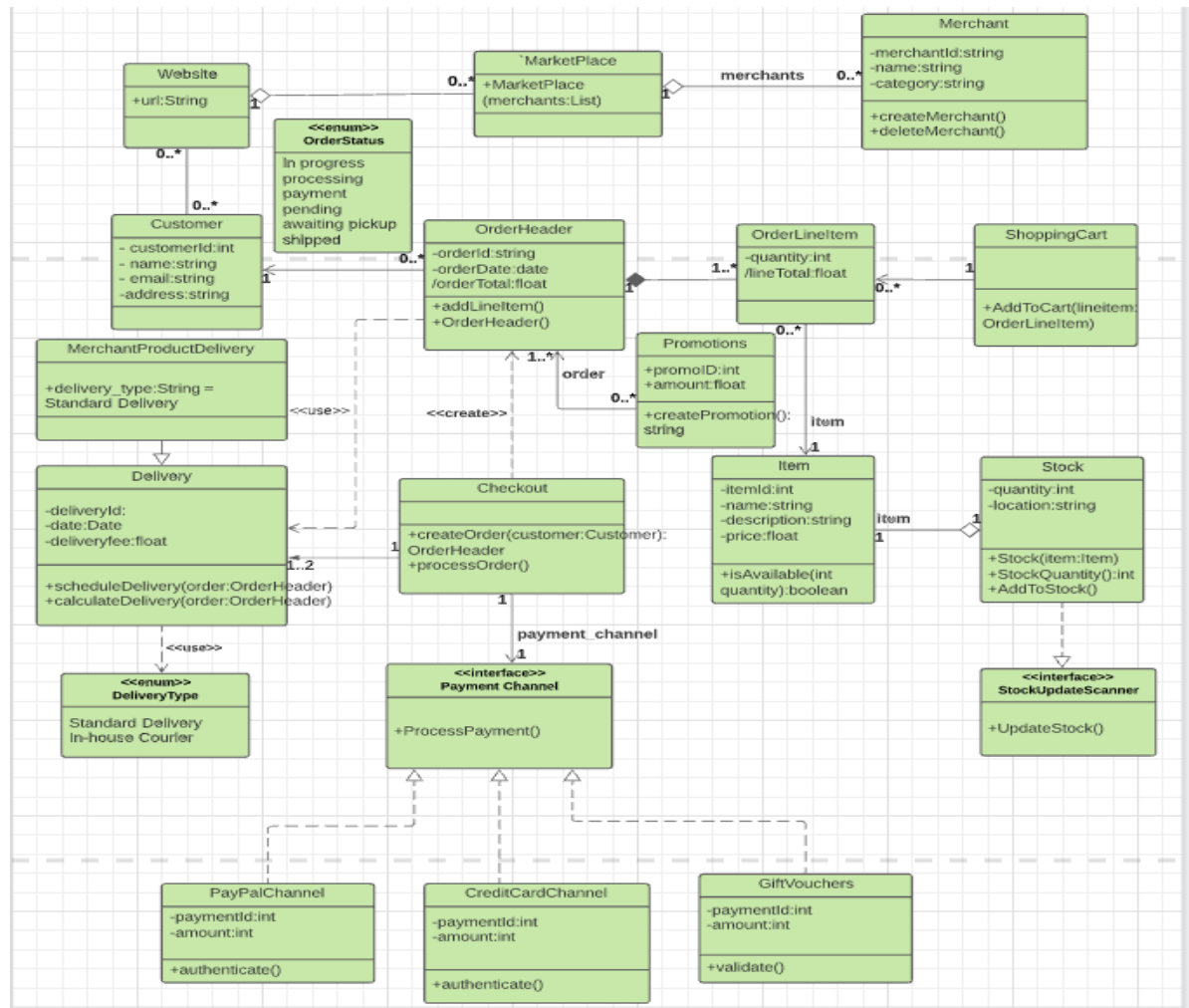


System Implementation Task: Online Store

System Design: Class Diagram of Online Store



System Description

Classes Website, Marketplace and Merchant

The name of the online store is **ShopEasy**.

url: www.shopeasy.com (not real)

The website is divided into 2 sections. The main store where the website items are sold and the marketplace where merchant items are displayed.

All three classes have been implemented using aggregation relationships: The website has a marketplace and the marketplace has merchants.

A visitor can search for all items (including the marketplace items) through the website search menu. There is also a search menu in the marketplace section where a visitor can search for only marketplace items.

When a visitor tries to search for an item not sold, a list of available items is displayed instead.

A visitor can view a list of registered merchants in the marketplace and their ratings.

A visitor can sign up to be a merchant in the marketplace section. To sign up, a merchant is required to enter name and category of items sold. After signup, a unique id is generated, and the visitor becomes a registered merchant. More than one merchant can be registered in a program run.

A registered merchant can only login to his account using his unique id.

NOTE: The function for a merchant to add or update stock has not been implemented

NOTE: The function for a merchant to delete his account has not been implemented.

Items in the marketplace can only be browsed. All orders are placed through the main website.

Classes Customer, OrderHeader, OrderLineitem, Class Item, ShoppingCart, Class Stock

After viewing items for sale, a visitor can place an order.

First, items are added to cart.

NOTE: Delete from cart function has not been implemented.

Visitor can check out item

Once checkout option is selected, registration is required.

Visitor registers to become a customer by entering customer details and order id is generated automatically after registration is complete.

An order is made up of an order header (customer's details) and order line items (shopping cart contents). Composition relationship implemented here.

At this point, Customer is required to complete order.

End of program

Payment and Delivery Classes

These were not implemented

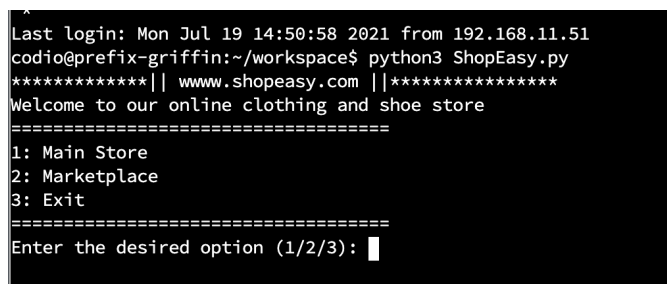
Test Data

The program contains a dictionary of data that has already been pre-defined. Here are test data for each stage with screenshots.

To run the website from start (This is included in the source code)

```
w2 = Website("***** || www.shopeasy.com || *****", {"001": [
"socks", "clothing", 2.60, 10], "002": ["shirt", "clothing", 12.00, 10],
      "003": ["dress", "clothing", 20.50, 10], "004": ["pants", "clothing", 14.00, 10], "005":
["loafers", "footwear", 32.00, 10],
      "006": ["mules", "footwear", 25.00, 10]}, "")
w2.websiteWindow()
```

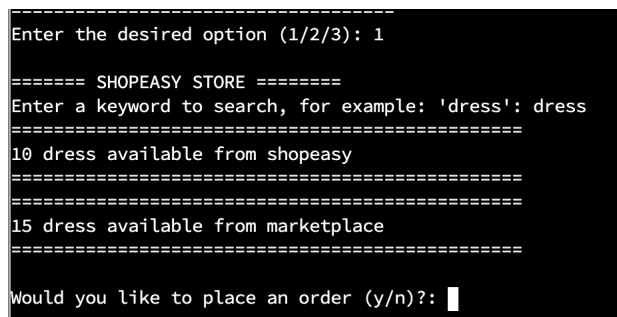
Website Main Menu



```
*
Last login: Mon Jul 19 14:50:58 2021 from 192.168.11.51
codio@prefix-griffin:~/workspace$ python3 ShopEasy.py
*****|| www.shopeasy.com ||*****
Welcome to our online clothing and shoe store
=====
1: Main Store
2: Marketplace
3: Exit
=====
Enter the desired option (1/2/3): █
```

As prompted, select desired option

Option 1 Sequence



```
-----
Enter the desired option (1/2/3): 1
===== SHOPEASY STORE =====
Enter a keyword to search, for example: 'dress': dress
=====
10 dress available from shopeasy
=====
15 dress available from marketplace
=====
Would you like to place an order (y/n)?: █
```

Allowed words are website object above: [sock, pants, dress, shirts, loafers, mules]. If a word in this list is typed, it generates the quantity of items available. If any other item is typed, eg. Fish, it shows all items sold instead

If 'n' is selected, we go back to the main menu.

If 'y' is selected

```
Would you like to place an order (y/n)?: n
*****|| www.shopeasy.com ||*****
Welcome to our online clothing and shoe store
=====
1: Main Store
2: Marketplace
3: Exit
=====
Enter the desired option (1/2/3):
```

```
Our list of items
=====
ID      ITEM      CATEGORY  PRICE($)  QTY
=====
001     socks     clothing   2.6       10
002     shirt     clothing  12.0       10
003     dress     clothing  20.5       10
004     pants     clothing  14.0       10
005     loafers   footwear  32.0       10
006     mules     footwear  25.0       10
=====
ID      ITEM      CATEGORY  PRICE($)  QTY  MERCHANT
=====
007     socks     clothing   2.6       20   Primark
008     shirt     clothing  12.0       12   Fred Perry
009     dress     clothing  20.5       15   Wallis
010     pants     clothing  14.0       11   Zara
011     loafers   footwear  32.0       10   Clarks
012     mules     footwear  25.0       20   Carvela
=====
To place an order, please input details below:
enter item id:
```

Then we fill order details using the list we have. Let's take id: 008

```
enter item id: 008
enter qty: 4
4 shirt added to cart

1. Add more items
2. Proceed to Checkout

Enter the desired option (1/2):
```

We can add more items but unfortunately this overrides existing item in the cart

Item availability is tested as shown below

```
Our list of items
=====
ID      ITEM      CATEGORY  PRICE($)  QTY
=====
001     socks     clothing   2.6       10
002     shirt     clothing  12.0       10
003     dress     clothing  20.5       10
004     pants     clothing  14.0       10
005     loafers   footwear  32.0       10
006     mules     footwear  25.0       10
=====
ID      ITEM      CATEGORY  PRICE($)  QTY  MERCHANT
=====
007     socks     clothing   2.6       20   Primark
008     shirt     clothing  12.0       12   Fred Perry
009     dress     clothing  20.5       15   Wallis
010     pants     clothing  14.0       11   Zara
011     loafers   footwear  32.0       10   Clarks
012     mules     footwear  25.0       20   Carvela
=====
To place an order, please input details below:
enter item id: 001
enter qty: 13

Oops! not enough items to fulfil your request, we have only 10 socks left
```

If we proceed to checkout: option 2,
The system prompts you to fill your details required to register as a customer. It then generates a unique customer id, order id and full order details

```
Enter the desired option (1/2): 2
enter your name for quick registration: Kike
enter your delivery address: 15, willow lane, essex
enter your email address: abcdef@gmail.com
-----
Hello Kike, here is your order details
Customer id: 548
Address: abcdef@gmail.com
email: 15, willow lane, essex
Order id: 444
Order date 2021-07-19 16:08:28.290152
-----
=====
LINEITEM ID ID      NAME      MERCHANT  PRICE($)  QTYORDERED  LINE TOTAL
=====
1728      008      shirt      Fred Perry 12.00      4.00      48.00
=====

1. Submit Order
2: Cancel Order

Enter the desired option (1/2): 1
```

Now we submit Order: option 1

```
1. Submit Order
2: Cancel Order

Enter the desired option (1/2): 1
Your order 444 is on its way to you, Thank you Kike for shopping with us

*****
FOR ADMINISTRATOR'S USE
*****
=====
ITEM ID  ITEM NAME  CATEGORY  PRICE    QTY      MERCHANT
=====
007      socks      clothing  2.6      20       Primark
008      shirt      clothing  12.0     8        Fred Perry
009      dress      clothing  20.5     15       Wallis
010      pants      clothing  14.0     11       Zara
011      loafers    footwear  32.0     10       Clarks
012      mules      footwear  25.0     20       Carvela
*****
codio@prefix-griffin:~/workspace$
```

Order has been submitted. This marks the end of Option 1 of the program run. An administrator class has not been implemented but the Stocks class has an update stock function shown here for the purpose of updating stock levels after an order. It can be seen here that shirt stock has reduced to 8.

Back to main menu, we select option 2

Option 2 sequence starts by displaying marketplace options

```

=====
Enter the desired option (1/2/3): 2
*****|| MARKETPLACE ||*****
1: Item Search
2: View Registered Merchants
3: Merchant Options
4: Back to Main Menu
Enter the desired option (1/2/3/4): █

```

Selection 1 under marketplace here allows us to search for a merchant sold item. Note: Order can be placed through the main website only and not from the marketplace

```

Enter a keyword to search, for example: 'dress': socks
=====
20 socks available from marketplace
=====

To place an order, navigate to the main site.
In the meantime, take a look around the marketplace

```

Selection 2 is a display function of registered merchants and their ratings

```

*****|| MARKETPLACE ||*****
1: Item Search
2: View Registered Merchants
3: Merchant Options
4: Back to Main Menu
Enter the desired option (1/2/3/4): 2

Our list of registered merchants:
=====
NAME          CATEGORY  RATINGS
=====
Primark       Clothing  * * *
Fred Perry    Clothing  * * * *
Wallis        Clothing  * * * * *
Zara          Clothing  * * * *
Clarks        Footwear  * * * * *
Carvela       Footwear  * * * *

```

Selection 3 has merchant options where a visitor can register as a merchant and then login as an existing merchant. Here are screenshots of a newly registered merchant now appearing in the list of registered merchants.

```

*****|| MARKETPLACE ||*****
1: Item Search
2: View Registered Merchants
3: Merchant Options
4: Back to Main Menu
Enter the desired option (1/2/3/4): 3
Enter E for existing merchant or N for New Merchant: N
would you like to register? (y/n) y
enter your name: Gucci
enter your item category (Clothing/Footwear): Clothing

Congrats Gucci, you have successfully registered as a merchant, your merchant id is 306

```

Once registration is done, a unique id is generated and is used to login

```
Enter the desired option (1/2/3/4): 3
Enter E for existing merchant or N for New Merchant: E
Enter your merchant id: 306

Welcome back Gucci!
```

Our list of registered merchants:

```
=====
NAME          CATEGORY  RATINGS
=====
Primark        Clothing  * * *
Fred Perry     Clothing  * * * *
Wallis         Clothing  * * * * *
Zara           Clothing  * * * *
Clarks         Footwear  * * * * *
Carvela        Footwear  * * * *
Gucci          Clothing  *
```

Existing merchants can login using the id: [300, 301, 302, 303, 304, 305]

```
Enter E for existing merchant or N for New Merchant: E
Enter your merchant id: 302

Welcome back Wallis!
```

Selection 4 goes back to the main website menu

Option 3 of main website menu exits the program.

```
*****|| MARKETPLACE ||*****
1: Item Search
2: View Registered Merchants
3: Merchant Options
4: Back to Main Menu
Enter the desired option (1/2/3/4): 4
*****|| www.shopeasy.com ||*****
Welcome to our online clothing and shoe store
=====
1: Main Store
2: Marketplace
3: Exit
=====
Enter the desired option (1/2/3): 3
Goodbye, Come back Soon!
codio@prefix-griffin:~/workspace$
```