

## Relational Schema

### Entities & Attributes:

- Users (userID, name, username, password)
- Inventory (inventoryID, userID, inventoryName)
- Reminder (reminderID, itemID, reminderName, daysTillNextPurchase)
- Item (itemID, inventoryID, storeID, consumableItemID, householdItemID, usesOrServingSizeLeft, servingPerDay)
- ConsumableItem (consumableItemID, itemName, consumableTypeID, daysTillExpiration)
- ConsumableType (consumableTypeID, typeConsumable)
- HouseholdItem (householdItemID, itemName, householdItemTypeID, brand)
- HouseholdItemType (householdItemTypeID, itemType)
- Store (storeID, itemID, name, address)

### Primary Keys:

- userID, inventoryID, reminderID, itemID, consumableItemID, consumableTypeID, householdItemID, householdItemTypeID, storeID

### Relationships:

- User has a one to many relationship with inventory  
(Inventory has a many to one relationship with user)
- Inventory has a many to many relationship with Item  
(Item has a many to many relationship with Inventory)
- Item has a many to one relationship with store  
(Store has a one to many relationship with item)
- Item has a one to zero relationship with reminder  
(Reminder has a zero to one relationship with item)
- Item has a one to one relationship with consumableItem  
(ConsumableItem has a one to one relationship with item)
- ConsumableItem has a one to one relationship with consumableType  
(ConsumableType has a one to one relationship with consumableItem)
- Item has a one to one relationship with householdItems  
(HouseholdItems has a one to one relationship with item)
- HouseholdItems has a one to one relationship with HouseholdItemType  
(HouseholdItemType has a one to one relationship with householdItems)

### Foreign Keys:

- Inventory refers to userID
- Reminder refers to itemID
- Item refers to inventoryID, storeID, consumableItemID and householdItemID
- ConsumableItems refers to consumableTypeID
- HouseholdItems refer to householdItemTypeID

#### Data Types:

- VARCHAR for text
- INTEGER for numbers

#### Constraints:

- All primary keys must be NOT NULL and UNIQUE

#### Functional Dependencies:

- User Table
  - userID -> Username, password
  - Username, password -> userID
- Inventory Table
  - inventoryID
- Item Table
  - itemID
- Reminder Table
  - reminderID -> itemID
  - itemID -> reminderID
- Store Table
  - storeID
- Consumable Item Table
  - consumableItemID -> itemName
  - itemName -> consumableItemTableID
- Consumable Type Table
  - consumableItemTypeID -> typeConsumable
  - typeConsumable -> consumableItemTypeID
- Household Item Table
  - householdItemID -> itemName
  - itemName -> householdItemID
- Household Item Type Table
  - householdItemTypeID -> itemType
  - itemType -> householdItemTypeID