Documentation:

Q-Commerce Food Tuck

Introduction

The Q-Commerce Food Tuck project is a fast and efficient online ordering system designed for a food truck business. This platform enables customers to browse the menu, add items to their cart, and place orders seamlessly.

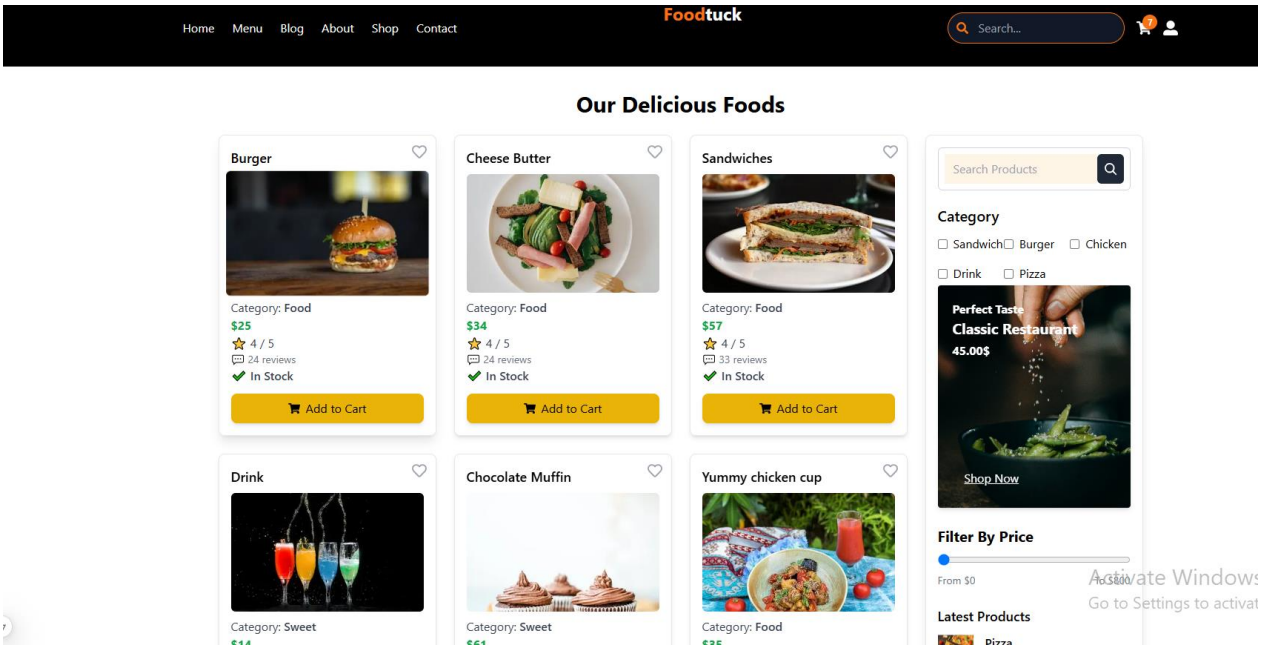
Tech Stack

- **Frontend:** Next.js, React, Tailwind CSS
- **Backend:** Node.js, Express.js
- **Database:** MongoDB (via Sanity CMS)
- **Authentication:** NextAuth.js
- **State Management:** React Context API
- **Payment Gateway:** Stripe API

Features Implemented

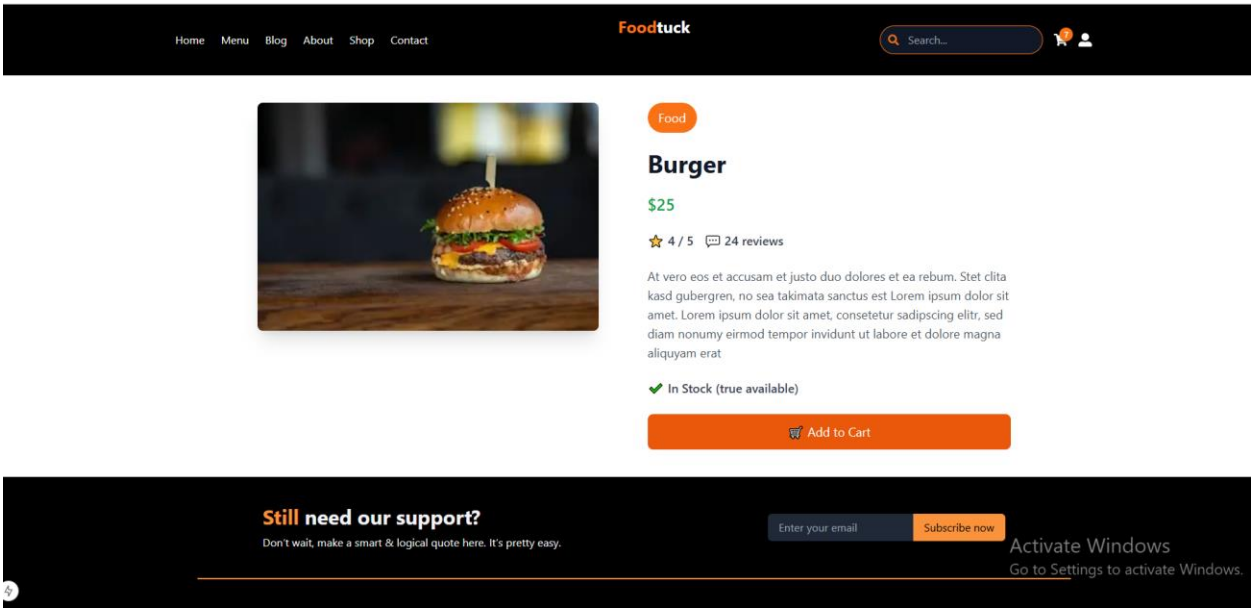
1. Product Listing

- Dynamic fetching of food items from Sanity CMS
- Filtering based on categories (e.g., Sandwich, Burger, Chicken, Drinks, Pizza)
- Search functionality for easy product discovery



2. Cart and Wishlist

- "Add to Cart" functionality with automatic redirection to the cart page
- "Add to Wishlist" option with persistent state management
- Cart updates based on stock availability



3. Checkout Process

- Integration with Stripe for secure payments
- Address and delivery input fields
- Order confirmation and tracking

4. Real-time Inventory Management

- Stock availability updates on order placement
- Admin panel for inventory modifications
- **5. User Authentication**
- Login and signup functionality using NextAuth.js
- Protected routes for order history and account management

Challenges and Solutions

1. Managing Real-time Inventory

Challenge: Keeping track of inventory dynamically when multiple users place orders.
Solution: Implemented stock validation at checkout and disabled the "Add to Cart" button for out-of-stock items.

2. Integrating Stripe Payment

Challenge: Ensuring secure and seamless transactions. **Solution:** Used Stripe API with client-side and server-side validation for handling payments and issuing receipts.

3. Optimizing Performance

Challenge: Reducing page load times with a growing product catalog. **Solution:** Used Next.js ISR (Incremental Static Regeneration) for faster page loading and caching strategies.

Best Practices Followed

1. **Component-Based Architecture** - Ensured modular and reusable components for scalability.
2. **Responsive UI** - Tailwind CSS was used to make the website mobile-friendly.

3. **Error Handling** - Implemented proper try/catch blocks and user-friendly error messages.
4. **SEO Optimization** - Applied meta tags, structured data, and optimized images for better search rankings.
5. **Security Measures** - Implemented HTTPS, secure cookies, and authentication best practices.

Future Enhancements

- Real-time GPS tracking of food tuck locations
- AI-powered recommendation system for personalized user experience
- Integration with social media for promotions and offers

Conclusion

The Q-Commerce Food Tuck system provides a robust and efficient online ordering experience. By leveraging modern web technologies, the platform ensures a seamless and user-friendly interaction, enhancing both operational efficiency and customer satisfaction.

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