Bahria University

Department of Computer Science

Bahria University
Discovering Knowledge

Web Systems and Technologies

Project Report

Los Pollos Hermanos Fiesta Online Restaurant

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1 Previous Software Requirement Specification (SRS)

Project Title: Los Pollos Hermanos Fiesta Online Restaurant

Overview: The Online Food Delivery System is designed to revolutionize traditional food ordering by offering a digital bridge between restaurants and customers—much like how Walter White transformed a simple chemistry lab into a powerful empire, we aim to turn a basic ordering process into a streamlined, efficient system. This platform allows users to explore restaurant menus, customize their orders, and track real-time delivery progress with precision. With the increasing appetite for on-demand services, this system "cooks up" an experience that's accurate, convenient, and satisfying. It incorporates secure payment integrations, location tracking, and responsive design—tools as critical to our system as lab equipment was to Heisenberg. In essence, our objective is to engineer a product that's not only functional but impactful, with a touch of calculated ambition.

Functional Requirements:

- Secure user authentication for customers and restaurants.
- Dynamic restaurant listings with filters.
- Order placement, customization, and tracking.
- Integrated payment gateways.
- Admin dashboard for restaurants.
- Customer reviews and ratings.
- Promotions and discounts management.
- Customer support chat.

Technical Requirements:

- Frontend: HTML, CSS, JavaScript, React.js
- Backend: ASP.NET with C
- Database: Microsoft SQL Server
- APIs: Google Maps, Stripe/PayPal

Development Model: Agile Methodology

2 Front-End Structure and Features

User Interface Design:

- Responsive layout using Bootstrap and React.js.
- Visually appealing themes with consistent color schemes and typography.

Navigation and User Flow:

- Smooth page transitions with React Router.
- Logical flow from browsing, order placement to payment.

Interactive Elements:

- Login/Register forms, search filters, restaurant cards.
- Cart system with dynamic updates.
- Modal popups for order confirmation and promotions.

Consistency in Design:

- Unified color palette.
- Standardized button styles and form inputs.

Basic Functionality:

- Form validation for user inputs.
- Local state management for cart and login status.
- Conditional rendering based on authentication.

3 Screenshots of Key Pages

Figure 1: Homepage showing restaurant listings

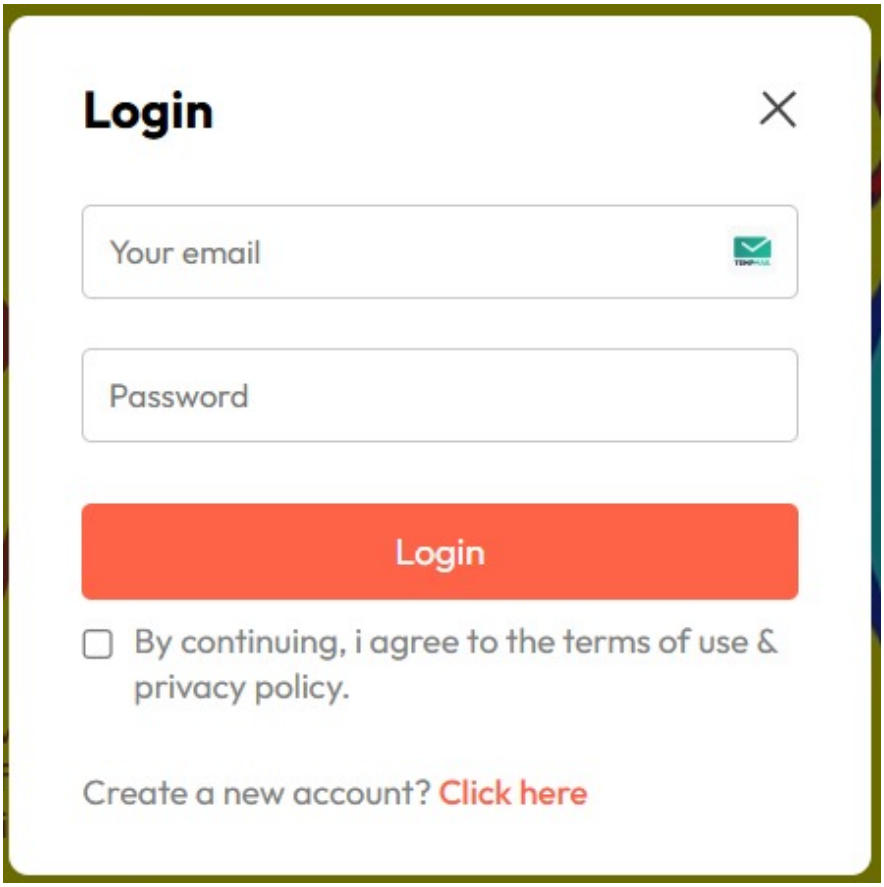

Figure 2: Login Description

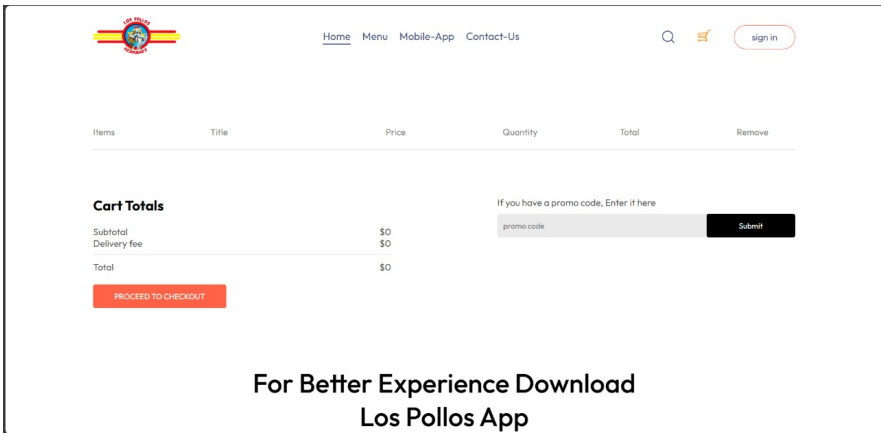

Figure 3: Order customization and cart interface

4 Challenges Faced and Solutions

Every project has its fair share of chemistry, and ours was no different. Much like Walter White confronting unforeseen consequences in his operation, we encountered several challenges during development—but tackled them with resourcefulness and adaptability. One of the primary issues was managing shared state across multiple React components, which at times felt like balancing volatile compounds. To stabilize this, we implemented React's Context API, allowing us to manage global state predictably and efficiently. Additionally, ensuring responsive design across various screen sizes proved trickier than anticipated—akin to adjusting purity levels in Heisenberg's lab. We overcame this by utilizing Bootstrap's grid system and custom media queries to maintain layout consistency. Form validation posed another challenge. User inputs needed to be both secure and seamless, and like Jesse Pinkman's learning curve, we refined our approach through trial, error, and iteration—ultimately implementing real-time validation logic. Lastly, React Router occasionally gave us navigation headaches (think of it as the RV getting stuck in the desert), but fallback routes and conditional rendering helped us get back on the road. Through all of this, one lesson held true: no half-measures. We committed to solving each issue completely, building a stable and polished front-end system as a result.**State Management:** Handling shared state in multiple components. *Solution:* Implemented React Context API for global state handling. **Responsive Design:** Ensuring layout consistency on various screen sizes. *Solution:* Used Bootstrap grid system and media queries. **Form Validation:** Preventing incomplete/invalid input submissions. *Solution:* Integrated custom validation logic in React forms. **Dynamic Routing:** Handling page reloads and navigation issues. *Solution:* Used React Router with fallback routes.

5 Deviations from Original Proposal

During the course of development, a few deviations emerged from our original project proposal due to time limitations, shifting priorities, and unforeseen technical challenges. One of the significant deviations was the postponement of the customer support chat feature, which was originally intended to be integrated in this phase but has now been moved to a future sprint for better implementation. Additionally, while the admin dashboard was partially completed, the analytical components such as graphical reports, filters, and downloadable insights were deferred to allow more focus on core functionality. Payment gateway integration also experienced a deviation—although we aimed to implement both Stripe and PayPal, only Stripe was fully tested and integrated due to compatibility constraints. Some advanced user interface enhancements, including animations, accessibility improvements, and A/B testing elements, were deprioritized to maintain the development timeline. These changes were made to ensure the delivery of a stable and usable front-end system within the available resources and deadlines..

6 Conclusion

Much like Walter White's meticulous attention to detail in his product, our front-end for the Online Food Delivery System was developed with precision, planning, and determination. From intuitive restaurant browsing to a seamless checkout flow, we've built a system that reflects the complexity and clarity of a well-crafted formula. While we didn't face DEA agents or cartel pressures, we did navigate technical hurdles, deadline pressures, and evolving requirements with our own sense of resilience. This phase concludes with a front-end experience that lays a solid foundation for what we aspire to make a scalable and high-performance application. In future iterations, we aim to "break bad" from conventional UX limitations and push further with backend integration, advanced analytics, and features that would make even Gus Fring proud. Say our name—because this project is just getting started.