**Assignment 1:
Que 1. Please make a BRD which can be presented to the client along with complete development and resource plan.**

1. **Document Revisions**

|  |  |  |
| --- | --- | --- |
| Date Version  | Number | Document Changes |
| 1/6/2024 | 0.2 |  |

1. **Approvals**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Role | Name  | Title  | Signature  | Date |
| Project Sponsor  | Kalyani | Senior Executive  | Kalyani | 1/6/2024 |
| Business Owner | Praful | Head of Loan Division | Praful | 11/6/2024 |
| System Architect | Jovial |

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| Project Manager |

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 | Jovial | 13/6/2024 |
| Development Lead | Snehal |

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| System Architect |

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 | Snehal | 14/6/2024 |
| Lead User  | Sanchita |

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 | Sanchita | 16/6/2024 |
| User Experience Lead  | Punam | UX Designer  | Punam | 17/6/2024 |
| Quality Lead  | Satish | QA Manager  | Satish | 18/6/2024 |
| Content Lead | Vaishali | Content Specialist  | Vaishali | 19/6/2024 |

1. **3. RACI Chart for This Document**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Position | R | A | C | I |
| Kalyani |

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| Project Sponsor |

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| Praful |

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| Business Owner |

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| Jovial |

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| Project Manager |

 | ✓ |  | ✓ | ✓ |
| Snehal | System Architect | ✓ |  | ✓ | ✓ |
| Sanchita |

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| Development Lead |

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| Punam |

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| UX/UI Lead |

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| Satish | QQA | ✓ |  | ✓ |  |
| Vaishali |

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| IT  |

Integration team

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| Suresh | Marketing Team |  |  | ✓ | ✓ |
| Ramesh | Support Team |  |  | ✓ | ✓ |

**4. Introduction**

 **4.1. Business Goals**

* **Efficient Inventory Management:** Ensure real-time stock tracking across multiple manufacturing plants and warehouses.
* **Optimized Delivery System:** Minimize delivery time and maximize order fulfillment efficiency.

**4.2. Business Objectives**

* Enhance customer satisfaction by offering delivery and improved service Automate inventory tracking and reduce stock discrepancies.
* Enable seamless communication between manufacturing plants, warehouses, and delivery teams.
* Implement AI-driven delivery route optimization for quicker customer deliveries.
* Provide real-time reporting and analytics for inventory and logistics management.

**4.3. Business Rules**

#### **Organization Policies and Procedures`**

* Orders must be processed within **30 min** of placement.
* Warehouse stock updates must occur in **real-time**.
* Delivery must occur within **24 hours** for local orders and **48 hours** for national orders.
* Inventory levels should trigger automated restocking when reaching the **minimum threshold.**

####  **Rules & Regulations**

* Compliance with **FSSAI (Food Safety and Standards Authority of India)** for food storage & transportation.
* Follow **temperature-controlled** storage regulations for dairy and ice-cream products.
* Adherence to **taxation and billing laws** based on region.

 **4.4. Background**

The company operates multiple **manufacturing plants and warehouses** across the country and supplies **ice cream and milk products** to customers. Current operations involve **manual inventory tracking and delivery management**, leading to inefficiencies. A new software solution is required to streamline operations and improve efficiency.

 **4.5. Project Objective**

To develop an **automated inventory and delivery management system** that integrates with warehouses and delivery channels to reduce errors, optimize stock levels, and improve order fulfillment speed.

 **4.6. Project Scope**

**4.6.1. In Scope Functionality**

* Inventory tracking and automated stock updates.
* AI-driven delivery route optimization.
* Order management system with real-time status updates.
* Customer notifications via email/SMS for order tracking.
* Analytics dashboard for inventory and delivery performance.

**4.6.2. Out Scope Functionality**

* Payment gateway integration.
* Integration with external **third-party logistics providers.**
* Mobile app development (limited to web-based system for Phase 1).

**5. Assumptions**

* The company will provide all existing inventory and logistics data for migration.
* Internet connectivity will be available at all warehouses and manufacturing plants.
* Users will be trained to use the new system effectively.
1. **Constraints**
* **Budget Limitation:** The project must be developed within the allocated budget.
* **Timeframe:** The system must be operational within X months.
* **Regulatory Compliance:** The system must comply with food safety and transport regulations.
1. **Risks**
* **Data Migration Challenges:** Risk of errors while transferring existing inventory records.
* **User Adoption Issues:** Resistance from employees to new technology.
* **System Downtime:** Any failure in the software could disrupt order processing.
* **Scalability Issues:** Future expansion may require additional infrastructure.

**8 Business Process Overview**

**8.1. Legacy System (AS-IS)**

* **Manual** inventory tracking leads to stock discrepancies.
* Orders are processed via **phone and emails**, causing delays.
* Delivery routes are **not optimized**, resulting in higher fuel costs and longer delivery times.

 **8.2. Proposed Recommendations (to be)**

* **Automated inventory tracking** to reduce stock mismatches.
* **Centralized order processing system** for faster handling.
* **AI-based delivery route optimization** to reduce delivery time.
* **Automated customer notifications** for better order tracking.

 **9. Business Requirements**

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| Requirement ID |

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| **Requirement****Description** |

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| **System Functionality** |

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 | Priority |
| FR1 | Track inventory |

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| The system must track real-time inventory at all manufacturing plants and warehouses. |

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 | High |
| FR2 | Restock alert |

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| The system must generate low-stock alerts and reorder recommendations. |

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 | High |
| FR3 | Track Orders | The system must track product expiration dates and suggest stock rotation | High |
| FR4 | Online delivery | The system must enable customers to place online orders. | Medium |
| FR5 | Allocate stock | The system must allocate orders to the nearest warehouse with available stock. | High |
| FR6 | Third party logistics | The system must integrate with third-party logistics for seamless order dispatch. | Medium |
| FR7 | Reports on stock | The system must generate reports on stock movement, sales, and demand trends. | Highe |
| FR8 | Optimize delivery rout | The system must optimize delivery routes based on real-time traffic data. | Medium |
| FR9 | Customer track order | The system must allow customers to track their order status and estimated delivery time. | High |

**10. Appendices**

**10.1. List of Acronyms**

* **AI** – Artificial Intelligence
* **ERP** – Enterprise Resource Planning
* **FSSAI** – Food Safety and Standards Authority of India

 **10.3 Glossary of Terms**

* **Inventory Management:** Tracking and maintaining stock levels across multiple locations.
* **Route Optimization:** AI-driven process to find the fastest delivery path.
* **Stock Replenishment:** Automated system to order more stock when inventory is low.

**10.3. Related Documents**

* Process Flow Diagram
* System Architecture Diagram
* Use Case Documentation

**Que 2. Prepare process flow diagram using your imagination.**

Raw Material Procurement
(Suppliers send ingredients milk, sugar, flavors to manufacturing plants.)

**Manufacturing (**Ice cream and milk products are produced.)

**Quality Check & Storage** (Products are checked and stored in warehouses.)

**Customer Order** (Customers place orders via an app/website.)

Order Processing (Warehouse staff picks & packs the order.)

Stock Availability Check (If available → Proceed to order fulfillment. If unavailable → Trigger restocking.)

Delivery Optimization (AI selects the fastest delivery route..)

**Order Dispatched** (Orders are sent via delivery trucks.)

**Order Delivered** (Inventory updates & customer confirmation received.)

**Assignment 2:
1. Write an introduction letter to a client introducing yourself as a business analyst in charge of working with the client and his team to start the business understanding process.**
**Subject:** Introduction as Business Analyst for Project Collaboration

Dear Pradeep,

I hope this email finds you well. My name is Kalyani Shelke, and I am pleased to introduce myself as the **Business Analyst** assigned to collaborate with you and your team on this exciting project. I look forward to working closely with you to ensure a thorough understanding of your business needs and objectives.

Our primary goal at this stage is to establish a clear **business understanding,** identify key requirements, and define a roadmap that aligns with vision. Through structured discussions, requirement-gathering sessions, and process analysis, I aim to help bridge the gap between business needs and technical implementation, ensuring a smooth and efficient development process.

To get started, I would love to schedule an **initial discussion** at your convenience to discuss your expectations, challenges, and desired outcomes for the project. Please let me know a time that works best for you.

I look forward to collaborating with you and contributing to the success of this initiative. Feel free to reach out if you have any immediate questions.

Best Regards,
kalyani shelke
Business Analyst
7448795678
Jocayta

**2. Prepare a brief BRD and SRS for a project- Horoscope or Ticketing system or online store.**

**Online store**

**1 Document Revisions**

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**2 Approvals**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Role | Name  | Title  | Signature  | Date |
| Project Sponsor  | Kalyani | Senior Executive  | Kalyani | 1/6/2024 |
| Business Owner | Praful | Head of Loan Division | Praful | 11/6/2024 |
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| --- |
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| IT  |

Integration team

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 | ✓ |  | ✓ | ✓ |
| Suresh | Marketing Team |  |  | ✓ | ✓ |
| Ramesh | Support Team |  |  | ✓ | ✓ |

**4. Introduction**

 **4.1. Business Goals**

* Develop an online platform for seamless product browsing and purchasing.
* Ensure secure and efficient payment processing.
* Optimize inventory and order management.
* Enhance customer experience with fast delivery and support services.

**4.2. Business Objectives**

* Integrate a secure and user-friendly payment gateway.
* Implement real-time inventory tracking.
* Provide a robust order management system with tracking and notifications.
* Offer customer support through chat and call assistance.

**4.3. Business Rules**

#### **Organization Policies and Procedures**

* Customers must register to place orders.
* Payments should be processed securely via the integrated payment gateway.
* Orders can be canceled within a stipulated time before shipment.
* Inventory updates should be real-time to prevent stockout issues.
* Delivery times should be based on location and product availability.

####  **Rules & Regulations**

* Compliance with e-commerce laws and consumer protection policies.
* Secure handling of user data in accordance with GDPR and data privacy laws.
* Compliance with agricultural product regulations and chemical safety standards.
* Adherence to taxation laws based on the region of operation

 **4.4. Background**

The current market lacks a **dedicated online platform** for customer. The business aims to bridge this gap by providing an **easy-to-use e-commerce platform** with efficient logistics and order fulfillment.

 **4.5. Project Objective**

To build an **end-to-end online store** that enables customers to browse, purchase, and receive products efficiently while ensuring seamless inventory and order management.

 **4.6. Project Scope**

**4.6.1. In Scope Functionality**

* User registration and authentication.
* Product catalog with detailed descriptions and pricing
* Secure online payment integration.
* Order tracking and notifications.
* Admin dashboard for inventory and order management.
* Customer support system.
* Reports and analytics for business insights.

.

**4.6.2. Out Scope Functionality**

* Integration with third-party logistics providers (Phase 2 feature).
* International shipping (Limited to domestic operations in Phase 1).
* Mobile app development (Web-based system for initial release).

**5. Assumptions**

* The company will provide product data, pricing, and supplier details.
* Internet access is available for all users.
* Payment gateway integration will comply with financial regulations.
* Sufficient storage and server capacity for peak traffic handling.
1. **Constraints**
* Budget Limitations: Development must be completed within allocated funds.
* Time Constraints: The project must be delivered within X months.
* Regulatory Compliance: Must adhere to taxation and data protection laws.
* Technical Limitations: Initial version will be web-based only.
1. **Risks**
* Cybersecurity Threats: Risk of data breaches and fraud.
* Operational Challenges: Difficulty in integrating real-time inventory updates.
* **Scalability Issues:** Increased demand may require server upgrades.
* Logistics Dependencies: Delivery delays due to transportation challenges.
* User Adoption Issues: Farmers may face difficulties in transitioning to online purchasing.

**8 Business Process Overview**

**8.1. Legacy System (AS-IS)**

* Farmers rely on physical stores for purchases.
* Orders are manually managed through phone calls and paperwork.
* Payments are typically cash-based, leading to accounting inefficiencies.
* Delivery is unstructured, relying on local distributors.

 **8.2. Proposed Recommendations (to be)**

* Fully automated e-commerce platform with online product selection and ordering.
* Secure online payment system with multiple payment options.
* Integrated order tracking and customer notifications.
* AI-driven inventory management to prevent stockouts.
* Data analytics for demand forecasting and business growth insights.

 **9. Business Requirements**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Requirement ID |

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| **Requirement Description** |

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| **System Functionality** |

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 | Priority |
| FR1 |

|  |
| --- |
| Easy login |

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|  |
| --- |
| The system shall support secure user registration and authentication. |

 | High |
| FR2 | Browse product |

|  |
| --- |
|  |
| The platform shall allow customers to browse and search for products. |

|  |
| --- |
|  |

 | High |
| FR3 | Available product | The system shall provide real-time stock availability updates. | High |
| FR4 | Easy paymentmode | The payment gateway shall support multiple modes (Credit/Debit Cards, UPI, Net Banking). | Medium |
| FR5 | Order tracking | The system shall enable order tracking and delivery status updates | High |

**10. Appendices**

**10.1. List of Acronyms**

* **ERP** – Enterprise Resource Planning
* **UPI** – Unified Payments Interface
* **GDPR** – General Data Protection Regulation

 **10.3 Glossary of Terms**

* Inventory Management: Tracking and maintaining stock levels efficiently.
* Order Fulfillment: The process of receiving, processing, and delivering customer orders.
* Payment Gateway: A service that processes online payments securely.
* User Authentication: Verifying the identity of users accessing the system.

**10.3. Related Documents**

* System Architecture Diagram
* Use Case Documentation
* Process Flow Diagrams

## **SRS for a projecton online store.**

## **1. Introduction**

### **1.1 Purpose**

The purpose of this document is to define the software requirements for an online store facilitating the purchase of agricultural products. This document serves as a foundation for system development, testing, and deployment.

### **1.2 Scope**

The online store will enable users to browse, select, and purchase agricultural products. The system will support secure payments, real-time inventory management, order tracking, and customer support features.

### **1.4 Assumptions and Dependencies**

* Users will have internet access to access the platform.
* A payment gateway will be integrated for online transactions.
* Inventory data will be managed via an internal system or ERP.

## **3. Functional Requirements**

### **3.1 User Registration and Authentication**

* Users must register with valid credentials (email/phone verification).
* Passwords should be securely stored and encrypted.

### **3.2 Product Catalog and Search**

* Users should be able to search and filter products.
* Product descriptions, pricing, and availability should be displayed.

### **3.3 Shopping Cart and Checkout**

* Users can add/remove products from the cart.
* Checkout process should support multiple payment options.

### **3.4 Order Management**

* Users should receive order confirmation and tracking details.
* Admins should be able to update order status.

### **3.5 Inventory Management**

* System should auto-update stock levels after purchases.
* Admin should receive alerts for low stock items.

## **4. Non-Functional Requirements**

### **4.1 Performance Requirements**

* The system should handle 500 transactions per minute.
* Response time should not exceed 2 seconds.

### **4.2 Security Requirements**

* Data encryption for user-sensitive information.
* Role-based access control for different user types.

### **4.3 Availability Requirements**

* System uptime should be 99.9%.
* Daily backups should be maintained.

User story

|  |  |  |
| --- | --- | --- |
| UserStoryNo:1 | Tasks:02 | Priority: Medium |
| **As a** customer,**I want** to search and filter products by category, price, and rating,**So that** I can quickly find the items I need. |
| **BV:** 250 | **CP:** 04 |
| Acceptance Criteria :1. The system should allow keyword-based searches.
2. Filtering options should include price range, brand, and customer ratings.
3. The search results should display relevant product details.
 |

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| --- | --- | --- |
| UserStoryNo:2 | Tasks:03 | Priority: High |
| **As a** customer,**I want** to add products to my shopping cart and proceed to checkout,**So that** I can purchase my selected items conveniently. |
| **BV:** 400 | **CP:** 05 |
| Acceptance Criteria :1. The cart should store selected products until checkout.
2. Users should be able to modify quantities or remove items.
3. Secure payment options should be available (credit card, UPI, net banking).
 |

|  |  |  |
| --- | --- | --- |
| UserStoryNo:3 | Tasks:04 | Priority: Medium |
| **As a** customer,**I want** to track my order status after purchase,**So that** I know when to expect my delivery. |
| BV:250 | CP:03  |
| Acceptance Criteria :1. Users should be able to check their order history.
2. The system should update order statuses (Processing, Shipped, Delivered).
3. Notifications should be sent for status updates.
 |

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| --- | --- | --- |
| UserStoryNo:4 | Tasks:04 | Priority: low |
| **As an** admin,**I want** to manage stock levels efficiently,**So that** products do not go out of stock unexpectedly. |
| **BV:** 150 | **CP:** 02 |
|  Acceptance Criteria :1. The system should notify the admin when stock is low.
2. Admins should be able to update stock levels.
3. The online store should automatically reflect updated stock availability.
 |

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| --- | --- | --- |
| UserStoryNo: 5 | Tasks:01 | Priority: High |
| **As a** new customer,**I want** to create an account on the online store,**So that** I can save my details, track orders, and make future purchases easily. |
| BV: 300 | CP:03 |
| Acceptance Criteria :1. The user must enter a valid email and phone number.
2. A verification link is sent to confirm registration.
3. Upon successful verification, the user can log in.
 |

Use case specifiaction

|  |  |
| --- | --- |
| USE Case ID | DC 001 |
| Use case name | User Registration |
| Created By | suman | Last update Date | 11-11-2024 |
| Date created | 1-11-2024 | Last Revision Date | 11-10-2024 |
| Actor | Customer, System |
| Description | This use case describes the process by which a **new customer registers** on the online store by providing their personal details and creating an account. |
| Pre-Condition | The online store website/application must be live and accessible.The user must have a valid email ID and/or mobile number for verification. |
| Post Condition | The user account is successfully created, and the user receives a confirmation message via email or SMS.The user can log in and start using the online store. |
| Normal flow of event | * The user accesses the registration page on the online store.
* The system displays a registration form requiring details such as name, email, phone number, password, and address.
* The user fills in the details and submits the registration form.
* The system validates the input (e.g., checks for missing fields, incorrect formats, or weak passwords).
* If the input is valid, the system stores user details in the database.
* The system sends a confirmation email or SMS with a verification link/code.
* The user verifies their account by clicking the link or entering the code.
* The system confirms registration and redirects the user to the login page.
 |
| Alternate Flow | * Invalid Input: If the user submits incomplete or incorrect details, the system highlights the errors and prompts the user to correct them.
* Duplicate Email/Phone Number: If the email or phone number is already registered, the system notifies the user and suggests using a different one.
* Verification Not Completed: If the user does not verify the account, they cannot log in.
* Resend Verification Link: The user can request a new verification link or code if they did not receive the first one.
 |
| Expectation | * If the server is down, the system should display an error message and allow the user to try again later.
* If the email/SMS service fails, the system should provide an option to resend the verification link.
 |
| Frequency of use | High |
| Assumption |  Users have a stable internet connection to access the platform. The system has email/SMS integration for sending verification links or codes. Users will provide accurate details during the registration process. |

|  |  |
| --- | --- |
| USE Case ID | DC 002 |
| Use case name | Order Management |
| Created By | suman | Last update Date | 11-11-2024 |
| Date created | 1-11-2024 | Last Revision Date | 11-10-2024 |
| Actor | Customer,System |
| Description | This use case describes the process of order placement, processing, and tracking in the online store. It ensures that a customer can successfully place an order, the system processes it, and the delivery partner fulfills it. |
| Pre-Condition | * The customer must be registered and logged in to place an order.
* The product must be available in stock.
* **The payment gateway must be functional for successful transactions**
 |
| Post Condition | * The order is successfully placed and confirmed.
* The customer receives an order confirmation email/SMS.
* The order status updates as it moves through processing, shipping, and delivery.
 |
| Normal flow of event |  The customer selects products and adds them to the shopping cart. The customer proceeds to checkout and provides shipping details. The system displays available payment methods. The customer selects a payment method and completes the transaction. The system verifies the payment and confirms the order. The order details are stored in the database, and an order ID is generated. The system notifies the admin and updates inventory. The order is assigned to a delivery partner for fulfillment. The system updates the order status as it progresses (Processing → Shipped → Out for Delivery → Delivered). The customer receives real-time updates via email/SMS. |
| Alternate Flow |  Product Out of Stock: If an item is unavailable, the system notifies the user and suggests alternatives. Payment Failure: If the payment fails, the user is prompted to retry with a different method. Address Issues: If the shipping address is invalid, the system requests the user to update it. Order Cancellation: The customer can cancel the order before it is shipped. |
| Expectation | * If the payment gateway is down, the system alerts the customer and provides an option to pay later.
* If the order processing system crashes, it should retry or notify the admin.
* If the delivery is delayed, the customer is notified with an estimated time.
 |
| Frequency of use | Very High |
| Assumption | 1. Customers have a valid payment method available.
2. The inventory management system is updated in real-time.
3. A delivery partner is available to fulfill the order.
 |

|  |  |
| --- | --- |
| USE Case ID | DC 003 |
| Use case name | Inventory Management |
| Created By | suman | Last update Date | 11-11-2024 |
| Date created | 1-11-2024 | Last Revision Date | 11-10-2024 |
| Actor | System, customer |
| Description | This use case describes the process of managing product inventory in the online store. It includes updating stock levels, handling low stock alerts, and ensuring product availability for customer orders. |
| Pre-Condition | * The admin or supplier must be logged in to update inventory.
* The inventory database must be accessible and synchronized with the system.
* The system must have real-time stock tracking enabled.
 |
| Post Condition | * The inventory database is updated with the latest stock levels.
* The system sends alerts if stock levels are low or out of stock.
* The updated inventory is visible on the online store for customers.
 |
| Normal flow of event | 1. The **admin/supplier logs into the system** and accesses the inventory module.
2. The **system displays current stock levels** of all products.
3. The **admin adds, updates, or removes products** from inventory.
4. The **system records and updates inventory changes** in the database.
5. If stock reaches a predefined **low threshold**, the system **sends a restocking alert.**
6. If a product goes **out of stock**, the system automatically marks it as "Out of Stock" in the online store.
7. The **admin can generate reports** to analyze stock levels and trends.
8. The system **synchronizes inventory data** across all warehouses and online listings.
 |
| Alternate Flow | 1. Incorrect Inventory Update: If an admin enters incorrect stock details, the system prompts for re-entry.
2. Sync Failure: If the inventory database fails to update, the system retries or alerts the admin.
3. Auto-Restock Feature: If enabled, the system places an order to suppliers when stock reaches the threshold.
4. Product Discontinuation: If a product is no longer available, the system removes it from the listing.
 |
| Expectation |  If the inventory database is unavailable, the system alerts the admin and logs the issue. If a restocking order is delayed, the system adjusts expected delivery times and notifies stakeholders. If a product is mistakenly listed as available, the system notifies affected customers and provides alternatives. |
| Frequency of use | High |
| Assumption | 1. **The system has real-time inventory tracking integrated.**
2. **The admin and suppliers have valid login credentials.**
3. **Stock updates reflect accurately across warehouses and the online store.**
4. **The system is capable of generating inventory reports for analysis.**
 |

|  |  |
| --- | --- |
| USE Case ID | DC 004 |
| Use case name | Add to Cart and Checkout |
| Created By | suman | Last update Date | 11-11-2024 |
| Date created | 1-11-2024 | Last Revision Date | 11-10-2024 |
| Actor | Customer, System |
| Description | This use case describes the process of adding products to the cart and completing the checkout process, including payment and order confirmation. |
| Pre-Condition | * The customer must be logged in (optional for guest checkout).
* The product must be available in stock.
* The payment system must be operational.
 |
| Post Condition | * The order is successfully placed, and an order confirmation is generated.
* The customer receives an order confirmation via email/SMS.
* The inventory is updated to reflect the purchase.
 |
| Normal flow of event |  The customer browses products and selects an item. The customer clicks "Add to Cart", and the system updates the cart. The customer can review, update quantity, or remove items from the cart. The customer proceeds to checkout. The system prompts the customer to enter shipping details. The system displays available payment options. The customer selects a payment method and completes the transaction. The system processes the payment through a secure gateway. Upon successful payment, the system confirms the order. The customer receives an order confirmation with tracking details. |
| Alternate Flow |  Product Out of Stock: If an item is unavailable, the system notifies the customer. Payment Failure: If payment is unsuccessful, the system allows retrying with a different method. Address Issues: If the shipping address is invalid, the system prompts for correction. Cart Abandonment: If the customer does not complete checkout, the system may send reminders. |
| Expectation |  If the payment gateway is down, the system notifies the user and allows order placement with a "Pay Later" option. If the system crashes during checkout, it saves cart data so the user can resume later. If inventory updates fail, the system prevents overselling by restricting checkout. |
| Frequency of use | High |
| Assumption | 1. Customers have a valid payment method.
2. The inventory system updates in real-time.
3. The system has email and SMS integration for order confirmations.
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| --- | --- |
| USE Case ID | DC 005 |
| Use case name | Product Search and View |
| Created By | suman | Last update Date | 11-11-2024 |
| Date created | 1-11-2024 | Last Revision Date | 11-10-2024 |
| Actor | Customer, System |
| Description | This use case describes the process by which a customer searches for products in the online store and views product details. |
| Pre-Condition |  The customer must have access to the online store (via website or mobile app). The system must have a functional product catalog with searchable attributes. |
| Post Condition | * The customer successfully finds the desired product.
* The system displays relevant search results with product details.
* The customer can proceed to add the product to the cart or wishlist.

. |
| Normal flow of event |   **The customer accesses the store's search bar or product categories.**** The customer enters keywords or selects filters (e.g., price, brand, category).**** The system retrieves matching products from the database.** **The system displays relevant product listings** with images, prices, and short descriptions. The customer clicks on a product to view details. The system displays the product page with full description, specifications, reviews, and stock availability. The customer can choose to add the product to the cart, wishlist, or compare it with others. |
| Alternate Flow |  No Search Results: If no products match the query, the system suggests similar products. Slow Search Response: If the system experiences delays, a loading indicator is shown. Invalid Search Query: If the search input is invalid (e.g., special characters), the system prompts for correction. |
| Expectation |  If the database is down, the system displays an error message and asks the customer to try later. If product images or details fail to load, the system provides a placeholder image and basic information. If a product is out of stock, the system notifies the customer and suggests alternatives. |
| Frequency of use | High |
| Assumption | 1. The product database is updated regularly.
2. Customers can refine their searches using filters.
3. The system provides real-time product availability information.
 |

**Que 3.Make an ERD of creating a support ticket/Ticketing life cycle.**

**Ticketing life cycle.**

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| --- |
| **customer** |
| Customer ID varchar |
| Name varchar |
| Email varchar  |
| Phone varchar |

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| --- |
| **Ticket** |
| Ticket ID int |
| User ID varchar |
| Issue des varchar |
| Status varchar |
| Created date int |
| Priority Varchar |

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| --- |
| **Support Agent** |
| Agent ID int |
| Name int |
| Email int |
| Phone varchar |

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| **Resolution** |
| Resolution ID int |
| Ticket ID int |
| Reso Details int |
| Resolution Date int |

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| **Ticket Assignment** |
| Assignment ID int |
| Ticket ID int |
| Agent ID int |
| Assigned Date int |

**Que 4. User story of shopping from ecommerce.**

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| UserStoryNo:1 | Tasks:01 | Priority: High |
| **As a new customer,**I want to create an account on the online store,So that I can save my details, track orders, and make future purchases easily. |
| BV: 300 | CP:03 |
| Acceptance Criteria :* The user must enter a valid email and phone number.
* A verification link is sent to confirm registration.
* Upon successful verification, the user can log in.
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| UserStoryNo:2 | Tasks:02 | Priority: Medium |
| **As a returning customer,**I want to log in using my email and password,So that I can access my saved account details. |
| **BV:** 250 | **CP:** 04 |
| Acceptance Criteria : The system must validate email and password. If credentials are incorrect, an error message must be displayed. Upon successful login, the user is redirected to the homepage. |

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| UserStoryNo:3 | Tasks:03 | Priority: High |
| **As a customer,**I want to reset my password,So that I can regain access to my account if I forget it. |
| **BV:** 400 | **CP:** 05 |
| Acceptance Criteria : The user must enter a registered email. A password reset link is sent to the email. The new password must meet security criteria. |

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| UserStoryNo:4 | Tasks:04 | Priority: Medium |
| **As a customer,**I want to log in using social media (Google/Facebook),So that I can access my account quickly. |
| BV:250 | CP:03  |
| Acceptance Criteria :1. The system must authenticate using OAuth.
2. A new user must be prompted to complete their profile.
3. Upon successful authentication, the user is logged in.
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| UserStoryNo:5 | Tasks:04 | Priority: low |
| **As an admin,**I want to manage customer accounts,So that I can deactivate or reactivate users when necessary |
| **BV:** 150 | **CP:** 02 |
|  Acceptance Criteria : The admin dashboard should display user accounts. The admin should be able to suspend/reactivate accounts. A deactivated user should not be able to log in. |

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| UserStoryNo:6 | Tasks:04 | Priority: High |
| As a customer, I want to browse products by category, so that I can explore available items. |
| **BV:** 400 | **CP:** 05 |
|  Acceptance Criteria : The system shall display a list of product categories on the homepage and in the navigation menu. Customers shall be able to select a category to view products belonging to that category. The system shall display category-specific product listings with images, names, and prices. The system shall provide pagination or infinite scrolling if the number of products exceeds a predefined limit. |

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| UserStoryNo:7 | Tasks:04 | Priority: Medium |
| As a customer, I want to search for products by name, brand, or category, so that I can quickly find what I need.  |
| **BV:** 250 | **CP:** 03 |
| Acceptance Criteria : The system shall provide a search bar on all pages. Customers shall be able to enter keywords related to the product name, brand, or category. The system shall display relevant search results based on the entered keywords. The system shall highlight the search term in the results. The system shall return search results within 2 seconds. If no matching products are found, the system shall display an appropriate message. |

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| UserStoryNo:8 | Tasks:04 | Priority: Medium |
| As a customer, I want to see trending or best-selling products, so that I can explore popular items. |
| **BV:** 250 | **CP:** 03 |
|  Acceptance Criteria : The system shall display a section for trending or best-selling products on the homepage. Trending products shall be determined based on sales data, views, or customer engagement. The system shall update the trending/best-selling list periodically (e.g., daily or weekly). Customers shall be able to click on a trending product to view its details. |

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| UserStoryNo:9  | Tasks:04 | Priority: Medium |
| As a customer, I want to filter search results by price, brand, and customer ratings, so that I can find the most relevant products. |
| **BV:** 300 | **CP:** 03 |
|  Acceptance Criteria :* The system shall provide filter options for price range, brand, and customer ratings on the search results page.
* Customers shall be able to select multiple filters simultaneously.
* The system shall update the search results dynamically based on the applied filters.
* The system shall allow customers to reset filters at any time.
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| UserStoryNo:10 | Tasks:04 | Priority: Medium |
| As a customer, I want to view product details (images, specifications, reviews), so that I can make an informed purchasing decision. |
| **BV:** 350 | **CP:** 04 |
| Acceptance Criteria :* The system shall display a dedicated product details page when a customer clicks on a product.
* The product details page shall include:
* High-resolution product images (with zoom functionality).
* Product specifications such as weight, dimensions, and material.
* Customer reviews and ratings.
* Price and available stock.
* The system shall allow customers to navigate back to the product listing easily.
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| UserStoryNo:11 | Tasks:04 | Priority: High |
| **As a customer,**I want to add items to my shopping cart,So that I can purchase them later. |
| **BV:** 350 | **CP:** 02 |
| * The system must allow customers to add items to the cart from the product page.
* The cart should display added items with quantity and price details.
* A notification must confirm when an item is successfully added.
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| UserStoryNo:12 | Tasks:04 | Priority: Medium |
| **As a customer,**I want to update the quantity of items in my cart,So that I can adjust my order. |
| **BV:** 250 | **CP:** 04 |
| Acceptance Criteria : Customers should be able to increase or decrease item quantity. The total price should update dynamically based on the quantity. If stock is unavailable, the system should prevent exceeding the stock limit. |

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| UserStoryNo:13 | Tasks:04 | Priority: Medium |
| **As a customer,**I want to remove items from my cart,So that I can modify my purchase list. |
| **BV:** 300 | **CP:** 04 |
|  Acceptance Criteria : Customers should be able to remove items individually. A confirmation prompt must appear before removal. The total cart value should update after an item is removed. |

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| UserStoryNo:14 | Tasks:04 | Priority: Medium |
| **As a customer,**I want to save items to my wishlist,So that I can purchase them later. |
| **BV:** 200 | **CP:** 03 |
| Acceptance Criteria :* Customers should be able to add/remove products to/from the wishlist.
* The wishlist should be accessible from the user account.
* Items should remain in the wishlist until manually removed.
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| UserStoryNo:15 | Tasks:04 | Priority: High |
| **As a customer,**I want to move items from my wishlist to my cart,So that I can complete my purchase easily. |
| **BV:** 300 | **CP:** 04 |
|  Acceptance Criteria :* The system must allow moving items from the wishlist to the cart.
* Item details, including quantity, should remain intact.
* A success notification must appear after moving an item.
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| UserStoryNo:16 | Tasks:04 | Priority: Medium |
| **As a customer,**I want to track my order status,So that I know when it will be delivered. |
| **BV:** 250 | **CP:** 03 |
| Acceptance Criteria :1. The system should show order status updates (Processing, Shipped, Delivered).
2. The estimated delivery date should be displayed.
3. Customers should be able to view tracking details.
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| UserStoryNo:17 | Tasks:04 | Priority: High |
| **As a customer,**I want to receive email/SMS updates about my order status,So that I stay informed. |
| **BV:** 400 | **CP:** 05 |
| * The system should send notifications for each status change.
* Email/SMS should include order details and tracking information.
* Customers should be able to opt-in/out of notifications.
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| UserStoryNo:18 | Tasks:04 | Priority: Medium |
| **As a customer,**I want to view my order history,So that I can keep track of my past purchases. |
| **BV:** 300 | **CP:** 03 |
|  The order history should display past purchases with details. Customers should be able to filter/search order history. Clicking an order should display full order details. |

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| UserStoryNo:19 | Tasks:04 | Priority: High |
| **As a customer,**I want to cancel my order within a limited time,So that I can change my mind if needed. |
| **BV:** 350 | **CP:** 04 |
| * Orders can only be canceled before the shipping process starts.
* The cancel option must be available on the order details page.
* The system should confirm cancellation via email/SMS.
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| UserStoryNo:20 | Tasks:04 | Priority: Medium |
| **As a customer,**I want to reorder past purchases easily,So that I can buy frequently used products quickly. |
| **BV:** 200 | **CP:** 03 |
| * Customers should see a "Reorder" button on past orders.
* Clicking "Reorder" should add the same items to the cart.
* Users should be able to modify items before checkout.
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| UserStoryNo:21 | Tasks:04 | Priority: Medium |
| **As a customer,**I want to choose a preferred delivery date,So that I receive my order at my convenience. |
| **BV:** 300 | **CP:** 03 |
| **Acceptance Criteria:*** Customers should see available delivery date options.
* The system should confirm the chosen date at checkout.
* Urgent delivery options should be displayed if available.
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| UserStoryNo:22 | Tasks:04 | Priority: High |
| **As a customer,**I want to track my delivery in real-time,So that I know when to expect it. |
| **BV:** 250 | **CP:** 03 |
| **Acceptance Criteria:*** Customers should get a live tracking link once the order is shipped.
* The system should update estimated arrival times dynamically.
* Notifications should be sent for delivery status updates
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| UserStoryNo:23 | Tasks:04 | Priority: High |
| As a customer, I want to request a return or replacement if the product is damaged or incorrect. |
| **BV:** 250 | **CP:** 03 |
| **Acceptance Criteria:*** The system shall allow customers to request a return or replacement from the order history page.
* Customers shall be able to select the reason for return (e.g., damaged, incorrect product, defective item).
* The system shall validate the request based on the return eligibility period.
* The system shall provide a return pickup schedule or drop-off location.
* The system shall notify customers once the return/replacement request is approved.
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| UserStoryNo:24 | Tasks:04 | Priority: High |
| As a customer, I want to receive a refund in my original payment method, so that I get my money back easily. |
| **BV:** 500 | **CP:** 05 |
| **Acceptance Criteria:** The system shall process refunds to the original payment method if the return is approved. Refunds shall be initiated within a defined period (e.g., 3-7 business days). The system shall notify customers via email/SMS when the refund is processed. Customers shall be able to view refund status in their order history. |

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| UserStoryNo:25 | Tasks:04 | Priority: High |
| As a delivery person, I want to update order delivery status, so that customers are informed about their shipment. |
| **BV:** 400 | **CP:** 04 |
| **Acceptance Criteria:*** he system shall provide delivery personnel with access to update order statuses.
* The system shall allow updates such as "Out for Delivery," "Delivered," or "Delivery Failed."
* Customers shall receive real-time notifications for status updates.
* The system shall store a timestamp for each status update.
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| UserStoryNo:26 | Tasks:04 | Priority: Medium |
| As a customer, I want to apply discount codes at checkout, so that I can get a price reduction. |
| **BV:** 400 | **CP:** 03 |
| **Acceptance Criteria:** The system shall provide a discount code input field at checkout. The system shall validate discount codes before applying them. Invalid or expired codes shall trigger an appropriate error message. The system shall display the applied discount and updated total price before payment. |

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| UserStoryNo:27 | Tasks:04 | Priority: Medium |
| As a customer, I want to pay using multiple methods (credit card, UPI, COD), so that I have flexibility. |
| **BV:** 400 | **CP:** 04 |
| **Acceptance Criteria:*** The system shall support multiple payment methods, including credit/debit cards, UPI, and Cash on Delivery (COD).
* Customers shall be able to select their preferred payment method at checkout.
* The system shall validate payment details before processing the transaction.
* COD shall be available only for eligible orders based on predefined rules
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| UserStoryNo:28 | Tasks:04 | Priority: Medium |
| As a customer, I want to see my estimated delivery charges before checkout, so that I know the final cost. |
| **BV:** 400 | **CP:** 04 |
| **Acceptance Criteria:*** The system shall calculate and display estimated delivery charges on the cart page.
* Delivery charges shall be based on order value, location, and selected shipping speed.
* If free shipping is available, the system shall indicate it clearly.
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| UserStoryNo:29 | Tasks:04 | Priority: Medium |
| As a customer, I want to save my payment details securely, so that I can checkout faster in future purchases. |
| **BV:** 400 | **CP:** 04 |
| **Acceptance Criteria:** The system shall provide an option for customers to securely save their payment details. Saved payment details shall be encrypted and stored securely. Customers shall be required to authenticate (OTP or CVV) before using saved payment details. Customers shall be able to remove or update saved payment details at any time. |

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| UserStoryNo:30 | Tasks:04 | Priority: High |
| As an admin, I want to generate discount coupons, so that I can attract more customers. |
| **BV:** 450 | **CP:** 04 |
| **Acceptance Criteria:*** The system shall provide an admin interface to create discount coupons.
* Admins shall be able to specify discount type (percentage or fixed amount) and validity period.
* The system shall allow setting usage limits per customer or per order.
* Customers shall be able to use the generated coupons during checkout.
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| UserStoryNo:31 | Tasks:04 | Priority: Medium |
| As a customer, I want to rate and review purchased products, so that I can share my experience.. |
| **BV:** 400 | **CP:** 03 |
| **Acceptance Criteria:*** The system shall allow customers to submit reviews only for products they have purchased.
* Customers shall be able to provide a star rating (1 to 5) and a text review.
* The system shall allow customers to upload images along with their review.
* Submitted reviews shall be displayed on the product page after approval (if moderation is required).
* The system shall notify customers when their review is published.
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| UserStoryNo:32 | Tasks:04 | Priority: Medium |
| As a customer, I want to see reviews from other buyers, so that I can make better purchase decisions. |
| **BV:** 300 | **CP:** 03 |
| **Acceptance Criteria:** The system shall display customer reviews on the product page. Reviews shall include star ratings, review text, customer name (or anonymized ID), and date of submission. Customers shall be able to sort reviews by recency, highest rating, or most helpful. The system shall display an overall average rating based on submitted reviews. |

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| UserStoryNo:33 | Tasks:04 | Priority: Medium |
| As a customer, I want to upvote helpful reviews, so that I can highlight useful feedback. |
| **BV:** 350 | **CP:** 03 |
| **Acceptance Criteria:** The system shall allow customers to upvote a review by clicking a "Helpful" button. The system shall display the total number of upvotes for each review. Customers shall only be able to upvote each review once. The system shall prioritize displaying the most upvoted reviews at the top. |

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| UserStoryNo:34 | Tasks:04 | Priority: Medium |
| As an admin, I want to moderate product reviews, so that inappropriate content is removed. |
| **BV:** 300 | **CP:** 03 |
| **Acceptance Criteria:*** The system shall provide an admin dashboard to review and moderate submitted product reviews.
* The system shall allow admins to approve, reject, or delete reviews based on predefined guidelines.
* The system shall automatically filter and flag reviews containing inappropriate words or offensive content.
* Customers shall be notified if their review is rejected or removed.
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| UserStoryNo:35 | Tasks:04 | Priority: Medium |
| As a customer, I want to report fake or misleading reviews, so that I can maintain platform authenticity. |
| **BV:** 300 | **CP:** 03 |
| **Acceptance Criteria:** The system shall provide a "Report Review" button for each review. Customers shall be able to select a reason for reporting (e.g., fake, misleading, offensive content). The system shall log reported reviews for admin review. Admins shall be able to investigate and take appropriate action (e.g., remove review, warn user). Customers shall be notified of the resolution status of their report. |

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| UserStoryNo:36 | Tasks:04 | Priority: High |
| As a customer, I want to chat with customer support, so that I can resolve my queries quickly. |
| **BV:** 500 | **CP:** 0 |
| **Acceptance Criteria:** The system shall provide a live chat feature accessible from the website/app. Customers shall be able to initiate a chat session by selecting a topic (e.g., order issues, payment problems). The system shall provide automated responses for common queries before connecting to a live agent. Chat history shall be available to customers for future reference. |

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| UserStoryNo:37 | Tasks:04 | Priority: High |
| As a customer, I want to receive order confirmation emails, so that I have proof of my purchase. |
| **BV:** 450 | **CP:** 04 |
| **Acceptance Criteria:** The system shall send an order confirmation email immediately after successful purchase. The email shall include order details such as order number, product details, total amount, and estimated delivery date. Customers shall be able to view and download order invoices from their account. |

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| UserStoryNo:38 | Tasks:04 | Priority: High |
| **As a customer, I want to subscribe to newsletters, so that I stay informed about offers and discounts.** |
| **BV:** 450 | **CP:** 04 |
| **Acceptance Criteria:** The system shall provide an option for customers to subscribe to newsletters during account registration and checkout. Customers shall be able to manage their subscription preferences from their account settings. The system shall send newsletters at a predefined frequency (e.g., weekly, monthly). Customers shall be able to unsubscribe at any time via a link in the email. |

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| UserStoryNo:39 | Tasks:04 | Priority: High |
| **As an admin, I want to send promotional emails to customers, so that I can increase sales.** |
| **BV:** 350 | **CP:** 04 |
| **Acceptance Criteria:*** The system shall provide an admin interface to create and send promotional emails.
* Admins shall be able to target specific customer segments (e.g., frequent buyers, inactive users).
* The system shall track email open rates and customer engagement with promotional emails.
* Customers who have unsubscribed shall not receive promotional emails.
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| UserStoryNo:40 | Tasks:04 | Priority: High |
| As a customer, I want to report technical issues, so that the support team can assist me. |
| **BV:** 450 | **CP:** 04 |
| **Acceptance Criteria:*** The system shall provide a "Report an Issue" button in the support section.
* Customers shall be able to describe the issue and attach screenshots if necessary.
* The system shall generate a support ticket and assign it to the relevant support team.
* Customers shall receive an acknowledgment and be notified when their issue is resolved.
 |