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Who designs the 'Smart City'? An argument for democratising Big Data

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Reflection note

Who designs the 'Smart City'?

An argument for democratising Big Data

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I would like to start by thanking both Hanne Cecilie Geirbo and Per-Anders Hillgren for sharing their important and inspiring insights. Both point to a design challenge we will have to face during the next years: the participatory design with and for Big Data. And our cities might be one of the most prominent arenas to explore this challenge.

When cities are discussed in today's politics, they are not any longer described as a community of free people (polis), spaces of freedom from the rules and bonds of rural communities (freie Städte), or as metropoles, as meeting places of the avant-garde and melting pots of many inspiring cultural influences. They are described as economic hubs, that need to be managed.

And the people, the citizens are often pointed out as the core of the problems the management addresses:

There are too many moving into the cities, both in the developing countries but also in Northern Europe: The Danish government, for example, moves national agencies to laggard regions—causing massive personnel turnover and malfunctioning of public services– in order to stop the depopulation of rural areas. People connect and move close to people with similar views on life and build ghettos that then need to be addressed by urban renewal and spatial planning. Citizens cause expenses when getting sick and old.

Because cities have millions of inhabitants and gazillions of data points, the management of cities has been one of the first application domains for big data analysis: One of the most prominent cases discussed is New York City bringing down the casualties among firefighters through

the analysis of data connected to fires causing death of inhabitants of the burning houses as well as of firefighters (Hofman 2012).

Computer scientists and political activists are similarly concerned about the instrument that data analytics offer to the ones who know how to use them: Whereas the social engineering of spatial planning—like the bridges that do not allow public busses onto Long Island—have been visible and criticisable (Winner 1980), today's social technology are not even understandable for the specialists that develop them: The results of deep learning algorithms are not related to the structure of the program implementing them. How can we use their results in a responsible manner?

The two SCIS keynotes pointed out two very important avenues to address this development:

As Geirbo emphasises, we need to be careful how we conceptualise this technology: The Internet of *Things* hides that it is often a data collection interface that we are designing and not simple objects supporting our convenience. We need to develop adequate concepts for the smart or sentient city that renders the powerful data backbone and is implications accountable.

And in line with Hillgren, we need new democratic meeting places, where we as citizens and together with other citizens engage in solving the problems of our cities rather than expecting the new public management inspired administrations to solve what appears for them to be the problem—which might well include the management of active citizens.

Even taking both together, an important part is still missing. We do not have methods to design the data part of Big Data applications in a participatory manner. We are lacking the correspondence to a mock-up for Big Data design. The Participatory Design mock-up is a genius design artefact, not because it is simple—it is not as designers working with communities who are not familiar with ICT can report (Maunder et al. 2007)—but because it renders complex ICT functionality and its embedment in human (work) practices accountable in the sense of 'talk-about-able'. What would be needed are representations that render the positive as well as negative potentials of the collection of large quantities of data and the integration with other heterogeneous data sources in a manner that opens up for a public and democratic discourse about how and where and when to use this data, and, especially, when not to collect and use data.

Thanks again to the keynote speakers who opened up for this discussion.

References

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