

Restaurant Dynamic Menu Ordering System Requirements

1. Overview

The system enables customers to interact with a digital menu via a QR code, build their order by selecting items from different categories (Meals, Drinks, Sweets and Extras), view their total price, and receive a notification prompting them to pay at the till.

2. Functional Requirements

2.1 User Flow:

1. **Scan QR Code & Receive Push Notification:**
 - The customer scans a QR code located on the table or menu.
 - A push notification is sent to the customer's mobile device with a simple message: "Tap here to view the menu and build your order."
 - The customer clicks on the notification.
2. **Dynamic Menu Page:**
 - Upon clicking the notification, the customer is directed to the restaurant's dynamic menu page.
 - The page includes three categories:
 - **Meals:** List of meal items with checkboxes/toggle to select items.
 - **Drinks:** List of drink options with checkboxes/toggle to select items.
 - **Sweets & Extras:** List of desserts and additional items like sides or toppings with checkboxes/toggle to select.
 - Customers can add multiple items from each section to their order by ticking checkboxes or clicking toggle buttons.
3. **Order Summary & Price Calculation:**
 - As the customer selects items, the system dynamically updates the order summary.
 - The total price of the selected items is displayed in real-time.
 - Customers can adjust the quantity of items (e.g., add more, remove some) by clicking a "+" or "-" button next to each item.
 - The customer can see the updated total price as they modify the order.
 - Prices for individual items are displayed next to each dish, and taxes or service charges should be included in the total.
4. **Finalize Order:**
 - After completing the selection, the customer clicks a large, easily visible "Place Order" button.

- A confirmation notification appears, informing the customer: "Your order is ready! Please proceed to the till to pay and collect your meal."
- 5. **Payment & Collection:**
 - After the order is confirmed, the customer is prompted to pay at the till to complete the order.
 - Optionally, a unique order ID or code is displayed on the screen for reference when paying or collecting the meal.

3. User Interface & Experience (UI/UX) Requirements

3.1 Layout & Design:

- **Mobile-First:** The menu is designed to work seamlessly on smartphones and tablets.
- **Clear, Easy Navigation:** The menu is divided into three main categories: Meals, Drinks, and Sweets & Extras.
 - Each category should be easily accessible via tabs or a sticky navigation bar.
- **Interactive Elements:** Items in each category have clickable checkboxes or toggle buttons to add them to the order.
- **Order Summary Display:** A clear, always-visible section shows the customer's current order, with a running total and buttons to increase/decrease quantities.
- **Action Button Visibility:** The "Place Order" button is large and easily visible to guide the customer towards completion.

3.2 Real-Time Feedback:

- **Price Updates:** As items are selected, the total order price dynamically updates in real-time.
- **Visual Indicators:** When an item is added to the cart, it should be visually highlighted (e.g., a checkmark appears).
- **Clear Notification on Action:** After the "Place Order" button is clicked, a clear confirmation notification should appear to inform the customer about payment.

4. Functional Requirements

4.1 Menu Interaction:

- **Category Filters:** Allow the customer to filter items based on preferences (e.g., vegetarian, gluten-free, spicy).
- **Order Customization:** Allow users to customize items (e.g., extra cheese, remove sauce, etc.), if applicable.
- **Real-Time Price Calculation:** Prices for each item, and the total amount, should update as items are added/removed.

Quantity Adjustment: **The customer can increase/decrease the quantity of any selected item.**

4.2 Push Notification:

- **Trigger Notification:** When the customer scans the QR code, a push notification should be sent to their device.
- **Notification Message:** "Tap here to view the menu and build your order."
- **Click Action:** Clicking on the notification takes the customer directly to the dynamic menu page.

4.3 Final Order Confirmation:

- **Confirmation Button:** The customer must click a prominent "Place Order" button after finalizing their selections.
 - **Post-Order Notification:** After placing the order, a confirmation message informs the customer to proceed to the till for payment.
 - **Order ID/Reference:** Optionally, a unique order ID or reference number should be provided for collection verification.
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5. Technical Requirements

5.1 Backend Integration:

- **Menu Management System (CMS):** The restaurant's staff should be able to easily manage and update the menu items via a content management system.
- **Integration with POS System:** The dynamic menu system must integrate with the restaurant's POS system for inventory tracking, order confirmation, and payment processing.
- **Real-Time Order Updates:** The order summary should update in real-time as items are added or removed.

5.2 Push Notification Service:

- **Push Notification Platform:** Utilize a service like Firebase Cloud Messaging (FCM) or an equivalent to handle push notifications.
- **Notification Management:** The system should support scheduling notifications and ensuring timely delivery.

5.3 Security Considerations:

- **Data Encryption:** Use SSL encryption to ensure secure data transmission during the order and payment process.

- **Customer Privacy:** Ensure compliance with privacy regulations such as GDPR, and ensure secure storage of any customer data.

5.4 Payment Gateway:

- **Payment Integration:** Ensure the system is compatible with secure payment gateways for processing transactions.
- **Payment Confirmation:** The system must confirm that payment has been successfully processed before allowing the customer to proceed to the till.

6. Non-Functional Requirements

6.1 Performance:

- **Fast Load Time:** The menu page should load quickly, especially on mobile devices.
- **Scalable Infrastructure:** The system must be capable of handling high traffic, especially during peak hours.

6.2 Usability:

- **Simple Interface:** The interface should be intuitive and easy to navigate, with minimal steps required to complete the order.
- **Accessibility:** Ensure the website is accessible to all users, including those with disabilities, by adhering to WCAG guidelines.

7. Additional Features (Optional)

- **Multilingual Support:** Provide the option for the menu to be viewed in multiple languages based on the customer's preference or location.
- **Order Tracking:** Allow customers to track the status of their order in real-time (e.g., "Preparing," "Ready for Pickup").

By following these requirements, the restaurant will provide a smooth, efficient, and customer-friendly online ordering experience that makes it easy for customers to interact with the menu, customize their orders, and complete the transaction with minimal hassle.