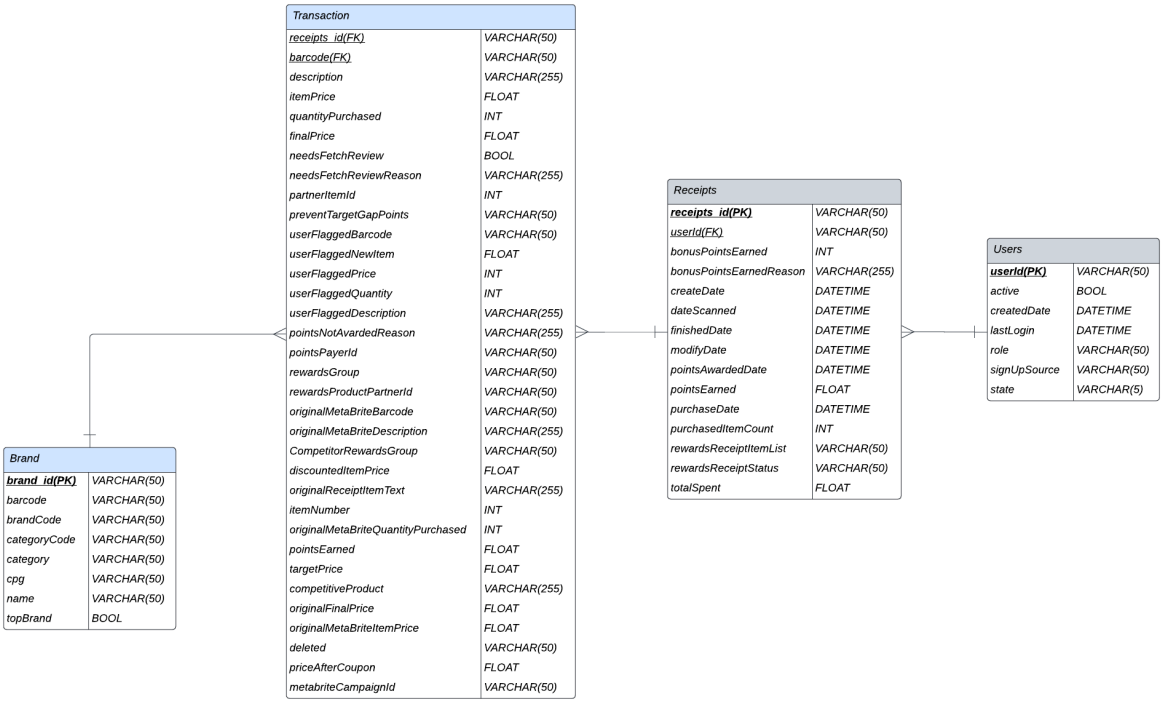
ERD



Explanation:

The original file includes three datasets, Brands, Receipts, and Users. Among them, the Users entity and Receipts entity have a one-to-one relationship, with the userId as a foreign key(FK) in the Receipts entity, referencing the primary key(PK), userId, in the Users entity.

The Receipts entity and Brands entity have a many-to-many relationship. Therefore, I built a new entity as a bridge table between the Receipts and Brands entities, named the Transaction. This entity has two foreign keys, receipts_id and barcode, which reference the recipts_id in the Receipts entity and the barcode in the Brands entity, respectively.

Further Step:

Based on normalization form requirements, I can further modify the existing ERD. From the Brands entity, I can extract a Category entity and Cpg entity. Category entity will use categoryCode as the primary key(PK) and has category as a regular attribute. Cpg entity uses rpg_id as the primary key(PK) and includes an attribute rpg_ref. But the missing value of categoryCode is significantly more than the missing value of category, which is not common. As explained from the point of view of the database, in the category entity, the categoryCode should exist as the primary key. It is uncommon for the primary key to be missing, but the rest of the attribute (category) is still present.