

CS6323 Graduate Human Factors - Fall 2000 - Midterm Exam

Name: _____

Directions: Put your name on the exam in the field above. Read the rules below and sign the pledge below. You must complete three and only three of the questions below. You must complete at least one question of each of the two types, [HCI, HF, UI], and [CS]. Most questions involve multiple parts, and each part needs to be answered. *It is suggested that the question part be used as a heading for each part of the answer.* For each question you answer, write a page or so, and at most two pages. Charts and graphs do not fall under the two-page limit.

Note: HCI=human-computer interaction HF=human factors UI=user interface
CS=communication skills web=World Wide Web text=a course textbook.

1. Sign the pledge below. Staple the answers together with this sheet. Hand in (hardcopy only) by the due date and time. Follow the rules:
 1. Work individually.
 2. If you have questions, contact Dr. Rich (770)528-5509, rhalstea@spsu.edu. Do not speak with any other person about this exam.
 3. You may use any resources other than another person to complete this exam. It is suggested you use the textbooks first, the lecture/class notes second, and anything else after that. Cite your references, even those from the text and lecture/class notes. Direct quotes must be put in quotation marks and cited also. If you have questions about how to cite references, consult the handout on plagiarism available on the CS6023 web site.

Pledge

I pledge the work on this exam is exclusively my own, and that I have followed the rules above.

Signed: _____ Date: _____

- 1) [HCI, HF, UI] As defined in the textbook, does the waterfall or the star model of the development life-cycle better support good HF, HCI, and UI design? Justify your choice.
- 2) [HCI, HF, UI] What are the three different design strategies when dealing with human features and capabilities falling into a statistical distribution? Give an example of each from within computing. Which is the best design strategy to use whenever possible and why? Which is the least desirable and why? Are these strategies equally applicable to physical (hardware) and cognitive (software) ergonomics? Why or why not?

3) [HCI, HF, UI] Choose the UI for DOS, UNIX, Windows, or Mac OS. Identify and describe one UI element based on human *recognition* and one UI element based on human *recall*. Describe how each element embodies recognition or recall. What is the value of each in UI and HCI design?

I chose (circle one) DOS UNIX Windows Mac OS

RECOGNITION

The UI element based in human recognition is (describe):

How this element embodies recognition (describe):

What is the value of this element and its implementation of recognition (describe):

RECALL

The UI element based on human recall is (describe):

How this element embodies recall (describe):

What is the value of this element and its implementation of recall (describe):

A scenario for questions 4, 5, and 6—the communication skills questions

[CS] Imagine that you have been hired recently to manage a major development project at a medium-sized computing company. You were told you were chosen over fourteen other qualified applicants because you have a successful track record of incorporating good HF and HCI into the UI designs. The project you manage is to develop an executive information system (EIS) with a graphical user interface (GUI). Until last year when this GUI project started, your boss was the project manager on a successful “green screen” (command-line) version of a similar EIS that was used internally. She recognizes the business need to move to the GUI version for the marketplace, because just as you she will be paid a bonus from this project 30% for meeting schedule, 30% for user satisfaction, and 40% for the financial performance of the product. Your lead programmer was the lead programmer on the internal EIS and he was one of your main competitors for the project management job. Your lead programmer’s bonus will be paid 50% for meeting schedule and 50% for the financial performance of the product. Consequently, your lead programmer won’t even talk with you about HF, HCI, UI design for GUIs, or usability, let alone help you with them.

In trying to enlist the aid of the second programmer (behind the lead) in starting usability engineering on the project, she told you “No.” She wants nothing to do with “that usability fluff,” and furthermore added bitterly (she was another one of your competitors for your job) that your boss and your lead programmer are having a romantic affair and that was the main reason driving the company management to choose you (not your good track record in HF and HCI).

Since you have three open positions for the (40 person) project, you decide to hire (externally) a professional who will implement technically your values for getting good HF, HCI, and usability into your product. None of the current members of the project are suitable for the HF/HCI/UI position. Thirty-three of them have been with the company for over three years, and have come to this external-product project from other internal-product projects.

The next three CS questions ask you about your decision to hire this individual.

- 4) [CS] To implement your decision in the scenario, write a position description that will be put into an advertisement for your new HF/HCI/UI professional. In a paragraph, describe why with a focus on good HF/HCI/UI.
- 5) [CS] To implement your decision in the scenario, write a justification to your boss for hiring a new HF/HCI/UI professional. In a paragraph, describe why with a focus on good HF/HCI/UI.
- 6) [CS] To implement your decision in the scenario, write a justification to your project team for hiring a new HF/HCI/UI professional. Make sure your justification addresses the needs of your lead and second programmers. In a paragraph, describe why, with a focus on good HF/HCI/UI.