DIS1 WS 19/20 Assignment 2

Applying Design Principles to Evaluate and Redesign UIs

Due: Monday, October 28, 2019, **9:00 am**

Description

In this assignment, you will learn how to use the design principles introduced in the video lectures, such as Gestalt laws, affordances, signifiers, and conceptual models, to evaluate interfaces you use everyday. The goal of this assignment is to help you

1) gain experience in evaluating UIs by identifying successful applications and violations of the design principles,
2) understand how conceptual models work by identifying design model, system image, and mental model for a home appliance, and
3) gain experience in working with users, an essential skill in iterative design and development of new interfaces.

Background

A **design model** is the designer's *intended* conceptual model for the system. Through the system and its interface, the designer exposes a **system image** to the user who interprets it to build her own **mental model** of how the system works. The designer's goal is to allow users to interact with all system functions in an efficient manner. To convey the correct conceptual model to users, designers use design principles like *Gestalt laws*, *affordances*, and *visibility* to design the interface.

Tasks

For the following tasks, please provide your solution in the submission format attached with this document.

1. Identify successful applications and violations of design principles in websites. You can choose any website(s) for this task. We have provided some website recommendations at the end of this document. Note: Examples from lectures or labs are not allowed.

   Identify **one** successful application and **one** violation for each of the following design principles based on what you learned from the video lectures:

   - Five different Gestalt laws
   - Visibility
   - *Perceived* affordance
   - *False* affordance
   - *Intentional* signifier
   - *Misleading* signifier

2. Select a portable* home appliance, such as an alarm clock, coffee machine, or camera that you have had difficulty using in the past. Identify **two** people who (a) are not your

group members and (b) have not used the appliance earlier. Ask them to use the appliance to perform one task you had difficulty with. E.g., if you have a coffee machine, you can ask your users to make a cup of cappuccino or to refill coffee beans.

a. Observe how the users perform the task by taking notes and recording the user on video. Use the collected data to perform the following:
   i. Describe **one** instance where a user was *misled* by the interface, i.e., the interface afforded a false action. If such an instance does not exist, describe **two** cues that helped the users successfully execute the task.
   ii. Did any user need additional information to perform the task? If yes, describe the situation.
   iii. While executing the task, were the users confident in their decisions? Did the outcome of these decisions match their expectations? Accordingly, how would you evaluate the conceptual model of the appliance?

b. Based on your findings, **redesign** the appliance using the design principles you learned in the video lectures and justify why this would convey a correct conceptual model to the users.

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 2.a) Using a video, briefly describe the home appliance.	1–2 min.
2	(Task 2.a) Using videos, describe what tasks the user attempted to execute, whether the user was successful in each task or not, and point out the elements of the interface design that contributed to the tasks' success/failure.	2–3 min.
4	(Task 2.b) Describe how your redesign improves the interface of the home appliance.	1 min.
		Total: < 5 min.

A few groups will be asked to present their solution during the next lab (Oct. 28, 2019). Note that the presentation will not be graded—it helps you practice your presentation skills and facilitate in-class discussion. Name your file **A02-presentation-GXX**, where XX indicates your group number. Please make sure all videos are included in your presentation.

*: You will be required to bring the appliance to the Studio.

Report

Prepare the solution as a 5–7 page PDF document in the submission format (see **Submission Format.pdf**). Name your file **A02-report-GXX.pdf**, where XX indicates your group number.

Submit the two files (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.

Resources

- You will learn about observing users in detail later in the course. For this assignment, please view videos **7.5. Observing Users (Interviews)** as well as **9.4. Other Evaluation Methods and Dealing with Users** to get a sense of what to expect when observing users.
- When you observe users, it is essential to get user's consent for video or audio recording. For this purpose, please use an **informed consent form** like the one provided with this assignment (**Sample Informed Consent Form.pdf**). The consent form should communicate the purpose of the observation or study, procedure, possible risks that the users might face, and a confidentiality clause indicating if and how you will anonymize user's personal information.
- Before you add videos to the presentation, please reduce their size by compressing them. You can use a free software like **Handbrake** (https://handbrake.fr/) to do this.
- Website recommendations
    - Deutsche Bahn: www.bahn.de
    - Zalando: www.zalando.de
    - Pinterest: https://www.pinterest.de
    - http://www.webpagesthatsuck.com/index.html might be a good place to start if you are looking for poorly designed websites.