318 Final Exam Answers — April 1999

1. a) 1,3,4,6
   b) 1,3
   c) 1,5,6
   d) 1,2,3,4,5,6

2.
a) a process by which listeners let speakers know when they don't understand something they've heard, and occasionally check their understanding by paraphrasing even when they think they do understand
b) two users work together exploring, talking about, and understanding a new system and interface
c) they imply a user's lack of understanding ("a failure to communicate"), not just haste or carelessness

3.
a) It is faster to scan through a list of menu items than to navigate through multiple levels of a hierarchy.
b) Depth is preferable for menus expressed in sound, because it is difficult to remember long lists of spoken words.

4.
a) Positively; the number and variety of methods will counter the limitations of individual methods
b) Yes, video can communicate and explain complex processes as animation does
c) The interface allowed point, mark, and speak simultaneously. It was elegant in its simplicity — there was **no** speech or character recognition. It matched appropriate media to the task.
d) Flexibility; choice of input methods; choice of output modalities; compatibility with accessibility aids; consistency

5.
a)
• *Metaphor* that parallels users' concept from a task domain making interaction more familiar
• *Brevity* in terms of concise, intuitive specification of tasks so that focus is on task not operation
• *Mimesis* — signs specifying computer tasks, e.g., icons and actions, mimic the task themselves. The function of the object is obvious from its appearance.
b)
• *Musical listening*: Message derived from acoustic properties. Sound effects to indicate events with no real world counterpart, e.g., minimizing or maximizing window.
• *Everyday listening*: Message derived from source of sound. Analogy between computer object/action and everyday sounds, e.g., shredding paper sound for deleting file.
c) Yes, because it allows metaphors to be more fully realized, the mimesis to be more lifelike.

6.
a) For people whose job normally keeps one hand occupied
   For people who permanently or temporarily have the use of only one hand
b) How fast can you type with it?
   How accurately can you type with it?
   How quickly can you learn to use it?
c) 1) A field study or field experiment of its use in a real work context
   2) User testing of the device in the lab, or a controlled experiment comparing it to a 2-handed keyboard
   3) A usability inspection by experts typists, or a questionnaire or interview study of users
   4) Building a mathematical model of how typing speed varies with physical characteristics of the device

7.
• Harden's... cleaner typography
• Harden's... simpler rating scales
• Harden's... best restaurants stratified by price
• Harden's... much better maps
• Harden's... area overviews stratified by price with type also listed
• Zagat's... 30 point scale gives more discrimination than a 5 point scale, but...
• Harden's... a 5 point scale is simpler

8.
a)
• Assist finding restaurants based on location, type, price, ratings
• Allow periodic updates of database
• Enable access to restaurant reviews
• Allow notetaking based on experiences with restaurants
• Assist in communicating with restaurant...built-in phone, fax, and/or email capability

b)
• Yellow pages... alphabetical list of restaurants
• City (2D space)... map showing location of restaurants
• Globe... world map showing location of origin of food of restaurants
• Cookbook... alphabetical list of dishes served in restaurants

c) A map with restaurants indicated using text and symbols in various patterns and colours, with the ability to pan and zoom over the map, because nearness to where you are is the most important factor in the choice of restaurants most people make.

9.
a)
• Cannot send email between Web CT accounts and regular email accounts throughout the world
• Bulletin board menu selections down left column are hard to understand, especially relationships among forums, marking as read or unread, "catching up all," and "updating the listing."
• It is hard to tell when you back up by hitting "Back" and when you back up by exiting from a new window that has been created (this is a problem in Netscape).
• When you're replying to a message, it is difficult to see the contents of the message to which you are replying.
• The text editor for creating messages is exceedingly primitive.
• The documentation in the help is quite primitive, and can't be accessed in small chunks.
• etc etc etc