Your Name _____

Your Student ID _____

Midterm

Please read all the problems carefully. Do everything we ask for, neither more nor less. If you have any questions on what a problem means, don't hesitate to ask. There are 50 points possible. Don't get bogged down on any one problem; if you have trouble on a problem, go on to the next one.

In answering these questions, you may use any paper materials that you brought with you. You may not share any materials with classmates during the exam and you may not use any electronic devices.

Use the correct HCI terminology wherever possible in your answers and describe how those terms and principles apply to the specific facts stated in the problem.

Please write your answers clearly and neatly—we can't give you credit if we can't decipher what you've written. Use the backs of the pages (or any other paper) for scratch work, but cross out any work that you don't want us to consider as part of your answer (and if your answer doesn't appear entirely within the indicated answer space for a question, indicate clearly where the rest of the answer is). We'll give partial credit for partially correct answers, so writing something is better than writing nothing. But we will also deduct for irrelevant, extraneous information, even if the correct answer is buried somewhere within it, so don't just write down everything you know. We have given length guidelines for many answers; ignore them at your own risk (but aim for clarity and conciseness more than a specific number of sentences in your answer). Unless your handwriting is huge, the space we provide for an answer should be more than enough. It is generally best to think more and write less.

Good luck!

Problem 1 (6 points)

(a) The date-selection feature of an airline web site displays a small calendar; the user can click on a date to select it. Which of Nielsen's usability principles does this embody?

(b) A backup program, before it starts its work, displays to the user a dialog box estimating how long it will take (e.g., "This may take 95 minutes") and asking whether the user wants to do it now or postpone it until later. Which of Nielsen's principles does this illustrate?

(c) A backup program shows a progress bar indicating what proportion of the files have been backed up so far. Which of Nielsen's principles does this illustrate?

Problem 1
(6 points)

Problem 2
(10 points)

Problem 3
(5 points)

Problem 4
(2 points)

Problem 5
(3 points)

Problem 6
(7 points)

Problem 7
(8 points)

Problem 8
(5 points)

Problem 9
(4 points)

Total
(50 points)

(d) In most applications, when you try to close a document without saving it, you see a dialog box that asks if you intend to discard the changes you've made. Which of Nielsen's principles does this illustrate?

(e) Why does Nielsen advocate using "minimalist design"? What's wrong with inessential decoration, particularly on the web?
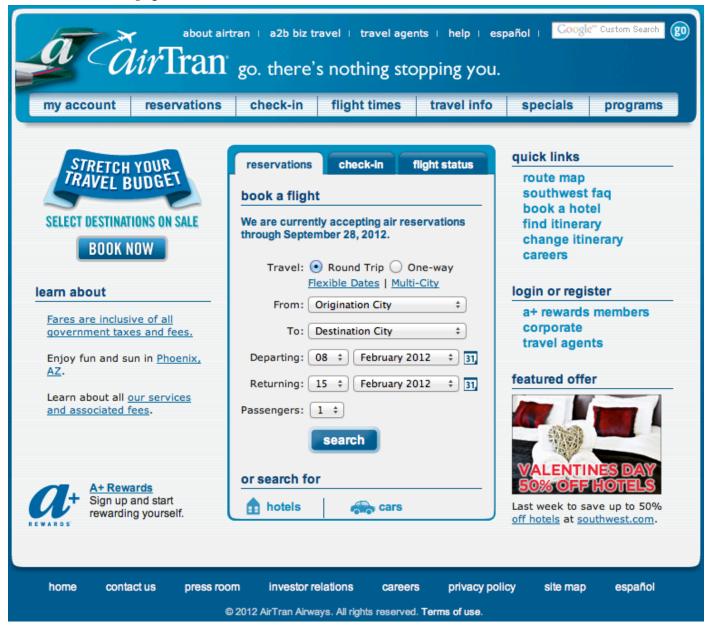
Problem 2 (10 points)

Suppose you're designing a university's web site.

(a) (2 points) Give two examples of some data that it would make sense to organize alphabetically (and if it's not clear, say what data you're alphabetizing).

(b) (2 points) Give two examples of data on the site that it would be good to organize using a different scheme—chronologically, geographically, numerically, or using searchable database. Say which scheme you're giving an example of and clearly describe the data and organization for each example.

(c) (6 points) List three different categories of users for this university site; for each category, list two tasks that members of that group might perform on the web site. Don't list the same task for more than one category of user.

Problem 3 (5 points)

Below is the home page of AirTran, an airline:

(a) (3 points) Identify three common web features that serve as affordances on this page (don't choose two instances of the same kind of control). For each, say (in just a few words) what action or function it affords.

(b) (2 points) Most people in the U.S. will recognize the affordances you listed above. But there are many people in the world, including in the U.S., who would *not* recognize them. What kind of people are those? (In other words, what characteristic describes people who would not recognize those web affordances?)

Problem 4 (2 points)

For each of the user tasks below, indicate whether it's an example of using long-term memory, short-term memory, or pre-attentive processing.

(a) An on-line restaurant menu lists appetizers, main dishes, drinks, and desserts, each in a separate column.

(b) A web-based video rental sit displays a five-digit product number for a movie; to rent it, the user has to type that number on the next screen.

(c) An instructor tells a class that the midterm will be postponed two days.

(d) Registration on a web site assigns a new user an initial password, but the user can't log in until he or she responds to a registration-confirmation e-mail message, which isn't sent for at least an hour.

Problem 5 (3 points)

Jordan and Pat are designing a web site for electricians. Part of their site will display detailed wiring diagrams. Jordan wants the diagram page to use different shades of blue, like a blueprint. Pat wants to use black and white, with red where additional color is needed. Who has the better design, and why?

Problem 6 (7 points)

(a) (2 points) According to Fitts' law, what two factors affect the time it takes to move your pointer to a given target on the screen?

(b) (2 points) Why is it faster to move the pointer to an area on-screen that contains an icon with a label below it than it is to move to an area with a same-size icon but no label?

(c) (3 points) If your pointer is positioned at the very center of a large screen, there are five points on the screen that can be reached much faster than the rest. What five points are they, and (in terms informed by Fitts' law) why?

Problem 7 (8 points)

(a) (3 points) Why do we involve the current or intended users of our web sites in (many aspects of) our design and development process? Give at least three reasons.

(b) (3 points) Why does evaluation play such a central role in interaction design? In other words, why does testing out our designs play so much bigger a part than other ways of determining how good our designs are?

(c) (2 points) You are redesigning WebReg, the UCI course registration web site. You have two alternative designs: One involves a two-paned window with a dozen separate controls and an updating status display; the other involves a series of windows, each with just a few controls, that the user clicks through. In running user tests on these design alternatives, would you be likelier to use a low-fidelity prototype or a high-fidelity prototype and (in at most two sentences) why?

Problem 8 (5 points)

You're designing a form that includes a pull-down menu for the user to specify his or her country of residence. The menu would list all the world's countries in alphabetical order.

(a) (2 points) Why might you decide to list the United States out of order, at the top of the list? In other words, what usability goal would you be promoting by this choice?

(b) (2 points) Why might you decide to keep the list strictly alphabetical, with the United States near the end? In other words, what usability goal would you be promoting by this choice?

(c) (1 point) What characteristic of your population of users might it be helpful to know as you make this design decision?

Problem 9 (4 points)

Above is the official web site of the author J. K. Rowling.

The butterfly under "The Daily News" flies around the screen and lands on the keyboard, flapping its wings. The spider also moves. Some of the objects light up or display some text when the mouse rolls over them; some of these are links to other displays. The box at the upper right ("Car driving past") describes the sound effect currently playing.

Below, list two separate HCI flaws of these pages (one sentence each) and for each flaw, list the guideline from Nielsen or Farkas and Farkas that the flaw violates.