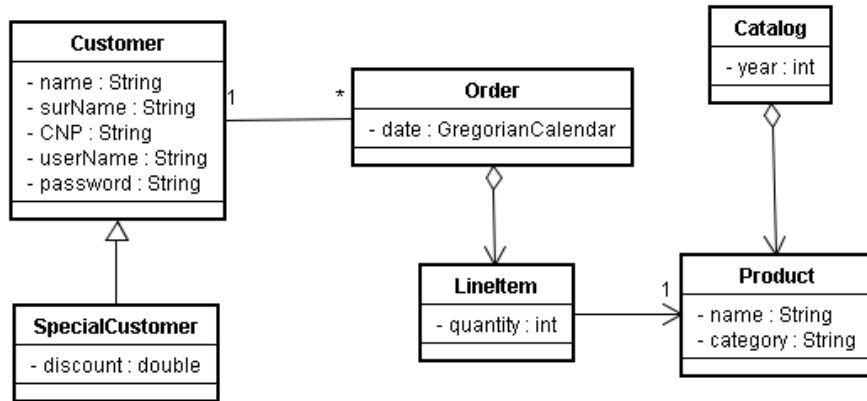


Homework #2
Component-Based Application

Create an application to support the business processes in an e-commerce company.

The Domain Model



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

The Use Case Model

The business use cases are the followings:

- User Management: create account, delete account and edit account
- Product Management: add new product, delete product and edit product
- Cart Management: new cart instance (login), add product in the cart, total computation, place an order
- Order Management: list orders sorted according various criteria.

Constraints

1. There are two server machines in the company. The web server and the database for order management are running in the first machine. The second machine hosts the inventory application with the stock database of the company. The company intends to change the network configuration in the future either by substituting the two machine with a unique, more powerful one, or to add a new machine for the inventory application. This application should continue to run in both configurations without changes.
2. the application has to use J2EE technology

Requests

- a. Define a component-based architecture for this application
- b. Define the components' interfaces
- c. Implement as EJB the components in the server side
- d. Write a client application with a graphical user interface for two user types: customer and operator.
- e. Implement and run the following scenario:
 1. The operator adds 6 products in the stock
 2. The first customer creates an order containing 3 products and places it to be delivered.
 3. The second customer creates an order containing 2 products and places it to be delivered.
 4. The operator asks to view the order to be delivered.

Hints

- Feel free to add attributes to the classes if needed.
- Feel free to add methods in the component interfaces if needed.
- Feel free to post comments to ask for additional data.