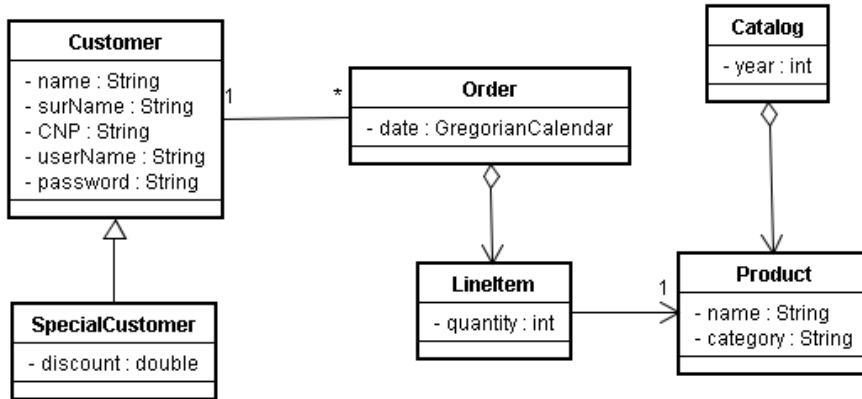


**Software Design Techniques**  
**Project Topics**

**E-Commerce Company**

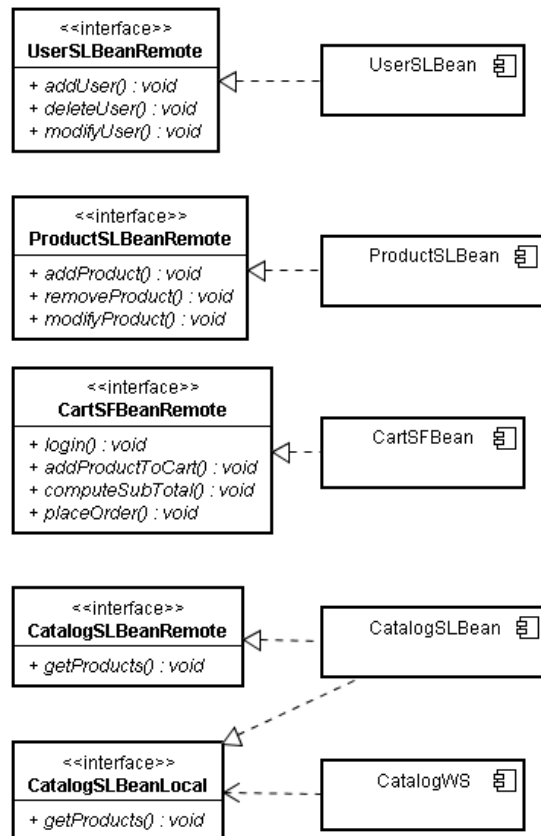
Create an enterprise application to manage the business processes that occur in an e-commerce company.

**Domain Layer**



These are all entity classes, which are persisted in a relational database. Take care that Customer-Order is bi-directional.

**Business Logic Layer**



The system is managed using session beans. An administrator can add, modify, remove products and users using User and Product stateless session beans. An unregistered user can view the catalog using Catalog session bean that also exposes *getProducts* method in a web service.

A purchase is managed using Cart statefull session bean. The user must first register providing the username and the password. Then he/she adds products to the cart. To end the transaction *placeOrder* method is called and the order is stored.

#### **Presentation Layer**

The session beans can be called using an Enterprise Application Client with a graphical user interface. (If you choose to, you can call the session beans from a JSP page).

Create at least 3 customers and 1 SpecialCustomer. Make a catalog of at least 10 products from 4 categories. Make at least 6 orders. (It is not necessary to make an order using a SpecialCustomer)

#### **Hints**

- Feel free to add attributes to the classes if you find them necessary.
- The methods in the session beans are not fully defined, add required arguments.
- Feel free to post comments to ask for additional data.
- Take care how you transfer data to the Presentation Layer. Look into Data Transfer Object design pattern.