**Introduction:**

Our project, E-Commerce Platform for Small Businesses, aims to provide a user-friendly and efficient online platform for small businesses to showcase and sell their products. This platform will empower small business owners by giving them the tools to reach a wider audience, manage their inventory, and process transactions seamlessly. By leveraging modern web technologies, we aim to create a scalable and secure solution that meets the needs of both sellers and customers.

**Project Vision:**

Our vision is to revolutionize the way small businesses operate in the digital age by providing them with an affordable, easy-to-use e-commerce platform. We envision a world where small businesses can compete with larger enterprises by having access to the same tools and technologies. Our platform will not only facilitate online sales but also help businesses build their brand, engage with customers, and grow their operations.

**Intended Use of the System: Who and How Will Use the System:**

The system is designed to serve two primary user groups: small business owners (sellers) and customers.

* Small Business Owners (Sellers):

Sellers will use the platform to create online stores, list their products, manage inventory, and process orders. They will also have access to analytics and customer feedback to improve their business operations.

* Customers:

Customers will use the platform to browse products, make purchases, and interact with sellers. They will benefit from a seamless shopping experience, secure payment options, and personalized recommendations.

**Identify Stakeholders:**

The key stakeholders for this system include:

1. Small Business Owners (Sellers): They rely on the platform to sell their products and grow their business.
2. Customers: They use the platform to discover and purchase products from small businesses.
3. Administrators: They manage the platform, ensure its smooth operation, and provide support to sellers and customers.
4. Payment Gateway Providers: They facilitate secure transactions between sellers and customers.
5. Marketing Teams: They promote the platform and help sellers reach a wider audience.

**Identify Their Needs:**

* Small Business Owners (Sellers):
  + Need an easy-to-use interface to list and manage products.
  + Require secure payment processing and order management tools.
  + Need access to customer data and sales analytics to make informed decisions.
* Customers:
  + Need a user-friendly interface to browse and purchase products.
  + Require secure payment options and reliable delivery services.
  + Want personalized recommendations and a seamless shopping experience.
* Administrators:
  + Need tools to monitor platform performance and resolve issues.
  + Require access to user data to provide support and improve the platform.
* Payment Gateway Providers:
  + Need a secure and reliable integration with the platform to process transactions.
* Marketing Teams:
  + Need access to customer and sales data to create targeted marketing campaigns.

**Features/Overall Functionality:**

What Will the System Do

1. The system will provide the following key features:
2. User Authentication: Allow sellers and customers to create accounts and log in securely.
3. Product Listing: Enable sellers to upload product details, including images, descriptions, and prices.
4. Shopping Cart: Allow customers to add products to their cart and proceed to checkout.
5. Payment Processing: Integrate with secure payment gateways to process transactions.
6. Order Management: Provide sellers with tools to manage orders, track shipments, and update inventory.
7. Customer Reviews: Allow customers to leave reviews and ratings for products.
8. Analytics Dashboard: Provide sellers with insights into sales performance and customer behavior.

**How Will the System Help Its Users Accomplish Their Tasks:**

* For Sellers:
  + The system will simplify the process of setting up an online store, listing products, and managing orders, allowing sellers to focus on growing their business.
  + Sellers will gain access to valuable data and insights to make informed decisions and improve their offerings.
* For Customers:
  + The system will provide a seamless and enjoyable shopping experience, with easy navigation, secure payments, and personalized recommendations.
  + Customers will have access to a wide range of products from small businesses, supporting local and independent sellers.
* For Administrators:
  + The system will provide tools to monitor platform performance, resolve issues, and ensure a smooth experience for all users.

**USER STORIES**

* User Stories for Sellers
  + Create Seller Account
    - As a small business owner, I want to create a seller account so that I can start listing my products on the platform.
  + List Products
    - As a seller, I want to upload product details (name, description, price, and images) so that customers can view and purchase my products.
  + Manage Inventory
    - As a seller, I want to update product stock levels so that I can avoid overselling and manage my inventory effectively.
  + View Sales Analytics
    - As a seller, I want to view sales reports and analytics so that I can track my performance and make informed business decisions.
  + Process Orders
    - As a seller, I want to view and process customer orders so that I can fulfill them in a timely manner.
* User Stories for Customers
  + Create Customer Account
    - As a customer, I want to create an account so that I can save my personal information and track my orders.
  + Browse Products
    - As a customer, I want to browse products by category or search for specific items so that I can find what I’m looking for quickly.
  + Add to Cart
    - As a customer, I want to add products to my shopping cart so that I can purchase them later.
  + Checkout and Pay
    - As a customer, I want to securely checkout and pay for my items so that I can complete my purchase.
  + Leave Reviews
    - As a customer, I want to leave reviews and ratings for products I’ve purchased so that I can share my experience with others.
* Extra User Stories
  + Track Orders
    - As a customer, I want to track the status of my orders so that I know when to expect my delivery.
  + Receive Notifications
    - As a seller, I want to receive notifications for new orders so that I can process them promptly.
  + Filter and Sort Products
    - As a customer, I want to filter and sort products by price, rating, or category so that I can find the best options.
  + Manage Profile
    - As a user (seller or customer), I want to update my profile information so that my details are always accurate.
  + View Order History
    - As a customer, I want to view my order history so that I can track my past purchases and reorder items if needed.

**Structured specifications for all of the user stories and sub-user stories.**

1. Create Seller Account

* Title: Create Seller Account
* Description: Allow small business owners to create a seller account on the platform.
* Input:
  + Name, Email, Password, Business Name, Contact Information
* Output:
  + Seller account created successfully.
  + Confirmation email sent to the provided email address.
* Functionality:
  + Validate input fields (e.g., email format, password strength).
  + Store seller information in the database.
  + Send a confirmation email to verify the account.

2. List Products

* Title: List Products
* Description: Allow sellers to upload product details for customers to view and purchase.
* Input:
  + Product Name, Description, Price, Category, Images, Stock Quantity
* Output:
  + Product listed successfully on the platform.
  + Product visible in the seller's dashboard and customer-facing store.
* Functionality:
  + Validate product details (e.g., price must be a positive number).
  + Store product information in the database.
  + Display product on the platform with images and details.

3. Manage Inventory

* Title: Manage Inventory
* Description: Allow sellers to update product stock levels to avoid overselling.
* Input:
  + Product ID, New Stock Quantity
* Output:
  + Stock quantity updated successfully.
  + Notification if stock reaches a low threshold.
* Functionality:
  + Update the stock quantity in the database.
  + Trigger a notification if stock falls below a predefined threshold.

4. View Sales Analytics

* Title: View Sales Analytics
* Description: Provide sellers with sales reports and analytics to track performance.
* Input:
  + Date Range (optional)
* Output:
  + Sales data (e.g., total revenue, number of orders, popular products).
  + Graphical representation of sales trends.
* Functionality:
  + Retrieve sales data from the database.
  + Generate visual charts (e.g., bar graphs, pie charts) for easy interpretation.

5. Process Orders

* Title: Process Orders
* Description: Allow sellers to view and process customer orders.
* Input:
  + Order ID, Status (e.g., Processing, Shipped, Delivered)
* Output:
  + Order status updated successfully.
  + Notification sent to the customer about the order status.
* Functionality:
  + Retrieve order details from the database.
  + Update order status and notify the customer via email or SMS.

6. Create Customer Account

* Title: Create Customer Account
* Description: Allow customers to create an account to save personal information and track orders.
* Input:
  + Name, Email, Password, Shipping Address
* Output:
  + Customer account created successfully.
  + Confirmation email sent to the provided email address.
* Functionality:
  + Validate input fields (e.g., email format, password strength).
  + Store customer information in the database.
  + Send a confirmation email to verify the account.

7. Browse Products

* Title: Browse Products
* Description: Allow customers to browse products by category or search for specific items.
* Input:
  + Search Query (optional), Category Filter (optional)
* Output:
  + List of products matching the search or filter criteria.
  + Product details (e.g., name, price, image, rating).
* Functionality:
  + Retrieve products from the database based on search or filter criteria.
  + Display products in a user-friendly layout with pagination.

8. Add to Cart

* Title: Add to Cart
* Description: Allow customers to add products to their shopping cart for later purchase.
* Input:
  + Product ID, Quantity
* Output:
  + Product added to the cart successfully.
  + Updated cart total displayed.
* Functionality:
  + Validate product availability (e.g., stock quantity).
  + Store cart items in the session or database.
  + Update the cart total and display it to the user.

9. Checkout and Pay

* Title: Checkout and Pay
* Description: Allow customers to securely checkout and pay for their items.
* Input:
  + Shipping Address, Payment Information
* Output:
  + Order placed successfully.
  + Payment confirmation and order summary sent to the customer.
* Functionality:
  + Validate payment information (e.g., card details).
  + Process payment via a secure payment gateway.
  + Store order details in the database and notify the seller.

10. Leave Reviews

* Title: Leave Reviews
* Description: Allow customers to leave reviews and ratings for products they’ve purchased.
* Input:
  + Product ID, Rating (1-5 stars), Review Text
* Output:
  + Review submitted successfully.
  + Review displayed on the product page.
* Functionality:
  + Validate review input (e.g., rating must be between 1 and 5).
  + Store review in the database.
  + Update the product’s average rating and display the review.