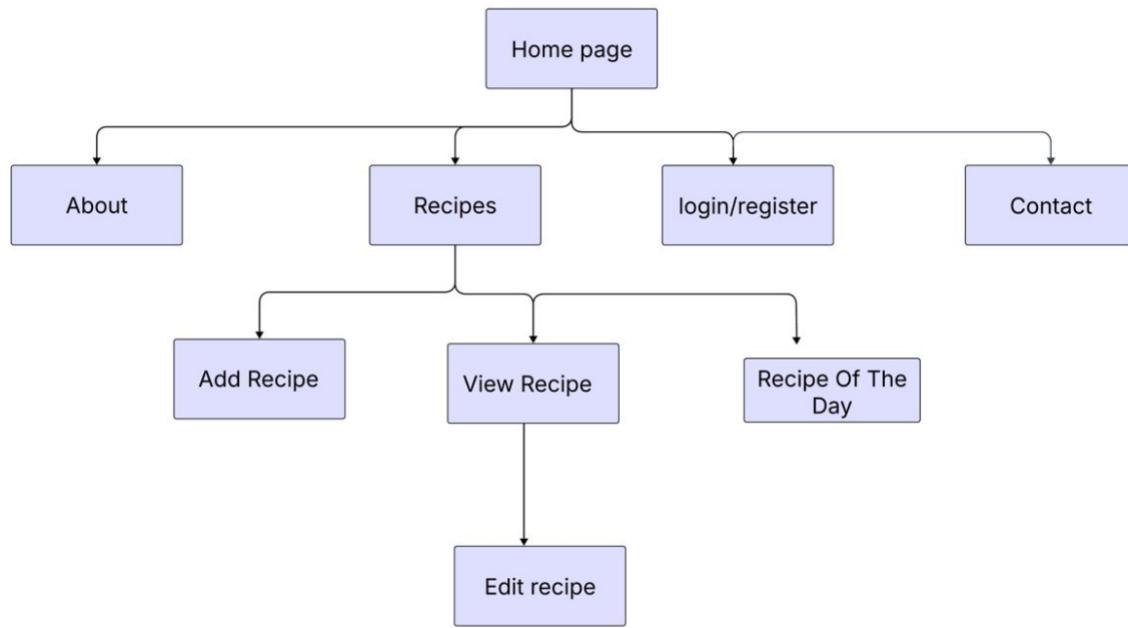
Web Development Project

Project idea:

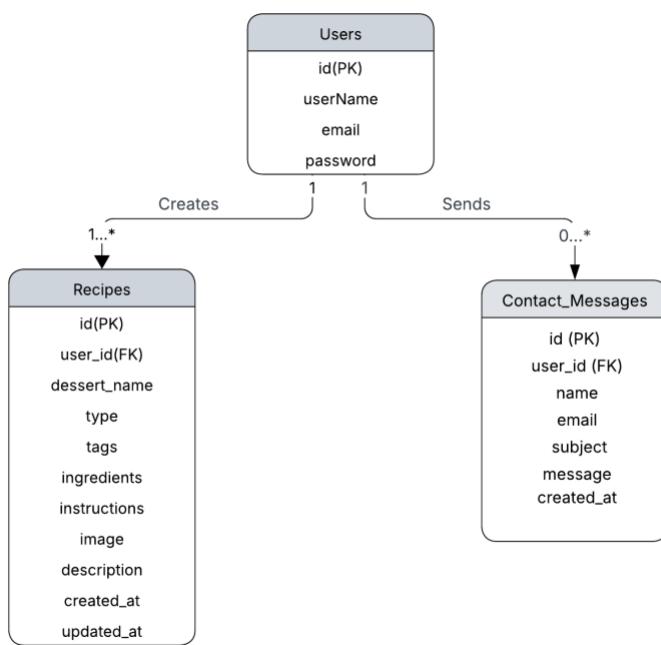
Code & Crumble Is a simple and user friendly web application designed for dessert lovers to share and discover sweet recipes. Users can create an account, add their favorite recipes, browse other people's creations, and edit or delete their own posts. The goal of this project is to develop an enjoyable and simple platform that incorporates key web development concepts such as HTML, CSS, JavaScript, React, and database integration.

2) System design:

Site Map:

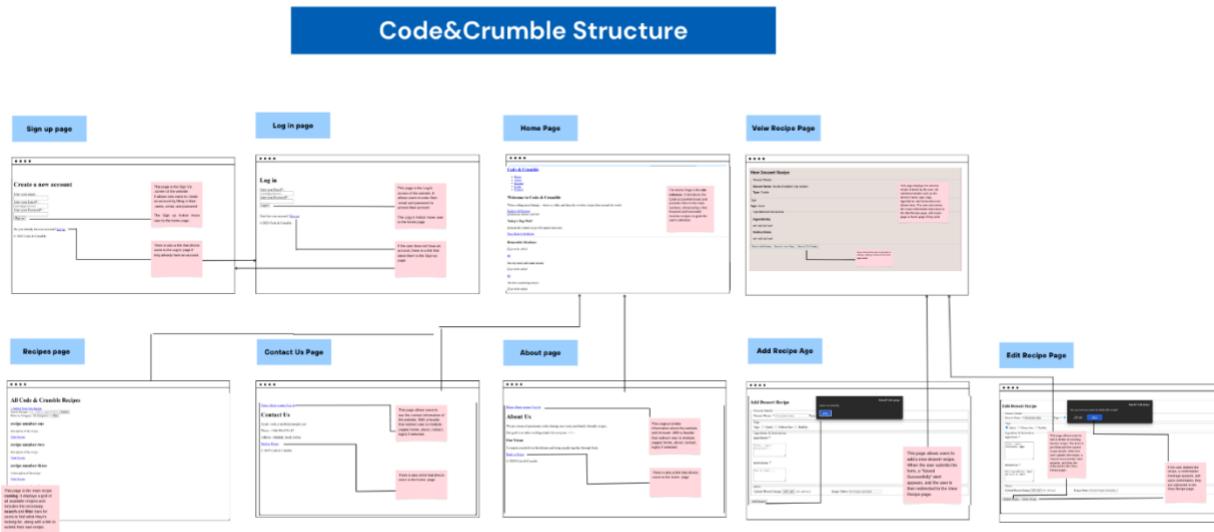


ERD Diagram:



Current Progress:

Website Structure:



Brief Explanation:

- **Home page:** The Home Page is the **site entrance**. It introduces the Code & Crumble brand and provides links to the main sections, showcasing a few featured and honorable mention recipes to grab the user's attention.
- **Login page:** This page is the Log In screen of the website ,It allows users to enter their email and password to access their account. The Log in button move user to the home page. If the user does not have an account, there is a link that takes them to the Sign-up page.
- **Signup page:** This page is the Sign Up screen of the website, It allows new users to create an account by filling in their name, email, and password. The Sign up button move user to the home page. There is also a link that directs users to the Log In page if they already have an account.

- **Contact page:** This page allows users to contact the website team. It includes a header with navigation links to Home, Recipes, Login, About,. The page displays the website's contact email and provides a contact form where users can enter their name, email, subject, and message to send feedback or inquiries.
- **About:** This page provides information about the website and its team. With a header that redirect user to multiple pages(home, contact, login) if selected, There is also a link that directs users to the home page.
- **Recipes page:** This page is the main **recipe catalog**. It displays a grid of all available recipes and includes the necessary search and filter bars for users to find what they're looking for, along with a link to submit their own recipe.
- **Add Recipe page:** This page allows users to add a new dessert recipe. When the user submits the form, a "Saved Successfully" alert appears, and the user is then redirected to the View Recipe page.
- **Edit Recipe:** This page allows users to edit or delete an existing dessert recipe. The form is pre-filled with the current recipe details. When the user updates the recipe, a "Saved Successfully" alert appears, and they are redirected to the View Recipe page.
- **View Recipe:** This page displays the dessert recipe entered by the user. All submitted details such as the dessert name, type, tags, ingredients, and instructions are shown here. The user can review the recipe information and return to the Add Recipe page, edit recipe page or home page if they wish. these links let the user to go back to editing , adding or back to the home page easily
- **Recipe of the Day:** This page displays a randomly selected dessert recipe from the database. It shows the recipe details such as the dessert name, type, image, ingredients, and instructions. A button allows the user to refresh the page and view another random recipe, and the header links help the user navigate back to the home page or other sections easily

Remaining Work:

1. Add CSS styling to enhance the visual design and consistency of the website.
 2. Implement JavaScript for form validation and interactive elements (such as alerts or dynamic updates).
 3. Connect the pages to a database for storing user information and recipes.
 4. Finalize the overall design and responsiveness.

Implementation:

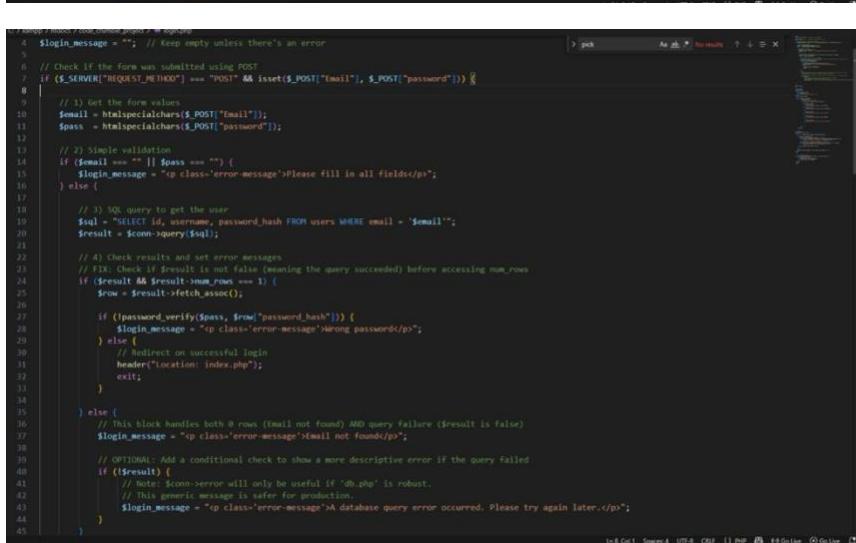
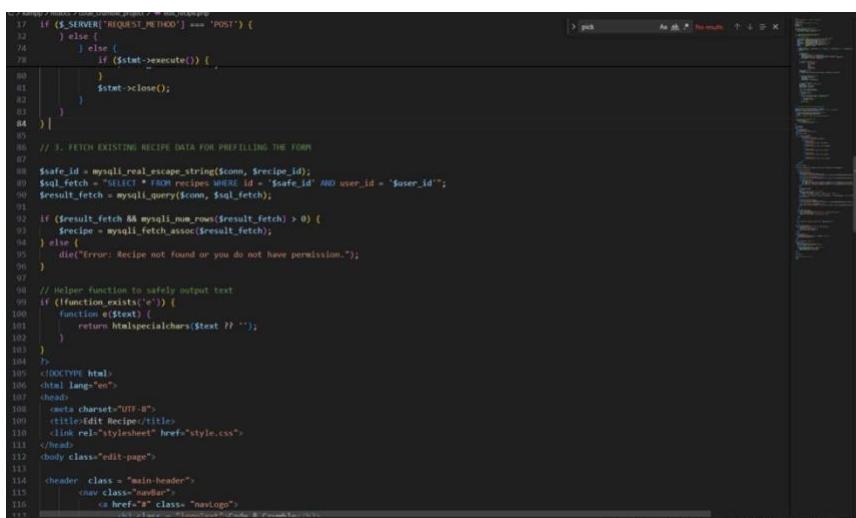
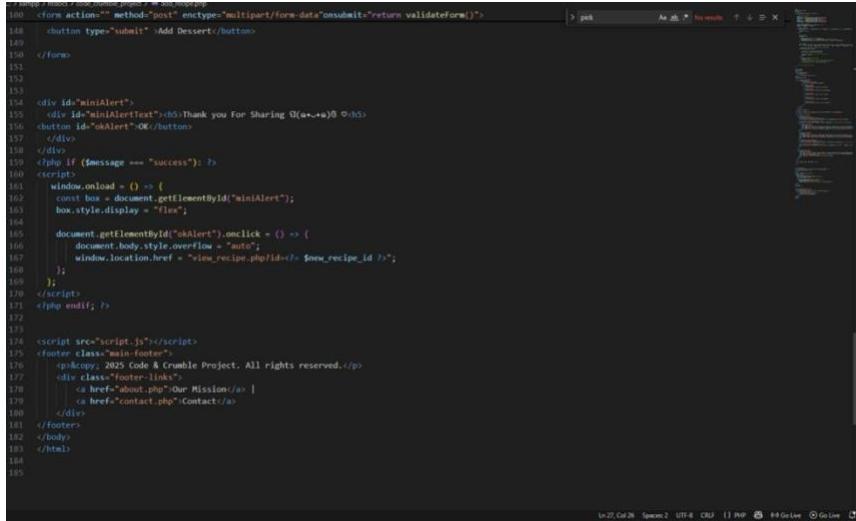
html&php:

```
28 <header class="main-header">
29   <nav class="naviga">
30     <a href="#">Home</a>
31     <a href="#">About</a>
32   </nav>
33 </header>
34
35 <h1>The Recipe of the Day</h1>
36
37 <div class="view-box">
38   <h2>A Recipe for: <strong>{$recipe["name"]} </strong></h2>
39   <p>No Recipes Found...</p>
40 </div> <!-- /view -->
41 <div>
42   <strong>{$recipe["name"]} - {$recipe["type"]} - {$recipe["tags"]}</strong>
43   <strong>{$recipe["name"]} - {$recipe["type"]} - {$recipe["tags"]}</strong>
44   <strong>{$recipe["name"]} - {$recipe["type"]} - {$recipe["tags"]}</strong>
45 </div> <!-- /view -->
46 <div>
47   <img alt="{$recipe["image_url"]}" />
48   <img alt="{$recipe["image_url"]}" />
49   <img alt="{$recipe["image_url"]}" />
50   <img alt="{$recipe["image_url"]}" />
51   <img alt="{$recipe["image_url"]}" />
52   <img alt="{$recipe["image_url"]}" />
53   <img alt="{$recipe["image_url"]}" />
54   <img alt="{$recipe["image_url"]}" />
55   <img alt="{$recipe["image_url"]}" />
56 </div> <!-- /view -->
57 <div>
58   <h3>Ingredients:</h3>
59   <pre><strong>{$recipe["ingredients"]}</strong></pre>
60 </div> <!-- /view -->
61 <div>
62   <h3>Instructions:</h3>
63   <pre><strong>{$recipe["instructions"]}</strong></pre>
64 </div> <!-- /view -->
65 <div>
66   <!-- reload page to get another random recipe -->
67   <p>Style="text-align:center; margin-top:20px;">
68   <a href="#" class="back-link" href="#"><--> Another Random Recipe</a>
69 </p>
70 </div>
71 </body>
72 </html>
73
74
```

```
    </div>
    <div id="featured" class="recipe-of-the-day">
        <div class="mentions-intro">
            Go up trending desserts, hand-picked by the Code & Crumble community for their exceptional flavor and visual appeal. Give them a try!</p>
        <div class="honorable-mentions recipe-grid">
            <div>
                <div>
                    <img src=<?php echo $row['image_url']; ?> alt=<?php echo $row['dessert_name']; ?>></div>
                    <div class="card-content">
                        <div href="view_recipe.php?id=<?php echo $row['id']; ?>"><?php echo $row['dessert_name']; ?></div>
                        <div>
                            <?php
                                if (!empty($row['description'])) {
                                    echo $row['description'];
                                } else {
                                    echo substr($row['instructions'], 0, 100) . "...";
                                }
                            </?php
                        </div>
                        <a href="view_recipe.php?id=<?php echo $row['id']; ?>">View Recipe</a>
                    </div>
                </div>
            </div>
        </div>
    <div style="grid-column: 1 / -1; text-align: center;">No Honorable Mentions selected yet. Please set some in phpMyAdmin.</p>
    </div>
    <p class="view-all-link">
        <a href="index.php?page=1&category=Honorable_Mentions">View All Honorable Mentions</a>
    </p>

```

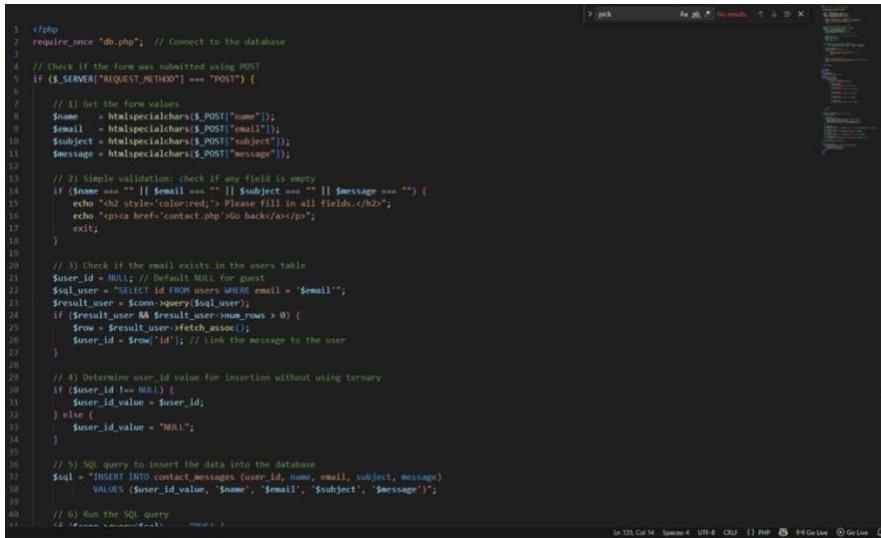
Code & crumble



The code snippets illustrate various parts of a web application, likely a cooking or recipe sharing platform. The first snippet shows a success message and a redirect logic. The second snippet is a MySQL query to fetch a specific recipe. The third snippet is a PHP script for user login validation and database interaction.

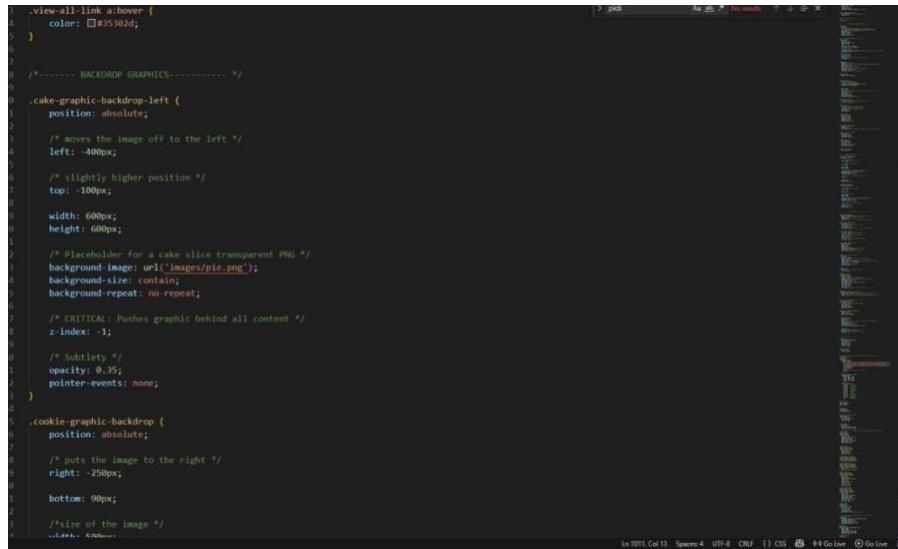
```
1 // Recipe Form Submission Script
2 <?php
3     $conn = mysqli_connect("localhost", "root", "", "crumble");
4
5     if ($conn->connect_error) {
6         die("Connection failed: " . $conn->connect_error);
7     }
8
9     $sql = "SELECT * FROM recipes WHERE id = '$recipe_id' AND user_id = '$user_id'";
10
11     if ($result = $conn->query($sql)) {
12
13         if ($result->num_rows == 1) {
14             $row = $result->fetch_assoc();
15
16             echo "Success! Recipe found: " . $row['name'];
17
18             $result->free();
19             $conn->close();
20         } else {
21             echo "Error: No recipe found for the given ID and user ID.";
22         }
23     } else {
24         echo "Error: Unable to execute query";
25     }
26
27     $conn->close();
28
29     header('Location: index.php');
30     exit;
31
32 }
33
34 // Login Script
35 <?php
36
37     $email = $_POST['email'];
38     $password = $_POST['password'];
39
40     // Check if the form was submitted using POST
41     if ($_SERVER["REQUEST_METHOD"] == "POST" && isset($_POST['email'], $_POST['password'])) {
42
43         // 1) Get the form values
44         $email = htmlspecialchars($_POST['email']);
45         $password = htmlspecialchars($_POST['password']);
46
47         // 2) Simple validation
48         if ($email == "" || $password == "") {
49             $login_message = "<p class='error-message'>Please fill in all fields</p>";
50         } else {
51
52             // 3) SQL query to get the user
53             $sql = "SELECT id, username, password_hash FROM users WHERE email = '$email'";
54             $result = $conn->query($sql);
55
56             // 4) Check results and set error messages
57             // FIX: Check if $result is not false (meaning the query succeeded) before accessing num_rows
58             if ($result && $result->num_rows === 1) {
59                 $row = $result->fetch_assoc();
60
61                 if (password_verify($password, $row['password_hash'])) {
62                     $login_message = "<p class='error-message'>Wrong password</p>";
63                 } else {
64                     // Redirect on successful login
65                     header("location: index.php");
66                     exit;
67                 }
68             } else {
69                 // This block handles both 0 rows (email not found) AND query failure ($result is false)
70                 $login_message = "<p class='error-message'>Email not found</p>";
71
72                 // OPTIONAL: Add a conditional check to show a more descriptive error if the query failed
73                 if (!$result) {
74                     // Note: MySQL server will only be useful if '0.php' is robust.
75                     // This generic message is safer for production.
76                     $login_message = "<p class='error-message'>A database query error occurred. Please try again later.</p>";
77                 }
78             }
79         }
80     }
81
82     // Output the login message
83     echo $login_message;
84
85 }
```

Code & crumble



```
1 <?php
2 require_once "db.php"; // Connect to the database
3
4 // Check if the form was submitted using POST
5 if ($_SERVER['REQUEST_METHOD'] === "POST") {
6
7     // 1) Get the form values
8     $name = htmlspecialchars($_POST['name']);
9     $email = htmlspecialchars($_POST['email']);
10    $subject = htmlspecialchars($_POST['subject']);
11    $message = htmlspecialchars($_POST['message']);
12
13    // 2) Simple validation: check if any field is empty
14    if ($name === "" || $email === "" || $subject === "" || $message === "") {
15        echo "<div style='color:red;>Please fill in all fields.</div>";
16        echo "<p><a href='contact.php'>Go back</a></p>";
17        exit();
18    }
19
20    // 3) Check if the email exists in the users table
21    $user_id = NULL; // Default NULL for guest
22    $sql_user = "SELECT id FROM users WHERE email = '$email'";
23    $result_user = $conn->query($sql_user);
24    if ($result_user && $result_user->num_rows > 0) {
25        $row = $result_user->fetch_assoc();
26        $user_id = $row['id']; // Link the message to the user
27    }
28
29    // 4) Determine user.id value for insertion without using ternary
30    if ($user_id != NULL) {
31        $user_id_value = $user_id;
32    } else {
33        $user_id_value = "NULL";
34    }
35
36    // 5) SQL query to insert the data into the database
37    $sql = "INSERT INTO contact_messages (user_id, name, email, subject, message)
38          VALUES ($user_id_value, '$name', '$email', '$subject', '$message')";
39
40    // 6) Run the SQL query
41    $conn->query($sql);
42}
```

CSS:



```
.view-all-link a:hover {
    color: #35382d;
}

/*----- BACKDROP GRAPHICS----- */
.cake-graphic-backdrop-left {
    position: absolute;
    /* moves the image off to the left */
    left: -400px;
    /* slightly higher position */
    top: -100px;
    width: 600px;
    height: 600px;

    /* Placeholder for a cake slice transparent PNG */
    background-image: url('images/pie.png');
    background-size: contain;
    background-repeat: no-repeat;

    /* CRITICAL: Pushes graphic behind all content */
    z-index: -1;
    /* Subtlety */
    opacity: 0.35;
    pointer-events: none;
}

.cookie-graphic-backdrop {
    position: absolute;
    /* puts the image to the right */
    right: -250px;
    bottom: 90px;

    /* size of the image */
    width: 600px;
```

JavaScript:

```

1 // scripts.js
2 // Update image status when user selects a file add/edit
3
4 function updateStatus() {
5     const inputFile = document.getElementById('recipe_file');
6     const status = document.getElementById('status');
7
8     if (!fileInput || !status) return;
9
10    if (fileInput.files.length === 0) {
11        status.value = "No image uploaded";
12        status.classList.remove('uploaded-status');
13    } else {
14        status.value = "Image: " + fileInput.files[0].name;
15        status.classList.add('uploaded-status');
16    }
17}
18

```

Database:

index.php db.php x signup.php contact.php login.php # style.css

C:\xampp>htdocs>code_crumble_project>db.php

```

1 k?php
2 $host = "localhost";
3 $user = "root";           // default XAMPP username
4 $pass = "";               // default password = empty
5 $dbname = "code_crumble";
6
7 $conn = mysqli_connect($host, $user, $pass, $dbname);
8
9 if (!$conn) {
10     die("Connection failed: " . mysqli_connect_error());
11 }
12 ?>
13

```

	ID	user_id	dessert_name	description	ingredients	instructions	image_url	type	featured_status	title	created_at	updated_at
1	1	1	Vanilla Cupcakes	simple Vanilla Cupcakes	1/2 cup flour 1 cup sugar 1/2 cup butter (soft)	Bake oven to 350°F. Mix butter and sugar until smooth.	uploads/1750803203_cupcake.jpg	cake	None	Quick	2025-12-16 19:40:03	2025-12-16 19:40:03
2	2	1	Blueberry Cheesecake	classic Blueberry Cheesecake	2 cups digestive biscuits (crushed)	Bake oven to 350°F. Mix biscuits and butter, press	uploads/1750902797_blueberry_chesecake.jpg	cheese	Pinnable Mention	Quick	2025-12-16 19:26:39	2025-12-16 19:47:58
3	3	1	Gluten-Free Apple Pie	Healthier apple pie	150g melted butter	Preheat oven to 350°F. 2 cups gluten-free flour blend 1/2 cup cold butter	uploads/1750802729_pie.jpg	pie	Pinnable Mention	gluten free	2025-12-16 19:32:09	2025-12-16 19:48:19
4	4	1	Healthy Brownies	simple Healthy Brownies (No refined sugar)	2 cups flour (wholegrain), 2 eggs, 1/2 cup brown sugar	Preheat oven to 350°F. Mix flour, sugar, eggs, oil, vanilla extract and salt.	uploads/1750802956_brownie.jpg	cake	Pinnable Mention	Healthy	2025-12-16 19:36:56	2025-12-16 20:17:02
5	5	1	Chocolate Chip Cookies	classic Chocolate Chip Cookies	1 cup flour 1/2 cup butter 1/2 cup brown sugar 1 egg	Bake oven to 350°F. Create butter and sugar	uploads/1750803280_cookie.jpg	cookie	Top Pick	Quick	2025-12-16 19:43:05	2025-12-16 19:49:18
6	6	1	Strawberry Shortcake	Strawberry Shortcake	1 cup flour, 1/2 cup sugar, 1/2 cup butter, 1/2 cup milk, 1/2 cup strawberries, 1/2 cup cream	Preheat oven to 350°F. Mix flour, sugar, butter, milk, strawberries, cream	uploads/1750803281_shortcake.jpg	cheese	Pinnable Mention	Strawberry Shortcake	2025-12-16 19:49:56	2025-12-16 20:17:02
7	7	1	Orange Marmalade	Orange Marmalade	1/2 cup flour, 1/2 cup sugar, 1/2 cup butter, 1/2 cup orange juice, 1/2 cup marmalade, 1/2 cup milk	Preheat oven to 350°F. Mix flour, sugar, butter, orange juice, marmalade, milk	uploads/1750803282_marmalade.jpg	cheese	Pinnable Mention	Orange Marmalade	2025-12-16 19:50:26	2025-12-16 20:17:02
8	8	1	Carrot Cake	Carrot Cake	1 cup flour, 1/2 cup sugar, 1/2 cup butter, 1/2 cup milk, 1/2 cup carrots, 1/2 cup applesauce, 1/2 cup oil, 1/2 cup walnuts	Preheat oven to 350°F. Mix flour, sugar, butter, milk, carrots, applesauce, oil, walnuts	uploads/1750803283_carrot_cake.jpg	cheese	Pinnable Mention	Carrot Cake	2025-12-16 19:50:56	2025-12-16 20:17:02
9	9	1	Chocolate Lava Cake	Chocolate Lava Cake	1 cup flour, 1/2 cup sugar, 1/2 cup butter, 1/2 cup milk, 1/2 cup chocolate chips, 1/2 cup oil, 1/2 cup walnuts	Preheat oven to 350°F. Mix flour, sugar, butter, milk, chocolate chips, oil, walnuts	uploads/1750803284_lavacake.jpg	cheese	Pinnable Mention	Chocolate Lava Cake	2025-12-16 19:51:26	2025-12-16 20:17:02
10	10	1	Apple Pie	Apple Pie	1 cup flour, 1/2 cup sugar, 1/2 cup butter, 1/2 cup milk, 1/2 cup applesauce, 1/2 cup oil, 1/2 cup walnuts	Preheat oven to 350°F. Mix flour, sugar, butter, milk, applesauce, oil, walnuts	uploads/1750803285_apple_pie.jpg	cheese	Pinnable Mention	Apple Pie	2025-12-16 19:51:56	2025-12-16 20:17:02
11	11	1	Red Velvet Cake	Red Velvet Cake	1 cup flour, 1/2 cup sugar, 1/2 cup butter, 1/2 cup milk, 1/2 cup chocolate chips, 1/2 cup oil, 1/2 cup walnuts	Preheat oven to 350°F. Mix flour, sugar, butter, milk, chocolate chips, oil, walnuts	uploads/1750803286_red_velvet_cake.jpg	cheese	Pinnable Mention	Red Velvet Cake	2025-12-16 19:52:26	2025-12-16 20:17:02
12	12	1	Buttercream Frosting	Buttercream Frosting	1/2 cup butter, 1/2 cup sugar, 1/2 cup milk, 1/2 cup powdered sugar, 1/2 cup frosting flavor	Mix butter, sugar, milk, powdered sugar, frosting flavor	uploads/1750803287_frosting.jpg	cheese	Pinnable Mention	Buttercream Frosting	2025-12-16 19:52:56	2025-12-16 20:17:02

Code & crumble

The screenshot shows the phpMyAdmin interface. The left sidebar displays the database structure:

- New
- code_crumble
- New
- contact_messages
- recipes
- users
- information_schema
- mysql
- performance_schema
- phpmyadmin
- site_lab9
- test

The main panel shows the 'users' table with the following data:

	#	id	username	email	password_hash
<input type="checkbox"/>	1	admin_jukar	admin@codecrumble.com	17bad45cfa2d97f7f29e212546d1	
<input type="checkbox"/>	2	lucy	lucy@gmail.com	32\$1\$0M9Rn...gdmh2ZcA7mOwheQIAxU5jAv7VQzDTWY	
<input type="checkbox"/>	3	hen	hen@gmail.com	32\$1\$0FtBmhs2ZE3DiuCYG7A3gfphX05QK09jOsJh...	

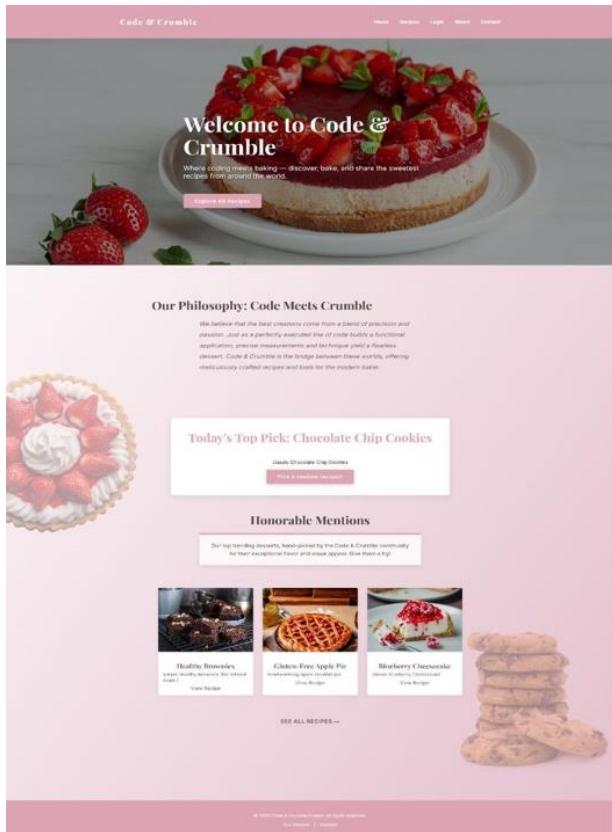
Below the table, there are buttons for 'Check all', 'With selected', 'Edit', 'Copy', 'Delete', 'Export', and 'Query results operations'.

The bottom section of the interface shows the 'Recent' and 'Favorites' tabs, along with a sidebar for navigating between databases.

Screenshots & Testing:

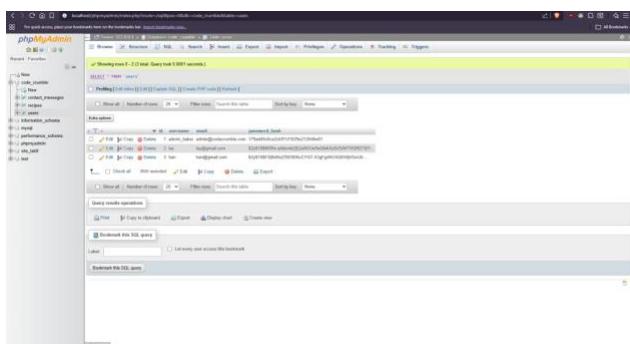
Home Page Test Cases

Display Featured Recipes

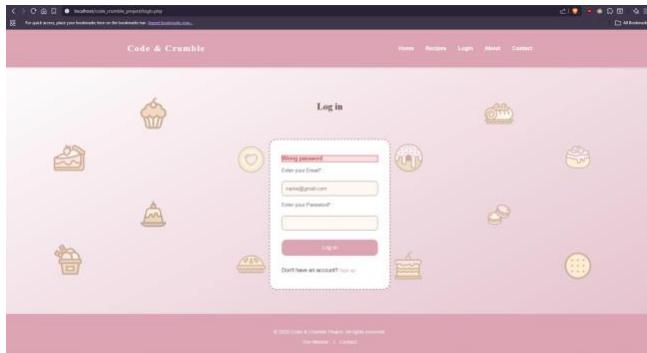


Login Page Test Cases:

Login with Valid Credentials



Login with Invalid Credentials



Signup Page Test Cases:

Create New Account

Showing rows 0 - 1 (2 total, Query took 0.0002 seconds.)						
SELECT * FROM `contact_messages`						
<input type="checkbox"/> Profiling Edit inline Edit Explain SQL Create PHP code Refresh						
<input type="checkbox"/>	Show all	Number of rows: 25	Filter rows:	Search this table	Sort by key:	None
Extra options						
<input type="checkbox"/>	T	→	id	user_id	name	email
<input type="checkbox"/>	Edit	Copy	Delete	1	NULL	layan
<input type="checkbox"/>	Edit	Copy	Delete	2	NULL	ham
Export						
<input type="checkbox"/>	Show all	Number of rows: 25	Filter rows:	Search this table	Sort by key:	None
<input type="checkbox"/>	Edit	Copy	Delete			

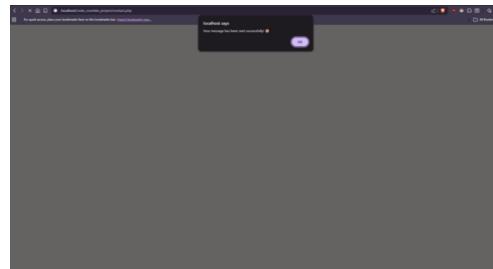
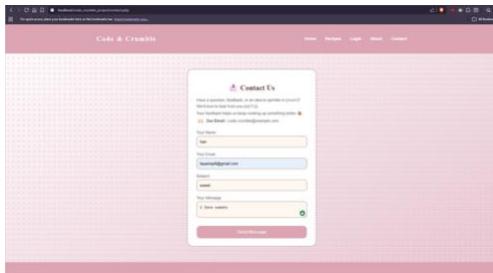
Signup Form Validation

A screenshot of a web browser displaying the 'Create a new account' page of the 'Code & crumble' website. The page has a pink background with dessert icons. The signup form is centered, showing validation errors for the 'Email' field. The error message 'Email already exists.' is displayed above the email input field.

Contact Page Test Cases:

Display Contact Information

Code & crumble



Showing rows 0 - 1 (2 total). Query took 0.0002 seconds.						
<code>SELECT * FROM `contact_messages`</code>						
<input type="checkbox"/> Profiling <input type="button" value="Edit inline"/> <input type="button" value="Edit"/> <input type="button" value="Explain SQL"/> <input type="button" value="Create PHP code"/> <input type="button" value="Refresh"/>						
<input type="checkbox"/> Show all Number of rows: 25 <input type="button" value="Filter rows"/> <input type="button" value="Search this table"/> <input type="button" value="Sort by key..."/> None						
Extra options						
#	T	ID	User ID	Name	Email	Subject
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	1	NULL	lavanipd@gmail.com
				lavanipd	lavanipd@gmail.com	course
						hello
						2025-12-16 14:50:24
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	2	NULL	lavanipd@gmail.com
				lavanipd	lavanipd@gmail.com	sweet
						I love sweets
						2025-12-16 10:52:22

Recipes Page Test Cases

Display All Recipes

A screenshot of the "All Code & Crumble Recipes" page. It features a header with navigation links for Home, Recipes, Login, About, and Contact. Below the header is a search bar and a filter for categories. The main content area displays five recipe cards with images and titles: "Chocolate Chip Cookies", "Vanilla Cupcakes", "Healthy Brownies", "Gluten Free Apple Pie", and "Blueberry Cheesecake". Each card includes a "View Recipe" link.

Search Recipes

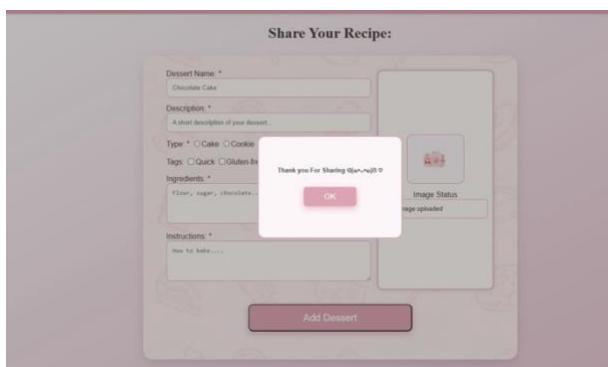


Filter Recipes

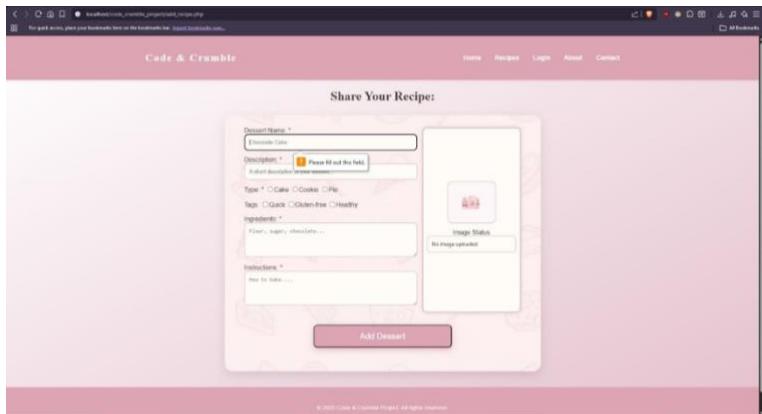


Add Recipe Page Test Cases

Add Recipe successfully



Add Recipe Validation

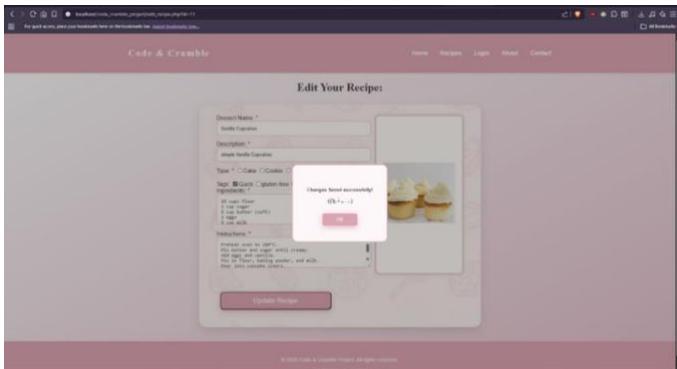


Edit Recipe Page Test Cases

Load Existing Recipe Data

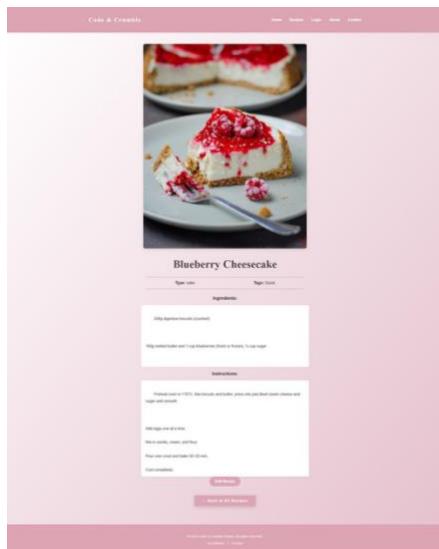


Update Recipe



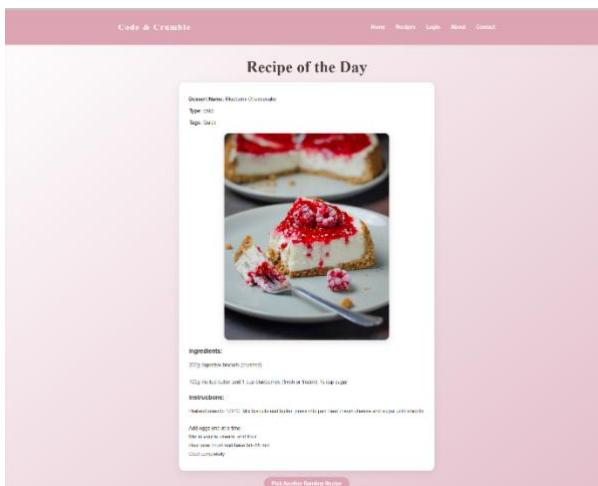
View Recipe Page Test Cases

Display Recipe Details



Recipe of the Day Page Test Cases

Display Random Recipe



Conclusion

The Code & Crumble website was successfully developed to allow users to browse, add, edit, and manage dessert recipes easily. The system provides clear navigation and core features that work as intended, offering a simple and user-friendly experience.

Future Work

Future improvements may include adding user profiles, as well as recipe ratings and comments, to further improve usability and user engagement.

References:

1. Pinterest. *Pinterest*. <https://www.pinterest.com/>
2. AbdelrahmanGamal. *Full HTML & CSS course in Arabic* [YouTube playlist]. YouTube. <https://youtube.com/playlist?list=PLknwEmKsW80uN040dt2sJqt4aAnkp-iYA>
3. HarithaComputersTechnology. *How to make chocolate cookies* [Video]. YouTube. [https://youtu.be/gD66BDB_IWU?si=s4R1lCzH7XTwApic](https://youtu.be/gD66BDB_IWU?si=s4R1lCzH7XTwApich)
4. Freepik. *Cookie illustrations* (no copy right) [Website]. https://www.freepik.com/search?format=search&last_filter