

Problem formulation :

- **Problem:**
- The absence of a user-friendly e-commerce platform for cookie sales hampers business growth. Current solutions lack efficiency, risking suboptimal user experiences, inadequate product management, and potential security issues.
- **Solution:**
- Develop a robust e-commerce platform for cookie sales, prioritizing user and administrator satisfaction. The platform will excel in product management, user security, and communication, setting a new standard in the online cookie market.
- **Objectives:**
- **User Experience Excellence:**
 - Intuitive design for easy navigation.
 - Responsive interface for various devices.
- **Efficient Product Management:**
 - Simple product management for easy updates.
 - Categorization for product organization.
- **Communication Facilitation:**
 - User-friendly feedback system.
 - customer support.
- **Scalability:**
 - Handle growth in products and users.

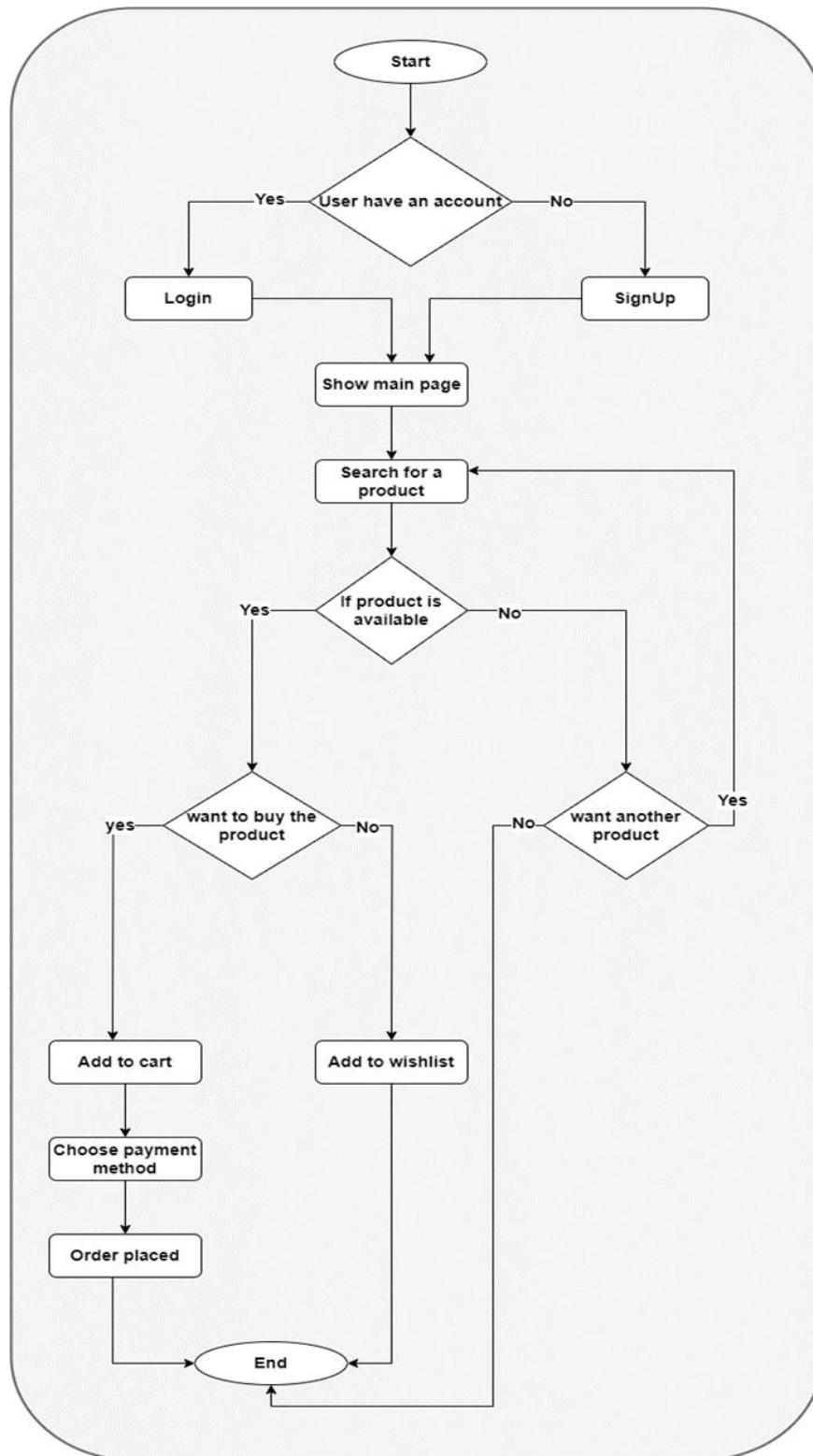
Requirements :

- **Functional requirements :**
- **Admin :**
- **Product Management:**
 - 1- Add new cookies to the inventory with details.
 - 2- Edit/update existing product information.
 - 3- Remove products.
- **User Management:**
 - 1- View and manage user accounts.
 - 2- Remove accounts if necessary.
 - 3- Reset user passwords.
- **Order Management:**
 - 1- View and process incoming orders.
- **Feedback Management:**
 - 1- Access and review customer feedback messages.

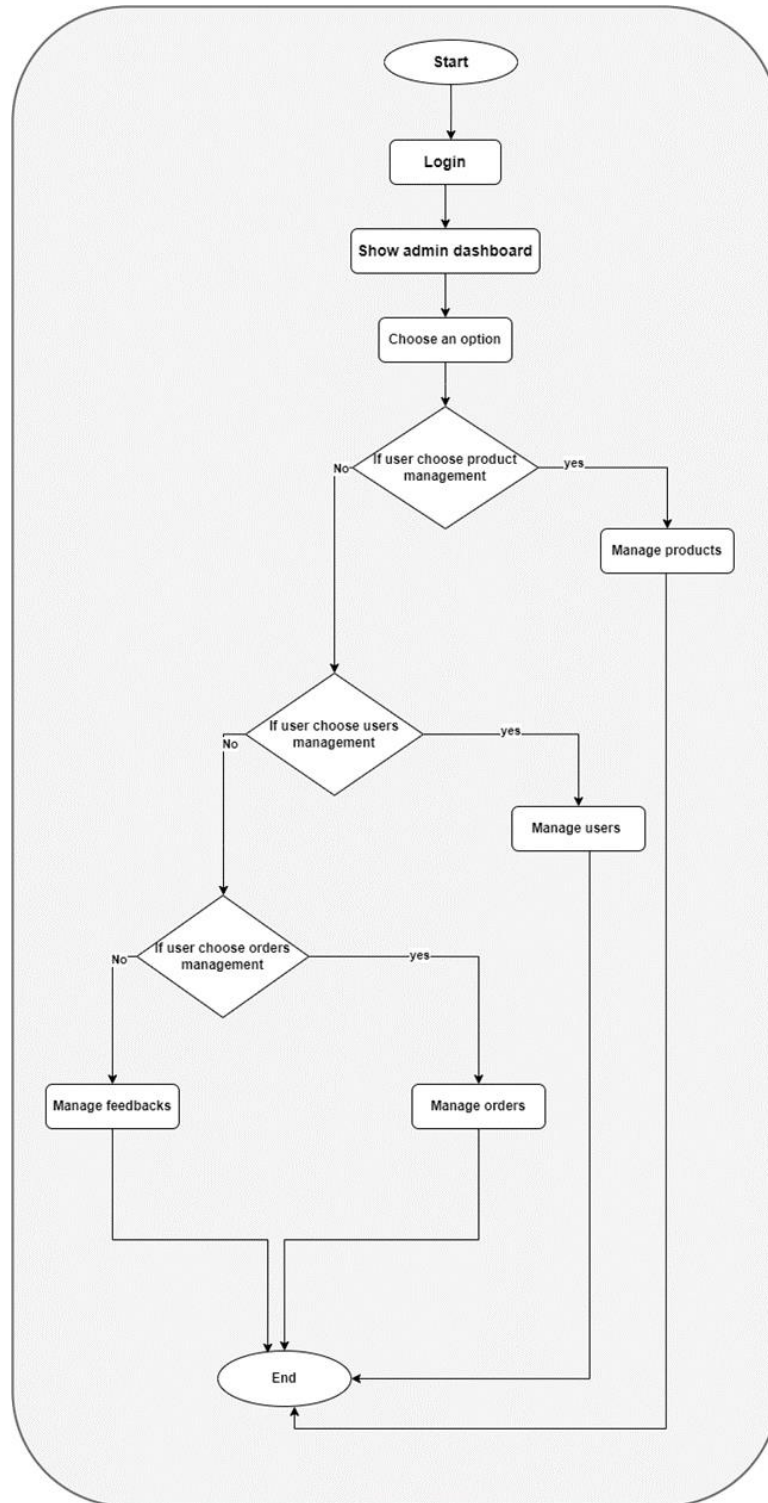
- **User :**
- **User Registration and Authentication:**
 - 1-Allow users to create/delete accounts and log in/log out.
 - 2-Update personal profile information (name, shipping address...).
- **Product Searching:**
 - 1-Browse through different categories of cookies and filter products by attributes (e.g flavors)
 - 2-View detailed product information, including descriptions, images, and pricing.
- **Advanced Search:**
 - 1-Provide an advanced search with options like price range, category, and customer ratings.
- **Shopping Cart and Check-out:**
 - 1-Add cookies to a shopping cart and adjust quantities.
 - 2-Calculate order totals, including shipping costs.
 - 3-Proceed through a checkout process with multiple payment options.
 - 4-Apply discounts and promotions at checkout.
 - 5-Select the preferred shipping method and delivery address.
- **Wishlist:**
 - 1-Users can create and manage wishlists.
 - 2-User can transfer items from wishlist to cart.
- **Notifications:**
 - 1-User receives information about order confirmation, shipping updates, and promotions.
 - 2-User can stop notifications whenever he wants.
- **Order Tracking and History:**
 - 1-View order history and track the status of current orders(shipping updates, and delivery information).
- **Product Reviews and Ratings:**
 - 1-Leave reviews and ratings for purchased cookie products.
 - 2-Filter and sort products based on ratings or reviews.
- **Contact us:**
 - 1-send messages for inquiries, issues, or feedback.

- **Non Functional Requirements:**
- **Performance:**
 - 1-The website should be able to handle a high volume of traffic.
 - 2-The website should be able to process transactions quickly.
 - 3-The website should be able to load pages quickly.
- **Security:**
 - 1-The website should be secure from hackers.
 - 2-The website should protect customer data.
 - 3-The website should use secure payment processing methods.
 - 4-The website should protect user reviews from unauthorized access.
- **Usability:**
 - 1-The website should be easy to use.
 - 2-The website should provide a clear and concise product description.
 - 3-The website should provide a way to easily leave reviews.
- **Reliability:**
 - 1-The website should be reliable and available 24/7.
 - 2-The website should be able to recover from failures quickly.
 - 3-The website should be able to handle a large volume of user reviews.
 - 4-The website should be able to recover from data loss quickly.
- **Scalability:**
 - 1-The website should be able to accommodate a growing product catalog.
 - 2-The website should be able to handle increasing user review volumes.
 - 3-The website should be able to handle increasing traffic volumes.

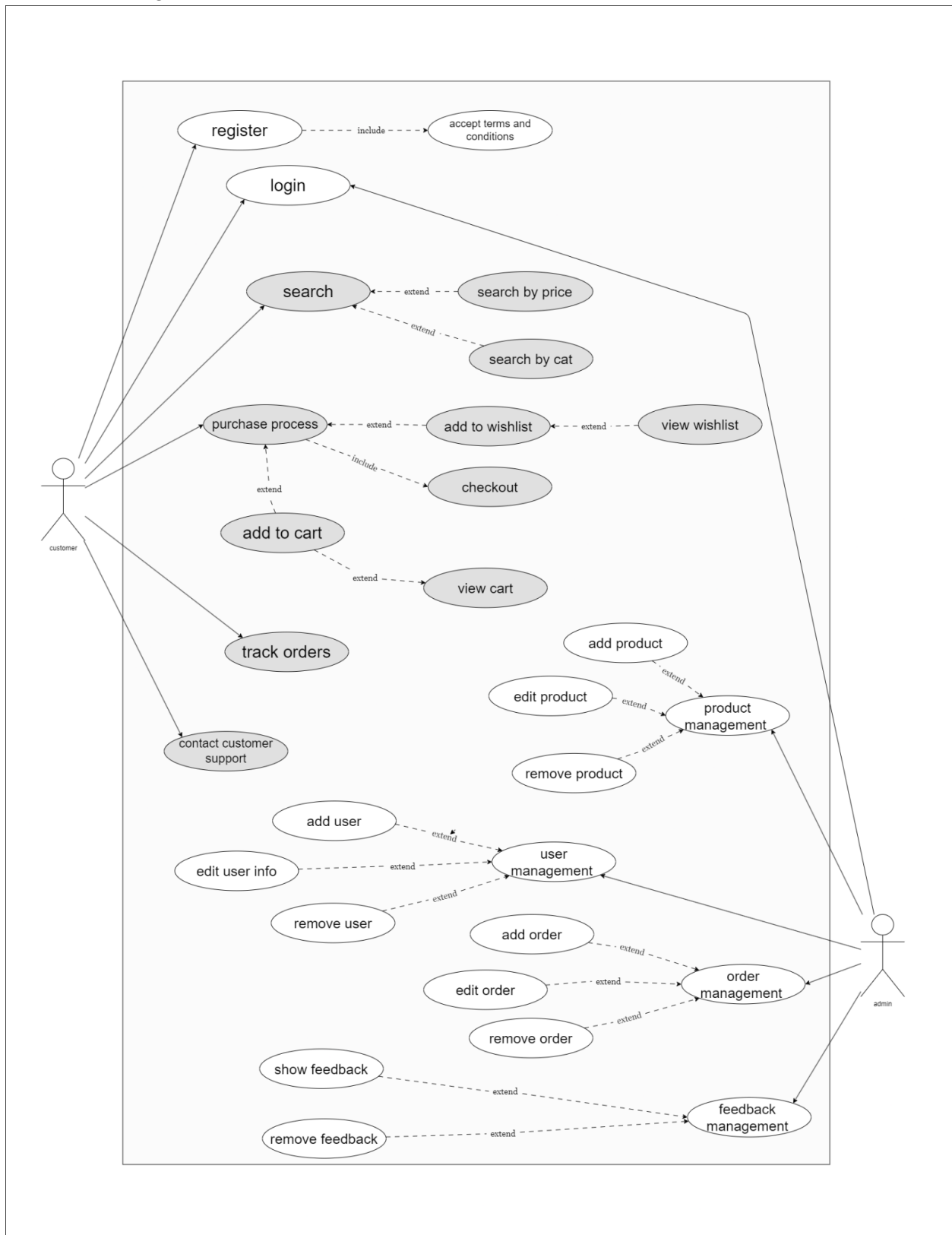
- Workflows :
- User workflow



- **Admin workflow**



-Use case diagram:



-Use case descriptions:

1-Admin login

Use case ID	UC-01
Use case name	Admin Log In
Preconditions:	-Admin credentials (username and password) are valid and registered in the system.
Postconditions:	-Admin is successfully authenticated and gains access to the admin dashboard. - In case of unsuccessful login attempts, the system provides appropriate error messages.
Actor:	Admin
Trigger:	-Admin navigates to the login page and enters valid credentials.
Goal:	-To authenticate the admin and grant access to the admin dashboard.
Standard Process (Main Success Scenario):	<p>- Admin navigates to the login page.</p> <p>-System presents a login form requesting the admin's username and password.</p> <p>-Admin enters valid credentials.</p> <p>-System verifies the credentials against the stored data.</p> <p>If the credentials are valid:</p> <p>a. System grants access to the admin dashboard.</p> <p>b. Admin gains the ability to perform admin-level functions (product management, user management, order management, feedback management).</p> <p>c. System logs the successful login for security purposes.</p> <p>If the credentials are invalid:</p> <p>a. System displays an error message indicating the login failure.</p> <p>b. Admin is prompted to re-enter the credentials.</p>

2- Product management

Use case ID	UC-02
Use case name	Admin Product Management
Preconditions:	<ul style="list-style-type: none">-Admin is logged into the system.-The admin has the necessary permissions for product management.
Postconditions:	<ul style="list-style-type: none">-Product information is successfully updated in the system, Changes are reflected in the user interface.
Actor:	Admin
Trigger:	<ul style="list-style-type: none">-Admin selects the "Product Management" option from the admin dashboard.
Goal:	<ul style="list-style-type: none">-To manage and update product information in the system.
Standard Process (Main Success Scenario):	<ul style="list-style-type: none">-Admin logs into the system using valid credentials.-Admin navigates to the admin dashboard.-Admin selects the "Product Management" option.-System displays a list of existing products.-Admin selects a specific product to manage.-System presents options for product management, including:<ul style="list-style-type: none">a. View product details.b. Edit product information (name, price, description, etc.).c. Add new products to the inventory.d. Delete existing products.- Admin chooses an action and provides the necessary details.-System updates the product information.- Changes are reflected in the product list.

3- User management

Use case ID	UC-03
Use case name	Admin Users Management
Preconditions:	<ul style="list-style-type: none">-Admin is logged into the system.-The admin has the necessary permissions for user management
Postconditions:	-User information is successfully updated in the system, Changes are reflected in the user interface.
Actor:	Admin
Trigger:	-Admin selects the "User Management" option from the admin dashboard.
Goal:	-To manage and update user information in the system.
Standard Process (Main Success Scenario):	<ul style="list-style-type: none">-Admin logs into the system using valid credentials.-Admin navigates to the admin dashboard.-Admin selects the "User Management" option.-System displays a list of existing users.-Admin selects a specific user to manage.-System presents options for user management, including:<ul style="list-style-type: none">a. View user details.b. Edit user information (name, email, etc.).c. Add new users to the system.d. Deactivate or delete existing user accounts.Admin chooses an action and provides the necessary details.System updates the user information.Changes are reflected in the user list.

4- Orders management

Use case ID	UC-04
Use case name	Admin Orders Management
Preconditions:	<ul style="list-style-type: none">-Admin is logged into the system.-The admin has the necessary permissions for order management
Postconditions:	<ul style="list-style-type: none">-Order information is successfully updated in the system.-Changes are reflected in the order status and relevant user accounts.
Actor:	Admin
Trigger:	-Admin selects the "Order Management" option from the admin dashboard.
Goal:	-To manage and update order information in the system.
Standard Process (Main Success Scenario):	<ul style="list-style-type: none">-Admin logs into the system using valid credentials.-Admin navigates to the admin dashboard.-Admin selects the "Order Management" option.-System displays a list of existing orders, including order details (order number,total etc.).-Admin selects a specific order to manage.- System presents options for order management, including:<ul style="list-style-type: none">a. View detailed order information.b. Update order status (e.g., processing, shipped, delivered, canceled).c. Add or remove products from the order.Admin chooses an action and provides the necessary details.System updates the order information.Changes are reflected in the order list and relevant user accounts.

5-Feedback management

Use case ID	UC-05
Use case name	Admin Feedback Management
Preconditions:	<ul style="list-style-type: none">-Admin is logged into the system.-The admin has the necessary permissions for feedback management.
Postconditions:	<ul style="list-style-type: none">-Feedback information is successfully processed and may influence improvements in the system.
Actor:	Admin
Trigger:	<ul style="list-style-type: none">-Admin selects the "Feedback Management" option from the admin dashboard.
Goal:	<ul style="list-style-type: none">-To manage feedback provided on the website.
Standard Process (Main Success Scenario):	<ul style="list-style-type: none">-Admin logs into the system using valid credentials.-Admin navigates to the admin dashboard.-Admin selects the "Feedback Management" option.-System displays a list of user feedback, including details such as the user's name, date, and feedback content.-Admin selects a specific feedback entry to manage.-System presents options for feedback management, including:<ul style="list-style-type: none">a. View detailed feedback content.b. Categorize the feedback (e.g., positive, negative, suggestion).Admin chooses an action and provides the necessary details.If necessary, admin communicates with the user for clarification or additional information.Changes are reflected in the feedback list.

6-User registration

Use case ID	UC-06
Use case name	User Registration
Preconditions:	<ul style="list-style-type: none">-The user is accessing the website for the first time.-The user has a valid email address.
Postconditions:	<ul style="list-style-type: none">-User account is successfully created.-User is logged into the system.
Actor:	User
Trigger:	<ul style="list-style-type: none">-User clicks on the "Sign Up" button.
Goal:	<ul style="list-style-type: none">-To create a new user account on the website.
Standard Process (Main Success Scenario):	<ul style="list-style-type: none">-User navigates to the registration page.-System presents a registration form, requesting information such as name, email, password, etc.-User enters valid registration details.-System validates the entered information.- If validation is successful:<ul style="list-style-type: none">a. System creates a new user account. <p>User account is activated, and the user is redirected to the login page.</p> <p>User logs in with the newly created credentials.</p>

7-User login

Use case ID	UC-07
Use case name	User Login
Preconditions:	<ul style="list-style-type: none">-User account is successfully registered.-User has valid login credentials.
Postconditions:	<ul style="list-style-type: none">-User is successfully authenticated and logged into the system.-User gains access to personalized features.
Actor:	User
Trigger:	<ul style="list-style-type: none">-User clicks on the "Log In" button.
Goal:	<ul style="list-style-type: none">-To access the user account on the website.
Standard Process (Main Success Scenario):	<ul style="list-style-type: none">-User navigates to the login page.-System presents a login form, requesting the user's email and password.-User enters valid login credentials.-System verifies the credentials against the stored data. <p>If the credentials are valid:</p> <ul style="list-style-type: none">a. System logs the user into the system.b. User gains access to personalized features (cart, wish list, etc.).c. User is redirected to the main user page (cookies page). <p>If the credentials are invalid:</p> <ul style="list-style-type: none">a. System displays an error message indicating the login failure.b. User is prompted to re-enter the credentials.

8-User feedback

Use case ID	UC-08
Use case name	User Feedback
Preconditions:	<ul style="list-style-type: none">-User is logged into the website.-The user is on the "Contact Us" page.
Postconditions:	<ul style="list-style-type: none">-Feedback is successfully submitted through the contact form.-The feedback shown in admin dashboard in feedback management part.
Actor:	User
Trigger:	<ul style="list-style-type: none">-User clicks on the "Contact Us" link or button.
Goal:	<ul style="list-style-type: none">-To provide feedback or inquiries through the website's contact form.
Standard Process (Main Success Scenario):	<ul style="list-style-type: none">-User navigates to the "Contact Us" page.-System presents a contact form with fields such as name, email, and message.-User fills in the required information and provides feedback in the message field.-User clicks on the "Submit" or "Send" button.-System validates the entered information. <p>If validation is successful:</p> <ol style="list-style-type: none">a. System records the feedback in the admin dashboard.

9-User search

Use case ID	UC-09
Use case name	User Search for Specific Product
Preconditions:	<ul style="list-style-type: none">-User is on the website's main page or a product-related page.-The website has an active search functionality.
Postconditions:	<ul style="list-style-type: none">-User is presented with relevant search results based on the entered query.-User can view detailed information about the specific product.
Actor:	User
Trigger:	-User enters a search query in the search bar and clicks the "Search" button.
Goal:	-To find and view detailed information about a specific product on the website.
Standard Process (Main Success Scenario):	<ul style="list-style-type: none">-User navigates to the website's main page or a product-related page.-User locates the search bar on the page.-User enters a search query for a specific product.-System processes the search query.-System presents a list of relevant search results, including product names and brief descriptions.-User clicks on a specific search result.-System displays detailed information about the selected product, including name, price, description, and images.-Optionally, user adds the product to the cart or Wishlist.

10-User add product to the cart

Use case ID	UC-10
Use case name	User Add Product to Cart
Preconditions:	<ul style="list-style-type: none">-User is logged into the website.-User is on the product details page or a page displaying the product.
Postconditions:	<ul style="list-style-type: none">-Product is successfully added to the user's cart.-User has the option to proceed to checkout.
Actor:	User
Trigger:	-User clicks the "Add to Cart" button on the products page.
Goal:	-To add a specific product to the user's shopping cart.
Standard Process (Main Success Scenario):	<ul style="list-style-type: none">-User navigates to the product details page or a page displaying the product.-User clicks the "Add to Cart" button.-System adds the selected product to the user's shopping cart.-System updates the cart icon to reflect the added product.-Optionally, User can continue shopping or proceed to the cart for checkout.

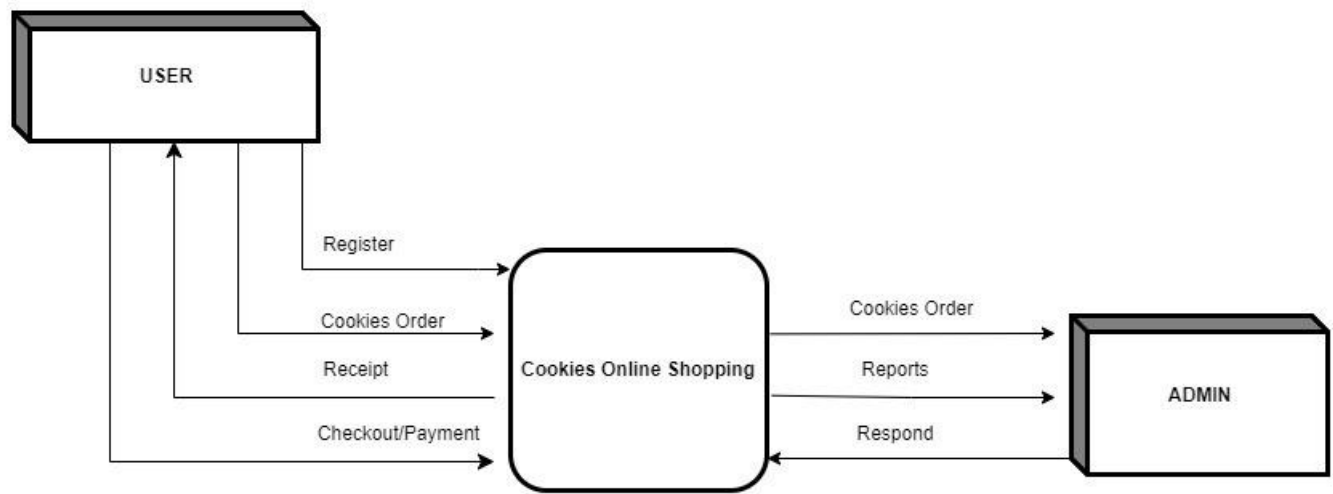
11-User add product to the Wishlist

Use case ID	UC-11
Use case name	User Add Product to Wishlist
Preconditions:	<ul style="list-style-type: none">-User is logged into the website.-User is on the product details page or a page displaying the product.
Postconditions:	<ul style="list-style-type: none">-Product is successfully added to the user's Wishlist.-User can view and manage products in their Wishlist.
Actor:	User
Trigger:	-User clicks the "Add to Wishlist" button on the products page.
Goal:	-To add a specific product to the user's Wishlist for future reference.
Standard Process (Main Success Scenario):	<ul style="list-style-type: none">-User navigates to the product details page or a page displaying the product.-User clicks the "Add to Wishlist" button.-System adds the selected product to the user's Wishlist.-Optionally, user can continue shopping or view their Wishlist for later reference.

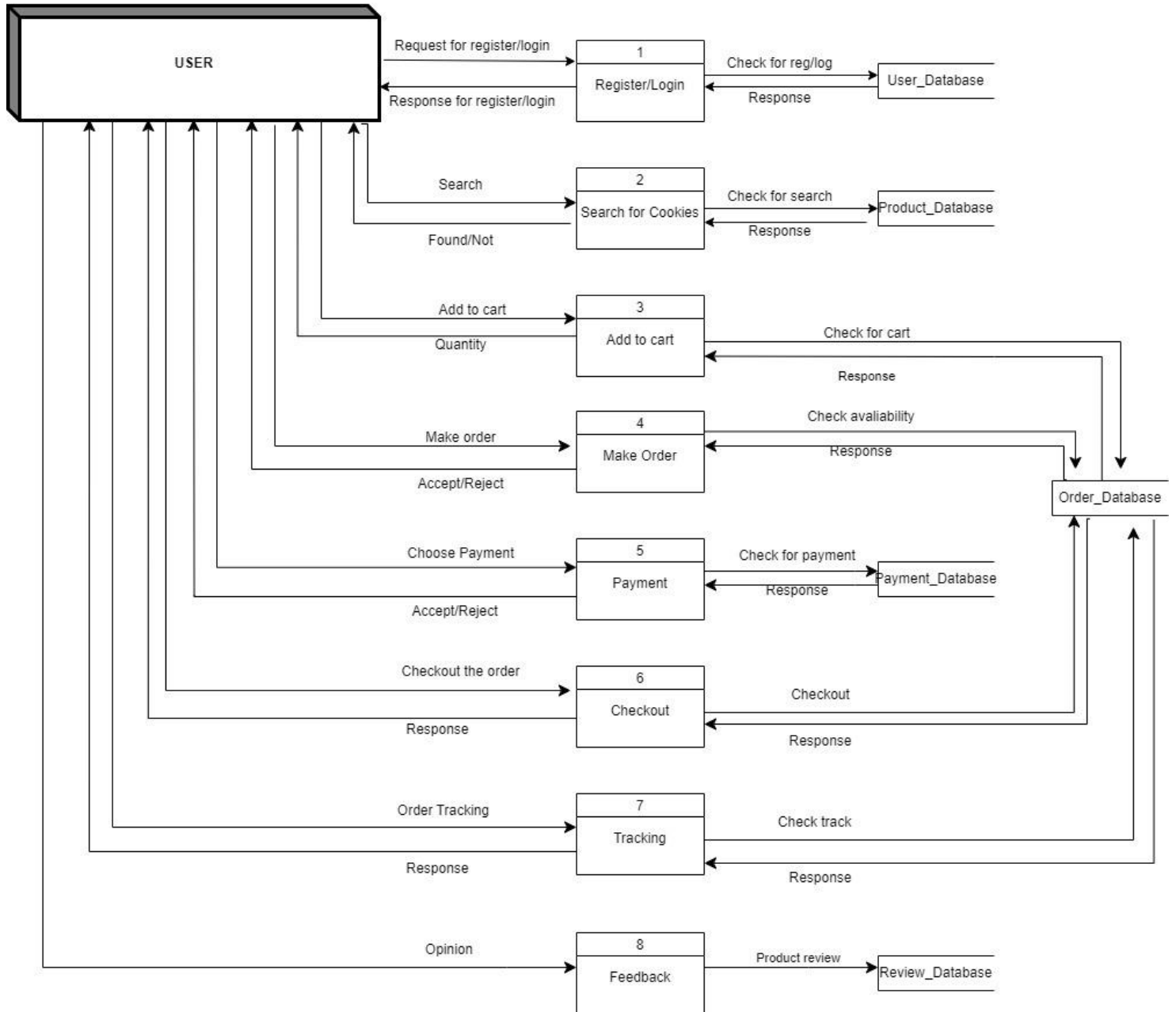
12-User track the order

Use case ID	UC-12
Use case name	User Track the Order
Preconditions:	<ul style="list-style-type: none">-User is logged into the website.-User has placed an order recently.
Postconditions:	<ul style="list-style-type: none">-The user is provided with information on the order status.-User may receive notifications for significant order updates.
Actor:	User
Trigger:	<ul style="list-style-type: none">-User clicks on the "orders" option in the user account or order confirmation page.
Goal:	<ul style="list-style-type: none">-To check the status and details of a placed order.
Standard Process (Main Success Scenario):	<ul style="list-style-type: none">-User logs into their account on the website.-User navigates to the "Order History" or "Track Order" or "My Orders" section.-System displays a list of the user's recent orders.-User selects the specific order they want to track. <p>System presents order information, including status, estimated delivery date.</p>

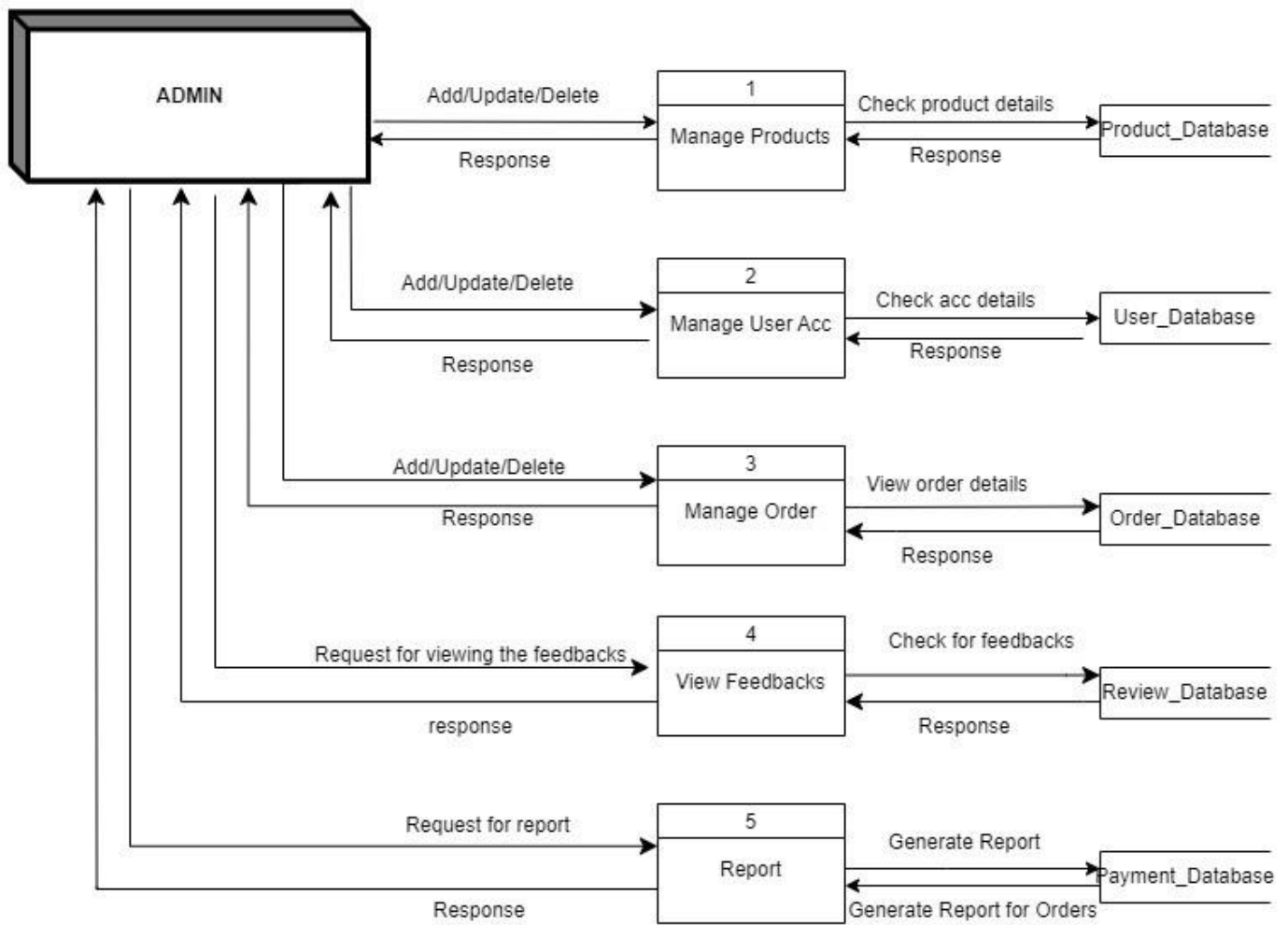
- Data flow diagrams:
- Context Diagram:



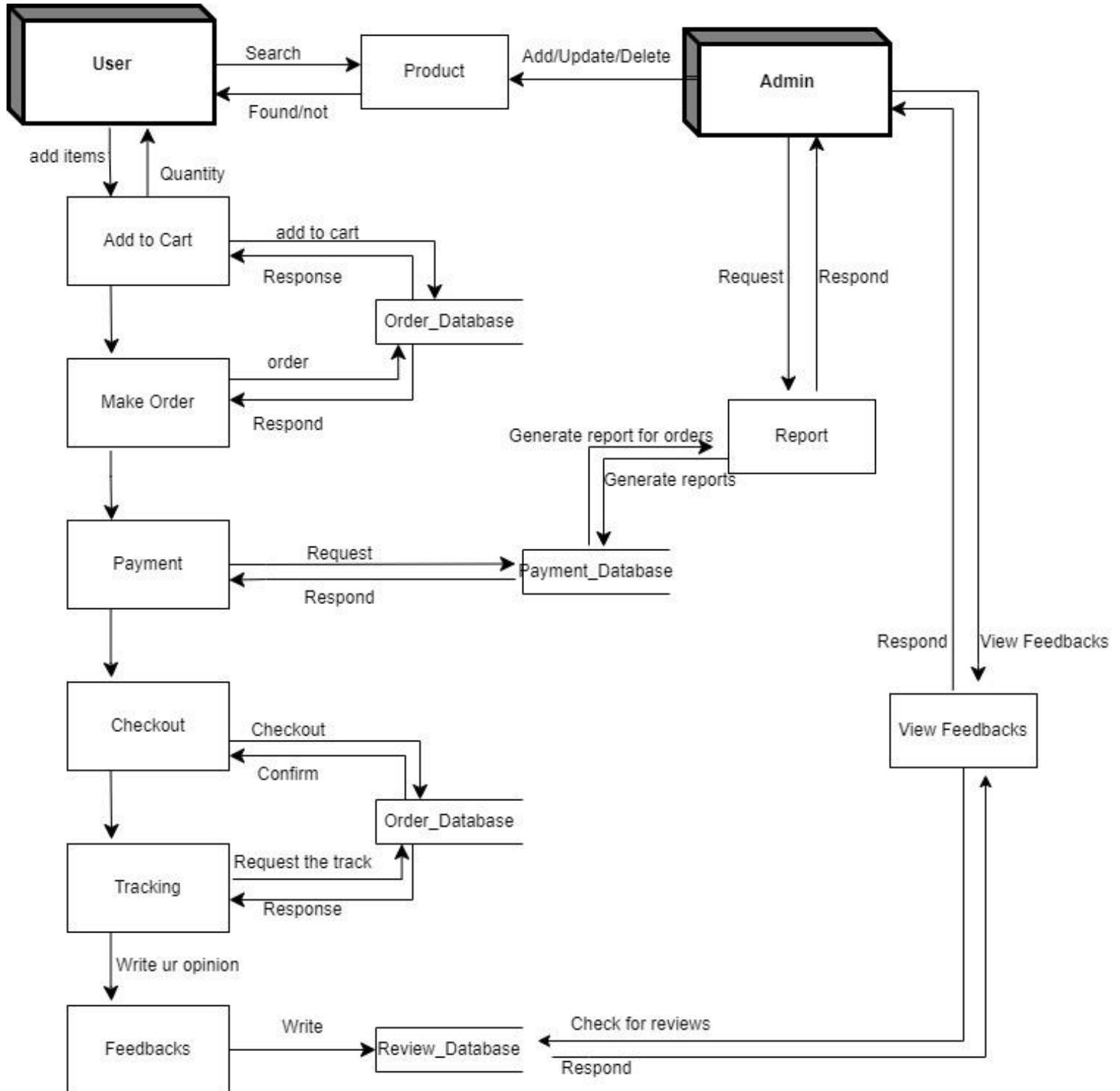
- Level 1 :
- User



- Admin:



- Admin and user:



- **Decision Tables**
- **Decision table description:**

The Cookies website follows the following sales promotion policy:

1-Product Ordering:

If a product is available in stock and the customer adjusted the order quantity and completed the checkout process, the product will be placed out for shipping.

If the product is available in stock and completed the checkout process, the product will be placed out for shipping with the default quantity (1).

If the product wasn't currently available in stock, the customer could pre-order the preferred quantity, and once available it would be put out for shipping.

Decision Table (Detailed): Product Ordering

Conditions								
Product stock level > 0	1	1	1	1	0	0	0	0
Customer adjusted order quantity	1	1	0	0	1	1	0	0
Checkout Process Completed	1	0	1	0	1	0	1	0
Actions								
Allow product to be added to cart		x		x				
Place order out for Shipping	x		x					
Prevent add to cart action						x		x
Pre-order(reserve)					x		x	

Decision Table (Condensed):

Conditions				
Product stock level > 0	1	1	0	0
Customer adjusted order quantity	-	-	-	-
Checkout Process Completed	1	0	0	1
Actions				
Allow product to be added to cart		x		
Place order out for Shipping	x			
Prevent add to cart action			x	
Pre-order(reserve)				x

2- Discounts and promotions:

If the customer used the payment method, he would be eligible for a 10% discount.

If a customer has never placed an order before, a 10% discount will be applied.

The site's policy states that each set of 12 cookies is counted as a bundle.

If the customer ordered 2 or more bundles, he would be eligible for a 10% discount.

Decision Table (Detailed): Discounts and promotions

Conditions								
First time customer	1	1	1	1	0	0	0	0
Use paypal payment method	1	1	0	0	1	1	0	0
Ordered 2 or more bundles	1	0	1	0	1	0	1	0
Actions								
10% discount				x		x	x	
20% discount		x	x		x			
30% discount	x							
No Discount								x

3- Shipping:

If a customer's shipping address lies in the cities that provide shipping options and the customer ordered 12 cookies or more and the payment method is cash, a free shipping option is granted.

If the shipping address is eligible and the payment method is cash but the ordered quantity is less than 12 pieces then shipping taxes will be required.

If the customer's shipping address lies outside the cities that provide shipping options no shipping will be available

1-Decision Table (Detailed): Shipping

Conditions								
Shipping address is within the cities that the store ships to.	1	1	1	1	0	0	0	0
Cash on delivery	1	1	0	0	1	1	0	0
Order Quantity>=12 pieces	1	0	1	0	1	0	1	0
Actions								
Free shipping	x		x					
Pay shipping taxes		x		x				
No shipping					x	x	x	x

Decision Table (Condensed):

Conditions			
Shipping address is within the cities that the store ships to.	1	1	0
Cash on delivery	-	-	-
Order Quantity >= 12 pieces	1	0	-
Actions			
Free shipping	x		
Pay shipping taxes		x	
No shipping			x