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| Element | Detail |
| Name | Add category |
| ID | UC001 |
| Description | Admins can add new product categories to the e-commerce system. |
| Actor | Admin |
| Frequency of use | High |
| Triggers | New products require a new category.  Market trends demand a specific category.  Seasonal promotions need temporary category |
| Postcondition | Successfully added category visible on the website. |
| Main Course | 1. **Admin logs in.** 2. **Navigate to Category Management.** 3. **Select Add Category.** 4. **Provide Category Details.** 5. **Save Category.** 6. **Confirmation of addition.** |
| Alternate Course | * *Cancel Addition:* Admin can abort before saving. * *Duplicate Category:* System prompts for a unique name. * *Invalid Input:* System provides error messages for correction. |

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| Element | Detail |
| Name | Modify Category |
| ID | UC002 |
| Description | Admins can update details of an existing product category in the e-commerce system. |
| Actor | Admin |
| Frequency of use | Regular |
| Triggers | * Category details need correction or update. * Products are re-categorized. * Changes in market trends impact category attributes. |
| Postcondition | successfully modified category details visible on the website. |
| Main Course | 1. **1. Admin logs in.** 2. **Navigate to Category Management.** 3. **Select Modify Category.** 4. **Choose Category:** Admin selects the category to modify. 5. **Update Details:** Admin edits category name, description, or attributes. 6. **Save Changes.** 7. **Confirmation of modification.** |
| Alternate Course | * *Cancel Modification:* Admin can abort before saving changes. * *Invalid Input:* System provides error messages for correction. * *Category Not Found:* If the selected category is not found, the system prompts the admin to choose an existing category. |

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| Element | Detail |
| Name | Block/Unblock Accounts |
| ID | UC003 |
| Description | Admins can block or unblock user accounts in the e-commerce system. |
| Actor | Admin |
| Frequency of use | Regular |
| Triggers | * Violation of user policies. * Fraudulent activities detected. * User requests account suspension or reactivation. |
| Postcondition | User account status (blocked/unblocked) is updated in the system. |
| Main Course | 1. **1. Admin logs in.** 2. **Navigate to User Management.** 3. **Select Block/Unblock Accounts.** 4. **Choose User:** Admin selects the user account to block or unblock. 5. **Select Action:** Admin chooses to block or unblock the account. 6. **Provide Reason:** Optionally, the admin can add a reason for the action. 7. **Confirm Action:** Admin confirms the decision. 8. **Notification:** The system notifies the user about the account status change. |
| Alternate Course | * *Cancel Action:* Admin can abort before confirming the action. * *Invalid User Selection:* If the selected user account is not found, the system prompts the admin to choose an existing user. * *Communication Failure:* If the notification to the user fails, the system provides an error message. |

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| Element | Detail |
| Name | Add Products |
| ID | UC004 |
| Description | Admins can add new products to the e-commerce system. |
| Actor | Admin |
| Frequency of use | Regular |
| Triggers | * New products are introduced to the inventory. * Seasonal additions or promotions. * Expansion of product offerings. |
| Postcondition | The new product is successfully added to the system and is visible on the website. |
| Main Course | 1. **1. Admin logs in.** 2. **Navigate to Product Management.** 3. **Select Add Product.** 4. **Provide Product Details:** Admin fills in information such as product name, description, price, and other relevant attributes. 5. **Upload Images:** Admin uploads product images. 6. **Set Availability:** Admin specifies product availability. 7. **Assign to Categories:** Admin associates the product with relevant categories. 8. **Save Product:** Admin saves the new product. 9. **Confirmation of Addition:** The system confirms the successful addition of the product.. |
| Alternate Course | * *Cancel Addition:* Admin can abort before saving the new product. * *Incomplete Information:* If essential details are missing, the system prompts the admin to provide the necessary information. * *Image Upload Failure:* If image upload fails, the admin is prompted to re-upload images. |

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| Element | Detail |
| Name | Modify Products |
| ID | UC005 |
| Description | Admins can update details of existing products in the e-commerce system. |
| Actor | Admin |
| Frequency of use | Regular |
| Triggers | * Changes in product information (e.g., price, description). * Updates due to user feedback or reviews. * Corrections or improvements to product attributes. |
| Postcondition | The modified product details are successfully updated in the system and reflected on the website. |
| Main Course | 1. **1. Admin logs in.** 2. **Navigate to Product Management.** 3. **Select Modify Product.** 4. **Choose Product:** Admin selects the product to modify. 5. **Update Details:** Admin edits product name, description, price, or other relevant attributes. 6. **Modify Images:** Admin can update product images if necessary. 7. **Adjust Availability:** Admin modifies the product's availability status. 8. **Save Changes:** Admin saves the modified product details. 9. **Confirmation of Modification:** The system confirms the successful update of the product. |
| Alternate Course | * *Cancel Modification:* Admin can abort before saving changes. * *Invalid Input:* If the admin provides incomplete or invalid information, the system provides error messages for correction. * *Image Update Failure:* If the modification of images fails, the admin is prompted to re-upload images. |

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| Element | Detail |
| Name | Add Products and Update Status |
| ID | UC006 |
| Description | Admins can add new products to the e-commerce system and update their status. |
| Actor | Admin |
| Frequency of use | Regular |
| Triggers | * Introduction of new products to the inventory. * Seasonal additions or promotions. * Changes in product availability or status. |
| Postcondition | The new product is successfully added to the system, and its status is updated (e.g., available, out of stock). |
| Main Course | 1. **1. Admin logs in.** 2. **Navigate to Product Management.** 3. **Select Add Product.** 4. **Provide Product Details:** Admin fills in information such as product name, description, price, and other relevant attributes. 5. **Upload Images:** Admin uploads product images. 6. **Set Availability:** Admin specifies product availability. 7. **Assign to Categories:** Admin associates the product with relevant categories. 8. **Save Product:** Admin saves the new product. 9. **Update Status:** Admin sets the product status (e.g., available, out of stock). 10. **Confirmation of Addition and Status Update:** The system confirms the successful addition of the product and its updated status. |
| Alternate Course |  *Cancel Addition:* Admin can abort before saving the new product.   *Incomplete Information:* If essential details are missing, the system prompts the admin to provide the necessary information.   *Image Upload Failure:* If image upload fails, the admin is prompted to re-upload images.   *Status Update Failure:* If the modification of product status fails, the admin is alerted to reattempt the update |

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| Element | Detail |
| Name | Send Notifications for Orders |
| ID | UC007 |
| Description | The system automatically sends notifications for order-related events to users. |
| Actor | System |
| Frequency of use | Real-time as orders are processed. |
| Triggers | * Order placement. * Order processing updates (e.g., shipped, delivered). * Order status changes. |
| Postcondition | Users receive timely and accurate notifications regarding their orders. |
| Main Course | 1. **Order Placement:** When a user places an order, the system generates an order confirmation notification. 2. **Order Processing Updates:** As the order progresses (e.g., being shipped, out for delivery), the system sends status update notifications. 3. **Delivery Confirmation:** When the order is successfully delivered, the system sends a delivery confirmation notification. 4. **Cancellation/Refund Notification:** If an order is canceled or refunded, the system notifies the user. |
| Alternate Course | * *Failed Notification:* In case of a notification failure (e.g., email bounce), the system logs the issue for further investigation and may attempt to resend the notification. * *User Opt-Out:* If a user has opted out of notifications, the system respects the user's preference and refrains from sending notifications. * *Invalid Order:* If an order is deemed invalid or unprocessable, the system alerts administrators for manual intervention and does not send notifications to the user. |

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| Element | Detail |
| Name | Register Customer |
| ID | UC008 |
| Description | New customers can register on the e-commerce system. |
| Actor | Customer |
| Frequency of use | Occasional |
| Triggers | * First-time users wanting to make a purchase. * Users desiring personalized services (e.g., saved preferences, order history). |
| Postcondition | The customer successfully registers an account on the system, gaining access to personalized features. |
| Main Course | 1. **Access Registration Page:** Customer accesses the registration page on the e-commerce website. 2. **Provide Information:** Customer enters required details (e.g., name, email, password). 3. **Verification:** The system validates the provided information (e.g., email verification). 4. **Create Account:** Once verified, the customer creates their account. 5. **Login:** The system automatically logs in the customer after successful registration. 6. **Profile Setup:** Optionally, the customer can set up their profile with additional information. 7. **Confirmation:** The system confirms successful registration.   . |
| Alternate Course | * + *Invalid Information:* If the provided information is incomplete or invalid, the system prompts the customer to correct it.   + *Email Verification Failure:* If email verification fails, the system provides guidance on the necessary steps to complete the process.   + *Existing Account:* If the email is already associated with an existing account, the system alerts the customer to choose a different email or attempt a login. |

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| Element | Detail |
| Name | Customer Login and Logout |
| ID | UC009 |
| Description | Customers can securely log in and out of their accounts on the e-commerce system. |
| Actor | Customer |
| Frequency of use | Regular |
| Triggers | * Accessing personalized features. * Initiating a purchase or viewing order history. * Ensuring account security by logging out. |
| Postcondition | Customer gains access to personalized features upon login and is securely logged out after use. |
| Main Course | 1. **Access Login Page:** Customer navigates to the login page on the e-commerce website. 2. **Enter Credentials:** Customer provides valid login credentials (email/username and password). 3. **Authentication:** The system authenticates the customer's credentials. 4. **Login:** Upon successful authentication, the system logs the customer into their account. 5. **Access Personalized Features:** Customer can now access personalized features (e.g., saved preferences, order history). 6. **Logout:** After completing activities, the customer initiates a logout. 7. **Confirmation:** The system confirms the successful logout. |
| Alternate Course | *Invalid Credentials:* If the provided login credentials are incorrect, the system prompts the customer to re-enter the information.  *Forgotten Password:* The system provides a password reset option if the customer forgets their password.  *Session Timeout:* If there is inactivity for a specified duration, the system automatically logs out the customer to ensure security.  *Logout Confirmation:* The system confirms the successful logout, assuring the customer that their session is terminated. |

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| Element | Detail |
| Name | Search Product |
| ID | UC0010 |
| Description | Customers can search for products on the e-commerce system to find specific items. |
| Actor | Customer |
| Frequency of use | Frequent |
| Triggers | * User wants to find a specific product. * Exploring available products within a category. * Navigating through search results. |
| Postcondition | The customer views a list of relevant products based on their search query. |
| Main Course | 1. **Access Search Bar:** Customer locates and accesses the search bar on the e-commerce website. 2. **Enter Search Query:** Customer enters a search query, such as a product name or keyword. 3. **Initiate Search:** Customer submits the search query to the system. 4. **Retrieve Results:** The system processes the query and presents a list of relevant products. 5. **Browse Results:** Customer can browse through the displayed products. 6. **View Product Details:** Customer selects a specific product to view detailed information.. |
| Alternate Course | * *No Results:* If the search query yields no results, the system notifies the customer and may suggest alternative keywords or products. * *Refine Search:* The system allows customers to refine their search using filters (e.g., price range, category) to narrow down results. * *Typo Correction:* If there's a potential typo in the search query, the system may suggest corrected terms for better results. * *Autocomplete Suggestions:* The system provides autocomplete suggestions as the customer types their search query to assist in finding relevant products faster. |

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| Element | Detail |
| Name | Place Order and Make Payment |
| ID | UC0012 |
| Description | Customers can finalize their purchase by placing an order and making payment for selected items. |
| Actor | Customer |
| Frequency of use | Occasiona |
| Triggers | * Customer is ready to complete a purchase. * After reviewing the shopping cart, the customer proceeds to checkout. * Selected items are ready for payment. |
| Postcondition | The order is successfully placed, and payment is processed. |
| Main Course | 1. **Access Shopping Cart:** Customer reviews items in the shopping cart. 2. **Proceed to Checkout:** Customer clicks the "Proceed to Checkout" button. 3. **Provide Shipping Information:** Customer enters shipping details and selects a preferred shipping method. 4. **Review Order:** Customer reviews the order summary, including products, quantities, and total cost. 5. **Select Payment Method:** Customer chooses a preferred payment method (e.g., credit card, PayPal). 6. **Enter Payment Details:** Customer enters payment information (e.g., credit card details). 7. **Place Order:** Customer clicks the "Place Order" button to confirm the purchase. 8. **Payment Processing:** The system processes the payment using the provided details. 9. **Order Confirmation:** The system confirms the successful placement of the order and provides an order confirmation number. 10. **Send Order Confirmation:** The system sends an order confirmation email to the customer. |
| Alternate Course | 1. *Payment Failure:* If the payment cannot be processed successfully, the system informs the customer and may suggest alternative payment methods. 2. *Address Verification:* The system may perform address verification to ensure accurate delivery. 3. *Order Modification:* Before finalizing the order, the customer can modify shipping details, quantities, or remove items. 4. *Order Tracking:* The system may provide a link for the customer to track the status of their order once it is placed.    * *Cart Modification:* Customer can adjust quantities or remove items from the cart before proceeding to checkout.    * *Save for Later:* Optionally, the system may offer the ability to "Save for Later" if the customer is not ready to proceed with the purchase immediately. |