Technical Requirements for Restaurant Website

1. Frontend Requirements

The frontend is the customer-facing portion of the website, where users interact with the restaurant's offerings. The goal is to ensure an intuitive, seamless, and responsive user experience.

User-Friendly Interface for Browsing Products:

- Simple, clean, and visually appealing design.
- Clear categories for food items (e.g., appetizers, mains, desserts, beverages).
- Filters and sorting options (e.g., by cuisine, price, dietary restrictions).
- High-quality images of menu items for easy identification.
- Descriptions and nutritional information for each dish.

Responsive Design for Mobile and Desktop Users:

- Mobile-first design to ensure smooth interaction on smartphones and tablets.
- Ensure compatibility across all major browsers (Chrome, Firefox, Safari, etc.).
- Easy navigation with touch-friendly buttons on mobile devices.
- Fast loading times to optimize performance on both mobile and desktop devices.

Essential Pages:

- **Home Page:** Eye-catching layout featuring restaurant highlights, popular dishes, special promotions, and easy access to the menu.
- **Product Listing Page:** Display of all menu items, categorized (e.g., starters, main courses, etc.), with the ability to add items to the cart directly from this page.
- **Product Details Page:** Detailed information about each dish, including ingredients, portion sizes, and price. Option to select customization (e.g., vegetarian, spicy level).
- **Cart Page:** Review items, adjust quantities, remove items, and proceed to checkout. Show total order cost.
- **Checkout Page:** Secure form for customers to enter their shipping address, payment method, and special instructions.
- **Order Confirmation Page:** Display a summary of the order, including estimated delivery time and a thank you message. Provide an order tracking link if applicable.

2. Sanity CMS as Backend

Sanity CMS will be used to manage and organize the website's backend data, such as product listings, customer details, and order records. It will act as the content management system (CMS) and the database for your website.

Product Data Management:

- Design schemas in Sanity for menu items, including fields like item name, description, price, image, ingredients, allergens, category, and any customization options.
- Ability to manage product availability (e.g., limited-time offers, seasonal specials).
- Option to manage special promotions and discounts (e.g., combo meals or discounts for large orders).

Customer Data Management:

- Create a schema to manage customer details (name, email, phone number, delivery address) for order processing.
- Implement secure data handling practices to protect customer privacy (e.g., password encryption, GDPR compliance).

Order Records Management:

- Track all customer orders, including details like order items, order status (pending, preparing, delivered), and payment status.
- Provide easy-to-use interfaces for restaurant staff to view, manage, and update orders.
- **Set up automated notifications for order status updates (e.g., order confirmed, being prepared, out for delivery).**

Sanity Plugins and Integrations:

- Use Sanity's rich ecosystem of plugins for additional functionality, such as image optimization, markdown rendering, and integrating with third-party tools.
- Design workflows to streamline content updates and ensure data consistency between the frontend and backend.

3. Third-Party APIs

To enhance functionality and integrate external services, third-party APIs will be utilized. These APIs will handle key operations like shipment tracking, payment processing, and any necessary backend services.

Payment Gateway Integration:

- Integrate a secure, trusted payment gateway (such as Stripe, PayPal, or Square) to handle online transactions.
- Support for multiple payment methods: credit/debit cards, digital wallets (e.g., Apple Pay, Google Pay), and potentially cash on delivery.
- Ensure that payment data is securely transmitted (e.g., via SSL encryption) and stored in compliance with PCI-DSS standards.
- Provide a confirmation page after payment with details of the order, payment receipt, and estimated delivery time.

Shipment Tracking API:

- Integrate an API (e.g., ShipEngine, Postmates, or any local courier service) to track the delivery status of each order.
- Provide real-time order tracking for customers via the website or a tracking link sent to their email after checkout.
- Display the status of the order (e.g., preparing, dispatched, delivered) on both the customer's order confirmation page and in their email notifications.

Customer Notification System:

- Use an email or SMS API (e.g., Twilio, SendGrid) to send automated notifications about the order status, special offers, and promotions.
- Provide order confirmation, delivery updates, and feedback requests after the delivery is completed.

Other Required Backend Services:

- **Analytics API** (e.g., Google Analytics) to track customer behavior on the site and optimize the user experience.
- **Review and Rating System API** to allow customers to leave reviews and ratings for dishes.
- **Inventory Management API** (optional) to track ingredient stock levels and prevent overbooking of menu items.

By integrating Sanity CMS as the backend, utilizing third-party APIs for payment, shipment tracking, and customer notifications, and ensuring a responsive, user-friendly frontend, the website will provide a seamless and efficient dining experience for both customers and restaurant staff. The technical structure ensures smooth order processing, reliable customer communication, and a secure, engaging online environment that reflects the restaurant's brand and mission.