University of Windsor

School of Computer Science - Fall 2019
COMP-3220-1: Object-Oriented Software Analysis and Design
Assignment-2
Due: October 5, 2019 @11:59pm

Objective:

The objective of this assignment is to model the domain concepts, prepare sequence diagram, and class diagram.

Assignment Specification:

The Assignment-2 is based on the previous assignment (Assignment-1). For your convenience, the same problem description is given below:

A retail store wants to build an online system for their customer to place orders online and for pickup later from the store.

Customers join the system by registering online (username (email), password, address, phone no) and including a credit card for use in online ordering; at that time they use login credentials (uername and password) to enter the online system.

Customers who have joined the system can use the online system to search for products, select products, specify amounts or weights for products where necessary, and place orders for those products, specifying pick-up times. (The system enforces a 24-hour minimum pick-up time). When an order has been placed, an email confirming its receipt and listing order details is sent to the customer. When an order is received by the system it is forwarded to order processors, who collect and package up the ordered items, and then forward information on the completed order to accounting. Accounting charges the customers' credit card appropriately, and sends an email confirming the completion of the order to the customer. The system logs information on all orders, containing details on what was ordered, charges, and order status. Customers can use the on-line system to check past orders and to inquire into order statuses.

One alternative scenario is worth noting. When customers order products, they are allowed to order only products (or amounts of products) that are currently present in inventory. When order processors are processing orders, however, inventory may have changed, and certain products (or requested amounts of those products) may no longer be available. Such products are omitted from the orders, or supplied to the extent possible. Such cases are noted when information is forwarded to accounting, and in the subsequent email sent to the customer. The customer is not charged for such items.

Perform the following tasks:

1. Based on the use cases identified in the assignment-1, model the domain concepts and their relationships. Express a Domain Model as a UML class diagram. The Domain Model should: (15 marks)

   - Be expressed at the problem domain level of abstraction; it should focus on the abstract concepts and not include design or implementation classes.
   - Include relevant and necessary associations and other links (such as generalization/specialization).
   - Include multiplicity if appropriate.
   - Do not include operations or methods in your conceptual model.

2. Include the previous use case document after completing required updates. You may fix errors in them, but the assignment-1 will not be re-graded. (5 marks)

3. Prepare sequence diagrams for (1) process an order.   (15 marks)

4. Prepare a design class diagram.   (15 marks)

Submission Instructions:

Use Umbrello to draw class diagram and sequence diagram. Submit diagrams in original/image/doc/pdf format. Compressed (zipped) your work folder with name `A3_yourSID` and submit to the Blackboard. For example, if your SID is `"123456789"`, then the submission file is `"A3_123456789"`. You can submit multiple times but the mark will be posted based on your latest attempt.