**Design Document**

This program uses class inheritance to create an online shopping cart. It uses two ADT classes Item and ShoppingCart derived from the Bag class. The Item class has three data members name, unit price, and quantities. It contains a default constructor, constructors to initialize all three variables, set and get functions, and input, output, equal to operators. ShoppingCart is derived from the Bag class with the addition of the data member total price, a default constructor, a member function to get total price, and overridden add and remove functions.

**User Document**

This program replicates an online shopping cart where you can add or remove items. The user will be prompted if they would like to add items. Once done, the cart will be displayed with totals. The user will then be asked if they would like to make changes. Once finished, the final cart and totals will be displayed.

The name of the program is *project2.cpp* and the file location is:

*CourseFiles\Fall2019\jhu\CSCI301s54\StudentWorkFolder\vx3094oa\Project2-CodieWeeding*

To run the program, you first need to access the file from the file location

Then compile the program by entering

*g++ project2.cpp*

To run the program, enter *./a.out* and follow the on-screen prompts

**Example:**

g++ project2.cpp

./a.out

Welcome to ABC SHOPPING CENTER!

Enter the item you selected in the following order:

name unitPrice qty

(Note: Name can not contain any spaces, else error.)

--> T-shirt 19.99 2

Do you want to continue? y/n: y

--> Sweater 39.99 2

Do you want to continue? y/n: y

--> Iphone-case 25.5 3

Do you want to continue? y/n: y

--> Towel 9.99 5

Do you want to continue? y/n: y

--> T-shirt 19.99 2

Do you want to continue? y/n: n

Here is your order:

--------------------------------------------------

Name unitPrice Quantity

T-shirt 19.99 2

Sweater 39.99 2

Iphone-case 25.5 3

Towel 9.99 5

T-shirt 19.99 2

The total is 286.39

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Do you want to modify your order? y/n: y

Enter 1: add 2: remove

--> 1

Enter the item you selected in the following order:

name unitPrice qty

(Note: Name can not contain any spaces, else error.)

--> Shoes 99.99 1

The item was added to the cart

Do you want to modify your order? y/n: y

Enter 1: add 2: remove

--> 2

Enter the item to remove in the following order:

name unitPrice qty

--> Sweater 29.99 2

No such item in shopping cart

Do you want to modify your order? y/n: y

Enter 1: add 2: remove

--> 2

Enter the item to remove in the following order:

name unitPrice qty

--> Sweater 39.99 2

The item has been removed

Do you want to modify your order? y/n: n

Here is your updated order:

--------------------------------------------------

Name unitPrice Quantity

T-shirt 19.99 1

Shoes 99.99 2

Iphone-case 25.5 3

Towel 9.99 5

T-shirt 19.99 2

The total is 306.4

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Thanks for shoppping ABC SHOPPING CENTER!

**Test Data**

**Valid Input:** Enter valid item names, unit prices, and quantities.

**Boundary Values:** No boundary values for this program.

**Invalid Input:** No invalid input for this program.

**Initial Add Test Input:**

T-shirt 19.99 2

Sweater 39.99 2

Iphone-case 25.50 3

Towel 9.99 5

T-shirt 19.99 2

**Second Add Test Input:**

Shoes 99.99 1

**Remove Test w/ no match:**

Sweater 29.99 2

**Remove Test w/ match:**

Sweater 39.99 2