Assignment 2

Reading – Read Chapter 2 of the textbook and review the slides that were presented in the Jan. 10 lecture.

Problem 1

Reconsider the application described in Assignment 1, Problem 2: a business-to-consumer e-commerce application that supports the following actions:

a. Look up a catalog entry for a given product, to get the part number and price.

b. Accept an order for a given product, provided that it’s in stock.

c. Display an advertising banner on the customer’s screen.

d. Get a list of the most popular models of a given type of product.

e. Display a summary of the customer’s purchases, by month, for the past two years.

f. Print the packing slip for a given order.

g. When a shipment arrives from a supplier, process all the back orders for products in that shipment.

Assume this is implemented using a 3-tier architecture consisting of Web Servers, the Workflow Controllers, and Transaction Servers. For each action, explain how the functionality maps onto each of the 3 tiers. Assume all functions are provided locally to the site. Be sure to address the following issues:

i. What data needs to be cached, where should it be cached, and how and when is the cache refreshed?

ii. How does the web server know which workflow controller to call, and how does the workflow controller know which transaction server to call?

iii. If the request should be queued, then comment on when and how the queued requests should be processed.