**Restaurant POS for Ordering Menu**

This document identifies and highlights the basic requirements for the proposed ordering menu system. The system requirements are both functional and non-functional. This is to ensure that the system is developed to meet the stakeholder needs and expectations.

**Functional Requirements**

**1. Customer Interaction & Ordering**

1.1 The system shall allow customers to view the restaurant’s menu digitally, including item descriptions and prices.  
1.2 The system shall enable customers to customize orders (e.g., ingredient modifications, portion sizes).  
1.3 The system shall support order placement without requiring waiter intervention.  
1.4 The system shall allow customers to add or remove items from their cart before finalizing the order.  
1.5 The system shall provide real-time order status updates.

**2. Table Management & Seating**

2.1 The system shall allow customers to check table availability.  
2.2 The system shall enable customers to reserve a table in advance if needed.  
2.3 The system shall automatically assign tables for walk-in customers based on availability.  
2.4 The system shall notify restaurant staff when a table is occupied and when it becomes available.

**3. Payment Processing**

3.1 The system shall provide multiple digital payment options, including credit/debit cards, mobile wallets, and contactless payments.  
3.2 The system shall securely process transactions through an integrated POS system.  
3.3 The system shall generate digital receipts for customers after successful payment.  
3.4 The system shall allow customers to split payments among multiple payers if required.

**4. Order Management & Kitchen Integration**

4.1 The system shall send customer orders directly to the kitchen display system for preparation.  
4.2 The system shall prioritize and organize orders based on preparation time and order sequence.  
4.3 The system shall allow kitchen staff to update order status (e.g., "Preparing," "Ready for Pickup").  
4.4 The system shall notify customers when their order is ready for serving.

**5. Waitstaff & Management Features**

5.1 The system shall allow waitstaff to review customer orders and assist in modifications if necessary.  
5.2 The system shall enable restaurant managers to override or adjust orders in case of issues.  
5.3 The system shall provide reports on order trends, peak hours, and sales insights.  
5.4 The system shall allow staff to apply discounts, promotional offers, or loyalty rewards.

**6. System Security & User Access**

6.1 The system shall enforce authentication and role-based access control (e.g., customer, staff, admin).  
6.2 The system shall securely store customer data, complying with data protection regulations.  
6.3 The system shall encrypt payment transactions to prevent fraud.  
6.4 The system shall log all transactions for audit and troubleshooting purposes.

**7. Usability & Accessibility**

7.1 The system shall be accessible via mobile devices, tablets, and web browsers.  
7.2 The system shall provide multilingual support for customers.  
7.3 The system shall include an intuitive user interface for ease of navigation.  
7.4 The system shall support voice-assisted ordering for accessibility.

**8. Notifications & Alerts**

8.1 The system shall send real-time notifications to customers regarding order status updates (e.g., "Order Received," "Preparing," "Ready for Pickup").  
8.2 The system shall notify staff about special requests or allergy-related modifications in customer orders.  
8.3 The system shall send automated reminders to customers for pending payments or abandoned carts.

**9. Feedback & Reviews**

**9.1 The system shall allow customers to rate their dining experience and provide feedback after** completing a meal.  
9.2 The system shall enable restaurant managers to view and analyze customer reviews for service improvements.  
9.3 The system shall notify management if a customer leaves a negative review, allowing them to respond or address concerns.

**10. Offline Mode & System Reliability**

10.1 The system shall support offline mode, allowing order placement to continue even if internet connectivity is temporarily lost.  
10.2 The system shall automatically sync data once the connection is restored.10.3 The system shall have a backup mechanism to store transaction records and order history for recovery in case of failure.

**Non-Functional Requirements**

**1. Performance Requirements**

1.1 The system shall process customer orders within **2 seconds** of submission.  
1.2 The system shall support at least **200 concurrent users** without performance degradation.  
1.3 The system shall update the order status in real-time with a maximum latency of **5 seconds**.

**2. Security Requirements**

2.1 The system shall encrypt all payment transactions using **AES-256 encryption**.  
2.2 The system shall comply with **PCI-DSS** standards for secure digital payments.  
2.3 The system shall enforce **role-based access control (RBAC)** to prevent unauthorized access to sensitive information.  
2.4 The system shall log all user activities for auditing and fraud detection.

**3. Usability Requirements**

3.1 The system shall have an intuitive **user-friendly interface** accessible to customers of all age groups.

**4. Availability & Reliability Requirements**

4.1 The system shall have **99.9% uptime**, ensuring uninterrupted service.  
4.2 The system shall have automatic failover mechanisms to switch to backup servers in case of system failure.  
4.3 The system shall ensure that order data is **never lost**, even during system crashes or power failures.

**5. Scalability Requirements**

5.1 The system shall be designed to handle increased traffic during peak hours without affecting response time.  
5.2 The system shall support integration with additional third-party payment gateways and delivery services in the future.  
5.3 The system shall allow restaurants to add **new menu items, categories, and pricing** dynamically.

**6. Maintainability & Support Requirements**

6.1 The system shall provide **automatic software updates** without disrupting service.  
6.2 The system shall allow administrators to monitor system health and generate reports.  
6.3 The system shall have **24/7 customer support** available via chat, email, or phone for issue resolution.

**7. Compliance & Legal Requirements**

7.1 The system shall comply with **GDPR** (for European users) and **CCPA** (for California users) to protect customer data.  
7.2 The system shall adhere to **food safety and allergen labelling regulations** to ensure transparency in menu descriptions.  
7.3 The system shall provide an **opt-in consent mechanism** for collecting customer data for marketing purposes.