**9-26**

Blown to Bits http://www.bitsbook.com/ - read Chapter 4, Needles in the Haystack, pages 141-142 (Placements, Clicks, and Auctions), then answer the following question about innovation:

* Discuss the positive and negative results of Overture’s three search engine innovations. How did those innovations turn out today?.

 [Blown to Bits (www.bitsbook.com), Chapter 1](http://www.bitsbook.com/wp-content/uploads/2008/12/chapter1.pdf" \t "_blank) - *Say:* Read about the following koans (or truths) of bits related to the Internet in Chapter 1, pages 4-13.

* Koan 1: It’s All Just Bits
* Koan 2: Perfection Is Normal
* Koan 6: Nothing Goes Away
* Koan 7: Bits Move Faster Than Thought
* Pick one of the above koans and address the following questions:
  + Argue if you agree that it is a “truth” and if it will always be a “truth.”
  + How does this koan intersect with your life as a student?

Peter Denning explains how “representations of information are at the heart of computing” in this article: [Computation: A new way of science](http://www.google.com/url?q=http%3A%2F%2Fdenninginstitute.com%2Fpjd%2FGP%2Foverviews%2Fov_computation.pdf&sa=D&sntz=1&usg=AFQjCNEaPQRZrGMB8uh9pnAIrgKsBZkZ3g). Suggested activity: assign students to read and summarize the content. Follow with a class discussion.

 Think about a protocol that can communicate locations on the surface of the earth. Longitude and latitude might be helpful tools to use.

 The “Scalable Vector Graphics” (SVG) image file format represents images as a text-based protocol. It can be used with HTML or as a standalone file. Check it out on [W3Schools](http://www.w3schools.com/svg/) or [Wikipedia](https://en.wikipedia.org/wiki/Scalable_Vector_Graphics). – go to w3schools and use the try it yourself. Scale the circle to a radius or r=”80” and adjust the code so that it works properly. Write down the code you used

 Read [Blown to Bits (www.bitsbook.com), Chapter 3](http://www.bitsbook.com/wp-content/uploads/2008/12/chapter3.pdf), Ghosts in the Machine, pp. 73-80 (What You See Is Not What the Computer Knows), then answer the following questions:

* Give an example of your own when just knowing what a computer did wasn’t sufficient - you really needed to know how and why it was doing what it was doing as well.
* Talk about file metadata and how it “fingerprints” a file. Include a discussion of file metadata benefits and challenges.

 Read [Blown to Bits (www.bitsbook.com), Chapter 3](http://www.bitsbook.com/wp-content/uploads/2008/12/chapter3.pdf), Ghosts in the Machine, pp. 80-88 (Representation, Reality, and Illusion), then answer the following questions:

* How does highlighting in a PDF doc work? What are the computational ideas utilized?