**DATA DICTIONARY:**

\*\*Table: Account\*\*

| Column Name | Data Type | Key | Relationship |

|------------------|--------------|-------------|-------------------------------|

| AccountID | Integer | Primary Key | |

| Name | Varchar(100) | | |

| Email | Varchar(100) | | |

| Password | Varchar(100) | | |

| RoleID | Integer | Foreign Key | (Account Roles.RoleID) |

\*\*Table: Account Roles\*\*

| Column Name | Data Type | Key |

|-------------|--------------|-------------|

| RoleID | Integer | Primary Key |

| RoleName | Varchar(50) | |

\*\*Table: Product\*\*

| Column Name | Data Type | Key | Relationship |

|------------------|--------------|-------------|-------------------------------|

| ProductID | Integer | Primary Key | |

| Name | Varchar(100) | | |

| Department | Varchar(50) | | |

| Type | Varchar(50) | | |

| Size | Varchar(20) | | |

| Price | Decimal(10,2)| | |

| IsActive | Boolean | | |

\*\*Table: Cart\*\*

| Column Name | Data Type | Key | Relationship |

|------------------|--------------|-------------|-------------------------------|

| CartID | Integer | Primary Key | |

| AccountID | Integer | Foreign Key | (Account.AccountID) |

| ProductID | Integer | Foreign Key | (Product.ProductID) |

| Quantity | Integer | | |

\*\*Table: Order\*\*

| Column Name | Data Type | Key | Relationship |

|------------------|--------------|-------------|-------------------------------|

| OrderID | Integer | Primary Key | |

| AccountID | Integer | Foreign Key | (Account.AccountID) |

| Status | Varchar(20) | | |

| PaymentProof | Varchar(200)| | |

| Receipt | Varchar(200)| | |

\*\*Table: PurchaseHistory\*\*

| Column Name | Data Type | Key | Relationship |

|------------------|--------------|-------------|-------------------------------|

| HistoryID | Integer | Primary Key | |

| AccountID | Integer | Foreign Key | (Account.AccountID) |

| ProductID | Integer | Foreign Key | (Product.ProductID) |

| PurchaseDate | Date | | |

\*\*Table: OrderToSupplier\*\*

| Column Name | Data Type | Key | Relationship |

|------------------|--------------|-------------|-------------------------------|

| OrderID | Integer | Primary Key | |

| AccountID | Integer | Foreign Key | (Account.AccountID) |

| ProductID | Integer | Foreign Key | (Product.ProductID) |

| Quantity | Integer | | |

**list of modules:**

1. \*\*Authentication Module:\*\*

- Functionality related to user registration and login.

- Manages user account creation, authentication, and password management.

2. \*\*Product Management Module:\*\*

- Functionality related to managing products and merchandise.

- Handles adding, editing, and categorizing products by department and type.

- Manages product availability, prices, and sizes.

3. \*\*Shopping Cart Module:\*\*

- Functionality related to managing the shopping cart.

- Allows users to add, update, and remove products from their cart.

- Calculates the total price of items in the cart.

4. \*\*Order Management Module:\*\*

- Functionality related to order processing.

- Handles order placement, status, and tracking.

- Integrates with the payment processing module for payment verification.

5. \*\*Payment Processing Module:\*\*

- Functionality related to processing payments and verifying payment proofs.

- Verifies payment proofs (images) submitted by customers during checkout.

- Coordinates with the order management module for order approval.

6. \*\*Purchase History Module:\*\*

- Functionality related to tracking and displaying purchase history for customers.

- Stores records of past orders and transactions.

- Allows customers to view their order history.

7. \*\*Notification Module:\*\*

- Functionality related to sending notifications to users.

- Sends notifications to customers about order status updates.

- May also handle email or push notifications.

8. \*\*Profile Management Module:\*\*

- Functionality related to managing user profiles.

- Allows users to update their personal information and change passwords.

9. \*\*Admin Management Module:\*\*

- Functionality related to managing admin users.

- Allows adding, editing, and managing admin accounts.

10. \*\*Supplier Management Module:\*\*

- Functionality related to managing supplier information.

- Handles adding, editing, and managing supplier accounts.

11. \*\*Order to Supplier Module:\*\*

- Functionality related to order processing with suppliers.

- Manages sending orders to suppliers and tracking order fulfillment.

12. \*\*Reporting Module:\*\*

- Functionality related to generating various reports.

- Allows suppliers to generate sales reports to track transactions and inventory.

**USE CASES:**

\*\*Customer Use Cases:\*\*

1. \*\*Register Account:\*\* The customer can register for a new account by providing their name, email, and password.

2. \*\*Login:\*\* The customer can log in to the system using their registered email and password.

3. \*\*View Products:\*\* Customers can view the available products in the product catalog, categorized by department and type.

4. \*\*Add to Cart:\*\* Customers can add products to their shopping cart along with the desired quantity.

5. \*\*Edit Cart:\*\* Customers can modify the contents of their cart by updating the quantity or removing items.

6. \*\*Proceed to Checkout:\*\* Customers can proceed to checkout to review their order before payment.

7. \*\*Submit Payment Proof:\*\* During checkout, customers can upload an image as proof of payment.

8. \*\*View Order Status:\*\* Customers can view the status of their placed orders.

9. \*\*View Purchase History:\*\* Customers can view their past purchase history, including order details and purchase dates.

10. \*\*Manage Profile:\*\* Customers can manage their profiles, update personal information, and change passwords.

\*\*Admin Use Cases:\*\*

1. \*\*Admin Login:\*\* Administrators can log in to the system using their registered email and password.

2. \*\*Add Product:\*\* Admins can add new products to the system, providing product details such as name, category, type, size, price, and availability.

3. \*\*Edit Product:\*\* Admins can edit product details such as name, category, type, size, price, and availability.

4. \*\*Categorize Product:\*\* Admins can categorize products by department and type for better organization.

5. \*\*Activate/Deactivate Product:\*\* Admins can activate or deactivate products to control their availability in the product catalog.

6. \*\*View Pending Orders:\*\* Admins can view orders pending verification and approval.

7. \*\*Verify Payment:\*\* Admins can verify payment proofs (uploaded images) submitted by customers during checkout.

8. \*\*Approve Order:\*\* Admins can approve verified orders for further processing.

9. \*\*Manage Customers:\*\* Admins can manage customer accounts, view customer details, and update customer information.

\*\*Supplier Use Cases:\*\*

1. \*\*Supplier Login:\*\* Suppliers can log in to the system using their registered email and password.

2. \*\*Manage Received Orders:\*\* Suppliers can view and manage the orders received from the admin for processing and delivery.

3. \*\*Manage Sales Inventory:\*\* Suppliers can track sales inventory and update product availability as items are sold.

4. \*\*Manage Stock Inventory:\*\* Suppliers can manage their stock inventory, restock items, and update stock levels.

5. \*\*Generate Sales Report:\*\* Suppliers can generate sales reports to analyze sales performance and inventory status.

**Functional decomposition:**

1. \*\*User Authentication Module:\*\*

- Register Account

- Login

- Logout

2. \*\*Product Management Module:\*\*

- Add Product

- Edit Product

- Categorize Product

- Activate/Deactivate Product

- View Products

3. \*\*Shopping Cart Module:\*\*

- Add Product to Cart

- Edit Cart

- Remove Product from Cart

- View Cart

- Calculate Cart Total

4. \*\*Order Management Module:\*\*

- Proceed to Checkout

- Submit Order

- Update Order Status

- View Order Status

5. \*\*Payment Processing Module:\*\*

- Upload Payment Proof (Image)

- Verify Payment

- Approve Order

6. \*\*Purchase History Module:\*\*

- View Purchase History

- View Order Details

7. \*\*Notification Module:\*\*

- Send Order Status Notification

- Send Account-Related Notifications

8. \*\*Profile Management Module:\*\*

- View Profile

- Update Profile

- Change Password

9. \*\*Admin Management Module:\*\*

- Admin Login

- Add Admin Account

- Edit Admin Account

- View Admin Details

- Remove Admin Account

10. \*\*Supplier Management Module:\*\*

- Supplier Login

- Add Supplier Account

- Edit Supplier Account

- View Supplier Details

- Remove Supplier Account

11. \*\*Order to Supplier Module:\*\*

- Receive Order from Admin

- Manage Supplier Inventory

- Update Order Status to Supplier

12. \*\*Reporting Module:\*\*

- Generate Sales Report

- Generate Inventory Report

Each function in the functional decomposition represents a well-defined task that can be implemented as a separate module or component. By breaking down the system into smaller functions, it becomes easier to manage, develop, and maintain the e-commerce system, enabling better collaboration and scalability during the development process.