DIS I WS 19/20 Assignment 4

Types of Knowledge and Mistakes

Due: Monday, November 11, 2019, **9:00 am**

Description

In this assignment, you will

1) identify how a combination of knowledge in the world and knowledge in the head can help users perform complex tasks,

2) determine one example of a mistake that occurs when using a GUI (Graphical User Interface) and identify why this mistake occurs, and

3) reduce the chances of the mistake occurring in future and the implications of the mistake by redesigning the interface using the design principles you have learned in the video lectures.

Task

Please provide your solution to the following tasks in the submission format (**Submission Format.pdf**).

1. The video **"Computing Average in Spreadsheet.mp4"** (attached with this assignment) shows a user using Numbers, a spreadsheet application, on macOS to find the average of a column. For this task, identify **three instances *each*** for knowledge in the world and knowledge in the head. Redesign the interface to lessen the user's memory load by moving one or more entities of knowledge in the head to the world.
2. In the video lectures and the Norman book, you learnt about mistakes, which often occur as a result of conscious thinking. Perform the following:
    a. Identify an app on a computing device (i.e., desktop or mobile) that you have had difficulty using in the past. Identify a task with this device that you believe is difficult.
    b. Find one or more users who have not performed the task before. Like A02 and A03, make sure that these users (a) are representative of the target users for the app (e.g., if the task is to perform video editing using a particular app, users should be familiar with the basic functionalities of video editing) and (b) are not members of your group.
    c. Ask each user to perform this task until a user commits a mistake. Once you find that a user has committed a mistake, you do not have recruit any more users.
    d. Record videos of users performing the task and then apply retrospective testing (see **Resources**) to identify what caused the mistake: Was there a problem in the execution or in the evaluation?
    e. Redesign the app interface to 1) minimize the chances of the mistake occurring in the future and 2) minimize the implications of the mistake. You can do this by *designing for error,* i.e., applying the appropriate design principle(s).

Deliverables

Successful submission for this assignment includes a presentation **as well as** a report.

Presentation

Please prepare a presentation as a Keynote or PowerPoint file (*.key, *.pptx) with 16:9 widescreen aspect ratio with the following details:

Step	What?	Time
1	(Task 2d) Using the observation video and/or image(s), describe the mistake that was committed by the user.	2–3 min.
2	(Task 2e) Using image(s) and/or video(s), justify how your redesign minimizes the implications of the mistake and the chances of the mistake occurring in future.	1–2 min.
		Total: < 5 min.

During the Lab on **Nov. 11, 2019**, we will select a few interesting solutions to be presented in the lab in order to promote discussion. Note that neither the slides nor the presentation will be graded, just the written report—the presentation is an opportunity for you to get some feedback about your presentation skills before you present your final project. Name your file **A04-presentation-GXX,** where XX indicates your group number**.** Please make sure all videos are included in your presentation. If one or more videos are too long and you do not want to present them, then add them to the end of the presentation.

Report

Prepare the solution as a 2 page PDF document in the submission format (**Submission Format.pdf**). Name your file **A04-report-GXX.pdf**, where XX indicates your group number.

Submit the presentation and report to RWTHmoodle.

- Submissions handed in after the deadline will be graded with 5.0.
- Submissions that exceed the provided page limit will lose points (see Submission Format).

Resources

- **Retrospecting testing** is an evaluation technique where you let the user work with your system in an uninterrupted manner and then, after the session, use the video/audio logs to understand the user's mental model. Please watch the video **9.3.4. Evaluation Techniques: Restrospective Testing (E9) and Recording Observations** for more details.