

HCI Test 1

Name _____

Sep 21, 2006

Closed Book, Closed Note [40 min]

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1. [14 points] Briefly define, in your own words:

a. human-computer interaction

b. ergonomics

c. metaphor

d. direct manipulation

e. the squint test

f. the Gestalt principle of proximity

g. WYSIWYG

2. [5 pts] Which of the following are among the key usability measures?

a. time to learn

b. speed of performance

c. rate of errors

d. retention over time

e. transcriticality

f. subjective satisfaction

g. multifactor compliance

3. [5] Input Devices

a. Name two pointing devices, other than mice and joysticks:

b. Name two devices that can be used to input text, other than keyboards:

c. Name one input device for drawing :

4. [5+5=10] In the File menu in Microsoft Word, there are 15 menu items, evenly spaced, with Paste, which is the most commonly used action, being the 6th from the top.

a. Carletta says that “Fitts’ Law implies that Paste should be the top menu item”. Explain her logic, and state whether you agree.

b. Suzibel says that “Fitt’s Law implies that the Paste menu item should be taller than the other menu items”. Explain her logic, and state whether you agree.

5. [10] You are consulting for a company that produces an anti-virus package. This includes a display for systems administrators which continuously shows the status of all machines in a domain, with an icon for each machine. If a machine is detected as infected, its icon immediately turns red, so that the administrator has the option to take it down (unless the policy is set to do that automatically). To take down an infected machine, the administrator has to click on it to select it, hit the *i* key to select the “isolate” option, and then, when the pop-up dialog box presents the choices OK/cancel, hit the *enter* key to chose OK. Recently some customers have been complaining that administrators are taking machines down in error too often --- specifically, about 0.5% of all isolation actions are incorrect --- and they are blaming the interface. The company is considering adding a second confirmation pop-up box, so that the administrator will have to hit *enter* twice in a row to actually isolate a machine.

a. Give a rough estimate of how much this will decrease the error rate, and justify your estimate.

b. Give a rough estimate of how much extra time this will cost an administrator for each “isolate” action, and justify your estimate.

6. [2+5=7] The biggest key on most keyboards is the one labeled “enter” (although it is also sometimes called “return”).

- a. Why do you think this is the biggest one?

- b. Explain the metaphor underlying one of the names of this key, and state one way in which that metaphor is either useful or misleading.

7. [2] Some game controllers have “rumble support”, used to shake the controller or apply force to resist joystick motion in certain (software-controlled) situations. What type of feedback is this?

8. [2] On a 2 Gigahertz machine, approximately how many instructions can be executed in the time it takes a user to move his hand from the mouse to the keyboard?

9. [8] The Xbox controller has two joysticks and a number of buttons. You could easily write code to allow people to use this to control a browser. How would this compare to browsing using a keyboard and a mouse? Give at least two advantages of the controller and two advantage of the keyboard/mouse combination.



10. [4] Here is a screen from a legacy application called BIS. Discuss the use of color, explaining at least one way in which the use of color is effective or appropriate, and at least one way in which it is problematic.

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Winsock 3270 Telnet - 127.0.0.1
Connect Close Exit Edit Print Screen Setup Help
>> Please enter an action or select sections for review <<
*DEFINE      NEW APPOINTMENT STUDENT NON-TEACHING - ANS      Year: 06 07
Command: ANS  EID: dah239___  Misc: 002___  Account: _____
-----
Status: REROUTED/FYA      -- COVER SHEET --      Document ID: S2ANS999148
*Notes*
Action:  |   Summary:  REAPPOINTMENT WITH NO CHANGE IN STATUS
Department: COMP-PI-WARD      Job: 0090      GRADUATE RESEACH ASST
Account: 26-3506-9512      Hours/Week: 20.000      Basis: 09
Period: 11/01/06 - 12/31/06      Percent: 050.00      Annual Rate: 26,872
Job Posting: N/A      Allocation: 2,986.00
Remarks: 2 MONTHS UNDER NIGEL WARD'S GRANT      +
-----
Created: 09/13/06 by BAQUERA, ROSE H (WERHB) -- phone: 747-5170
Sections:  X 1 1. Appointment Information Entry Screen
           X 2 2. Appointment Remarks and Personnel Information
           X 3 3. View Other Appointments for Employee
           X 4 4. Departmental Codes
**> FINAL INBOX SELECTION <**
-- 2 UT El Paso ----- PF1=Options ----- PF8=Exit ----- 09/14/2006 12:35 PM --
                                     11:42:16 IBM-3278-2

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Clear	Erase EOF	New Line	PA1	PA2	PA3
ATTN	Dup	Erase Input	Field Mark	Reset	SysReq

11. [1+8=0] Consider the beloved UTEP Academic Advising form.

- a. Is the font serif or sans serif?
- b. Focusing on the layout, circle 4 things that seem inappropriate, and for each explain briefly why.