Midterm review

Tips for Preparation

- During the term
  - Keep up with readings
- Before the exam
  - Review readings and lecture notes
  - List concepts
  - Group similar concepts together
  - Make up exam questions
    - Why is this concept important?
    - How does it fit into the big picture?
    - Can I compare this concept to other similar ones? If so, then how is it different?
    - What is a real world example of this concept?

Exam format

- Mixture of short and long questions (both open-end and close-end).

- Questions will test your knowledge about facts you have learned in the course

- your ability to link and apply the concepts presented in the course to interface design.

Topics

- History of HCI
- Design of everyday things
- Human capabilities
- Interaction

History of human computer interaction

Choose one of the three basic interactions mentioned in Brad Myers' paper and track its historical evolution using one or two paragraphs.

Choose one major contribution to the development of HCI and briefly explain it. Describe the impact of this contribution on further developments.

Choose and briefly describe an interaction style which uses Norman's concept of transfer effect.

Identify the role of constraints in the design of user interfaces. What is the relationship between constraints and affordances?

Choose and briefly describe an interaction style which uses constraint-based design.

Read carefully the text below and decide if this type of user error is a mistake or a slip. Justify your answer. Find a possible way to fix this situation and specify the interaction style that you intend to use for this remedy.

A Windows typical user is exposed to a Unix environment for the first time. He has to type a document on Emacs as opposed to his favorite windows text editor. The user makes a typo and without hesitating presses his fingers on the Control and the Z buttons since these are the keys he always used as a keyboard shortcut for UNDO command. The user gets frustrated as the Emacs editor completely disappears from the screen and he got back to the Unix prompt with no single notification message.

- The user made a mistake in this case because he has a wrong conceptual model about the UNDO command in the Unix environment. The fact that the user has been working on Windows builds a mental model for the UNDO command in almost all windows programs and associates this model with the action of pressing CTRL-Z, not knowing that these actions will cause a completely different action in Unix environment (which is running Emacs as a background process and the only way to bring it back is to type "fg" at the Unix prompt).

4. Read carefully the text below and explain the bad design using the concept of 'gulf of execution' or 'gulf of evaluation'. How can you redesign the system so that you bridge the gulf of execution/ gulf of evaluation?

My mobile beeps. I notice that it is clearly a different beep compared to when somebody gives me a call. The screen indicates that I have a text-message, but it does not guide me on how to get access to that message.

- There is a *gulf of execution,* since the user can derive what is meant by the system-output (what he wants to do next), but the interface barely gives a clue as to 'how to do it'.

- In order to explain the cognitive processes underlying human computer interaction the model human processor was described.

  a) Name three subsystems that cooperate in this model human processor.

  b) Further, the model human processor is built of memories and processors. Explain how these building blocks are related. You may use a drawing in your explanation.

  c) What are the implications from the model processor with respect to interface design?

- Explain what is meant by chunking. How does chunking affect GUI design?
- There are three types of memory in the MHP. Which memory is associated with the process of forgetting? Describe what is thought to happen when people 'forget' things.
- What is the difference between recall and recognition? Which is easier? Give an example of interface style which relies upon recall.
- Read carefully the following statement. "People can't keep more than 7+/-2 letters in working memory." In what sense it is right, and in what sense it is wrong?

- Assuming the mouse pointer starts at point M, rank the buttons A, B, C, and D by speed of access.
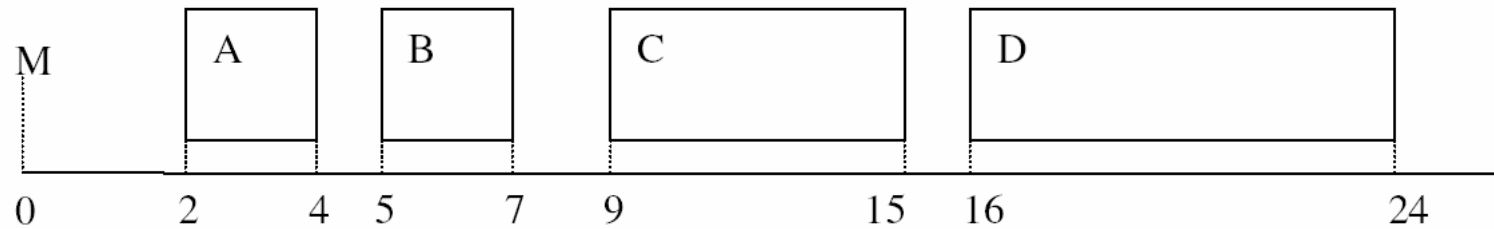
Hint: use the index of difficulty.