

Database Design Document: E-Commerce System

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1. Project Overview

This project involves building a relational database for an E-Commerce System. This system will manage customers, products, purchases, and payment methods. It will also support order tracking, inventory control, and basic data analytics principles and designs. Bonus features will be added based on time constraints and high impact functionality if applicable. We will use Supabase for PostgreSQL and python CLI for our front-end. These applications will work simultaneously.

2. Key Entities and Data Requirements

- a. Customer:
- b. Product:
- c. Purchase:
- d. Ship:
- e. CreditCard:
- f. Returns (Optional):

3. Use Cases

- Register/login
- Browse Products
- Add products to cart
- Make purchases
- Save multiple credit cards
- Returns (Optional)

4. Functional Requirements

1. Maintain reference integrity across all foreign keys
2. Ensure purchase can contain multiple products
3. Update stock after purchases

5. Non-Functional Requirements

1. Scalability to support large amounts of users or products
2. Secure form of payment
3. Minimal downtime but high availability
4. Data backup and recovery plans