Assignment 2

Q1.

Subject: Introduction from Mastercard: your Business Analyst Partner

Hello Ken,

I hope this message finds you well. My name is Komal Pardeshi, and I am a Business analyst at Mastercard. I am excited to collaborate with you and your team as we embark on the business understanding process for the TRIC project.

At Mastercard, we specialize in handling announcements, service bulletins, and time deliverables. Our goal is to engage with clients to comprehend business objectives and challenges phased by clients. with 15 years of experience in the IT field, I am confident that we can work together to achieve your objectives.

To ensure a comprehensive understanding of your business needs, I propose scheduling an initial meeting to discuss your goals, challenges, and expectations. Please let me know your availability, and I will arrange the meeting for you.

Thank you for the opportunity to work with you. I look forward to a successful partnership.

Best regards,

Komal Pardeshi

Contents

[1. Introduction 4](#_Toc189258153)

[2. Goal of the Project 4](#_Toc189258154)

[3. Objectives 4](#_Toc189258155)

[4. Use Case Diagram 5](#_Toc189258156)

 [5](#_Toc189258157)

[5. Use Case Specification: 5](#_Toc189258158)

[1. Use Case: Browse Products 5](#_Toc189258159)

[2. Use Case: Add Product to Cart 6](#_Toc189258160)

[3. Use Case: Make a Purchase (Checkout) 7](#_Toc189258161)

[4. Use Case: Manage Inventory 7](#_Toc189258162)

[5. Use Case: Process Orders 8](#_Toc189258163)

[6. Functional Requirements: 8](#_Toc189258164)

[7. Non-Functional Requirements 9](#_Toc189258165)

1. Introduction

The purpose of this document is to outline the software requirements for an Online Store system. This system will allow users to browse products, add them to their cart, place orders, and make payments securely. It will serve as an e-commerce platform for customers to shop online with ease and for administrators to manage the store’s inventory and orders.

1. Goal of the Project

The primary goal of the Online store project is to develop a robust and user-friendly e-commerce platform that provides a seamless shopping experience for users while offering an efficient and manageable interface for store administrators. The system should support multiple users, integrate secure payment gateways, and allow for product management and order tracking.

1. Objectives
* Provide a user-friendly interface for customers to search, browse, and purchase products.
* Implement a secure payment system with integration to payment gateways.
* Enable admin functionalities for inventory management, order tracking, and customer management.
* Provide features such as product search, sorting, filtering, and recommendations.
* Ensures scalability to handle increasing numbers of users and products.
* Implement responsive design for access via both desktop and mobile devices.
* Ensures high system availability and reliability.
1. Use Case Diagram



1. Use Case Specification:
2. Use Case: Browse Products
3. **Use Case Name**: Browse Products
4. **Actors**: Customer
5. **Description**:

This use case describes how a customer browses through the product catalog searches for specific items, and applies filters to desired products.

1. **Preconditions**:
* The customer must have access to the online store platform.
* The product catalog must be available in the system.
1. **Postconditions:**
* The system displays a list of products matching the customer’s search or filters.
* If no matching products are found, an appropriate message is displayed.
1. **Main Flow:**
* The customer visits the home page of the online store.
* The system displays featured and recommended products.
* The customer selects a category or uses the search bar to find products.
* The system displays relevant products with basic details.
* The customer applies filters to refine the results.
* The customer clicks on a product to view detailed information.
1. **Alternative Flows:**
* A1: If the customer enters an invalid search term, the system displays a message: “No products found. Please try a different keywords.”
* A2: If the customer selects an empty category, the system displays a message: “No products available in the category.”
1. Use Case: Add Product to Cart
2. **Use Case Name**: Add Product to Cart
3. **Actors:** Customer
4. **Description:**

This use case describes how a customer adds a selected product to the shopping cart.

1. **Preconditions:**
* The customer must be browsing the product catalog.
* The selected product must be available in stock.

 5. **Postconditions:**

* The product is successfully added to the shopping cart.
* The system updates the cart count.

 6. **Main Flow:**

* The customer selects a product from the product listing.
* The system displays the product details.
* The customer clicks the “Add to Cart”.
* The system adds the product to the cart and displays a success message.
* The customer can choose to continue shopping or proceed to checkout.

7. **Alternative Flows:**

* A1: If the selected product is out of stock, the system displays a message: ”This product is currently unavailable”.
* A2: If the customer tries to add more than the available quantity, the system dispels: “Only X item left in stock”.
1. Use Case: Make a Purchase (Checkout)
2. **Use Case Name**: Make a Purchase
3. **Actors:** Customer
4. **Description:**

This test case describes how a customer completes a purchase by providing shipping details and making payment.

1. **Preconditions:**
* The customer must have products in their shopping cart.
* The customer must be logged in or provide guest checkout details.

 5. **Postconditions:**

* The order is placed successfully, and the customer receives a confirmation.
* The system updates the inventory.

 6. **Main Flow:**

* The customer reviews their cart and clicks “Proceed to Checkout”.
* The system prompts the customer to log in or continue as a guest.
* The customer enters shipping details.
* The customer selects a payment method and enters payment details.
* The system processes the payment.
* Upon successful payment, the system generates an order confirmation and sends an email.
1. **Alternative Flows:**
* A1: If payment fails the system displays an error message and prompts the customer to retry.
* A2: If the customer enters invalid shipping details, the system prompts for corrections.
1. Use Case: Manage Inventory
2. **Use Case Name**: Manage Inventory
3. **Actors**: Admin
4. **Description**:

This test case describes how a admin adds, updates, or removes products in the inventory.

1. **Preconditions**:
* The admin must be logged into the system.

 5. **Postconditions**:

* The inventory is updated with new product data.

 6**. Main Flow:**

* The admin logs into the dashboard.
* The admin selects “Manage Inventory.”
* The admin adds a new product or edits existing products.
* The admin saves changes.
1. **Alternative Flows:**
* A1: If required product details are missing, the system displays an error message.
* A2: If the admin tries to delete a product that has pending orders, the system prevents deletion.
1. Use Case: Process Orders
2. **Use Case Name**: Process Orders
3. **Actors:** Admin
4. **Description:**

The use case describes how an admin processes customer orders for shipment.

1. **Preconditions:**
* This must be existing orders in the system.
* The admin must be logged in.

 5. **Postconditions:**

* The order status is updated.
* The customer receives a notification.

 6. **Main Flow:**

* The admin logs into the dashboard.
* The admin selects “orders “and views pending orders.
* The admin verifies order details.
* The admin updates the order status to “Shipped”.
* The system notifies the customer.
1. **Alternative Flows:**
* A1: If an order delayed, he system allows the admin to send a delay notification.
* A2: If an order is cancelled, the system updates the inventory and notifies the customer
1. Functional Requirements:
2. **User Authentication:** The system must support user login and registration for both customers and admins.
3. **Product Search**: Customers must be able to search for products by name, category, or other criteria.
4. **Shopping Cart**: Customers should be able to add, remove, and modify products in their cart.
5. **Order Processing**: The system must process customer orders, update inventory, and notify customers of shipping status.
6. **Payment Integration**: The system must integrate with secure payment gateways to process payments.
7. **Admin Dashboard**: Admin should have access to a dashboard to manage products, orders customers and view sales reports.
8. Non-Functional Requirements
9. **Performance:**
* The system should handle at least 1000 concurrent users.
* The page load time should be under 2 seconds.
1. Security:
* All user data should be encrypted.
* The system should use SSL for secure communication.
* Implement role-based access control for different user type (Admin, Customer).
1. Scalability:
* The system should be scalable to accommodate increasing numbers of products and users over time.
1. Availability:
* The system should be available 99.9% of the time, with regular backups and recovery procedures in place.

Q3. Make ERD dIAGRAM



Q. 4 User story of shopping from e-commerce.

|  |  |  |
| --- | --- | --- |
| User Story No: 01 | Tasks: User Registration | Priority: High |
| As a CUSTOMER/USER – New User |
| I WANT – To create an account  |
| SO THAT – I can track my orders  |
| BV: 100 | CP:10 |
| Acceptance Criteria: User can register with email/phone and password. |

|  |  |  |
| --- | --- | --- |
| User Story No: 02 | Tasks: Login | Priority: High |
| As a CUSTOMER/USER: Registered User  |
| I WANT- To login to my account  |
| SO THAT – I can access my saved items |
| BV: 200 | CP: 9 |
| Acceptance Criteria: User can log in using credentials |

|  |  |  |
| --- | --- | --- |
| User Story No: 03 | Tasks: Password Reset | Priority: Medium |
| As a CUSTOMER/USER: Registered User |
| I WANT- To reset my password |
| SO THAT – I can regain access to my account |
| BV 300 | CP 5 |
| Acceptance Criteria: User can reset a password via email/phone OTP |

|  |  |  |
| --- | --- | --- |
| User Story No: 04 | Tasks: Browse Products | Priority: High |
| As a CUSTOMER/USER: Guest/Registered User |
| I WANT- To browse product categories |
| SO THAT – I can find what I need easily |
| BV 200 | CP 10 |
| Acceptance Criteria: User can view categories and navigate through products |

|  |  |  |
| --- | --- | --- |
| User Story No: 05 | Tasks: Search Products | Priority: High |
| As a CUSTOMER/USER: Guest/Registered User  |
| I WANT- To search for the specific products |
| SO THAT – I can find what I want quickly  |
| BV 400 | CP 10 |
| Acceptance Criteria: Search functionality returns relevant results |

|  |  |  |
| --- | --- | --- |
| User Story No: 06 | Tasks: Filter Products  | Priority: High |
| As a CUSTOMER/USER: Guest/Registered User  |
| I WANT- To filter products by price, brand, ratings |
| SO THAT – I can refine my choices |
| BV 300 | CP 3 |
| Acceptance Criteria: Filters work correctly for refining search  |

|  |  |  |
| --- | --- | --- |
| User Story No: 07 | Tasks: Sort Products | Priority: Medium |
| As a CUSTOMER/USER: Guest/Registered User |
| I WANT- To sort products by price, popularity  |
| SO THAT – I can find the best options easily |
| BV 400 | CP 10 |
| Acceptance Criteria: Sorting options function correctly  |

|  |  |  |
| --- | --- | --- |
| User Story No: 08 | Tasks: View Product Details | Priority: High |
| As a CUSTOMER/USER: Guest/Registered User |
| I WANT- To view detailed product descriptions  |
| SO THAT – I can make an informed purchase |
| BV 400 | CP 3 |
| Acceptance Criteria: User can see descriptions, reviews, and specs  |

|  |  |  |
| --- | --- | --- |
| User Story No: 09 | Tasks: Add to Wish lists | Priority: Medium |
| As a CUSTOMER/USER: Registered User |
| I WANT- To save products for later |
| SO THAT – I don’t lose track of items I like  |
| BV 500 | CP 5 |
| Acceptance Criteria: Users can add/remove items from their wish lists |

|  |  |  |
| --- | --- | --- |
| User Story No: 10 | Tasks: Add to Cart | Priority: High |
| As a CUSTOMER/USER: Guest/Registered User |
| I WANT- To add products to my cart |
| SO THAT – I can purchase multiple items easily |
| BV: 200 | CP: 9 |
| Acceptance Criteria: Items appear in the cart and persist correctly  |

|  |  |  |
| --- | --- | --- |
| User Story No: 11 | Tasks: Update cart quantity | Priority: High |
| As a CUSTOMER/USER: Registered User |
| I WANT- To update the quantity of items in my cart |
| SO THAT – I can adjust my order before checkout  |
| BV 300 | CP 6 |
| Acceptance Criteria: User can increase/decrease quantity before checkout |

|  |  |  |
| --- | --- | --- |
| User Story No: 12  | Tasks: Remove from Cart | Priority: High |
| As a CUSTOMER/USER: Registered User  |
| I WANT- To remove unwanted items from my cart |
| SO THAT – I can manage my purchase list efficiently |
| BV 400 | CP 5 |
| Acceptance Criteria: User can remove items from the cart |

|  |  |  |
| --- | --- | --- |
| User Story No: 13 | Tasks: Apply Discount Codes | Priority: Medium |
| As a CUSTOMER/USER: Registered User  |
| I WANT- To apply for a discount or coupon  |
| SO THAT – I can save money on my order |
| BV 400 | CP 4 |
| Acceptance Criteria: Validate discount codes are applied at checkout |

|  |  |  |
| --- | --- | --- |
| User Story No: 14 | Tasks: Proceed to Checkout  | Priority: High |
| As a CUSTOMER/USER: Registered User  |
| I WANT- To complete my purchase |
| SO THAT – I can place my order successfully  |
| BV 400 | CP 2 |
| Acceptance Criteria: Users can proceed from cart to checkout  |

|  |  |  |
| --- | --- | --- |
| User Story No: 15 | Tasks: Enter the Shipping Address  | Priority: High |
| As a CUSTOMER/USER: Registered User  |
| I WANT- To provide my address  |
| SO THAT – My order gets delivered to the right location |
| BV 500 | CP 5 |
| Acceptance Criteria: User can enter and save shipping details  |

|  |  |  |
| --- | --- | --- |
| User Story No: 16 | Tasks: Choose Payment Method  | Priority: High |
| As a CUSTOMER/USER: Registered User  |
| I WANT- To select my preferred payment method |
| SO THAT – I can pay conveniently  |
| BV 500 | CP 10 |
| Acceptance Criteria: Users can choose between various payment options  |

|  |  |  |
| --- | --- | --- |
| User Story No: 17 | Tasks: Pay Securely  | Priority: High |
| As a CUSTOMER/USER: Registered User  |
| I WANT- To make a secure payment  |
| SO THAT – My transaction is safe |
| BV 100 | CP 8 |
| Acceptance Criteria: Secure payment processing is in place |

|  |  |  |
| --- | --- | --- |
| User Story No: 18 | Tasks: Receive Order confirmation  | Priority: High |
| As a CUSTOMER/USER: Registered User |
| I WANT- To receive an order confirmation email/SMS |
| SO THAT – I know my order has been placed successfully  |
| BV 200 | CP 7 |
| Acceptance Criteria: Order confirmation email is sent |

|  |  |  |
| --- | --- | --- |
| User Story No: 19 | Tasks: Track Order Status | Priority: High |
| As a CUSTOMER/USER: Registered User  |
| I WANT- To track my order's shipping status |
| SO THAT – I can anticipant delivery time |
| BV 500 | CP 5 |
| Acceptance Criteria: User can view real-time order status updates. |

|  |  |  |
| --- | --- | --- |
| User Story No: 20 | Tasks: Cancel Order | Priority: Medium |
| As a CUSTOMER/USER: Registered User  |
| I WANT- To cancel my order before shipment  |
| SO THAT – I can change my mind before it’s too late  |
| BV 200 | CP 5 |
| Acceptance Criteria: Users can cancel before shipment  |

|  |  |  |
| --- | --- | --- |
| User Story No: 21 | Tasks: Return/Exchange Order | Priority: Medium |
| As a CUSTOMER/USER: Registered User  |
| I WANT- To return orders exchange products |
| SO THAT – I can fix issues with my purchase |
| BV 500 | CP 2 |
| Acceptance Criteria: Return/exchange request system is in place |

|  |  |  |
| --- | --- | --- |
| User Story No: 22  | Tasks: View Order History | Priority: Medium |
| As a CUSTOMER/USER: Registered User  |
| I WANT- To see my past purchase |
| SO THAT – I can track my previous orders |
| BV 200 | CP 10 |
| Acceptance Criteria: User can access their order history  |

|  |  |  |
| --- | --- | --- |
| User Story No: 23 | Tasks: Rate and Review Products | Priority: Medium  |
| As a CUSTOMER/USER: Registered User  |
| I WANT- To leave reviews on products  |
| SO THAT – I can help others with their buying decisions  |
| BV 500 | CP 10 |
| Acceptance Criteria: User can submit product ratings and reviews |

|  |  |  |
| --- | --- | --- |
| User Story No: 24 | Tasks: Get Customer Support | Priority: High |
| As a CUSTOMER/USER: Guest/Registered User |
| I WANT- To contact customer service |
| SO THAT – I can track my previous orders |
| BV 100 | CP 3 |
| Acceptance Criteria: Live chat, email, and phone support options available  |

|  |  |  |
| --- | --- | --- |
| User Story No: 25 | Tasks: Receive Personalized Recommendations | Priority: Medium |
| As a CUSTOMER/USER: Registered User  |
| I WANT- To see product recommendations  |
| SO THAT – I can discover items I might like |
| BV 500 | CP 5 |
| Acceptance Criteria: Personalized recommendations are based on browse in history |

|  |  |  |
| --- | --- | --- |
| User Story No: 26 | Tasks: Save Payment Information | Priority: Medium |
| As a CUSTOMER/USER: Registered User  |
| I WANT- To store my credentials securely  |
| SO THAT – I can checkout faster next time  |
| BV 100 | CP 10 |
| Acceptance Criteria: Users can securely save payment details  |

|  |  |  |
| --- | --- | --- |
| User Story No: 27 | Tasks: Guest Checkout | Priority: High |
| As a CUSTOMER/USER: Guest User |
| I WANT- To purchase without creating an account  |
| SO THAT – I can buy quickly without signup  |
| BV 200 | CP 10 |
| Acceptance Criteria: Guest users can complete purchases |

|  |  |  |
| --- | --- | --- |
| User Story No: 28 | Tasks: Subscribe to notifications | Priority: Medium |
| As a CUSTOMER/USER: Registered User  |
| I WANT- To receive email/SMS alerts |
| SO THAT – I stayed informed about offers and order updates |
| BV 500 | CP 5 |
| Acceptance Criteria: Users can opt-in/out of notifications |

|  |  |  |
| --- | --- | --- |
| User Story No: 29 | Tasks: Request Invoice  | Priority: Medium |
| As a CUSTOMER/USER: Registered User  |
| I WANT- To gate an invoice for my purchase |
| SO THAT – I need proof of my transaction |
| BV 100 | CP 10 |
| Acceptance Criteria: Users can download invoices |

|  |  |  |
| --- | --- | --- |
| User Story No: 30 | Tasks: Report a Defective Product | Priority: Medium |
| As a CUSTOMER/USER: Registered User  |
| I WANT- To report a damaged product |
| SO THAT – I can get a replacement/refund |
| BV 200 | CP 10 |
| Acceptance Criteria: Users can report defective items and request action |

|  |  |  |
| --- | --- | --- |
| User Story No: 31 | Tasks: Compare Products | Priority: Medium |
| As a CUSTOMER/USER: Guest/Registered User |
| I WANT- To compare multiple products |
| SO THAT – I can make a better decision |
| BV 500 | CP 5 |
| Acceptance Criteria: Comparison feature available  |

|  |  |  |
| --- | --- | --- |
| User Story No: 32  | Tasks: Earn Loyalty Points | Priority: Low |
| As a CUSTOMER/USER: Registered User  |
| I WANT- To earn points for purchases  |
| SO THAT – I get rewards for shopping |
| BV 100 | CP 3 |
| Acceptance Criteria: Loyalty points system in place |

|  |  |  |
| --- | --- | --- |
| User Story No: 33  | Tasks: Redeem Loyalty Points | Priority: Low |
| As a CUSTOMER/USER: Registered User |
| I WANT- To use my points for discounts  |
| SO THAT – I save money on future orders  |
| BV 200 | CP 2 |
| Acceptance Criteria: Points redemption at checkout  |

|  |  |  |
| --- | --- | --- |
| User Story No: 34  | Tasks: Subscribe to Membership | Priority: Medium |
| As a CUSTOMER/USER: Registered User  |
| I WANT- To join a premium membership  |
| SO THAT – I get exclusive discounts and benefits |
| BV 500 | CP 2 |
| Acceptance Criteria: Membership subscription and benefits active  |

|  |  |  |
| --- | --- | --- |
| User Story No: 35 | Tasks: View Related Products | Priority: Medium |
| As a CUSTOMER/USER: Guest/Registered User |
| I WANT- To see similar or complementary items  |
| SO THAT – I can find everything I need easily  |
| BV 100 | CP 10 |
| Acceptance Criteria: Related product suggestions product pages  |

|  |  |  |
| --- | --- | --- |
| User Story No: 36 | Tasks: Share Products | Priority: Low |
| As a CUSTOMER/USER: Guest/Registered User |
| I WANT- To share product links on social media |
| SO THAT – I can recommend items to friends |
| BV 200 | CP 7  |
| Acceptance Criteria: Social media sharing buttons available  |

|  |  |  |
| --- | --- | --- |
| User Story No: 37 | Tasks: Multi-Currency Support | Priority: Medium |
| As a CUSTOMER/USER: International User |
| I WANT- To see the price in my currency  |
| SO THAT – I understand the cost in my local money. |
| BV 500 | CP 5 |
| Acceptance Criteria: Prices automatically convert based on location |

|  |  |  |
| --- | --- | --- |
| User Story No: 38 | Tasks: Auto-Suggest Search  | Priority: Medium |
| As a CUSTOMER/USER: Guest/Register User |
| I WANT- To see suggestions while typing search |
| SO THAT – I find products faster |
| BV 100 | CP 10 |
| Acceptance Criteria: Auto suggestions appear in the search bar |

|  |  |  |
| --- | --- | --- |
| User Story No: 39 | Tasks: Voice Search | Priority: Low |
| As a CUSTOMER/USER: Guest/Registered user |
| I WANT- To search using voice commands |
| SO THAT – I can shop hands-free |
| BV 200 | CP 5 |
| Acceptance Criteria: Voice search feature implemented |

|  |  |  |
| --- | --- | --- |
| User Story No: 40 | Tasks: Buy Now Button | Priority: High |
| As a CUSTOMER/USER: Registered User |
| I WANT- To purchase a product immediately  |
| SO THAT – I skip adding to cart and buy faster |
| BV 500 | CP 10 |
| Acceptance Criteria: The “Buy Now” button places orders directly. |

