

Q1 Give short answers to each of the following questions

- a) How should you choose sample tasks for a human-centered design problem? (4 points)
- b). What is the difference between a conceptual model and a metaphor? (4 points)
- c). What is the wizard of Oz technique and when and why is it used? (4 points)
- d). What is “grid-based design”? How can it be used to lay out a web page? (4 points)
- e). What are the two hierarchies used in the OAI model? What do they represent? (4 points)

Q2 a) What are *dependent* and *independent* variables? (4 points)

Q2 b) What are *between subjects* and *within subjects* experiments? (6 points)

Q2 c) A between subjects experiment shows that interface A is faster than interface B at the $p = 0.05$ significance level (not very significant). Give two ways to improve the significance of the experiment. (10 points)

Q3. Jon Grudin lists the following 8 challenges for developers of CSCW systems: 1. Disparity between users and beneficiaries, 2. Critical Mass, 3. Disruption of social processes, 4. Exception handling, 5. Unobtrusive accessibility, 6. Difficulty of evaluation, 7. Failure of intuition, 8. The adoption process.

- a) Video mail has been available for some time, but is not widely used. Which of the above do you think contribute to this? Why? (10 points)
- b) Instant messaging has caught on relatively fast. How did it overcome the above challenges? (10 points)

Q4 a). List at least four techniques for creating a strong first impression on a web site (to increasing return visits). (8 points)

Q4 b). List at least three ways to gather information for personalization of a web site. (6 points)

Q4 c). List some advantages of the “inverted pyramid” design pattern for web pages. (6 points)

Q5 a) Give one example each of 1.) a mode error 2.) a description error 3.) a capture error: (6 points)

Q5 b) Typical responses of an error handling system include: gag, warn, do nothing, self-correct, let's talk about it and teach me. What are appropriate responses for an illegal command in a speech user interface? Why? (10 points)

Q5 c) From among the same error handling responses: gag, warn, do nothing, self-correct, let's talk about it and teach me; What is the best response for an incorrectly-completed field in a web page form? Why? (4 points)

Q6 a). Mere presence has what effects on an individual's work? (8 points)

Q6 b). What is attribution, and how does an actor's attribution for their own behavior differ from attributions of others' behavior? (6 points)

Q6 c). What is a reference group, and how does it influence an individual's behavior? (6 points)