Wonder document

This document is, as its name indicates, about what the group wonders about when it comes to "interaction with AI". Here we write about our group and what area of concern we will focus on.

1.1 About us

We are a group of four students in the masterprogram informatics: design, use and interaction at University of Oslo. Three of the members have bachelor degrees from the University of Oslo, and the remaining member took their bachelor from Westerdals in Oslo.

Our group consists of the following members:

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1.2 Area of interest

An area of "interaction with AI" we are interested in working with is the psychological aspects of AI. In particular how users perceive AI-machines and how it affects human-AI interaction. We wish to research how this affects interaction with chatbots. Relevant literature for this study could be:

- **Verne & Bratteteig (2018):**
  - We want to look at this literature for their definition of AI in a human-AI perspective.
- **Verne (2020):**
  - This article is interesting to us because it shows how important the work situation is for an AI to automate well for users. We also want to have a look at how humans have to adapt to AI and vice versa.
- **Norman (1990):**
  - Can show the consequences of "bad" interaction, and shows how AI could need a dialogue to fulfil its purpose.

- ○ Over-automazation can become too "monologue" for the user and leave them "out of the loop" (Norman, 1990), and the users will have difficulties to grasp the underlying task chains that the system is performing.

1.3 Research questions

Based on the areas of interest we want to investigate:

- **Why people decide to *not* chat with chatbots?**
  - ○ Our presumptions:
    - ■ The chatbot needs to imply the level of detail needed to communicate. How basic commands can limit the usefulness in solving complex questions or problems from the users.
    - ■ People usually do not know how chatbots actually work; it looks for keywords, and does not analyze entire text.
- **What deciding factors make chatbots successful?**
  - ○ **In other words:** *What defines a successful chatbot and what does not?*
  - ○ We wish to investigate what can be changed to improve chatbots.
  - ○ Investigate through the chatbot we will construct in module 2.

These questions are work-in-progress.

1.4 Methods

A section on what methods you are interested in applying for addressing the questions.

- **Literature analysis**
  - ○ We will examine the articles mentioned above during the project to understand the different perspectives of a human-AI interaction. We also want to see factors that may lead AIs to 'fail' in their use in their context.
- **Wizard of Oz / thinking aloud**
  - ○ We can use this as a method to see how it is experienced. What can we do to make the interaction better? The method will provide us information about what is "good" and "bad" responses.
- **Interviews**
  - ○ At the beginning of the project we do not see the value of conducting interviews, but we may need it later in the project to clarify information.
- **Observation**

- ○ We want to experience real chatbots and how users interact with them. We can compare the data from the different chatbots and see how they tackle the same problem.

A sidenote while we study these questions: It could be interesting for us to investigate how we are surrounded by AI?

1.5 References and possible literature

Mandatory literature:

- Bratteteig, T., & G. Verne. (2018). Does AI make PD obsolete? Exploring Challenges from Artificial Intelligence to Participatory Design. Proceedings of PDC 2018, Belgium, 1-5. https://doi.org/10.1145/3210604.3210646
- Norman, D (1990). The problem of automation: Inappropirate feedback and interaction, not over-automation. Philosophical Transactions of the Royal Society of London. Series B, Biological Sciences, Vol. 327, No. 1241, Human Factors in Hazardous Situations (Apr. 12, 1990), pp. 585-593 (9 pages)
    - Artikkelen forteller om tre caser av human-AI interkasjon som feiler pga. mangel på ordentlige tilbakemeldinger og statuser fra systemet -> kan knyttes opp til menneske-AI interaksjon

Supplementary literature:

- Guri B. Verne. 2020. Adapting to a Robot: Adapting Gardening and the Garden to fit a Robot Lawn Mower. *In Companion of the 2020 ACM/IEEE International Conference on Human-Robot Interaction* (*HRI '20*). Association for Computing Machinery, New York, NY, USA, 34–42. DOI:https://doi.org/10.1145/3371382.3380738