

HIDING INFORMATION INSIDE BIG DATA AND THE HYPOCRISY OF PRIVACY

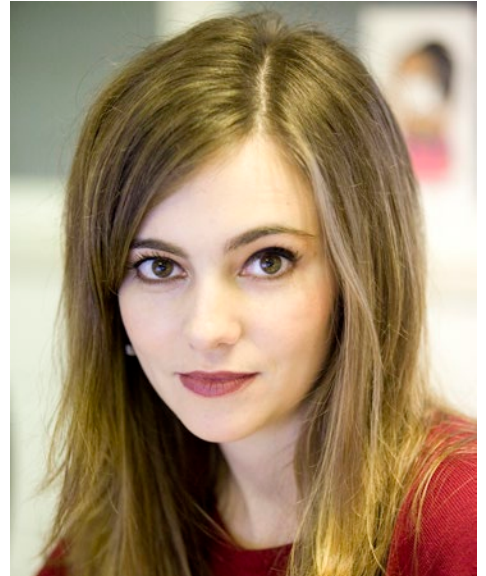
Posted on March 7, 2015

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In the future, our cities will be full of sensors and generating tons of data to help us find a parking spot, save water in irrigation, monitor pollution levels and make cities more efficient, urban resilient and livable.

But how much data will this be? We are already generating a lot of data. For example, Twitter is generating 80GB/day, which seems a lot, but this is nothing compared to a gas turbine engine that generates 520 GB per day, and per blade. There are 20 blades in each one. Imagine how much data we'll generate when we have all those things connected to the Internet?

The question is: when does data become information? I have a friend who lives in a city that is a pioneer in releasing public data. He is a runner. One day he wondered about the air quality in the city. So he got onto the Internet and found a lot of public data from the city about air quality. But it took him three days, reading scientific papers and European Union Directives, to find out that several parameters in the city's air quality measures were outside the acceptable limits.



So, while it is true that we have access to more information than ever before, we are not experts on every subject. So far, this information overload is very difficult to digest.

My concern is that over-information is a new way of actually hiding information from us — because data is nothing without context. Maybe we shouldn't be afraid of all this data collection. Who could possibly find something useful about us in that vast ocean of data? Or should we still be concerned?

How many of you were angry when you learned about the NSA using our day-to-day tech tools to spy on us? How many were scared? How many of you have stopped using your iPhone, your Facebook account, or your Google or Yahoo e-mail services since then?

Nobody? I am not really surprised. So far, Angela Merkel is the only person I know who did something about it, switching from iPhone to Blackberry, a device from a Canadian company.

So my question to you is this: do you have to be the German Chancellor to be affected by an invasion of your privacy? Because it looks to me like privacy is not a real concern if you can get something in exchange for it.

There is a new business—an insurance company and a telco offering you to pay your premium depending on the way you drive. It not only collects information on your speed and way of driving, but also your personal habits, such as where you go and when. In exchange, you may have a cheaper insurance policy. It is also obvious to you what information you're disclosing when you sign the contract. Does this arrangement concern you, or is it a fair exchange of data for the consumer benefits?

Let's consider another example. Your smart TV comes with a camera, a microphone, and 46 pages of privacy policy. Who reads all of this? If no one reads the manual, who has time to read 46 pages of terms and conditions about privacy? But we probably should, you know. It says scary things about confidentiality, about having private documents in the same room with the TV. Even when it's switched off.

I've heard a lot of people complain about the second example – Big Brother is watching – but will it actually stop anyone from buying a smart TV?

This makes my second point – the hypocrisy of privacy. We already agree we don't care about privacy. Convenience trumps privacy. We admit that sometimes we don't care about our privacy because we are getting something in exchange. We are still afraid of who is accessing data and who is generating it. But some data needs to be public – it has to be made public.

In Fukushima, on March 11, 2011, there was a radiation leak. This was of course very dangerous. There was plenty of news about it. We saw one piece of news among all the media coverage – radiation was found in California. A company selling anti-radiation pills ran out of stock.

At Libelium we decided to do something about it. We created a personal radiation sensor. We sent samples to citizens in Tokyo. Something amazing happened. It was spontaneous. People shared the information on the Internet, to keep and maintain a real time radiation map – what they did was establish a totally independent source of information.

The other question you may have is about data integrity –what happens if anyone can insert data into the network? One answer about how this can work is Wikipedia. The idea is: the more people watching out and taking care of the quality of information, the more accurate it will be.

Can you imagine a future city, where government is sharing public data, giving context and being audited by citizens who could also contribute to the data set? If this can happen, the biggest legacy of the IoT will be democracy. Today I wanted to be inspiring. I hope I've helped you move your opinion up or down. I think we all realize that complex questions do not have simple answers.

This article is based on a presentation at Strata + Hadoop World Barcelona 2014.

See also <https://www.youtube.com/watch?v=0j70x0DnmMo>

Alicia Asín is CEO and co-founder of Libelium. Alicia is a computer engineer focused on how IoT can change our world, starting with Smart Cities and smart agriculture. She is a frequent speaker at international conferences on issues related to Smart Cities, wireless sensor networks and IoT. Alicia was named best business manager in Foreign Trade (ADEA 2011); she was awarded the highest recognition for her paper on Computer Architecture (WCAE 2007, San Diego). Alicia is the first woman to receive the National Young Entrepreneur Award at the 2014 meeting of the Spanish Confederation of Young Entrepreneurs (CEAJE). Alicia holds a master's degree in computer engineering from the Polytechnic Center, University of Zaragoza, and is a graduate of the Cambridge Judge Business School and ESADE.