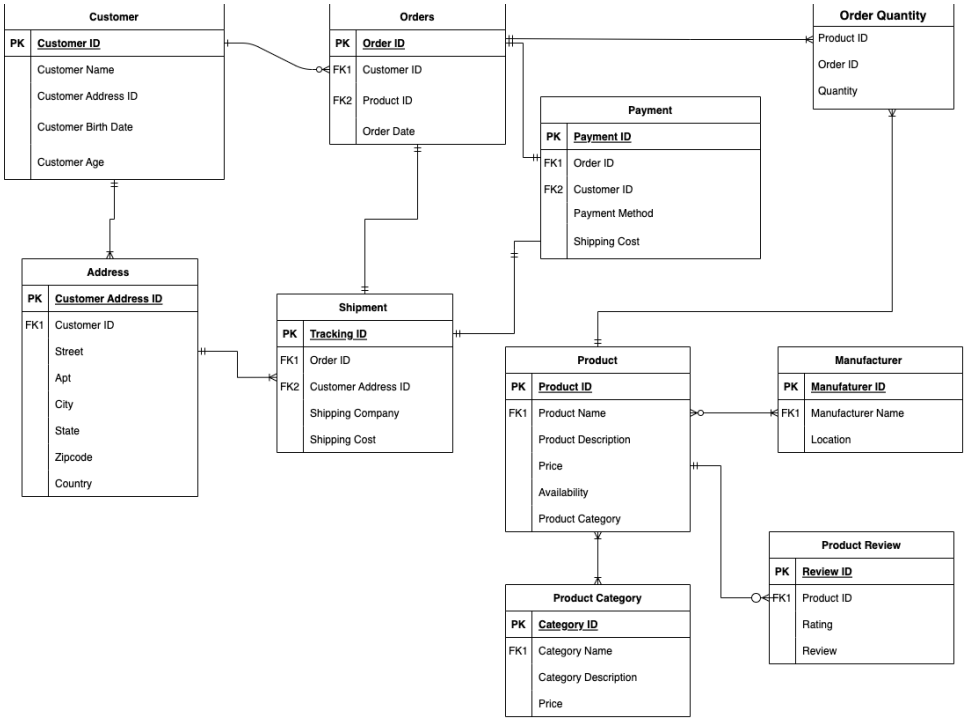
E-commerce Management System for Electronics

Database Management and Database Design

Project by

Akhilesh Dongre 002784651
Sriram Nandan Palaniswamy 002722686
Mihir Joshi 001007613
Ritika Wadhwa 001564943

Purpose: This project aims to focus on building a database management system for an e-commerce website which specializes in the sale of electronic goods. This system will serve as an easy way for the business to enter information about transactions, customers, orders, etc. They can then retrieve this information easily, which will in turn streamline the shopping experience. Along with tracking orders, inventory and customers, this system will also track loyalty of customers and discounts extended to them. Such a comprehensive system will help eliminate a lot of problems faced by businesses and improve the customer experience.



The above Entity Relationship Diagram has the following Entities:

- **Customer** [**Customer ID,** Customer Name, Customer Address ID, Customer Birth Date, Customer Age]
- **ADDRESS** [**Customer Address ID,** Street, Apt, City, State, Zipcode, Country]

- **SHIPMENT** [**Tracking_ID**, Order ID(FK), Customer Address ID(FK), Shipping Company, Shipping Cost]
- **PRODUCT** [**Product ID,** Prod Name (FK), Product Description, Price, Product Category, Availability]
- **PRODUCT CATEGORY** [**Category ID**, Category Name (FK), Category Description, Price]
- **PRODUCT REVIEW** [**Review ID**, Product ID, Rating, Review]
- **MANUFACTURER** [M**anufacturer ID,** M**anufacturer Name**, Location]
- **SHIPMENT [Tracking ID, Or**der ID (FK), Customer Address ID (FK), Shipping Company, Shipping Cost]
- **PAYMENT [Payment ID, O**rder ID (FK), Customer ID (FK), Payment Method, Shipping Cost]
- **ORDER QUANTITY [Order ID, Product ID,** Quantity]
- **ORDERS [Order ID,** Customer ID (FK), Product ID (FK), Order Date]

In this schema, Customer represents the website's registered users, who can place multiple Orders for products. Each Order is associated with a Customer and contains one or more Order Items. Each Order Item represents the product, customer and the date it is ordered on. The Order Quantity associative entity tracks the quantity for each product ordered in a particular order.

Product represents an available list of products for purchase on the website, which has a name, description, category, price, availability. Each Product can be associated with one or more Categories, which are represented by the Category table. The Product Category table represents the many-to-many relationship between Product and Category.

Product Review will help in tracking how a certain product does.
With this schema, the website can track which users have ordered which products, what categories those products belong to, and how many of each product were ordered.

SHIPMENT represents the information of the deliverable from the website to drop location which uses the multiple ADDRESS stored for a customer.