

Assignment 2

Grading: Score out of 100 (Question 1: 25 points, 2: 70 points, 3: 5 points)

Due date: Wednesday, October 5 at 5 pm on Brightspace

Lectures covered: 4-7

Format: Please use Times New Roman size 12 font and normal margins

Submission: Submit a PDF with your name in the following format: “Lastname_Firstname_A2”

Plagiarism warning: this assignment is to be done individually (although you may observe or interview other students in class)

Preface

For this assignment, you can choose to work on *any interface you like*. It could be a website or software, or any other type of interface you may be interacting with (car dashboard, ATM, treadmill display, parking meter, etc.), as long as:

- It must have at least one screen (something like a TV remote would not work)
- It can be used and understood by most university students (i.e., it does not require any specialized training)
- You must have access to this interface (obviously, do not pick something that you cannot use or that is difficult to access)

In general, it helps if you pick an interface that you think is poorly designed. You also might want to consider whether you are comfortable observing someone using this interface in person. If not, it would be best if you pick a website or software. You can use this interface for all your remaining assignments and potentially for your project. You could also choose to work on a different interface each time, depending on what is most practical for you. However, it can be beneficial to work on the same interface and incrementally build on the knowledge gained from each assignment. If you have trouble choosing one, drop by office hours to discuss further!

Software needed

For this assignment, you will need to work with [NVivo](#) for your qualitative analysis. You can find all the instructions needed to get the license key [here](#). For transcribing data, you can check out the [MacOdrum library's options](#), use a trial version of software like [Trint](#), or do it manually.

Question 1

25 points / 5 points per part / Lectures 4, 5

- a) What **interface** have you selected? Provide a picture/screenshot and explain why you chose it (e.g., it is of special interest to you, it is particularly frustrating to use, etc.).
- b) What visual information in your interface might be changed to a different modality to facilitate divided attention? Use **multiple resource theory** to explain your answer, clearly indicating what is being done concurrently.
- c) Would you say that using this interface requires mainly **skill**, **rule**, or **knowledge-based** behavior? Explain and give an example (make any assumptions that you need).
- d) Think of a type of **error** or mistake that a user might make with this interface.
 - i. Describe that error/mistake and classify it using the GEMS framework
 - ii. Use one or more design concepts, cognition concepts, or cognitive framework to explain how this error might have occurred

Question 2

70 points / 5 points per part / Lectures 6, 7

For this part, you need to select one task that can be done with your interface. Pick something that has multiple steps and that takes around 20-60 sec. You can do the observations and interviews in person or online. Participants would ideally be friends/family, but they could also be students in the class (any participant should consent but no need for a formal document)

- a) Clearly state the **task** that you will be focusing on (be specific)
- b) As a first step, you want to **observe** two people performing the selected task on your interface using the **think aloud** protocol. You will need to submit:
 - i. The goal(s) of your observations; be clear and specific
 - ii. Your detailed description of the materials/techniques and approach (online/in-person) used in your observations, with justification for any decisions you took
 - iii. The transcripts from the think aloud protocol for both participants
 - iv. Your observation notes, following the AEIOU framework
 - v. What key insights you learned, tying those back to your observation goals
- c) You decide to carry out follow-up **interviews** with your two users. Please submit:
 - i. The goal(s) of your interviews (these may or may not be similar to bi.)
 - ii. The interview structure, approach, and recording method, with justification
 - iii. The interview questions (between 4 and 7)
 - iv. The full transcribed responses for both users
- d) Perform deductive **thematic analysis** on the interview data using NVivo. Please submit:
 - i. A word cloud with logical settings of your choice
 - ii. Your selected codes (select 2-4), with justification for why you chose them
 - iii. The results of your coding approach (pasted or screenshots)
 - iv. What key insights you learned from analyzing these interviews, tying those back to your interview goals

Question 3

5 points; Lectures 4-7

Reflect on what you have done in this assignment. To help you think, consider the questions provided below. Your answer should be one or two insightful paragraphs and you need to elaborate on at least *two* of these questions.

- This was essentially a pilot study; what would you have done differently if you were doing a full study in real life and had more time and options?
- How would you have analyzed the transcribed data from the think aloud protocol?
- What additional analysis would you have done in NVivo to study your results?
- What techniques to understand the user and context did you find to be useful and which did not add value in this context?
- Were the SRK and GEMS frameworks useful in this context or did they not add significant value?
- Did your observations and/or interviews match any of your answers or expectations from Question 1?
- What did you learn from this assignment that you had not realized from class?