Hackathon # 03

Day 1: "Laying the Foundation for Your Marketplace Journey"

Purpose Of the Marketplace

Objective:

To simplify shopping for stylish and affordable furniture with a seamless user experience.

Key Goals:

1- Establish the marketplace as the top online destination for quality and affordability.

2- Solve common pain points (e.g.; unclear pricing, overwhelming options).

3- Deliver high-quality, customizable furniture with reliable support.

Problems Faced by Customers

1- Difficulty in finding stylish yet affordable furniture.

2- Confusion caused by unclear pricing for excessive option.

3- Lack of reliability and transparency in the shopping process.

Solutions Provided by the Marketplace

1- **Customizable Furniture:** Offer products with options for personalization.

2- **Competitive Pricing:** Maintain affordability without compromising quality.

3- **User-Friendly Platform:** Simplify navigation and

ensure clear product details.

4- Reliable Support: Provide robust customer service for queries and post-sale support.

Entities and Database Schema

Focus on essential data fields for clarity and flexibility

1. Product

- Fields:
  - Product ID: Unique identifier.
  - Name: Furniture item name.
  - Price: Cost per unit
  - Stock: Quantity available.
  - Category: Group (e.g., chairs, tables, etc.).
  - Tags: Keywords for search.

2. Customer

- Fields:
  - Customer ID: Unique identifier
  - Name: Full name.

- Email : Contact email.
- Phone : Contact number.
- Address : Delivery address.

3- Order

- Fields :
  - Order ID : Unique identifier.
  - Customer Info : Name, contact details, and address.
  - Product Details : List of purchased item, quantities and prices.
  - Total Price : Sum of product prices.
  - Status : Order status (e.g., pending, shipped, delivered).

4- Category

- Fields :
  - Category ID : Unique identifier.
  - Name : Category name (e.g., Chairs, Tables)
  - Description : Detail about category.

5- Shipment

- Fields:
  - Shipment ID : Unique identifier.
  - Order ID : Linked to a specific order.
  - Status : Delivery progress (e.g., "In Transit")
  - Delivery Date : Expected or actual delivery date.

Customer Flow

Step 1 : User browses categories (e.g., Chairs, Tables, etc.)
Step 2: Products within the selected category are displayed
Step 3: User selects products and places an order
Step 4: Order is processed and delivered to the specific address

Block Diagram Structure

1- Product Block

- This block represents individual products in your marketplace
- Fields
  - Product ID
  - Name
  - Price

- Stock
- Category
- Tags

2- Category Block

- This block groups your products into categories.
- Field:
  - Category ID
  - Name
  - Description

Relation:

- Category → Product: One category contains multiple products.

3- Customer Block

- This block stores information about the customers.
- Fields:
  - Customer ID
  - Name
  - Email
  - Phone
  - Address

4- Order Block

- This block tracks customers orders.

- Fields:
  - Order ID
  - Customer Info (linked to customer block)
  - Product Detail (linked to Product block)
  - Total Price
  - Status

Relation:

- Customer → Order : One customer can place multiple orders
- Order → Product : An order contains multiple products.

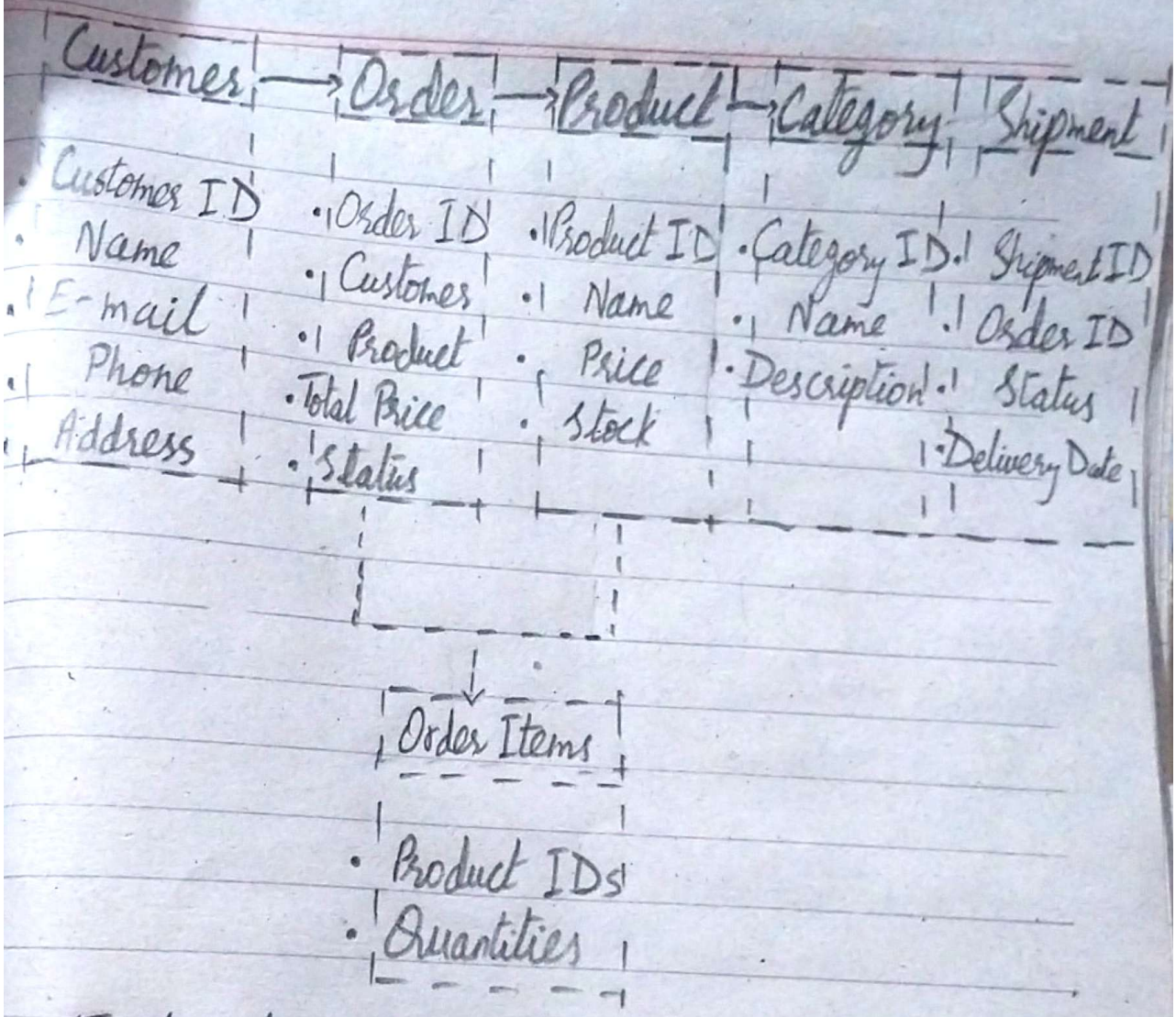
5- Shipment Block

- This block represents the shipping and delivery process

- Fields:
  - Shipment ID
  - Order ID (linked to Order block)
  - Status (In Transit, Delivered)
  - Delivery Date

Relation:

- Order → Shipment : Each order will be tracked with a shipment ID.



Explanation:

- Customers place an Order, and the Order contains multiple Products.

- Products belong to a Category, and each Order is tracked with a Shipment.

- Order Item (middle box) is a list of products in an

order with their respective quantities.

Key Considerations

1- Clarity: Avoid adding unnecessary details at this stage. Focus on essential fields.

2- Scalability: Ensure the schema can accomodate future changes (e.g., adding new product features).

3- Validation: Cross-check the schema against business goals ensuring it supports core functions like inventory management, order tracking, and customer engagement

4- Flexibility: Design the database to handle evolving customers needs (e.g., wishlist features, advanced search filters).