Becoming Your Own Big Brother:
A Paradoxical Approach for Retaining
Control of Personal Freedom

Jonah Bossewitch
Computers, Privacy, and the Constitution
Prof. Eben Moglen
Paper #1, Spring 2005

> "*A chronicler who recites events without distinguishing between major and minor ones acts in accordance with the following truth: nothing has ever happened should be regarded as lost for history. To be sure, a redeemed mankind receives the fullness of its past -- which is to say only for a redeemed mankind has its past become citable in all its moments. Each moment it has lived becomes a citation 'a l'orddre du jour — and that day is Judgment Day.*"
> Walter Benjamin, *Theses on the Philosophy of History* [1]

In the age of information, the possibility for omniscient surveillance has become a reality[2]. The ramifications and scope of this development are just beginning to be felt and understood by the general population. Life in a surveillance culture will redefine the existing social order and will radically alter our sense of privacy, anonymity, individuality, and identity[3]. Many visionaries have foreseen these changes unfolding in ways that threaten our rights and liberties, but their warnings have been systematically dismissed as paranoid and delusional[4].

In the past decade we have witnessed this wave of surveillance beginning to crest and break. The vast proliferation of digital, networked devices, combined with a centralized infrastructure providing services to those devices, and virtually limitless storage, has given a new and expanded meaning to memory itself. By default, we must now assume that our actions, positions, and relations, in both physical and virtual spaces, are always being tracked and recorded in their every detail[5].

The prospective situation is better understood by contemplating that, unlike matter or energy, information does not obey any conservation laws. As far as the laws of physics are concerned, information can be shuffled around and duplicated freely without affecting the original.[6] Furthermore, we need to tease apart what is happening, and separately analyze the interrelated issues of ubiquitous data collection, widespread unchecked dissemination, and the ever-improving means to transform this data into information through smart querying, data mining, and predictive modeling.

An Alternative Strategy

---

1 Walter Benjamin. Illuminations. Trans. Harry Zohn. Edited and with Introduction by Hannah Arendt. (New York: Schocken Books, 1968), 254.
2 Robert O'Harrow, Jr., No Place To Hide (2005).
3 Demonstrating this assertion is beyond the scope of this short paper. The number of Science Fiction books and movies that have taken up this theme are too numerous to cite, and philosophers, political theorists, and artists have also extrapolated this idea extensively.
4 Jay Stanley and Barry Steinhardt, Bigger Monster, Weaker Chains, The Growth of an American Surveillance Society, ACLU Technology and Liberty Program, January 2003.
5 There are no technological barriers remaining to a virtually omniscient data collection system. With the exception of our thoughts, any activities which are currently (to our knowledge) private, will not be for much longer.
6 Tom Siegfried. The Bit and the Pendulum: How the New Physics of Information is Revolutionizing Science. (New York: John Wiley & Sons, 2000). See also, Elements of Reality: A Dialogue, by Hut, P. & van Fraassen, B. 1997, *J. of Consc. Stud.* **4**, No. 2, 167-180.

Many of the sources we have read this semester grappled with strategies for protecting and controlling the data that constitutes our selves. Understandably, we have focused on formulating legislative measures — either to insure that data is not collected in the first place, or to insure that once it is collected, it cannot fall into the wrong hands, or be used in particular nefarious ways. Here I will introduce and explore an alternate strategy - a technological blitzkrieg to combat the inversion of control that is taking place with regards to our own histories. This approach will probably need legislative support to guarantee that it does not backfire, and render the situation more dangerous than it started.

Consider a piece of vaporware called the BioPort (Biography Portal). All of the components required to write this software currently exist, and shadows of this software are already under heavy development[7], albeit without a conscious awareness of the privacy and the security issues at stake.

The basic idea for this software begins with a combination blog, diary, and appointment book. Think of this tool as constructing your autobiography for you in real time — similar to the scrap books that parents use to record Baby's first smile, first lock of hair, first word, etc. Thanks to Moore and his law[8], storing reams of information won't be a problem — automatically harvesting data, and being able to easily extract meaningful information are the real challenges.

In terms of getting information into the system, it is easy to imagine ways in which this application might automatically cull data from your ordinary machine interactions.[9] Initially, it could make simple inferences based on activities conducted within other desktop applications[10], but soon, other BioPort aware applications may start sending it direct messages. It is also easy to imagine portable digital appliances coming into play[11] - carry around a gps device, sync it

---

7 Examples of various known efforts underway to create similar kinds of applications :
Microsoft's *My Life Bits* - http://research.microsoft.com/barc/MediaPresence/MyLifeBits.aspx
MIT's *Haystack* - http://haystack.lcs.mit.edu/
Nokia's *Lifeblogs* - http://www.nokia.com/nokia/0,,54628,00.html
Life Caching - http://www.trendwatching.com/trends/LIFE_CACHING.htm
OSAF's *Chandler* - http://www.osafoundation.org/Chandler_Compelling_Vision.htm
The Lifestream Metaphor - http://www.acm.org/sigchi/chi96/proceedings/videos/Fertig/etf.htm
After the IBM Deal, Where Is the "PC" Business Headed?
http://www.fortune.com/fortune/fastforward/0,15704,955951,00.html?cnn=yes Fortune, December 9, 2004
8 Moore, G. Cramming More Components onto Integrated Circuits. Electronics, Volume 8, April 19, 1965.
http://www.intel.com/research/silicon/mooreslaw.htm
9 See Ximian's (not Apple's) Dashboard Project http://www.nat.org/dashboard or the Growl project http://growl.info/ for examples of software which allows desktop applications to notify each other of important events.
10 Parsing emails alone might enable the BioPort to reconstruct travel itineraries, grocery purchases, movie and concert attendance, etc. People might also change their usage habits towards existing Personal Information Tools (Outlook, PDAs) to intentionally tag and track significant events in their lives. Then again, existing inter-relationships could also be exploited - ie the existence of digital photographs with timestamps, cross-referenced with gps data, and an appointment book, would probably yield rich results.
11

with your BioPort, and maybe you can find your lost keys.

The real leap happens when we imagine a network-aware BioPort, one which is capable of recording transactions it receives over the network. At first, the BioPort might just be used between family and friends. For example, at a family reunion a few people might take photographs, but an entirely different group might decide caption them, while everyone in the family will want access to these snapshots and captions.

But this architecture could also conceivably support an encryption strategy which might allow trusted (or even untrusted) parties to update your BioPort for you, on your behalf. Such a system might even give some corporations a competitive advantage – maybe a consumer would be more interested in using a pharmacy coupon card if they knew that those transactions would eventually make their way back into their BioPort. They might even choose to shop at particular sites and stores that facilitated the transfer of information back into their BioPort, so that it becomes easier for them to track and manage the information in their own lives.

The personally utility of having this repository available is very clear. With the right suite of visualization and analysis tools[12], the BioPort could become the ultimate psychoanalytic device – one which allows individuals to know themselves better by helping them identify and discern recurring behavioral patterns in their own lives. It could also transform social spaces, by allowing communities to come together and securely share slices of each others BioPorts.

Stepping back for a moment to consider what we have just conjured, begs important questions about how software like the BioPort might change the privacy equation. It would certainly accelerate and complete the surveillance cycle, making more information than ever available to anyone with unlimited access to your BioPort.

Would it give us any leverage or allow us to regain any kinds of control over our data identities? It might, and this is a topic I will continue to explore in more depth in the second half of this semester.

When people first hear about the BioPort they express shock and indignation at the idea of software becoming responsible for something as important as an individual's identity. Some reassurance could be offered in the form of a promise

---

Biever, C. Cell Phones turn into Personal Assistants. New Scientist, November 27 2004. http://www.newscientist.com/article.ns?id=mg18424753.100

12 For example, envision a query interface akin to a gant chart, which would allow the user view the information stored in the system arranged chronologically at varying levels of granularity - day, month, year, decades. If the information where displayed intelligently, such a system might allow people to observe patterns in their lives that may otherwise have gone undetected - correlations between shifts in careers, relationships, travel, expenditures, whatever. This is just the start. Artificially intelligent data mining tools and modeling could also be implemented to assist people in understanding themselves as well as the corporations and government agencies already do.

that the BioPort software remain free and open. But the most important realization for the public is that in the information age, the collection of personal information is inevitable. We have a choice between 1) corporations gathering information about us, and keeping it from us, in order to market to us more effectively and 2) becoming our own big brothers and gathering and keeping this information about ourselves.

Surely this knowledge will forever change our concept of self. There is a real concern that omniscient historical knowledge gives external agencies a deterministic power over individuals that threatens their freedom, in the deepest sense — their freedom of will[13]. Could self-awareness be one of the most powerful safeguards of our freedom? We need to know what they know about us, not only to contest it, but to anticipate the "Monster's" maneuvers, thereby rendering it more harmless. But is self-awareness enough, or does society, and the law, need to go further to insure that our most basic freedoms are preserved?

13 See, Herbert Marcuse. One Dimensional Man: Studies in the Ideology of Advanced Industrial Society. (1964) Boston: Beacon Press, 1991.