

# **Fashion Rental Management Database System**

## **Updates in ERD For P3:**

Changes we made to P2 ERD to account for the professor's Feedback.

- 1) Stored DataOfBirth attribute instead of Age attribute in the Customer entity.
- 2) Removed Purchase entity and stored required purchase attributes in Order entity.
- 3) Introduced Order line entity between product and order entities to eliminate many-to-many relationships.
- 4) Connected Order entity and Customer services to save the order ratings.

## **Updated Design Document**

### **Business Rules:**

- 1) The platform allows users to create and manage their own accounts. Customer login information such as User ID, Username and password etc is stored in Authentication entity.
- 2) A customer makes a purchase to rent the products (clothes, accessories etc) and adds it the order. Customers must pay a rental fee for each product they rent, which is based on the length of the rental period and the retail value of the item.
- 3) Payment details entity holds the mandatory payment information such as Zelle, card details or cash on delivery etc provided by the customer prior to completing a purchase.
- 4) Orders entity holds the details of orders placed by a customer such as customer ID, products ordered, rental charges applied as well as status of the order (In progress, picked up, Cancelled),etc. Each order placed must have a purchase ID linked to it.
- 5) Order line holds the order ID and productId and the quantity of the order. Each order line must have one product assigned to it.
- 6) Product entity is required to store details of products available in the inventory as well as ones supplied by the suppliers for the customers to browse through and make a purchase.
- 7) Product category refers to the product catalog available for viewing the product name, brands as well as rental price assigned to each product.
- 8) Store entity is required as the customers can either browse through online store as well as physical stores located at multiple addresses to make purchases and arrange pick up accordingly. Every physical store will require a manager and/or a salesperson as employees to function the store operations.
- 9) Customer service is one of the main features of the platform and thus requires to be maintained through 24/7 customer support.  
Customers are encouraged to provide order ratings for the business to provide better customer experience for the orders served. An employee is assigned to resolve one or more customer cases.

10) Our model works on supplier entity providing the products available with them to us on a rental basis. The Supplier Rentals entity stores the information related to supplier details as well as products rented by us through them with the rental charges agreed between our company and their sales department.

11) The supplier entity maintains the supplier details such as supplier name, address, phone number, email etc.

### **Entities listed in our management system are:**

1. Customers
2. Authentication
3. Payment Details
4. Order Line
5. Orders
6. Product
7. Product Category
8. Store
9. Employee
10. Customer Service
11. Supplier Rentals
12. Supplier

### **Entity-Relationships in our system:**

1. Product, Product Category relationship:- A product must belong to one category. A product category must have at least one product but can have many products.
2. Customer, Authentication relationship:- One customer should have only one authentication. For e.g. Customer will have one unique user ID per authentication.
3. Customer, Payment Details relationship- Customers must do provide at least one payment detail to purchase items. But they can also add multiple payment details. For e.g. Customer can use Zelle, Cash on Delivery, Credit or Debit card as a payment method.
4. Payment Details, Purchase relationship:- Customer may or may not have multiple purchases, but every purchase must have one payment method.
5. Customer, Order relationship:- Customer may or may not place an order, but an order must belong to one customer.
6. Store, Product relationship:- A store may or may not have multiple products but a product must belong to one store.

7. Store, Employee: - A store must have one or many employees working for it. And an employee must belong to one store.
8. Employee, Customer service- An employee may or may not provide customer service. But customer service must have a designated employee to resolve the individual case.
9. Supplier, Supplier Rentals:- A supplier may have one or many supplier rentals and a supplier rental should belong to one supplier.
10. Supplier rentals, products -Supplier rentals must have one or many products and a product belongs to one supplier rental.
11. Order, Orderline- A order must have one or many order Id and an orderline must have only one order associated to it.
12. Product, Orderline- A order should have one or many order line. And an orderline must have one product assigned to it.