SQL Project: Starbucks Database Implementation

Introduction

Starbucks Corporation, founded in 1971 by three partners - Jerry Baldwin, Zev Siegl, and Gordon Bowker - has evolved into one of the world's most iconic and influential coffeehouse chains. With its headquarters in Seattle, Washington, Starbucks has a global presence, serving coffee, espresso, and a variety of other beverages and food items in over 30,000 locations across 80 countries.

Starbucks is renowned for its commitment to providing high-quality coffee and fostering a unique and inviting atmosphere in its stores. The company's mission extends beyond just coffee; it aims to inspire and nurture the human spirit, one person, one cup, and one neighborhood at a time. Starbucks has become synonymous with premium coffee experiences and socially responsible business practices.

Product Dissection and Real-World Problems Solved by Starbucks

Community Gathering Space

Real-World Challenge: In an increasingly fast-paced world, people often lack a space where they can relax, socialize, or work outside of their homes or offices.

Starbucks' Solution: Starbucks stores serve as a community gathering space, providing a welcoming environment with comfortable seating, free Wi-Fi, and a variety

of beverages and food options. This addresses the challenge of finding a convenient and inviting place to connect with others or work remotely.

Coffee Quality and Customization

Real-World Challenge: Many coffee drinkers seek high-quality and customizable coffee options that cater to their individual tastes.

Starbucks' Solution: Starbucks offers a wide range of coffee blends and customization options, allowing customers to tailor their coffee orders to perfection. This addresses the need for a premium coffee experience that can be personalized to suit each customer's preferences.

Ethical and Sustainable Sourcing

Real-World Challenge: Consumers are increasingly concerned about the ethical and environmental impact of the products they purchase.

Starbucks' Solution: Starbucks has made significant commitments to sourcing coffee ethically and sustainably. They partner with coffee growers worldwide, promote fair trade practices, and invest in programs that support coffee farmers and their communities. This addresses the challenge of conscious consumerism by offering products with a positive impact.

Mobile Ordering and Payment

Real-World Challenge: With the rise of mobile technology, people seek convenience in ordering and paying for products.

Starbucks' Solution: Starbucks introduced mobile ordering and payment options through its app, allowing customers to order ahead, pay digitally, and skip the queue. This addresses the challenge of streamlining the ordering process and saving time for customers.

Quality Coffee on the Go

Real-World Challenge: People desire access to high-quality coffee even when they're on the move.

Starbucks' Solution: Starbucks expanded its presence with drive-thru locations and strategically placed stores in busy areas. This addresses the challenge by making quality coffee easily accessible to customers on the go.

Case Study: Real-World Problems and Starbucks' Innovative Solutions

Starbucks, a global coffeehouse chain, has earned its reputation by not only serving coffee but also by providing solutions to real-world challenges through its innovative approach. By understanding the evolving needs and preferences of its customers, Starbucks has positioned itself as a brand that offers not just coffee but also community, customization, sustainability, and convenience.

Problem 1: Lack of Community Spaces

Real-World Challenge: In the fast-paced digital age, people yearn for physical spaces where they can gather, connect, or work comfortably outside their homes and offices.

Starbucks' Solution: Starbucks stores are designed to offer a welcoming and relaxed atmosphere, complete with cozy seating, free Wi-Fi, and an array of beverages and snacks. This addresses the challenge by providing community spaces where individuals can engage, socialize, or work in a comfortable setting.

Problem 2: Customizable Coffee Experience

Real-World Challenge: Coffee enthusiasts seek personalized coffee experiences that cater to their unique tastes and preferences.

Starbucks' Solution: Starbucks offers an extensive menu of coffee options and customization choices, allowing customers to tailor their orders precisely. Whether it's adjusting the roast level, milk type, or flavorings, Starbucks addresses the challenge by offering a highly customizable coffee experience.

Problem 3: Ethical Sourcing and Sustainability

Real-World Challenge: Consumers increasingly prioritize ethical and sustainable product choices.

Starbucks' Solution: Starbucks is committed to sourcing coffee beans responsibly, partnering with coffee growers globally, and promoting ethical and sustainable practices. They invest in programs that support farmers and communities, addressing the challenge of ethical and sustainable consumerism.

Problem 4: Convenience in Ordering and Payment

Real-World Challenge: With the ubiquity of smartphones, consumers seek convenient ways to order and pay for products.

Starbucks' Solution: Starbucks introduced mobile ordering and payment options through its app, allowing customers to place orders ahead of time, pay digitally, and avoid waiting in lines. This addresses the challenge by enhancing the convenience of the ordering process and saving time for customers.

Problem 5: Quality Coffee on the Go

Real-World Challenge: People desire access to high-quality coffee even when they're on the move.

Starbucks' Solution: Starbucks expanded its presence with drive-thru locations and strategically placed stores in busy areas. This addresses the challenge by making quality coffee easily accessible to customers on the go.

Top Features of Starbucks

- **Menu Variety:** Starbucks offers a diverse menu of coffee beverages, teas, pastries, sandwiches, and snacks.

- **Customization**: Customers can customize their coffee orders by choosing roast levels, milk types, syrups, and toppings.

- **Mobile App:** The Starbucks mobile app allows users to order ahead, pay digitally, earn rewards, and find nearby stores.

- **Rewards Program:** Starbucks Rewards offers loyal customers discounts, free drinks, and other perks.

- **Ethical Sourcing:** Starbucks commits to ethical and sustainable sourcing of coffee beans.

- **Community Spaces:** Starbucks stores provide comfortable seating and free Wi-Fi, encouraging community engagement.

- **Drive-Thru Locations:** Many Starbucks stores feature drive-thru windows for quick and convenient service.

Schema Description for Starbucks

The schema for Starbucks involves various entities that represent different aspects of the company's operations and customer interactions. These entities include Users (customers), Products (coffee and food items), Orders (customer orders), Stores (physical locations), Rewards (loyalty program), and Suppliers (coffee bean providers). Each entity has specific attributes that describe its properties and relationships with other entities.

User Entity

```
CREATE TABLE Users (
    UserID INT PRIMARY KEY,
    Username VARCHAR(50),
    Email VARCHAR(100),
```

```
    Full_Name VARCHAR(100),
    Registration_Date DATE
);
```

Product Entity

```
CREATE TABLE Products (
    ProductID INT PRIMARY KEY,
    Name VARCHAR(100),
    Description TEXT,
    Price DECIMAL(5, 2)
);
```

Order Entity

```
CREATE TABLE Orders (
    OrderID INT PRIMARY KEY,
    UserID INT,
    StoreID INT,
    Order_Date DATETIME,
    Total_Price DECIMAL(6, 2),
    FOREIGN KEY (UserID) REFERENCES Users(UserID),
    FOREIGN KEY (StoreID) REFERENCES Stores(StoreID)
);
```

Store Entity

```
CREATE TABLE Stores (
    StoreID INT PRIMARY KEY,
    Location VARCHAR(255),
    Seating_Area VARCHAR(255),
    Wi-Fi_Availability BOOLEAN,
    Drive_Thru BOOLEAN
);
```

Reward Entity

```
CREATE TABLE Rewards (
    RewardID INT PRIMARY KEY,
    UserID INT,
    Reward_Description VARCHAR(255),
    Expiry_Date DATE,
    FOREIGN KEY (UserID) REFERENCES Users(UserID)
);
```

Supplier Entity

```
CREATE TABLE Suppliers (
    SupplierID INT PRIMARY KEY,
    Name VARCHAR(100),
    Location VARCHAR(255)
);
```

Relationships

Users place Orders – Each user can place multiple orders, and each order is associated with one user.

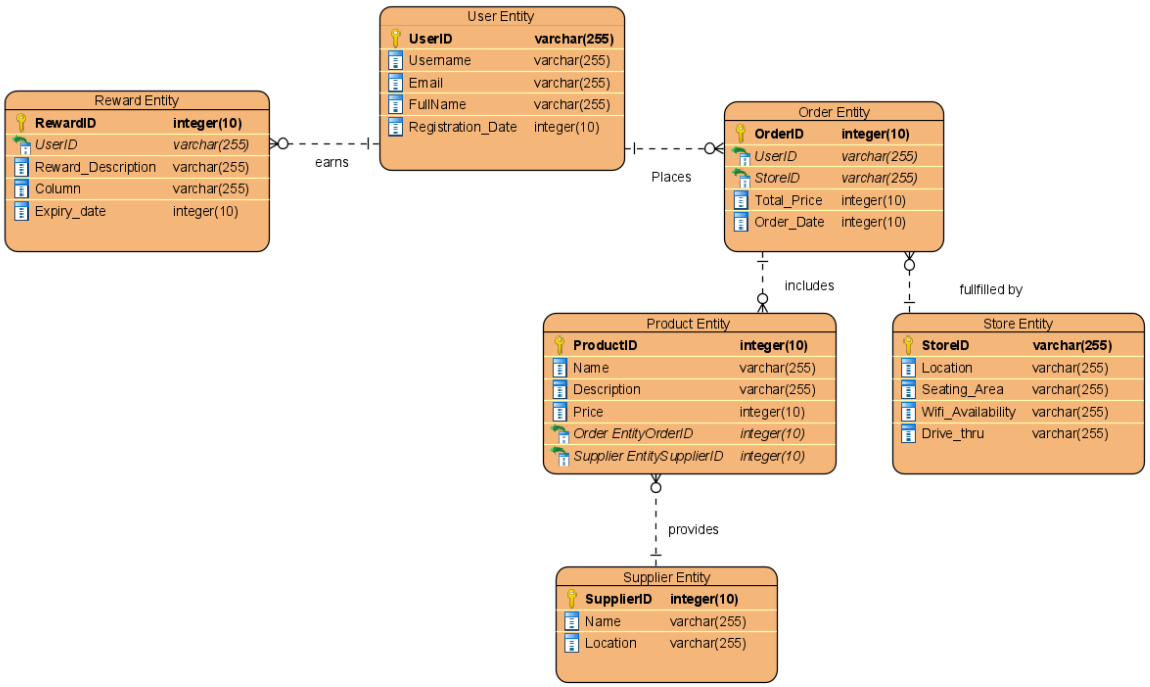
Orders include Products – Each order can include multiple products, and each product can be part of multiple orders.

Stores fulfill Orders – Each store fulfills multiple orders, and each order is fulfilled by one store.

Users earn Rewards – Users can earn multiple rewards, and each reward is associated with one user.

- **Suppliers provide Products** – Each supplier provides multiple products, and each product is supplied by one supplier.

ER Diagram



An Entity-Relationship (ER) diagram for Starbucks would visually represent the relationships and attributes of the entities within the schema. This diagram would illustrate how users interact with products, place orders at stores, earn rewards, and how suppliers provide the products used by Starbucks stores.

SQL Implementation

Sample Data

-- Insert sample data into Users table

```
INSERT INTO Users (UserID, Username, Email, Full_Name, Registration_Date) VALUES
(1, 'jdoe', 'jdoe@example.com', 'John Doe', '2023-01-01'),
(2, 'asmith', 'asmith@example.com', 'Alice Smith', '2023-02-01');
```

-- Insert sample data into Products table

```
INSERT INTO Products (ProductID, Name, Description, Price) VALUES
(1, 'Caffè Latte', 'A delicious blend of espresso and steamed milk', 3.50),
(2, 'Blueberry Muffin', 'Freshly baked muffin with blueberries', 2.75);
```

-- Insert sample data into Stores table

```
INSERT INTO Stores (StoreID, Location, Seating_Area, Wi-Fi_Availability, Drive_Thru) VALUES
(1, '123 Main St, Seattle, WA', 'Comfortable seating for 50', TRUE, TRUE),
(2, '456 Elm St, Seattle, WA', 'Cozy seating for 30', TRUE, FALSE);
```

-- Insert sample data into Orders table

```
INSERT INTO Orders (OrderID, UserID, StoreID, Order_Date, Total_Price) VALUES
(1, 1, 1, '2023-05-01 08:30:00', 6.25),
(2, 2, 2, '2023-05-02 09:00:00', 3.50);
```

-- Insert sample data into Rewards table

```
INSERT INTO Rewards (RewardID, UserID, Reward_Description, Expiry_Date)
VALUES
(1, 1, 'Free Tall Coffee', '2023-12-31'),
(2, 2, 'Free Pastry', '2023-12-31');
```

-- Insert sample data into Suppliers table

```
INSERT INTO Suppliers (SupplierID, Name, Location) VALUES
(1, 'Best Coffee Beans Co.', 'Colombia'),
(2, 'Organic Farms', 'Ethiopia');
```

Query Examples

- Retrieve user order history:

```
SELECT u.Username, o.OrderID, o.Order_Date, o.Total_Price
FROM Users u
JOIN Orders o ON u.UserID = o.UserID
WHERE u.Username = 'jdoe';
```

- Analyze sales by product:

```
SELECT p.Name, SUM(o.Total_Price) AS Total_Sales
FROM Orders o
JOIN Order_Products op ON o.OrderID = op.OrderID
JOIN Products p ON op.ProductID = p.ProductID
GROUP BY p.Name;
```

- Check reward status for a user:

```
SELECT r.Reward_Description, r.Expiry_Date
FROM Rewards r
JOIN Users u ON r.UserID = u.UserID
WHERE u.Username = 'jdoe';
```

- Find top-selling products:

```
SELECT p.Name, COUNT(op.ProductID) AS Quantity_Sold
FROM Order_Products op
JOIN Products p ON op.ProductID = p.ProductID
GROUP BY p.Name
ORDER BY Quantity_Sold DESC;
```

- Identify stores with the highest traffic:

```
SELECT s.Location, COUNT(o.OrderID) AS Orders_Count
FROM Stores s
JOIN Orders o ON s.StoreID = o.StoreID
GROUP BY s.Location
ORDER BY Orders_Count DESC;
```

Conclusion

Starbucks' ability to identify and address real-world challenges has been central to its success. By offering community spaces, customization, sustainability, convenience, and quality, Starbucks has not only become a global coffee brand but also a solution provider that enhances the daily lives of its customers.