

DAY 1

Hackathon Day 1 Task

Project Title :-

General E-commerce

Problem Statement :-

Customers often face inconvenience in finding all types of products on a single platform. They have to visit multiple platforms, which is time-consuming and inefficient. Similarly, small businesses and individual sellers lack a user-friendly and cost-effective platform to showcase their products.

Objectives :-

- Provide customers with one-stop platform ~~for~~ offer a wide variety of products (electronics, ~~etc~~ clothing, groceries, home-decor etc).
- Create a smooth and efficient platform for sellers to list and sell their products.

Task

Integrate a secure and reliable payment system

Develop a user-friendly and responsive interface accessible on mobile and desktop

Target Audience:

Customers:

Individuals of all age groups who prefer online shopping for convenience and variety.

Sellers:

Small businesses and individual sellers looking for an easy-to-use platform to show case and sell their products.

Features:

Customer Features:

- Product Categories and Filters
- Product Reviews and ~~Product~~ Ratings
- Cart and ~~the~~ Wishlist.
- Secure Checkout and Payment Integration
- Order Tracking and History.

Date: _____

Seller Features:

- Seller Dashboard (Order Management, Inventory Tracking)
- Sales Analytics and Reports
- Easy Product Upload and Management

Tech Stack:

- Frontend: Next.js, Tailwind CSS
- Backend: Node.js, Express.js (or Next.js API routes)
- Database: PostgreSQL (or MongoDB for prototyping) for beginners, and MongoDB (or PostgreSQL depending on preference) for experts
- Authentication: Firebase Auth (or Next Auth)
- Payment Gateway: Stripe or PayPal

Data Schema:

Entities

Users:

- ID: Unique Identifier
- Name: Full name
- Email: Contact email
- Password: Encrypted user password
- Role: Customer/Seller
- Address: Delivery Address (for Customers)

Date: _____

Product

- ID:
- Name:
- Price:
- Stock:
- Category:
- Description:
- Image:
- Seller:

Payment

- Payment ID:
- Amount:
- Status:
- Time:

Products :-

- ID: Unique Product identifier
- Name: Product name
- Price: Cost of the product
- Stock: Available quantity
- Category: Classification (e.g. Electronics, Clothing)
- Description: Detail Product information
- Images: Product images
- Seller ID: Reference to the seller.

Orders :-

- Order ID: Unique Order Identifier
- Customer ID: Reference to the Customer
- Product list: Product in the order.
- Total Price: Total Cost of the order.
- Order Status: Pending, Skipped, Delivered.
- Time stamp: Date and time of order.

Payments :-

- Payment ID: Unique Payment transaction ID
- Order ID: Reference to the Order
- Amount: Total payment amount
- Status: Paid, Pending, Failed
- Time stamp: Payment date and time

Entity Relationship Diagram (ERD)

[Products]

- ID
- Name
- Price
- Stock
- Category
- Seller ID

[Orders]

- Order ID
- Product ID
- Quantity

[Customers]

- Customer ID
- Name
- Contact Info

[Payments]

- Payment ID
- Order ID
- Amount

[Shipment]

- Shipment ID
- Status
- Delivery Zone
- Covering Area

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Filter

Add

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Market flow

Customer flow

- 1 Register/Login
- 2 Browse products using categories and filters
- 3 Add desired products to the cart or wishlist.
- 4 Proceed to secure checkout and make payment.
- 5 Track order status.

Seller flow

- 1 Register/Login
- 2 Upload products with details and images
- 3 Manage order and inventory via a seller dashboard.
- 4 View sales analytics and reports.

Challenges :-

- Secure Payment gateway Integration
- Development of a fully responsive design
- Scalability to handle large-scale data efficiently.

Date: _____

Future Scope.

- AI-based Product recommendations
- AI-based customer support for better
- Multi-language support for sellers to
- accessibility
- Advanced analytics
- Optimize sales
- Integration of delivery tracking API.
- (e.g. Shiprocket)

Conclusion

This platform is not just an e-commerce website but a complete solution benefiting both customers and sellers. It provides convenience, efficiency and accessibility while ensuring secure transaction and scalability.

Date: _____