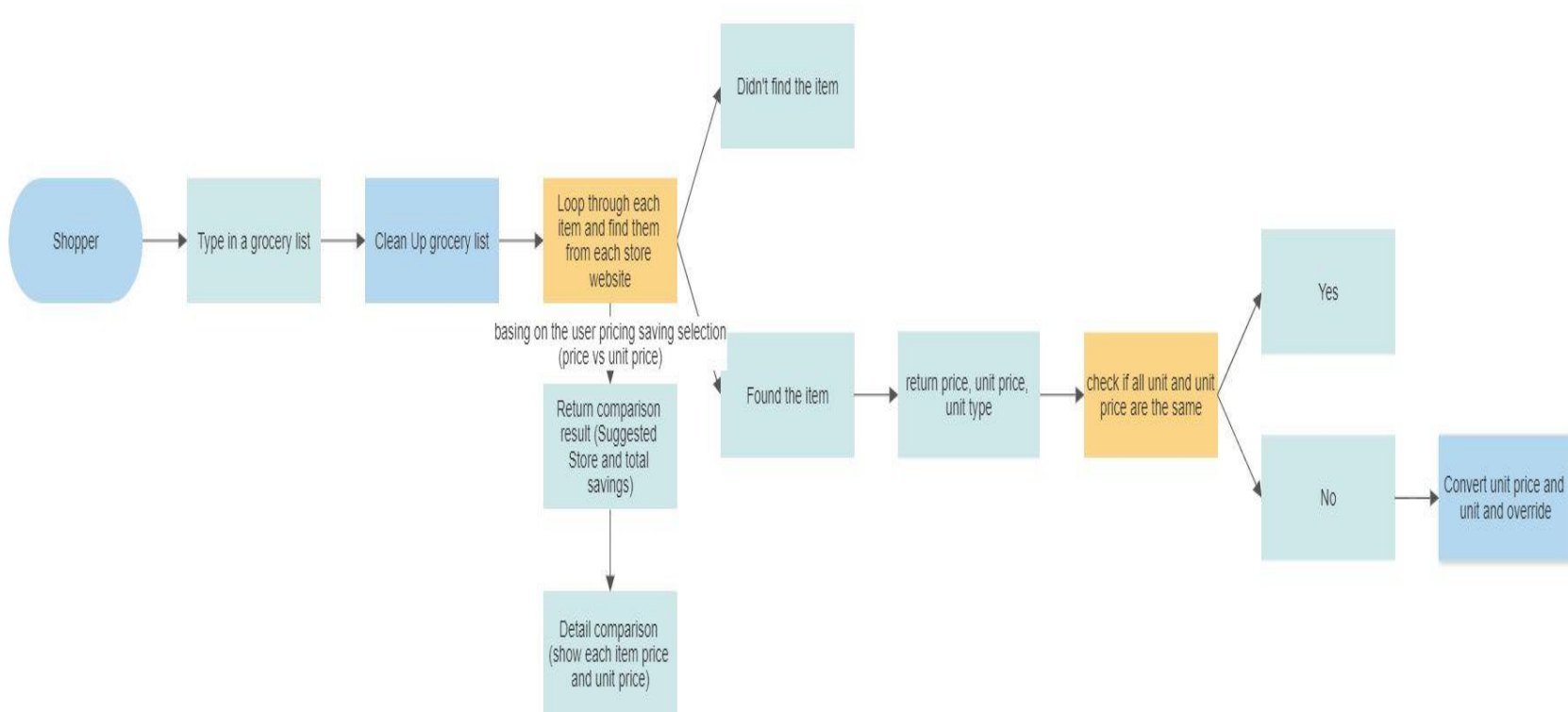


## Housewives' grocery saver

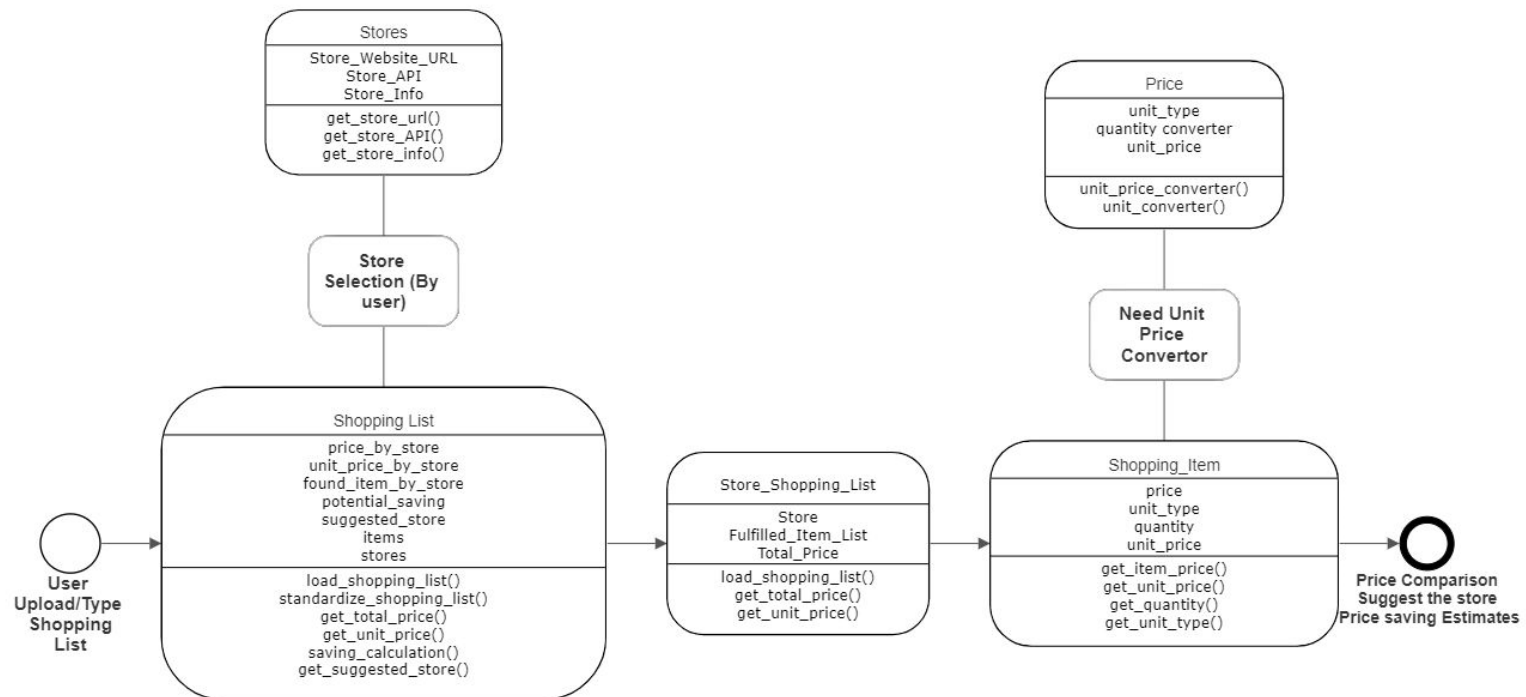
### Project Objective

With this project, I intend to build a price comparison program for grocery shopping. User can upload a grocery list to this program. The program takes the grocery list then search on the website of a few major local grocery stores (Walmart, Kroger, Meijer, Audi, Giant Eagle, etc.) to get the price and unit price, then provides a price comparison ( both for total price, and total unit price) for the uploaded grocery list. Users can select all grocery store, all pick some to compare. Users can also switch the comparison between total price or unit price. Basing on the user selection, the program will suggest the user which store to shop for the items on the grocery list.

### Program flowchart



## Classes



**Shopping\_List:** Users type in or upload a grocery list.

- `Load_shopping_list()` takes the user grocery shopping list (uploaded/typed)
- `Standardized_shopping_list()` process unclearly listed shopping items
- `Get_total_price()` this returns list of tuples for total price per store
- `Get_unit_price()` this returns a list of tuples for unit price per store
- `Saving_calculation()` return the estimates of savings by price and by unit price
- `Get_suggested_store()` return the store with biggest savings

**Store\_shopping\_list:** it is an inheritance of the shopping\_list. Because each store may have a different fulfillment list

- Load\_shopping\_list() load the standard shopping list from the parent shopping list
- Get\_total\_price() return the total price of the store
- Get\_unit\_price() return total unit price of the store

**Shopping\_Item:** a class for shopping item. Including price, quantity, unit type, unit price.

- get\_item\_price() get the item from shopping list, use store API to check item price, returns price of the item in the store
- get\_unit\_price() get the item from shopping list, use store API to check item unit price, returns the unit price of the item in the store
- get\_quantity() get the item from shopping list, use store API to check item quantity, returns the quantity of the item in the store
- get\_unit\_type() get the item from shopping list, use store API to check item unit type, returns the unit type of the item in the store

**Stores:** a class for the grocery store, including store information, website, for using APIs to return price.

- Get\_store\_url() return store website
- Get\_store\_api() return store website api for price checking
- Get\_store\_info() returns the store information

**Price:** a class for price, unit type, provide method to convert unit price.

- Unit\_price\_converter() convert the unit\_price to the desired unit type
- Unit\_converter() change the unit type

### **Assumptions:**

User does not have a loyalty or preference for any grocery store.

Quality are about the same give the same grocery item.

Distance to each of the grocery store is about the same. (Gas cost difference is immaterial)