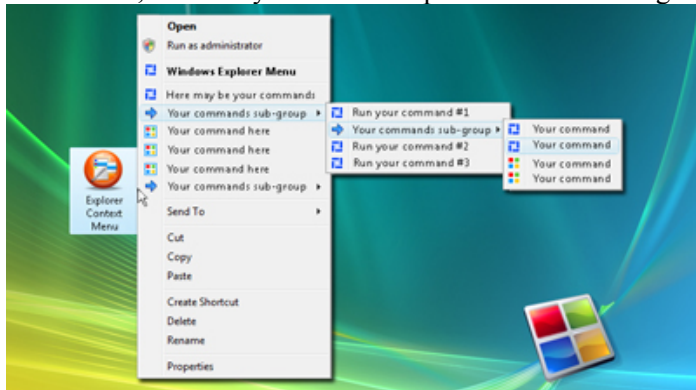


Quiz on Chapter 3

June 19th, 2012

There are 5 questions, each with a maximum of 1 point. Please provide concise answers: Do not use more than the number of sentences specified in parentheses after the question. Any text that goes beyond these limits will be ignored. Good luck!

1. Windows Explorer uses the following design for context menus. From the perspective of *aimed movements*, what do you see as the problem in this design? (1 sentence)



The pointer must be kept within a narrow tunnel (when moving from left to right from one menu to another), which is difficult.

2. Provide the Fitts' law (1 equation)

Two alternatives, both are OK:

$$MT = a + b \log_2 (D/W + 1)$$

$$MT = a + b \log_2 (2D/W)$$

Note: Instead of D(istance), A(mplitude) can be used. The original Fitts' law is the latter one. The former is a later correction that somewhat better fits empirical data and does not yield negative ID values.

3. You are recruited as the usability expert for a project that redesigns BMW's web site. The project has proposed the following *tabbed interface* for *site navigation*. The lead interaction designer of BMW opposes to the design. He claims that there are "way too many tabs", claiming that users will not be able to remember them and will therefore get lost or frustrated. He cites the well-known limitation of the human working memory of 7 ± 2 items. You know that this is a misinterpretation of the capacity limitation. What is your defense? (2 sentences)



The main point is that using the tabbed menu does not require storing them in working memory. More precisely:

- Finding a link takes place by visually scanning the tabbed panel and does not require storage in in working memory.*
- Returning to a link later on does not require retrieval from working memory, but from long-term memory.*

4. The following image shows a popular *cheat* in first-person shooter games: Enemies are rendered in bright red color. But what exactly is achieved with this cheat? Explain in terms of 1) *visual search* and 2) *signal detection theory* how this enhances players' performance in shooting the enemies. (2 sentences in total, one per theory)



- 1) Red color means that the enemy pops out immediately to the player's attention.*
- 2) Red color increases the discriminability of enemies from backgrounds.*

5. The following image shows the remote control of a modern television. Which *Gestalt principles* have been used to *group* elements? Instruction: Connect each principle listed on the right with a line to a good example of its application on the left. Circle the achieved grouping.

As we discussed in the presentation, the Gestalt laws are often overlapping. There may be other correct answers as well.



Gestalt laws

• **Similarity** *E.g., the two blue buttons stand out even though separated by the intervening button group. But for example the row with 4 colored buttons would do as well.*

• **Symmetry** *Symmetrical shapes - rectangles, squares, and circles - are used here to distinguish button **groups** with different functionality. Circling any of them would do.*

• **Area** *A button group is placed within the the area. The numbers for example, or VCR controls in the bottom would do.*

• **Closure** *This example is analogous to that on the slide: The arrow controls and OK button are perceived as part of the same group even if they are separated.*

• **Proximity** *White space is used here to separate some groups from others. E.g., the VCR controls have some space above them.*