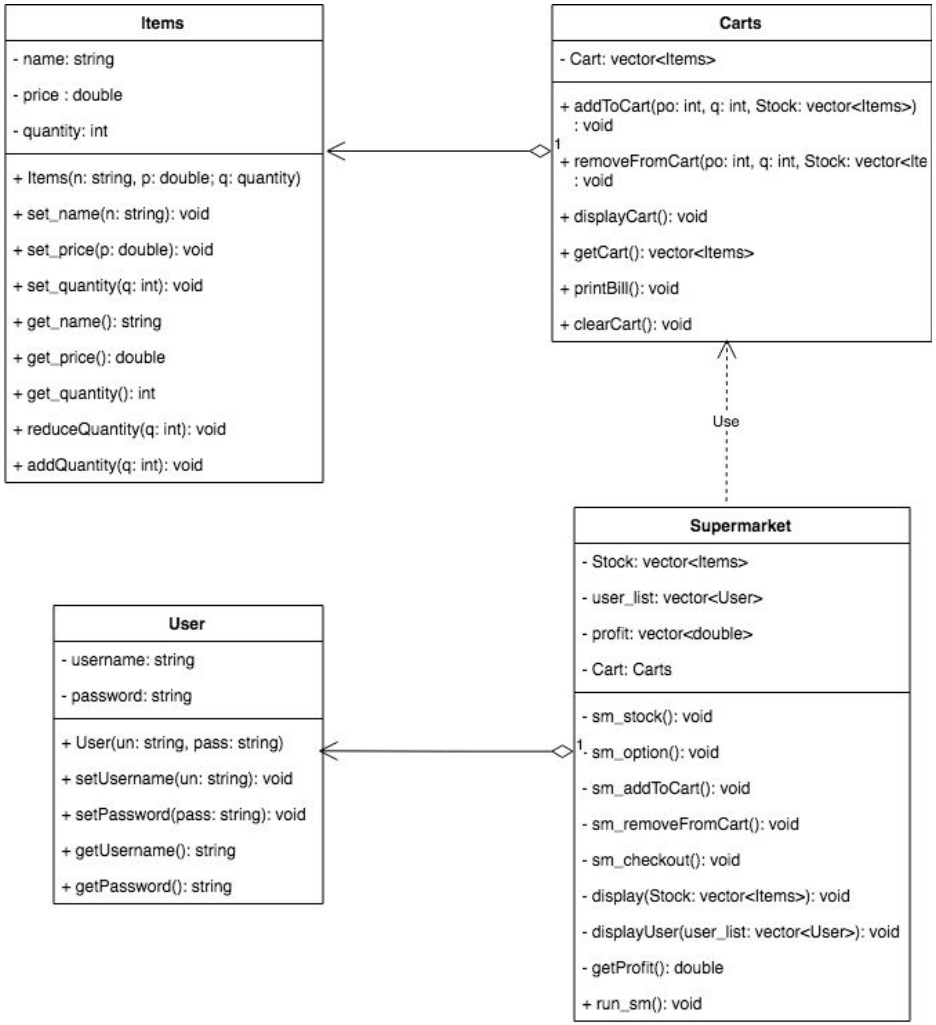
Online Supermarket Billing System

Robert Reden - 2201816612
Girindra Ado - 2201843506

Problem

In modern times like these, online supermarkets aren’t as popular as it should be and people still drive all the way to the supermarket to buy their daily necessities which we find to be inefficient, time consuming, and quite a chore. Why trouble yourself with the extra work and gas bills when you can just sit comfortably at home, open your phone and order all the things you need.

Solution Design



Data Structure

In our project, we implement OOP by using vector STL data structure. The vector STL suits our need within the project's scope. We use the vector STL as a container to contain items in the supermarket and to store them into the cart.

We choose to use the vector STL because it is flexible, and stores data dynamically and provide easy access to the data as opposed to other STLs that doesn't quite meet our requirements, such as array or linked list. Although alternatively, instead of using vector we could probably use the list(STL), because it works similarly to vector.

Algorithms

Time Complexity

Cart.cpp

displayCart() = O(N)

addToCart() = O(N)

removeFromCart() = O(N)

printBill() = O(N)

Supermarket.cpp

display() = O(N)

displayUser() = O(N)

sm_option() = $O(N^2)$

Limitation

This program allows every user to login either as a customer or as the store owner. It currently doesn’t have a unique user to act as the store owner.

Conclusion

Our program still has room for improvement but has enough capabilities to be implemented in the real world.

Thank You