Database Design

HabeshaApparel e-commerce Web Application

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Overview

Several types of databases can be used for an e-commerce project. I am going to use **MySQL** for the e-commerce web application that I am going to develop.

Relational Database Structure (**MySQL**): MySQL uses a relational database structure ideal for e-commerce websites. This structure will allow me to organize my data in tables with relationships between them, making it easy to access and manage your data.

Integration: MySQL can be easily integrated with other applications and tools commonly used in e-commerce websites, such as PHP and Java, which I am going to use.

For all requests made by the user on the UI that require database interaction, PHP will be leveraged to send the requests to the database. Such requests include GET, POST, DELETE, UPDATE, and SEARCH.

TABLES

When designing the data structure for the clothing e-commerce platform, the following data entities and relationships would be considered:

1. **Products**: This entity represents the clothing items available for purchase on the platform. Each product will have a unique identifier-primary key (**product_id**), a name, a description, a price, a keyword for searchability, a stock amount, and an image.

2. **Categories**: This entity represents the different types of clothing available on the platform for women, men, kids, jewelry, accessories, and more. Each category should have a unique identifier (**category_id**) and a name.

3. **Type**: This entity represents the different types of clothing items available on the platform – such as shirts, pants, shawls, wedding apparel, and dresses. Each type should have a unique identifier (**type_id**), and a name.

4. **Order**: This entity represents the orders placed by customers on the platform. Each order should have a unique identifier(**order_id**), a date, a status (e.g. processing, shipped, delivered), a shipping address, a billing address, and a total price.

5. **Order_details:** This entity is an intermediate table that is created to solve the many-to-many relationship between the products entity and the order entity, and the primary keys of these entities are used as foreign keys – (**order_id, product_id**) in this table.

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6. **Customer**: This entity represents the customers who use the platform to purchase clothing items. Each customer should have a unique identifier**(customer_id)**, a name, an email address, a shipping address, and a billing address.

7. **Review**: This entity represents the reviews submitted by customers for the clothing items they have purchased. Each review should have a unique identifier (**review_id**), a rating (e.g. out of 5 stars), a comment, and a date.

The relationships between these entities can be represented as follows:

1. A product belongs to one category, and a category can have many products.

2. A product belongs to one type, and a type can have many products.

3. A product is produced by one brand, and a brand can produce many products.

4. An order can have many products, and a product can be in many orders.

5. An order is placed by one customer, and a customer can place many orders.

6. A review is submitted by one customer, and a customer can submit many reviews. A review is also for one product, and a product can have many reviews.

ERD Diagram: Representing relationships using tables and foreign keys

Primary Key: Primary key will be unique to a table that is used to identify the table.
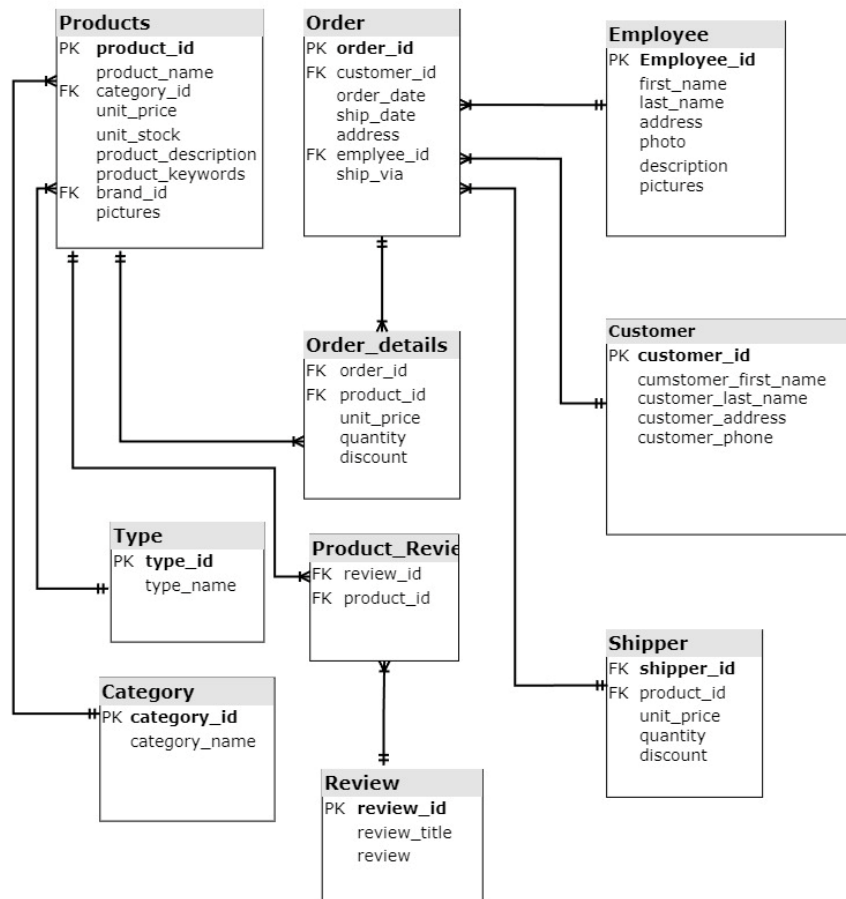
Foreign Key: Foreign key would be used to reference an entity or entities that have established relationships.

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