SurveillanceCapitalism@CHI: Civil Conversation around a Difficult Topic

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Abstract
A large portion of the software side of the global information technology infrastructure, including web search, email, social media, and much more, is in many cases provided free to the end users. At the same time, the corporations that provide these services are often enormously profitable. The business model that enables this involves customized advertising and sometimes behavior manipulation, powered by intensive gathering and cross-correlation of detailed personal information. These companies provide some great products and services at no upfront cost to the end users. But the model has a dark side as well, with negative impacts for privacy, autonomy, human dignity, and democracy. The purpose of this panel is to provide a civil forum for the CHI community as a whole to discuss this business model, including its advantages and disadvantages, and its impacts on CHI and HCI and society more generally, with an eye toward responsible innovation.

Author Keywords
IT business models; digital infrastructure; advertising; surveillance capitalism; responsible innovation.

CSS Concepts
• Social and professional topics~Computing / technology policy interaction (HCI); Social and professional topics~Corporate surveillance

Introduction

A large portion of the software side of the global information technology infrastructure, including web search, email, social media, transportation information, and much more, is provided free to the end users, although the corporations that provide this are often enormously profitable. The business model for this involves customized advertising and sometimes behavior manipulation, powered by intensive gathering and cross-correlation of personal information. In a recent book [5], Shoshana Zuboff calls this model "surveillance capitalism." Many other parts of the IT software infrastructure are funded by fees-for-service but still involve intensive gathering of personal data and sometimes behavior manipulation of its users.

These business models have changed the logic of the IT industry and created some of the most valuable high-tech companies. Looking at the western world, Google and Facebook are just the most prominent examples. From a societal perspective, these models have some significant advantages, for example by allowing companies to provide free services to billions of people, and by funding a dazzling array of new technological developments. However, they have their dark side as well. Since they usually depend on gathering ever-increasing amounts of user data, there is a built-in incentive to draw the users in to spending more and more time with the services. They impact users' privacy and support surveillance by both corporations and the state. Potential surveillance and behavioral manipulations undermine the very base of any democratic process and threaten the foundations of liberal democracies; in authoritarian regimes they can provide powerful tools for oppression.

Being one of the most important academic communities in the IT world, SIGCHI is deeply engaged with companies that employ these business models. The fruits of HCI research play fundamental roles in the design of their interfaces and systems. Members of their research labs are valued members of the CHI community. University faculty in IT departments receive research grants and donations, and their students get summer internships and jobs. However, or perhaps as a result, a critical reflection on the fundamentals of surveillance capitalist business models, their consequences, and whether it is desirable to develop alternatives is so far missing within SIGCHI.

This panel is intended as a step toward filling that void. We hope to engender a serious, considered conversation about this difficult topic for the CHI community as a whole. Examples of the sorts of questions that the panel will bring to the community include:

- What is the nature of data driven business models when practiced at scale in the IT industry?
- What are both positive and negative consequences of these models?
- Should there be any limits on what kinds of data can be gathered and what can be done with it? If so, how should those limits be enforced (self-regulation, government regulation, something else)?
- Is "surveillance capitalism" an appropriate term for these business models, or should they be called something else?
- If alternative models are warranted, what role can or should the SIGCHI community play in developing these? How might we get there from here?

- How should we understand the dimensions of responsible innovation with respect to data-driven business models?
- When is enough enough? That is, at what point does the scale of data gathering, behavioral manipulation and other elements become too much for individual and societal well-being?

Because the topic is difficult and our goal is to have a broad, civil and meaningful conversation for all members of the community, we will structure the panel around three types of engagement, each with a different level of public exposure: (1) panelist statements (very public) with audience listening (private thoughts) [30 min]; (2) questions and comments from the audience to the panel (very public) [30 min]; and (3) small group discussions with voluntary reporting back to the audience at large (less public and reporting back is attributed to the group, not a specific individual). The small group discussions will center on three questions: What is your personal experience with data-driven business models? Do you think there is a problem? If so, what ideas do you have for how the SIGCHI community might move forward here? We hope this multifaceted engagement will strike a balance between public debate on the key issues and creating an environment in which all members of the community will feel safe to voice their views, concerns, and ideas.

Panelists, Moderator, and Organizers

The following researchers have agreed to be panel members: Alan Borning, Batya Friedman, Jofish Kaye, and Volker Wulf. Cliff Lampe will be the moderator. The organizers are Alan Borning and Volker Wulf. The panel unfortunately lacks representation from the corporations involved. This was not for a lack of effort on the part of the panel organizers. We solicited participation from over half a dozen industry researchers. While all saw the panel topic as important, none was willing to participate. Feedback from some indicates that this topic at this time places these researchers in too difficult a spot to speak so publicly. We also tried changing the title to avoid the phrase "surveillance capitalism," but then got feedback from non-industry researchers that it was no longer clear what the topic was. These reactions, from our point of view, underline the importance of bringing the topic of this panel to CHI. In response to this circumstance and to welcome industry as well as other voices, we will devote a third of the panel time to small group discussion, as well as leaving other time for substantial audience participation, as described above.

We now include short biographies and perspectives for the panelists and moderator (in alphabetical order), along with disclosures about how each of us benefits directly or indirectly from the business models discussed here.

Alan Borning is Professor Emeritus in the Paul G Allen School of Computer Science & Engineering at the University of Washington, where he was a faculty member from 1980 to 2016. He was also an Adjunct Professor in the Information School. For the first half of his time at UW his research was primarily in constraint-based languages and systems. Later, he turned from programming languages to various research topics in the area of human computer interaction, including work on using and evolving value sensitive design; on OneBusAway (a set of tools to make public transportation more accessible, easier, and more fun to

use); on systems to support civic engagement and deliberation; and on UrbanSim, a modeling system for simulating the development of urban areas over periods of 20-30 years. Post-retirement projects include continuing work on OneBusAway and the Open Transit Software Foundation, and also the SEED project [1], which seeks to work on larger issues around sustainability and economics, including investigating alternatives to surveillance capitalism [2]. Similarly, the work on OneBusAway is (among other things) a way to provide information in a specialized domain (public transit) that is an alternative to the for-profit advertising-based model.

Disclosure: Alan is now retired and has no active grants. However, he has had a number of ties to the relevant corporations. Three of his PhD students have worked at Google, and he has received grant funding and gifts from Google. He has also had PhD students go to Microsoft Research, Amazon, and Facebook; and numerous undergraduates to all of these companies. In addition, his department (now school) at the University of Washington has been the beneficiary of many substantial gifts and grants from the corporations involved, and Alan has in turn benefited from the well-supported academic environment that this has enabled, both as an active and an emeritus professor.

Perspective: Alan views the current situation as fraught with risks, as outlined in the introduction. At the same time, he thinks it is important to keep conversation and debate constructive and thoughtful.

Batya Friedman is Professor in the Information School at the University of Washington where she co-directs both the Value Sensitive Design Lab and the Tech Policy Lab. For over two decades she has worked on foregrounding human values in the technical design process – an approach known as Value Sensitive Design. Relevant for this panel, value sensitive design engages both near and long-term systemic effects of technology and, in particular, leverages the co-evolution of technology and policy as a means toward creating societies that support human flourishing writ large.

Disclosure: Batya is an employee of the University of Washington (UW), a large public research university. To her (albeit limited) knowledge, UW likely uses data gathering and attention-grabbing technologies on university websites. UW may also at certain times and in certain ways employ third party technology that results in a melding of the data driven business models employed by these companies with that of the university. In terms of financial disclosure, the UW Tech Policy Lab, which Batya co-directs, has received funding from Microsoft.

Perspective: In fundamental ways, we are what we attend to. That is, as human beings, what we engage with and how we experience ourselves as persons depends on what we attend to and in what ways. When our attention is continually interrupted such that we are prevented from the opportunity to focus, to reflect, to sustain engagement, we suffer. It is the concern of attention—whose is it, who owns it, who has a right to it, what harms come from assaults on it—that I bring to this panel. Stepping back, interaction paradigms and business models that exploit attention at scale perpetrate at least two types of harms: (1) to our experience of self; and (2) to our right to be left alone (privacy). Both are important. In this panel, I will take

up the first – not because it is more important, but to provide a complement to the perspectives of other panelists.

Jofish Kaye is Principal Research Scientist at Mozilla in the Emerging Technologies team. His research explores the social, cultural, and technological effects of technology on people, and how people's decisions, needs, and behaviors can change and improve those technologies. He manages a team focusing on open voice tools and technologies and runs the Mozilla Research Grants program.

Disclosure: Mozilla Corporation's revenue primarily derives from search revenue from our default partners, who show you ads when you search in the Awesome Bar. In the United States, for example, the partner is currently Google, and was previously Yahoo; in Russia it's Yandex, and it's Baidu in China. This reliance on advertising partners is something we are actively exploring, and we have corporate goals to change half our revenue from search partnerships to other business models.

Perspective: Mozilla has developed an ongoing approach to handling data which embodies both a critique of and an alternative to surveillance business models, called Lean Data Practices (https://www.mozilla.org/en-US/about/policy/lean-data/). This rests on three principals: Stay Lean, Build Security, and Engage your Users.

Stay Lean means to minimize data collected unless you particularly need it. Stay Lean recognizes that data has both value and risk associated with it; it doesn't mean you need to collect no data at all, but you should carefully trade off the return on the investment of assuming risk of holding data.

Build Security means to work towards data security throughout the process: minimizing access to those who need data; holding partners to the same standards; having incident plans in place.

Engage your users recognizes the need for an informed and educated populace. It also means informing users at the point of interaction with their data, not assuming they remember what you told them when they signed up possibly months or years ago, like relying on an existing privacy policy.

These suggest that there are ways to be thoughtful, deliberate and meaningful about decisions around data, and there is increasing interest in applying such principles more broadly.

Cliff Lampe is Professor in the School of Information at the University of Michigan. He studies how the design of social computing platforms interacts with social processes to affect both positive and negative outcomes. The positive effects he has studied include the relational benefits of social media interactions, how social computing platforms can be used to improve interactions between city governments and citizens, and how collaborative creative works can be created via community efforts. The negative effects he has studied include the need to moderate comment streams, the use of social platforms for spreading hate speech, and radicalization in online spaces.

Disclosure: The University of Michigan is a public university that heavily uses advertising to recruit new

students. They also have close relationships with several social media companies to reach both new and existing audiences. Cliff has also worked closely with companies like Facebook and Microsoft on research projects. He has been a "contract worker" for Facebook and has received research gift money from them.

Volker Wulf is Professor in Socio-Informatics at the University of Siegen in Germany. He has developed Grounded Design, a research approach which explores the quality of innovative IT designs in social practice. A long-term engagement in a particular social practice is called a design case study. Sensitizing concepts are derived from a comparative analysis of design case studies. Volker and his colleagues conduct design case studies in a variety of different domains: cooperative (industrial) work, sustainability, community support, and IT for the aging society.

Disclosure: Volker's research is almost completely funded by sources external to his university. Most funding is derived from German federal and state ministries, the German Science Foundation, and the Commission of the EU. A small part of the research activities is directly funded by industries, mainly local to the university. Due to his research methodological approach and the industrial structure in Germany, he has not (yet) been funded by companies following a surveillance capitalist business model.

Perspective: Volker was rather positive with regard to the societal impact of the social media platforms offered free of charge. He investigated the early phase of the Arab Spring, and found that the newly emerging publics created by Facebook had an enabling impact on the uprisings in Tunisia, Palestine and Syria [4]. However, with time passing, the secret services became able to control these platforms [3]. The Snowden revelations made it obvious the extent to which the NSA and related secret services were using the surveillance capitalist's infrastructure to spy on the world's population. Volker is specifically concerned with the potentially destructive effects of central data repositories on the future of liberal democracies [1]. He sees the respective developments in China (social scoring) to be a scary look into a future to be avoided.

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