**1. Review of Existing Unstructured Data**

The provided JSON files contain data related to users, brands, and receipts, which are likely captured from a retail or e-commerce application. The users' file includes details such as user ID, active status, creation date, last login, role, sign-up source, and state. The brands' file likely contains brand ID, name, and possibly categories or other identifiers. The receipts' file includes information on purchases, linking users to transactions and items bought, which can be associated with specific brands.

**Structured Relational Data Model**

**Based on the preliminary review, a relational data model to organize this data within a data warehouse can be envisioned as follows:**

**Tables:**

1. **Users**
   * **UserId (Primary Key, INT)**
   * **Active (BIT)**
   * **CreatedDate (DATETIME)**
   * **LastLogin (DATETIME)**
   * **Role (NVARCHAR)**
   * **SignUpSource (NVARCHAR)**
   * **State (NVARCHAR)**
2. **Brands**
   * **BrandId (Primary Key, INT)**
   * **Name (NVARCHAR)**
   * **Category (NVARCHAR) *[Assumed based on typical brand data]***
3. **Receipts**
   * **ReceiptId (Primary Key, INT)**
   * **UserId (Foreign Key, INT, References Users)**
   * **PurchaseDate (DATETIME)**
   * **TotalSpent (DECIMAL)**
   * **RewardsReceiptStatus (NVARCHAR)**
4. **ReceiptItems**
   * **ReceiptItemId (Primary Key, INT)**
   * **ReceiptId (Foreign Key, INT, References Receipts)**
   * **BrandId (Foreign Key, INT, References Brands)**
   * **Quantity (INT)**
   * **Price (DECIMAL)**

**Relationships:**

* A **User** can have multiple **Receipts** (One-to-Many).
* A **Receipt** can have multiple **ReceiptItems** (One-to-Many).
* A **ReceiptItem** is associated with a **Brand** (Many-to-One).

CREATE TABLE Users (

UserId INT PRIMARY KEY,

Active BIT,

CreatedDate DATETIME,

LastLogin DATETIME,

Role NVARCHAR(255),

SignUpSource NVARCHAR(255),

State NVARCHAR(255)

);

CREATE TABLE Brands (

BrandId INT PRIMARY KEY,

Name NVARCHAR(255),

Category NVARCHAR(255)

);

CREATE TABLE Receipts (

ReceiptId INT PRIMARY KEY,

UserId INT,

PurchaseDate DATETIME,

TotalSpent MONEY,

RewardsReceiptStatus NVARCHAR(50),

FOREIGN KEY (UserId) REFERENCES Users(UserId)

);

CREATE TABLE ReceiptItems (

ReceiptItemId INT PRIMARY KEY,

ReceiptId INT,

BrandId INT,

Quantity INT,

Price MONEY,

FOREIGN KEY (ReceiptId) REFERENCES Receipts(ReceiptId),

FOREIGN KEY (BrandId) REFERENCES Brands(BrandId)

);

A screenshot of a computer

Description automatically generated