Final Discussion

The Magical Number Seven, Plus or Minus Two

There are so many cognitive exercises, ‘brain training’ exercises, or exercises that trick your cognitive capacity that we could do. They’re everywhere, and that’s because there are so many ways that our eyes and our brains can be tricked, and because of that we have to sometimes be careful regarding what we see; it’s not always what is.

Even so, for our last discussion assignment I’d like to reference something we discussed in class – Miller’s (1956) Magical Number Seven, Plus or Minus Two. We’ll test his theory that humans can only hold approximately seven items in short-term memory (STM) before it becomes overloaded. The theory is a cornerstone of HCI and manifests in design in that you don’t want to overload a user visually or according to task. This can be mitigated by sticking to conventional designs that include things they already know, that are in long-term memory, and by doing so reduce the short-term memory load.

Every group member needs to do this test.

First, visit cambridgebrainsciences.com/browse – many of the tests there require registration, however we will use one that doesn’t. At the bottom of the first column you will see the Monkey Ladder. Mousing over that box will provide some links, one is ‘More about this test,’ which informs you monkeys are better at this than people, and provides a full instructions link. The other link is ‘Take Test Now.’

You are free to read the instructions, however I will also provide a guide here.

When you start the test, you will be shown some boxes, each one containing a number. After a brief moment, the numbers will disappear and you need to click on each box in numerical order (the cursor disappears while the numbers are visible). So you’ll need to click on the box that contained the ‘1’ first, the box that contained the ‘2’ next, and so on. If you are correct, the next turn will have an additional box. If you err, the next turn will have one less box. After three errors, the test ends.

Your current level, and highest if the test ends, is shown on the ‘Difficulty Meter’ on the right.

Each member of the group needs to take the Monkey Test three times, and note how well they did each turn. For each member, how well did you do, and what was your highest score overall? Are you surprised? Satisfied with your result? Did you do better or worse than expected? Justify your answer. Did you perform better with each additional test, or was your performance consistent between trials?

For the group, who performed the best? It might be that one person was on a lucky roll, or it could be that one person simply has a strong short-term memory. Did the best performer perform consistently well, or did one test stand out while the others reinforced the Magical Number theory?

You might even notice that you had to start chunking, or grouping items, in order to complete some stages.

Because of the limited time left, this will be due Monday, March 7th, in class. My advice is to use this discussion time wisely.