Human-Computer Interaction

Exercise sheet 5

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Figure 1: Source: res.tinkleo.com

Exercise 1 - Interface Types (2 + 2 + 2 + 2 = 8 points)

You need to know how the Pac-Man game works for this exercise. If you do not know the game, the first subtask is to play one of the many versions that can be found in the internet (e.g. `https://www.webpacman.com/`).

Your task is now to consider the pros and cons of playing the same game using different interfaces. Consider a speech-based interface, a touch-based interface, a tangible interface and a virtual-reality and/or augmented reality interface (e.g. head-worn display). For each of them describe how the game could be redesigned and clarify how the game would then be played (max 4 sentences per interface type).

Exercise 2 - Weekly pill case interface ($3 * 3 + 3 = 12$ points)

Figure 1 shows an example for a weekly pill case used nowadays. You came up with the idea to attach a touch screen on the front and sensors within the case to learn when the user has removed a pill. Describe three possible functions/features in this setting that the case could offer (each one in max 80 words). Create a sketch (including description) of how the interface elements would look like. You can assume the case is connected to the internet or a smartphone for processing.

Please make sure to scan/photograph your sketches in sufficiently high quality so that everything (especially text) is readable!

Exercise 3 - Body-based Interaction (3 + 8 = 11 points)

Consider a first person shooter (e.g. Unreal Tournament, Call of Duty, Quake, ...). On a PC they are played with mouse and keyboard, i.e. with your hands. Your task is now to combine certain interface types to change the experience one has with the game.

1. How would you combine foot and hand input to play the game? Please specify possible interaction

methods and why did you selected them. (5 sentences)

2. Assume that the user's body is fully tracked (e.g. with a Kinect). How could the game be controlled by using gestures? Focus on the main controls, which are: *looking around*, *running*, *aiming* and *shooting* enemies. Mention two advantages and two disadvantages of controlling the game through gestures. (10 sentences)

Instructions for submissions:

- You can upload your answers multiple times until December, 6^{th} 2018 - 12pm (noon). The most recent version will count. You cannot change your answer after December, 6^{th} 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 December, 6^{th} 2018 - 12pm as PDF via Moodle (https://hci-lecture.cs.uni-saarland.de)