

**CPS 49S Google: The Computer Science Within and its
Impact on Society - Spring 2007
Homework 5**

- Due date: Tuesday, April 24, 2007, in class. Late submissions will not be accepted (unless there are documented excuses from the dean).
 - Submission: In class or via Blackboard's digital dropbox.
 - Indicate your name on your submission.
 - Email questions to shivnath@cs.duke.edu and to asic@cs.duke.edu
 - Total points = 100.
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Question 1

Points 25

1. What are the different ways in which the Semantic Web differs from today's Web?

Points 9

2. Give two examples of things that are impossible or hard on today's Web, but possible and easy on the Semantic Web.

Points 9

3. Do you think the Semantic Web is:

- a bad idea
- a good idea whose time has come
- a good idea that is not possible to implement in the next 10 years

Justify your answer.

Points 7

Question 2

Points 25

The author of one of our reading materials states that "too much privacy is unnerving". (Hint: The author gives examples about plutonium and cocaine in this context.)

1. Give the reasoning behind the author's statement. **Points 8**
2. Do you agree with the author's statement? Justify your answer. **Points 8**
3. Should there be restrictions on the information that Web users can access? Justify your answer. (For example, it is no secret that information on how to make explosives from common materials is available on the Web. Some of the recent terrorist attacks may have used explosives made using such information.) If you argue for restrictions, then you should also discuss how these restrictions can be implemented and enforced. **Points 9**

Question 3

Points 25

Imagine that you are now working at Google. Your boss asks you to implement Google's PageRank algorithm in Friendster.

1. How will you implement PageRank in Friendster? **Points 15**
2. Do you think implementing PageRank in Friendster is of use? Give examples as needed to justify your answer. **Points 10**

Question 4

Points 25

Imagine that you joined Google recently. The first task assigned to you is to figure out how Google can make the most money out of YouTube.

1. Give three ideas on how Google can generate money through YouTube. **Points 12**
2. For each idea, discuss the possible fraudulent activities that bad and unethical users can perform if your idea were to be implemented by Google and YouTube. **Points 13**