

Assignment 1 – Human-Computer Interaction 2

Note: Exercises are voluntary with the goal of preparing you for the final exam. The sample solution will be presented during the exercise sessions on Monday.

Exercise 1: GOMS

We continue with a second solution to Hal's interface. Perform a GOMS calculation on the following proposed solution. Consider an all-keyboard interface. In this interface, a note appears on the display:

To convert temperatures, indicate the desired scale by typing C for Celsius or F for Fahrenheit. Type the numeric temperature; then press the Enter key. The converted temperature value will be displayed.

- a) do a GOMS calculation for this interface. (Solution: 3.9s)
- b) do you have ideas how we can minimized this time?

Exercise 2: Movement Time Estimation

You have two circular targets on your screen. Both are 100 pixels in diameter. The shortest distance between target borders is 1150 pixels. Assume your input device is a mouse pointer and that $a=100\text{ms}$ and $b=223\text{ ms/bit}$ ([MacKenzie et al. 1991]).

What movement time can we expect following Fitts' law?

Related work:

MacKenzie, I. S., Sellen, A., & Buxton, W. (1991). A comparison of input devices in elemental pointing and dragging tasks. *Proceedings of the CHI '91 Conference on Human Factors in Computing Systems* (pp. 161-166). New York: ACM.