

CPSC 155b Solution Set for Second Hour Exam

Question 1.

(a) From lecture notes for February 22, 2001, transparency #7:

- Sellers pay small fee (<\$2) per listed item.
- eBay takes a cut (~2.5%) of each sale.
- Buyers and sellers handle exchange and payment.

You were not required to describe the auction types that eBay offers to sellers (given in the lecture notes for February 22 and 27, 2001), but they could be considered part of the “business model” as well.

(b) The main strengths of eBay that we discussed in class are:

- It has a very low cost structure. In particular, it has no inventory costs and no transportation costs. Its main responsibility is website operation.
- ❖ Strong network effects helped eBay build its initial success into its current dominant market position. Now that it is in the dominant position in the online auction business, strong network effects help it maintain dominance.

(c) The main potential weaknesses of eBay that we discussed in class are:

- There may be inherent limits to growth in the online auction business. As the Wall Street Journal says, it is an open question whether eBay can be more than a “hugely successful...online flea market.” Attempts to sell art and other high-end merchandise have, so far, been unsuccessful.
- ❖ The service that eBay offers is technically commoditizable (like many online businesses). If eBay screws up (*e.g.*, if its site crashes, or if bidders are in doubt about whether they are fairly declared winners or losers), then competitors could move in very aggressively. The same network effects that built eBay up quickly could build a competitor up quickly if eBay falters.

Question 2.

(a) “Fair use is a right”: Proponents of this interpretation believe that people have an affirmative right to make use of copyrighted works in any way that passes the Four Factors test of the Fair-Use Doctrine. They believe that copyright owners are not legally allowed to prevent people from using works in any way that passes this test.

“Fair Use is a Defense”: Proponents of this interpretation believe that the Fair-Use Doctrine does not bestow any affirmative rights on the public. They regard “fair use” only as a legal defense against a charge of copyright infringement. Specifically, for the Fair-Use Doctrine to be relevant, the following sequence of events has to take place: A copyrighted work has to be used; the copyright owner has to sue the user for infringement; both parties have to go to court, and the user has to defend himself by saying that his actions pass the Four Factors test of the Fair-Use Doctrine. Until a specific use is made and the user is charged with infringement, “fair use” does not come into play.

- (b) The reason that the “right vs. defense” controversy was not traditionally of much practical importance to the general public is that, in practice, fair use could be made. An individual could make a small number of copies of a book or CD for private use, a teacher could make copies of an article for his class, and scholars and critics could quote the relevant portions of the works they study; there were no practically insuperable technological barriers to such uses. In principle, such a use could result in a charge of infringement, and the user would have to defend himself by invoking the Fair-Use Doctrine. In practice, however, the vast majority of fair uses are either undetectable or noncontroversial and do not result in infringement charges. If a user makes a few copies in private, the copyright owner does not know about it and hence does not sue. If a user does something that is detectable by the copyright owner (*e.g.*, publishes parody or criticism), but it is something that previous courts have ruled to be fair use, then a reasonable copyright owner doesn’t sue, because he knows that he would lose. There are gray areas and exceptions, of course, but most members of the public do not have to worry about whether fair use is a right most of the time – they just do it.

Technology and legislation may change that state of affairs. Copyrighted works can now be distributed in digital form, and owners can use technological protection measures to prevent certain uses, including uses that have been determined to be allowed under the Fair-Use Doctrine. People will not be able to make these uses in the first place; hence, they will not be charged with infringement and will not be able to use the Fair Use defense. In practice, many technological protection measures can be circumvented by experts. If circumvention tools developed by experts could be obtained by ordinary people, then ordinary people could make these uses that owners are trying to prevent but are traditionally deemed to be “fair use,” and we would almost be back to the *status quo ante*. (I say “almost,” because we would still have to deal with the fact that private use is now more easily monitored, and thus there may be more infringement suits.) However, the DMCA has made it illegal to distribute circumvention tools. For nonexpert users, therefore, traditional “fair use” may become largely infeasible if fair use is a defense (not a right) and rights holders are thus permitted to block it technologically.

Question 3.

- (a) The answer to this question is on transparencies 11-13 of the Lecture Notes for February 6, 2001.
- (b) Correct answers include but are not limited to:
- From Napster’s point of view, this partnership certainly makes sense. Napster has yet to collect a single dollar from a user, and yet it has to continue to pay staff if it is to develop and market a commercial version of its product and pay lawyers if it is to defend itself against the RIAA suit. So the infusion of cash from Bertlesmann is welcome. Furthermore, Napster’s primary problem is the RIAA’s accusation of tributary copyright infringement. If Bertlesmann and other copyright owners decide to support Napster, this may no longer be a problem.

- From Bertlesmann's point of view, this partnership does not make sense. Bertlesmann wants to maintain central control over the content to which it owns copyright. It also wants to maintain a connection to its paying customers by selling content to them directly or, if indirectly, through middlemen it knows well and has established profitable relationships with (e.g., Tower Records outlets). Napster decentralizes control over content and enables Bertlesmann's customers to get the content through channels that Bertlesmann did not establish and does not control.
 - From Bertlesmann's point of view, this partnership makes business sense. Its customers love Napster. Although Napster in its current form may hurt Bertlesmann's bottom line (or at least not help it), Napster's technology is changing, because its inventors want to use it in a profitable business. Perhaps it can be developed into something that Bertlesmann and other content-owners can use profitably.
- (c) Correct answers include but are not limited to:
- P2P is not useful to the recording industry; at worst, its goals are antithetical to those of the recording industry. Record companies want to maintain control over their content and their distribution channels. P2P technology, by its very nature, decentralizes control and creates new distribution channels.
 - The recording industry may be able to use P2P technology to create new distribution channels and new business models. "Superdistribution" is a general framework that allows purchasers of content to add metadata, add value, and resell it. Combined with appropriate Digital Rights Management technology, P2P could enable effective and profitable superdistribution.

Question 4.

- (a) These definitions are on the fourth transparency of the lecture notes for March 1, 2001. B2B Commerce consists of all "interactions relating to the purchase and sale of goods and services between businesses." B2B Electronic Marketplaces ("B2Bs") are "systems of suppliers, distributors, customers, and infrastructure and service providers that use the Internet for communications and transactions." Effective development and deployment of B2B electronic-marketplace technology are crucially important because B2B Commerce constitutes 70% of the US Economy; so even small gains in efficiency can represent billions of dollars of savings. The potential efficiency gains from B2B technology, however, are huge.
- (b) Revenue models are given on the 12th transparency of the lecture notes for March 1, 2001:

- Transaction-related fees
 - Per-transaction
 - Flat (e.g., monthly, yearly)
 - Value-based
- Membership/Subscription fees
- Value-added service fees
 - Logistics
 - Financing
- Advertising and marketing

Sales of data and information

(d) Correct answers include but are not limited to

Anti-trust: It's unclear how, for example, all of the major companies in an industry could work together in a vertical B2B without doing things that some would consider price-fixing and collusion.

Participant ownership: Should the participating companies own and/or operate the B2B? If they do, would they be tempted to violate anti-trust laws? If they do, would the B2B profits have to come out of the companies' profits?

Legacy technology: Will major companies (such as GM) that have invested huge amounts of time and money in development and use of EDI-based technology be able to adopt XML-based technology?

Full participation: Will a sufficient number of the relevant companies be convinced to participate? For example, will small suppliers be convinced that B2Bs will do anything for them except squeeze their margins? Many companies use the "inefficiency" that results from information asymmetry and lack of "transparency" to gain an advantage in negotiation; B2Bs are designed to make everything efficient, make information available to all participants, and to standardize all processes and make them transparent.

Question 5.

- (a) HTML is useful primarily for instructing browsers how to display information so that it can be read by people. EDI is useful primarily for encoding business information so that it can be processed by computer programs. B2B e-commerce requires the same information to be both displayed to people and processed by computer programs. This is the additional flexibility and expressiveness provided by XML.
- (b) xCBL is a set of reusable XML components that are common to many business documents. The businesses participating in a given B2B can use these components as a starting point for the coordinated development of an appropriate XML document set. For more information, see transparencies 42ff of the lecture notes from R. Glushko's talk.
- (c) Examples include but are not limited to the anti-trust, participant ownership, and full participation challenges described in the answer to 4(c) above.

Question 6.

Examples include but are not limited to the Daft Club, Napster++ as Superdistribution, Street Performer, and Hum A Few Bars models described in the lecture notes for February 13, 2001. (Note that "Street Performer" is described in terms of novels and chapters, but it might work for digital CDs and single cuts as well.) A sample correct answer to the "advantages and disadvantages" part of the question is as follows. The Street Performer model would have both advantages and disadvantages for performers. It eliminates royalty-based, unit-sales compensation for performers. Thus, performers would only be able to make fortunes from particular works once they were popular enough to charge a fortune up-front; a performer's first ("break-out") hit would have to be sold for a fixed amount that's appropriate for a relative unknown. On the other hand, the downside risk of royalties (*i.e.*, that the work is a total flop) is also eliminated; the work is not released until the website operator has collected enough to

guarantee a certain payment to the performer. Consumers would benefit greatly if this business model worked. They could copy and transfer digital works freely once the works were released and no longer have to worry about TPSs and copyright law.