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Full Stack Development Skill Lab Course

PROJECT REPORT

2023 - 24

Project Title: 'Resto2k24- A Food Website'

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Project Overview

Problem Statement	Design and develop a frontend, responsive, and user-friendly website for a food business. The platform should allow customers to browse the menu, place and customize orders, and provide feedback. Administrators should be able to manage the menu, handle orders, and can perform CRUD operations effectively using React.Js.	
Solution Proposed (<i>video Link</i>)	 Resto2k24.mp4	
Link to the final Challenge presentation	 Copy of Final Presentation Template	
Link to photos/ videos drive		
Class/ Section	3A-ISE	
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1. Introduction

This report outlines the development of a food business website designed to enhance the customer experience by streamlining menu browsing, order placement, and feedback collection. The project leverages modern web technologies, particularly the MERN stack, with React.js as the core frontend framework. The website offers customers an intuitive, responsive platform for browsing a categorized menu, customizing orders, and providing feedback. Administrators can manage the menu and handle orders through an efficient CRUD interface.

Key features of the website include a dynamic home page, an interactive menu with search and filter functionalities, a customizable order page, and a feedback system with star ratings. Additional enhancements such as real-time price updates, dark mode toggle, animations, and a drag-and-drop cart provide an engaging user experience.

This report also covers the architecture of the website, the technical challenges faced during development, and a showcase of the advanced features implemented. The project was built with a focus on clean, maintainable code and a seamless user interface across multiple devices.

2. Problem Statement

The problem at hand revolves around the need for an efficient, user-friendly, and responsive platform for a food business to enhance customer engagement and streamline administrative tasks. In the current digital landscape, food businesses face challenges in providing an intuitive online experience where customers can easily browse menus, customize orders, and submit feedback, while also allowing administrators to effectively manage the menu and handle orders.

The primary issues are as follows:

1. **Customer Experience:** Many food business websites are either hard to navigate, lack interactivity, or do not allow for order customization, which negatively impacts the user experience. Customers need a simple yet engaging platform to browse food options, customize their meals, and place orders easily.
2. **Menu Management:** For administrators, managing a large menu with frequent updates, customizations, and price changes can be a complex task. An intuitive interface for handling menu items, categories, pricing, and promotions is essential for business efficiency.
3. **Order Handling and Customization:** Providing customers with options to customize their orders (e.g., size, ingredients, and quantity) and tracking changes in real-time (like price updates) is a significant challenge for many food platforms.
4. **Real-Time Updates:** A need exists for a real-time order and price calculation system that gives customers immediate feedback on the status of their orders and helps maintain clarity throughout the ordering process.
5. **Feedback and Ratings:** Allowing customers to give quick, actionable feedback on their food experience is essential for improving business offerings and building a loyal customer base.

The aim of this project is to solve these problems by creating an interactive, visually appealing, and responsive food website that improves both the customer experience and administrative efficiency. The platform will utilize React.js for dynamic content rendering and real-time updates, offering customers an enhanced browsing and ordering experience while providing administrators with effective tools for managing the menu and orders.

3. Solution

3.1 System requirements for the project

1. **Framework/Library:** React.JS
2. **Routing:** Router
3. **UI Frameworks:** Bootstrap
4. **Styling:** CSS Modules
5. **Debugging Tools:** React Developer Tools
6. **Package Management:** npm
7. **Code Editor:** Visual Studio Code

3.2 Flowchart of the project

1.Home Page:

Welcome customers with an overview of the food business and key features.

Features:

Navigation bar with links to the **Menu**, **Order**, and **Feedback** pages.

Call-to-action buttons (e.g., "Order Now" or "View Menu").

Responsive design to work on desktop, tablet, and mobile.

2.Customer Interface:

Browse the Menu Page:

View Categories: Customers see food categories (e.g., Appetizers, Main Course)

View Items: Display food items with images, prices, and descriptions.

Customization: Click on a food item to customize it (e.g., size, toppings, quantity).

Add to Cart: Add selected items to the cart.

Cart & Place Order Page:

Review Cart: Customers can review their selected items.

Modify Orders: Options to edit quantities or remove items.

Place Order: Confirm and place the order, filling out necessary details.

Feedback Page:

Provide Feedback: Customers can rate their experience and leave comments.

Submit Form: Submit feedback using a form.

Confirmation: Display a thank-you message after submission.

3.Admin Interface:

Admin Dashboard

Purpose: Manage the platform by handling menu items and customer orders.

Menu Management:

View All Menu Items: List all existing menu items.

CRUD Operations:

Create: Add new food items.

Read: View details of existing items.

Update: Edit existing items (e.g., price, description).

Delete: Remove items from the menu.

4.Project Flow Summary:

Customers can:

Browse the menu.

Customize and place orders.

Provide feedback.

Administrators can:

Manage the menu (CRUD operations).

Handle orders.

View and respond to feedback.

The application ensures:

Responsiveness: Works on all devices.

User-Friendly Design: Intuitive interfaces.

Seamless Navigation: Using React Router

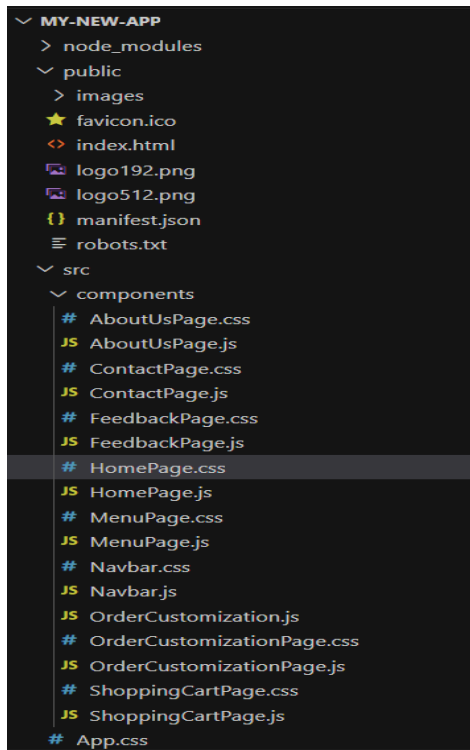
3.3 Frontend

The frontend of the food business website is built using **React.js**, **HTML**, **CSS**, and **JavaScript**.

Below are the steps for developing the frontend part of the project, including essential code snippets for various components and functionalities.

Step 1: SET UP REACT PROJECT

1. Install react app
2. Install Dependencies
3. Folder Structure



Step 2: CREATE THE .JS FILES AND OTHER FILES ALONG WITH CSS styling.

The App.js code is as shown below:

```
import React, { useState } from 'react';
import { BrowserRouter as Router, Routes, Route } from
'react-router-dom';
import Navbar from './components/Navbar'; // Navbar component
import HomePage from './components/HomePage'; // Home Page component
import MenuPage from './components/MenuPage'; // Menu Page component
import OrderCustomizationPage from
'./components/OrderCustomizationPage'; // Order Customization
import ShoppingCartPage from './components/ShoppingCartPage'; //
Cart Page
import ContactPage from './components/ContactPage'; // Contact Page
import AboutUsPage from './components/AboutUsPage'; // About Us Page
import FeedbackPage from './components/FeedbackPage'; // Feedback
Page
import './App.css'; // Global styles
```

```

function App() {
  const [cartItems, setCartItems] = useState([]); // Store cart
items

  // Add item to cart
  const addToCart = (item) => {
    setCartItems((prevItems) => [...prevItems, item]);
  };

  // Remove item from cart by index
  const removeFromCart = (indexToRemove) => {
    setCartItems((prevItems) =>
      prevItems.filter((_, index) => index !== indexToRemove)
    );
  };

  return (
    <Router>
      <Navbar cartItemCount={cartItems.length} />
      <div className="main-content">
        <Routes>
          <Route path="/" element={<HomePage />} />
          <Route
            path="/menu"
            element={<MenuPage addToCart={addToCart} />}
          />
          <Route
            path="/customize-order"
            element={<OrderCustomizationPage addToCart={addToCart}
/>}
          />
          <Route
            path="/cart"
            element={
              <ShoppingCartPage
                cartItems={cartItems}
                removeFromCart={removeFromCart}

```

```

        />
    }
    />
    <Route path="/contact" element={<ContactPage />} />
    <Route path="/about" element={<AboutUsPage />} />
    <Route path="/feedback" element={<FeedbackPage />} />
  </Routes>
</div>
</Router>
);
}

export default App;

```

The App.css code is as shown below:

```

/* App.css */
body {
  font-family: Arial, sans-serif;
  margin: 0;
  padding: 0;
  box-sizing: border-box;
  background-color: #f4f4f4;
}

.main-content {
  padding: 20px;
}

h1, h2, h3 {
  color: #333;
}

```

4. Conclusion/Outcome

- **Easy Navigation:** Users can effortlessly browse through menu categories like Starters, Main Course, and Desserts.
- **Order Customization:** Users can personalize their orders by selecting sizes, ingredients, and quantities.
- **Interactive Cart:** Drag-and-drop functionality makes it easy to add items to the cart for a more interactive experience.
- **Real-Time Price Updates:** The total price of orders is updated instantly as users customize their selections.
- **Saved Cart State:** Cart contents are preserved across page reloads, ensuring no loss of items.
- **Responsive Design:** The website adapts to mobile, tablet, and desktop devices, offering a smooth experience across all screen sizes.
- **Customer Feedback:** Users can leave ratings and reviews using a star system, helping others make informed decisions.
- **Easy Communication:** The contact form allows users to directly reach out for inquiries, support, or feedback.

5. References

<https://youtu.be/M9C9b1hYu9M?si=cYm5Zs8C5GzROtOY>

<https://radixweb.com/blog/react-js-for-frontend-development-features-benefits>