



SRS DOCUMENT

(Team - 09) – Online Supermarket Management System

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Introduction

The **Supermarket Management System** is a simple yet powerful tool designed to make supermarket operations more efficient. It helps customers shop easily, allows sellers to manage their products, and gives administrators full control to maintain quality and reliability. With smooth integration and user-friendly features, it supports business growth and customer satisfaction.

By Using functions :

- **User Registration :**
Customers register for shopping, while sellers register to list products, requiring admin approval for quality control.
- **Verify & Approve Listings :**
Approve seller data and product listings for reliability.
- **Searching :**
Quick product search with real-time suggestions.
- **Product Details :**
Comprehensive product pages with descriptions, images, and related items.
- **Shopping Cart :**
Manage and update cart with selected items.
- **Promotions & Discounts :**
Loyalty programs and special offers via banners.
- **Localization :**
Multi-language and currency support for usability.
- **Payment Methods :**
Supporting multiple payment methods and ensuring transaction safety.
- **Delivery Service :**
The process of the customer receiving the product.
- **Reports and Analytics :**
Generate insights on sales, inventory, and trends.
- **Returns Support :**
Assists customers with return requests, providing labels and instructions.
- **Customer Support :**
Real-time support via live chat and ticket systems.

This system is designed to improve day-to-day operations, keep customers happy, and help supermarkets stay competitive, enhances operational efficiency, boosts customer satisfaction, and aligns with strategic business objectives, making it a valuable tool for competitive retail success.

User Requirements

1. Users need an easy and adaptable registration process.
2. The system should be simple to use with fast responses, such as detecting the user's location to set the website language and currency automatically.

3. Users prefer a well-structured and categorized website for better navigation.
4. The platform should provide deals and discounts to help users save money while getting high-quality services.
5. A powerful search bar to help users quickly find the product they are looking for, saving time and improving efficiency.
6. Each product should include details like images, price, discounts, and other specifications.
7. Users need various payment methods to make transactions convenient.
8. A simple process for returning defective products is essential.
9. Users should have access to customer support for technical issues or assistance with the website.

Functional Requirements

1. Enable User Registration:

- **Description/Action:**
 - Allow customers to register for shopping and enable sellers to register for listing products.
- **Requirements/Inputs:**
 - Customers: Name, email, phone, password.
 - Sellers: Business name, contact info, and verification documents.
- **Source**
 - Inputs from customers and sellers via registration forms.
- **Pre-condition**
 - Sellers require admin approval before accessing product listing features.
- **Post-condition**
 - Customers access shopping features; approved sellers manage product listings.

- **Output**
 - Confirmation messages for account creation.
 - Dashboards for customers and sellers.

2. Verify & Approve Listings

- **Description/Action:**
 - Verify seller details, process product listing requests, and publish approved products.
- **Requirements/Inputs:**
 - Seller details: Business name, contact info, documents.
 - Product details: Name, price, description, category, images.
- **Source**
 - Seller-provided data; admin actions for approvals.
- **Pre-condition**
 - Seller account is verified and approved.
- **Post-condition**
 - Approved products are published in their respective categories.
- **Output**
 - Notifications for seller account and product approval status.
 - Display of approved products for users.

3. Search Bar

- **Description/Action:**
 - Provides users the ability to search and filter products by keywords, categories, brands, price ranges, or other attributes
- **Requirements/Inputs:**
 - Keywords or product attributes (e.g., name, category, brand)
- **Source**
 - Input provided by users through the search bar.
- **Pre-condition**

- The product catalogue is indexed and accessible.
- **Post-condition**
 - Relevant products matching the search terms are displayed.
- **Output**
 - Search results with product details (e.g., images, prices, availability).

4. Display Product Details

- **Description/Action:**
 - Display product information, including related products and customer suggestions, to enhance user engagement.
- **Requirements/Inputs:**
 - Product descriptions, images, and cross-sell/up-sell configurations.
- **Source:**
 - Admin-defined product relationships in the system.
- **Pre-condition:**
 - Product data and related product mappings are in place.
- **Post-condition:**
 - Product pages display detailed descriptions, related products, and suggestions.
- **Output:**
 - Detailed product pages with cross-sell/up-sell recommendations.

5. Shopping Cart

- **Description/Action:**
 - Enable customers to view, modify, and manage items in their shopping cart, including suggested product additions.
- **Requirements/Inputs:**

- Product IDs, quantities, and customer-selected items.
- **Source**
 - Customer inputs during product selection and cart modification.
- **Pre-condition**
 - Products are added to the cart.
- **Post-condition**
 - The cart is updated with changes, and suggestions are displayed for add-ons or complementary items.
- **Output**
 - An updated cart summary with costs, taxes, and suggestions.

6. Promotions & Discounts

- **Description/Action:**
 - Reward frequent customers with loyalty programs and highlight special offers with promotional banners.
- **Requirements/Inputs:**
 - Promotional offers, loyalty point configurations, and banner assets.
- **Source**
 - Admin-configured promotions and banners.
- **Pre-condition**
 - Active promotions and loyalty program rules are set up.
- **Post-condition**
 - Customers earn rewards and see promotional content on the website.
- **Output**
 - Promotional banners and loyalty program updates displayed.

7. Localization

- **Description/Action:**
 - Automatically detect the user's location to set the default language and currency preferences
- **Requirements/Inputs:**
 - Regional language and currency configurations.
- **Source**
 - Customer-selected preferences or automatic detection based on location.
- **Pre-condition**
 - Localization settings are configured in the system.
- **Post-condition**
 - The website is displayed in the selected language and currency.
- **Output**
 - A localized website experience for the user.
 - Automatically applied language and currency settings.

8. Payment Methods

- **Description/Action:**
 - The system facilitates secure payment processing for orders, supporting multiple payment methods and ensuring transaction safety.
- **Requirements/Inputs:**
 - Order details: Total amount, order ID, and customer information.
 - Payment method: Credit/debit card, digital wallets, bank transfers, or cash on delivery.
- **Source**
 - Customer-provided payment information during checkout.
- **Pre-condition**
 - The customer confirms the order, and the payment gateway is active.
- **Post-condition**
 - The payment is processed successfully, and the order status is updated.

- **Output**
 - Payment confirmation receipt (via email or on-screen).
 - Updated order status reflecting successful payment.

9. Delivery Service

- **Description/Action:**
 - Manage the delivery of customer orders by verifying delivery details, scheduling dispatch, and updating order status.
- **Requirements/Inputs:**
 - Order details: Order ID, customer name, contact info, delivery address, list of products, total amount.
 - Delivery partner details: Partner ID, name, and contact info.
- **Source:**
 - Customer-provided order details; admin/automated system for assigning delivery partners.
- **Pre-condition:**
 - The order is confirmed and payment is processed.
- **Post-condition:**
 - The order is marked as "Delivered" after successful delivery.
- **Output:**
 - Notifications for customers about delivery status.
 - Updated order status visible to customers and admin.

10. Reports and Analytics

- **Description/Action:**
 - Track sales, inventory, and customer trends while generating reports on product performance and revenue analysis.
- **Requirements/Inputs:**

- Time ranges and specific metrics for reporting.
- **Source:**
 - Sales, inventory, and customer databases.
- **Pre-condition:**
 - Data collection modules are active and up-to-date.
- **Post-condition:**
 - Reports are generated and available for review.
- **Output:**
 - Graphical and tabular reports with actionable insights.

11. Returns Support

- **Description/Action:**
 - Provide customers with return labels or instructions and offer support for inquiries related to the return process.
- **Requirements/Inputs:**
 - Return requests and customer information.
- **Source**
 - Customer input via the return request interface.
- **Pre-condition**
 - A valid order return request is submitted.
- **Post-condition**
 - The customer receives a return label and support if needed.
- **Output**
 - Confirmation of return initiation and customer assistance provided.

12. Customer Support

- **Description/Action:**
 - Track sales, inventory, and customer trends while generating reports on product performance and revenue analysis.
- **Requirements/Inputs:**
 - Time ranges and specific metrics for reporting.
- **Source**
 - Sales, inventory, and customer databases.
- **Pre-condition**
 - Data collection modules are active and up-to-date.
- **Post-condition**
 - Reports are generated and available for review.
- **Output**
 - Graphical and tabular reports with actionable insights.

Non-Functional Requirements

1. Look and Feel Requirements

- **Aesthetic Design:** The website should have a clean and modern design
- **Brand Consistency:** Must align with the supermarket's branding (e.g., colors, logo).
- **Accessibility:** Ensure the interface is user-friendly and compliant with accessibility standards.

2. Usability and Humanity Requirements

- **Ease of Navigation:** Users should be able to search for products, view categories, and access their cart within three clicks.
- **Responsiveness:** Optimized for mobile, tablet, and desktop use.
- **Customer Support:** Provide live chat and call support to assist customers.

3. Performance Requirements

- **Load Time:** Pages should load within 2 seconds under standard conditions.
- **Concurrent Users:** The system should support up to 10,000 simultaneous users during peak hours.
- **Search Speed:** Product searches should return results within 1 second.

4. Operational Requirements

- **Availability:** The system should be operational 99.9% of the time (approximately 8 hours of downtime per year).
- **Backup and Recovery:** Daily backups should be maintained, with recovery from critical failures within 2 hours.
- **Payment Gateway:** Secure integration with multiple payment processors.

5. Security Requirements

- **Data Encryption:** All sensitive data (e.g., user credentials, payment information)
- **Access Control:** Only authorized administrators can modify inventory or access sales reports.
- **Fraud Detection:** Monitor transactions for patterns indicative of fraudulent behavior.

6. Cultural Requirements

- **Localization:** Support multiple languages and currencies as per the targeted regions.

7. Maintainability and Support Requirements

- **Modular Design:** Easy to update product info, prices, and promotions.
- **Documentation:** Detailed guides for developers and staff.
- **Monitoring:** Tools to check system health in real-time.

8. Legal Requirements

- **Data Privacy:** Comply with data protection laws, depending on the jurisdiction.
- **Tax Compliance:** Automatically calculate applicable taxes based on the customer's location.

9. Environmental Requirements

- **Eco-Friendly Hosting:** Optionality for servers with low environmental impact.
- **Paperless Operations:** Encourage e-receipts and digital notifications to minimize paper waste.

These **Non - Functional Requirements** ensure the supermarket's online store is efficient, secure, and user-friendly while aligning with business goals and regulatory requirements.