CPSC155b: Fourth Homework Assignment

Due *in class* on March 27, 2001. This is a firm deadline. Please remember to put your name and email address on your paper.

Note: Below, the phrase "FTC report" refers to the assigned reading *Entering the 21st Century: Competition Policy in the World of B2B Electronic Marketplaces,* which was distributed in class on March 20, 2001. There is a link to it on the class web page.

Question 1: (25 points) As explained in the FTC report, Internet-based B2B systems do not always replace earlier technology entirely but rather are often used in conjunction with the *legacy systems* of the relevant companies. Indeed, successful integration or interoperation with key legacy systems is often crucial to the ability of a proposed B2B system to achieve widespread adoption (and perhaps ultimately to supplant those legacy systems). This phenomenon is not limited to B2B; it is an important aspect of Internet technology and Internet business generally. Give two examples of innovative e-commerce products or services that we have covered in class for which integration or interoperation with legacy technology was crucial. For each example, briefly explain what the relevant legacy technology (or technologies) was (or were), how the e-commerce innovation had to interact with it (or them), and why this interaction was crucial to the success of the e-commerce innovation.

Question 2: (25 points) What is the difference between a "horizontal" marketplace and a "vertical" marketplace? Give one example of an existing Internet-based B2B horizontal and one of an existing Internet-based B2B vertical. In your opinion, is participant ownership (*i.e.,* ownership by seller-participants, buyer-participants, or both) potentially more problematic in vertical B2Bs or horizontal B2Bs, and why?

Question 3: (25 points) What roles (or potential roles) can information-security technologies (*e.g.,* encryption and digital signature) play in C2C and B2B Internet-commerce platforms? Clearly, potential problems with confidentiality, authenticity, and integrity of digital information arise in numerous aspects of C2C and B2B. Give two examples in which effective deployment of information-security technology can solve those problems and two examples in which it can't (or, less drastically, in which the solution provided by information-security technology will be of limited value at best).

Question 4:
(a) (20 points) The following statement is something that a customer could say to a (human) customer-service representative over the phone when making a purchase. Identify four words or phrases that could be names of XML Document-Type-Definitions (DTDs) that would be useful in automating the purchasing function. (Each one is worth 5 points.)

>"I looked at your online catalog and found a printer that we would like to order.
>If I send you a purchase order today, how soon will we receive the invoice, and how soon will we receive the printer?"

**(b) (5 points) Write an XML DTD for one of the document types you identified in part (a).