Human-Computer Interaction
Exercise sheet 2

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Winter Term 2018

Exercise 1 - Visual search (1.5 points)

Is the following statement correct: *In Visual Search it is usually faster to find a non-salient stimulus, than to state that it is absent.*? Justify your answer (a few sentences should be enough!).

Exercise 2 - Recognition vs. recall (3.5 points)

We have learned that "recognition is better than recalling". Provide an example for recognition and one for recall (don't use the examples from the lecture). Name four implications for the design process of a product or system.

Exercise 3 - Perceptual illusions (2 + 2 + 3 = 7 points)

Using the internet and scholarly articles, find out about the perceptual illusion called "cutaneous rabbit".

1. Briefly explain how to evoke this illusion on someone highlighting the difference between physical stimulus and perception. (Restrict your answer to 5 sentences).

2. Using what you learned through literature, select two regions of the body you would assume this illusion will work, and justify your selection (two sentences).

3. Try the illusion with at least three (3) of your friends at the two regions you selected, and report how many of them felt the illusion and at which region. Specify if one region is better suited than the other based on your experiment results.

Exercise 4 - Fitts' Law (2 + 4 = 6 points)

1. Recall the Fitts' law from the lecture. Using a smart phone screen as an example, briefly (in ~ 5 sentences) explain **why** the distance and size of an icon could affect the selection time as described by the Fitts' law. *Note: Stating a closer icon is faster to select is not a sufficient answer. You have to briefly explain why it is faster.*

2. Considering the implications of the Fitts' law discussed in the lecture, give two reasons / scenarios where it is difficult to adhere to these rules. (e.g. Making buttons too large will consume lots of space).

Exercise 5 - Mental Model (2 + 2 + 2 = 6 points)

1. Explain what is meant by a Mental Model as introduced in the lecture. (Restrict yourself to 150 Words).

2. Briefly explain the *Gulf of Execution* using an example which was not mentioned in the lecture.

3. Briefly explain the *Gulf of Evaluation* using an example which was not mentioned in the lecture.

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Instructions for submissions:

- You can upload your answers multiple times until November, 15rd 2018 - 12pm (noon). The most recent version will count. You cannot change your answer after November, 15rd 2018 - 12pm.

- If one of your group members are not contributing to the exercises, you must inform your tutor.

- Please name your submissions according to the following scheme:

  HCI_exercise_XX_GGG.pdf

  XX = exercise number (e.g. 03)

  GGG = group number (e.g. M01)

Hand-in until November, 15rd 2018 - 12pm as PDF via Moodle (https://hci-lecture.cs.uni-saarland.de)