CS160 Spring 2004 Final Exam

This is a closed-book exam with 6 questions. Please write all of your answers in this booklet. The maximum score is 120 points, and we suggest you budget one minute per point so as to finish comfortably within the time allowed. You have 3 hours to complete the exam (180 minutes).

NAME_____ SID_____

Q1. (30 points) Give short answers to the following questions:

a. From among the following HCI notables, place a name next to their invention (Doug Engelbart, Alan Kay, Ted Nelson, Jeff Hawkins, Ivan Sutherland, Don Norman): (6 points)

   Palm Pilot

   Hypertext

   The Mouse

   Sketchpad

   Dynabook

   NLS (oNLine System)

b. In user-centered design, why is informal prototyping useful? (4 points)

c. State one criterion for choosing users for a contextual inquiry, and one criterion for choosing tasks. (4 points)

d. List TWO strategies for fostering team work (4 points)

d. Why are multiple evaluators used in a heuristic evaluation? (4 points)

e. List TWO techniques (based on cognitive science) for improving memorization of new facts. (4 points)

f. Give an example of an interface which has a clean conceptual model which is not a metaphor. (4 points)

Q2. (20 points) A between subjects experiment shows that the hypothesis H is true at the p = 0.05 significance level.

a. What does p = 0.05 significance mean? (5 points)

b. In an experiment to prove that the expected value of X is greater than the expected value of Y (X and Y might be average running times for two different UIs), what assumptions are normally made about the distributions of X and Y ? (5 points)

c. How could you improve the significance of this experiment with the same number of subjects? Give TWO methods for doing this. (10 points)

Q3. List at least 5 aesthetic faults (not usability problems) with this web page: (10 points)
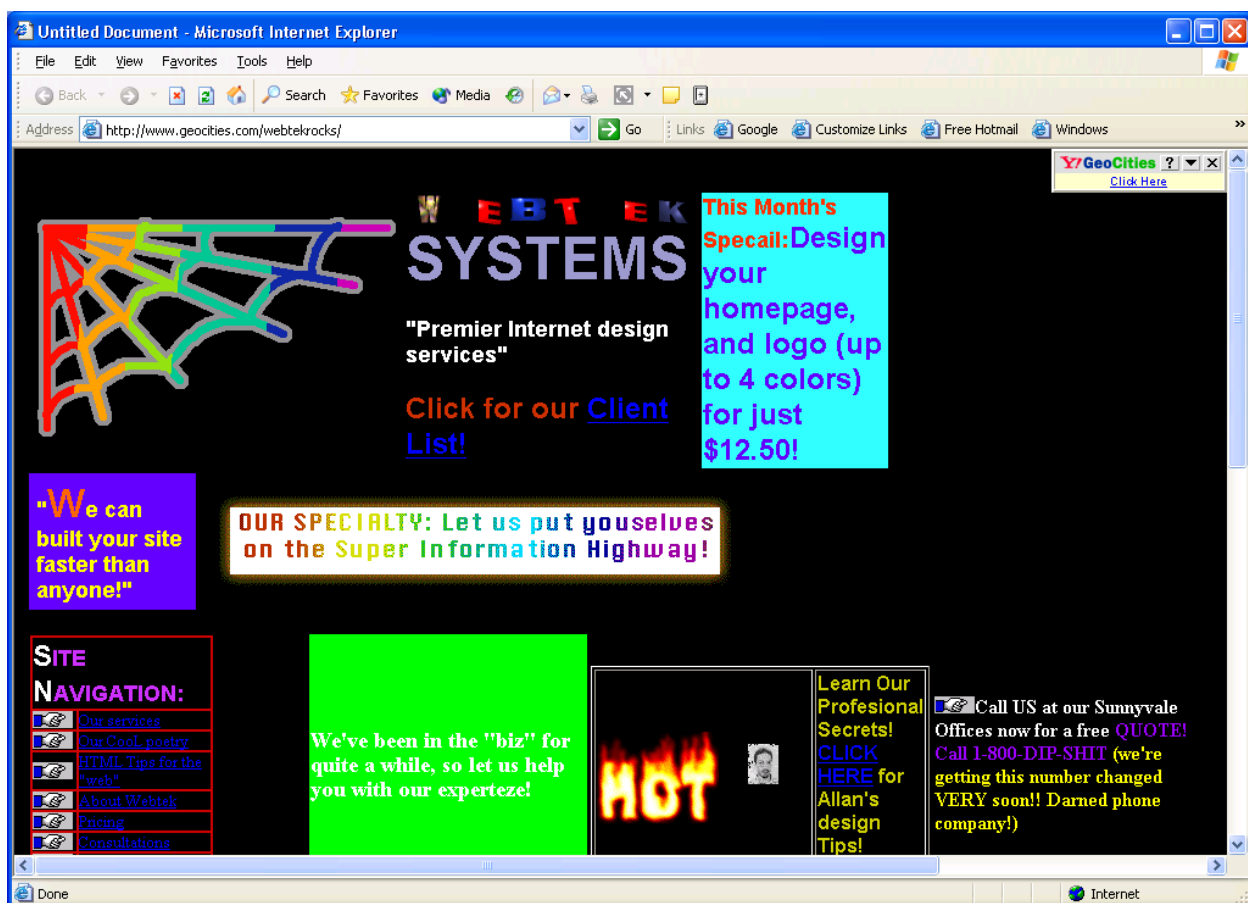
Q4. (20 patterns) This question relates to web site design patterns, which typically include fields for:
1. Pattern Title
2. Context
3. Forces
4. Problem Statement
5. Solution+ Solution Sketch
6. Other Patterns to Consider

a. Give some of the context and forces for an e-commerce home page (6 points):

b. List some application areas, other than HCI, where patterns have been used (4 points):

c. What is a pattern language? (6 points)

d. Why are patterns used? (4 points)

Q5 (20 points) In a group setting:

a. Mere presence (the belief that others are watching) causes what changes in user performance (list 2)? (4 points)

b. What error do people usually make when they attribute causation (internal vs. external causes) to their own or others' behavior? (6 points)

c. List some difficulties with video-conferencing for group work. (6 points)

d. Briefly describe ONE system that gets around some of these problems. (4 points)

Q6. (20 points) More short answers:

a. Users' information needs fall in four categories. List two of them. (4 points)

b. What is the OAI model? (briefly) (4 points)

c. Give an example of a mistake (in the sense of user error) (2 points)

d. Give an example of a slip (in the sense of user error) (2 points)

e. What is "mixed initiative" in a help system? (4 points)

f. List one advantage of a multimodal interface for error recovery. (4 points)