"I'll Be Watching You":
What do Canadians Know About Video Surveillance and Privacy?

Brenda McPhail
Faculty of Information/U Toronto
Brenda.Mcphail@utoronto.ca

Joseph Ferenbok
Faculty of Information/U Toronto
Joseph.Ferenbok@utoronto.ca

Roxanna Dehghan
Faculty of Information/U Toronto
Roxanna.Dehghan@utoronto.ca

Andrew Clement
Faculty of Information/U Toronto
Andrew.Clement@utoronto.ca

Abstract

The growth of video surveillance systems and their augmentation by biometric and smart algorithms has significant implications for personal privacy. The growth of ICT networks and technologies such as face recognition make it increasingly important for people to know their personal information rights. Our project assesses what citizens know about the privacy implications of developing video surveillance technologies. We have three key questions: 1. What do Canadians know about their visual (video) information privacy rights?; 2. Does information about the current technologies and capabilities change people's perspectives on visual privacy policy?; and 3. What information do people need? Three research stages are planned: interviews regarding video surveillance, workshops and round-table discussions on visual information policy, and a Public Forum to promote discussion among stakeholders including citizens, government agencies, vendors, academics, civil society, and media. This Research Note summarizes the project and reports on preliminary findings from 126 interview participants.

Keywords: information policy, privacy

Introduction

> Every breath you take
> Every move you make
> Every bond you break
> Every step you take I'll be watching you
> --The Police

Visual information collection practices in publicly accessible spaces affect us all. However, it would seem that there is surprisingly little public information or discussion about where, when, or even whether such information should be collected, and how it can be utilized. Perhaps due to the success of the dominant "public safety" rhetoric associated with the use of camera monitoring in both private and public spaces, there is generally relatively little outcry or concern in situations where cameras are installed and monitoring introduced. Public perception of video surveillance is primarily shaped by the grainy pictures of wanted criminals released on the evening news, and by stories crediting such pictures with helping to identify those individuals, leading to their arrests. In reality, research suggests that the effectiveness of video surveillance for increasing security is uncertain, at best, but up to this point, such research has had relatively little effect on use patterns or public perception (Greenberg & Hier, 2009).

_____

Mainly in response to the pressures for enhancing security and the increased availability of inexpensive, interoperable digital hardware and software, cameras have become commonplace. Furthermore, the capabilities of video surveillance technologies have grown and changed over the past decade, opening up the possibility that the visual information collected might soon serve additional purposes. Rapid development in video analytics means that existing infrastructures may be incrementally upgraded to have profound implications for the mining and collection of visual data.

As the Office of the Privacy Commissioner of Canada (OPC) notes in their Guidelines for Overt Video Surveillance (2008), individuals have "the right to lead their lives free from scrutiny". However, this right may be increasingly compromised as businesses seek a competitive advantage in their delivery of personalized advertising and individualized services. With the surveillance and computing infrastructure already in place in many spaces, video analytics become an incremental cost with a large potential payoff: to know more about the customer.

Do we give up all rights to our personal images when we walk into a public space? When we enter a store, do we by default consent to allow the store to examine our movements minutely in order to assess the effectiveness of their sales displays or our relative interest in competing products based on what we look at longest? What level of privacy do individuals expect in public spaces, or in public yet privately owned spaces, and what should they expect? Do their expectations conform to reality? We are at a critical juncture in the development and deployment of these technologies, as their use is relatively new and policies, procedures, and uses for the information that is visually captured for analysis, are just evolving. This period of change and flux is the ideal time for the development and deployment of privacy-protective guidelines for the use of these technologies. And we would argue that for these guidelines to be responsive to the concerns of citizens, it is necessary to determine what those concerns are. Our research begins to do this, as we look at what these changes in the capacity and use of video surveillance mean from the perspective of the surveilled subjects in terms of their well-being and privacy rights.

Our non-traditional project, based in Canada and funded by the OPC, combines research and public education goals. It extends work on understanding the relationships, attitudes, policies and practices of stakeholders in the video surveillance techno-social network, but in its final stages will also seek to provide some guidance to the OPC in developing materials that address specific questions or concerns that people may have about video surveillance practice or policy in the Canadian context. While our work is situated in Canada, the overarching policy and ethical issues around camera surveillance reach beyond borders.

Background

Much of the research into the use and effectiveness of video surveillance, and attitudes towards it comes from the UK, where CCTV cameras are ubiquitous (Norris & Armstrong, 1999). However, recently the acknowledged ineffectiveness of CCTV surveillance at reducing violent crime has prompted the current government in the UK to pledge more regulation and a roll back of CCTV cameras (Whitehead & Kirkup, 2011). In Canada the situation appears to be somewhat different (Ferenbok & Clement, 2011). Most cameras have not been placed by publicly supported infrastructures. Instead, the majority of cameras pointed at publicly accessible spaces are commercially run and operated. These commercial operators fall under the Personal Information Protection and Electronic Documents Act (PIPEDA) provisions for informing individuals about the nature of video surveillance, but the preliminary findings of ongoing Canadian research (Clement et al., 2010) suggests that there is little to no compliance with even the most basic guidelines.

This is a particular cause for public concern, because video surveillance technologies are rapidly changing, becoming more powerful, and more easily integrated with ICTs. The drop in the cost of storage and digital sensors, coupled with the promise of algorithmically augmented monitoring means that the days where video surveillance cameras record low resolution images to analogue videotapes is likely numbered. Digital sensors and digital processing promise more than just local passive recording of visual data. Digital signal processing promises to turn image data into actionable information. This potential for real-time intervention for loss prevention or the ability to collect and aggregate large volumes of consumer data is on the horizon. We know that Microsoft's vision for the future includes ambient identification, with software that can 'see' people (Wilhelm, 2011). Armed with object recognition, face tracking, and face recognition, this future suggests a time in the near future where personally identifiable information, like

images of our faces, becomes a portal into our real and electronic lives. Significantly, "this conversion from image data to information continues silently behind the lenses of surveillance equipment generally unseen by the surveillance subject" (Ferenbok & Clement, 2011). The unmitigated growth of video surveillance, in both scope and nature, is encroaching on any form of reasonable control a data subject may have over their information. The use and possible linkage of visual personally identifiable information is an issue that should concern us all.

As researchers concerned with information policy in general and privacy in particular, we assume that these issues are significant, but **are average individual Canadians concerned about the information captured by video surveillance**? Do people know what may be done with their visual image? Are Canadians aware of their rights in relation to personally identifiable information gathered by video surveillance systems? How much do Canadians understand about video surveillance capabilities? As information researchers and privacy advocates we are working to understand policy implications of new 'intelligent' video surveillance, but what we do not know is whether Canadians care. Or more significantly, we do not know whether they have enough information to develop an informed opinion.

We do know, based on previous research, that public opinion surveys conducted by media outlets consistently find high levels of citizen support for camera surveillance (Deisman et al., 2009). But we also know that these surveys are generally conducted after some significant security-related event where cameras have either played a role, or it is supposed they would have played a role had they been present (Leman-Langlois, 2009). More rigorously designed surveys conducted by social scientists tend to find slightly less support for camera surveillance, and show that the location of the surveillance (Leman-Langlois, 2009), the demographic group to which the respondent belongs (Ditton, 2000; Leman-Langlois, 2008), and even the ways in which questions are framed (Ditton, 2000) affect the degree to which people are willing to support camera surveillance. These studies also find that although, on average, about one third of respondents will agree that camera surveillance is a privacy threat, for many of that 33% it is still seen as acceptable because of a perception that it might improve safety or security (Wells, Allard & Wilson, 2006).

What seems clear from the quantitative survey results is that context matters to people when discussing surveillance cameras; what is needed then, is research designed to get information from citizens that is in context. This suggests that a qualitative approach may yield useful results.

Approach

To find out what Canadians know about visual surveillance practices and technologies, we need to ask them. The first step of this project, currently underway, is to conduct semi-structured "man and woman on the street" interviews. The questions focus on determining what people know about the video surveillance activities that are capturing their personal visual information, asking what they think about public video surveillance, and determining what they know about their privacy rights regarding such surveillance. We wish understand the extent to which people recognize visual information as personal information, and the degree to which they are informed, or care to be informed, about the practices relating to visual information collected via video monitoring.

Our question sets are based broadly on the OPC's March 2008 Guidelines for Overt Video Surveillance in the Private Sector, altered to reflect our focus on the surveilled rather than the surveillers:

1. Did you know that this organisation conducts video surveillance?
2. Why do you think this organisation conducts video surveillance?
3. Did you notice any signs or notices that video surveillance is taking place?
4. What do you think the organisation does with the visual images of you and others that it collects? What should they do with them?
5. Does it concern you that you are being recorded? If yes, what are those concerns? If no, why do you feel comfortable with it?
6. Would you ever want to access video information about yourself? How might you try to do that?
7. Do you think video surveillance benefits you as a [shopper/citizen/member of the public]?

To date we have conducted 126 interviews in various urban sites where the presence of private surveillance cameras focused on public space is somewhat obvious. These sites are in the vicinity of major intersections, public squares and community centres. It is our hope that by situating the

conversations with participants in sites where the cameras can be seen and discussed as a concrete presence, people might be encouraged to think about and answer the questions. Data collection and analysis have been iterative and are ongoing.

Subsequent stages of this project will include a series of small group workshops in which items such as examples of signage, either actual or models prototyped in previous research may be used as concrete artifacts that can encourage conversation about what information people want or need to know in order to exercise their privacy rights. The third stage, building on the results of the interview and workshop activities, will be a public information forum, bringing together citizens and experts to explore a range of topics related to visual surveillance and visual information policy. The forum will combine a physical meeting with an interactive Canada-wide internet broadcast.

Initial findings

We are in the early stages of data analysis but have some preliminary findings. Participants range in age from 19 to 65, with education levels from high school up to post-graduate degrees, and work in a variety of occupations including law enforcement, education, child-care, and sales. Interestingly, almost all of our participants state that they are aware that they are often under camera surveillance when going about their daily business in public spaces. Many mention seeing signs informing them that the commercial premises they are about to enter are being monitored by video camera "for [their] safety" or possibly "for theft prevention" although a minority criticized sign location and size--"I have seen small miniscule signs under those set of stairs"-- and/or describe the content as "incredibly vague." When asked, participants most often say they know that their actions might be caught on a camera when walking through a mall or even down a street.   But most state that they do not know is who is really watching, or for what specific purpose(s). Our participants thus far have been largely unaware of the kinds of camera surveillance infrastructure in their local areas, or the ways in which it is, or might be used beyond general perceptions of its use "for security and stuff." Many do not know whether video surveillance is subject to regulation in Canada, although most assume that it is, but all agree that it is very important that organisations comply with privacy regulations. If asked specifically what they might like to know about camera surveillance and the way it is carried out or regulated, most want to know that surveillance is taking place, "what area is under surveillance" and "what their reasoning was" for conducting the surveillance. There is also concern that the organisations conducting the surveillance use it only for 'legitimate' purposes; these purposes are considered to relate to safety and security, with some mention of crime deterrence or prosecution. Participants had varying opinions however about whether video surveillance made them feel safer. Opinions ranged from "What is a camera going to do if I get mugged?" to "I feel indifferent" to "if something is being recorded I feel safe knowing someone will or is able to see what will occur"; answers corresponding to these positions occurred in relatively even proportions amongst the participants. However, all participants asked indicated that they feel it is inappropriate for camera surveillance footage to be used for citizen profiling and the majority dislike the idea of it being used to determine shopping patterns.

Our sample size is still relatively small and fieldwork and analysis is ongoing; thus far our data accords well with studies in other settings, including the US and the UK. Our preliminary findings point to a need for public education around the ways camera surveillance is used, and can be used, and about the current set of laws and regulations that provide citizens with rights to their personal visual information.

Conclusion

Our project combines citizen-perspective focused research and public education in the expanding arena of visual surveillance and consumer privacy. The overarching goal is to find out what people understand about the recent developments in video surveillance associated with the introduction of digital techniques, what concerns they express, and where information gaps exist, in order to inform the development of public education and policy. This research is conducted on the assumption that the potential uses of visual surveillance data need to be made more transparent, and organisations using these technologies need to be more accountable to members of the public in protecting privacy rights.

References

Clement, A., Ferenbok, J., Dehghan, R., Kaminker, L., Kanev, S. & Valdman, S. (2010). *"Smart" Private Eyes: Video Surveillance Analytics, New Privacy Threats and Protective Alternatives*. Project Final Report, Office of the Privacy Commissioner of Canada. Retrieved from http://propid.ischool.utoronto.ca/video_surveillance/downloads/Clement_Ferenbok%20etal%20-%20OPC%20-%20Private%20Eyes%20-%20Final%20Report%20only%20-%20no%20appendices.pdf

Dawson, D., Derby, P, Doyle, A., Fonio, C., Huey, L., Johnson, M., … Wilkinson, B. (2009, December). *A Report on Camera Surveillance in Canada*. (Part Two). Kingston: Queen's University. Retrieved from http://www.sscqueens.org/projects/scan

Deisman, W., Derby, P., Doyle, A., Leman-Langlois, S., Lippert, R., Lyon, D., ... Whitson, J. (2009, January). *A Report on Camera Surveillance in Canada* (Part One). Kingston: Queen's University. Retrieved from http://www.sscqueens.org/projects/scan

Ditton, J. (2000). Crime and the city: Public attitudes towards open-street CCTV in Glasgow. *British Journal of Criminology, 40*(4), 692-709. doi: 10.1093/bjc/40.4.692

Ferenbok, J. & Clement, A. (2011). Hidden changes: from CCTV to 'smart' video surveillance. In A. Doyle, R. Lipert, & D. Lyon (Eds.), *Eyes Everywhere: The Global Growth of Camera Surveillance* (pp. 218-234). New York: Routledge.

Greenberg, J. & Hier, S. (2009). CCTV Surveillance and the Poverty of Media Discourse: A Content Analysis of Canadian Newspaper Coverage. *Canadian Journal of Communications 34*(3), 461-486.

Leman-Langlois, S. (2009). Public Perceptions of Camera Surveillance. In W. Deisman, P. Derby, A. Doyle, Fonio, C., Huey, L., Johnson, M., … Wilkinson, B. (2009, January). *A Report on Camera Surveillance in Canada* (Part One) (pp. 41-52). Kingston: Queen's University.

Leman-Langlois, S. (2008). The local impact of police videosurveillance on the social construction of security. In S. Leman-Langlois (Ed.), *Technocrime: Technology, Crime and Social Control* (pp. 27-45). Cullompton: Willan.

Norris, C. & Armstrong, G. (1999). *The Maximum Surveillance Society: The Rise of CCTV*. New York, Berg.

OPC (2008). Guidelines for Overt Video Surveillance in the Private Sector. Retrieved from http://www.priv.gc.ca/information/guide/2008/gl_vs_080306_e.asp

Wells, H., Allard, T. & Wilson, P. (2006). *Crime and CCTV in Australia: Understanding the Relationship*. Centre for Applied Psychology and Criminology: Bond University, Australia. Retrieved from http://epublications.bond.edu.au/hss_pubs/70/

Whitehead, T. & Kirkup, J. (2011, February 10). People get power to take CCTV abusers to court. *The Telegraph*. Retrieved from http://www.telegraph.co.uk/news/uknews/law-and-order/8317173/People-get-power-to-take-CCTV-abusers-to-court.html

Wilhelm, A. (2011). *Microsoft's OneVision shows off the future of facial recognition*. Retrieved from http://thenextweb.com/microsoft/2011/03/10/microsofts-onevision-shows-off-the-future-of-facial-recognition/