CmpE 473 Internet Programming
Spring 2015
Project 2—Due: 9/4/2015

(Group project) You will implement a group decision system using JMS.

Scenario: Consider a group of room-mates (Alice, Bob, Charlie, and David) that own items (e.g., furniture, books, etc.). Any one of them can get tired of any of these items and start considering the idea of selling it. However, in order to be able to sell it, at least three group members have to agree.

When a person wants to sell something, she sends a message to all the room-mates. Each room-mate sends back a yes or a no message in such a way that all can see the result. Their particular answer is regulated by these rules:

- Bob contacts Charlie and David individually before he votes to ask them what they are going to vote. If they both declare they are going to say yes, then Charlie also says yes. Otherwise, he votes no.
- Charlie votes randomly.
- David votes yes, if the person that starts the discussion is Alice. Otherwise, he says no.
- Alice contacts Charlie to see what he will vote and does the opposite.
- If anyone start the discussion, she is assumed to be saying yes independent of the above rules.

When all the votes are in, the person that started the discussion can count the votes and decide if the item is going to be sold. If yes, she sends the item information to the system that was built in Project 1 to see if anyone will buy it.

Technical Details: Have a Java application for each user. The application will have a user interface for the person that wants to start the discussion, where she will enter the item info and click send. The application will also have a user interface to show the progress of the system, but the rules above will be applied automatically and the user will not be able to interfere.

Use JMS to facilitate all the conversation between the applications. Use queues and topics appropriately. You can use any JSM Provider you like but Apache ActiveMQ works fine.

You will give a demo of your system in class and and hand in a detailed report as hard copy.