Designing Interactive Systems I

Possible types of History questions, midterm content review, and A06 discussion

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http://hci.ac/dis
19. [3 points] From the screenshot of a macOS app shown below, name three different user interface concepts that were introduced by Xerox Alto or Star.

- Concept 1:

- Concept 2:

- Concept 3:
7. [2 points] The four *phases of technology lifecycle* are represented below through relevant terms:

1: “Work”  
2: “Explore”  
3: “Feature Creep”  
4: “Enjoy”

*Match* the terms to the corresponding phase and *fill* in the following image of technology phases with the corresponding *number* of the appropriate phase.
Review: Midterm Exam
Content
CMN Model

• What are the three processors in the CMN model?

• What is Bloch’s law?

• What is the capacity of working memory?

• What are open loop and closed loop?
Fitts’ Law

• Write down the Shannon’s formulation of Fitts’ law

• How is the Shannon’s formulation an improvement over the original Fitts’ law?
Gestalt Laws and Information Content

• What are Gestalt laws?

• What are some of the Gestalt laws?

• What is information content?
Design Principles

- What is visibility?
- What are signifiers and affordances?
- What is feedback?
- What are mappings?
- How can we achieve natural mappings?
Spatial vs. Perceptual Analogies

- **Spatial analogy**
  - Controls are arranged in the same spatial layout as the objects they control
  - Move controls in the same direction you want to move the object
  - But: Control does not look like the object

- **Perceptual analogy**
  - Control looks like the object and you interact with it using a metaphor
Constraints and Conceptual Models

- What are constraints? Types?
- What are forcing functions? Types?
- What are conceptual models?
Seven Stages of Action

- What are the seven stages of action?
- What are the two main types of gulf?
  - How do you bridge them?
- What are the three levels of processing/design?
  - Why is it important to know about them?
When Does a Gulf Occur?

• For the sake of usefulness, consider something a gulf when you find that it can be fixed by a re-design.

• This should accommodate almost all problems a user faces when performing a task. ;)

• Example: “Krishna wants to use Siri on his iPhone, but cannot understand the language.”
  • Gulf between Perceive -> Interpret, can be fixed by adding support for the language.
Knowledge

• Why are knowledge in the head and knowledge in the world important?

• What are the two types of knowledge (in the head)?

• What are the types of decision structures?
Human Error

• What is an error?

• What are the two types of error? On what basis are they classified?

• What are the classes of mistakes?

• What are the classes of slips?

• What are the types of action-based slips?

• What are some design principles to design for error?
History I

• Why were mainframes referred to as 0-D interface?
• What are some technologies predicted by Memex?
• What are some key advances of the Sketchpad?
• What are some key advances of NLS?
• How is Engelbart’s first mouse different from the current mouse we use?
History II

• What is Ubiquitous Computing?
  • Can you name some current examples of ubiquitous technology?

• What are the key advances introduced by
  • Put-that-there
  • Apple Knowledge Navigator
  • Sun Starfire

• What are the 3 PARC Devices designed for Ubicomp?
  • How are they used?
Visual Design

• What are the four visual design principles?
  • Contrast? Repetition? Alignment? Proximity?

• How does the Newton’s color circle work?

• What are some different types of fonts you learnt in the lecture?
What Next?

• Please be at the exam hall (TEMP2) by **17:00** sharp!
• Bring
  • Blue or black pens
  • Snacks and water bottle
  • RWTH blue card or another photo ID