# Functional Requirement

1. Functional Requirements   
 1.1 Customer Account Creation   
 Function ID: FR-01   
 Description: The system allows a customer to create a new account by submitting their personal information, including username, password, email, and phone number. The system validates the input and generates a unique customer ID.   
 Input: PersonalInformation (FirstName, LastName, Email, Username, Password, PhoneNumber, ContactDetails)   
 Output: Customer (CustomerID, Username, Email, PhoneNumber, Address)  
  
 1.2 Customer Login   
 Function ID: FR-02   
 Description: The system authenticates a customer by verifying their email and password against the stored user account. A successful login establishes a session and displays the customer dashboard.   
 Input: Email, Password   
 Output: Customer session (authenticated status), Dashboard view  
  
 1.3 Customer Logout   
 Function ID: FR-03   
 Description: The system terminates the customer's active session and redirects them to the homepage or login page. The logout event is logged for auditing.   
 Input: Active session   
 Output: Terminated session, Redirect to homepage or login page  
  
 1.4 Update Customer Personal Information   
 Function ID: FR-04   
 Description: The system allows a logged-in customer to modify their personal details, such as name, phone number, and address. Changes are validated and saved in the database.   
 Input: Updated PersonalInformation (FirstName, LastName, PhoneNumber, Address)   
 Output: Updated Customer record in the database  
  
 1.5 View Purchase History   
 Function ID: FR-05   
 Description: The system retrieves and displays a customer’s historical purchases, including product details, quantity, total price, and purchase date.   
 Input: CustomerID   
 Output: List of PurchaseHistory records  
  
 1.6 Manage Cart   
 Function ID: FR-06   
 Description: The system allows a customer to add, remove, and update product quantities in their cart. The cart total is recalculated in real-time.   
 Input: CartID, ProductID, Quantity, Action (Add, Remove, Update)   
 Output: Updated Cart (ProductID, Quantity, SubTotal), Cart display  
  
 1.7 Checkout Order   
 Function ID: FR-07   
 Description: The system processes the customer's cart at checkout, confirms payment, creates an order, and clears the cart.   
 Input: CartID, ShippingAddress, PaymentMethodID   
 Output: New Order record, Cleared Cart, Order confirmation  
  
 1.8 Confirm Order   
 Function ID: FR-08   
 Description: The system confirms the order after successful payment processing, updates the order status, and logs the confirmation event.   
 Input: OrderID, PaymentInformation   
 Output: Confirmed Order status, Order confirmation message  
  
 1.9 Send Order Confirmation Email   
 Function ID: FR-09   
 Description: The system sends a confirmation email to the customer after an order is successfully confirmed.   
 Input: OrderID, CustomerEmail   
 Output: Email (Subject, Content, Timestamp), Email log entry  
  
 1.10 Admin Login   
 Function ID: FR-10   
 Description: The system authenticates an administrator by verifying their email and password. A successful login establishes an admin session and displays the admin dashboard.   
 Input: Email, Password   
 Output: Admin session (authenticated status), Admin dashboard  
  
 1.11 Admin Manage Inventory   
 Function ID: FR-11   
 Description: The system allows an administrator to add, update, or delete inventory records for products. Inventory alerts are triggered when stock falls below a threshold.   
 Input: ProductID, StockQuantity, ReorderLevel, Action (Add, Update, Delete)   
 Output: Updated Inventory record, Inventory alert (if applicable)  
  
 1.12 Admin Add Product   
 Function ID: FR-12   
 Description: The system allows an administrator to create a new product entry, including its name, description, price, category, and inventory quantity.   
 Input: Product (Name, Description, Price, CategoryID, InventoryID, Image)   
 Output: New Product record, Updated Inventory and Category associations  
  
 1.13 Admin Update Product Details   
 Function ID: FR-13   
 Description: The system allows an administrator to modify existing product details such as name, price, description, and category.   
 Input: ProductID, UpdatedProductDetails (Name, Description, Price, CategoryID)   
 Output: Updated Product record, Updated Inventory and Category associations  
  
 1.14 Admin Delete Product   
 Function ID: FR-14   
 Description: The system allows an administrator to delete a product, which removes the product record and updates the inventory accordingly.   
 Input: ProductID, Confirmation to delete   
 Output: Deleted Product record, Updated Inventory  
  
 1.15 Admin Categorize Products   
 Function ID: FR-15   
 Description: The system allows an administrator to assign or change the category of a product.   
 Input: ProductID, CategoryID   
 Output: Updated Product record, Updated Category association  
  
 1.16 Admin Manage User Accounts   
 Function ID: FR-16   
 Description: The system allows an administrator to create, update, or delete user accounts.   
 Input: UserAccount (Username, Email, Password, Role), Action (Create, Update, Delete)   
 Output: Updated or deleted UserAccount record  
  
 1.17 Admin Manage Payment Methods   
 Function ID: FR-17   
 Description: The system allows an administrator to add, update, or delete available payment methods for the store.   
 Input: PaymentMethod (MethodType, AccountDetails), Action (Add, Update, Delete)   
 Output: Updated or deleted PaymentMethod record  
  
 1.18 Admin Install Plugin   
 Function ID: FR-18   
 Description: The system allows an administrator to install a plugin, which extends the system’s functionality.   
 Input: Plugin file (Name, Version, Description)   
 Output: Installed Plugin record, Updated Plugin status  
  
 1.19 Admin Configure Plugin   
 Function ID: FR-19   
 Description: The system allows an administrator to configure plugin settings after installation.   
 Input: PluginID, Configuration parameters (e.g., API keys, enable/disable features)   
 Output: Updated Plugin configuration in the database  
  
 1.20 Admin Manage System Settings   
 Function ID: FR-20   
 Description: The system allows an administrator to configure and update system-wide settings, such as site configuration, payment gateway, and email settings.   
 Input: SystemSettings (Key, Value), Action (Update or Add)   
 Output: Updated or added SystemSettings record  
  
 1.21 Admin View System Logs   
 Function ID: FR-21   
 Description: The system allows an administrator to view all logged system activities for auditing and monitoring purposes.   
 Input: Filter criteria (e.g., date range, user, event type)   
 Output: List of SystemLogs, System log access record  
  
 1.22 Admin Manage System Logs   
 Function ID: FR-22   
 Description: The system allows an administrator to perform actions such as filtering, exporting, or clearing system logs.   
 Input: SystemLogs, Action (Filter, Export, Clear)   
 Output: Filtered or exported logs, Cleared logs (if applicable)  
  
 1.23 View Product Catalog   
 Function ID: FR-23   
 Description: The system displays a list of available products grouped by category, allowing the customer to search, filter, and view product details.   
 Input: Search term, Category filter, Price range   
 Output: Displayed product list, Product detail view  
  
 1.24 View Order Details   
 Function ID: FR-24   
 Description: The system retrieves and displays detailed information about a specific order, such as product list, total cost, payment status, and shipping information.   
 Input: OrderID   
 Output: Displayed Order details, Order status  
  
 1.25 Cancel Order   
 Function ID: FR-25   
 Description: The system allows a customer to cancel an order if it is in a cancellable state (e.g., pending or processing). The system updates the inventory accordingly.   
 Input: OrderID, Confirmation to cancel   
 Output: Updated Order status (Canceled), Updated Inventory  
  
 1.26 Manage Order Status   
 Function ID: FR-26   
 Description: The system tracks and updates the status of an order (e.g., pending, confirmed, shipped) based on system events or admin actions.   
 Input: OrderID, StatusName, StatusDescription   
 Output: Updated OrderStatus record, Order status display  
  
 1.27 Generate Sales Report   
 Function ID: FR-27   
 Description: The system allows an administrator to generate a sales report based on selected filters such as date range and category.   
 Input: Date range, Category filter, Export format (e.g., PDF, Excel)   
 Output: Generated sales report, Log of report generation  
  
 1.28 Modify User Permissions   
 Function ID: FR-28   
 Description: The system allows an administrator to modify user roles and permissions to control access to system features.   
 Input: UserID, UpdatedPermissions (e.g., role, feature access)   
 Output: Updated User record with new permissions, Log of permission change