## **E-Commerce Website Dashboard Documentation**

### **Overview**

## The E-Commerce Website Dashboard is a comprehensive platform designed to facilitate online buying and selling. It focuses on key resources, including users, categories, and items. Additionally, users can engage in discussions through comments and place orders for products. The dashboard provides users with valuable insights through various reports, such as favorite categories, favorite items, and recent comments on their items.

### **Key Resources**

### Users :

* UserID: Unique identifier for each user.
* UserName: Username used for login.
* Password: User's login password.
* Email: User's email address.
* FullName: User's real name.
* GroupID: Identifies user group (admin, user).
* Trust Status: Represents seller rank.
* RegStatus: Indicates user approval status.
* Date: Registration date.
* Avatar: Reference to the user's avatar image.

Categories:

* ID: Unique category identifier.
* Name: Category name.
* Description: Category description.
* Parent: Parent category for hierarchical categorization.
* Ordering: Category order for display.
* Visibility: Category visibility status.
* Allow\_Comment: Indicates if comments are allowed within the category.
* Allow\_Ads: Indicates if ads are allowed within the category.

Items:

* item\_id: Unique identifier for each item.
* item\_name: Name or title of the item.
* item\_description: Detailed item description.
* item\_price: Price of the item.
* add\_date: Date when the item was added.
* country\_made: Country of origin.
* item\_image: Reference to the item's image.
* item\_status: Availability status.
* item\_rating: Rating for the item.
* Approve: Approval status.
* Cat\_ID: Category identifier.
* Member\_ID: User identifier who added the item.
* tags: Optional tags for categorization.

Comments:

* c\_id: Unique comment identifier.
* comment: Comment text.
* status: Comment status.
* c\_date: Date when the comment was made.
* item\_ID: Item association.
* user\_ID: User who posted the comment.

Orders:

* id: Unique order identifier.
* order\_code: Unique order code.
* user\_id: User who placed the order.
* fullName: Customer's full name.
* address: Shipping address.
* phone: Customer's contact number.
* email: Customer's email address.
* status: Order status.
* total: Total order amount.

### **Features**

User Activities: Users can buy and sell products, make comments, and place orders.

Orders: Users can add items to their carts, review cart contents, and complete orders

User Registration: New users can register accounts with validation checks.

Reports: Users can view reports like favorite categories, favorite items, and recent comments on their items.

Dashboard: A user-friendly dashboard for easy navigation and access to key features.

User Groups: Differentiate between admin and regular users for varying levels of access and permissions.

### **User Registration**

* Registration System: Users can register for an account to access the website's features.
* Registration Form: A user-friendly registration form is provided, including fields for username, password, email, full name, and other required details.
* Validation Checks: The system enforces validation checks during registration to ensure data accuracy and security:
  + Username Validation: Checks for uniqueness and valid characters.
  + Password Validation: Ensures password complexity and security.
  + Email Validation: Validates the email format and uniqueness.
  + Full Name Validation: Ensures valid characters and length.
* Registration Confirmation: After successful registration, users receive a confirmation message or email with account activation instructions if required.
* User Authentication: Registered users can log in using their username and password.

### **Order Processing**

* Carts:
  + id: Unique cart identifier.
  + user\_id: User who owns the cart.
  + total: Total cost of items in the cart.
  + status: Cart status (e.g., active, completed).
* Cart Items:
  + id: Unique identifier for each cart item.
  + cart\_id: Identifier linking the cart item to a specific cart.
  + product\_id: Identifier linking the cart item to a product.
  + quantity: Quantity of the product in the cart.
  + price: Price of the product.
  + total: Total cost of the cart item (quantity \* price).
* Order Placement: Users can add items to their carts, specifying the quantity they wish to purchase. They can review the cart contents and proceed to place an order.
* Order Fulfillment: When an order is placed, the system updates the cart status and records the order details, including the items purchased and the total cost.
* Order Status: The order status reflects the progress of the order, such as "processing," "shipped," or "delivered."
* Order History: Users can view their order history, including details of past orders and their status.

### **Role-Based Access Control**

* Administrator Role: Administrators have elevated privileges, enabling them to perform the following actions:
  + Create, edit, and delete categories.
  + Create, edit, and delete items.
  + Manage user accounts (create, edit, delete).
  + Approve or reject items, categories, and comments.
* User Role: Regular users have limited access until their actions are approved by administrators:
  + User Registration: Users can register for an account.
  + Item Submission: Users can add items to the system, but these items are not immediately visible until approved.
  + Comment Submission: Users can post comments, but comments may require approval before becoming visible.
* Approval Process: The system includes an approval process for items, categories, and comments:
  + Item and Category Approval: Administrators review and approve or reject items and categories to ensure quality and compliance with guidelines.
  + Comment Approval: Administrators can approve or reject user comments to maintain a positive and safe user experience.
* User Profile Editing: Users can edit their profiles, but changes may require approval before becoming visible to others.
* Notification: The system notifies users when their submissions (items, categories, comments) or profile edits are approved or rejected.

### **Administrator Dashboard**

* Admin Controls: The administrator dashboard provides a user-friendly interface for managing categories, items, user accounts, and comments:
  + Create, edit, and delete categories and items.
  + Approve or reject user submissions (items, categories, comments).
  + Manage user accounts (create, edit, delete).
  + View and moderate user activity.

### **User Experience**

* User Registration: New users can register for an account and submit items, comments, or profile edits.
* Item Submission: Users can add items, but these items are not immediately visible until approved by administrators.
* Comment Submission: Users can post comments, but comments may require approval before becoming visible to others.
* Profile Editing: Users can edit their profiles,

### **SQL Query Validation**

* Data Integrity: SQL queries include data integrity checks and constraints to prevent invalid or malicious data from being inserted or manipulated.
* Parameterized Queries: SQL queries use parameterized statements or prepared statements to protect against SQL injection attacks.
* Input Validation: User inputs are sanitized and validated to prevent unauthorized or harmful data entry.
* Access Control: SQL queries enforce access control and permissions, ensuring that users can only access data and perform actions they are authorized for.

This documentation provides an overview of the core components and functionalities of the E-Commerce Website Dashboard, offering a solid foundation for the development and understanding of the system.