How Close Are We to Ubiquitous Digitalization of Our Lives?

(Inside 1to1 Privacy, June 26, 2008, Marketing | How Close Are We to Ubiquitous Digitalization of Our Lives?)

Privacy advocates have long warned about a world where all of our movements through life will be tracked and controlled, where freedom is routinely subordinated to security and convenience. For corporate privacy professionals, however, these doomsday scenarios have been too far removed from present-day realities to merit serious attention.

A new book--*Blown to Bits: Your Life, Liberty, and Happiness After the Digital Explosion* --will challenge that notion. Written by Harvard professor Harry Lewis, MIT professor Hal Abelson, and technology entrepreneur Ken Ledeen, the collection of true-life stories will leave the privacy pro wondering if our current privacy policies and controls are keeping pace with technological developments.

Abelson will be speaking this August at the IAPP's Navigate conference on New Hampshire's seacoast.

The authors distinguish between digital footprints--those markers we know we are leaving--and fingerprints, those we don't. They argue that our digital markers are increasingly falling into the latter category.

"We are so used to digital conveniences that it's now very hard to lead our daily lives without leaving trails of bits," Ledeen recently told *INSIDE 1to1: Privacy*.

"People are shocked when we tell them we think they are carrying a mobile tracking system with a microphone. Shocked, until we ask them if they have a cell phone."

The authors' thesis stands up against a review of the major developments in the field of personal identification and tracking since 2000. These breakthroughs can be grouped into four spheres: tracking who we are, where we are, what we do, and what we are likely to do.

Who we are

Until recently, most in the West could move relatively anonymously through society. Six key trends, however, have boosted the ability of people and organizations to identify and link other people to their broader personal profiles:

1. **Public databases.** There are now more than 50 free and fee-for-service infobases that generate personal profiles of U.S. residents. Once the domain of corporate marketing departments, these vast stores of names, addresses, phone numbers, birthdates, and more are now widely accessible.
2. **Social networks.** The past few years have seen a surge in how we voluntarily contribute our photos, likes and dislikes, plans, career and education histories, and contact lists to more than 50 popular social-networking sites that are easily searchable.
3. **Personal health records.** Microsoft, Google, and others are spearheading new technologies to consolidate medical records in ways that doctors and insurance companies can more easily track.

4. **Human resources databases.** The past decade has seen a steady surge in the number of large enterprises consolidating their employee records into PeopleSoft or Lawson databases that give employers a more complete view than ever before of who their employees are.
5. **DNA databases.** The Human Genome Project has started to yield greater understandings about what genetics can say about a person, just as the FBI and some U.S. states have created databases of criminals' DNA, and a new federal law will usher in the screening of all newborns' DNA.
6. **Biometrics.** U.S. and foreign governments have made significant strides in recent years to embed biometrics in passports and driver's licenses. Corporations have followed suit with their ID badges as both spheres continue to seek the ultimate prize of a universally accepted unique identifier.

Where we are

Four breakthroughs have also made it possible to track the movement of identifiable people through space and time:

1. **Satellite surveillance.** The public availability of Global Positioning Satellites has revolutionized the capability to track the current position of cellphones, which are in near-ubiquitous use by adults, and vehicles with GPS systems.
2. **Camera surveillance.** A growing network of surveillance cameras on public streets, traffic lights, billboards, police helicopters, subways, stores, workplaces, and Google Earth cars and fixtures--in London as well as a growing number of U.S. cities--are narrowing the corners of the public sphere that are off-the-record.
3. **Photo tagging.** The increasing accuracy of facial imaging, the growth of digital photographs tagged with time-date stamps and GPS coordinates, and the sharing of photographs on social networks are creating a searchable permanent record of people's whereabouts.
4. **Tollboth tracking.** The Fast Pass, EZ Pass, and iPass systems are recording the comings and goings of a rising number of cars traversing U.S. toll roads.

"Imagine sitting at home and searching all of Flickr for images in which your boyfriend appears," Lewis said, "even if he is just a bystander in the background of a tourist photo. If the photos are date-stamped and location-stamped, he has no place to hide.

What we do

There has long been general awareness that our credit-card transactions and web surfing are being recorded by someone, somewhere. But three trends are expanding the scope of tracking what people do:

1. **RFIDs.** The emerging integration of radio-frequency identification tags with payment cards, event tickets, and other physical objects are creating new ways to associate things and transactions with identifiable people.
2. **Metadata.** An increasing amount of personally identifiable information associated with the electronic files we create is also driving a mushrooming of our digital fingerprints.
3. **Online behavioral tracking.** A growth in and consolidation of the tracking of our online actions in ways that are increasingly traceable to us is redefining what is personally identifiable information.

What we are likely to do

A primary goal for marketing departments, insurance companies, creditors, political campaigns, and law-enforcement agencies in amassing personal data is to predict who will do what, when, and why. To this end, the slow-changing actuarial tables and credit scores of the twentieth century have given way to more dynamic and real-time predictive models of the twenty-first century.

The most visible application of this new approach is Amazon.com's recommendations feature, which updates a registered visitor's recommended products with each purchase or addition to the shopping cart. Other less-visible applications -- such as the biometric sensors of Israeli firm WeCU that reportedly identify people in airports who have mischief on their minds -- have also started to show results and gain traction.

What are the implications for privacy professionals?

Privacy leaders may look at any one of these new developments and see nothing new that a set of use and disclosure limitations couldn't solve. Privacy pros have, after all, been involved in shaping many of the aforementioned technologies.

The *Blown to Bits* authors contend, however, that the confluence of these trends is creating a system-wide perfect storm that is more powerful than the privacy policies and controls of any one organization.

"Every enabling technology is improving at once," said Lewis. "Processing speed, storage capacity, communication speed, and the miniaturization of mobile devices. The explosive force of the combination can be unexpected and startling."

"As a society, we don't know how to deal with this level of public exposure. It's hard to know what to fix or how to fix it."