Designing a database for an e-commerce project involves creating tables to store information about users, products, orders, payments, and more. Below is an example of a simplified relational database schema for an e-commerce project. Please note that real-world e-commerce databases may be more complex and feature-rich.

**Entities and Their Attributes:**

1. **User Table**:
   * UserID (Primary Key)
   * Username
   * Password
   * Email
   * Name
   * Address
   * Phone
   * ...
2. **Product Table**:
   * ProductID (Primary Key)
   * Name
   * Description
   * Price
   * Stock Quantity
   * Manufacturer
   * CategoryID (Foreign Key)
   * ...
3. **Category Table**:
   * CategoryID (Primary Key)
   * Name
   * Description
   * ...
4. **Order Table**:
   * OrderID (Primary Key)
   * UserID (Foreign Key)
   * Date
   * Status
   * TotalAmount
   * ...
5. **OrderItem Table**:
   * OrderItemID (Primary Key)
   * OrderID (Foreign Key)
   * ProductID (Foreign Key)
   * Quantity
   * Subtotal
   * ...
6. **Payment Table**:
   * PaymentID (Primary Key)
   * OrderID (Foreign Key)
   * PaymentMethod
   * Amount
   * PaymentDate
   * ...
7. **Review Table**:
   * ReviewID (Primary Key)
   * ProductID (Foreign Key)
   * UserID (Foreign Key)
   * Rating
   * Comment
   * Date
   * ...
8. **Cart Table**:
   * CartID (Primary Key)
   * UserID (Foreign Key)
   * ...

**Relationships:**

* One-to-Many Relationship: Users can place multiple orders, so there's a one-to-many relationship between User and Order (User 1 -> N Order).
* Many-to-Many Relationship: Products can belong to multiple categories, and categories can have multiple products. This is achieved through a junction table or by directly assigning a CategoryID to products.
* One-to-Many Relationship: Each order can have multiple order items (Order 1 -> N OrderItem).
* One-to-Many Relationship: An order can have one payment, but a payment can be associated with only one order (Order 1 -> 1 Payment).
* Many-to-Many Relationship: Users can leave multiple reviews for products, and products can have multiple reviews. This can be achieved through a junction table.
* One-to-One Relationship: Each user can have one shopping cart, and each shopping cart is associated with a single user (User 1 <-> 1 Cart).

This is a basic representation of an e-commerce database schema. In a real-world scenario, you might need to consider more complex relationships, additional tables for features like shipping, discounts, promotions, and more. The design of the database should align with the specific requirements and features of your e-commerce project.