# Functional Requirement

# 1. Functional Requirements  
  
1.1 Customer Registration Function   
Function ID: FR-01   
Description: Customers can create a new account by providing personal information. The registration must be approved by an administrator before being activated.   
Input: Customer's personal information (name, email, password)   
Output: New customer profile in the Customer data entity and confirmation email sent to the customer's email address  
  
1.2 Customer Login Function   
Function ID: FR-02   
Description: Authenticated customers can access their account by providing valid login credentials.   
Input: Customer's email and password   
Output: Active session in the Session data entity and redirection to the account dashboard  
  
1.3 Customer Logout Function   
Function ID: FR-03   
Description: Customers can terminate their active session and exit their account.   
Input: Active session in the Session data entity   
Output: Terminated session in the Session data entity and redirection to the login/home page  
  
1.4 View Product Details Function   
Function ID: FR-04   
Description: Customers can view detailed information about a specific product, including inventory status.   
Input: ProductID selected by the customer   
Output: Product details (name, description, price, category, inventory status) displayed to the customer  
  
1.5 Search Products by Category Function   
Function ID: FR-05   
Description: Customers can filter and view products based on selected categories.   
Input: CategoryID selected by the customer   
Output: Filtered list of products belonging to the selected category with their details and inventory status  
  
1.6 Add Product to Cart Function   
Function ID: FR-06   
Description: Customers can add products to their cart for future purchase.   
Input: ProductID and quantity selected by the customer   
Output: Updated cart in the Order data entity and inventory quantity updated in the Inventory data entity  
  
1.7 Checkout Function   
Function ID: FR-07   
Description: Customers can complete the purchase process by confirming their cart, providing shipping/billing information, and processing payment.   
Input: Customer's cart (OrderID), shipping/billing information, and selected payment method   
Output: Finalized order in the Order data entity, processed payment in the Payment data entity, and confirmation email sent to the customer  
  
1.8 Receive Order Confirmation Email Function   
Function ID: FR-08   
Description: Customers receive a confirmation email after completing the checkout process.   
Input: OrderID and customer's email address   
Output: Order confirmation email sent to the customer's email address  
  
1.9 Administrator Login Function   
Function ID: FR-09   
Description: Administrators can access the administrative dashboard by providing valid login credentials.   
Input: Administrator's email and password   
Output: Active session in the Session data entity and redirection to the administrative dashboard  
  
1.10 Administrator Logout Function   
Function ID: FR-10   
Description: Administrators can terminate their active session and exit the administrative dashboard.   
Input: Active session in the Session data entity   
Output: Terminated session in the Session data entity and redirection to the login/home page  
  
1.11 Manage Inventory Function   
Function ID: FR-11   
Description: Administrators can update inventory levels for products.   
Input: ProductID and updated inventory quantity   
Output: Updated inventory levels in the Inventory data entity and product availability status in the Product data entity  
  
1.12 Add Product Function   
Function ID: FR-12   
Description: Administrators can create new product records with associated inventory and category information.   
Input: Product details (name, description, price, CategoryID, InventoryID)   
Output: New product record in the Product data entity with valid inventory and category associations  
  
1.13 Update Product Function   
Function ID: FR-13   
Description: Administrators can modify product details including inventory and category associations.   
Input: ProductID and updated product information (name, description, price, CategoryID, InventoryID)   
Output: Updated product record in the Product data entity with modified inventory and category associations  
  
1.14 Delete Product Function   
Function ID: FR-14   
Description: Administrators can remove product records from the system.   
Input: ProductID to be deleted   
Output: Removed product record from the Product data entity with updated inventory and category associations  
  
1.15 Manage Product Categories Function   
Function ID: FR-15   
Description: Administrators can add, update, or delete product categories.   
Input: Category details (name, description, ParentCategoryID)   
Output: Updated category records in the Category data entity with appropriate product associations  
  
1.16 Add Category Function   
Function ID: FR-16   
Description: Administrators can create new product category records.   
Input: New category details (name, description, ParentCategoryID)   
Output: New category record in the Category data entity  
  
1.17 Update Category Function   
Function ID: FR-17   
Description: Administrators can modify existing product category records.   
Input: CategoryID and updated category information (name, description, ParentCategoryID)   
Output: Updated category record in the Category data entity  
  
1.18 Delete Category Function   
Function ID: FR-18   
Description: Administrators can remove product category records from the system.   
Input: CategoryID to be deleted   
Output: Removed category record from the Category data entity with updated product associations  
  
1.19 View Order Details Function   
Function ID: FR-19   
Description: Customers can view detailed information about their orders, including product and inventory status at the time of purchase.   
Input: OrderID selected by the customer   
Output: Order details (items, quantities, prices, total amount, status) displayed to the customer  
  
1.20 Manage Orders Function   
Function ID: FR-20   
Description: Administrators can view, update, or delete existing orders and their related information.   
Input: OrderID and selected action (view, update, or delete)   
Output: Updated order status and related information in the Order data entity  
  
1.21 Process Payment Function   
Function ID: FR-21   
Description: The system can handle the payment process for customer orders.   
Input: OrderID, payment method, and payment details   
Output: Payment record in the Payment data entity and updated order status in the Order data entity  
  
1.22 Manage Payment Information Function   
Function ID: FR-22   
Description: Customers can add, update, or delete saved payment methods.   
Input: Payment information (method, card details, billing address)   
Output: Updated payment records in the Payment data entity  
  
1.23 Manage Sessions Function   
Function ID: FR-23   
Description: Administrators can manage user sessions (create, update, or delete).   
Input: SessionID and selected action (create, update, or delete)   
Output: Updated session records in the Session data entity  
  
1.24 Install Plugin Function   
Function ID: FR-24   
Description: Administrators can install new plugins to extend system functionality.   
Input: Plugin file or configuration details   
Output: Installed plugin record in the Plugin data entity  
  
1.25 Uninstall Plugin Function   
Function ID: FR-25   
Description: Administrators can remove plugins from the system.   
Input: PluginID to be uninstalled   
Output: Removed plugin record from the Plugin data entity  
  
1.26 Update Plugin Function   
Function ID: FR-26   
Description: Administrators can update existing plugins with new versions or configurations.   
Input: PluginID and updated plugin file or configuration details   
Output: Updated plugin record in the Plugin data entity  
  
1.27 Configure Plugin Function   
Function ID: FR-27   
Description: Administrators can adjust plugin settings to customize functionality.   
Input: PluginID and new configuration settings   
Output: Updated plugin configuration in the Plugin data entity  
  
1.28 View Plugin Documentation Function   
Function ID: FR-28   
Description: Administrators can access plugin documentation for usage and configuration guidance.   
Input: PluginID selected by the administrator   
Output: Plugin documentation displayed to the administrator  
  
1.29 Manage Email Templates Function   
Function ID: FR-29   
Description: Administrators can add, update, or delete email templates used for notifications.   
Input: Email template details (subject, body, recipient type)   
Output: Updated email template records in the EmailTemplate data entity  
  
1.30 Send Order Confirmation Email Function   
Function ID: FR-30   
Description: The system can send confirmation emails to customers after order processing.   
Input: OrderID and customer's email address   
Output: Order confirmation email sent to the customer's email address