**Interpretation of Object Model for Online Storefront**

**Functions of the storefront**

The model shows the main functions Hamp Crafts needs for their online store. Customers can register, log in, update their profiles, add items to their shopping cart, change quantities, and proceed to checkout. Orders can be placed, tracked, and linked to shipping info. Administrators can update the catalog. These are shown by the methods in each class, such as addCartItem(), placeOrder(), or updateCatalog().

**User classes**

There are three user roles in the diagram:

* **User** – the base class with login and registration information.
* **Customer** – inherits from User and can shop, manage their account, and place orders.
* **Administrator** – also tied to User but has methods to update the system catalog.

The diagram illustrates the connections between these classes and shopping carts, orders, and shipping information.

**Variables and functions**

Each object contains its own data and has functions that operate on that data. For instance, the ShoppingCart keeps track of productId and quantity and uses methods like updateQuantity() to modify those values. The Order class has variables such as orderId and status, along with a function to place the order.

**Coverage of Hamp Crafts’ needs**

The model covers most functionalities, including account creation, orders, payments through a vendor, and shipping details. One aspect not clearly shown is customer notifications, which were part of the original requirements. Adding this could complete the model.

**Aggregation in the diagram**

The solid diamond represents composition. For example, an Order is made up of OrderDetails. If the order is deleted, its details are deleted too. That’s why the solid diamond is used—it shows a strong whole–part relationship.

**Comparison Between Process and Object Models**

* **Process model**: Illustrates the steps and flow of activities, such as how a customer registers, places an order, and receives confirmation. It clarifies timing and workflow, but doesn’t show how the system is structured.
* **Object model**: Illustrates the system’s components, their data, and the connections between them. It makes the system’s structure easy to understand, but it doesn’t show the order or timing of the steps.

Both models are applicable; together, they provide a comprehensive understanding of how the system works and its underlying construction.

**Clear Communication**

The object model explains how Hamp Crafts can move to online sales by showing customers, administrators, shopping carts, orders, and shipping information all working together. It aligns with their goals of allowing customers to shop online while providing the business with tools to manage orders and the store.