Current Topics in User Empowerment by Design

Master's or Bachelor's Thesis / Guided Research

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Context

With the increasing deployment of artificial intelligence tools (AI), demands for an ethical design and governance of AI and algorithms, in general, have become prevalent [6, 8]. A reoccurring suggestion to follow these demands is the application of the four bioethical principles to the technical domain [1]. Your thesis should focus on *autonomy* as one of them as well as on the related concept of *empowerment*. For these concepts spanning a large research field, research should be restricted on the *empowering design and development of workplace software* [2].

On the one hand, technological advances and the accumulation of big data allow for ever more sophisticated use cases for people analytic tools (PA) at the workplace, which aim to quantitatively analyse and improve business and HR processes. Besides the various benefits of such tools, employees are subjected to and steered by automated decisions based on quantified information, which has inherent limitations in its expressiveness [3, 5, 9]. On the other hand, seemingly benign collaboration and project management tools such as Zoom or the Atlassian Suite became indispensable in the course of the COVID-19 pandemic to allow for a seamless transition to remote work. With the consequentially blurring boundaries between private and professional life, as well as constant data streams and technical affordances allowing for surveillance, threats to employees autonomy arise [4, 7]. Being subjected to algorithmic management, being quantified, and having to adjust one's work to software tools, which employees are forced to use lead to a feeling of alienation and loss of autonomy in the low-wage sector and first studies indicate the same effect on high-wage workers as well.

Consequently, the question arises of how such workplace software can be designed in a way that empowers employees and maintains their autonomy.

Potential Topics

Problems to be studied in this context can be of different types:

- First, the topic can be approached from a *theoretical angle* based on work with literature and theoretical software inspection alone. One can imagine the creation of a taxonomy of empowerment concept or an evaluation sheet for evaluating workplace software according to its threats to employees' autonomy.
- Second, *empirical investigations* concerning if and how threats to employees' autonomy and empowerment arise can be conducted. This might be in form of surveys or an interview studies but also exploratory data science approaches, which demonstrate what kind of privacy-threatening insights can be inferred from data being collected by workplace software, are possible.
- Finally, *technical, and conceptual solutions* to enable empowering and autonomy-supporting technology can be developed. Those range from mathematical concepts such as differential privacy or distributed computing, over empowering design patterns to proposing an alternative to consent.

If correctly scoped for the time frame of your research, topics can also be cross-cutting and contain a theoretical and/or empirical as well as a proposed solution to an issue. If you need inspiration, it might be useful to look at past supervisions of mine or my colleague.

Application

Please, apply via e-mail with your CV and grade report and include your preferred start date. Familiarise yourself beforehand with the research area of digital ethics by reading these two major publications: [6, 8]. I would additionally ask you to draft a proposal for a concrete topic ($\sim$ 1 page) outlining relevant literature, the problem you want to solve or the question you want to answer, as well as the research method or work plan which you want to follow.

References

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[4] Hinde, C., & Ophoff, J. (2020, September). The technological panopticon: electronic monitoring and surveillance within the workplace: employee turbulence through perceptions of privacy infringement. In 2020 Dewald Roode Workshop on Information Systems Security Research. IFIP Working Group 8.11/11.13.

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[7] Manokha, I. (2020). The implications of digital employee monitoring and people analytics for power relations in the workplace. Surveillance and Society, 18(4).

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