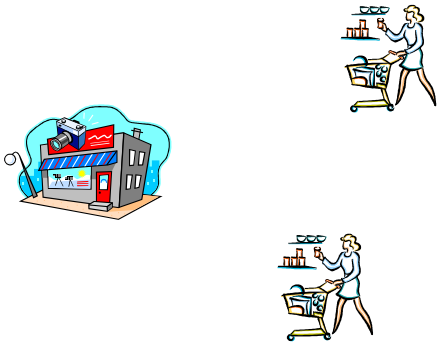
Mid Sweden University
Institutionen of Information technology and media
Department of information and communication systems
Mikael Hasselmalm

Web Services C, 7.5hp
Individual project assignment
Rev. 2012-02-26

Project assignment – Transaction Chain Simulation



The goal of this project is to simulate complex transactions between two actors with the use of SOAP web services. Some of the actors will produce services and others will consume them. Runtime calculations of pricing should be done throughout all the simulation with every transaction.

The different parts of this project are:

2 x Java applications called Customers (Web Service Clients) and
1 x Web application called Warehouse (Web Service)

The result of the project work should be presented and handed in for checking and grading within a report describing all the different parts of the assignment. Together with the report the source code for all the parts of the project have to be attached. The report should have been made by the use of Mid Sweden University report template.

The grades given for this assignment is ECTS A-F.

Rules and description of the different parts of this project assignement can be found below.

Mid Sweden University
Institutionen of Information technology and media
Department of information and communication systems
Mikael Hasselmalm

Web Services C, 7.5hp
Individual project assignment
Rev. 2012-02-26

Warehouse
The main task of the warehouse is to sell merchandises to customers.
The warehouse should have 5 different pcs of equipment possible to buy.
New prices on every item should be set with every transaction.

Rules for business:

- A customer have the possibility to buy items from the warehouses.
- The number of items in the warehouse is 5 different pcs with different initial price and the stock of them are infinite.
- The initial price of the items, numbered 0-4, in stock should be 50, 100, 150 , 200 and 250 project dollars.
- Every time one item is sold the sell price of it should increase with 5% and the sell price for all other items not sold should be lowered by 2%.
- Every transaction made by the warehouse should be ”logged” in the warehouse so that it will be possible to see the transaction history with buyer information, item sold and current prices on all the items.
- Two web services have to be created to fulfill the demands for the warehouse:
  - String getPrices()
    - Returns an XML string with all the items and prices
  - int buyItem(int itemNo)
    - Returns an integer telling the price of the item bought or -1 on error. The variable itemNo is the item to buy.

Customer
The customer strategy rules is as follows.

- The customer have a total budget of 5000 project dollars each that will be reduced buy the price of the item in every transaction made.
- The item to buy in every transaction could be randomly generated or choosen by some kind of strategy of your choice.
- To be able to buy one item the customer have to check the price before buying it to see that there is project dollars left to make the transaction. If the amount of money isn't enough the customer can close its actions and end execution.
- Every transaction made should be ”logged” so that it will be possible to see the transaction history and the price for the items bought.

Implementation of the different parts
XML should be used to store information about products and transactions (”logs”).
XSL/T should be used to transform the transaction data(”logs”) for presentation.