Coffee Chain Database Implementation

IMT 543:
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Database Purpose

The database would serve several functions:

- Control inventory, sales, staff, and customer rewards

- Maintain data for multiple retail coffee locations

- Allow analytics of sales across multiple dimensions.

Business Problems Addressed

Analytical capabilities our database addresses:

- Marketing and sales trends

- Effective staff location assignment

- Rewards program efficacy

Business Rules

Assumptions about business rules fall into four general categories

- Staff

- Products

- Sales

- Customer

Design Decisions

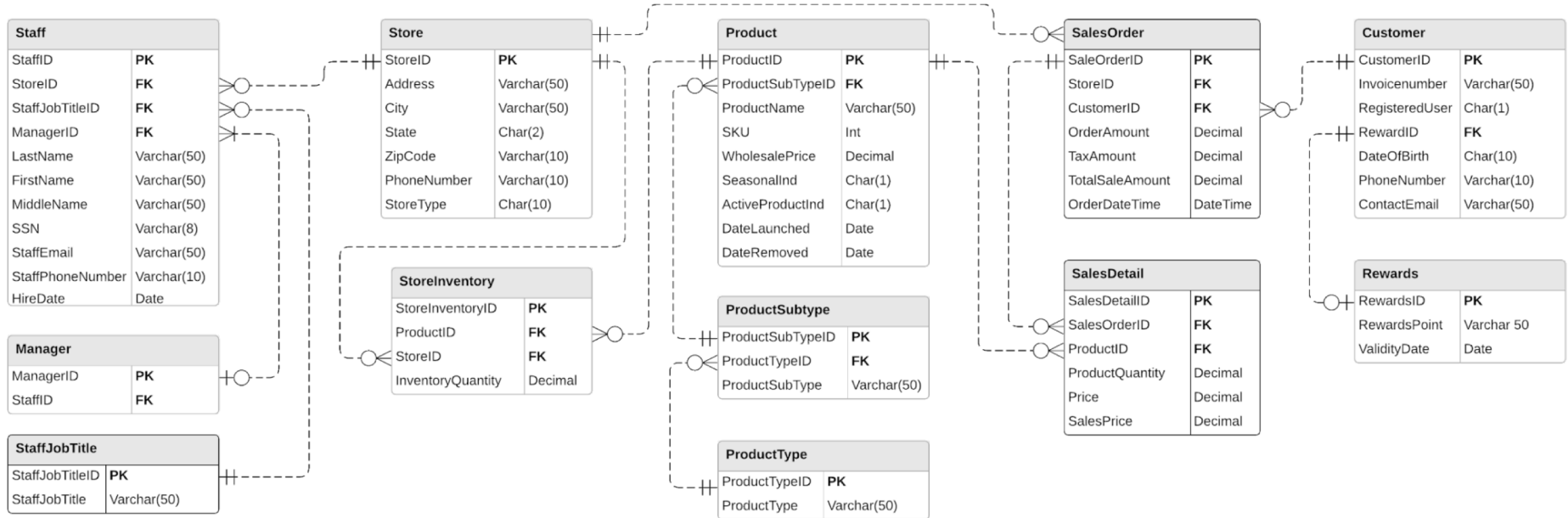|		
Product	Sales	Rewards
ProductSubType	SalesDetail	Manager
ProductType	StoreInventory	Staff
Store	Customer	StaffTitle

Entity Relationship Diagram

Database Creation & ProductType Table Creation

Database Creation SQL Script:

```
USE master
CREATE DATABASE GROUP8_COFFEECHAIN;
GO
```

Product Type Table Creation:

```
CREATE TABLE GROUP8_COFFEECHAIN.dbo.ProductType
(
ProductTypeID INT IDENTITY NOT NULL PRIMARY KEY,
ProductTypeName VARCHAR(50) NOT NULL
);
```

Product and ProductSubType Table Creation

Product SubType Table Creation:

```
CREATE TABLE
GROUP8_COFFEECHAIN.dbo.ProductSubType
(
ProductSubTypeID INT IDENTITY NOT NULL
PRIMARY KEY,
ProductTypeID INT NOT NULL REFERENCES
ProductType(ProductTypeID),
ProductSubTypeName VARCHAR(50) NOT
NULL
);
```

Product Table Creation:

```
CREATE TABLE GROUP8_COFFEECHAIN.dbo.Product
(
ProductID INT IDENTITY NOT NULL PRIMARY KEY,
ProductSubTypeID INT NOT NULL
REFERENCES ProductSubType(ProductSubTypeID),
ProductName VARCHAR(50) NOT NULL,
SKU INT NOT NULL,
 WholesalePrice DECIMAL(12,2) NOT NULL,
SeasonalInd CHAR(1) NOT NULL,
ActiveProductInd CHAR(1) NOT NULL,
DateLaunched DATE NOT NULL,
DateRemoved DATE
);
```

Staff, Manager, and StaffJobTitle Table Creation

```
CREATE TABLE
GROUP8_COFFEECHAIN.dbo.Staff
(
StaffID INT IDENTITY NOT NULL PRIMARY
KEY,
StaffJobTitleID INT NOT NULL References
dbo.StaffJobTitle,
ManagerID INT FOREIGN KEY REFERENCES
Manager(ManagerID),
LastName VARCHAR(50),
FirstName VARCHAR(50),
MiddleName VARCHAR(50),
SSN VARCHAR(8),
StaffEmail VARCHAR(50),
StaffPhoneNumber VARCHAR(10),
HireDate Date
);
```

```
CREATE TABLE
GROUP8_COFFEECHAIN.dbo.Manager
(
ManagerID INT identity Primary Key not null,
StaffID INT NOT NULL References dbo.Staff
);


CREATE TABLE
GROUP8_COFFEECHAIN.dbo.StaffJobTitle
(
StaffJobTitleID INT IDENTITY NOT NULL
PRIMARY KEY,
StaffJobTitle VARCHAR(50)
);
```

Store, StoreInventory, and Rewards Table Creation

```
CREATE TABLE GROUP8_COFFEECHAIN.dbo.Store
(
StoreID INT IDENTITY NOT NULL PRIMARY KEY,
Address VARCHAR(50) NOT NULL,
City VARCHAR(50) NOT NULL,
State VARCHAR(2) NOT NULL,
ZipCode VARCHAR(10) NOT NULL,
PhoneNumber VARCHAR(20),
StoreType VARCHAR(50),
CONSTRAINT CheckStoreType CHECK
        (StoreType = 'Cafe'
                OR StoreType = 'Interior Kiosk'
                OR StoreType = 'End-Cap Drive Through'
                OR StoreType = 'Exterior Kiosk'
                OR StoreType = 'Single-Tenant Drive
Through')
);
```

```
CREATE TABLE
GROUP8_COFFEECHAIN.dbo.StoreInventory
(StoreInventoryID INT IDENTITY NOT NULL PRIMARY
KEY,
ProductID INT FOREIGN KEY REFERENCES
Product(ProductID),
StoreID INT FOREIGN KEY REFERENCES
Store(StoreID),
InventoryQuantity INT NOT NULL
);


CREATE TABLE GROUP8_COFFEECHAIN.dbo.Rewards
(RewardsID INT IDENTITY NOT NULL PRIMARY KEY,
RewardsPoint INT NOT NULL,
ValidityDate DATE NOT NULL
);
```

Customer and SalesOrder Table Creation

```
CREATE TABLE
GROUP8_COFFEECHAIN.dbo.Customer
(
CustomerID INT IDENTITY NOT NULL PRIMARY KEY,
Invoicenumber VARCHAR(50) NOT NULL,
RegisteredUser CHAR(1) NOT NULL,
RewardsID INT NOT NULL FOREIGN KEY REFERENCES
Rewards(RewardsID),
DateOfBirth DATE NOT NULL,
PhoneNumber VARCHAR(10),
ContactEmail VARCHAR(50)
);
```

```
CREATE TABLE
GROUP8_COFFEECHAIN.dbo.SalesOrder
(
SalesOrderID INT IDENTITY NOT NULL PRIMARY KEY,
StoreID INT NOT NULL FOREIGN KEY REFERENCES
Store(StoreID),
CustomerID INT NOT NULL FOREIGN KEY
REFERENCES Customer(CustomerID),
OrderAmount DECIMAL(6,2) NOT NULL,
TaxAmount DECIMAL(6,2) NOT NULL,
TotalSaleAmount AS OrderAmount + TaxAmount,
OrderDateTime DateTime NOT NULL,
);
```

SalesDetail Table Creation

```
CREATE TABLE
GROUP8_COFFEECHAIN.dbo.SalesDetail
(
SalesDetailID INT IDENTITY NOT NULL PRIMARY KEY,
SalesOrderID INT NOT NULL FOREIGN KEY
REFERENCES SalesOrder(SalesOrderID),
ProductID INT NOT NULL FOREIGN KEY REFERENCES
Product(ProductID),
ProductQuantity INT NOT NULL,
Price DECIMAL(6,2) NOT NULL,
SalesPrice DECIMAL(6,2),
);
```

View Creation #1 - Active Products

vw_ActiveProducts:

CREATE VIEW [dbo].[vw_ActiveProducts] AS
SELECT PT.ProductTypeName, PST.ProductSubTypeName, P.ProductName, P.SKU, P.WholesalePrice, P.SeasonalInd, P.DateLaunched

FROM GROUP8_COFFEECHAIN.dbo.ProductType PT
LEFT JOIN GROUP8_COFFEECHAIN.dbo.ProductSubType PST
ON PST.ProductTypeID = PT.ProductTypeID
LEFT JOIN GROUP8_COFFEECHAIN.dbo.Product P
ON P.ProductSubTypeID = PST.ProductSubTypeID

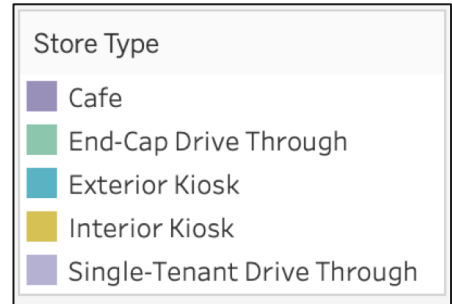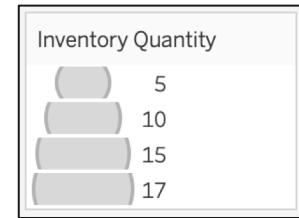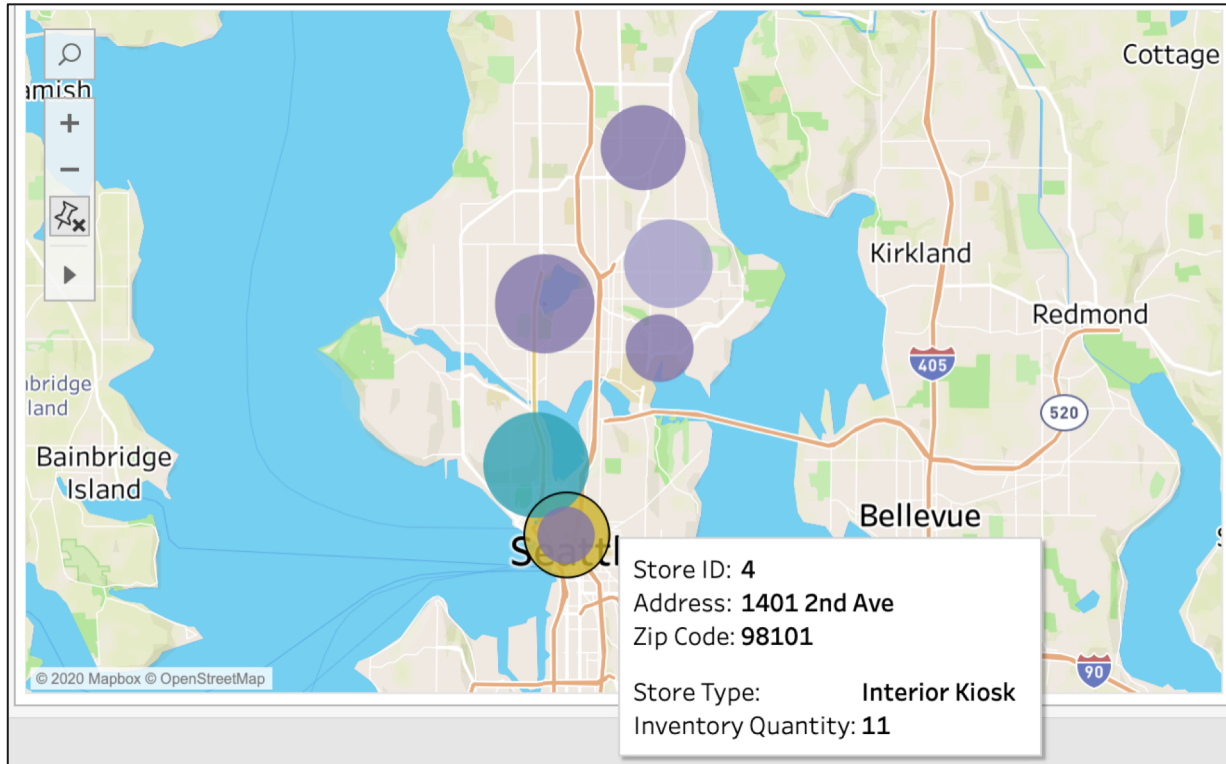WHERE P.ActiveProductInd = 'Y';

View Creation #2 - Staff Job Title

CREATE VIEW dbo.vw_StaffJobTitle AS

SELECT T.StaffJobTitle, S.StaffID, S.LastName, S.MiddleName, S.FirstName

FROM dbo.StaffJobTitle T

JOIN dbo.Staff S

ON S.StaffJobTitleID = T.StaffJobTitleID;

Visualization - Wholesale Price of Active Products

Product Type Name	Product Sub Type Name	Product Name	Price
Breakfast Food	Breakfast Sandwich	Double Smoked Bacon Cheddar Sandwich	$4.50
	Pastry	Butter Croissant	$2.15
		Chonga Bagel	$2.15
Defac Coffee	Defac Drip Coffee	Defac Breakfast Blend	$3.25
		Defac Veranda Blend	$3.25
Defac Tea	Defac Herbal Tea	Chamonile	$3.00
		Lemon	$3.00
		Mint	$3.00
Drink Merchandise	Drinkware	Plain Black Coffee Mug	$8.00
Lunch Food	Lunch Sandwich	Turkey Havarti Sandwich	$5.75
Packaged Coffee	Kuerig Coffee	Kuerig Thanksgiving Blend K-Cups	$10.00
Packaged Tea	Keurig Tea	Kuerig Green Tea K-Cups	$10.00
Regular Coffee	Drip Coffee	Regular Breakfast Blend	$3.25
		Regular Veranda Blend	$3.25
	Espresso	Americano	$3.00
		Caffe Latte	$4.10
		Caffe Mocha	$4.10
		Pumpkin Spice Latte	$4.10
		Regular Espresso	$3.00
Regular Tea	Herbal Tea	Black Tea	$3.00
		Earl Grey	$3.00
		Green Tea	$3.00
Snack	Protein Bar	Cliff Peanut Butter Protein Bar	$2.00

Visualization - Store Locations by Inventory Size

Thank You