

CPSC 155b: Second Homework Assignment

Due in class February 1, 2001.

1. (20 points) Encryption is a highly effective technique for protecting data during storage or transmission. Give two reasons that it is *not* a “silver bullet” for copyright owners in online content-distribution businesses. (Each reason is worth 10 points and should be explained in at most one paragraph.)
2. (30 points) Special-purpose “Internet appliances” such as e-book readers and MP3-players can receive content over the Internet, serving as alternatives to general-purpose computers. Briefly explain three ways in which special-purpose devices are fundamentally different from general-purpose computers in the context of mass-market content distribution. In thinking about this question, bear in mind that a difference might be considered an advantage, a disadvantage, or a mixed bag; also note that there are multiple perspectives, *e.g.*, those of consumers, publishers, and device manufacturers. (Each way is worth 10 points and should be explained in at most one paragraph.)
3. (30 points) Match each item in the left-hand column with the item in the right-hand column with which it is most closely associated.

(a) (5 points) Web surfing

(b) (5 points) Assured provenance of digital documents

IP layer

(c) (5 points) Detection of unauthorized copies of digital documents

Application layer

Watermarking

(d) (5 points) Superdistribution of information products

Encryption

Digital signatures

(e) (5 points) Packet routing

Cryptographic envelopes

(f) (5 points) Private communication over public networks

4. ** (20 points) The technical-protection mechanisms discussed in Appendix E of **The Digital Dilemma** are much easier to use effectively in a B2B content business than in a B2C content business. For example, in the newspaper business, encrypted images are sent over the Internet from owners of stock-photograph libraries to the papers’ production staffs; on the other hand, the popular-music business hasn’t figured out how to use encryption and other technical protection mechanisms to move its business onto the Internet profitably. Give two reasons that things are easier in B2B than in B2C. (Each reason is worth 10 points and should be explained in one paragraph.)