Walmart Internship Task_3

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Walmart Pet Department Database Schema
The link for ERD Diagram is Clickhere or open task_3.drawio.svg file

GitHub link for task

Here we have to design a database schema The goal is to create a centralized and normalized relational database that stores information related to pet products, customers, transactions, shipments, and locations.

ERD Diagram

The ERD (Entity-Relationship Diagram) represents the structure of the database and the relationships between entities. Please refer to the ERD Diagram for a visual representation of the database schema.

Entities and Relationships

PetFood: Represents pet food products. It includes attributes such as food_id, name, manufacturer, weight, flavor, and target_health_condition.

PetToy: Represents pet toy products. It includes attributes such as toy_id, name, manufacturer, material, and durability.

PetApparel: Represents pet apparel products. It includes attributes such as apparel_id, name, manufacturer, color, size, and care_instructions.

Animal: Represents animals associated with pet products. It includes attributes such as animal_id and name.

Manufacturer: Represents product manufacturers. It includes attributes such as manufacturer_id and name.

Customer: Represents customers of the Walmart pet department. It includes attributes such as customer_id, name, and email.

Transaction: Represents customer transactions. It includes attributes such as transaction_id, date, and is associated with the Customer entity.

Shipment: Represents shipments to Walmart locations. It includes attributes such as shipment_id, origin, destination, and is associated with products through the ProductQuantity entity.

ProductQuantity: Represents the quantity of products associated with a transaction. It includes attributes such as transaction_id, product_id, and quantity.

Location: Represents Walmart locations. It includes attributes such as location_id, name, and zip_code.

Product: Represents generic product information. It includes attributes such as product_id and name. This entity is related to specific product types (PetFood, PetToy, PetApparel) through separate relationships.

Usage
This database schema provides a foundation for storing and managing data related to pet products, customers, transactions, shipments, and locations. The schema is designed to support efficient querying, data analysis, and metrics collection.

To implement this database schema, we have to use a relational database management system (RDBMS) such as MySQL, PostgreSQL, or Oracle.
For connections details:
PetFood entity:
It has a connection to the Animal entity through the association "associated with one or more animals". This connection represents that a pet food product can be associated with multiple animals.

It has a connection to the Manufacturer entity through the "manufacturer" attribute. This connection represents that each pet food product is associated with a specific manufacturer.

PetToy entity:
It has a connection to the Manufacturer entity through the "manufacturer" attribute. This connection represents that each pet toy product is associated with a specific manufacturer.

PetApparel entity:
It has a connection to the Manufacturer entity through the "manufacturer" attribute. This connection represents that each pet apparel product is associated with a specific manufacturer.

Animal entity:
It is connected to the PetFood entity through the association "associated with one or more animals". This connection represents that an animal can be associated with multiple pet food products.
Similarly, it is connected to the PetToy and PetApparel entities through the same association. This indicates that an animal can be associated with multiple pet toy and pet apparel products
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Transaction entity:
It has a connection to the Customer entity through the "customer_id" attribute. This connection represents that a transaction is associated with a specific customer.

Shipment entity:
It has connections to the Location entity through the "origin" and "destination" attributes. These connections represent the shipment's origin and destination locations.

ProductQuantity entity:
It has connections to the Transaction and Product entities through the "transaction_id" and "product_id" attributes, respectively. These connections represent the relationship between a transaction and the products involved, along with the quantity of each product.

Location entity:
No direct connections. However, the Shipment entity has connections to the Location entity through the "origin" and "destination" attributes, indicating the origin and destination locations of a shipment.

Manufacturer entity:
It is connected to the PetFood, PetToy, and PetApparel entities through the "manufacturer" attributes. These connections represent that each product is associated with a specific manufacturer.

Conclusion
By centralizing the pet department's databases into a single source of truth, this database schema streamlines data management and facilitates efficient data processing for the Walmart pet department. It provides a foundation for storing and retrieving information about pet products, customers, transactions, shipments, and locations.

For a visual representation of the database schema, please refer to the ERD Diagram.

If you have any questions or need further assistance, please contact my email amitjakhar@iitbhilai.ac.in