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The Abuse of RFID

During the first day of CeBIT 2007, the Information Commissioner, Viviane Reding, said "When I come to CeBIT people ask 'what regulation are you proposing today?'. She continued "I have no regulation, we must not over-regulate RFID. But we must provide industry with legal certainty." Ref: http://scenariothinking.org/wiki/index.php/Viviane_Reding's_speech_on_ubicom_p_during_the_first_day_of_CeBIT_2007

In the very near future, we could be tracked because we'll be wearing, eating and carrying objects that are carefully designed to do so. The generic name for this technology is RFID, which stands for radio frequency identification. RFID tags are miniscule microchips, which already have shrunk to half the size of a grain of sand. They listen for a radio query and respond by transmitting their unique ID code. Most RFID tags have no batteries: They use the power from the initial radio signal to transmit their response.

You should become familiar with RFID technology because you'll be hearing much more about it soon. Surveillance activities can be well-intentioned and bring benefits. They may be necessary or desirable - for example, to fight terrorism and serious crime, to improve entitlement and access to public and

private services, and to improve healthcare. But unseen, uncontrolled or excessive surveillance can foster a climate of suspicion and undermine trust.

It can create real problems for individuals - social exclusion, discrimination and a negative impact on their life chances. Unfortunately the dominant modes of surveillance expansion in the 21st century are producing situations where distinctions of class, race, gender, geography and citizenship are currently being exacerbated and institutionalised.

Experts predict that employees will be subjected to a barrage of biometric and psychological tests to determine how fit they are. Those who refuse to undergo the tests or are seen as being unhealthy will not be given the job.

Should radio frequency identification tags be used on identification cards? Will RFID on ID cards prevent or promote identity theft? While some are praising the technology as a great way to protect people, others deride it as a security nightmare.

California State's senator Joe Simitian said in October 2007 that "This may sound Orwellian," but it's real, and it just makes sense to address it now. We can't have employers requiring their workforce to get 'tagged'. There are other ways to secure a company's physical and intellectual property—it certainly shouldn't be at the expense of a person's right to privacy."

Ref:

<http://www.informationweek.com/shared/printableArticle.jhtml?articleID=202402856>

A Dutch television program "Nieuwslicht" recently worked with local security firm Riscure to successfully crack and decrypt a Dutch-prototype RFID passport.

In this case, the data exchange between the RFID reader and passport was intercepted, stored, and then the password was cracked later in just 2 hours on a PC giving full access to the digitized fingerprint, photograph, and all other encrypted and plain text data on the RFID tag -- just perfect for slapping together a cloned passport, eh? The flaw, at least in part, is due to the algorithm used when generating the secret key to protect the data. The key turns out to be predictable given that it is sequentially issued and constructed from the passport expiry date, birth date, passport number, and checksum. But don't kick back in superior isolationism just yet kid.

Ref: <http://www.engadget.com/2006/02/03/dutch-rfid-e-passport-cracked-us-next/>

A German computer security consultant has shown that he can clone the

electronic passports that the United States and other countries are beginning to distribute this year. The controversial e-passports contain radio frequency ID, or RFID, chips that the U.S. State Department and others say will help thwart document forgery. But Lukas Grunwald, a security consultant with DN-Systems in Germany and an RFID expert, says the data in the chips is easy to copy. "The whole passport design is totally brain damaged," Grunwald says. "From my point of view all of these RFID passports are a huge waste of money. They're not increasing security at all."

Ref: <http://www.wired.com/news/technology/0,71521-0.html?tw=rss.index>

RFID Contactless Biometric smartchips, embedded in a United Kingdom passport introduce exactly the same risks to personal privacy and safety as the United States RFID Biometric Passport, making us more vulnerable to criminals and terrorists than using the alternative and well understood contact smartcards, e.g. like Chip & PIN credit cards etc.

Ref:

http://www.rfidbuzz.com/news/2005/spy_blog_contactless_rfid_biometric_passports_in_the_uk_same_risks_as_us_rfid_passports.html

You can imagine nightmare legal scenarios that don't involve the cops. Future divorce cases could involve one party seeking a subpoena for RFID logs--to prove that a spouse was in a certain location at a certain time. Future burglars could canvass alleys with RFID detectors, looking for RFID tags on discarded packaging that indicates expensive electronic gear is nearby. In all of these scenarios, the ability to remain anonymous is eroded.

RFID tags are, on the whole, a useful development and a compelling technology. They permit retailers to slim inventory levels and reduce theft, which one industry group estimates at \$50 billion a year. With RFID tags providing economic efficiencies for businesses, consumers likely will end up with more choices and lower prices. Besides, wouldn't it be handy to grab a few items from store shelves and simply walk out, with the purchase automatically debited from your (hopefully secure) RFID'd credit card?

The privacy threat comes when RFID tags remain active once you leave a store. That's the scenario that should raise alarms--and currently the RFID industry seems to be giving mixed signals about whether the tags will be disabled or left enabled by default.

European Commission also acknowledges some of these risks.

Ref:

http://www.cc.cec/home/dgserv/jrc/dwnld/docs/dss/ipr/presentations/200504_ep

[wilikens.pdf](#)

Mr Kallas' communication to the members of the Commission this March, indicated the use of Biometric ID cards are being considered by the Commission for personnel security identification.

Ref: http://www.cc.cec/sg_vista/cgi-bin/repository/getdoc/COMM_PDF_C_2007_0797_1_XX.pdf

Are you sure that the European Commission will never use RFID on you?

Are you sure they have not started already?



California State Senator Joe Simitian, a leading RFID critic



EU Commissioner Vivienne Reding, an RFID promoter