Human-Computer Interaction
Exercise sheet 3

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Winter Term 2018

Exercise 1 - Ten golden rules of interface design (1 + 10 = 11 points)

Please select one of the applications you frequently use from the list below.

- Microsoft Word.

- Apple Pages.

- Apache OpenOffice Writer.

- LibreOffice Writer.

With relative to the application you selected, please answer the following questions.

1. State the name of the application and its version (i.e. Microsoft Word for Mac 2016).

2. For each golden rule of interface design, find and list one example from the UI design of above selected application that fulfills or violates the rule. Clearly state if it is fulfilling or violating the rule and limit each answer to one sentence.

Exercise 2 - Direct Manipulation Paradigm (3 + 3 + 6= 12 points)

Select one of the applications you frequently use from the list below.

- Microsoft PowerPoint.

- Apple Keynote.

- Apache OpenOffice Impress.

- LibreOffice Impress.

Write down the name of the application, and based on your selection answer the following questions. Where appropriate support your explanations with screen-shot(s). Do not use the exact phrases used in the lecture slides. But you can use the benefits and problems of direct manipulation given in the lecture to support your explanations.

1. Explain how the selected application implements the 3 main principles of direct manipulation (Shneiderman, 1983) using an example each.

2. Similarly, give 3 examples (one each for each principle) from the application where it failed to implement the direct manipulation or the implemented method fails to function properly.

3. Imagine you want to use speech to perform actions in the selected application. What are the advantages and disadvantages of using speech commands in this application? Give 2 examples of functionality in this application that is well-suited to be controlled using speech commands. Give 2 examples of functionality that is not suited for speech commands. In all cases, justify your answer. (max. 6 sentences).

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Exercise 3 - Desktop interface (4 points)

Imagine you are designing a video player (desktop application). Your user's main goal is to execute their desired actions as fast as possible. Design the layout (size & arrangement) of a six button control window (play/pause, forward, backward, next, previous, full screen) that appears when the user moves the mouse. Briefly explain your design and what factors you took into account. Clearly mention any principles, laws or theories you used (5 sentences).

Exercise 4 - Zoomable User Interfaces ($3 \times 4 = 12$ points)

Find 3 applications that make use of a zoomable interface. For each of them:

1. Describe how the application makes use of the zoomable interface (2 sentences).

2. Briefly explain 2 advantages and 2 disadvantages of using a zoomable interface in the application. You can base your answer on the concepts of affordances, visibility, feedback, mapping, constraints, consistency, metaphors, and/or conceptual models.

3. Suggest a solution to improve the interaction based on one of the above disadvantages.

Exercise 5 - Interfaces (1 + 2 = 3 points)

Explain each of the following interface types / components in one sentence. In addition, state two advantages and two disadvantages for each of them (don't use opposites!):

1. Command-based interfaces

2. Speech-based interfaces

Instructions for submissions:

- You can upload your answers multiple times until November, 22th 2018 - 12pm (noon). The most recent version will count. You cannot change your answer after November, 22th 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, 22th 2018 - 12pm as PDF via Moodle (https://hci-lecture.cs.uni-saarland.de)