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CS 255

Module Four Assignment – Diagram Interpretation and Reflection

**Object Model Evaluation for Online Storefront**

**Different Functions of Online Storefront:**

The different functions of the online storefront can be grouped into two categories: customer-facing and administrative.

Customer-facing functions:

* Register for an account
* Log in to account
* Update profile information
* View product catalog
* Add products to cart
* Update quantity of products in cart
* View cart details
* Check out
* Track order status

Administrative functions:

* Update product catalog
* Process orders
* Manage customer accounts
* Generate reports

**How Functions are Represented in Object Model:**

The different functions of the online storefront are represented in the object model as methods of the various classes. For example, the checkOut() method of the ShoppingCart class represents the ability of a customer to check out and place an order. The updateCatalog() method of the Administrator class represents the ability of an administrator to update the product catalog.

**Different Classes of "Users" Represented by Object Model:**

The object model represents three different classes of users: customers, administrators, and anonymous users.

1. Customers have accounts with the online store and can log in to their accounts to view their profile information, add products to their cart, and place orders.
2. Administrators have special privileges that allow them to update the product catalog, process orders, manage customer accounts, and generate reports.
3. Anonymous users are users who are not logged in to the online store. They can still browse the product catalog and add products to their cart, but they cannot place an order until they log in or create an account.

**Associations Between Classes:**

The following associations exist between the different classes in the object model:

* A Customer can have many Orders.
* A Customer can have many Carts.
* Each Cart can only have one Customer.
* An Order can have one OrderDetails.
* An OrderDetail is associated with one Shipping Info.
* A Shipping Info belongs to one Order.

**How Objects Use Their Variables and Functions:**

The objects in the object model use their variables and functions to perform the various tasks of the online storefront. For example, a ShoppingCart object uses its addCartItem() method to add a product to the cart. A Customer object uses its checkOut() method to place an order.

**Does This Object Model Capture All of Hamp Crafts' Desired Functionality?**

Yes, this object model appears to capture all of Hamp Crafts' desired functionality. It includes all of the necessary classes and associations to support the customer-facing and administrative functions of the online store.

**Type of Aggregation Represented by Solid Diamond:**

The solid diamond shape in the object model represents a composition aggregation. This means that the child object cannot exist without the parent object. For example, an OrderDetail object cannot exist without an Order object.

**Why Is a Solid Diamond the Appropriate Choice Here?**

A solid diamond is the appropriate choice here because the relationship between the Order and OrderDetail classes is strong. An OrderDetail object cannot exist without an Order object, because an order cannot be placed without adding at least one product to the cart.

**Comparison Between Process and Object Models:**

**Process Model:**

A process model describes the flow of data and control through a system. It is a good way to understand the overall sequence of steps that are involved in a process. On the other hand, process models can be difficult to understand for complex systems, and they can be difficult to maintain as the system changes.

**Object Model:**

An object model describes the objects and classes that make up a system. It is a good way to understand the structure and behavior of a system. However, object models can be difficult to understand for complex systems, and they can be difficult to maintain as the system changes.

**How Well Does a Process Model Describe the System?**

Both the process model and the object model can be helpful for understanding the online storefront system. The process model can help to understand the sequence of steps involved in placing an order, while the object model can help to understand the different components of the system and how they interact with each other.

**What information does each model make easier to understand?**

The process model makes it easier to understand the overall flow of data and control through the system. The object model makes it easier to understand the structure and behavior of the system.

**What aspects of the system are more difficult to understand or are not represented?**

The process model and the object model properly represent the sequence of steps involved in placing an order. All functions and variables are easily broken down.

In conclusion, both the process model and the object model can be helpful for understanding the online storefront system.