440 Midterm Review

Midterm in-class
Tuesday, Nov 6
Midterm Format

- Multiple Choice
- Fill in the Blank
- Short Essay Answer
  - Example interface: Here is an example of an interface – find the flaws
  - Example situations: Here is an example design process – find the flaws, or what concepts does it illustrate?
  - Definitions
  - Compare and contrast
  - Process: Perform a heuristic analysis on the following interface…
Midterm Content

- You will be expected to know everything, up to the midterm
  - Lecture
  - Individual Homework
  - Readings
  - Project processes
  - (tutorial)
Tips for Preparation

- During the semester
  - Keep up with readings

- Before the exam
  - Review readings and notes → esp “Review” sections
  - 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?
Tips for Preparation

- During the exam
  - Read questions carefully
  - Don’t spend too much time on one section
Now

- Take out a sheet of paper, and be ready to answer the mini-quizzes
So what did we learn, anyway?
Topics List

- Intro
  - Design triangle
  - Usability Goals and Metrics

- Design process
  - Discovery, exploration, refinement, production
  - Iterate!
  - Understanding your user
Quiz: Design Triangle

Organizational & Social Issues

Tasks

Design

Technology

Humans
Quiz: Usability Goals

- Learnable
- Memorable
- Flexible
- Efficient
- Robust
- Pleasing
- Fun
Topics List

- Contextual Inquiry
  - Context, Partnership, Master/Apprentice model

- Task Analysis
  - Questions
  - Tasks
Quiz: Task Analysis questions

1. Who is going to use the system?
2. What tasks do they perform now?
3. What tasks are desired?
4. How are the tasks learned?
5. Where are the tasks performed?
6. What relationship between the user and data?
7. What other tools does the customer have?
8. How do customers communicate with each other?
9. How often are the tasks performed?
10. What are the time constraints on the tasks?
11. What happens when things go wrong?
Topics List

- Design Concepts
  - Conceptual Models (Design, User)
  - Affordances
  - Metaphors
  - Visibility
Designing / Conceptual Model

- Conceptual model
  - mental representation of how an object works & how interface controls effect it

- Design model should equal user model
  - mismatches lead to errors
  - know the user’s likely conceptual model

- Design guides make things visible
  - map interface controls to user’s model
  - provide feedback
Quiz: Key Terms

1. Usability
2. User centered Design
3. Task Analysis
4. Contextual Inquiry
5. Rapid Prototyping
6. Evaluation
7. Affordance
Quiz: History of HCI

- Vannevar Bush
- Grace Hopper
- Doug Englebart

As we may think:
- Memex,
- wearcam,
- Autospeech

First Computer Bug

Augmenting human intellect
- Chorded Keyboard
- Mouse
- Word processing
- Groupware
Topics List

- Human Perception
  - Color sensitivity & physical human eye
  - Hue, Lightness, Saturation
- 100 ms
- Fitt’s law
- LTM, STM, Sensory
- Model Human Processor
The Model Human Processor

- Developed by Card, Moran, & Newell ('83)
  - based on empirical data

![Diagram of the Model Human Processor]

- Long-term Memory
- Working Memory
  - Visual Image Store
  - Auditory Image Store

- Sensory buffers
- Eyes
- Ears
- Perceptual Processor
- Motor Processor
- Cognitive Processor
- Fingers, etc.
Topics List

● Design Patterns
  ● How to use them
  ● Six ways to make a good Home Page
  ● Patterns
    ● Homepage Portal
    ● Personalized Content
    ● Inverse Pyramid Writing Style
    ● Shopping Cart

● Heuristic Analysis
Quiz: Heuristic Analysis

- 1. Visibility of system status
- 2. Match between system and the real world
- 3. User control and freedom
- 4. Consistency and standards
- 5. Error prevention
- 6. Recognition rather than recall
- 7. Flexibility and efficiency of use
- 8. Aesthetic and minimalist design
- 9. Help users recognize, diagnose, and recover from errors
- 10. Help and documentation
### Cart Details

**Please Note:** This component is NOT recommended for your vehicle. We suggest removing this item from your cart and we'll be glad to provide further assistance.

<table>
<thead>
<tr>
<th>Item #</th>
<th>Item Description</th>
<th>Price</th>
<th>Total</th>
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<tr>
<td>204EL570</td>
<td>Bazooka EL570 5&quot;x7&quot; 2-way speakers</td>
<td>$79.95</td>
<td>$79.95</td>
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<td>158DSCP50</td>
<td>Sony DSC-P50 Digital Still Camera, 2.1 Mega Pixel</td>
<td>$299.95</td>
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<tr>
<td>135DVDA95</td>
<td>Panasonic DVD-LA95 Portable DVD-A/V Player with 9&quot; Screen -- This item is temporarily out of stock --</td>
<td>$999.95</td>
<td>$999.95</td>
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<tr>
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<td>Maxed GX, Skier T-160 VHS Video Tape</td>
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<td>$2.49</td>
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</tbody>
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**Total Merchandise:** $2,582.29  
**Shipping Charge:** $13.95  
**Order Total:** $2,596.24

- To change an item’s quantity, enter the correct number in the **Quantity** column, then press **Update Cart**.
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[Update Cart] [Clear Cart]
Good Luck!