# Functional Requirement

3. Functional Requirements  
3.1 User Authentication  
FR-001  
Input: Username, password, email.  
Output: Login success/failure message.  
Description: Customers can register, log in, and log out securely using encrypted credentials.  
  
FR-002  
Input: Current password, new password.  
Output: Password update status.  
Description: Registered customers can change their passwords through the account settings.  
  
3.2 Account Management  
FR-003  
Input: Name, address, phone number, email.  
Output: Updated user profile.  
Description: Customers can view and edit personal information stored in their account.  
  
FR-004  
Input: None.  
Output: Purchase history list.  
Description: Customers can view their past orders and associated details.  
  
3.3 Product Catalog  
FR-005  
Input: Product name, price, description, image, category.  
Output: Added product in the catalog.  
Description: Administrators can add new products to the catalog with associated metadata.  
  
FR-006  
Input: Category name, parent category (optional).  
Output: Created category.  
Description: Administrators can create and organize product categories.  
  
FR-007  
Input: Product ID, updated fields.  
Output: Updated product details.  
Description: Administrators can modify product details such as price, description, and availability.  
  
3.4 Shopping Cart  
FR-008  
Input: Product ID, quantity.  
Output: Updated cart contents.  
Description: Customers can add products to their shopping cart with specified quantities.  
  
FR-009  
Input: Product ID, quantity.  
Output: Updated cart contents.  
Description: Customers can remove or adjust the quantity of items in their cart.  
  
FR-010  
Input: None.  
Output: Cart summary including total cost and item count.  
Description: Customers can view the current state of their shopping cart.  
  
3.5 Checkout Process  
FR-011  
Input: Shipping address, payment method.  
Output: Order confirmation.  
Description: Customers can complete the checkout process by providing shipping and payment information.  
  
FR-012  
Input: Order ID.  
Output: Order confirmation email.  
Description: After successful checkout, the system sends an email confirmation to the customer.  
  
3.6 Plugin Architecture  
FR-013  
Input: Plugin code, configuration file.  
Output: Installed plugin functionality.  
Description: Developers can install custom plugins to extend the system's capabilities.  
  
FR-014  
Input: None.  
Output: Plugin documentation and API reference.  
Description: The system provides comprehensive documentation for developing and integrating plugins.

# External Description

4. External Interfaces  
4.1 User Interface  
Web-based GUI with responsive layout.  
Accessible from desktop and mobile devices.  
Intuitive navigation and clear visual feedback.  
4.2 Hardware Interfaces  
None required beyond standard web infrastructure.  
4.3 Software Interfaces  
Database: MySQL or PostgreSQL for data storage.  
Email Service: SMTP integration for sending order confirmation emails.  
Payment Gateway: Integration with third-party payment APIs (e.g., Stripe, PayPal).  
4.4 Communication Interfaces  
RESTful API for internal and external communication.  
JSON format for data exchange between client and server.