Exercise 1 - Usability (6 + 6 = 12 points)

1. Name the six goals in which usability is usually broken down. Describe each of them in your own words (two sentences per usability goal) and provide for each of them at least one example that was not given in the lecture.

2. State how the design of Xbox Wireless Controller Figure 1 fulfills / does not fulfill the six usability goals. The explanation should not be longer than two sentences.

Figure 1: Source: xbox.com

Exercise 2 - Interaction modes (4 × 2 = 8 points)

Imagine the following situations where you have to interact with a system to achieve a specified task. For each of them decide which interaction mode(s) would be the most appropriate one(s) and justify your choices using a maximum of two sentences. It is sufficient if the main interaction mode per item is mentioned accompanied by an adequate description (not longer than 2 sentences).

1. You would like to pay for your parking ticket before leaving the parking garage in your car. (Do also consider the fact that some people might suffer from disabilities.)

2. You are walking in a foreign town using a pedestrian navigation system.

3. you would like to follow a recipe for baking a cake for your friend's birthday.

4. you need to find a store in a mall using a public display

Exercise 3 - Analyze Interfaces (10 + 2 × 6 = 22 points), (2 × 4 = 8 Bonus points)

In this section, we will focus on analyzing different user interfaces in respect to the *Foundations of Interaction Design* presented in the lecture. These foundations comprise six major elements: *affordances*, *visibility*, *feedback*, *mapping*, *constraints*, and *consistency*.

Human-Computer Interaction
Exercise sheet 1

SAARLAND
UNIVERSITY
COMPUTER SCIENCE

Prof. Dr. Jürgen Steimle

Winter Term 2020

Figure 2: Control panel for an elevator

1. As you can see in Figure 2, this control panel for an elevator has major design flaws. Explain how the current design addresses each of the six elements composing the foundations of interaction design (i.e., what does it afford, what kind of feedback is provided, etc.). Once you have identified the flaws, propose (a) new design(s) to fix them. You can use sketches or images to support your ideas.

2. Find **two different** user interfaces present in your environment and do the same analysis. Providing better designs is not mandatory this time, but would provide extra points. Provide pictures of these interfaces and a short summary of the possible interactions.

Instructions for submissions:

- You can upload your answers multiple times until November, 18th 2020 - 11:55 pm (midnight). The most recent version will count. You cannot change your answer after November, 18th 2020 - 11:55 pm.

- 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_GGGG.pdf

  XX = exercise number (e.g. 03)

  GGGG = group number (e.g. G001)

Hand-in until November, 18th 2020 - 11:55 pm as PDF via Moodle (https://hci-lecture.cs.uni-saarland.de)