E-Commerce Data base Design

Project Details:

Creating a robust e-commerce website for selling products involves a comprehensive database design to efficiently manage product listings, customer data, and transaction history. To achieve this, we plan to develop a PostgreSQL database comprising six essential tables: "Products," "Customers," "Orders," "Order_items," "Categories," and "Catalog." The "Products" table will store product information, including name, price, and availability. The "Customers" table will manage user profiles, while "Orders" and "Order_items" will track purchase history. Additionally, a "Categories" table will categorize products. The heart of our system lies in the "Recommendations" table, where we'll employ advanced algorithms to analyse a customer's previous purchases history to generate personalized product recommendations.

Our recommendation system in PostgreSQL will employ collaborative filtering and data analysis techniques. It will analyse customer behaviours, such as purchase history and ratings, to generate personalized recommendations. By constantly updating and refining the recommendations, we aim to enhance user satisfaction, increase sales, and foster customer loyalty. This database-driven approach will empower our e-commerce platform to not only efficiently manage product data but also offer a dynamic and personalized shopping experience that keeps customers engaged and returning for more.

Table name	Description	Owner
Products	records the details of products, review and cost details	Prudhvi
Orders	records the details of order, customer and status of order	Chaitanya
Order_items	Records the item details of order and item details	Pragnya
catalog	Records the catalog name and catalog_ID	Kiran
Categories	Records the details of the category_id, name	Kiran
Customer	Records the details of customer	Chaitanya
Recommendation	Records the list of products recommended for a customer	Prudhvi
Payment	Records different types of payment methods	Pragnya

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Tentative schedule for the project:

Mile stone	Schedule date	Person responsible
1. Database Schema Design	10/1/2023	Prudhvi,chaitanya
2. Data import	10/8/2023	Pragnya,kiran
3. indexing and performance	10/8/2023	Kiran, chaitanya
4.Stored Procedures and Functions	10/15/2023	Prudhvi, kiran
5. Recommendation algorithm	10/22/2023	Pragnya, chaitanya
6.Backend integration for API	10/26/2023	Prudhvi, chaitanya
7.Front end integration	11/1/2023	Pragnya, prudhvi

ERD diagram: