项目文档

# Functional Requirement

2. Functional Requirements  
All functional requirements are written in active voice, concise, unambiguous, and verifiable.  
  
ID Requirement Description Input Output  
FR-001 The system shall allow users to create an account by providing valid personal information. Name, Email, Password, Confirm Password Account created or error message if invalid input.  
FR-002 The system shall authenticate users during login using their registered email and password. Email, Password Login success or failure message.  
FR-003 The system shall enable users to log out securely. N/A Session terminated.  
FR-004 The system shall allow users to view a list of available products categorized by type. N/A Displayed product list with images, prices, and descriptions.  
FR-005 The system shall allow users to add selected products to their shopping cart. Product ID, Quantity Updated cart contents.  
FR-006 The system shall display the total quantity and cost of items in the shopping cart. N/A Cart summary displayed on screen.  
FR-007 The system shall allow users to modify the quantity or remove items from the shopping cart. Product ID, New Quantity / Remove Command Updated cart contents.  
FR-008 The system shall process checkout by collecting shipping and payment details. Shipping Address, Payment Method, Card Details Confirmation of successful transaction.  
FR-009 The system shall send an order confirmation email to the customer after checkout. Order ID, Customer Email Email sent with order details.  
FR-010 The system shall allow administrators to manage product inventory, including adding, editing, and removing products. Product Data (Name, Price, Description, Image, Category) Updated product catalog.  
FR-011 The system shall support plugin development via an API that allows external developers to extend system functionality. Plugin code, co

# External Description

3. External Interfaces  
3.1 User Interfaces  
Web-based GUI accessible via modern browsers (Chrome, Firefox, Safari, Edge).  
Responsive design for desktop and mobile devices.  
Admin dashboard interface for managing products and orders.  
3.2 Hardware Interfaces  
No direct hardware dependencies.  
Requires web server hosting (e.g., Apache, Nginx).  
Database server (e.g., MySQL, PostgreSQL).  
3.3 Software Interfaces  
RESTful API for internal communication between modules.  
Plugin API for third-party extensions.  
Integration with SMTP server for email notifications.  
Secure HTTPS protocol for all communications.  
3.4 Communication Interfaces  
HTTP/HTTPS for client-server communication.  
WebSocket for real-time updates (optional future feature).  
REST API for plugin integration.