

Front-End UI/UX Mini Project

- **Project Title:** *Recipe Book Web Application*
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- **Course:** *UI/UX Design Fundamentals*
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2. Abstract

This project is a dynamic, single-page web application for a **Recipe Book**. The key goal was to create an intuitive and interactive user interface that allows users to browse, search, and filter recipes from a local dataset. The application features a responsive design, a searchable recipe grid, and a detailed modal view for each recipe. Core technologies used include **HTML5**, **CSS3**, and **JavaScript**, with the assistance of **Bootstrap** and **jQuery**. The final outcome is a functional and visually appealing front-end application that showcases modern web development and UI/UX principles.

3. Objectives

The project objectives were to:

- Design a user-friendly and visually appealing interface for browsing recipes.
- Develop a fully responsive layout using HTML, CSS, and Bootstrap.
- Implement a search and filter functionality to enhance recipe discovery.
- Display recipe details in an interactive modal window.
- Ensure a clean and maintainable code structure.

4. Scope of the Project

The project is a front-end application focused on user interface design and dynamic client-side functionality. It includes a local data source of recipes within the JavaScript file, eliminating the need for a backend or server-side integration. The application is intended for desktop, tablet, and mobile viewports. It utilizes open-source libraries like Bootstrap and jQuery to handle responsive design and DOM manipulation. The search and filter functionality are implemented using pure JavaScript.

5. Tools & Technologies Used

Tool/Technology	Purpose
HTML5	Markup and content structure
CSS3	Styling and layout management
VS Code	Code editor
Chrome DevTools	Testing and debugging
Bootstrap	Responsive grid system, navigation, and components
JavaScript	Handles all dynamic and interactive elements
jQuery	DOM manipulation, event handling, and animations
Font Awesome	Provides icons for features and pricing sections
AOS	Adds scroll-triggered animations to elements

6. HTML Structure Overview

The HTML file is structured logically with a `<nav>` for the header and search bar, an `<aside>` for the filter options, and a `<main>` section containing a grid (`<div class="row">`) for displaying recipe cards. A hidden `<div class="modal">` is included for displaying detailed recipe information. The structure is clean and uses a standard Bootstrap grid layout to ensure responsiveness.

7. CSS Styling Strategy

The CSS is designed for a modern and clean user interface. It utilizes:

- **Custom Fonts:** Imports the "Poppins" font from Google Fonts.
- **Aesthetic Elements:** The navbar has a `backdrop-filter` for a blurred effect.
- **Custom Components:** The filter card and recipe cards have custom styles with shadows, rounded corners, and hover effects for a polished look.
- **Visual Enhancements:** The recipe details modal uses custom styling for ingredients and steps, including a unique numbered list for instructions and bullet points for ingredients.
- **Responsiveness:** The layout is responsive, ensuring the filters and recipe cards are well-organized on different screen sizes.

8. Key Features

Feature	Description
Search Functionality	A dynamic search bar allows users to instantly find recipes by title or description.
Recipe Filtering	Users can filter recipes by cuisine type and difficulty level using checkboxes and radio buttons.
Dynamic Recipe Display	Recipes are dynamically rendered from a JavaScript data array into interactive cards.
Interactive Modal	Clicking a recipe card opens a modal window that displays the full list of ingredients and step-by-step instructions.
Responsive Design	The website adapts seamlessly to all screen sizes, with the filter section and recipe grid adjusting their layout for an optimal viewing experience.

9. Challenges Faced & Solutions

Challenge	Solution
Dynamic content rendering	Used jQuery and JavaScript to create, append, and update HTML elements for each recipe based on the data array.
Managing multiple filters and search	Implemented a single <code>applyFilters</code> function that consolidates all search and filter criteria to dynamically update the displayed recipes.
Displaying complex data in a modal	The JavaScript code was structured to find the correct recipe object based on a data attribute and populate the modal's HTML elements with the corresponding ingredients and steps.
Styling custom lists in the modal	Used CSS pseudo-elements (<code>::before</code>) to create custom bullet points and a numbered list for the ingredients and instructions, respectively.

10. Outcome

The project successfully delivered a functional and visually appealing Recipe Book application. All key components, including the search, filtering, and modal display, work as intended. The project demonstrates a strong understanding of client-side data management, dynamic content rendering, and responsive design principles. The implementation provides a practical and useful tool for users to browse recipes.

11. Future Enhancements

- Integrate a real API to fetch recipes instead of using local data.
- Add more filter options, such as cooking time or dietary restrictions.
- Implement a "favorites" feature for users to save recipes.
- Create a user authentication system to allow for personal recipe collections.

- Add a "print recipe" button within the modal.

12. Sample Code

```

1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4      <meta charset="UTF-8">
5      <meta name="viewport" content="width=device-width, initial-scale=1.0">
6      <title>Recipe Book</title>
7      <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css"
8      rel="stylesheet">
9      <link href="https://fonts.googleapis.com/css2?family=Poppins:wght@300;400;600&
10     display=swap" rel="stylesheet">
11     <link rel="stylesheet" href="style.css">
12 </head>
13 <body>
14     <nav class="navbar navbar-expand-lg navbar-light bg-white shadow-sm">
15         <div class="container-fluid">
16             <a class="navbar-brand fw-bold" href="#">🔍 Recipe Book</a>
17             <div class="mx-auto">
18                 <form class="d-flex">
19                     <input id="search-input" class="form-control me-2" type="search"
20                     placeholder="Search for a recipe..." aria-label="Search">
21                 </form>
22             </div>
23         </div>
24     </nav>
25
26     <main class="container my-5">
27         <div class="row">
28             <div class="col-lg-3">
29                 <div class="filter-card p-4 rounded-3 shadow-sm">
30                     <h4 class="mb-4">Filter Recipes</h4>
31                     <form id="filter-form">
32                         <div class="mb-4">
33                             <h5 class="mb-3">Cuisine</h5>
34                             <div class="form-check">
35                                 <input class="form-check-input" type="checkbox"
36                                 value="Italian" id="cuisineItalian" name="cuisine">
37                                 <label class="form-check-label" for="cuisineItalian">Italian</

```

```

38             </div>
39             <div class="col-lg-9">
40                 <div class="row">
41                     <div class="col-12">
42                         <div class="form-check">
43                             <input class="form-check-input" type="checkbox"
44                             value="Mexican" id="cuisineMexican" name="cuisine">
45                             <label class="form-check-label" for="cuisineMexican">Mexican</
46                         </div>
47                         <div class="form-check">
48                             <input class="form-check-input" type="checkbox" value="Indian"
49                             id="cuisineIndian" name="cuisine">
50                             <label class="form-check-label" for="cuisineIndian">Indian</
51                         </div>
52                         <div class="form-check">
53                             <input class="form-check-input" type="checkbox" value="French"
54                             id="cuisineFrench" name="cuisine">
55                             <label class="form-check-label" for="cuisineFrench">French</
56                         </div>
57                         <div class="form-check">
58                             <input class="form-check-input" type="checkbox"
59                             value="Japanese" id="cuisineJapanese" name="cuisine">
60                             <label class="form-check-label"
61                             for="cuisineJapanese">Japanese</label>
62                         </div>
63                         <div class="form-check">
64                             <input class="form-check-input" type="checkbox" value="Greek"
65                             id="cuisineGreek" name="cuisine">
66                             <label class="form-check-label" for="cuisineGreek">Greek</
67                         </div>
68                     </div>
69                 </div>
70             </div>
71         </div>
72     </main>
73 </body>
74 </html>

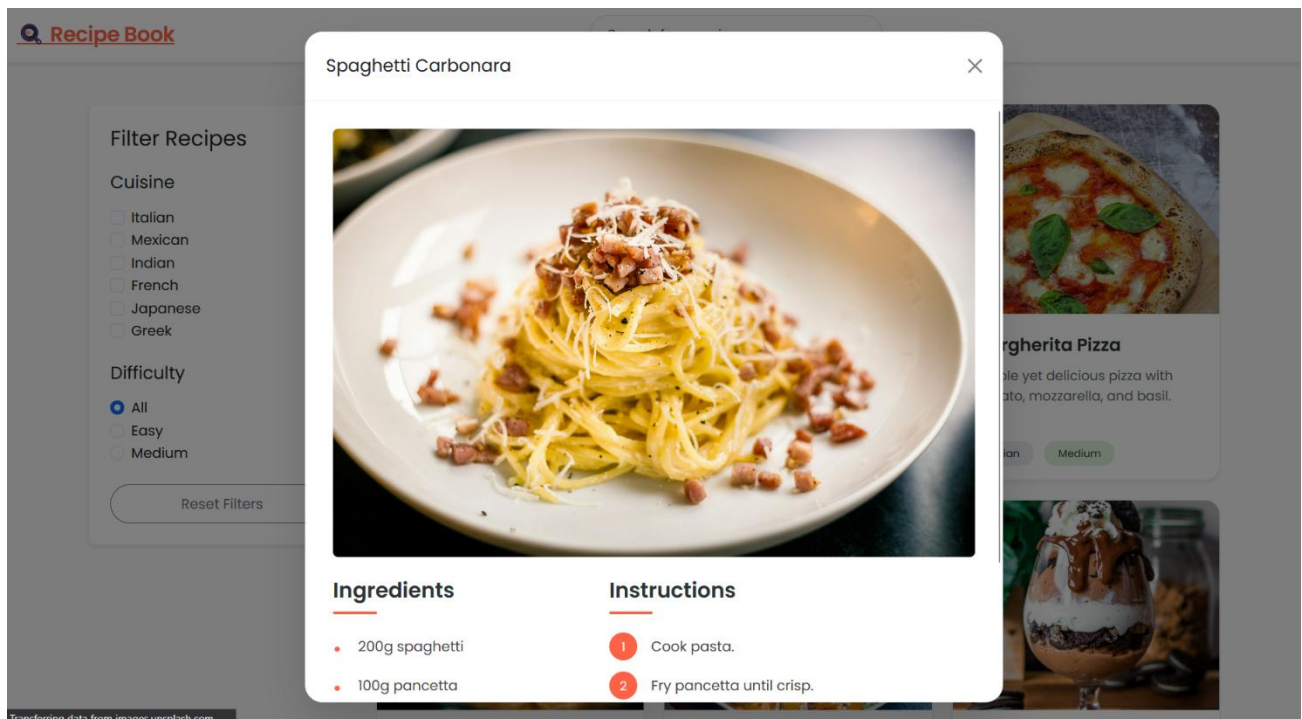
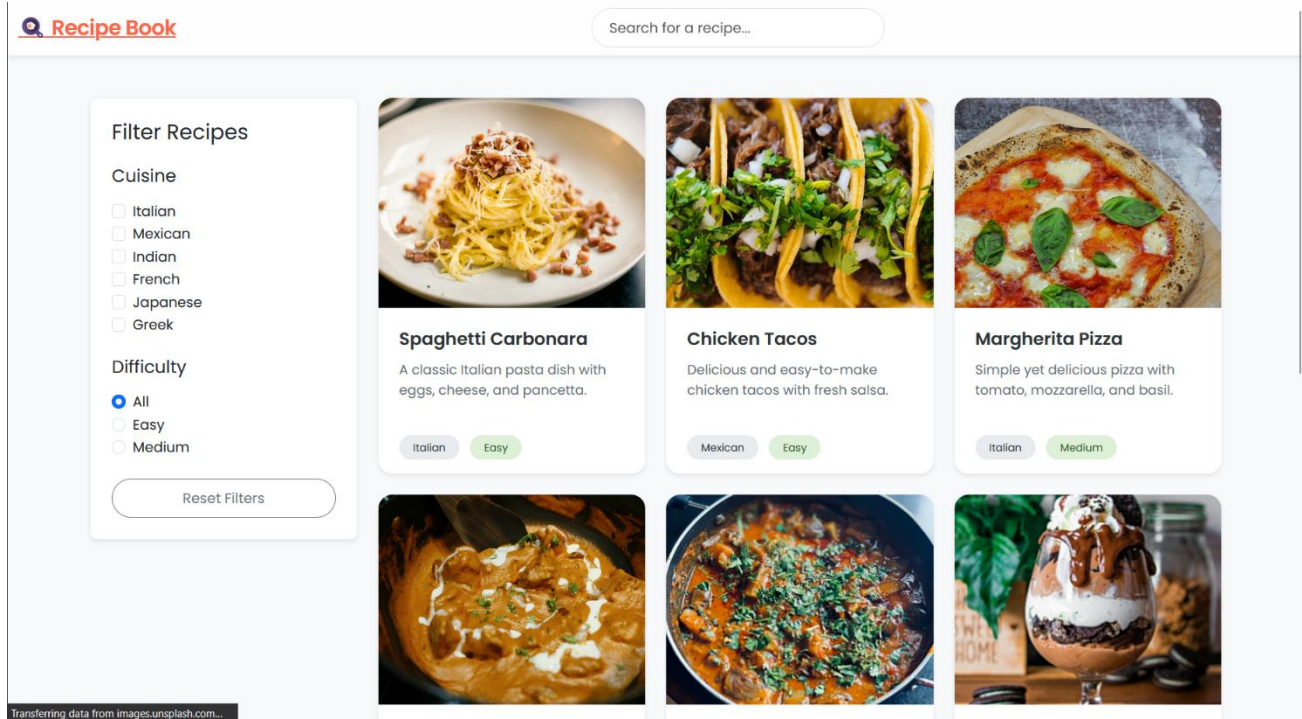
```

```

recipe > index.html > html > body > main.container.my-5 > div.row > aside.col-lg-3 > div.filter-card.p-4.rounded-3.shadow-sm > form#filter-form > div.mb-4 >
2 <html lang="en">
11 <body>
24 <main class="container my-5">
88 </main>
89
90 <div class="modal fade" id="recipeModal" tabindex="-1" aria-labelledby="recipeModallabel"
aria-hidden="true">
91 <div class="modal-dialog modal-lg modal-dialog-scrollable">
92 <div class="modal-content">
93 <div class="modal-header">
94 <h5 class="modal-title" id="recipeModallabel">Recipe Title</h5>
95 <button type="button" class="btn-close" data-bs-dismiss="modal"
aria-label="Close"></button>
96 </div>
97 <div class="modal-body">
98 <img src="" id="modal-img" class="img-fluid rounded mb-4" alt="Recipe
Image">
99 <div class="row">
100 <div class="col-md-5">
101 <h4>Ingredients</h4>
102 <ul id="modal-ingredients"></ul>
103 </div>
104 <div class="col-md-7">
105 <h4>Instructions</h4>
106 <ol id="modal-steps"></ol>
107 </div>
108 </div>
109 </div>
110 </div>
111 </div>
112 </div>
113
114
115 <script src="https://code.jquery.com/jquery-3.7.1.min.js"></script>
116 <script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/bootstrap.bundle.min.
js"></script>
117 <script src="script.js"></script>
118 </body>

```

13. Screenshots of Final Output





11. Conclusion

This mini-project provided a comprehensive hands-on experience in building a modern, interactive web application. It reinforced key front-end development skills, including data manipulation with JavaScript, dynamic HTML generation, and the creation of a responsive and aesthetically pleasing user interface. The project serves as a strong foundation for future projects that involve fetching and displaying data from external sources.

12. References

- L&T LMS: <https://learn.Intedutech.com/Landing/MyCourse>
- Bootstrap: <https://getbootstrap.com/>
- jQuery: <https://jquery.com/>
- Google Fonts: <https://fonts.google.com/>