Assignment 02, Group M01, Mon 12-14 (English)

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18.75P

Exercise 1: Visual Search

The statement is correct because, for a user, it's normally easier to distinguish from a surrounding stimulus (as seen in the lecture), we immediately recognize such a difference. If a stimulus is not salient, we are doing visual scanning of all elements. In this situation, you go through all the elements and say that there are no stimuli we are looking for.

1,5

Exercise 2: Recognition vs Recall 1.25P

Suppose, Mr. X is very familiar with Java but has never done C# in his life. His boss tells him to check (find the error) a hundred lines of C# program. Since both Java and C# are object-oriented, Mr. X can easily recognize some of the structure of C#.

-1.5P you should state two regions to apply the illusion, e.g. wrist - elbow, elbow to shoulder

0.25/0.25 (very creative)

Suppose, Mr. Y wants to 'log' in Facebook. He needs to recall his email id and password in order to successfully log into Facebook.

0.25/0.25

Four implications for the design process of a product or system.

- Design a product or system that allows a user to easily interact with the system or the product. 0 how?
- Design a product or system where interface must support recognition than recall. 0 how?
- System or product needs to be less complicated so that a user can memorize information from the previous activity. 0 recognition would be here using working history or icons, you suggest recall from further steps
- Design a product or system where the user can access several ways of encoding information that can help the user to remember. 0.75P

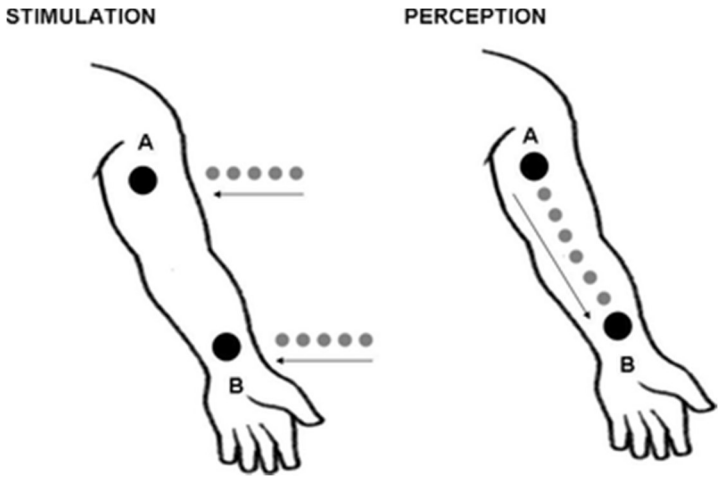
Exercise 3: Perceptual Illusions 5.5

1. Cutaneous rabbit illusion is evoked on someone by tapping two or more separate regions of the skin in rapid succession by delivering a sequence of taps quickly between them. This creates the perceptual illusion of multiple taps between them although there was no physical stimulus between the two points. This demonstrates amongst other things that earlier stimulus affects the latest one. Then, a relationship is unconsciously drawn between the two.

2 (just state your source next time, sound similar to wikipedia)

5

2. I would choose the wrist and the elbow as shown in the figure, as it is stated that this experiment works very good on body surfaces which have relatively poor spatial acuity. 2



3. When applied previous experiment on three of my friends, two of them actually felt there were taps progressively down from the elbow to the wrist, although I only tapped on the elbow then on the wrist. They felt the taps mostly around the elbow more than around the wrist.

1,5

5.5

Exercise 4: Fitts' Law

1. 1.5P

T = $a + b \log_2(\frac{D}{W})$

D: distance the user has to move to the target

W: the width (size) of the target

a: time required to start/stop moving the device

b: the inherent speed of the device

-0.5P sentence restriction of around 5 sentences, you have 8 sentences

The Fitt's Law says the required distance to move through the target is inversely proportional to the distance of the target and proportional to the width/size of the target.

2

On a smartphone screen with size 5 – 6 inches, there are different orientations. Vertical, Horizontal, and we can hold the phone in one hand. If you hold the phone in one hand, you normally use the thumb to operate. Even if you use the device with both hands, you normally use it with your thumbs. Fitt's Law says the movement time is improved with increased size if the option and also distance. So if we place options around the home button, where the thumb in a one hand use normally is, the time would be improved. If the interface is designed on Fitt's Law the icons would be near the home button and large for a faster and easier use.

implications

2.

Implications:

- Use large width/size for frequently used elements

- Place important elements at the edge of the corner of the screen

As you can see below, the elements a user normally use are not all big/large, because of the space and position of the elements. The elements are centered on the screen and not on the edge, because it would probably lead to a poor design if the buttons are not in the near to the video.

Here you can see also that placing important buttons on the edge if the screen, is not done as we discussed.

Here you have a second menu that is separated in several categories to have a better overview.

So the 2 main reasons why not always stick to this scheme are: 4

- Larger buttons are not always required for target, it would take up space and also make the other buttons smaller (as you can see up on the photo above subscribe button).
- Buttons on the edge of the screen makes it faster, but if there are too many similar buttons the user searching for the right, especially new users and just sorting it is much more helpful.

Exercise 5: Mental Model

1. Jacob Nielsen, a Danish web usability consultant, believes *"A mental model is what the user believes about the system at hand."* Basically, a mental model is a situation of a user's conscious or subconscious thought process that helps the user to learn about the system. It also helps the user with unfamiliar systems or unexpected situation to think about the system or situation, like

-1 shallow vs deep mental model

how they would work or what he/she would do with that system. A mental model is used to
1 understand the system, make a decision and solve the problem. For example, what happens when you see a photocopy machine? Mental model helps you to think about the photocopy machine, like what is the task of this machine? Or how you copy your paper with machine.

- ✓ You turn on the machine.
- ✓ You enter the paper that you want to copy
- ✓ Press copy button.

2. Gulf of Execution means *"Do an act to achieve a specific goal".* It basically explains "how you use the system." It has 4 stages of action according to Donald Norman. Forming the goal (set a goal), forming the intention (what to do to achieve the goal), specifying an action sequence (specify or
2 determine the sequence of action) and executing an action (do the action).
Example: watch a movie on VLC media.
Intended user action: start/play the movie.
Required action:
   - ➔ Start/play the movie in the VLC media.
   - ➔ Maximize the screen.
   - ➔ Adjust the sound.
   - ➔ Add Subtitle (additional)

3. Gulf of Evaluation means *"Understanding the state of the system" [1].* It explains "Current status of system state and describes how user discovers the system and understand the system. According to Norman, it has 3 stages of action. Perceiving the State of the World (look at the system and come to realize what actually happen), interpreting the State of the World (try to find
2 the available option), and evaluating the outcome (compare the desired output with actual output).
Example: Suppose, an English man need to fill up a doc file but all he has a Chinese keyboard, what does he do in this situation?
   - ➔ Try to perceive the state of the system.
   - ➔ Try to find the available option (like he knows the English word position in a keyboard).
   - ➔ Compare the actual output with desired output.

Reference:

[1] https://www.nngroup.com/articles/two-ux-gulfs-evaluation-execution/

[2] http://www.it.bton.ac.uk/staff/rng/teaching/notes/NormanGulfs.html