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CS-255-System Analysis and Design

Assignment Four

March 31, 2024

A diagram of a company

Description automatically generated

1. **Interpret the object model** for the new online storefront by responding to the following prompts:

In the UML diagram there are 7 classes which are the following: Shopping Cart, Customer, Order, User, Administrator, shipping info and order details. The diagram shows User as the superclass which derives from Customer and Administrator. The line with the closed diamond shape shows the composition of Shopping Cart and Order to Customer. This is because they cannot stand alone, and their life depends on the Customer class. The same thing happens with Shipping Info and Order Details depending on the Order Class. If it was not for the Order class these would not run.

The User is the superclass because Customer and Administrator both derive from this class. The reason they are in separate classes is due to the roles of the Administrator do not apply to the Customer or the User. The customer object shows zero too many multiplicities with the shopping cart and order classes. That is because the customer can have multiple shopping carts. An example would be an Amazon shopping card opened in more than one tab.

The UML diagram shows has Shopping Cart with an aggregation type of composition with Customer. The diagrams show that by have the line with the solid black diamond shape to the supporting Class. The supporting class is the reason the other one is live. The same thing happens with Order to shipping Info and Order Details. There isn’t one without the others.

In the classes there are public and private methods with the plus sign (+) being the Public and the (-) negative sign being Private. That is the encapsulation of the attributes and how they are being protected from manipulation and keeps them very specific.

Why would calculating of the price be in the shipping information or is the Order Details calcPrice showing the total amount? I didn’t see information on where the Hamp Craft’s deposit would be going or if this was something already built in their prior system. Also, I would like to add the option for in store pick up which would eliminate the shipping Cost for the customer.

1. Finally, think through the two different models you’ve explored for Hamp Crafts’ systems: a process model and an object model. Then **compare these models** by responding to the following prompts:

The UML diagram helps determine how the information of the with be build for the coding factor of classes with attributes. The details would be useful more then an Object model which is like the outline of the UML diagram. Understanding, how the information is broken down help determine what might need to be added or taken off for the client.